



ANNUAL REPORT

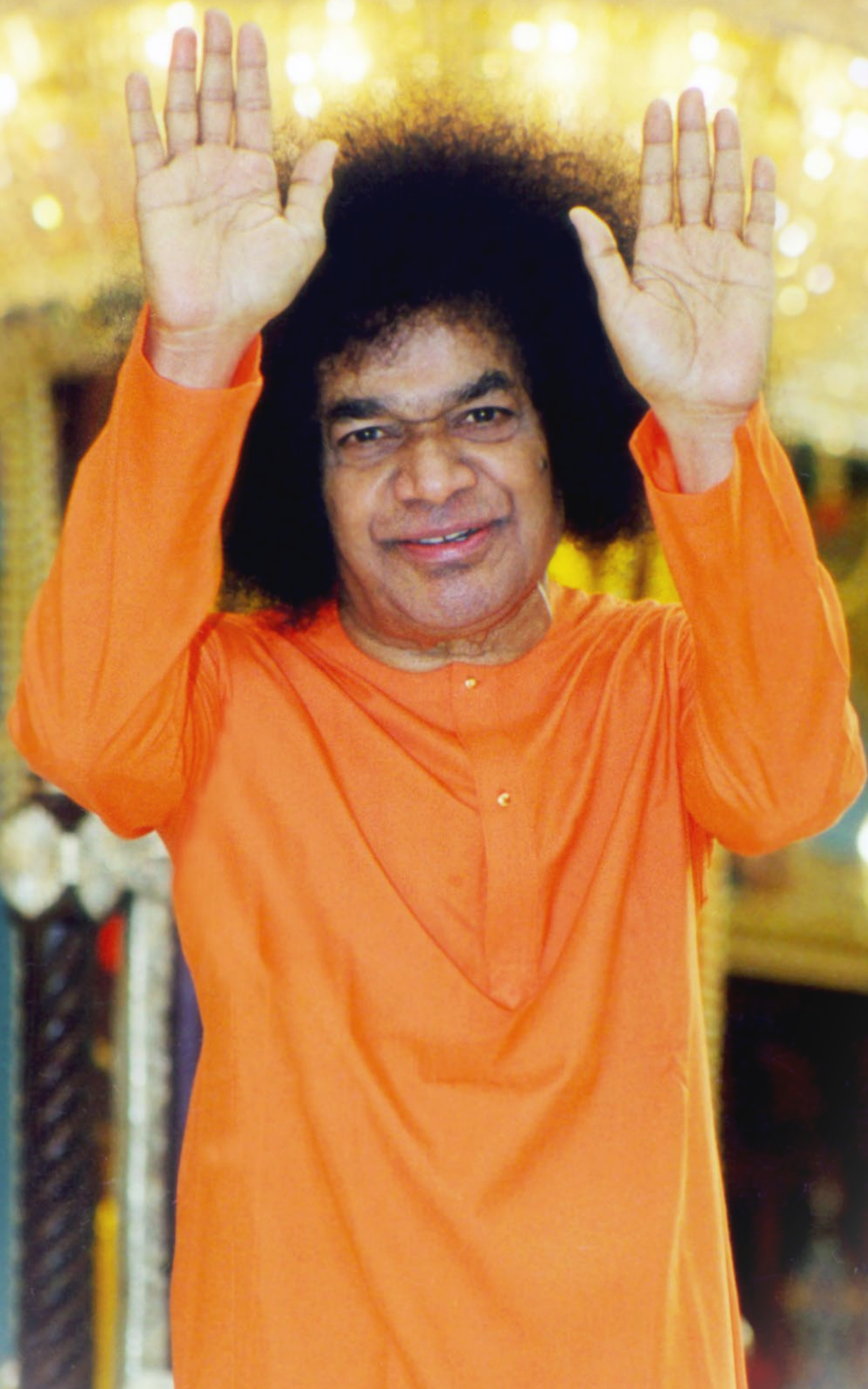
2021



**With scholarship, one may subdue savants in court;
Brave in spirit, one may fight courageous battles;
Born a king, one might rule over an empire;
One may lavish gifts of gold;
One might be able to count all the stars in the sky;
One might be able to enumerate all the living species;
One may master all the eight forms of knowledge;
One may even land on the moon;
But of what use are all these achievements,
if one is not able to control the mind and the senses,
And uphold eternal human values?**

Excerpts from Divine Discourse - 22 November 1986, (Summer Showers in Brindavan, 2000)

**SRI SATHYA SAI BABA
Revered Founder Chancellor, SSSIHL**





Foreword

Sri Sathya Sai Institute of Higher Learning (SSSIHL) occupies a unique position among educational institutions in India because it is a perfect blend of the modern and the ancient. Synonymous with Values-based Integral Education, this modern Gurukula has completed 40 glorious years in 2021. It is a visible manifestation of our Revered Founder Chancellor, Bhagawan Sri Sathya Sai Baba's vision of providing values-based education for Human Transformation. His vision has always been the undercurrent of every activity since its inception in 1981, creating a strong foundation for this Deemed-to-be University for generations to come. Today, Sri Sathya Sai Values-Based Integral Education Initiatives is recognized by the United Nations and included as part of the Sustainable Development Goals (SDG) - Good practices, a division of the United Nations Department of Economic and Social Affairs (UN DESA).

The compulsory Self-Reliance activities built into the Institute's curricula train the students to become more independent with a DIY attitude to problem-solving, making them confident and capable in both their personal and professional lives with the immense potential of realizing the dream of an Atmanirbhar Bharat, in its true sense.

Our state-of-the-art Central Research Instruments Facility (CRIF) and the Central Research Laboratory (CRL) coupled with excellent academic infrastructure, have resulted in the development of high-quality research for societal impact. The ICMR has approved the 'SAIC-19 AgKit' a Rapid Antigen Test Kit for COVID-19 in February 2021, developed by SSSIHL. We are the only academic institution to have received approval in that category and the kit has also got a patent in the name of SSSIHL.

Further, our faculty have been successful in securing research funding from national and international agencies like UGC, DST, DBT, BIRAC, ICMR, and the Tata Foundation Trust, Maestro technologies, USA, Labby Inc., USA, JAIST Japan, Kurita Water and Environment Foundation, Japan, and US-FDA. Research areas such as disease biology, environmental studies, functional materials and composites, nanomaterials, point-of-care devices, edible or medicinally active natural products, etc., are showing similar promising results. More than 25 MoUs/Projects are functional under research and collaboration.

Our faculty and scholars have contributed to innovations in (a) Healthcare, (b) Critical Public goods & services, (c) Food & Nutrition, (d) Cyber Security applications, and (e) Insurance. Twenty-four ongoing projects of innovation are in the pipeline. SSSIHL signed a collaborative agreement with Uppsala University in Sweden for research in the area of Bio-Materials with a focus on Dental implants and orthopaedic applications in the presence of His Excellency Shri Tanmaya Lal, India's Ambassador to Sweden, in April 2021.

Proudly, we overcame the complexities and adversities while continuing to meet the norms/guidelines of UGC/AICTE/NCTE, thanks to our continued digital transformation efforts, both learning and examinations went 100% online, admissions too. Our new website was launched on 23rd November 2020, by the Respected Chancellor, Sri K Chakravarthi (I.A.S. Retd.)

Baba always taught us that 'Service is Love in Action' and when rendered selflessly, it is the highest form of worship. Even under extraordinary circumstances, our faculty and students rendered selfless service and support to the COVID patients and their families. Taking note of this, the MGNCRE, Ministry of Education, Govt. of India recognized SSSIHL as a "Beat COVID Campaign Institute" as part of their "Each One Reach One - COVID Mission". Several of our staff and students were also highly active in their personal capacities in serving.

Although unprecedented and unforgettable, the year still saw over 25 online workshops/conferences organised, 100 recognitions for both faculty and research scholars, 186 papers published, and 47 conference presentations/proceedings. I would like to thank all the students, faculty members, and non-teaching staff for their brilliant contribution and support. More importantly, for being flexible, available, and their willingness to adapt to the dynamic and challenging needs of the year. Their dedication, endeavour, and resolute spirit made this year a very special one indeed.

Our faculty and Research Scholars have won many academic laurels. I give my warmest Congratulations to them for their academic achievements. To mention a few, the prestigious Dr. K. V. Rao Scientific Society Research Award 2021 (Dept. Of Chemistry, PSN campus), the Young Scientist Award 2020 given by A.P. Akademi of Sciences (Dept. Of Chemistry, ATP campus), the First Prizes won for two separate papers presented at two conferences - the Chellarams International Diabetes Conference and the National Nutrition e-conference (both by Dept. of Food and Nutritional Sciences, ATP campus), and the first place won for a talk in Science Technology and Innovation Talks (STIN) 2021 (Dept. Of Chemistry, ATP campus).

Our alumni, donors, and members of the Sri Sathya Sai Seva Organizations have always been our constant pillar of strength. On behalf of SSSIHL, I am extremely grateful to all of them, and sincerely appreciate their continued support despite the difficult times we are all in. I also would like to acknowledge the continued support and guidance of the Sri Sathya Sai Central Trust.

With earnest prayers to our Revered Founder Chancellor, Bhagawan Sri Sathya Sai Baba, to bless and guide us all to meet His expectations while carrying out each of our daily duties, I humbly place before you the SSSIHL Annual Report 2021.

Prof. (Dr.) C B Sanjeevi
Vice-Chancellor



Annual Report 2021

1 June 2020 to 31 May 2021

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Sri Sathya Sai Values-based Integral Education

Sri Sathya Sai Institute of Higher Learning (Deemed to be University), Prasanthi Nilayam, Andhra Pradesh, India, is a visible manifestation of Bhagawan Sri Sathya Sai Baba's vision of education for human transformation.

Bhagawan Baba has designed the system of Sri Sathya Sai Values-based Integral Education in such a manner that between the time a student joins the Institute and graduates there is a deep inner transformation that takes place. This concept is very unique to our institution.

The Institute hosts over 1441 undergraduate, postgraduate, professional and research students across four campuses as mentioned below:

For Women:

- Anantapur Campus at Anantapur, Andhra Pradesh

For Men:

- Prasanthi Nilayam Campus at Puttaparthi, Andhra Pradesh
- Brindavan Campus at Kadugudi, Bangalore, Karnataka
- Muddenahalli Campus at Muddenahalli, Karnataka

Programmes offered include:

- Undergraduate: B.A., B.A (Hons), B.Com. (Hons.), B.Sc., B.Sc. (Hons.), B.B.A., B.P.A.
- Postgraduate: M.A., M.Sc.
- Professional: B.Ed., M.B.A., M.Tech.
- Research: Ph.D.

A Modern Gurukula

Sri Sathya Sai Institute of Higher Learning (SSSIHL) was founded to inculcate ethical and moral values in students along with Secular education. This transformation (of students, teachers and staff) has been the guiding principle right from the inception, when Sri Sathya Sai Institute of Higher Learning integrated ethics and values as the undercurrent of every subject taught at the institute. Combined with academic and research excellence, the institute provides a holistic framework of inter-personal development for its students. Its residential character trains the mind, body and spirit of the student in an environment similar to the ancient Indian 'gurukula' system of education, in the most modern context.

Teachers and students live and grow together in an atmosphere of mutual trust and unity. This helps students develop a wholesome and balanced personality, one where academic competence is inter twined with value systems.

Distinctive Features

Admissions

- Merit-based open admissions policy for all irrespective of income, religion, or region
- Quality education provided free for all students

Residential Character

- Residential character where all doctoral research scholars, students, and select teaching faculty reside together in the hostel which enables translation of lessons learnt into practical skills through experiential learning
- Spiritual ambience in an environment of discipline and love
- Cultivation of the spirit of self-reliance, brotherhood and sacrifice through mentoring and personal example

Infrastructure

- Campuses set in spacious and peaceful surroundings
- Well equipped, modern science laboratories and cutting-edge, state-of-the-art Research Instruments Facility
- Automated Library using Integrated Library Management System (ILMS) and has digitisation facility and is accessed through the on-line Public Access Catalogue (OPAC) within the campus premises.
- Libraries across campuses with over 2,00,000 volumes
- Connected to the National Knowledge Network (NKN)
- Computer and Multimedia learning centres with ultra-high-speed internet connectivity
- International Centre for Sports in the Prasanthi Nilayam Campus and sports facilities in the respective campuses.

Academics & Research

- Examinations pass rate of 91%
- Student-Teacher Ratio of 8:1
- Integrated 5-year programmes combining undergraduate and postgraduate studies for a systematic and graduated learning process
- Research Collaborations with premier Indian and Foreign institutions and Industry
- Interdisciplinary research for societal benefit
- Awareness Programmes and Moral Classes reinforcing human values

Integral Education

- Life lessons learnt through the message of the Revered Founder Chancellor, Bhagawan Sri Sathya Sai Baba
- Application of what is learned in daily life
- Integrating human values with secular knowledge
- Inculcating the spirit of self-reliance and service to society
- Synthesis of science and spirituality for societal benefit
- The concept of integral education that SSSIHL imparts is willingly pursued by all teachers, staff and students.



The Process

Sri Sathya Sai System of Integral Education system is a modern, rational and scientific education system rooted in Indian ethos. It takes the best of both ancient and contemporary learning techniques.

The image on the right forms the basis of the system of Values-based Integral Education at SSSIHL. The base is the concept of a modern Gurukula that sustains all relationships and activities at SSSIHL. It is responsible for creating and sustaining the congenial environment necessary for the teacher-student interaction to grow and develop.

Adherence to discipline and appropriate behaviour are the two important aspects that encompass all interactions. The five human values of Truth, Right Conduct, Peace, Love, and Non-violence form the undercurrent of all the dimensions of integral education.

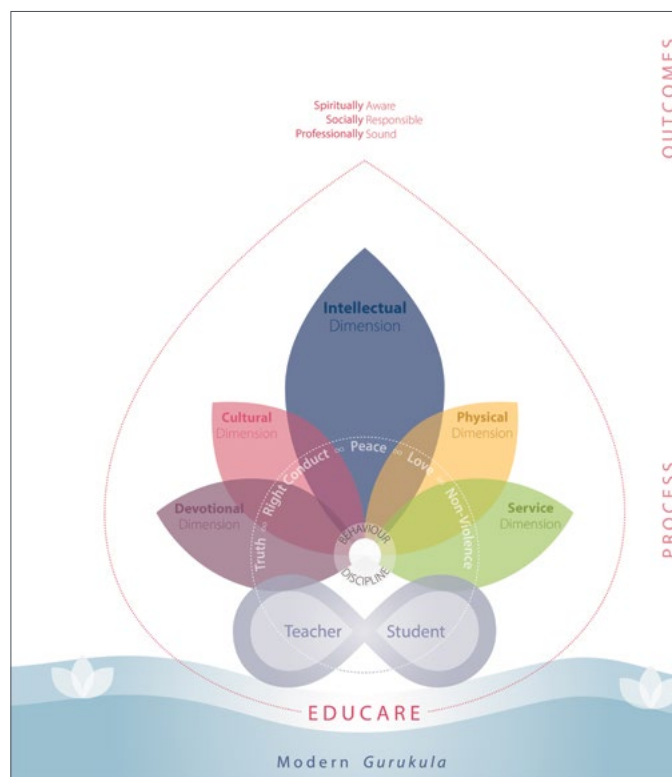
These dimensions are Intellectual, Physical, Cultural, Devotional, and Service. The key activities for each of these dimensions form the basis of most of the time that students spend at SSSIHL.

Bhagawan Baba purposefully designed the system of Integral Education so that while students spend 60% of their time on academics (intellectual capacities), they also spend 40% time on the development of other qualities. This enables students to inculcate the virtues of team work, self-reliance, empathy, adaptability, discipline and cooperation.

The Daily Routine

This is a crucial component of this process. Each student's day starts at 5:00 a.m., with a couple of hours spent in prayer, exercise, and other vocational pursuits (such as practice sessions for music, band, traditional Indian music, and the likes).

Classes commence at 9:00 a.m. After college hours at around 4:00 p.m., students move to the Sports Field/ Mandir/Prayer hall for participation in sports and games/ congregational



Sri Sathya Sai Values-based Integral Education

chanting (Veda), devotional singing (bhajans), and other spiritual activities. These also include talks by eminent speakers on a variety of spiritual topics. Post dinner, students concentrate on their studies.

The Outcome

The outcomes of the system of Values-based Integral Education at SSSIHL are threefold. It prepares all graduates to be:

- Spiritually aware
- Socially responsible and
- Professionally sound

It helps develop a strong character and positive qualities in students and nurtures virtues like adaptability, tolerance, and sacrifice; shaping them into noble and responsible citizens.

I have established these institutions to impart spiritual education as a main component and worldly education as a secondary one. Education should enable one to cultivate good qualities, character and devotion. The teaching of the University curricula is only the means employed for the end, namely, spiritual uplift, self-discovery and social service through love and detachment.

Sri Sathya Sai Baba
Revered Founder Chancellor, SSSIHL



Integral Education Activities

All students at SSSIHL spend 60% of their time on intellectual activities (primarily on their studies). The rest of the 40% of the time is spent almost equally on activities related to the Integral education dimensions of Devotional, Cultural, Physical, and Service. These are highlighted below.

Devotional Dimension

- Bhajans (Sankirtan)
- Vedic chants and stotrams
- Meditation & Silent sitting
- Suprabhatam (prayer at dawn)
- Assembly (college prayer)
- Brahmaarpanam (food prayer)
- Kshama Prarthana (night prayer)

The activities of the devotional dimension enable a student to connect to his/her Divine inner Self. This inner connection opens the heart and brings forth the feeling of love, compassion, and empathy for fellow human beings.



Cultural Dimension

- Celebration of festivals: Republic Day, Eid-al-Fitr, Independence Day, Sri Krishna Janamashtami (cow procession), Ganesh Chaturthi, Ganesha Immersion, Christmas Ugadi, Sri Ramanavami, etc.
- Brass Band
- Nadaswaram & Panchavadyam ensemble
- Annual Sports & Cultural Meet
- Performing Arts: Music programmes, Drama & Dance
- Fine Arts: Rangoli, Cardmaking, Photography, Altar making
- Public Speaking
- Debates and Elocution

From the performing arts to public speaking to the fine arts, the cultural dimension is designed to give students wide opportunities to find an avenue to their individual artistic expression.

The institute makes every effort to provide the best possible resources—both material and human—so that students excel at their chosen activity.

Festivals of major world religions are celebrated, reinforcing the unity among all faiths. Every student is involved in one way or another in the celebration of these festivals.

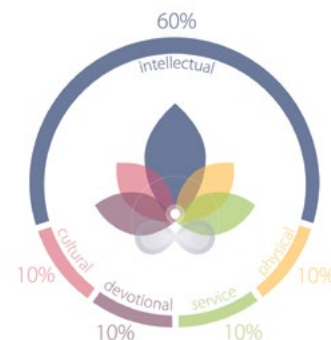


Physical Dimension

- Sports
- Games
- Jogging
- Exercises and Yogasanas
- Annual Sports & Cultural Meet

Sports and games are a part of the daily routine of all students. From yoga classes to fitness training, from team sports to individual sports, students are encouraged to overcome their limitations and excel in these activities. SSSIHL has excellent sports facilities





Service Dimension

- Self-reliance departments: Electricals, Plumbing (water supply), Audiovisual, General store, Dispensary, Dietary services, Hostel mess, Arts & Crafts, costumes & props, etc.
- Community Living
- Social Work
- Voluntary Work
- Grama Seva (Annual Village Service)
- Prasadam Distribution

The philosophy of service at SSSIHL is based on the concept that divinity pervades all of humanity, and hence when you serve others, you are serving the Divine. Students learn to serve without expecting anything in return, other than the deep inner satisfaction of serving others.

The compulsory residential system, where students live in dormitory-styled accommodation with other students from totally different backgrounds (for a minimum of two years and up to five or more years), provides an excellent foundation for the service dimension.



Intellectual Dimension

Apart from academics and research, the activities in this dimension include:

Awareness Courses

These mandatory courses are designed to cultivate a broad view of the human condition in students. The course content (e.g. the Unity of Religions and Faiths, Study of the Indian Epics, etc.) helps trigger self-reflection and inquiry and sensitises students to the concerns of society, and gets them to think about practical solutions to these problems.

Moral Class (Thursday)

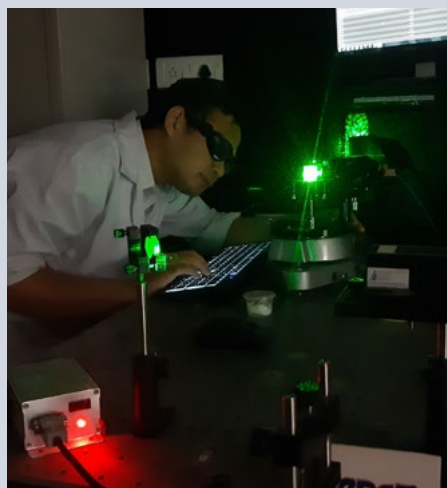
At each campus, Thursday mornings begin with an hour of inspiring and ennobling talks by speakers focusing on their personal spiritual experiences, messages from sacred scriptures, and other elevated and socially relevant themes. It is also used to highlight students' talents in music, dramatics, elocution, debates, quizzes, etc.

In 2020/21, some of the topics included: Mahatma Gandhi - Man, of the Millennium, Role of Bharatha in Ramayana, Creating Agents of Change for Transforming the Future of Science, Technology and Innovation, Life Beyond the Cool and Trending, Finding Myself as a Sai Daughter, Gratitude - The Greatest Attitude, The Story of a Reluctant Banker, Information to Transformation, Life of an Ideal Sai Student, Practicing Human Values in Daily Life-EDUCARE, and Human Values Through Self-reliance Activities.

Prayer Talks

Every morning before classes commence at the college, all students and teachers gather for the morning assembly. Prayers/Veda chanting/bhajans and a few minutes of silent sitting are sometimes followed by a talk by students, faculty members, or invited guests on topics related to morals and values.

In 2020/21, some of the topics included: Forget and Forgive, Climate Change, Self-love, Music, Life and True Happiness, True Essence of Learning, Audacious Losers are Better than Modest Winners, Combating Stress, The Power of Thoughts, Importance of Mindfulness, and Does Destiny Really Matter?



Governance & Structure

Sri Sathya Sai Institute of Higher Learning (Deemed-to-be University) was established by the **Sri Sathya Sai Institute of Higher Learning (Public Charitable Trust)**, which in turn has been established by the **Sri Sathya Sai Central Trust**. **Bhagawan Sri Sathya Sai Baba** is the founder of these Trusts.

The Trust

The Sri Sathya Sai Institute of Higher Learning (Public Charitable Trust) was founded to foster the culture of India and promote in the students and teachers an awareness and understanding of the social needs of the country; with special focus to the needs of the rural population. It is aimed to inculcate in students a world perspective - an international outlook imbibing human values along with a spiritual and secular education. Its members for 2020/21 were:

- **Sri T K K Bhagwat**
Former Chairman of Indian Overseas Bank and Former Advisor, International Monetary Fund
- **Sri S S Naganand**
Just Law Advocates, Senior Advocate, High Court of India and Supreme Court of India and Former President, International Commission of Jurists (Karnataka section)
- **Sri R J Rathnakar**
Active Social Worker and Alumnus, Sri Sathya Sai Institute of Higher Learning
- **Prof. S P Thyagarajan**
Former Vice-Chancellor, University of Madras, Professor of Eminence & Dean (Research), Sri Ramachandra University and Eminent Microbiologist and Inventor

The Principal Bodies

The administrative and academic functioning of SSSIHL is carried out by the following two principal bodies:

- The Board of Management
- The Academic Council

The Board of Management

The Board of Management is the principal authority of the Deemed-to-be University, responsible for its general management and administration. Its members for 2020/21 were:

- Prof. (Dr.) C B Sanjeevi, Vice-Chancellor, SSSIHL (Chairman)
- Sri S S Naganand, Member, Sri Sathya Sai Central Trust Nominee, SSSIHL (Public Charitable Trust)
- Dr. (Ms.) Renu Swarup, Secretary, Dept. of Biotechnology, Ministry of Science & Technology, Govt. of India

- Prof. D Narasimha Rao, Professor, Dept. of Biochemistry, Indian Institute of Science, Bangalore
- Prof. B Raghavendra Prasad, Senior Professor, Indian Institute of Astrophysics, Bangalore
- Prof. G Nageswara Rao, Head, Dept of Chemistry, SSSIHL
- Prof. R Prabhakara Rao, Professor, Dept. of Economics, SSSIHL
- Prof. C N Sundaresan, Dean of Research, SSSIHL
- Dr. (Mrs.) M Praphulla, Dean of Education, SSSIHL
- Prof. B Sai Giridhar, Registrar, SSSIHL (Member Secretary)

The Academic Council

The Academic Council is the principal academic body of the Deemed-to-be University. It has general control over and is responsible for the maintenance of standards of teaching, research and training, approval of syllabus, coordination of research activities, and examinations and tests within the SSSIHL. Its external members for 2020/21 were:

- Prof. V Nagaraja, Dept. of Microbiology and Cell Biology, Indian Institute of Science, Bangalore
- Prof. S Ramasesha, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
- Prof. V Nagadevara, Former Professor and Dean, Indian Institute of Management, Bangalore
- Prof. A Ramanan, Dept. of Chemistry, Indian Institute of Technology, Delhi
- Dr. Kamini Walia, Scientist F, Indian Council of Medical Research, New Delhi
- Dr. Anil Dutt Semwal, Scientist G, Director, Defence Food Research Laboratory, Ministry of Defence, Mysore
- Prof. Ratnamala Chatterjee, Dept. of Physics, Indian Institute of Technology, Delhi
- Dr. M Venkateshwar, Formerly Professor and Head, Department of Hindi & India Studies, The English and Foreign Languages University, Hyderabad

Committees

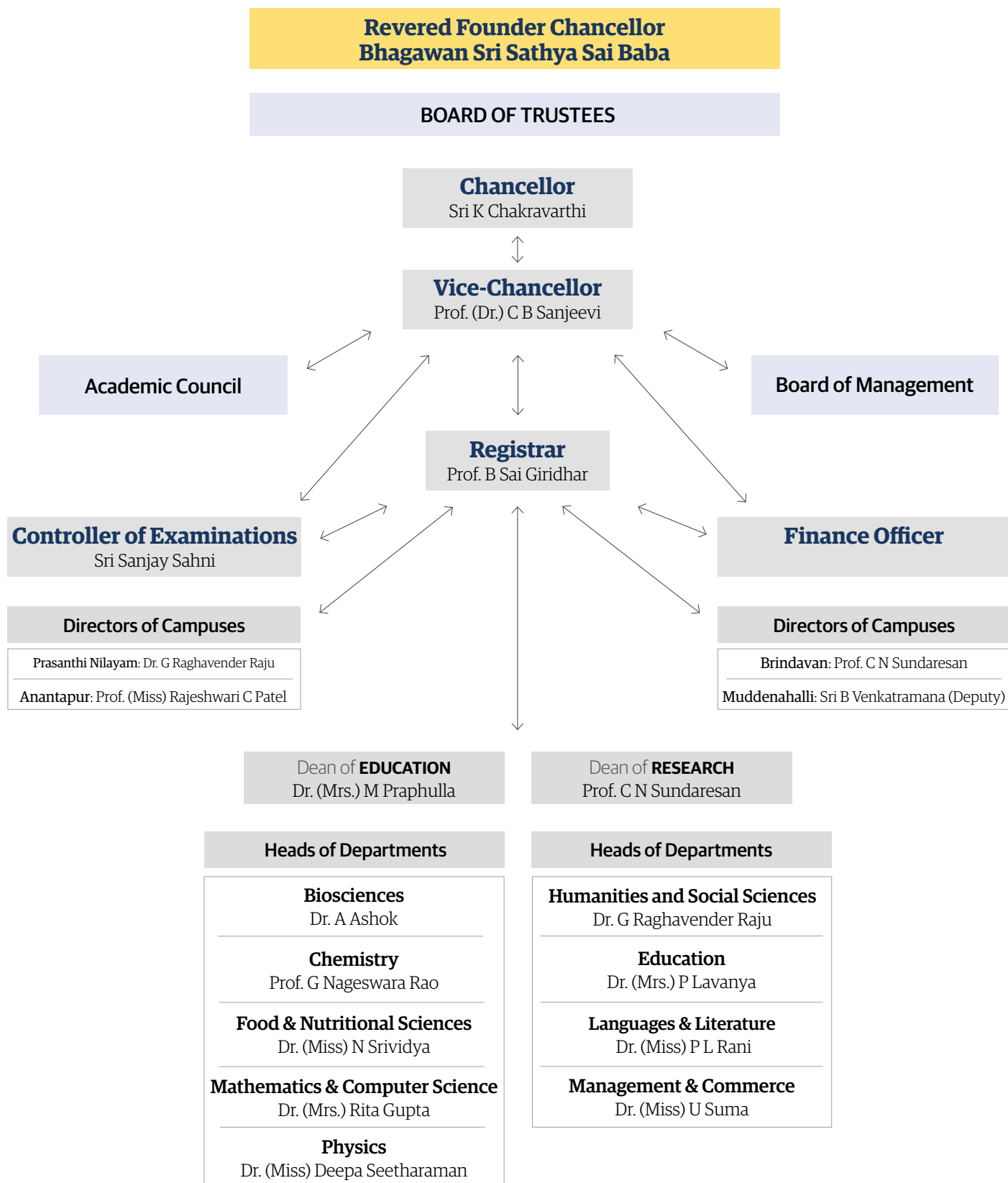
These are set up to ensure the high academic, research, and administrative standards that SSSIHL has striven to consistently maintain. They include:

Important: The Finance Committee, Planning and Monitoring Board, Research Advisory Board, Internal Quality Assurance Cell (IQAC), The Boards of Studies, Institutional Ethics Committee, Institutional Biosafety Committee, Research Conferment Cell, Building and Works Committee, and Campus-Hostel Management Committee.

Mandatory/Essential: The Anti-Ragging Committee, Anti-Discrimination/ Minority/OBC Cell, Committees for SC/ ST, Internal Complaints Committee, Intellectual Property Rights Cell and Innovation Cell, Social Media Cell, Student Counsellors, Internal Committee for students with disabilities, Ombudsman, and Institute Industry Interface Cell.



Sri Sathya Sai Institute of Higher Learning (Deemed to be University) has been established by Sri Sathya Sai Institute of Higher Learning (Public Charitable Trust), which in turn has been established by Sri Sathya Sai Central Trust.
Bhagawan Sri Sathya Sai Baba is the founder of these Trusts.



Adapting to Digital Transformation Needs

Responding quickly to the challenges and needs of the faculty, students and the campuses during the epidemic, SSSIHL put its best resources to work to ensure continuity of classes, submission of assignments, daily interactions of Faculty with Students, and the conduct of examinations, preparing well for the unprecedented times while minimising the impact at all levels.

In order to meet the demands of the Faculty, Students and the Administration, SSSIHL streamlined processes and upgraded all its resources to ensure both learning and examinations can be held 100% online.

Leveraging Moodle, an open-source platform, the team developed a customised Learning Management System (LMS) and Examination Management System (EMS) in-house to make this happen on a war footing.

Learning Management System (LMS)

SSSIHL implemented Moodle as our Learning Management System (LMS) that transformed the entire learning process and created a virtual space for the students and teachers especially in the new normal world.

Moodle is an open-source, secure, feature-rich platform that runs on multiple devices like computers, mobiles, tablets, etc. LMS is available in many environments so that the students without computers or having poor data connection can access the system using their available devices.

The platform enables over 550 subjects to be taught to the students across all the four campuses and supports activities like Attendance, Chat, Feedback, File, Folder, Forum, Label, Page, Quiz, Assignments in Google & URL, enhancing the overall learning experience. Integral education activities such as Yoga and Veda were also incorporated. The system currently holds around 1200+ lesson plans and 4000+ assessments.

Developed and maintained internally, this initiative has brought in considerable amount of savings for our institute.

Examination Management System (EMS)

Examination Management System is a similar system setup that ensures end to end examination process is 100% automated for the 2000 + Continuous Internal Assessments done each semester, which include quizzes and assignments across 550 subjects. This is also developed and maintained internally under the SSSIHL domain.

All the examinations in the university take place within the system using either of the two options below:

Option 1 is a computer-based test to evaluate the learning process of the student in 16 different ways.

Option 2 is a paper and pen-based test using the Assignment module of the system.

Safe Exam Browser (SEB) & Fully Exam Kiosk (FEK)

The Safe Exam Browser and Fully Exam Kiosk are implemented during all examinations at SSSIHL.

The Safe Exam Browser software turns any computer temporarily into a secure workstation, controlling access to resources like system functions, external websites and applications preventing unauthorized use of digital resources during an exam, ensuring e-assessments are conducted in a fair manner. Likewise, the Fully Exam Kiosk is an application deployed for those using mobiles.

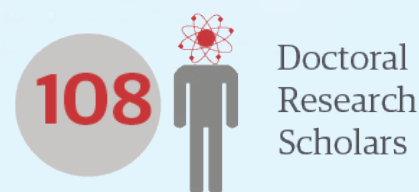
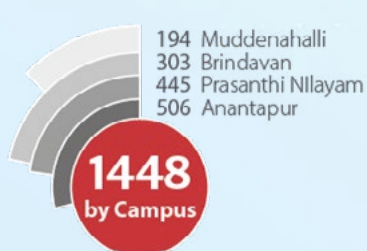
Both LMS/EMS solutions integrate with other modules/ systems - viz., Quiz module, Assignment module within the system, Google Assignments using LTI protocol, @sssihl.edu.in domain using authorization services for teachers to link files in the system and G-suite products - for e.g., a drive with unlimited space for teachers.



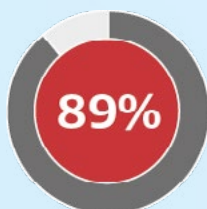


SSSIHL Statistics 2020/21

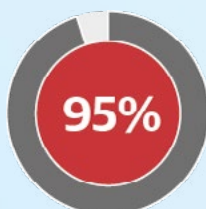
Student Profile



Examinations Pass Rates

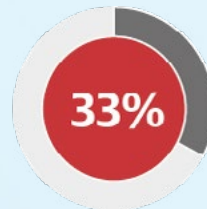


Undergraduate Programmes



Postgraduate & Professional Programmes

National Exams (Combined)



GATE: 37% | UGC-NET (JRF): 6.3% | UGC-NET (LS): 18% | IAI: 55.5% | CTET: 16.6%

This data pertains to final year postgraduate students who attempted these exams

see page 45 for further details

Admissions



Total Admissions



578/2601
accepted / eligible applicants

Acceptance Rates

Graduates



273 180

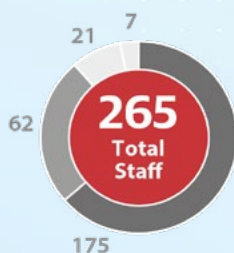


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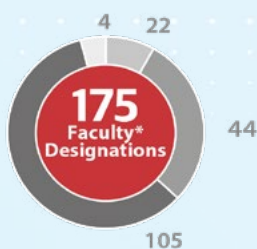


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Staff Profile



175 Faculty*
62 Administrative Staff
21 Technical Staff
7 Library & Sports
*Faculty (includes Adjunct)



22 Professor
44 Associate Professor
105 Asst. Professor
4 Others

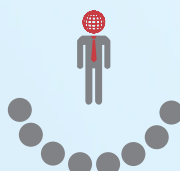


112/156 teachers have Ph.Ds.
Additionally, 22 teachers are currently pursuing a Ph.D.



2:1

Student Computer Ratio



8:1

Student Teacher Ratio

110

Visiting Faculty
& Guest Lecturers

₹ 7.07
Crore

Expenditure on Equipment
& Infrastructure



Research & Teaching Grants

₹ 2.11
Lakhs

Expenditure
per student / per year

Academic Events

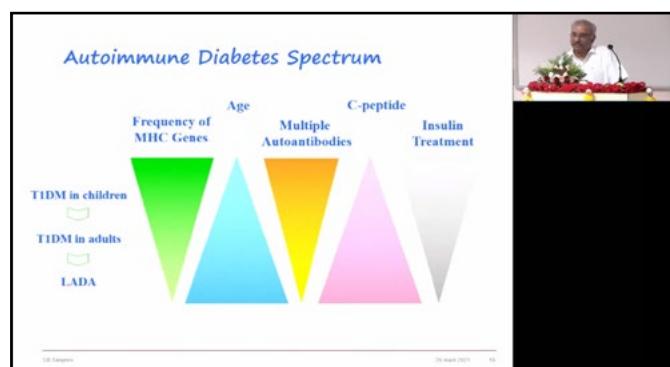
To facilitate wider exposure to the developments in academia and industry and enable the exchange of ideas, the University hosted a number of academic events during the academic year 2020/21. A large number of them were conducted online to meet the challenges imposed by the ongoing pandemic. A few of these are highlighted below.

Biosciences

Sustainable Health – International Symposium, 26-27 March 2021

A virtual International Symposium on 'Sustainable Health' was held on 26-27 of March 2021. The event saw a series of expert talks by top academicians, researchers, and innovators on the advancement of biological research globally and its huge potential to contribute to sustainable health for all.

The inaugural address was delivered by the Vice-Chancellor Prof. Dr. C B Sanjeevi, followed by a Keynote by Dr. Kamini Walia ICMR, GoI. The experts included Dr. A. G. Unnikrishnan, CEO & Chief Endocrinologist, Chellaram Diabetes Institute, Pune, Dr. Malati Srinivasan, CFTRI, Mysore, Dr. Swati Saha, University of Delhi (South Campus), Dr. Ravi Shankar, CDRI, Lucknow, Dr. Govind Rao, University of Maryland, Baltimore, USA, Dr. Archana Bharadwaj Siva, CCMB, Hyderabad, Dr. P. Ratnakar, Tech Mahindra, Pvt. Ltd. Hyderabad, and Dr. Surya Prakash Sambhara Atlanta, CDC, USA, who were joined by a team of research scholars from SSSIHL.

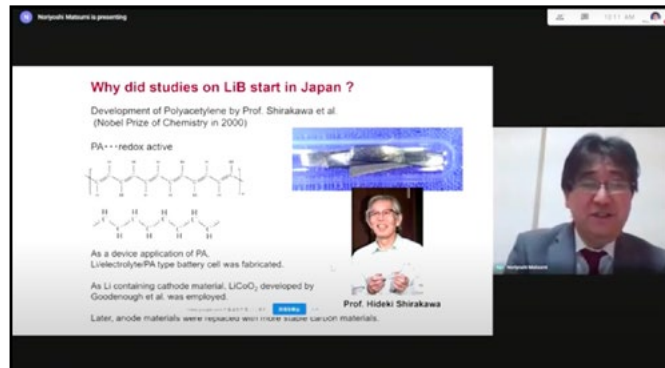
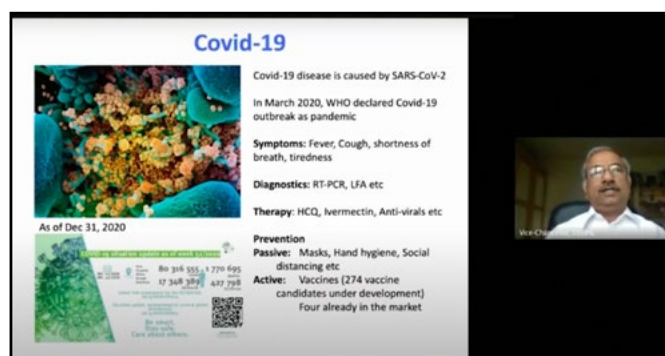


Chemistry

Recent Advances in Chemical Sciences (RACS-2021) – International Online Symposium, 2-3 January 2021

The symposium brought in distinguished professors and eminent scientists in the emerging areas of Chemistry. Talks and discussions centered on various topics related to Ultrafast Spectroscopy, Nanoscience and Nanotechnology, Artificial Intelligence, Drug Discovery, Wastewater Treatment, and Energy storage devices. The latest developments in the Chemical sciences were brought to light to research scholars, postgraduate and undergraduate students and enhanced the existing scientific research collaborations.

External Experts and Guest From: Centre Director for Tata Institute of Fundamental Research, Hyderabad, India, Japan Advanced Institute of Science and Technology, Japan, Director, Dr. Reddy's Institute of Life Sciences, India, Managing Director, and Founder-CEO, Andhra Pradesh MEDTECH Zone, India, IIIT Hyderabad, India, Center for Solar Energy Materials, ARCI, India, President and Chief Scientific Officer, Xheme Inc., U.S.A., Operational Excellence Manager, Life Science Lead (CPD) Millipore Sigma, U.S.A., Associate Vice President, Technology and Engineering, Praj Industries Ltd., India, Senior Principal Scientist and Group Leader, F. Hoffmann-La Roche AG, Switzerland.



Education

National Education Day Celebrated, 13 November 2020

National Education Day was celebrated with great vigour by the staff and students, SSSIHL, Anantapur through virtual mode. Organised by the Department of Education, the program began with the introductory remarks by Prof. Rajeshwari C. Patel, Director of the Anantapur campus which was followed by a talk delivered by the Head, Department of Education, Dr. P Lavanya on Moulana Azad and the three important contributions he made a) Basic Education b) Women education c) his ideas reflected in NEP 2020. Later, the students of the second year B.Ed. program conducted a panel discussion that focussed on important aspects of the life of Azad and reflections on his contributions to the country.

The discussion culminated by playing a short video consisting of a speech given by Azad expressing his views on freedom. The panel discussion was followed by a very interesting and educative quiz program organized by the first year B.Ed. students. The event concluded with the students expressing their gratitude to the Nation as well as to the Ministry of Education and SRC-NCTE for providing such an opportunity to remember and draw inspiration from these great Educationists.

Food and Nutritional Sciences

Are Carbohydrates the Main Reason for the Diabetes Epidemic in India? By Dr. V. Mohan – Webinar on World Diabetes Day, 09 November 2020

On the occasion of World Diabetes Day, a plenary talk was given by Dr. V. Mohan. The talk was focused on the progression of prediabetes and diabetes among the urban Asian Indian population with scientific epidemiological data and carbohydrates in prevalence and incidence of diabetes.

External experts: Chairman and Chief of Diabetology at Mohan's Diabetes Specialities Centre, Chennai, and President & Director at Madras Diabetes Research Foundation, Chennai.

National Nutrition Month Celebrations

Mindful Eating – A Holistic Approach Towards Health and Wellbeing, September 2020

In sync with the nationwide celebration of National Nutrition Month/Poshan Maah, September 2020, the department marked the occasion with resplendent enthusiasm and vigour organizing a month-long series of Nutri-supportive events.

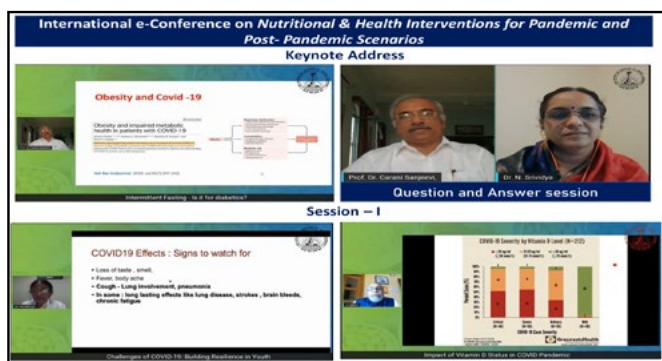
The first week's activity entitled "Nurture Your Creativity with Your Thoughts" consisted of an essay writing competition on the following themes: A vision of Malnutrition-free India, A Holistic Nutrition During COVID-19 Pandemic, and "Yatha Ann, Tatha Mann". The second activity was "Nutri-fun e-challenge" which consisted of events like meme competition, digital collage, and photo caption contest. The theme for each of these activities revolved around the concept of a healthy diet and innovation in food. The second week of the celebrations chiselled the art of healthy cooking among the participants through a competition entitled "Health is Wealth - Try Your Hand at Culinary Art". Participants were encouraged to prepare simple and nutritious lockdown recipes, healthy heart recipes, and zero-waste ingredient recipes.

A comprehensive session entitled "Poshan in Pandemic: Nourishing Oneself Inside Out." was organized on 24th September 2020 for the benefit of students and staff of the institute. The session included a noteworthy panel discussion by the DFNS faculty entitled 'COVID-19: Take Charge of Your Life' which spread awareness among the audience on maintaining a healthy lifestyle, clarified the myths regarding food safety practices, provided dietary tips and addressed other key concerns of life-style during the COVID-19 pandemic. Micro sessions on meditation, yoga, and fun-filled laughter sessions were presented to guide the audience towards holistic health, one of the necessities in the present COVID scenario.



Nutritional and Health Interventions for Pandemic and Post-Pandemic Scenarios – International e-Conference, 26-27 September 2020

The two-day event brought together distinguished professors, scientists, doctors, and clinical nutritionists in the areas of Health & Nutrition, and Medicine. The conference highlighted the importance of nutrition and health in the COVID-19 scenario. The talks and discussions centered around various topics: Intermittent Fasting, Nutrition, and Immune Function: Its relevance to COVID-19, Impact of Vitamin D Status in COVID Pandemic, Ayurvedic Diet & Lifestyle for Immuno-protection, Battling Food Insecurity in the Pandemic and Role of Safety Net Programs, and COVID-19: Doctor's Experience on Treatment & Recommendations for Wellness and Feeding Options for the Elderly in COVID Scenario.



External experts from Karolinska Institute (Sweden), National Institute of Nutrition (Hyderabad), Fortis Escorts Heart Institute (New Delhi), Shree Ayurvedic Multispecialty Hospital (Chennai), Boston University (Boston), Lutheran Care Centre (New York), and Rutgers Biomedical and Health Sciences (New Jersey).

Nutri-health Gardens: Sustainable Models for Food and Nutritional Security – Webinar, 25 September 2020

As a part of the International e-Conference, a pre-conference webinar was held in line with the emphasis laid on home gardening by the Hon' PM of India, Sri. Narendra Modi. The talks by the DFNS faculty emphasized the role of spices in health and disease, the contribution of home gardens towards satisfying the daily dietary needs of a family, and techniques for maintaining health-beneficial indoor plants. A documentary on home gardening in the North-Eastern regions of India and Nepal was presented. Dr. N Srividya led the team presentation on the topic 'Micro-farming at Home: A Healthy Recreation' bringing out the need and various forms of micro-farming with special emphasis on microgreens, as an upcoming food crop amenable for micro-farming. In addition, the Doctoral Research Scholars gave a demonstration of micro-farming at home for microgreens and various immunity-boosting foods, vermicomposting, and hydroponics for sustainable micro-farming. The team highlighted the importance of organic farming as an eco-friendly option, through a video presentation.

Languages and Literature

English

G-Suite Tools for Effective Online Teaching – Workshop by Dr. Rani P.L., 17 September 2020

The unanticipated pandemic and its aftermath made online educational modes essential. To help cope with the demands on faculty members to equip themselves for online teaching, a one-hour workshop on G-Suite Tools for Effective Online Teaching was conducted by Dr. Rani P. L., Head, Department of English Language & Literature, for all faculty members of the Anantapur Campus, on 17 September 2020.

Lit-Treat: A Webinar on Life, Language, and Literature, 17 - 18 August 2020

Theme: The Spirit(-ual) of Life in Literature: Characters of Resilience

After the introductory remarks by Dr. Rani P. L., Head, Department of English Language & Literature, the first plenary talk on Day 1 was delivered by Sri K Chakravarthi (IAS Retd.), Chancellor, SSSIHL, who drew examples from the life of Job from the Bible, and Raja Harishchandra from Markandeya Purana to illustrate how men have withstood storms of trials and tribulations with stoic resilience. This was followed by a talk on "Greying Characters with Mounting Spirit" by Dr. B Venkata Ramana, Assistant Professor of English, SSSIHL. The afternoon session of Day 1 witnessed a conversation between Dr. Vivek Chauhan and Dr. Arun Kumar Behera, Associate Professors, Dept. of English, SSSIHL, on "Characters of Resilience in Hardy & Hugo".

Day 2 had two plenary talks: the first by Dr. Samuel H. Sandweiss, MD, California, USA, who spoke on finding inner spiritual resilience, followed by Sri S Gurusamy who expounded the concept of spiritual nationalism that has its roots in the Vedic and Puranic age, and the times of Indus Valley Civilisation. He also highlighted the wrong notions Indians have of spiritual nationalism and argued for India's dire need to understand the concept in its truest sense.

The afternoon session of Day 2 saw a presentation by Dr. Maitali Khanna and Dr. Dibba Bhargavi, Asst. Professors of English, SSSIHL. They discussed the portrayal of gypsies as the symbol of spiritual growth in Matthew Arnold and Iris Murdoch. The afternoon session as well as the webinar ended with valedictory remarks by Prof. (Dr.) C B Sanjeevi, Vice-Chancellor, SSSIHL.





Management and Commerce

Soft Skills Training Program by Sri Bhawani Shankar, 20 & 27 February and 11 March 2021

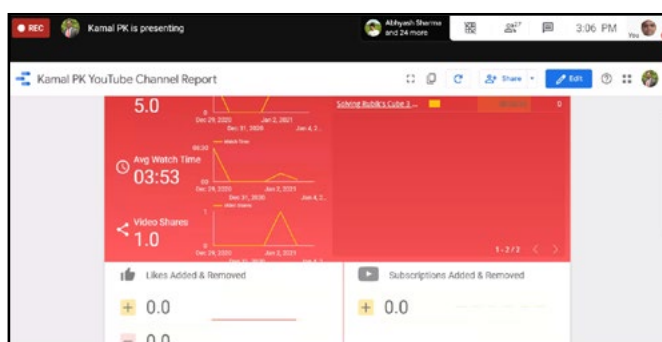
The 3 sessions on resume writing, facing interviews, and campus to corporate connect were conducted. In session one -students were made aware of the power of resumes and their importance in determining their entry into the interview room. In session two - how to face an interview was dealt with in an engaging and interactive session. Students were given important inputs useful in the preparation for interviews. In session three, corporate life and its expectations were thoroughly explained to the students in-depth, covering aspects like the dignity of labour, work ethics, code of conduct, etc.

Business Analytics Using R – Workshop by Prof. Sr Kshetragnan, 22 January and 12 February 2021

Students were introduced to different data types nominal, ordinal, interval, and ratio data. They were taught about different types of analytics- descriptive, predictive, prescriptive analytics. Students learned how to import data from external sources and installed multiple packages for in-depth statistical analyses like market basket analysis, net promoter score, target variable, CRISP-DM, Visual Overview, Concatenation, etc.

Business Intelligence Using Excel and Tableau – Workshop by Dr. P Kamal Kannan, 5 January & 16 February 2021

Students were given exposure to business analytics and how it is a methodical exploration of a company's data using statistical analysis. Also, that business Intelligence is a tech-driven process to analyze data and present actionable insights for decision-makers. Some of the tools used are MS-Excel, Python, R, Julia, Tableau, Power BI, etc. Then students were given data made to process it to see certain business insights. Students learned about cleaning the data. Some very efficient shortcut keys were also presented. Using pivot tables in excel different perspectives and dashboards were presented. Then the session lead to visualization tools like Tableau and Power BI. Sri Kamal used his own Facebook data and performed the data visualization techniques. In the end, some trends in business analytics like decision analytics, blockchain, IOT, etc. were shown.



Mathematics and Computer Science

Hands on Predictive Analytics with Python - 40 Hours (Technical Workshop 1: SSSIHL DMACS), 30 May – 06 June 2021

A 40-hour program was conducted for all post-graduation programs of DMACS. The objective of this program was to equip the participants with predictive analytic skills using python. The workshop had five modules and the sixth module was a capstone project designed to test the skills acquired in the past five modules. Various assignments and hands-on training were provided with the use cases on actuarial concepts.



Actuarial Science Research, 30 May 2021

The session was organized to demonstrate a tool to insurance experts in the Industry, that was developed by Rohan and Pranav during their Ph.D. research work. We received valuable feedback on the tool and the last 30 minutes of the session were focused on discussion on potential areas of research.

Actuarial Workshop for Sri Sathya Sai Higher Secondary School, 05 April 2021

The Session was organized for 12th standard students of Sri Sathya Sai Higher Secondary School to make the students aware of the actuarial profession. We had our SSSIHL alumni joining along with existing students pursuing actuarial subjects.

An Accelerated Program in Data Science - by Sri S.V.S.S. Sarma & Sri Raghu Raj Singh, Co-Founders, SG DataMinds Hyderabad, 01 March - 04 April 2021

In this workshop, the speakers covered the basics of Data Science and Machine Learning algorithms. The hands-on sessions, helped the students to understand the basics of the subject effectively. Python modules: NumPy, Matplotlib, Pandas, and Scikit-learn were covered in the workshop.

Actuarial Workshop for Brindavan Campus, 17 March 2021

The Session was organized for the final year under graduation students of Brindavan Campus to make the students aware of the actuarial profession. We had our SSSIHL alumni joining along with existing students pursuing actuarial subjects.

Some Efficient Online Signature Verification Techniques Using Fewer Signature Samples and Features – Talk by Mr. Voruganti Chandra Sekhar, Vision Research Engineer, Samsung R&D Center, Bengaluru, 13 March 2021

The talk addressed four critical challenges identified based on a thorough literature survey on Online Signature Verification (OSV) techniques:

- Challenge 1: Availability of a smaller number of samples per user.
- Challenge 2: Lack of OSV frameworks that can classify the signature samples of unseen users.
- Challenge 3: Demand for Quick Inference Time.
- Challenge 4: Impracticality in acquiring a sufficient number of signature samples

Building a data science workforce for sustainable development – Talk by Prof. Padmanabhan Seshiyer, George Mason University, USA, 27 February 2021

In this talk, the speaker discussed how an interdisciplinary data science education will empower students and faculty to apply their knowledge and skills to solve grand challenges. Specifically, the speaker discussed educational frameworks, computational models, and pedagogical practices that will help to make effective data-driven decisions for sustainable development.

TSMART Move Using an Electric Vehicle, 02 January 2021

These sessions were organized along with two of the SSSIHL Alumni - Kartik Gopal and U Vidyadhar. The discussion was to explore the possibility of using actuarial models to increase the efficiency of the electric motor vehicle.

The Hypotenuse Theorem: A Perspective into Ancient Indian Mathematics by Prof. Kannan, 21 November 2020

Prof. Kannan discussed how Indians were at least a millennium ahead in Mathematics. After some brief remarks on several areas that Indian mathematicians have covered, the erudite speaker focused on the Sulabha Sastra, and, in particular, on the Hypotenuse Theorem (aka the Pythagoras Theorem). The speaker extensively quoted in Sanskrit from various texts of Aryabhata and Bhaskaracharya.

Cloud-based 5G Radio Access and Core Networks – Talk by Prof. Krishna Moorthy Sivalingam, Institute Chair Professor, IIT Madras, 10 October 2020

This talk provided an overview of the cloud-based architecture, currently being designed and implemented, to realize Next-Generation Radio Access Networks (NG-RAN) and Network Core (NGC/5GC) for realizing 5G Cellular Networks. The talk briefly presented Architectural concepts based on Software Defined Networking (SDN) and Network Function Virtualization (NFV). The talk also dwelled upon performance expectations, especially processing latency, for realizing 5G networks.

Graph-based Mining – Talk by Mr. T. Ramalingeswara Rao, Indian Institute of Technology, Kharagpur, 3 October 2020

According to the modern trend of the data world, graph-based mining and analysis is a prominent and continuously growing research field. The objective of graph-based mining and analysis is to investigate various graph datasets for various types of node interactions to uncover the intuitive insights of a given network. Based on node interactions, one can mine the user's navigational behaviour and identify top-k relevant objects, the similarity of node pairs, node ranking, unusual



behaviour, and detection of communities in a given graph dataset. Massive graph data are being generated from various kinds of networks such as social networks, transportation networks, collaboration networks, weblog networks, user-item networks, etc. The analysis of such huge and complex network data is a challenging task in graph-based data mining. The objective is to apply various analytics on graphs and develop new algorithms for top-k node interactions, the similarity of node pairs, distributed graph analytics, discovering user communities using distributed graph computing systems for medium and large-scale networks. Following are the key concepts of this talk:

- Computation of SimRank using Adomian decomposition method
- Top-k category search for an IP address-Product network
- Large-scale distributed graph analytics: An experimental analysis
- Mining top-k user communities from a weighted bipartite graph using distributed graph computing platforms.

Karkinos: An Oncology Focused Societal Platform – Talk by Mr. R. Venkataramanan, Founder & Director, Karkinos Healthcare, 2 September 2020

Mr. Venkataramanan is an alumnus of SSSIHL and he spoke on the KARKINOS platform as a use-case for Technology in Medicine. The students from M.Sc(Maths) and M.Tech(CS) joined the online session. The speaker spoke on the problem statement, objective, approach, structure, and current status of the platform. Karkinos is a purpose-driven oncology platform that will invest in providing services through a technology-enabled data-driven platform and addressing an important societal cause. The design and delivery will be through bespoke solutions for cancer care, as a one-stop-shop in experience, addressing core market needs for this specialized health care. It will use technology and AI-based continuous feedback to improvise care to our patient needs, the learnings of which will be scaled up within India and beyond.

Physics

Physics for Healthcare – Two-day International Webinar, 19- 20 March 2021

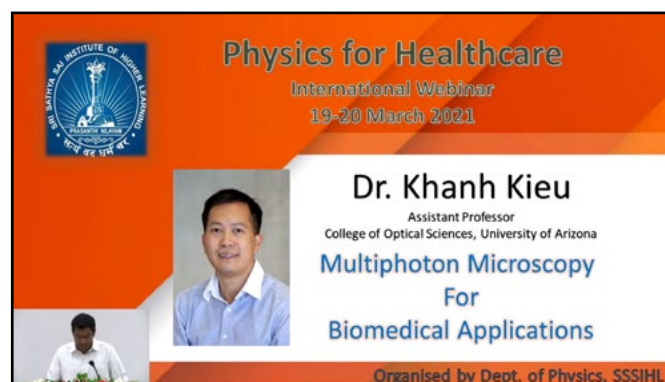
The Department of Physics conducted a two-day international webinar titled "Physics for Healthcare. The webinar, featured a series of talks by top academicians, researchers, entrepreneurs, and innovators from across the globe, on the application of Physics to the diagnostic and therapeutic aspects of Healthcare. The webinar specifically focussed on the recent innovative solutions that have been created in the area of Healthcare, by several experts.

The inaugural address was delivered by the Chief Guest, Dr. Renu Swarup, Secretary, Department of Biotechnology, Ministry of Science and Technology, GoI, and the introductory address by our respected Vice-Chancellor Prof. Dr. C. B. Sanjeevi. The experts included - Dr. Khanh Kieu, Asst. Professor, Univ. of Arizona, Prof. Antonio Pifferi, Politecnico di Milano, Italy, Prof. Håkan Engqvist, Ångström Materials Academy, Uppsala University, Sweden, among other distinguished scientists and innovators.

Automation Training Workshop in LabVIEW, 9 January 2021

The Department of Physics conducted a one-day hands-on workshop on automation training using LABVIEW for the students and staff of the Department. This event was aimed to train the students and researchers to obtain an introduction to automating their experiments using this LabView platform. Prof. Krishna Kumar, Dean, NCET, Bangalore, and experts & scientists from DRDO - GTRE, Bangalore, led the sessions.

Automation plays a crucial part in modern scientific and engineering endeavours. The complexity and heterogeneity in current experimental designs demand dexterous and reliable real-time measurements. LabVIEW from National Instruments is a powerful software tool, which offers the ability to design and integrate multiple equipments into a single platform.



Faculty Achievements

Awards & Recognitions

Biosciences

Other Recognitions

- Dr. B E Pradeep was invited as a speaker for the webinar "Medicinal Chemistry Aspects: Present & Future" organized by Jagadguru Tontadarya (J.T.) College of Arts, Science & Commerce, (Hatalageri Naka, Masari, Gadag - Betageri 582101, Affiliated to Karnataka University) and Royal Society of Chemistry (UK, London), India Deccan Local Section (July 21-22, 2020).
- Dr. K N Naresh was the master of ceremonies - the proceedings of the "International Symposium on Sustainable Health", jointly organized by the Department of Biosciences, Anantapur, Brindavan, and Prasanthi Nilayam campuses of the Sri Sathya Sai Institute of Higher Learning (March 26-27, 2021).

Chemistry

- Dr. (Mrs.) V Prathyusha was awarded the "Young Scientist Award" in Chemical Science by the Andhra Pradesh Akademi of Science for the year 2020.
- Dr. (Mrs.) V Prathyusha was awarded the "Associate Fellow" of the Andhra Pradesh Akademi of Science for the year 2020.

Other Recognitions

- Prof. C N Sundaresan was invited as a Chief Guest for the Valedictory Ceremony of the two-day International Virtual Conference on Chemical and Environmental Sciences and honoured with a Certificate of Appreciation for the prestigious contribution towards the successful conduct of Valedictory Ceremony organized by the Department of Chemistry, St Peter's Institute of Higher Education and Research, Chennai, India (November 11-12, 2020).
- Dr. Praphulla Chandra was selected as a Member of Topical advisory board member of the International Journal of Environmental Research and Public Health (IJERP) (March 4, 2020).
- Dr. (Mrs.) G Pavana Kumari was invited to talk on "Retrosynthetic Analysis" at the National Seminar on Emerging Trends in Chemical and Environmental Sciences (February 6-7, 2020).

Food and Nutritional Sciences

- Dr. (Miss) N Srividya received the "Sai Krishna Award for Excellence in Research" during the 39th Convocation Ceremony of the Sri Sathya Sai Institute of Higher Learning, Prasanthi Nilayam (November 22, 2020).
- Dr. (Miss) N Srividya was awarded the "Science Father Best Researcher Award", an International Research Award on Science, Health and Engineering, by Scifax Information and Analytics Private Ltd., India (August 5, 2020).
- Dr. (Miss) N Srividya won First Place in a paper presentation entitled "Ayurvedic Perspective and Modern Nutritional Evaluation of Traditional Indian Brown Rice Varieties" at the National e-conference on Integration of modern and traditional nutrition approaches towards health and wellbeing: Importance, challenges, and future organized by Sri Devraj URS academy of higher education and research, Kolar (April 28-29, 2021).
- Dr. (Miss) N Srividya won First Place in a paper presentation entitled "Antidiabetic Potential and Metabolomics-based Screening of Phenolics from Bamboo Seed Rice" at the international e-Conference on "Novel Nutrition Approach and Emerging Opportunities to Sustain in Pandemic Scenario" organized by the Department of Nutrition and Dietetics, Mount Carmel College, Autonomous, Bengaluru in association with IITB Remote Centre, Women's Polytechnic College, Puducherry (June 15-18, 2020).
- Prof. (Mrs.) B Andallu received First prize (Rs.1 lakh) for a research paper presentation on "Antihyperglycemic, Antioxidant and Cataract Retardation Effects of Mulberry Leaves in STZ-diabetic Rats" in the 5th International Diabetes Summit (VIRTUAL) 2021, organized by Chellaram Foundation Diabetes Research, Pune (March 14, 2021).
- Prof. (Mrs.) B Andallu received Second prize (Rs.3,000) for a research paper presentation on "Amelioration of H₂O₂-induced Oxidative Stress in Human Leukocytes by Aniseed (*Pimpinella anisum* L.) extracts" in National e-conference-Integration of Modern and Traditional Nutrition Approaches towards Health and Wellbeing: Importance, Challenges, and Future organized by Dept. of Clinical Nutrition and Dietetics, Sri Devaraj Urs Academy of Higher Education and Research, Tamaka, Kolar (April 28-29, 2021).
- Dr. (Miss) N Srividya won Second Place in a paper presentation entitled "Glucose Regulatory Indian Red Rice Genotypes for Diabetes Management: Metabolomic, in vitro and in vivo validation" at the 5th International Diabetes Summit (Virtual) 2021 organized by Chellaram Diabetes Institute, Pune (March 12 -14, 2021).



Other Recognitions

- Prof. (Mrs.) B Andallu delivered a Keynote address on “Medicinal Potential of Coriander (*Coriandrum sativum* L.) at the First National Conference on the Applications of Advanced Chemical and Agricultural Research for Development of Medicinal Plants (*focusing on Coriandrum sativum* L.) organized by the Dept. of Agriculture, University of Nahavand, Iran (May 29, 2021).
- Dr. (Miss) N Srividya delivered an invited talk on “Nutritional and Health Properties of Traditional South Indian Rice Cultivars - a Fair Story of Coloured Rice!” in an international conference on Nutrition and Health by Scientific Meditech Conference, UK (March 12-13, 2021).
- Dr. (Miss) N Srividya delivered an invited talk on “Microgreens: Nature's Own Superfood” in a webinar organised by FSSAI as part of their Eat Right India Movement (November 16, 2020).
- Dr. (Miss) N Srividya delivered an invited talk on “Microgreens for Sustainable Nourishment at Home and Community” in a webinar by Indian Dietetic Association, Nagpur Chapter, and NetProFaN (October 26, 2020).
- Dr. (Miss) N Srividya delivered an invited talk on “Microgreens as Futuristic Food Crop - Overview of Research at SSSIHL and Recommendation” in an e-Seminar on Microgreens as Food - The Science Behind, by Osmania University College for Women, Koti, Hyderabad (October 6, 2020).
- Dr. (Miss) N Srividya delivered a presentation on “Micro Farming-at Home: A Healthy Recreation” in the pre-conference webinar on Nutri-health Gardens-Sustainable Models for Food and Nutritional Security by the Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur (September 25, 2020).
- Prof. (Mrs.) B Andallu delivered a talk as a resource person on “The Role of Spices Beyond Flavoring” in the Pre-conference webinar on Nutri-health Gardens-Sustainable Models for Food and Nutritional Security organized by the Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur Campus. (September 25, 2020).
- Prof. (Mrs.) B Andallu was invited to talk on “Pimpinella anisum L.: A Multifunctional Spice” in an International Webinar on Pharmaceuticals and Drug Delivery System, Pharma Drug-2021, organized by Endeavor Research Group, the USA (March 12, 2021).
- Dr. (Miss) N Srividya organised and delivered the welcome address in the Webinar on “Are Carbohydrates the Main Reason for the Diabetes Epidemic in India?” by Dr. V. Mohan organized by Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur Campus (November 9, 2020).
- Dr. (Miss) N Srividya, Dr. (Mrs.) M Srija, Dr. A Sumana, and Dr. M Meera were involved in a panel discussion on the topic “COVID-19: Take Charge of your Life” as a part of National Nutrition Month webinar meet on Nourishing Oneself from the Inside Out/ Poshan in Pandemic, organized by the Dept of FNS, SSSIHL (September 25, 2020).
- Dr. (Miss) N Srividya organised and delivered the welcome address in the International e-Conference on “Nutritional and Health Interventions for Pandemic and Post Pandemic Scenarios”, Department of Food and Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur, Andhra Pradesh (September 26 - 27, 2020).
- Dr. (Miss) N. Srividya reviewed scientific articles for Elsevier journals - Journal of Food Composition and Analysis (August 2020), Journal of Food Chemistry (December 2021) and Journal of Cereal Science (May 2021).
- Dr. (Mrs.) A Sumana was nominated as a member of the Board of Studies for the academic year, 2020-2021, Department of Home Science and Department of Clinical Nutrition and Dietetics, Jamshedpur Women's College.
- Dr. (Mrs.) A Sumana was nominated as a member of the Board of Studies for the academic year, 2020-2021, Department of Home Science, KVR Government College for Women.

Humanities and Social Sciences

Economics

- Dr. G Raghavender Raju was awarded the “Sai Krishna Award” for Excellence in Teaching in Sri Sathya Sai Values-Based Integral Education” by Sri Sathya Sai Institute of Higher Learning (November 22, 2020).

Other Recognitions

- Dr. G Raghavender Raju was the Peer Reviewer for the Journal, Journal of Economic Policy and Research.



- Dr. G Raghavender Raju was invited as a resource person to deliver an online lecture on "Guidelines for Report Writing, Research Ethics, and Plagiarism" by Chhatrapati Shahu Institute of Business Education and Research (CSIBER) under AICTE Training & Learning Academy (ATAL), (December 12, 2020).
- Prof. R Prabhakara Rao delivered an invited talk entitled "An Overview of Classification Methods in Data Science" in AICTE ATAL Faculty Development Program on Data Science, Department of Computer Science, GITAM University, Visakhapatnam (January 4-8, 2021).
- Dr. (Mrs.) Maitali Khanna delivered a talk on the topic "'Scholar Gipsy' as a Symbol of Spiritual Growth in Arnold & Murdoch" in "Lit-Treat: A Webinar Series on Life, Language & Literature" conducted by Sri Sathya Sai Institute of Higher Learning (August 17-18, 2020).
- Dr. (Miss) Dibba Bhargavi delivered a talk on the topic "'Scholar Gipsy' as a Symbol of Spiritual Growth in Arnold & Murdoch" in "Lit-Treat: A Webinar Series on Life, Language & Literature" conducted by Sri Sathya Sai Institute of Higher Learning (August 17-18, 2020).

Languages and Literature

English

- Dr. (Miss) Rani P L received a "Certificate of Excellence" in the National Level e-Quiz on Epidemics and Literature organised by The Post-Graduate and Research Department of English in collaboration with the Internal Quality Assurance Cell (IQAC), Chevalier T. Thomas Elizabeth College for Women, Chennai (June 20-22, 2020).
- Dr. Aruna Kumar Behera was invited as a Chief Resource Person to deliver a series of lectures on "Aspects of Language" for MA-English by Odisha State Open University, Sambalpur (May 1, June 14, June 23, and June 24, 2020).
- Dr. Aruna Kumar Behera was invited as a guest speaker at a webinar on "Building & Mastering Professional Competencies" by The Dawn Publishers, Coimbatore (May 15, 2020).
- Dr. Aruna Kumar Behera was invited as a resource person at a webinar on "Publish or Perish" by The Dawn Publishers, Coimbatore (May 17, 2020).

Other Recognitions

- Dr. (Miss) Rani P L served as a peer reviewer for three research articles under consideration for publication by Common Ground Research Networks, University of Illinois Research Park, USA (2020-2021).
- Dr. (Miss) Rani P L hosted the talk by Lieutenant General (Dr.) Madhuri Kanitkar, AVSM, VSM, a highly decorated serving General Officer in the Indian Army at the SG Sundaraswamy Memorial Lecture (September 22, 2020).
- Dr. (Miss) Rani P L served as a resource person and delivered a talk titled "Life Writing: Reasons, Reading, and Ramifications" at the virtual national conference on *The Story: Life Narratives of Experience, Memory, Identity and Agency* organised by the Department of English, Kristu Jayanti College (Autonomous), Bengaluru, Karnataka, India. Also chaired a paper presentation session (March 25-26, 2021).
- Dr. (Miss) Rani P L delivered an online talk on Easwaramma Day celebrations of Sri Sathya Sai Seva Organisations, Kerala (May 6, 2021).
- Dr. (Miss) Rani P L delivered an online talk to the devotees of Mumbai Metro Region on the topic "Stree Shakti- The Glory of Womanhood" (May 30, 2021).
- Dr. Aruna Kumar Behera was invited as a moderator at a panel discussion on "Research Methodologies" by The Dawn Publishers, Coimbatore (June 11, 2020).
- Dr. Aruna Kumar Behera was invited as a resource person at a webinar on "Communicate to Connect" by The Dawn Publishers, Coimbatore (June 17, 2020).
- Dr. Aruna Kumar Behera was invited as an expert at a webinar on "English Skills" by The Dawn Publishers & Ramakrishna College, Coimbatore (June 20, 2020).
- Dr. Aruna Kumar Behera was invited as a resource person at a webinar on "Speaking English Well" by English Support Mission, Odisha (June 25, 2020).
- Dr. Aruna Kumar Behera was invited as an expert to deliver a lecture on "Phonology" for MA-English by IGNOU-Patna (June 26, 2020).
- Dr. Aruna Kumar Behera was invited as a panelist at a panel discussion on "Counselling during Lockdown" by English Support Mission, Odisha (June 30, 2020).
- Dr. Aruna Kumar Behera was invited as a panelist at a panel discussion on "Online classes vs regular classes" by Mainstay, Bhubaneswar (June 30, 2020).



- Dr. Aruna Kumar Behera was invited as guest of honour to a valedictory function of English Courses by English Support Mission, Odisha (July 2, 2020).
- Dr. Aruna Kumar Behera was invited as a panelist at a panel discussion on "Unsettling Career Choices" by English Support Mission, Odisha (July 7, 2020).
- Dr. Aruna Kumar Behera was invited as a resource person for a series of webinars on "Speaking is Easy" by MTC Global, Bangalore Odisha (Dec 19, 2020, Jan 2, 2021 & Jan 10, 2021).
- Dr. Aruna Kumar Behera was invited to adjudicate a PhD thesis by Bharathiar University, Coimbatore (Feb 5, 2021).
- Dr. Aruna Kumar Behera was invited as a guest speaker to deliver a lecture on "Experiences" by Sri Sathya Sai Samithi, Mahichala-Odisha (Feb 25, 2021).
- Dr. Aruna Kumar Behera was invited as a guest speaker to deliver a lecture on "Making life Meaningful" by CD College, Odisha (Feb 26, 2021).
- Mrs. Akanksha Aggarwal was recognized as Insc Reviewer for International Journal of Management and Social Studies - A Journal of Institute of Scholars (April 2021).
- Sri Vivek Kapoor was invited as external examiner by the Chaudhary Charan Singh Haryana Agricultural University, to evaluate their MBA students (general & agribusiness), (June 2020).
- Dr. (Miss) U Suma delivered an online talk in the US-SSSIO Multi-region Online Retreat – My Life is my Message (May 23-24, 2020).
- Dr. (Miss) U Suma delivered a talk in Chennai Samithi - A Satsang - Sai & the Transformation of the Human Heart (September 13, 2020).
- Dr. (Miss) U Suma delivered the welcome address in the e-Conference on Economic Resurgence with Human Values, MDH, (December 4-5, 2020).
- Dr. (Miss) U Suma delivered a Vote of thanks to Lieutenant General (Dr.) Madhuri Kanitkar, AVSM, VSM, a highly decorated serving General Officer in the Indian Army for delivering a talk at the SG Sundaraswamy Memorial Lecture (September 22, 2020).
- Dr. (Mrs.) C Jayashree was the resource person for a guest lecture on "Time Value of Money" in Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women (SDNBV), Affiliated to University of Madras, Chennai. (April 31, 2021).

Sanskrit

- Dr. M B S S Narayana received an award from "World Aryavysya Mahasabha" (WAM) as a Title "Pravachana Prabhakara" on Sundarakanda Saptaham (June 4-10, 2021).

Management and Commerce

- Mrs. Akanksha Aggarwal won the 'Young Researcher Award 2021' from the Institute of Scholars (April 2021).
- Dr. (Mrs.) Swetha Thiruchanuru received an "Excellent Performer Certificate" for the competition of the course on "Innovation and Entrepreneurship in a Post-Covid World" held as part of the NPTEL Special Lecture Series, co-organized by the National Digital Library of India (June 22-29, 2020).
- Dr. B Chandrasekhar was awarded a "Certificate in Fixed Income Investing" by AIWMI (June 2020).

Other Recognitions

- Dr. (Mrs.) Swetha Thiruchanuru was a mentor at Andhra Pradesh Innovation Society (2020).
- Dr. (Mrs.) Swetha Thiruchanuru became a Member advisory board, YUVA IncubateD, 2021.
- Mrs. Akanksha Aggarwal received Professional Lifetime Membership of the Institute of Scholars (April 2021).

Mathematics and Computer Science

- Sri Darshan Gera was awarded the 2nd place in Affective Behaviour Analysis in the Wild (ABAW) Expression Recognition competition and presented a talk on the topic "Affect Expression Behaviour Analysis in the Wild Using Spatio-channel Attention and Complementary Context Information" in Affective Behaviour Analysis in the wild (ABAW) FG 2020 IEEE International Conference on Automatic Face & Gesture Recognition (November 16-20, 2020).
- Sri Darshan Gera won the "IEEE CVPR UG2+ 2020 Prize Challenge" for an end-to-end face verification on Flatcam Measurements (April 2020).
- Dr. Avadhesh Kumar was awarded a 'Reviewer Certificate' by Mathematical Method in Applied Sciences, Wiley. (February 17, 2021).



Other Recognitions

- Dr. Pallav Kumar Baruah was the resource person and delivered two talks on "Blockchain Technology and AI Applications", at Sona College of Technology, Salem, and AICTE approved one-week Short Term Training Programme (STTP) on "Artificial Intelligence for Creating Acoustic Libraries" (Slot 1: November 23-28, 2020) and (Slot 2: November 7-12, 2020).
- Dr. Pallav Kumar Baruah was the resource person and delivered a talk on "Blockchain Technology and IoT" at Kongu Engineering College; AICTE-ATAL FDP titled – Internet of Things (December 21-25, 2021).
- Dr. Pallav Kumar Baruah was the resource person and delivered a talk on "Blockchain Technology and Applications" at Dr. B R Ambedkar Institute of Technology; AICTE Quality Improvement Scheme (AQIS) sponsored a 6-day online Short-Term Training Programme on "Satellite Image and Video Data Analytics" (March 22-27, 2021).
- Dr. R Raghunatha Sarma was invited as a resource person by the Defence Institute of Advanced Technology (DIAT), Deemed to be University (DU), funded by the Ministry of Defence R & D to deliver a talk on "The Problem of Image Registration and its Applications" (April 8, 2021).
- Dr. Sampath Lonka was invited as a resource person for Faculty Improvement Program on "Pure and Applied Mathematics" at SRR Arts and Science College, Karimnagar, Telangana (August 11-12, 2020).
- Dr. S Balasubramanian was invited, to be a member of the advisory committee of AICTE sponsored International e-conference on Data Analytics, Intelligent Systems, and Information Security, Dr. Mahalingam College of Engineering and Technology (December 2020).
- Dr. Krishna Kiran Vamsi Dasu was the guest editor for two special issues titled "Computational and Mathematical Biophysics for COVID-19" and "COVID-19 and Dynamics of Infectious Diseases" for the Computational and Mathematical Biophysics Journal (2020 & 2021).

Music

- Sri Raghavendra was awarded "Grade-2' Light Music Composer" (Hindustani Vocal Music) from All India Radio-Kalaburagi, Gulbarga. (September 8, 2020).
- Sri P S Sreenivasan was awarded 'B Grade' in Carnatic Classical Vocal Music from All India Radio - Kadapa (July 13, 2020).

Other Recognitions

- Sri S N Murthy Mallavarapu was invited as a special guest and artist by Dr. Pamela Kaushal, Founder of Vidya Jyoti, London (UK) (www.vidya-jyoti.org) for an online program on its First anniversary (September 19, 2020).

Physics

- Dr. (Miss) Deepa Seetharaman received the "Sai Krishna Award - Young Achiever for Excellence in Sri Sathya Sai Values-based Integral Education and Research" from the Sri Sathya Sai Institute of Higher Learning for the academic year 2019-20, during the 39th Convocation (November 22, 2020).

Other Recognitions

- Dr. Deepa Seetharaman, Dr. Paramesh Gadige, Dr. Swarup Kundu, and Dr. Rajasekhar Bhimireddy were identified as the key collaborators for a research collaboration agreement that was signed between SSSIHL and Uppsala University, Sweden, for joint research on Biomaterials, with Prof. Hakan Engqvist, Uppsala University (April 2021).
- Dr. Gowrishankar R was the resource Person for the FDP on Virtual Physics Labs, JNTU College of Engineering, Anantapur (September 7-9, 2020).
- Dr. Gowrishankar R was invited to talk at the International Conference on Theoretical Aspects of Nuclear Physics, organised by the Department of Physics and Astronomical Sciences, Central University of Himachal Pradesh, on the topic "Characterization of Long-lived Isomers in Doubly Odd Deformed Nuclei" (February 15-20, 2021).
- Dr. Gadige Paramesh was a resource person for the Faculty Development Program, organized by the Department of Physics, National Institute of Engineering (NIE), Mysuru, on the topic "Glassy State of Matter" (October 19-23, 2020).
- Dr. K Vijay Sai was invited to talk at the International Conference on Theoretical Aspects of Nuclear Physics, organised by the Central University of Himachal Pradesh, on the topic, "Internal Conversion Coefficients (ICCs) and their Relevance to Nuclear Structure Studies" (February 15-20, 2021).
- Dr. V Sai Muthukumar was invited for a webinar talk on "Raman Spectroscopy - Theory & Applications" as part of the webinar series organized by the Department of Physics, Sri Ramakrishna College of Arts and Science, Coimbatore (September 29, 2020).
- Dr. Shailesh Srivastava was invited as the speaker for Sri Sathya Sai Summer Course for Teachers (ODISHA schools: 8-15 June) on "Integral Education and Human Values" (June 15, 2020).



Research Scholars' Achievements

Awards & Recognitions

Biosciences

- Sri Balaram Khamari won Second Place in the professional category, in the Annual Agar Art contest 2021 organized by the American Society for Microbiology (ASM) for the art piece titled "Microbial Peacock".

Chemistry

- Miss Sai Kiran M was awarded First Prize (Prize Money Rs.10,000), for delivering the talk entitled "Self-assembled PVA based Hydrogel Beads for Effective Defluoridation of Groundwater," at the Science, Technology, and Innovation Talks (STIN 2021) by young research fellows, a national competition as a part of the Golden Jubilee Celebration of DST at ARCI, Hyderabad. The same was also featured in the Hindu Daily newspaper in an article titled 'Three-women Scientists Bag Awards' (February 25 -26, 2021).
- Sri Seemesh Bhaskar was awarded the prestigious Dr. K. V. Rao Scientific Society Research Award 2021 in the Bhoutikam Runners-up category (Prize Money Rs.10,000), for his innovative research on the topic "Hybrid Soret Nano-assembly for Ultrasensitive Surface Plasmon-Coupled Emission and Photonic Crystal-Coupled Emission Interfaces" (2020 - 2021).
- Sri Seemesh Bhaskar won the AWSAR (Augmenting Writing Skills for Articulating Research) Award 2021 (Prize Money Rs.10,000), for his popular science story entitled "Unity in Diversity- a Moonshot to Disruptive Innovations" (2020 - 2021).

Other Recognitions

- Sri Swayamsiddha Kar, Nageswara Rao Golakoti, and Srinivas Nanduri were granted the Indian Patent (IN 357756) entitled Spirobibenzopyrans and Analogues as Multitherapeutic Agents (February 2021).
- Miss Sai Kiran M upgraded to DST-INSPIRE Senior Research Fellow on appearing for DST INSPIRE fellowship up-gradation interview with an assessment committee containing DST expert members (August 12, 2020).
- Dr. K Naga Sai Visweswar was a member of the research group of SSSIHL that worked on the development of COVID-19 rapid antigen test kit which later got approved by ICMR.

Food and Nutritional Sciences

- Miss Ashrita C Haldipur won First Place in a paper presentation entitled "Antidiabetic Potential and Metabolomics-based screening of phenolics from bamboo seed rice" at the international e-Conference on Novel Nutrition Approach and Emerging Opportunities to Sustain in Pandemic Scenario organized by the Department of Nutrition and Dietetics, Mount Carmel College, Autonomous, Bengaluru in association with IITB Remote Centre, Women's Polytechnic College, Puducherry (June 15-18, 2020).
- Miss Sai Sruthi Shree K K won First Place (Prize Money Rs. 5000) in a paper presentation entitled "Ayurvedic Perspective and Modern Nutritional Evaluation of Traditional Indian Brown Rice Varieties" at the National e-conference on Integration of modern and traditional nutrition approaches towards health and wellbeing: Importance, challenges, and future organized by Sri Devraj URS academy of higher education and research, Kolar (April 28-29, 2021).
- Miss Ashrita C Haldipur won Second Place (Prize Money Rs. 15,000) in a paper presentation entitled "Glucose Regulatory Indian Red Rice Genotypes for Diabetes Management: Metabolomic, in vitro and in vivo validation" at the 5th International Diabetes Summit (Virtual) - 2021 organized by Chellaram Diabetes Institute, Pune (March 12 -14, 2021).

Physics

- Miss Anjana Biswas received the "Best Oral Presentation Award" in the technical session for presenting the research paper "Fe³⁺ Decorated Nanotubes for Enhanced Fluoride Adsorption", in the International Conference on Cutting Edge Research in Materials Science and Chemistry, Manipal University. (January 11-12, 2021).



Faculty Participation

Biosciences

- Dr. B E Pradeep, Dr. V N S Malleswara Kota D and Miss Isha Sai were the coordinators and Dr K N Naresh, compere / Master of ceremonies for the international symposium on "Sustainable Health" jointly organized by the Department of Biosciences, Anantapur, Brindavan, and Prasanthi Nilayam campuses of the Sri Sathya Sai Institute of Higher Learning, with the support of UGC-SAP DRS-III (March 26-27, 2021).
- Mrs. B Anusha participated in a seven-day workshop on "Science Communication" organized by Indian Science News Association, Kolkata and Vigyan Prasara, DST, Govt of India, New Delhi (November 24 -December 1, 2020).
- Dr. K N Naresh led and mentored a team of students who participated in the Drug Discovery Hackathon organized by Govt. of India, with an objective to identify lead compounds that could be potential drug candidates against SARS-CoV-2 (September to November 2020).
- Mrs. B Anusha completed a MOOC s course on "Information Handling Skills for Teaching, Learning, and Research" organized by Prof. Jayashankar, Telangana State Agricultural University under ICAR-NAHEP, (June 28-September 16, 2020).
- Dr. K N Naresh attended an online course on "Introduction to Molecular Spectroscopy" organized and authorized by The University of Manchester, USA through Coursera, obtained a distinction certificate (August 24, 2020).
- Dr. K N Naresh attended an online course on "Drug Discovery", organized and authorized by the University of California San Diego, USA through Coursera, obtained a distinction certificate (August 28, 2020).
- Mrs. B Anusha participated in the international webinar as a part of 9th Memorial Lecture, by Prof Shankar Adhya, National Institute of Cancer, USA (July 19, 2020).
- Dr. (Mrs.) Pallavi C attended a training on "How to Publish with Oxford Journals" by Ms. Sumita Sen, Regional Training and Implementation Manager, South Asia & Southeast Asia, Oxford University Press, webinar (June 11, 2020).
- Dr. (Ms.) P Jyothikumari attended an international webinar on "Bio-Conclave -An Intellectual war Against the COVID-19 Pandemic" organised by the Hindu College of Pharmacy, Guntur, Andhra Pradesh. (June 19-22, 2020).
- Dr. K N Naresh attended a 1-week virtual course on "Online Teaching-Learning Tools and Pedagogies" organized by FICCI FUTURE-X under Professional Development Program - Industry-led academic courses (June 15-21, 2020).

Chemistry

- Dr. (Mrs.) V Prathyusha attended an online "Faculty Induction Training/Orientation Programme for Faculty" conducted by Teaching Learning Centre, Ramanujan College, the University of Delhi, sponsored by Ministry of Human Resource Development Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (February 11-March 13, 2021).
- Dr. J Krishna Kiran Kumar attended the ACS science talk on "Multi-metallic Nanocrystals by Design" (February 19, 2021).
- Dr. V V N Ravi Kishore attended the ACS Science Talk (virtual lecture series) on "Semiconducting Nanocrystals: From Reaction Flask to Electron Microscope" by Narayan Pradhan, organized by IACS, Kolkata (January 15, 2021).
- Prof. C N Sundaresan, Prof. G Nageswara Rao, Dr. (Mrs.) G Pavana Kumari, Dr. V V N Ravi Kishore and Dr. Praphulla Chandra attended an international symposium on "Recent Advances in Chemical Sciences", organized by the Department of Chemistry, Sri Sathya Sai Institute of Higher Learning (January 2-3, 2021).
- Dr. V V N Ravi Kishore attended the "International E-workshop on Electronic Structure Theory and Applications to Chemical Systems" organized by the National Institute of Technology (NIT), Tiruchirappalli (November 2-6, 2020).
- Dr. V V N Ravi Kishore attended the DDU-NASI special public lecture (webinar) on "A Voyage Through Time: Dynamics at Molecular Length and Time Scales" by Prof. Biman Bagchi, (October 08, 2020).
- Dr. V V N Ravi Kishore attended the DDU-NASI special public lecture (webinar) on "Benzene to Boron Without Alchemy" by Prof. Eluvathingal D. Jemmis, (October 03, 2020).
- Dr. V V N Ravi Kishore attended the ACS Science Talk (virtual lecture series) on "Advances in Perovskite Single Crystals: Fundamentals and Applications" by Soumitra Satapathi, organized by IIT Roorkee (September 30, 2020).
- Dr. V V N Ravi Kishore attended the ACS Science Talk (virtual lecture series) on "Reversible Chemical Tools to Capture Life in Action" by Dr. Ankona Datta (September 4, 2020).
- Dr. (Mrs.) G Pavana Kumari participated in a six-day virtual faculty development programme on "Recent Developments in Chemical Research for Societal



Applications", organized by the Department of Chemistry, Yogi Vemana University, Kadapa (August 3-8, 2020).

- Dr. J Krishna Kiran Kumar attended the DST & ACS virtual workshop "Mastering the Publishing Process" (July 28, 2020).
- Dr. J Krishna Kiran Kumar and Dr. V V N Ravi Kishore attended two-day (online) workshop on "Aligning Yourself to the Publishing Process" organized by the Elsevier Researcher Academy (July 23-24, 2020).
- Dr. (Mrs.) V Prathyusha attended a faculty development programme on "Digital Education Tools for Teachers" conducted by the Department of Management Studies, the University of Madras (June 18-20, 2020).
- Dr. V V N Ravi Kishore attended a talk on "Exciting World of Molecular Electronics" by Satish A. Patil, organized by IISC Bangalore (June 19, 2020).
- Dr. V V N Ravi Kishore attended a talk on "Perovskite Semiconductor Nanocrystals: Lights, Electrons, Action" by Angshuman Nag, organized by IISER Pune (June 12, 2020).
- Dr. V V N Ravi Kishore attended the "Rigkau School for Practical Crystallography 2020" and successfully passed the test conducted at the end of the school with honours (June 1-12, 2020).

Education

- Mrs. P Padmambika attended the "Impact of Yoga Education in Promoting Wellness of Prospective Teachers - Teacher Development: Concerns and Perspectives" organised by the Indian Association of Teacher Educators (IATE) and School of Education (PMMMNMTT) in collaboration with the Department of Education & Extension (DEE), Department of Physical Education (DPE), Department of Lifelong Learning & Education (DLLE) online (April 03-04, 2021).
- Dr. (Mrs.) P Lavanya attended a national virtual workshop on "Collating Education Resources for Teachers in Higher Education" organised by NIEPA, New Delhi (January 7, 2021).
- Dr. (Mrs.) P Lavanya attended a FDP program on "National Education Policy Implementation Strategies - A Road Ahead", organized by the University College of Education, Osmania University, Hyderabad (September 7-12 2020).
- Mrs. P Padmambika participated in two-day international FDP on "High Impact Teaching Skills and Mind mapping

for Better Teaching" organised by the International Centre for Business Studies (ICBS), Department of Commerce, Manipal Academy of Higher Education, Manipal (August 19-20, 2020).

- Mrs. P Padmambika participated in the two-day webinar on "Educational Psychology and Psychological Testing" held by the College of Teacher Education, Andhra Mahila Sabha, Autonomous, Hyderabad (August 12-13, 2020).
- Mrs. P Padmambika participated in 1-week international faculty development programme on "Enhancing Digital Proficiency: A Platform for Refining the Research and Teaching skills" organised by Adikavi Nannaya University, Rajamundry, Andhra Pradesh (August 12-16, 2020).
- Mrs. P Padmambika participated in a three-day national level faculty development program on "Electronic Resources for Teaching, Learning and Research" at B V V Sangha's Shri S R Kanthi Arts, Commerce, and Science College, Mudhol (July 30-August 1, 2020).
- Dr. (Mrs.) P Lavanya attended a 3-day international virtual faculty development program (FDP) on "Educational Strategies for Universal Learners" organized by the School of Education, VISTAS, Chennai (June 22-24, 2020).
- Dr. (Mrs.) P Lavanya attended a 3-day FDP on "Digital Education Tools for Teachers" organised by the Department of Management Studies, University of Madras (June 18-20, 2020).
- Mrs. B Saisoujanya Kumari attended a four-day online workshop on SPSS organized by the Institute for Statistics and Analytical Research (June 11-14, 2020).
- Mrs. P Padmambika participated in a four-day online workshop on "Statistical Data Analysis and Interpretation Using SPSS" conducted through Zoom (June 11-14, 2020).

Food and Nutritional Sciences

- Dr. (Miss) N Srividya attended a webinar on "Reimagine Your Grading with Gradescope. Lessons Learned from Your Peers" organized by Turnitin, Australia (May 27, 2021).
- Prof. (Mrs.) B Andallu attended an international webinar on the "Role of Nanotechnology in Current Scenario" organized by the Dept. of Botany, Sri Venkateswara University (May 27- 28, 2021).
- Dr. (Mrs.) M Srijaya attended an online training on "Processing of Fruit Juice Beverages" organised by the Indian Institute of Food Processing Technology (IIFPT), (April 30, 2021).



- Prof. (Mrs.) B Andallu attended a webinar on "Nutritional and Psychological Support for COVID Patients/Survivors" organised by the Nutrition Society of India, Mumbai Chapter to commemorate "World Health Day" (April 10, 2021).
- Prof. (Mrs.) B Andallu attended an international webinar on "Urban Farming- Cultivation of Medicinal plants in Hydroponics", organised by the Dept. of Botany, Sri Venkateswara University, Tirupati. (March 27, 2021).
- Prof. (Mrs.) B Andallu attended a webinar on "Crack the Shell-The Incredible Eggs-cellent" organised by the Protein Foods & Nutrition Development Association of India in collaboration with National Egg Coordination Committee-India (NECC), (March 18, 2021).
- Prof. (Mrs.) B Andallu attended the 5th International Diabetes Summit (V) 2021, organized by Chellaram Foundation Diabetes Research, Pune (March 12 -14, 2021).
- Dr. (Miss) N Srividya attended a webinar on the "5th International Diabetes Summit (Virtual) - 2021" organized by Chellaram Diabetes Institute, Pune (March 12 -14, 2021).
- Dr. (Miss) N Srividya attended the international conference on "Nutrition and Health" by Scientific Meditech Conference, UK (March 12 -13, 2021).
- Dr. (Mrs.) M Srijaya attended an online training on "Drying Techniques for Food Ingredient Encapsulation" organised by the Indian Institute of Food Processing Technology (IIFPT), (February 26, 2021).
- Prof. (Mrs.) B Andallu attended an international online meeting on "Phytomedicine and Phytochemistry" organised by the United Scientific Group, TX, USA at GMT/ UTC + Hours (February 1- 2, 2021).
- Prof. (Mrs.) B Andallu attended an international webinar on "Urban Farming-Soilless Cultivation" organised by the Dept. of Botany, Sri Venkateswara University, Tirupati from 9 am-1 pm (January 27, 2021).
- Prof. (Mrs.) B Andallu attended a webinar on the "Role of Diet and Lifestyle Counselling in Diabetes- Breaking Barriers to Achieve Adherence, NSI Mumbai Chapter. (November 29, 2020).
- Prof. (Mrs.) B Andallu attended a lecture on Diabetes titled "Diet and Dietician-2D Approach" organised by the Department of Food & Nutrition, University College for Women, Koti, Hyderabad to commemorate world diabetes day (November 12, 2020).
- Prof. (Mrs.) B Andallu, Dr. (Miss) N Srividya, Dr. Miss. Tapasya Anand, Dr. (Mrs.) M Srijaya and Dr. (Mrs.) A Sumana attended a webinar on "Are Carbohydrates the Main Reason for the Diabetes Epidemic in India?" organized by Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur Campus, plenary talk was by Dr.V. Mohan (November 9, 2020).
- Dr. (Miss) N Srividya attended a webinar by Indian Dietetic Association, Nagpur Chapter, and NetProFaN, (October 26, 2020).
- Dr. (Miss) N Srividya attended an e-Seminar on "Microgreens as Food - The Science Behind" organised by the Osmania University College for Women, Koti, Hyderabad, (October 6, 2020).
- Dr. (Miss) N Srividya, Dr. (Mrs.) A Sumana and Dr. Miss. Tapasya Anand attended the international e-Conference on "Nutritional and Health Interventions for Pandemic and Post Pandemic Scenarios" organised by the Department of Food and Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur, Andhra Pradesh (September 26 - 27, 2020).
- Prof. (Mrs.) B Andallu, Dr. (Miss) N Srividya, Dr. (Mrs.) A Sumana and Dr. Miss. Tapasya Anand attended a webinar on "Nutri-health Gardens-Sustainable Models for Food and Nutritional Security", organised by the Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur Campus (September 25, 2020).
- Prof. (Mrs.) B Andallu, Dr. (Miss.) Meera Manikkavachakan attended a webinar on "Abstracting & Indexing-How to Get Indexed and How to Increase Research Impact of a Webinar" a series on all about Scientific Publishing-Trends, Nuances, Tools, Ethics, Springer Nature in collaboration with DeLCON, DBT E-Library Consortium (September 9, 2020).
- Dr. (Miss.) Meera Manikkavachakan attended a 2-hour professional workshop on "Prior-art Searching with Google Patents" organised by Tturnip Innovations PVT, Ltd. (September 5, 2020).
- Dr. (Mrs.) M Srijaya and Dr. (Miss.) Meera Manikkavachakan attended an international webinar on "Translational Research in Nutrition and Dietetics" organised by the Nutrition Society of India (NSI, Mumbai Chapter), (September 1-2, 2020).
- Prof. (Mrs.) B Andallu, Dr. (Mrs.) A Sumana and Dr. (Miss.) Meera Manikkavachakan attended an international webinar on "Post COVID-19 Health and Nutritional



Concerns" organised by the Department of Food & Nutrition, University College for Women, Koti, Hyderabad (August 28, 2020).

- Prof. (Mrs.) B Andallu attended the ASSOCHAM Knowledge Series on National Education Policy 2020 - "Transforming Higher Education: Structure and Processes" (August 27, 2020).
- Prof. (Mrs.) B Andallu attended a webinar on "Merck TLC/ HPTLC Plates-Tips & Tricks + CAMAG Capabilities" (August 4, 2020).
- Prof. (Mrs.) B Andallu attended a webinar on "What may be the Best Assessment Approach for Higher Education Institutions- Online or Offline? (July 30, 2020).
- Prof. (Mrs.) B Andallu and Dr. (Mrs.) Ambati Padmaja attended a two-day national webinar on "Addressing the Challenges of Health & Nutrition during Covid-19 - A Holistic Approach" organized by the Dept. of Food & Nutrition & Research Centre, St. VHD Central Institute of Home Science (Autonomous) in association with Altrusa International of Bangalore, India, Inc., (July 27 - 28, 2020).
- Prof. (Mrs.) B Andallu and Dr. (Mrs.) Ambati Padmaja attended a webinar on "Pharmacological and Non-pharmacological Intervention Strategies for Covid-19" organized by NSI Bangalore Chapter, Dept. of Home Science, Mount Carmel College, Autonomous, Bengaluru (July 22, 2020).
- Dr. (Mrs.) A Sumana attended an international webinar on "Public Health Epidemiology-Strategies for Health and Nutrition" organised by the Dept. of Human Development and Family Studies, Community Science College and Research Institute, Tamilnadu Agricultural University, Madurai (July 21, 2020).
- Dr. (Miss.) Meera Manikkavachakan attended a national webinar on "Diet, Epigenetics and Cognitive Performance" organised by the Department of Food Service Management and Dietetics, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore (July 14, 2020).
- Dr. (Mrs.) M Sriyaya attended a webinar on the "Role of Novel Technologies for Food Security" organised by the Association of Food Scientists and Technologists AFST(I), (June 27, 2020).
- Dr. (Mrs.) A Sumana attended a national webinar on "Nutraceuticals and Medicinal herbs for Health and Immunity" organised by the Department of Botany, St. Joseph's College for Women (A) Visakhapatnam, Andhra Pradesh. (June 20, 2020).

- Dr. (Miss.) Meera Manikkavachakan attended a "Leadership Talk with Mr. Shridhar Venkat, CEO, Akshay Patra Foundation" organised by MHRD's Innovation Cell (June 20, 2020).
- Dr. (Mrs.) A Sumana attended an international webinar on "Nutrition and Immune System Support During COVID-19 Pandemic" organized by the Department of Home Science, Sri Padmavati Mahila Visvavidyalayam Tirupati. (June 16, 2020).
- Dr. (Mrs.) A Sumana attended a two-day online national workshop on "Economic Empowerment of Women" organised by the P.G. Department of Home Science, Jamshedpur Women's College, (June 9-10, 2020).
- Dr. (Mrs.) A Sumana and Dr. (Mrs.) Ambati Padmaja attended a Live webinar series on "World Food Safety Week 2020" organised by JNTU Kakinada (June 1-7, 2020).
- Dr. (Mrs.) Ambati Padmaja and Dr. (Miss.) Meera Manikkavachaka attended a seminar on the "Values and Teaching Learning in Higher Education: Current Practices and Prospects" organised by the Vivek College of Education, Bijnor (June 2, 2020).
- Dr. (Mrs.) Ambati Padmaja attended an "Annual Refresher Programme in Teaching" (ARPIT 2020), organised by National Testing Agency, Ministry of Education, Govt. of India (2020).

Humanities and Social Sciences

Economics

- Dr. (Ms.) M R Geetha Bala attended the "FICCI Future-X Professional Development Program" (July 6-10, 2020).

Languages and Literature

English

- Miss S Lakshmi Menon attended 'Romanticism and Politics', a webinar conducted by Dept. of English and Comparative Literature, Central University of Kerala (March 4, 2021).
- Miss Sai Archana M attended a two-week Professional Development Training on "21st Century Skills and English Language Teaching" by Regional English Language Office, U.S. Embassy, India, (February 16-25, 2021).



- Miss Sai Archana M attended a webinar on "Design Thinking in ELT", organised by ELTAI (December 13, 2020).
- Dr. (Miss) Rani P L completed "Writing and Editing: Word Choice and Word Order" an online non-credit course authorized by the University of Michigan and offered through Coursera (December 2020).
- Miss Sai Archana M attended a webinar on "Communicative Competence in English", organised by ELTAI (November 15, 2020).
- Dr. (Mrs.) Maitali Khanna attended a webinar on "Developing Productive Skills", Cambridge Assessment English (October 29, 2020).
- Sri Prashant Luthra participated in a webinar on "Developing Productive Skills" organised by Cambridge Assessment, English (October 2020).
- Sri Prashant Luthra participated in a webinar on "Developing Receptive Skills" organised by Cambridge Assessment, English (October 2020).
- Miss Sai Archana M attended a webinar on "Reflective Teaching Practices: Self-Reflection and Learning Spaces", organised by ELTAI (September 13, 2020).
- Miss S Lakshmi Menon attended 'Celebrating Wordsworth- A Quarter-Millennium Commemoration'- Two sessions by Prof. Daniel David (Madras Christian College, India) and Prof. Mark Sandy (Durham University, UK) organised by Dept. of English, Kamaraj College, Thoothukudi (August 1, 2020).
- Sri Prashant Luthra participated in a two-day webinar on "The Spirit(-ual) of Life in Literature: Characters of Resilience" organised by Department of English Language and Literature, Sri Sathya Sai Institute of Higher Learning, Anantapur (August 2020).
- Miss S Lakshmi Menon attended the WILEY webinar series on "Academic Publishing"- 4 webinars organised by Wiley India on i) General Practices for Composing a High-Impact Research Paper (June 30, 2020) ii) How to Choose the Right Journal for Publishing Your Research (July 9, 2020) iii) Understanding Research Ethics in Academia (July 21, 2020) iv) Peer-Review- The Backbone of Publishing Process (July 30, 2020).
- Dr. (Mrs.) Maitali Khanna attended an online course on "Post Discourses: Theory in Praxis", Vallaths TES, Padasala, and Ideas in Progress (July 27-31, 2020).
- Miss Sai Archana M attended a webinar on "Language, Learning, Literature: Contentions & Perspective", organised by Department of English Studies, Christ University, Bangalore (June 30 - July 3, 2020).
- Dr. (Mrs.) Maitali Khanna attended a national webinar on "Contemporary Reflections on Critical Theories and Aesthetics", Higher Education & Research Society (June 19-20, 2020).
- Dr. (Mrs.) Maitali Khanna attended a national webinar series on "Research Methodology", Loyola College, Chennai (June 12-13, 2020).
- Dr. (Miss) Rani P L participated in the live webinar "How to Publish with Oxford Journals" conducted by EBSCO Information Services & OUP (June 11, 2020).
- Miss S Lakshmi Menon attended a webinar on "How to Publish with Oxford Journals" organised by Oxford University Press (June 11, 2020).
- Dr. (Mrs.) C Jayashree attended a 2-week online FDP on "Pedagogy and Research Methods" with Grading as 'A+' organised by AMET under HRDC & IQAC (May 24 - 06 June, 2021).
- Dr. (Mrs.) N Jayaprada attended a Live webinar on "Live Enterprise: The Operating Model for the Post-COVID World", organised by Infosys and McGraw Hill Publications (February 20, 2021).
- Sri L K Prasad Rayaprolu attended a workshop on "Business Analytics using R" by Prof. C Kshetragnan (January 22-23, 2021).
- Sri L K Prasad Rayaprolu attended the workshop on "Business Intelligence" by Dr. P KamalKannan (January 5, 2021).
- Sri S Sai Manohar attended the online "Annual Refresher Course in Management" (ARPIT) (December 2020 - March 2021).
- Sri S Sai Manohar attended the online course in "Financial Markets and Emerging Business Models" (ARPIT) (December 2020 - March 2021).
- Dr. (Miss) U Suma, Mrs. Akanksha Aggarwal, Sri L K Prasad Rayaprolu and Dr. (Mrs.) G Padmavathy attended an online workshop on "Case-study Methods of Teaching", SSSIHL (December 29, 2020).

Management and Commerce



- Dr. (Miss) U Suma, Mrs. Akanksha Aggarwal, Sri L K Prasad Rayaprolu and Dr. (Mrs.) G Padmavathy attended an online workshop on "SEM Using Advanced Analysis of Composites", MDH, SSSIHL (December 18-19, 2020).
- Dr. (Mrs.) N Jayaprada, Sri L K Prasad Rayaprolu, and Dr. (Mrs.) G Padmavathy attended a two-day e-conference on "Economic Resurgence with Human Values", organised by the Department of Management and Commerce, Sri Satya Sai Institute of Higher Learning, Prasanthi Nilayam, Andhra Pradesh (December 4-5, 2020).
- Dr. (Mrs.) C Jayashree attended a five-day online FDP on "Universal Human Values for DEEKSHARAMBH (Student Induction Program)" organized by NIT Patna (November 23-27, 2020).
- Sri L K Prasad Rayaprolu organised a workshop on "Rural Management" in collaboration with MGNCRE faculty, Hyderabad, for III BBA Students of SSSIHL (October 20, 2020).
- Dr. (Miss) U Suma took an online course on "Healing with the Arts", by Coursera, University of Florida (September-November 2020).
- Sri L K Prasad Rayaprolu attended a webinar on "From Excel to KNIME" organised by Mydral UK (August 25, 2020).
- Miss Aparna V attended a webinar on "COVID Impact on Lease Contracts - Ind AS 116" by CA Sumit Sarda organized by McGraw Hill India Orientation Towards Technical Education and Curriculum Aspects - NPTEL course Professional Ethics & Sustainability - NPTEL course Financial Risk Analytics course from Great Learning Academy (August 2020).
- Sri L K Prasad Rayaprolu attended a workshop on "Hands-on Writing and Publishing Research Papers for Reputed Journals", organised by the Silicon City College of Management (July 27-August 8, 2020).
- Sri M S Sai Vinod participated in an online event "Predicting COVID Mortality (Python + Machine Learning)" organized by TechEra Community (July 28, 2020).
- Dr. (Mrs.) G Padmavathy participated in a virtual summit on "Paradigm Shift in Consumer Behaviour: Reorientation of Marketing and Supply Chain Strategies" organised by the University of Madras and Stella Maris College, Chennai (July 7-9, 2020).
- Dr. (Mrs.) N Jayaprada attended an international webinar on the "Joy of Giving, Anandam in Technical Education", organised by ISTE Rajasthan Section, Jodhpur, and Govt. Polytechnic College, Jhalawar (July 5, 2020).
- Dr. (Mrs.) C Jayashree attended a three-day national level hands-on online workshop on "Preparing and Writing Quality Research Papers" organised by PES Institute of Advanced management studies, Shivamogga, Karnataka (July 2-4, 2020).
- Sri S Sai Manohar attended an international webinar on "Challenges and Opportunities India and China" organised by the GT Institute of Management Studies, Bangalore (July 2020).
- Dr. (Mrs.) C Jayashree attended a one-week hands-on online workshop on "Blended Learning: Design and Practice" organized by GITAM School of Sciences (GSoS) and GITAM School of Humanities and Social Sciences (GSHS), Hyderabad (June 16 -22, 2020).
- Dr. (Mrs.) N Jayaprada attended a national webinar on "Post Covid-19: Strategies to Sustain Employability" organised by the Department of Business Management, PG Centre, Kollapur collaboration with Placement Cell, Palamuru University, Mahabubnagar, Telangana State (June 23, 2020).
- Dr. (Mrs.) N Jayaprada attended the XSRM Lecture Series on "Covid-19 and Rural India" and on "Covid-19 and Rural Livelihood & Some Reflections on Rural Development Management" by Shri. Nagendra Nath Sinha, IAS, Secretary, Department of Rural Development, Government of India (June 12, 2020).
- Dr. (Mrs.) N Jayaprada, Sri L K Prasad Rayaprolu, and Dr. (Mrs.) Swetha Thiruchanuru attended a five-day FDP on "Case Discussion Methodology on Rural Management", Faculty Development Centre (Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching) Mahatma Gandhi National Council of Rural Education Department of Higher Education, Ministry of Human Resource Development, Govt. of India Hyderabad, Andhra Pradesh. (June 8-12, 2020).
- Sri L K Prasad Rayaprolu attended a workshop on "Statistical Data Analysis using R Programming Language" by Dr. M. Ramakrishnan, organised by ISAR-Chennai (June 1-7, 2020).



Mathematics and Computer Science

- Dr. Avadhesh Kumar attended a national workshop on "Recent Trends in Domination and Graph Labelling" organised by the Department of Mathematics, Ramanujan College, University of Delhi, India (May 27-31, 2021).
- Dr. Krishna Kiran Vamsi Dasu attended a workshop on "Functional Analysis and Numerical Analysis" (WFANA - 2021), organized by the Department of Mathematics, National Institute of Technology Tiruchirappalli (April 05-09, 2021).
- Dr. (Mrs.) Sreerangavani K attended a two-week "Refresher Course in Mathematics" organized by the Department of Mathematics, Ramanujan College, University of Delhi (March 16-30, 2021).
- Dr. Krishna Kiran Vamsi Dasu and Dr. Avadhesh Kumar attended the national workshop on "Stochastic Differential Equations & Applications" organized by the Department of Mathematics, Periyar University, Salem (March 10-13, 2021).
- Dr. (Mrs.) Sreerangavani K participated in a five-day online Faculty Development Programme on "Digital Learning and Professional Ethics" organized by IQAC, Vasanta College for Women, KFI, Rajghat, Varanasi (July 06-10, 2020).
- Dr. S Balasubramanian completed the "Coursera Administrator Training" from Coursera (July 2020).
- Dr. S Balasubramanian completed the "COVID-19 Data Analysis using Python" from Coursera (July 2020).
- Dr. S Balasubramanian completed the "Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning" training from Coursera (July 2020).
- Dr. S Balasubramanian completed the "Convolutional Neural Networks in TensorFlow" from Coursera (July 2020).
- Sri Prafulla Kumar Meher attended a webinar on "Theka" under Pt. Vinod Lele -Naad Aura Musical Academy (September 2020).
- Sri S N Murthy Mallavarapu and Sri Prafulla Kumar Meher participated in a webinar (Suswaras and Subhamantras) organized by the Dept. of Music, Avinashilingam Institute for Home Science and Higher Education for Women (July 15, 2020).
- Sri S N Murthy Mallavarapu, Sri Prafulla Kumar Meher and Sri S Sai Ram participated in a webinar (Melody and Harmony) organized by the Dept. of Music, Avinashilingam Institute for Home Science and Higher Education for Women (June 29, 2020).
- Sri Prafulla Kumar Meher and Sri S. Sai Ram attended a national webinar on "Sangeet Mein Vyaktigat Sadhana Ka Mehatva Evam Navachar" organised by the Girls PG College Sagar, MP, (June 20-21, 2020).
- Sri Prafulla Kumar Meher attended an international e-Seminar on "Sangeet Ke Vividh Aayam" organised by the Lalit Narayan Mithila University, Darbhanga (June 16-21, 2020).

Physics

- Dr. Muralikrishna Molli attended the "International Conference on Light Matter Interaction" (ICLMIN-2021), organised by the Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam, India (May 19-21, 2021).
- Dr. Swarup Kundu attended a webinar on "Financial Awareness and Financial Literacy" conducted by the National Center for Financial Education & National Institute of Bank Management (March 27, 2021).
- Dr. V Sai Muthukumar attended the "Patenting-Mater class -Online Workshop" (March 19, 2021).
- Dr. (Mrs.) Vedavathi Aluri attended a 4-week "Faculty Induction/Orientation Program in Universities/Colleges/ Institutes of Higher Education" organized by the Teaching and Learning Centre, Ramanujan College, the University of Delhi (February 11 - March 13, 2021).
- Dr. Gowrishankar R attended the "International Conference on Theoretical Aspects of Nuclear Physics" organised by the Department of Physics and Astronomical Sciences, Central University of Himachal Pradesh (February 15-20, 2021).

Music

- Sri Prafulla Kumar Meher attended a national faculty development programme on "Research Methodology", organised by the Government College for Girls, Ludhiana (March 15-20, 2021).
- Sri Prafulla Kumar Meher attended a webinar on "Yoga and Music" under Pt. Kaivalya Kumar Gaurav-Naad Aura Musical Academy (September 2020).



- Dr. K Vijay Sai attended the “5th Annual Virtual Conference of Nuclear Medicine Physicists Association of India” (NMPAICON 2021), (February 13-14, 2021).
- Dr. Muralikrishna Molli and Dr. Gadige Paramesh attended a 5-day Faculty Development Programme on “Recent Trends in Advanced Materials and Applications” organized by the Department of Physics, National Institute of Engineering, Mysuru (October 19-23, 2020).
- Dr. Muralikrishna Molli attended the “International Quantum 2020” jointly organized by the University of Science and Technology of China (USTC) and the Chinese Physical Society (CPS), (October 19-22, 2020).
- Dr. Gowrishankar R attended a FDP on “Virtual Physics Labs”, organised by the JNTU College of Engineering, Anantapur (September 7-9, 2020).
- Dr. Swarup Kundu attended a two-day web-based international workshop on “ARDUINO and other Simulated Experimental Techniques” organized by the Department of Physics, Victoria Institution (September 1-2, 2020)
- Dr. Swarup Kundu attended a webinar on “Wearable Computing: Its Opportunities and Challenges in Industry 4.0” organized by the Department of Electronics and Communication Engineering, Indus University (August 29, 2020).
- Dr. K Vijay Sai attended the web-meet on “Quantum Supremacy and its Implications to Cryptology”, organised by the Sri Gurudas Mahavidyalaya, Kolkata, West Bengal (August 3, 2020).
- Dr. Muralikrishna Molli attended a two-day international webinar on “Recent Trends in Condensed Matter and Particle Physics” organized by the Victoria Institution (July 31- Aug 01, 2020).
- Dr. K Vijay Sai attended the Innovation Insights webinar “Rethinking Capitalism & Innovation in a Post-COVID World” organised by the Institute of Inspiring Innovations (July 19, 2020).
- Dr. Gadige Paramesh, Dr. (Miss) Deepa Seetharaman, Dr. K Vijay Sai, Dr. Muralikrishna Molli, Dr. Swarup Kundu, and Dr. (Mrs.) Vedavathi Aluri attended a 5-day web-based workshop on “Teaching Physics at the UG & PG Level using Python”, organized by the Department of Physics, Victoria Institution, in collaboration with UGC-DAE CSR, Kolkata Centre (July 6-10, 2020).
- Dr. (Mrs.) C Prathibha attended an online webinar on “Clean Water: Emerging Frontiers Seminar Series” organized by the International Centre for Clean Water (ICCW), IIT-Madras (June 29 - July 08, 2020).
- Dr. (Mrs.) Vedavathi Aluri attended a three-day international Faculty Development Program on “Educational Strategies for Universal Learners” organized by the School of Education, VISTAS, Chennai (June 22-24, 2020).
- Dr. (Mrs.) C Prathibha attended a one-week hands-on online workshop on “Blended learning: Design and Practice” organized by the GITAM school of science and GITAM school of Humanities and social sciences, Hyderabad (June 16-22, 2020).
- Dr. (Mrs.) Vedavathi Aluri attended a three-day international Faculty Development Program on “Digital Educational Tools for Teachers” organized by the University of Madras, Chennai (June 18-20, 2020).
- Dr. Muralikrishna Molli and Dr. K Vijay Sai participated in a webinar on “Century of Quantum Mechanics and Still Going Strong” jointly organized by the Applied Physics Department, Faculty of Technology and Engineering, The Maharaja Sayajirao University of Baroda (MSUB), Gujarat Science Academy (GSA), Indian Physics Association of Physics Teacher (IAPT-RC7) in association with National Academy of Sciences, India (NASI) Delhi Chapter (June 15-17, 2020).



Research Scholars' Participation

Biosciences

- Sri Manmath Lama delivered a talk on "Comparative Study on Genome Plasticity and Evolutionary Dynamics in Burkholderia contaminants" at the International Symposium on Sustainable Health, SSSIHL (March 26 -27, 2021).
- Sri Piyush Kumar attended workshops in "Basics of Chromatography Techniques", organised by Indian Institute of Chromatography and Mass spectrometry and FABA Academy, Hyderabad, Telangana (February 22-27, 2021).
- Sri V M Datta Darshan completed a "Drug Discovery and Development" (certificate course), from Decode life, online course, (February 8 -18, 2021).
- Sri Mukkirla Bhargava Sai attended a "Web of Science Training & Certification Program 2021". (January 28 - February 11, 2021).
- Sri Mukul Anand attended an international webinar on "International Code of Nomenclature (ICN) for Plants, Botanical Survey of India", Deccan Regional Centre, Hyderabad, Telangana & Department of Botany, Andhra University, Vishakhapatnam, Andhra Pradesh (January 6, 2021).
- Sri Mukul Anand attended a national e-symposium on "Challenges and Opportunities for Farmers in India", organised by the Department of Economics, AKI's College of Arts, Science and Commerce, Pune, Maharashtra & Department of Economics, Sacred Heart College, Chalakudy, Thrissur, Kerala (December 23, 2020).
- Sri Piyush Kumar attended a ten-day workshop and hands-on-training on "Bioinformatics" conducted by the Biosol in collaboration with Indu's Academy of Biology and Medicine (IABM), Punjab (December 21-30, 2020).
- Sri Mukul Anand attended a webinar on "Are Carbohydrates the Main Reason for Diabetes Epidemic in India?", Department of Food and Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur, Andhra Pradesh, World Diabetes Day, (November 9, 2020).
- Sri Mukul Anand attended an international e-conference on "Nutritional and Health Interventions for Pandemic and Post Pandemic Scenarios", Department of Food and Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur, Andhra Pradesh (September 26-27, 2020).
- Sri Mukul Anand attended an international pre-conference webinar on "Nutri-health Gardens- Sustainable Models for Food and Nutritional Security", Department of Food and Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur, Andhra Pradesh (September 25, 2020).
- Sri Arun Sai Kumar Peketi attended a three-day hands-on workshop on "WGS Data Analysis and Basics of R" conducted by IBAB Bangalore (September 22-24, 2020).
- Sri Mukkirla Bhargava Sai attended a webinar on "Publishing Ethics in Biomedicine & Life Sciences Research", organized by Springer Nature in collaboration with Delcon, a DBT e-library consortium (September 16, 2020).
- Sri Arun Sai Kumar Peketi attended a one-day workshop on "Bacterial Genome Resequencing" organised by Bionivid Bengaluru (September 06, 2020).
- Sri Sudam Bhoi and Sri K Sathya Sai Kiran attended the "Drug Discovery Hackathon 2020", organised by the AICTE, CSIR and supported by Office of Principal Scientific Advisor, Govt. of India, NIC, and MyGov, Government of India (August 4 - November 30 2020).
- Sri V M Datta Darshan completed a training course on "Molecular Gene Cloning and Experimental Strategy" organised by the Centre for Stem Cell and Cancer Genomics AMI BioScience, Coimbatore, online course (August 20-24, 2020).
- Sri Mukkirla Bhargava Sai attended a "Hands-on Biostatistics" online workshop, organised by the University of Tirana, Albania (July 17-18, 2020).
- Sri Sudam Bhoi and Sri K Sathya Sai Kiran attended an international e-conference on "Recent Trends in Drug Discovery in Diagnostics and Therapeutics - A Special Emphasis on COVID-19", organised by Vigyan's foundation for Science, Technology, and Research (July 2-4, 2020).
- Sri Utkarsh Bele completed the online course on 'Science of Exercise' authorized by the University of Colorado Boulder, offered by Coursera.



Chemistry

- Sri Sai Prasad Nayak attended a virtual international webinar on “Green Technology: Role of Chemistry and Catalysis for the Advancement of Sustainable Society”, Organized by Reva University (May 24, 2021).
- Miss Amitananda attended a “DashMolecular Dynamic Simulations for Drug Discovery” authorized by Udemey, Inc., 600 Harrison St., 3rd Floor, San Francisco, CA 94107 USA (May 9-20, 2021).
- Miss Sai Kiran M attended the International webinar on Sustainable Chemistry (IWSC) organized by the Association of Chemistry Teachers (ACT), C/o Homi Bhabha Centre for Science Education (TIFR) (March 18, 2021).
- Miss Sai Kiran M completed a certification course on “Smarter Experimentation for Scientists and Engineers” organized by the Royal Society of Chemistry, JMP Software, and Chemistry World (March 15-19, 2021)
- Dr. Pradeep Kumar Badiya attended a “Comprehensive Online Patent Information Course”, organized by Turnip Innovations Pvt. Ltd. (March 14, 2021).
- Sri Rokkam Siva Kumar completed the “Drug Discovery and Development” (certificate course), from Decode life, online course (February 8 -18, 2021).
- Miss Amitananda Dash attended a two-day international symposium on “Recent Advances in Chemical Sciences”, Department of Chemistry, Sri Sathya Sai Institute of Higher Learning (January 2-3, 2021).
- Miss Sai Kiran M attended the virtual Young Scientist Conference, Indian and International Science Fest 2020, organized by the Ministry of Human Resource and Development (December 22-24, 2020).
- Miss Amitananda Dash attended a “Computer-Aided Drug Discovery”, certification course, from Insight Bio-IT Solutions, Navi Mumbai, India (November 30-December 20, 2020).
- Miss Sai Kiran M completed a Coursera certification course on “Natural Attenuation of Groundwater Contaminants: New Paradigms, Technologies, and Applications” offered by Rice University (November 12, 2020).
- Miss K V Seetarama Mani Chandrika attended a two-week online workshop on “Computer-aided Drug Discovery” organized by InsightBio Solutions (November 30 - December 11, 2020).
- Sri Pulipaka Srihari Mahesh Sarma attended an international e-workshop on “Electronic Structure Theory and Applications to Chemical Systems” organised by the National Institute of Technology (NIT), Tiruchirappalli (November 02-06, 2020).
- Miss Amitananda Dash attended a “Drug Development” certification course, from University of California, San Diego (October 20 -November 20, 2020).
- Miss Sai Kiran M and Miss K V Seetarama Mani Chandrika attended the 1st National Students’ Conference on “Spectroscopy” organized by Gurunanak Dev University, Amritsar and Chemical Research Society of India (October 16-17, 2020).
- Miss Sai Kiran M completed a Coursera certification course on “Nano Technology: A Makers course” jointly offered by Duke University NC State University and the University of North Carolina of Chapel Hill (October 10, 2020).
- Miss Amitananda Dash attended a workshop on “Nutritional and Health Interventions for Pandemic and Post-Pandemic Scenarios” organised by the Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur Campus (September 26-27, 2020).
- Miss Sai Kiran M completed a Coursera certification course on “Nanotechnology and Nanosensors: Part II” offered by Technion Israel Institute of Technology (September 21, 2020).
- Dr. Pradeep Kumar Badiya attended a workshop on “Prior-art searching with Google Patents”, conducted by Turnip Innovations Pvt. Ltd. (September 5, 2020).
- Miss Amitananda Dash attended a “Publication Ethics and Manuscript Writing: An Editor’s Perspective”, Department of Chemistry, Ramaiah Institute of Technology (RIT) and Wiley-VCH, e-Workshop (August 28, 2020).
- Miss Sai Kiran M completed a Coursera certification course on “Nanotechnology and Nanosensors: Part I” offered by Technion Israel Institute of Technology (August 21, 2020).
- Dr. Pradeep Kumar Badiya attended a certificate program on “Data Analysis Using STATCRAFT” organised by the Dept. of Sociology & Political Sci. Dayalbagh Educational Institute, Deemed Univ. Agra, in collaboration with STATCRAFT, Bangalore (August 17, 2020).



- Miss K V Seetarama Mani Chandrika attended a three-day international e-workshop on "Docking, QSAR and Molecular Dynamics" jointly organized by the Department of Biotechnology, Ramaiah Institute of Technology and Department of Pharmaceutical Chemistry, Ramaiah Institute of Applied Sciences, Bengaluru, Karnataka (July 29 - August 3, 2020).
- Miss Sai Kiran M attended the DST & ACS Virtual Publishing Workshop (July 28, 2020).
- Dr. Pradeep Kumar Badiya attended a two-day conference in "7th Annual Biologics Manufacturing World Asia and Biologistics World Asia 2020", Creative of IMPAC Pte Ltd., Singapore (July 7-8, 2020).
- Sri Undavalli Venkata Gopi attended an e-conference on "Modern Instrumental and Characterization Techniques in Applied Sciences-2020" (MICTAS-2020), organised by the Uttarakhand Science Education and Research Centre (U-SERC), Uttarakhand, India (July 5-6, 2020).
- Miss K V Seetarama Mani Chandrika participated in LLB Journalism Webinar on "Quantum Mechanics in Understanding Biological Processes and Drug Discovery" organized by LLB School in association with Schrodinger (June 27, 2020).
- Miss Sai Kiran M attended the "24th Green Chemistry & Engineering Conference-ACS virtual conference" (June 15-19, 2020).
- Miss K V Seetarama Mani Chandrika participated in an online faculty development programme on "Open Source Tools for Research" under MHRD-sponsored Madan Mohan Malaviya National Mission on Teachers and Teaching, organized by Teaching Learning Centre, Ramanujan College in association with Research Development and Services Cell, Ramanujan College, the University of Delhi (June 8-14, 2020).
- Sri Sai Prasad Nayak attended an e-webinar on "Steps Towards Life: Chemistry", by Prof. Jean Marie Lehn, organized by the Dept. of Chemistry, School of Basic and Applied Sciences, Adamas University (May 29, 2020).
- Sri Rokkam Siva Kumar attended "Advanced Molecular Dynamic Simulations Winter Workshop".

Food and Nutritional Sciences

- Miss Mounika Pandey attended an international workshop on "Nutrigenetics-Personalizing Nutrition Based on Genetics" organised by the University of Reading, UK (May 29, 2021).
- Miss Sparsh Sumnirom Subba attended an international online workshop on "Statistical Analysis and its Interpretation Using SPSS" by Dr. R Ramanan, Institute for Statistics and Analytical Research, Chennai (May 28-30, 2021).
- Miss Shrijana Rasaily attended an online workshop on "Quantitative Structure-activity Relationship" (QSAR), organised by Qstatix Pvt. Ltd. India (May 16-19, 2021).
- Miss Alisha Pradhan attended a one-day online training program on "Processing of Fruit Juice Beverages" organised by the Indian Institute of Food Processing Technology, Thanjavur, Tamil Nadu (April 30, 2021).
- Miss Sai Sruthi Shree K K and Ms. Ashrita C Haldipur attended a national e-conference on "Integration of Modern and Traditional Nutrition Approaches towards Health and Wellbeing: Importance, Challenges, and Future" organized by Sri Devraj URS Academy of Higher Education and Research, Kolar (April 28-29, 2021).
- Miss Sai Dharshini S attended "Snack bar Trends: Raising the Bar in a Crowded Market" organised by Food Navigation USA (April 27, 2021).
- Miss Shrijana Rasaily and Ms. Ashrita C Haldipur attended an online workshop on "Molecular Dynamics and Simulations Using Gromacs", organised by Qstatix Pvt. Ltd. India (March 23-27, 2021).
- Miss Alisha Pradhan attended a national seminar on "Recent Trends in Research on Food, Nutrition, and Health" organised by the Department of Food Technology, University of North Bengal, West Bengal (March 19, 2021).
- Miss Ashrita C Haldipur, Miss Sai Harini N, Miss Alisha Pradhan, Miss Shrijana Rasaily, Miss Sai Dharshini, and Miss Sai Sruthi Shree K K attended the "5th International Diabetes Summit" (Virtual) (March 12 -14, 2021).
- Miss Shrijana Rasaily attended an international e-conference on "Nutrition and Health" organised by Scientific Meditech Conferences, 61 Bridgestreet Kington HR53DJ, UK, (March 12-13, 2021).



- Miss Alisha Pradhan attended a webinar on “Revamping the Future Indian Cold Chain Industry” organized by ASSOCHAM, India (March 4, 2021).
- Miss Alisha Pradhan and Miss Sai Sruthi Shree K K attended a webinar on “Food fortification - A Sustainable Solution to Prevent Hidden Hunger in the Globalized World” organized by ASSOCHAM and Hexagon Nutrition, India (March 2, 2021).
- Miss Alisha Pradhan attended an online training program on “Drying Techniques for Food Ingredient Encapsulation” organised by the Indian Institute of Food Processing Technology, Thanjavur, Tamil Nadu (February 26, 2021).
- Miss Alisha Pradhan attended a webinar on “Biological Control option in Vegetable Production” organized by eOrganic, Oregon State University, USA (February 3, 2021).
- Miss Shrijana Rasaily attended a webinar on “Enhance Your Lab Productivity Webinar Series LC - Basics” organised by Agilent Technologies (January 27, 2021).
- Miss Sai Sruthi Shree K K attended a webinar series on “Enhance Your Lab Productivity School” - LC Basic and Advanced Chapter organised by Agilent technologies (January 2021).
- Miss Sai Sruthi Shree K K attended a webinar on “Advancing Elemental Determinations Using Best-in-class Spectrophotometry Supplies” organised by Agilent technologies (January 2021).
- Miss Sai Dharshini S attended a “Professional Patent Landscaping Workshop”, organised by Turnip Innovations, Mumbai. (December 2020).
- Miss Sai Dharshini S attended a workshop on “Intermittent Fasting and Optimum Nutrition”, organised by Udemy (December 2020).
- Miss Alisha Pradhan attended an online course on “Systemic Literature Review: A Practical Guide” from Udemy (December 1, 2020).
- Miss Shrijana Rasaily attended an online course on “Molecular Docking” organised by Qstatix Pvt. Ltd. India (November 18-23, 2020).
- Miss Manjula D Ghora, Miss Ashrita C Haldipur, Miss Sai Harini N, Miss Alisha Pradhan, Miss Shrijana Rasaily, Miss Sai Dharshini S, and Miss Sai Sruthi Shree K K attended a webinar by FSSAI “Eat Right India” (November 16, 2020).
- Miss Manjula D Ghora, Miss Ashrita C Haldipur, Miss Sai Sruthi Shree K K, Miss Alisha Pradhan, Miss Sai Dharshini S, Miss N Saiharini, Miss Shrijana Rasaily and Mrs. Shivangi Verma attended a webinar on “Are carbohydrates the Main Reason for Diabetes Epidemic in India?” organised by the Department of Food and Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur, Andhra Pradesh, World Diabetes Day (November 9, 2020).
- Miss Sai Dharshini S attended a workshop on “Copyrights in India” organised by Turnip Innovations, Mumbai (November 2020).
- Miss Manjula D Ghora, Miss Ashrita C Haldipur, Miss Sai Harini N, Miss Alisha Pradhan, Miss Shrijana Rasaily, Miss Sai Dharshini, and Miss Sai Sruthi Shree K K attended a webinar by Indian Dietetic Association, Nagpur Chapter, and NetProFaN (October 26, 2020).
- Miss Manjula D Ghora, Miss Ashrita C Haldipur, Miss Sai Harini N, Miss Alisha Pradhan, Miss Shrijana Rasaily, Miss Sai Dharshini, and Miss Sai Sruthi Shree K K attended an e-Seminar on “Microgreens as Food - The Science Behind” by Osmania University College for Women, Koti, Hyderabad (October 6, 2020).
- Miss Sai Sruthi Shree K K attended a webinar on “Adolescent Nutrition in the Context of COVID-19 and Beyond” organised by Nutritional International (October 2020).
- Miss Manjula D Ghora, Miss Ashrita C Haldipur, Miss Sai Sruthi Shree K K, Miss Alisha Pradhan, Miss Sai Dharshini S, Miss N Saiharini, Miss Shrijana Rasaily, and Mrs. Shivangi Verma attended an international e-conference on “Nutritional and Health Interventions for Pandemic and Post Pandemic Scenarios” organised by the Department of Food and Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur, Andhra Pradesh (September 26-27, 2020).
- Miss Manjula D Ghora, Miss Ashrita C Haldipur, Miss Sai Sruthi Shree K K, Miss Alisha Pradhan, Miss Sai Dharshini S, Miss N Saiharini, Miss Shrijana Rasaily, and Mrs. Shivangi Verma attended the International pre-conference webinar on “Nutri-health Gardens- Sustainable Models for Food and Nutritional Security” organised by the Department of Food and Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur, Andhra Pradesh (September 25, 2020).
- Ms. Ashrita C Haldipur and Miss Sai Dharshini S attended an international webinar on “Translational Research in Nutrition and Dietetics” conducted by NSI Mumbai Chapter (September 1-2, 2020).



- Miss Sai Dharshini S attended a 3-hour "Internet of Things Bootcamp" organised by Turnip Innovations, with YUPS Tech Solutions (September 11-12, 2020).
- Miss Shrijana Rasaily attended a one-day workshop program on "Data Analysis Using STATCRAFT" organised by the Dept. of Sociology & Political Science, Dayalbagh Educational Institute (Deemed University) Agra in collaboration with STATCRAFT, Bangalore (August 17, 2020).
- Miss Sai Sruthi Shree K K attended a webinar on "Scaling-up Rice Fortification in Government Safety Net Programmes and Open Market" organised by ITCFSAN & FSSAI (August 17, 2020).
- Miss Sai Dharshini S attended a workshop on "Prior-Art Searching with Google Patents" organised by Turnip Innovations, Mumbai (August 2020).
- Miss Sai Dharshini S attended an international webinar on "Public Health Epidemiology and Strategies- for Health and Nutrition" conducted by TNAU Madurai (July 21, 2020)
- Miss Sai Dharshini S attended a workshop on "Sports Nutrition and Covid-19" organised by NutraIngredients, USA (July 8, 2020).
- Miss Sai Dharshini S attended a workshop on "Introduction to STATCRAFT" by Statcraft, India (July 20, 2020).
- Miss Sai Dharshini S attended a workshop on "Building a Resilient MSME Sector through Technology Development Fund (TDF) Scheme", DRDO, India (July 31, 2020).
- Miss N Saiharini attended the "CSIR-Summer Research Training Program", (CSIR-SRTP) 2020 Online, coordinated by CSIR-NEIST, Jorhat (June-August, 2020)
- Miss Sai Sruthi Shree K K participated in a webinar series "Learn to Publish", organised by John Wiley & Sons Pte Ltd. (June - July, 2020).
- Ms. Ashrita C Haldipur attended a certified webinar on 'Linear discriminant analysis' conducted by Stat craft on (June 29, 2020).
- Miss Alisha Pradhan attended a webinar on "Role of Novel Technologies for Food Security" organized by AFSTI, India (June 27, 2020).
- Miss Sai Dharshini S attended a workshop on "New Era for Food and Climate" organised by Event Brite (June 25, 2020).
- Miss Sai Dharshini S attended a workshop on "Snack bar Trends - From Collagen to Adaptogens" organised by Food Navigation USA. (June 24, 2020).
- Ms. Ashrita C Haldipur attended a certified webinar on 'Fundamentals of Light Microscopy' hosted by Zeiss Research Microscopy Solutions on (June 23, 2020).
- Mrs. Shivangi Verma attended a webinar on "Nutritional Communication in the Complex Food and Media Environment- The Challenge for a Nutritionist" conducted by National society of India (NSI), Mumbai chapter, Speaker: Dr. Subbarao M. (June 23, 2020).
- Miss Sai Dharshini S attended a "Leadership Talk" by Mr. Shridhar Venkat, CEO, Akshay Patra Foundation, conducted by MHDR's Innovation Cell (June 20, 2020).
- Ms. Ashrita C Haldipur attended a webinar on "How to Get Better Fluorescence Images with Your Widefield Microscope" hosted by Zeiss Research Microscopy Solutions on (June 18, 2020).
- Ms. Ashrita C Haldipur attended a webinar on "Immune Dysfunction in Diabetes - Clinical and Nutritional Perspective" conducted by Danone Nutricia Academy, Mumbai, Maharashtra (June 16, 2020).
- Miss Shrijana Rasaily, Ms. Ashrita C Haldipur and Miss Sai Sruthi Shree K K attended an international e- conference on 'Novel Nutrition Approach and Emerging Opportunities to sustain in Pandemic Scenario' by Mount Carmel College (Department of Nutrition and Dietetics) in association with Women's Polytechnic College (June 15-18, 2020).
- Mrs. Shivangi Verma attended a web series on "Nutritional Status Assessment" organised by Nutrition Society of India (NSI), Mumbai chapter (June 12-17, 2020).
- Ms. Ashrita C Haldipur attended a webinar on "Thermal Analysis DSC, TGA Polymers, Metals, Calibrations and Applications" conducted by Mettler Toledo, Ohio USA (June 11, 2020).
- Ms. Ashrita C Haldipur attended a webinar on "XRD Data Quality: Importance of Good Sample Preparation" conducted by Malvern Panalytical, UK (June 5, 2020).
- Mrs. Shivangi Verma attended a webinar on "Evidence-based Choice of Enteral Nutrition Formulas" organised by Hexagon Nutrition, Speaker- Dr. Krishnam Sriram (June 05, 2020).
- Miss Sai Sruthi Shree K K completed a course on "Adolescent Nutrition and Anemia" offered by The Nutrition International.



Languages & Literature

English

- Miss Megha Santhosh attended a special lecture on "Material Existence of Ideology", organised by St. Berchmans Autonomous College, Kerala (May 18, 2021).
- Miss Megha Santhosh attended a virtual International Conference on "Including the Excluded: Challenging Existential Peripheries", organised by Don Bosco College, Mannuthy, Thrissur, Kerala (April 20, 2021).
- Miss Megha Santhosh attended a virtual National Conference on "The Story: Life Narratives of Experience, Memory, Identity and Agency", organised by Kristu Jayanti College, Bengaluru (March 26, 2021).
- Miss Megha Santhosh participated in an online workshop on "Research in the Humanities in 21st Century", organised by St. Berchmans Autonomous College, Kerala (February 24 - March 11, 2021).
- Miss Sreenidhi S attended a virtual National Conference on "Recent Trends in Indian Writing in English", organised by Nehru Arts and Science College, Coimbatore (February 12, 2021).
- Miss Priyamvada C attended an online workshop on "Soundarya and the Sahridaya: Aesthetic Discourses in India and the West", organised by Sree Sankaracharya University of Sanskrit, Kalady (November 22-28, 2020).
- Miss Megha Santhosh attended an online lecture on "Re-examining the Narrative Turn in Memory Studies, Historiography and Fiction", organised by Post Graduate Department of English, Govt. College for Women, Thiruvananthapuram (November 11, 2020).
- Miss Priyamvada C attended a webinar on "Literary Criticism to Cultural Studies: A Paradigm Shift", organised by St. Joseph's College, Pilathara (September 15, 2020).
- Miss Ponappali Prasanti Prabha, Miss Priyamvada C, Miss Megha Santhosh, and Miss Sreenidhi S attended a two-day webinar titled "Lit-Treat" on "Life, Language and Literature", organised by the Department of English Language and Literature, Sri Sathya Sai Institute of Higher Learning, Anantapur, Andhra Pradesh (August 17-18, 2020).
- Miss Priyamvada C attended an online lecture series on "Contemporary Critical Theories", organised by TES (August 5-12, 2020).
- Miss Ponapalli Prasanti Prabha, Miss Priyamvada C, and Miss Sreenidhi S attended an online course on "Post Discourses: Theory in Praxis", organised by Padasala, TES and Ideas in Progress (July 27-31, 2020).
- Miss Priyamvada C attended an international webinar on "Culture, Language and Identity" organised by St. Alloysius College under UGC STRIDE scheme (July 24, 2020).
- Miss Sreenidhi S and Miss Priyamvada C attended an online workshop on "Aligning Yourself to the Publishing Process" organised by Elsevier (July 23-24, 2020).
- Miss Priyamvada C attended a national webinar on "Contemporary Reflections on Critical Theories and Aesthetics" organised by Higher Education & Research Society (June 19-20, 2020).

Management and Commerce

- Miss Padmalalitha T V participated in an online workshop on "Structural Equation Modelling through ADA.NCO", organised by the Department of Management and Commerce, Sri Sathya Sai Institute of Higher Learning (December 18-19, 2020).
- Miss Padmalalitha T V participated in an online workshop on "Structural Equation Modelling through SPSS", organised by CMS Business School in collaboration with Institute of Analytics (UK) and Arab Open University (Oman), Virtual Workshop (December 14-18, 2020).
- Sri U Pranav attended a four-day online workshop on "Google Classrooms for Social Sector Organization-Fundamentals, Features, and Assessment" jointly conducted by NGOBox and Learning Matters (October 4 -7, 2020).
- Sri U Pranav participated in an online workshop on "Statistical Data Analysis using R" conducted by Institute for Statistics and Analytical Research, Chennai conducted (June 1 -7, 2020).



Mathematics and Computer Science

- Miss Kaluri Suseela Padma Sowndarya and Miss Behara Roopa Sri attended an online workshop on "Recent Trends in Domination and Graph Labelling" (RTDGL 2021), organized by the Department of Mathematics, Ramanujan College, the University of Delhi in collaboration with Academy of Discrete Mathematics and Applications (ADMA), New Delhi, India (May 27 - 31, 2021).
- Sri Hirak Doshi attended an online International Symposium on "Recent Trends in Differential Equations: Theory, Computation, and Application", OISRTDE, organised by the Department of Mathematics and Statistics, IIT Kanpur (March 19-22, 2021).
- Miss Behara Roopa Sri attended a two weeks short term course on "Research Methodology" organised by the Internal Quality Assurance Cell, Sri Padmavati Mahila Visvavidyalayam, Tirupati, Andhra Pradesh (March 15- 31, 2021).
- Sri S R Pranav Sai conducted a 45-hour long workshop over 5 weeks for the M.Sc. Mathematics students titled "Hands-on Predictive Analytics with Python" (February 15 - March 27, 2021).
- Miss Behara Roopa Sri attended a two-day national webinar on "Recent Evolutions in Mathematics" organised by the Dept. of Applied Mathematics, Sri Padmavati Mahila Visvavidyalayam, Tirupati, Andhra Pradesh (December 21-22, 2020).
- Miss Kaluri Suseela Padma Sowndarya attended the "International Conference on Graph Connections" (ICGC 2020), organized by the Department of Mathematics and Statistics, Bishop Chulaparambil Memorial College, Kottayam, Kerala, India (August 6 - 8, 2020).
- Miss Susshma N attended a workshop on "Careers for Women in Accelerators, Internal Atomic Energy Agency" (IAEA), Vienna, Austria (February 24, 2021).
- Miss Lavanya Rathi P attended an online course on "Dielectric/Impedance Spectroscopy with Mathematica" conducted by Dr. G. Govindaraj, Professor of Physics, School of Physical and Chemical Sciences, University of Pondicherry (February 3 - May 22, 2021).
- Miss Susshma N attended a workshop on "A Portrait of Nuclear Fusion-Fission from Basic Research to Applications", organised by the Indian Physics Association (IPA) (November 14, 2020).
- Miss Anjana Biswas and Miss Lavanya Rathi P attended a workshop on "Rietveld Refinement Method, organised by the UGC-DAE Consortium for Scientific Research, Mumbai Centre (September 22-24, 2020).
- Miss Susshma N attended a workshop on "All about Scientific Publishing-trends, Nuances, Tools Ethics, etc., organised by Springer Nature & DELCON (September 9, 2020).
- Miss Susshma N attended a 2-day online workshop on "Aligning Yourself to the Publishing Process" organised by Wiley (July 23-24 2020).
- Miss Anjana Biswas attended an online workshop on "Advanced Techniques for Materials Characterization", organised by the Department of Physics & Materials Research Centre, Malaviya National Institute of Technology, Jaipur, Rajasthan (July 6-10, 2020).
- Miss Lavanya Rathi P participated in a workshop on "Advanced Techniques for Materials Characterization" organised by the Department of Physics & Materials Research Centre, MNIT, Jaipur, Rajasthan (July 6-10, 2020).

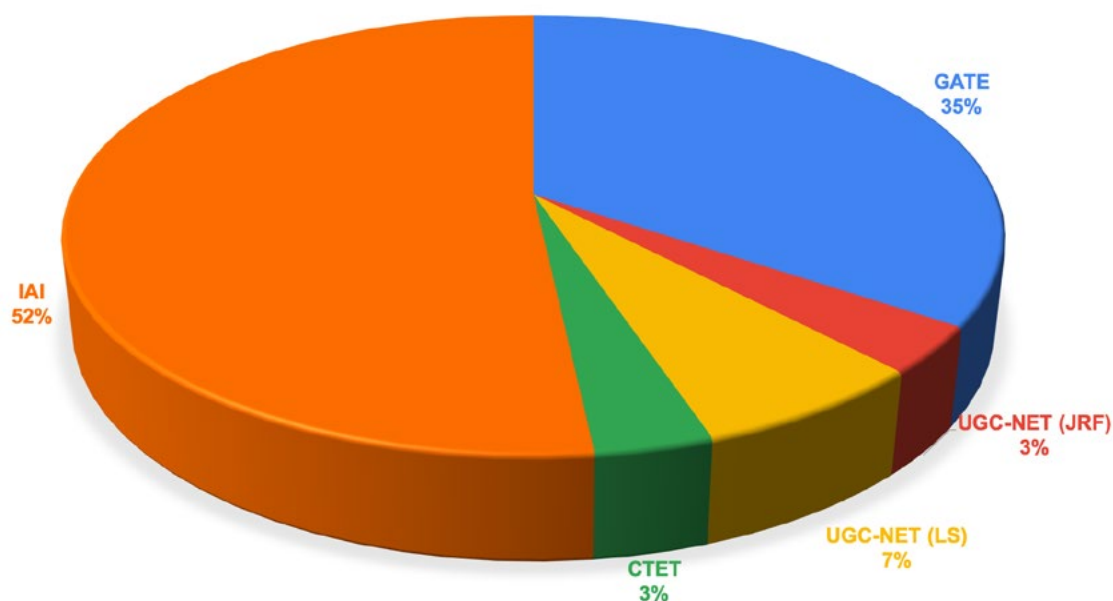
Physics

- Miss Susshma N attended a workshop on "Radiation Detectors", organised by UGC DAE CSR, Kolkata, West Bengal & Central University of Jharkhand, Ranchi, Jharkhand (April 5th- 9th 2021).
- Miss Lavanya Rathi P and Miss Anjana Biswas participated and presented their research works in the "Science, Technology, and Innovation Talks" (STIN-2021) event organised by the International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad (February 25-26 2021).
- Miss Anjana Biswas attended the online seminar series on "Clean Water: Emerging Frontiers", International Center for Clean Water, Indian Institute of Technology, Madras (June 29 - July 08, 2020).



National Examinations

A significant percentage (33%) of SSSIHL final year postgraduate students qualified in national exams such as the GATE/ UGC NET (JRF/LS), ACET and more, in 2020/21.



Students Qualified for Various National Exams – 2020-2021

National Examination types

GATE (Graduate Aptitude Test in Engineering) | **CSIR** (Council of Scientific & Industrial Research) | **JRF** (Junior Research Fellowship) | **NET** (National Eligibility Test) | **LS** (Lectureship) | **JEST** (Joint Entrance Screening Test) | **CTET** (Central Teacher Eligibility Test) and other exams conducted by the Institute of Actuaries of India (IAI) Exams -Viz.,

- ACET (Actuarial Common Entrance Test)
- MAS 1 (Modern Actuarial Statistics 1)
- CB3 (Business Management)
- CP3 (Communication Practice)
- CS1 (Actuarial Sciences)
- CS2 (Risk Modelling and Survival Analysis)
- Exam P (Probability)
- IFM (Investments and Financial Markets)
- Exam 5 (Basic Ratemaking and Estimating Claim Liabilities)



GATE (10/27 = 37%)

The list below includes the national (All India) rank for each exam.

Debashis Parida (Physics)

300

P Sai Vikranth (Physics)

900

Sai Mohan Seera (Physics)

2105

Shriram Kori (Physics)

2105

Ajit Sahu (Computer Science)

2456

D. Banagaru Rajesh (Mathematics)

2642

Vishnu Vardhan Reddy (Computer Science)

2877

Mahesh Ranjan Dash (Chemistry)

3019

Tejaswini Nayak (Food & Nutritional Sciences)

4022

Punith A. N. (Computer Science)

8836

CTET (1/6 = 16.6%)

Dikcha Lama (Education)

UGC-NET (JRF) 1/16 = 6.25%

Abhishek Gors (Economics)

UGC-NET (LS) 2/11 = 18%

Varshini P (Management)

Saiganesh Ramesh (Economics)

In addition, students of various M.Sc. programmes at the Dept. of Mathematics & Computer Science who were eligible to take the Institute of Actuaries of India national and international examinations, and qualified, are mentioned below:

Institute of Actuaries of India (IAI) Exams (15/27 = 55.5%)

Sai Hariharan

(ACET)

Heam Chand Bezawada

(ACET)

Swayam Kumar Patro

(ACET)

Anjaneeya Bulusu

(ACET)

Eswar Prem Gupta

(ACET), (CS1 - Actuarial Statistics)

Naga Teja Mariyala

(CS1 - Actuarial Statistics), (CS2 - Risk Modelling and Survival Analysis), (CB3 - Business Management), (CP3 - Communications Practice)

Aakash Sahu

(CS1 - Actuarial Statistics), (CS2 - Risk Modelling and Survival Analysis)

Sankar Krishna

(CS2 - Risk Modelling and Survival Analysis)

Abhishek Chugh

(Exam P - Probability), (IFM - Investments and Financial Markets)

Erasmus Mundus Nuclear Physics Scholarship (2021-2023)

Chinthakayala, Sai Kumar

Erasmus Mundus, granted by EACEA. Universidad de Sevilla (Spain)



Projects & Dissertations

Biosciences

M.Sc. in Biosciences

- A Review on Biochemical and Medicinal Properties of Indian Ayurvedic Plant: Abutilon Indicum
- Genomic Context of Mobilizable Colistin Resistance Gene MCR-1.1 Among Escherichia Coli
- In Silico Characterization of PilB ATPase of Shewanella Oneidensis MR-1
- In Silico-Based Identification of Novel Inhibitors Against Biofilm-Antagonistic Proteins to Increase Biofilm Formation
- Domain-Specific Interactions and Role of Inhibitors of Human cAMP- and cGMP-Specific PDEs in Cell Signalling
- Interactions of Dual-Specific PDEs in Cell Signalling and Role of Inhibitors in the Protein Function
- Review on Thermophilic and Mesophilic Bacterial Cellulases
- Studies on Potential Inhibition of RNA Dependent RNA Polymerase of SARS Cov-2 by compounds from Coconut Database
- In Silico Screening of Medicinal Plant Compound Datasets to Identify Potential Inhibitors Against Spike of SARS-Cov-2
- Screening Natural Product Databases to Identify Potential Inhibitors Against 3CL-Protease and PL-Protease of SARS-Cov-2: A Molecular Docking and Molecular Dynamics Simulations Approach
- Integrated Analysis of Transcriptomic and Metabolomic Data of Amyotrophic Lateral Sclerosis Expressing Mutant FUS Protein Using Yeast and Mice Model Systems
- Integration of Transcriptomics and Metabolomics for Understanding TDP 43 In ALS Disease Using Yeast as a Model Organism
- Integrated Transcriptomic Data Analysis Shows Role of Methionine, Riboflavin and Tryptophan Pathways in Huntington: Evaluation of IDO1 as Potential Therapeutic Target
- Caenorhabditis elegans as Model System to Understand Alzheimer's Disease
- Treatment Strategies for Alzheimer's Disease
- Impaired Copper Metabolism Caused by Mutations in ATP7A and ATP7B Genes Resulting in Menkes Disease, Occipital Horn Syndrome and Wilson's Disease

Chemistry

M.Phil. / Ph.D. in Chemistry

- Groundwater and Waste Water Treatment
- Electrochemistry
- Organic Chemistry
- Identification of Secondary Metabolites By LC-MS
- Photophysical Studies on Organic Semiconductor Molecules

- Synthetic Organic Chemistry
- Semi-Synthesis
- Synthetic Organic Chemistry- Hetero Cyclic
- Electrocatalysis
- Plasmonics
- Plasmonics & Clinical Research
- Plasmonics & Metabolomics
- Surface-Enhanced Raman Spectroscopy for Detection of Neurotransmitters
- Synthetic Organic Chemistry and Computational Chemistry
- Atmospheric Analytical Chemistry
- Energy Storage
- Biomaterials

M.Sc. in Chemistry

- A Review on TADF Based OLEDs
- Beta Lactam Resistance
- Neem
- Trends of Ambient Particulate Matter, Nitrogen Dioxide and Ozone in the Major Metropolitan Cities in Southern India.
- Review of Eco-Friendly Methods for Remediation of Fluoride
- Significance and Relevance of Surface Modifications of Medical Fabrics in the Covid-19 Scenario: A Review

Food and Nutritional Sciences

M.Sc. in Food and Nutritional Sciences

- A Study on Assessment of On-Farm Practices and the Impact of Covid-19 Pandemic Lockdown on Post-Harvest Management of Fruits and Vegetables
- Formulation and Development of Millet Incorporated Snack Foods of Indian Origin
- A Study on Development and Evaluation of Foods and Nutrition Education Materials for the Management of Menopausal Symptoms
- Impact of COVID-19 on Dietary Habits and Lifestyle Changes: A Survey on Middle - and Low-Income Indian Populations
- A Study on the Domestic and Industrial Utilization of Fruits and Vegetable Waste as a Source of Functional Ingredients
- Review on Baby Food Adulteration and an Exploratory Survey on its Awareness and Impact in India



Humanities and Social Sciences

M.A. in Economics

- Economic Growth, Inflation and Monetary Policy: A New Keynesian Approach with Forward-Looking Inflation Expectations
- Effects of Defence Expenditure on the Indian Economy
- Foreign Exchange Exposure and its Determinants for Selected Non-financial Indian Firms
- Nexus Between Market Capitalization and Domestic Credit in Economic Growth for India by Using ARDL Approach
- Econometric Analysis of India's Current Account Balance
- Macroeconomic Determinants of Foreign Direct Investment Inflows into India
- Analysis on Demand for Money in India
- Macro Stress Testing of Selected Banks in India: An Inter-modelling Approach Using the VAR Framework
- A Study on the Determinants of Digital Payment System in India
- Decoding the Indian Voters' Mindset: An Empirical Investigation of Voting Behaviour During the 2014 and 2019 Lok Sabha Elections
- Effect of Education Expenditure on Indian Economy
- Impact of Energy Consumption and Economic Growth on Environmental Degradation: An Empirical Analysis of India
- Understanding the Oil Market Dynamics: An Analysis on the Global Market

Languages & Literature

English

M.A. English Language & Literature

- Diane Cook's *The New Wilderness*: A Literary Darwinist Study
- Agentive Roles of Metamorphosis: A Critique of Louise Glück's Portrayal of Mythological Characters
- Jokha Alharthi's *Celestial Bodies*: A Tale of Arabia.

Management and Commerce

M.B.A

- A Study of Brassware and Artware Business in Moradabad, India
- Consumer Behaviour of Select Corporates in the City of Bangalore with Respect to Their Buying of Eco-Friendly Products
- A Study on the Hydroponics Farming Business Model
- Evaluation of Diversification Strategies for Indian Retail Investors Aged Between 40-60 Years to Create a Risk-Averse Portfolio

- A Meta-Analysis of Relationship Between Agile Manufacturing and Firm's Performance
- A Study of the Impact of Financial Literacy on Financial Advice Seeking Behaviour of Individuals
- Strategies for a Sustainable Way of Solid Waste Management in India
- Serving the Market Through a Satisfied Workforce - A Study Undertaken to Measure Employee Satisfaction at Ram's Fittings & Accessories Private Ltd, Tamil Nadu
- A Comparative Study of Online Customer Satisfaction and Repurchase Decision from Amazon and Flipkart to Aid E-Sellers to Gain Competitive Advantage
- Using Behavioural Economics to Understand the Consumer Decision Making in Health Insurance Markets
- The Impact of Covid-19 on E-Commerce of India
- A Systematic Review of Secondary Data-Kaizen in Healthcare
- A Study on the Branding Approaches of Small Companies
- A Study of the Business Model of Brindavan Senior Citizen Living Community in Coimbatore, Tamil Nadu
- ESG Performance and its impact on Financial Performance of Listed Companies
- Effectiveness of Lean Start-up Principles in Achieving Product-Market Fit
- Study of Consumer Attitude Towards Electric Two Wheelers and to Generate Inputs for Strategy Formulation
- A Study on Impact of Liquidity Management on Profitability of the Indian Commercial Banks
- A Study on the Effect of Economic Policy Uncertainty on Macroeconomic Variables
- Strategies for Natural Food Packaging Material
- A Study of Social Entrepreneurship: Development of Agriculture Market Linkages Through Business Model
- Internet of Things (IoT) and Servitization - Analysis of Literature
- Impact of Environmental Performance on Financial Performance of Selected Indian Companies
- Employee Retention and Talent Management Practices in Select IT Companies in India
- A Study on Role of Fintech Business Models in Financially Including the Underserved
- An Exploratory Study on Electronic Health Records in India
- Capturing Socio-Economical Health Information of People in Rural Community to Enable Effective and Efficient Health Care Services and Affect Better Health Outcomes
- Credit Risk Management Framework for Microfinance Institutions
- A Study of Developing a Model to Endorse a Brand to Promote Rural Products with Reference to Khadi
- Gaining Corporate Social Opportunity by Creating Shared Value
- A Study on Start-up Funding Strategies - Issues and Challenges
- A Study on the Relationship Between the Spiritual Quotient and Emotional Quotient with Leadership Traits



- The Study of Relationship Between Happiness and Consumption
- A Study on a Sustainable Financial Avenue for Corporate Borrowing
- Spirituality and Wellbeing - A Study
- Impact of Flow of FDI and FII on Indian Stock Market
- A Study on Individual Investors' Perception on Interdependence Between Financial Return and Social Impact
- Factors Influencing Digital Music Consumption
- Implementation Issues of Electronic Health Records (EHR) - In the Context of Health Providers and Patients
- Study of Blockchain in the Context of Banking and Financial Services
- Rural Women Entrepreneurship
- HR Analytics for Effective HR Management in Organisations
- A Study on Habitual Consumption Patterns with Special Reference to Sustainability
- A Study on Reshaping a Future-New World of Work
- Emotional Intelligence and Work-Life Balance
- An Empirical Study on Evaluating the Profitability of Trading Strategies Based on Max Pain Theory
- Employee Satisfaction in Indian Higher Educational Institutions using Herzberg's Two-Factor Theory: A Study in Structural Equation Modelling
- A Study of Select European Football Clubs and the Impact of Sponsorship on their Financial Performance
- Developing Business Strategy for Sri Kala Boutique in the face of COVID-19
- Minimizing Customer Dissatisfaction in Online Purchase of Food - A Sentiment and Content-based Study
- A Study of Various Dimensions of Unorganized Retail Sector
- A Study on Various Dimensions of Cow-based Products
- Investigation of Internet Memes in Digital Marketing
- The Role of Work Place Counselling- Existing Scenario in Selected Service Sector Units in India
- Study of Electric Vehicle Infrastructure in Malaysia and China and Developing a Workable model for India

Mathematics and Computer Science

M.Sc. in Data Science and Computing:

- Estimation of Number of Claims Using Poisson and Quasi-Poisson Distribution
- Link Prediction in Medical Domain Using Knowledge Graphs
- Sanskrit Text Analysis
- Estimation of Risk Premium for Longitudinal Data
- Estimation of Number of IBNR Claims
- Estimation of Average Claims Cost Using Gamma and Log Normal Distribution

- Triaging on the Three Import Parts of Claim Analysis
- Automation of Detection of Covid-19 Using Graph Neural Networks
- Online kyc; Estimation of Average Claims Cost Using Gamma and Tweedie Distribution
- Detection of Schizophrenia Biomarkers from Fmri Data
- Estimation of Liabilities and Premium Adequacy Using a Forward-Looking View of the Existing Non-Life Insurance Policies
- Estimation of Large Claims Costs Using Extreme Value Theory Like an Exponential Distribution
- Decentralized Data Collection and Realtime ML Model Update
- Estimation of IBNR Claims Using Stochastic Methods
- Estimation of Number of Claims Using Negative Binomial Distribution

M.Sc. in Mathematics (Specialization: Actuarial Science)

- Pricing in General Insurance using Machine Learning Techniques
- Pricing Models in Cyber Insurance
- Impact Analysis of COVID-19 Pandemic on Indian General Insurance Industry
- Assessing Impact of Climate Change on General Insurance Business using Actuarial Techniques

M.Sc. in Mathematics (Specialization: Computer Science)

- Frequency Domain Colour Image Watermarking using Convolution Neural Networks
- Speaker Diarization of Swami's Discourses

M.Sc. in Mathematics

- Impulsive Boundary Value Fractional Order Differential Equation Involving the Caputo-Hadamard Derivative of a Particular Order

MTech. in Computer Science

- Design of Log Analytics Framework to Identify Hotspots for Tuning a Database
- Generative Models Towards Superior Quality Reconstructions from Flatcam Lensless Measurements
- Whole Slide Imaging
- Light Weight Architectures for Facial Expression Recognition
- Enhancing Hospital Information Management System for Efficient Crowd Management
- A Feasibility Study to Design and Implementation of a Secure Data Lake with a Platform for Privacy-Preserving Analytics



- Computer Vision Based Bowler Action Analysis for Cricket Academies
- Blockchain Based Framework for Combating Deep Fakes and Unauthorized File Sharing
- Multiparty Smart Contract Across Multiple Blockchains

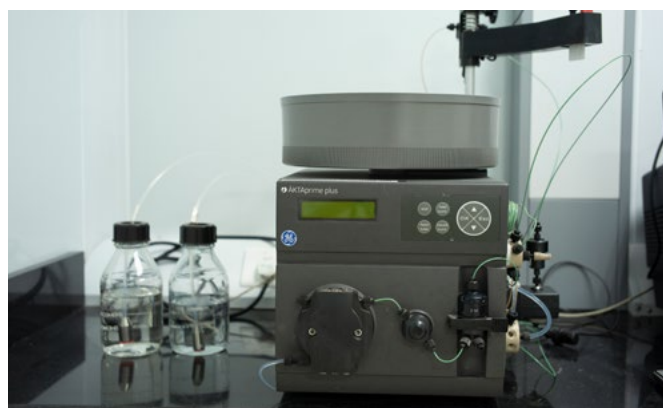
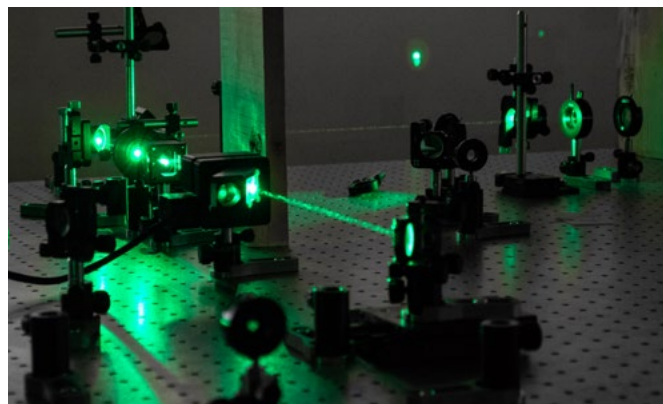
Physics

M. Sc. in Physics

- Detection of Hotspots in Fluorescence Imaging of Yeast Cell Models Applied in Neuro-Degenerative Research
- Line Field Spectral-Domain Optical Coherence Tomography: Towards Novel Low-cost Angiography and Imaging
- Development of Solid-State Electrolyte for Li-ion Battery
- Gamma Radiation Shielding Studies on Barium Bismuth Borate Glasses
- Plasmonic Structures for Surface-Enhanced Raman Scattering: Finite Difference Time Domain Simulations using OptiFDTD
- Gamma Radiation Shielding Studies of Silicate Glasses Using XCOM and Phy-X
- Novel Coupled Cavity Resonator Based Plasmonic Sensors: Finite Difference Time Domain Simulations using OptiFDTD
- PVDF Polymers for Hydrophone Applications
- Design and Study of Micro-Heaters for Gas Sensing Applications using COMSOL Multiphysics Simulations
- Study of Electroceramics for Energy Storage Application
- Application of Deep Learning Techniques & Image Segmentation for Digital Pathology

MTech. in Optoelectronics and Communications

- Multiband WDM Physical Layer Impairment Assessment and Modelling
- Implementation of Deep Learning Algorithm LSTM RNN for Ddos Attack Detection and a Router
- Hybrid Intrusion Detection System Using Machine Learning and Deep Learning
- Controlling Data Acquisition with ROSMAP-MP for Medical Imaging
- Optical Regenerator Placement in Flexible Optical Network Optimizing Cost and Network Availability



Central Research Instruments Facility (CRIF)

SSSIHL Central Research Instruments Facility (CRIF), based at the Prasanthi Nilayam Campus, is one of the few such facilities in the country (and the first in a rural location) that houses advanced Characterization/Analytical tools to carry out Translational Research in various areas of Science and Technology such as Physical, Biological, Chemical, Materials Science, Food and also Computational and Interdisciplinary Areas.

A Ph.D. degree holder is a person who helps others through his research and develops the country.

Sri Sathya Sai Baba
Revered Founder Chancellor, SSSIHL

The facility, built with a funding of ₹45 crore with the kind support of Sri Sathya Sai Central Trust, hosts a range of cutting-edge instruments and laboratories as listed here. It has significantly strengthened the research facilities at SSSIHL by providing state-of-the-art infrastructural facilities under a single roof.

This has allowed faculty, post-doctoral fellows, doctoral students, and postgraduate students at the Institute to accelerate their research work in all the major research areas of the Faculty of Sciences - Health, Energy, and Environment. It enables them to keep pace with the scientific developments taking place globally, and as a result, their research findings are being published in peer-reviewed high-impact journals. These concerted efforts to conduct research in cutting-edge areas of Science and Technology help contribute to the needs of society at large.

Full-time technical assistants with specific expertise operate and maintain the instruments and laboratories.

SSSIHL CRIF facilitates the strengthening of interdisciplinary health-related research collaborations between SSSIHL and Sri Sathya Sai Institute of Higher Medical Sciences (SSSIHMS). Some of these include Regenerative Medicine & Tissue Engineering, Rapid Detection of Endemic Diseases, Diabetic Retinopathy, Development of Cost-Effective Multi-Modal Microscopes, SPCE-based Point of Care Devices, etc.

Core Facilities

The following core facilities at CRIF are shared resources, offering a range of services to the research community at SSSIHL:

- Femto Fab Facility
- Electron Microscope Facility
- NMR & Mass Spectrometry Facilities
- Materials Characterization Facility
- Thermal and Optical Characterization Facilities
- Liquid Nitrogen Facility
- Central Utilities Facility
- Optical Imaging and Integration

Laboratories

In addition, CRIF hosts the following labs:

- Wet Chemistry Laboratories
- Functional Materials Laboratory
- Water Research and Electrochemistry
- Bio-Safety Laboratories: Level 1 and Level 2
- Functional Glasses and Ceramics Laboratory
- Non-linear Optics Laboratory
- Computational Science and Plasmonics



Collaborators

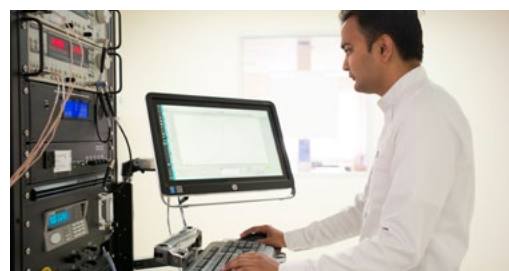
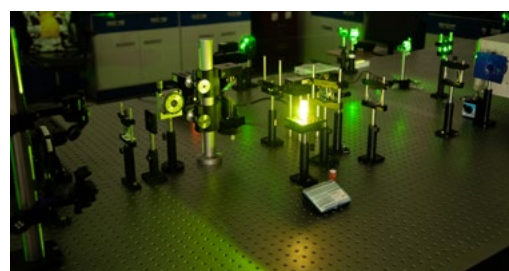
SSSIHL has successfully forged several research collaborations with leading organizations across India and abroad.

Academia & Research

- ICAR-Indian Institute of Horticultural Research, Bangalore
- Indian Institute of Technology, Madras and Kharagpur
- FDA-Center for Biologics Evaluation and Research, USA
- Indian Institute of Science Education and Research, Mohali
- Indira Gandhi Centre for Atomic Research, Kalpakkam
- University of Maryland, USA
- The Institute of Bioinformatics and Applied Biotechnology, Bangalore
- Raman Research Institute, Bangalore
- New Jersey Institute of Technology, USA
- Tata Institute for Fundamental Research, Mumbai
- Madras Diabetes Research Foundation, Chennai
- Clemson University, USA
- Geological Survey of India, Hyderabad
- Indian Institute of Science, Bangalore
- Universidad del Norte, Colombia
- National Institute of Nutrition, Hyderabad
- The Sahlgrenska University Hospital, Sweden
- Baylor College of Medicine, USA
- CSIR-National Chemical Laboratory, Pune
- University of Wollongong, Australia
- University of Colorado, USA
- International Centre for Genetic Engineering and Biotechnology, New Delhi
- National Institute of Pharmaceutical Education & Research, Hyderabad
- Japan Advanced Institute of Science and Technology, Japan
- CSIR-Indian Institute of Chemical Technology, Hyderabad
- Institute for Photonics and Nanotechnologies, Italy
- Dr. Reddy's Institute of Life Sciences, Hyderabad
- Central Leprosy Teaching and Research Institute, Chennai
- Centre for Materials for Electronics Technology, Pune
- CSIR-Central Drug Research Institute, Lucknow
- National Animal Resource Facility for Biomedical Research, Hyderabad
- CSIR-Central Electro Chemical Research Institute, Karaikudi
- Uppsala University, Sweden
- George Mason University, USA

Industry

- Grey Scientific Laboratories, Visakhapatnam
- Agilent Technologies India Pvt. Ltd.
- Amara Raja Batteries Pvt. Ltd., Tirupati
- Twastrix, Pune
- LightMotif Automation Sensors and Systems Pvt. Ltd., Hyderabad
- Omix Research & Diagnostics Laboratories Pvt. Ltd., Bangalore
- Lab Engineers, Bangalore
- Labby Inc., USA
- Insta Power Ltd., New Delhi
- Symrise Pvt. Ltd., Chennai
- Indras Pvt. Ltd., Hyderabad
- Syngene International Ltd., Bangalore
- Mylan Laboratories, Bangalore



Central Research Laboratory (CRL)

Central Research Laboratory (CRL) is located at the Anantapur Campus of Sri Sathya Sai Institute of Higher Learning and is custom-designed to cater to the research to meet the research aspirations of the faculty and students at the Anantapur Campus of the Sri Sathya Sai Institute of Higher Learning (SSSIHL). Inaugurated in August 2019, CRL houses laboratories for Wet Chemistry, Material Synthesis, and Characterization.

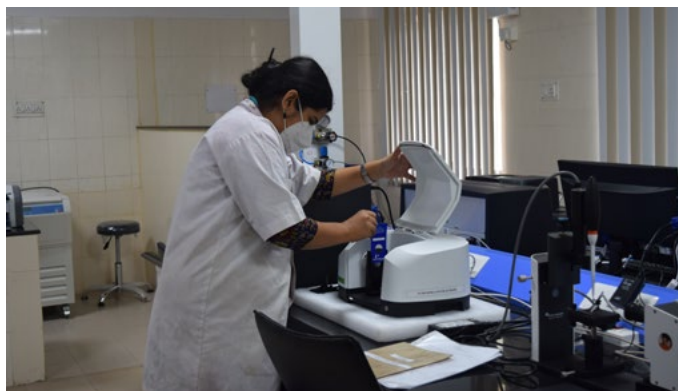
"In the field of science today, there is great emphasis on research and discovery. But, unless the results of research are applied in practice, it will be an expensive futility. If all the time is spent on research, when is it to find useful application in practice? Nor is there any sense of discrimination in the promotion of research... Those engaged in research seem to be more concerned about boosting their name and fame by their research than about promoting public well-being through the results of their research. Nor do they seem to be bothered about the harmful consequences of their discoveries...The scientific knowledge we acquire must be used for the benefit of our fellowmen."

Bhagawan Sri Sathya Sai Baba
Revered Founder Chancellor, SSSIHL

Based on the guidelines laid down by the Founder-Chancellor, Sri Sathya Sai Baba, the research activities at the Sri Sathya Sai Institute of Higher Learning are pervasively translational, socially relevant, and intended to have a rural reach. The research work in which the faculty and students are involved encompasses three broad areas: Health, Environment, and Energy. CRL is intended to be extensively used by postgraduate and doctoral students, as well as the faculty of the campus. The following core facilities and laboratories are the shared resources of the research community at the Anantapur Campus of the SSSIHL:

- Wet Chemistry Laboratories
- Materials Synthesis Facility
- High Temperature Facility
- Characterization Facility

In addition, researchers will also have access to the SSSIHL Central Research Instruments Facility (CRIF), based at the Prasanthi Nilayam Campus.



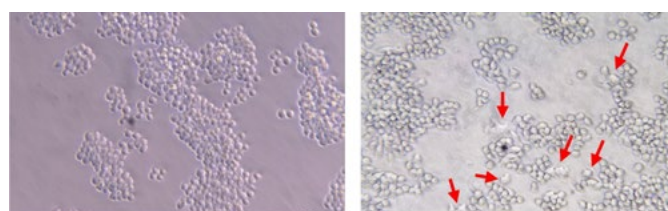
Research Areas

Biosciences

Disease Biology:

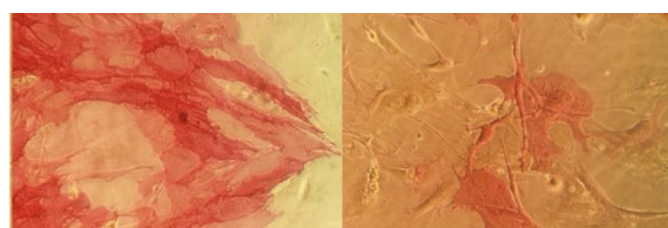
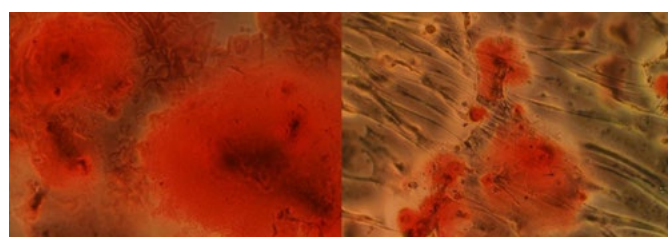
Avascular Necrosis of the Femoral Head (AVNFB) is a disease of the bone leading to the collapse of the femoral head, ultimately necessitating a total hip replacement. Our work clearly indicated a significant association of the homocysteine pathway with the disease as demonstrated by its correlation with histopathology and biophysical parameters as well as IHC. AVNFB bone also showed iron accumulation leading to disruption of mesenchymal stem cell differentiation into osteoblasts, as well as bone mineralization by the existing osteoblasts. This research could eventually pave way for developing homocysteine reduction therapy and localized iron chelation therapy to manage the disease.

Rheumatoid Arthritis (RA), is a disease of the joints manifesting in the form of the death of cartilage tissue, proliferation of synoviocytes, and differentiation of macrophages (cells devouring the invading microbes) to osteoclasts (bone degrading cells). The patients exhibited severe inflammation in their joints. Our extensive *in vitro* work coupled with other relevant studies attributed this to high levels of ADA enzyme. We, therefore, propose that ADA-induced joint remodelling in RA might be the principal cause of inflammation. Additional clinical validation would help in developing strategies for finding a possible cure for this disease.

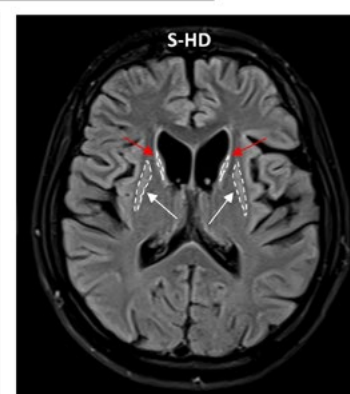
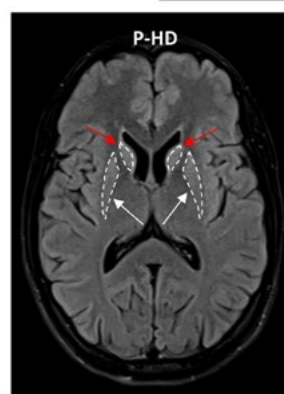
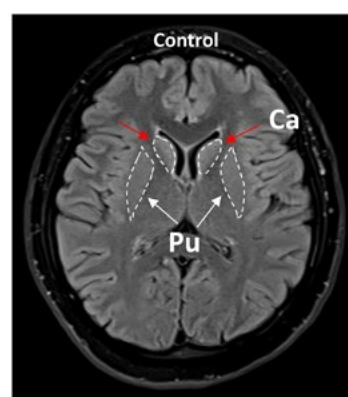


CONTROL

ADA

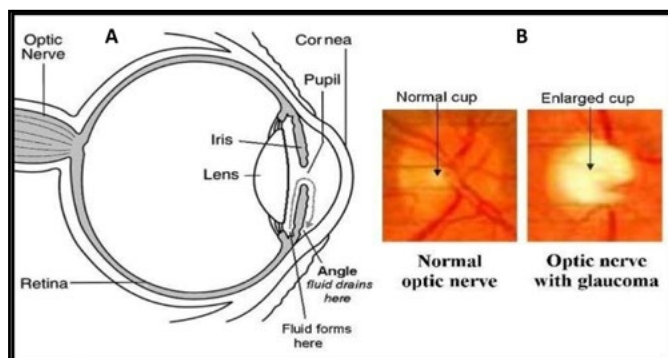
Osteogenic medium
(CONTROL)Osteogenic medium + ADA
(ADA Treated)Osteogenic medium
(CONTROL)Osteogenic medium + ADA
(ADA Treated)

Huntington's Disease (HD) and Amyotrophic Lateral Sclerosis (ALS) are two important neurodegenerative diseases associated with amyloidogenesis (formation of protein aggregates). They are potentially heritable because the cause is mutations in a specific gene(s). We adopted a Systems Biology approach reinforced with *in vitro* experimentation involving yeast cell lines to study these diseases. Clinical studies along with metabolomic analysis showed perceptible metabolic deregulation that could be correlated with structural changes (Atrophy) in affected regions of the brain. Other experiments revealed that a variety of metabolites modulate protein aggregation. Restoration of normal metabolism influenced the clearance of aggregates. Our findings demonstrate that these metabolites could be potential modifiers of the disease. The role of the certain vitamins of the B group, Cysteine-Methionine pathways in amyloidogenesis clearance was also evaluated.



Glaucoma is the second leading cause of blindness after cataract. Primary Open Angle Glaucoma (POAG) progresses towards Exfoliation syndrome (XFN) and many a time ends up manifesting as Exfoliation glaucoma (XFG) - a secondary form of glaucoma. Even though for a long time it was known that 50% of XFN subjects develop XFG, there are still no predictive biomarkers. Elevated Intra Ocular Pressure (IOP) and ATP are associated with glaucoma. Our results pointed towards ATP-mediated microglial inflammatory response and metabolic remodelling involving the kynurenine pathway in the development and progression of glaucoma. Nitric-oxide synthase (NOS) inhibition might be critical for bringing about increased Intra Ocular Pressure (IOP), extracellular ATP, inflammation, and progression of POAG. These metabolites could emerge as potential biomarkers and aid in predicting disease progression as well as contribute to developing treatment. The work further throws light on the role of TNF α in microglial inflammation leading to retinal ganglion cell death.





Antimicrobial Resistance (AMR)

AMR laboratory is focused on understanding the mechanisms employed by bacteria to acquire antibiotic resistance. A range of cutting-edge techniques including whole-genome sequence analysis and molecular approaches are employed to obtain deeper insights into the emergence of antibiotic resistance.

Currently, the laboratory is supported by research grants from ICMR to explore and identify the mechanism of nitrofurantoin resistance among Enterobacteriaceae. The project involves analyses of mutational landscape among these pathogens, and design rapid PCR-based prediction models to detect nitrofurantoin resistance among Enterobacteriaceae.

Additionally, efforts are being made to study the co-resistance, collateral sensitivity, and hetero-resistance patterns of these resistant bacteria, which would help in selecting and designing alternate antibiotic therapies to combat antibiotic-resistant bacterial infections.

The laboratory is also equipped to analyze bacterial outbreaks in the collaborating hospitals by employing whole-genome and comparative genome analyses to trace the origin(s) of the outbreak(s), spread, and suggest control measures to prevent any future occurrence.

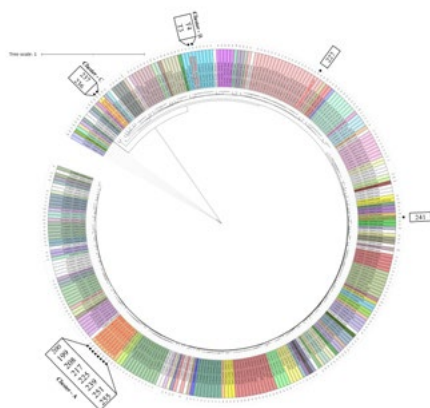


Fig: (Whole genome-based phylogeny of the 14 study genomes with 284 complete *P. aeruginosa* genomes)

This Agar artwork created by Balaram Khamari, Dept. of Biosciences received 2nd place globally in the 2020 annual agar art contest conducted by the American Society for Microbiology (ASM) among 189 entries from 30 countries.

Here, the body of the peacock was made of *Escherichia coli*; and the individual tail feathers are an alternate arrangement between *Escherichia coli* and *Staphylococcus aureus*, the two most commonly encountered human pathogens. The small colonies around the head of the peacock and the eyeball are made of *Enterococcus faecalis*, a gut bacterium that produces tiny and distinct colonies. The artwork was made solely on plain LB Agar media.



Fig: Microbial Peacock

Molecular Biomarker Discovery:

Coronary Artery Disease (CAD) has assumed epidemic proportions and is an imminent threat to even the under-forty age population in India. A retrospective analytical study based on a wealth of relevant data available from our sister Institutions (SSSIHMS, PSG & WFD) is underway intending to develop an algorithm for predicting the onset and /or progression of the disease. Meta-analysis of two microRNAs, identified as potential biomarkers from the literature is also underway. The next step would be expression profiling of specific microRNAs from clinical samples. These could prove to be potential novel biomarkers for the prediction of early-onset CAD, in different subsets of the Indian population.

Dengue is a mosquito-borne viral disease affecting millions of people in the tropics and the sub-tropics. The disease is spread by *Aedes aegypti*. The infection throws up a specific pattern of the rise and fall of levels of antigen (NS1) and antibody (IgM) as well as cytokines IL-10 and TNFα at different



phases post-infection. Ongoing work involves three aspects:

1. Evaluate if these molecules could be reliable Biomarkers and modify them suitably so that they bind well to bind to a Surface Plasmon-Coupled Emission (SPCE) substrate;
2. Biosynthesise silver nanoparticles using floral extracts and utilize them for modifying SPCE substrate to enhance sensitivity and specificity;
3. Employ Metabolomics and Transcriptomics analysis to understand regulation pathways as the disease progresses from phase-1 to 3.

Structural Biology of Proteins

The structure-Function relationship lies at the core of all biological activity. Therefore, by suitably modifying the structure a molecule could be made to perform beneficial functions. Our objective is the structural characterization of a few proteins, modify them by applying computational biology tools, learn how they would function, and evaluate the suitability of the modified molecules for commercial applications.

Indian Horseshoe Crab (*Tachypleus gigas*) yields enormous amounts of easily purifiable blue-colored oxygen-carrying protein Hemocyanin whose structure is barely understood. Work is being carried out to gain insights into the structure of the molecule using molecular dynamic simulations, modify functionally important portions of it and evaluate suitability for developing an optical and electrochemical phenol Biosensor.

Brain Derived Neurotropic Factors (BDNFs) are key to the growth, revival, and well-being of the nerve cells and are responsible for keeping various neurogenerative diseases at bay. Anti-Freeze Proteins (AFPs) occur naturally in fishes inhabiting polar seas, certain beetles, etc. Our research is focused on protein engineering i.e., to first produce proteins with favorable characteristics and thereafter increase their expression on a large scale using suitable mammalian and yeast (*Pichia pastoris*) cell lines.

Bioactive Compounds from Plants with Therapeutic Potential:

Man has been using extracts from various plant parts for treating several diseases and disorders since times immemorial. However, lack of organized scientific knowledge about the mechanisms of their action has been the reason for ignoring the practice of traditional medicine. Our effort was to evaluate Bioactive compounds of three angiospermic plants employing diverse biochemical, molecular, computational (including molecular docking and molecular simulation) approaches for their anticancer, antioxidant, antidiabetic, anti-inflammatory, and antimicrobial potential.

***Tecoma stans* (L.) Juss. ex Kunth** is a widely distributed plant in India. Analysis of plant parts revealed that they were rich in essential amino acids, fatty acids, minerals, and secondary metabolites viz., phenolic acids, flavonoids, terpenoids, alkaloids, volatile oils, and fatty acids. *In Vitro* studies using extracts of the plant, parts showed significant anticancer, antioxidant, and antimicrobial activities. *In silico* studies indicated that some of these plant metabolites could be potent inhibitors of inflammatory enzymes 5-LOX, COX-1, and COX-2. Silver nanoparticles (SNPs) synthesized from the plant extracts demonstrated enhanced therapeutic potential.

***Adhatoda vasica* Ness** commonly known as Malabar nut also grows widely in the country. It is extensively used to treat respiratory ailments in various alternate systems of medicine. Molecular modelling, Molecular docking, and Molecular dynamics studies were employed to evaluate the role played by the alkaloids as inhibitors of the inflammatory pathway. These assays revealed that alkaloids vasicine, vasicinone, and deoxy vasicine possessed inhibitory potential against key enzymes: 5-LOX, COX-1, and COX-2 of the eicosanoid pathway. This pleiotropic inhibitory potential along with the favourable ADMET properties of these alkaloids give reason to consider them as inhibitors of the eicosanoid pathway enzymes.

***Trachyspermum ammi* (Ajwain)** is a crop commonly grown for its seeds. Extracts of aerial parts revealed that they contained carbohydrate derivatives, amino acid derivatives, flavonoids, phenols, steroids, triterpenoids, and saponins. Ethyl acetate fraction exhibited high antioxidant and antidiabetic activities when tested using *in vitro* model systems. Hexane fraction from the extract showed maximum anti-carcinogenic activity on osteosarcoma cell lines. A chromatographic analysis is being done to identify the Bioactive compounds which may have several potential pharmacological benefits.

Fungi in Health and Environment:

a) Endophytic Fungi as Sources of Bioactive Compounds:

Plant extracts are routinely used in traditional medicine. These plants, (especially tree forms) invariably host symbiotic fungi in various parts. It is unclear if the bioactive compounds are produced by the plant itself or the endophytic fungi they host. Wherever latter is the case, the fungi could be cultured on a large scale and bioactive compounds harvested, without cutting or harming the tree leading to Biodiversity conservation. Also, in the last decade, many novel compounds exhibiting a variety of bioactive potentials have been isolated from endophytic fungi.

Our effort was to isolate, culture, identify and study the endophytic fungi for their anti-oxidant, anti-inflammatory, anti-bacterial, anti-cancer, and anti-diabetic potential. Endophytic fungi from four plants (tree forms) known for their medicinal importance were studied. At least ten morphologically distinct



endophytic fungi were isolated from each of the four medicinal plants. *Curvularia lunata* isolated from *Ficus religiosa*, *Penicillium sp.* obtained from *Phyllanthus emblica* and *Alternaria sp.* from *Swietenia macrophylla* showed significant antioxidant, anti-diabetic and anti-inflammatory activity comparable to standard drugs in use. *Nigrospora sphaerica* isolated from *Bauhinia purpurea* showed potential anti-bacterial and anti-cancer activity. Metabolite profiling and identification of bioactive metabolites are being carried out employing spectroscopic techniques like LC-MS/GC-MS. Further, *in-silico* studies were carried out to screen hundreds of metabolites from certain selected fungi for their potential to inhibit targets like alpha-glucosidase, alpha-amylase, and RND efflux pump. Molecular dynamic simulations are also being carried out to understand their mechanisms of action.

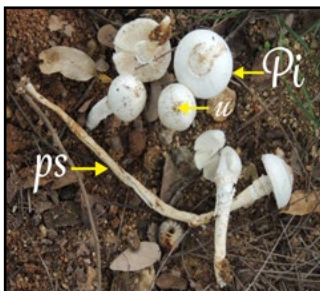


b) Wild Mushrooms as Nutritional Supplements:

Mushrooms are a rich source of naturally occurring proteins, several nutrients, and antioxidants. However, cultivated mushrooms are expensive for poorer sections of society. Hence, two wild edible mushrooms, *Podaxis pistillaris*, and *Termitomyces heimii* that grow in the Anantapur district, A.P., during the rainy season were studied for their nutritional and antioxidant properties. Our analysis revealed that these wild edible mushrooms are highly nutritive and are a good source of macro (Mg, P, K, and Ca) and micronutrient elements (Fe, Cu, Zn, Mo, Se, B, and Mn) as well as antioxidants. Hence, they qualify to be considered excellent nutraceutical products.



Podaxis pistillaris



Termitomyces heimii

Wastewater Analysis, Treatment, and Energy Recovery:

Sustainable Development Goal 6 (SDG 6) of the United Nations is to ensure availability and sustainable management of water and sanitation for all by 2030. Domestic wastewater is seen as a valuable resource for effective reutilization, especially in under-developed and developing nations. The work involved analysing the domestic sewage and improving the existing sewage treatment infrastructure of the Prasanthi Nilayam (Ashram) with the objective of reusing the treated effluent for secondary applications. Plant-based reagents are being used and evaluated as an alternative strategy to the expensive and energy-intensive wastewater treatment processes currently in place.

Another common issue of water pollution especially in industrial areas is that the water becomes coloured on account of various substances, including synthetic dyes. Soil fungi from Prasanthi Nilayam and its environs were evaluated for their ability to bring about the decolorization of water contaminated with synthetic dyes under laboratory conditions. We successfully demonstrated decolorization of Recalcitrant Azo Dyes by *Penicillium citrinum* and Bio-removal Capacity of Carcinogenic Azo Dye Congo Red by *Aspergillus arcverdensis* using strains isolated from local soil samples. This eliminates adding some other synthetic chemicals to treat wastewater treatment and pave way for developing cleaner and cheaper technologies.

Chemistry

Point of Care Devices for Clinical Use

As a part of the ongoing projects on perinatal depression, neonatal jaundice, early detection of a cardiac malfunction, and dengue detection, more than 1000 patients from Sri Sathya Sai General Hospital (SSSGH), Prasanthi Nilayam, Sri Sathya Sai Institute of Higher Medical Sciences (SSSIHMS), Prasanthigram and SSSIHMS, Whitefield have been enrolled. The blood, saliva, and urine samples from these patients were collected after obtaining informed consent. These samples were processed and stored appropriately. These samples were analysed using standard hospital protocol/equipment and the gold standard- HPLC to know the actual value to be compared with that from our proposed devices.

Prototype devices for dengue and mental health underwent testing of their alpha models. The feedback was noted and appropriate modifications have been implemented in the fabrication of the beta version. The final prototype of the benchtop device for heart disease evaluation was optimized and demonstrated and is currently at technology readiness level 7. The final prototype of the neonatal jaundice device was developed and is being deployed at SSSGH, Prasanthi Nilayam for field trials. In addition, new novel materials such as metal sores, metal-dielectric nanoparticles, and bio-polymers for SPCE and PCCE emission enhancements were studied.



Synthesis of Small Molecules with Potent Biological Activity:

Natural products have afforded a rich source of compounds and made a huge contribution to human health. *Andrographis paniculata* is an Ayurvedic herb known as Kalmegh (Nelavemu in Telugu). Andrographolide, the main constituent of *Andrographis paniculata* and its analogues, possess anti-cancer, anti-inflammatory, anti-bacterial, anti-diabetic, anti-HIV, FXR antagonists, and hepato-protective properties. In this regard, we have synthesized several derivatives of andrographolide and extensively studied their anti-cancer properties. Arjunolic acid, an active component from the plant *Terminilia arjuna*, is known to possess cardioprotective properties against myocardial necrosis. Various derivatives of arjunolic acid have been synthesized and their anti-cancer properties have been explored. Spirobibenzopyrans and pyrilium salts are two classes of novel synthetic compounds explored extensively by us. A library of over ninety compounds has been synthesized, characterized, and investigated for various biological properties. They were found to have potent anti-cancer, anti-inflammatory, anti-bacterial and anti-venom properties as first-in-class therapeutic agents. The synthetic routes of these compounds have been optimized and their *structure-activity-relationship* have been explored for developing the potent lead compounds. Synthesis of Pyrazole-andrographolide derivatives have also been carried out and the study of their biological activity against SARS-COVID-19 is in progress.

Novel Erlotinib Analogues — Synthesis and Biological Evaluation

Cervical cancer is the fourth most common cancer in women worldwide. The HPV vaccines have shown efficacy in the prevention of infection and hence the disease. However, they have limited benefits when it comes to the people who are already infected. For this reason, cervical cancer continues to be the second-most common reason for mortality in women in developing countries like India. The most common treatment currently in use for the treatment of cervical cancer is chemo-radiotherapy. With the advancement in research in the field of cancer, essential molecular pathways for targeted treatment for cervical cancer are known. However, the library of small molecule inhibitors that can be used for this purpose is scarce and requires further exploration.

In the current study, novel erlotinib analogues are being synthesized and evaluated for their anti-cancer properties. The drug is an EGFR inhibitor for molecular target treatment of metastatic non-small cell lung cancer (NSCLC) in patients with certain types of abnormal epidermal growth factor (EGFR) gene mutations. EGFR is associated not only with the proliferation of tumor cells but also with enhanced tumor cell survival, angiogenesis, and metastatic spread. Certain studies have demonstrated erlotinib as a target agent that has

promising activity against locally advanced cervical cancer. The anticipated development and assessment of molecularly targeted agents, that are structurally similar to erlotinib, may offer a promising perspective for cancer research. The molecule is ideal for exploring new derivatives that may show better affinity towards the target protein.

Environment: Self Assembled Polymer Hydrogel Beads for Defluoridation and Dye Removal

Fluoride contamination in water is a matter of great concern in several parts of the world. About 260 million people, spread over 25 countries, in different continents are affected by fluoride contamination. Novel nanoporous hydrogel beads are synthesised for effective defluoridation of groundwater. These hydrogel beads are obtained by one-pot synthesis, by cross-linking polyvinyl alcohol with glutaraldehyde and metal ions like zirconium, iron, and copper. The beads exhibit a pH-independent, highly selective fluoride removal efficiency of ~98% in simulated 10 mg L⁻¹ fluoride solution, with negligible interference from HCO₃⁻, PO₄³⁻ and SO₄²⁻. Electrostatic interaction, hydrogen bonding, and pore diffusion govern the mechanism of adsorption and the adsorption process is exothermic and spontaneous with ΔG° ranging from -37.0 kJ mol⁻¹ to -52.0 kJ mol⁻¹. The hydrogel beads have an excellent regenerability with ~97% fluoride removal efficiency even after the 10th adsorption-desorption cycle. The hydrogel beads reduce the fluoride concentration below 0.2 mg L⁻¹ in the groundwater samples, making them promising adsorbents for real-time application in fluoride endemic regions.

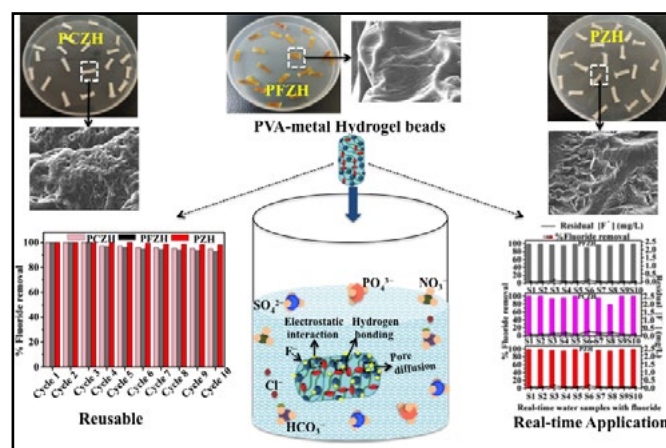
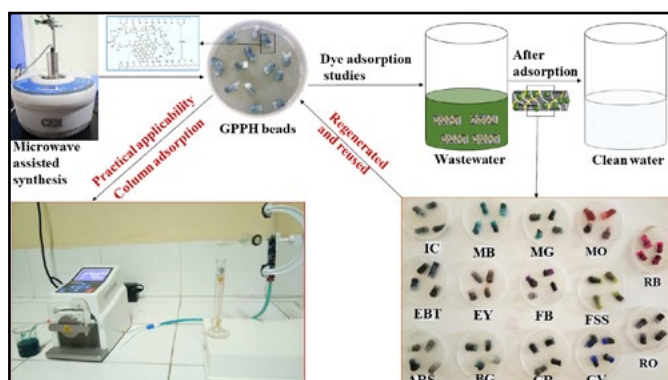


Fig: Fluoride adsorption studies:
pH independent selective fluoride removal

Another hazardous pollutant is synthetic dye and about 54% of it is released by the textile industries. These organic pollutants can severely alter the water ecosystem if discharged without treatment. In the current work, a novel hybrid network of graphene oxide-polyethylenimine-polyvinyl alcohol hydrogel (GPPH) beads are synthesised via a microwave route. The adsorbent is used to remove a variety of dyes such as azo



(congo red, reactive orange, methyl orange, eriochrome black T), triarylmethane (brilliant green, crystal violet, malachite green, fuchsin basic), xanthene (fluorescein sodium salt, eosin yellow, rhodamine B), anthraquinone (alizarin red S), indigoid (Indigo carmine) and thiazine dyes (methylene blue). Electrostatic interactions, hydrogen bonding, non-covalent interactions, and pore diffusion help in the sorption of dyes. GPPH is effective in 90-95% removal of 20 mg L⁻¹ alizarin red S, brilliant green, crystal violet, eosin yellow, eriochrome black T, and reactive orange dyes in simulated wastewater containing 100 mg L⁻¹ of NO₃⁻, SO₄²⁻, PO₄³⁻, HCO₃⁻, Cl⁻, Mg²⁺, Ca²⁺, K⁺, and Na⁺ ions. The adsorbent has good reusability even after the 5th regeneration cycle. In a fixed-bed column, 77% (reactive orange), 75% (eosin yellow), and 56% (brilliant green) are adsorbed by GPPH. Moreover, the column of GPPH is reusable which shows that the adsorbent has good commercial applicability.



Computational Investigation of Biopolymers as Potential Adsorbents in Environmental Remediation

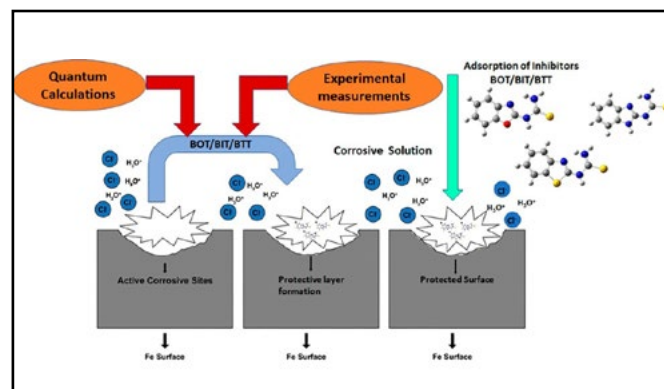
The United Nation's sustainable development goals place emphasis on energy and the environment, tackling the challenges of clean air (SDG 3.9), clean water (SDG 6), and cleaner energy (SDG 7). The use of natural biodegradable polymers as potential adsorbents to overcome the challenges posed by environmentally non-degradable adsorbents is studied using density functional theory (DFT) calculations for applications in desalination technology, as potential hydrogen storage materials and adsorbents for greenhouse gas removal. Moreover, the chosen substrates are the most abundant biopolymers on the surface of the earth. In addition, they are biodegradable, biocompatible, and have low toxicity.

Desalination of seawater has been explored as a useful alternative to solve the problem of shortage of fresh water. Adsorption desalination is a useful alternative technology that helps to overcome some of the challenges posed by the established methods. 93.5% of the dissolved salts are constituted by Na⁺, K⁺, Mg²⁺, Ca²⁺, Br⁻, S²⁻ and Cl⁻. A theoretical investigation of biopolymers, chitosan, chitin, and cellulose, as potential adsorbents of alkali and alkali earth

metal ions, has been carried out using DFT calculations. The potential application of hydrogen as an efficient fuel in comparison to the existing carbonaceous fossil fuels has led to the hydrogen-based fuel systems which have now become one of the most important topics of research. Despite various technological developments in this area, the quest to discover a safe, efficient, and reversible hydrogen storage medium that works at ambient conditions remains a major challenge to date. However, the idea of using naturally available biomolecules for hydrogen adsorption is unexplored and is uncharted territory. The suitability of bioavailable polymers for practical applicability as hydrogen storage material has been studied by looking at gravimetric density of these systems along with the binding energy per hydrogen molecule.

Anti-Corrosion Studies

The effects of thioureidobenzheteroazoles, namely 2-thioureidobenzoxazole (BOT), 2-thioureidobenzimidazole (BIT), 2-thioureidobenzothiazole (BTT), and isoperthiocyanic acid derivatives on the corrosion behaviour of mild steel in 2.0 M solution of HCl have been investigated by electrochemical and quantum chemical methods. Based on these findings, 2-thioureidobenzheteroazoles were found to exhibit very good corrosion inhibitory characteristics. Quantum chemical calculations revealed that sulphur and nitrogen heteroatoms serve as reactive centres for the adsorption of inhibitors.



Computational Investigation of Adsorption of Metal Ions on Biopolymers

A comparative study on the adsorption of metal ions on naturally occurring polymers, chitin, chitosan, and cellulose has been done computationally. Desalination of seawater has been explored as a useful alternative to solve the problem of shortage of fresh water. 93.5% of the dissolved salts are constituted by Na, K, Mg, Ca, Br, S, and Cl. Here, a theoretical investigation of biopolymers, chitosan, chitin, and cellulose, as potential adsorbents of alkali and alkali earth metal ions has been carried out using Density Functional Theory (DFT) calculations.

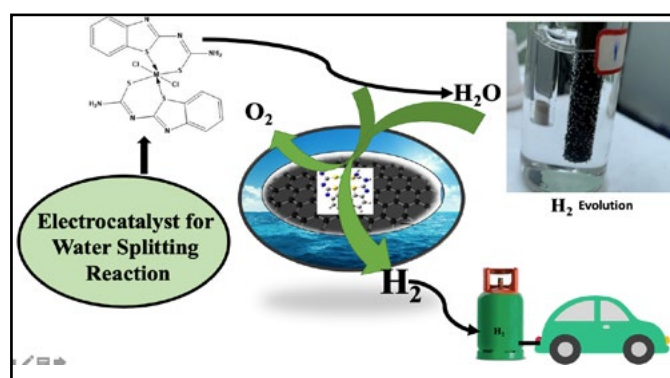


Nanomaterials for Electro Catalytic Applications

Electrocatalysis by nanomaterials and nanocomposites has generated immense research interest as they exhibit very high surface area and unique electron-conducting ability. Our research work focuses on the synthesis of novel nanocomposites for application as electrochemical sensors and fuel cells. Several silver and gold-based nanocomposites were synthesised and used for electrochemical detection of neurotransmitters such as dopamine and serotonin and also the interfering molecules like uric acid and ascorbic acid. Novel gold and palladium-based nanocomposites have been synthesised and used as electrocatalysts that can oxidize methanol and ethanol and reduce hydrogen ions to release energy. Apart from that, we are also investigating oxygen evolution reactions and oxygen reduction reactions that would enhance the sluggish kinetics in Li-ion cells.

Metal Complexes for Hydrogen Fuel Cell Applications

Researchers have shown a great deal of attention on transition metal complexes with varying ligands due to their potential uses as catalysts, biological processes, and inorganic materials. In this context, hydrogen as the future energy currency is widely considered as the solution to the energy crisis. Metal ions can be framed in a special position by using appropriate ligands. In the current study, the electrocatalytic behaviour of palladium (II) metal complexes of sulfur-based ligands has been investigated for efficient hydrogen evolution reaction (HER).



Education

Pedagogical Approaches to Peace Education at Secondary School Level

Peace Education is the process of acquiring the knowledge, attitude, and skills to live in harmony with oneself, with others, the world, and the environment. Many educational reports and committees have suggested value education and peace education be implemented through the school's implicit curriculum and co-curricular activities. Many didactic

methods are taught to inculcate values among students according to their age and needs but at the secondary stage, pupils are given a chance to put their learned lessons into action in their lives. The present research was taken up to explore how schools cater to the cognitive, affective, and psychomotor domains of the child using different pedagogical approaches.

An explorative multiple case study research with a mixed approach was used to investigate the pedagogical approaches for integrating the values of peaceful living among students. Four value-oriented schools were selected for the study. The aim of education is the holistic development of the child. This is achieved by the selected case schools in accordance with the philosophical teachings of their founders. Hence, the students are trained based on the different orientations of their school i.e., Spiritual Education by Sri Ramakrishna mission, Integral Education by Sri Sathya Sai Baba, Creative Education by K.M. Munshi and Integrated Education by Sri Aurobindo. Thus, Peace Education is taught through the school's implicit curriculum, hidden curriculum, and also through participatory learning methods and activities wherein learners communally and cooperatively sort solutions for contemporary issues related to local and global contexts.

Food and Nutritional Sciences

COVID-19 Research: Researchers at SSSIHL have been working to assess the impact the pandemic has had on the socio-economic environment and on the mental and physical well-being of the human capital in India and around the world.

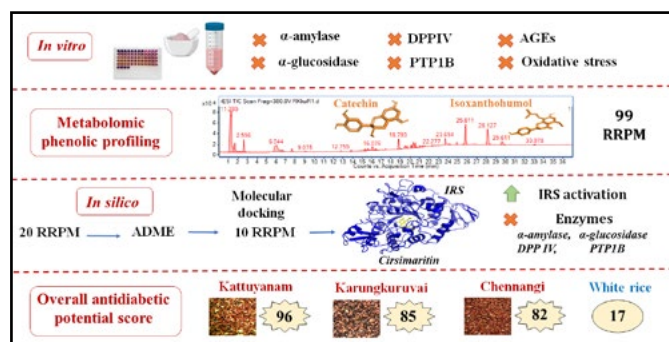
- A study assessed the on-farm practices and the impact of the COVID-19 pandemic and the lockdown on post-harvest management of fruits and vegetables. It revealed that the farming system was now exposed to new risks, including food security and that Smallholder farmers were highly vulnerable to the crisis due to their limited access to resources and lack of formal knowledge to meet these challenges. The study proposed measures like financial support, improving rural facilities, increasing natural resources and their sustainable use, and establishing new infrastructure to help farmers withstand such unprecedented outbreaks.
- Another study assessed the impact of the pandemic on the lifestyle and dietary habits of the low- and middle-income Indian population (18-68 years). While several participants felt depressed, anxious, and helpless due to social / self-isolation, and financial difficulties, many others felt it was an opportunity to spend more time with their families and also make healthier lifestyle choices like better diet, exercise, and sleep. The pandemic did impact the economy, livelihood, and physical and mental well-being of people.



- A third study “*Metabolomic and in silico Assessment of Antiviral Activity against SARS-CoV-2*” was conducted as part of a doctoral research on the therapeutic potential of indigenous food crops, to assess the antiviral activity of three Indian red rice cultivars through a metabolomic and *in silico* approach. The three indigenous cultivars examined were found to be good sources of different antiviral phenolic metabolites. Among the studied red rice phenolic metabolites, 7,4'- dihydroxyflavone and eriodictyol exhibiting high binding capacity with SARS-CoV-2 main protease was identified as natural inhibitors and as potential candidates for antiviral drug development. The traditional rice variety *Kuzhiadichan*, abundant in eight antiviral metabolites, was identified as a potential functional food for dietary management of COVID-19.

Nutritional Biology and Metabolomics Studies for Mitigating Life-Style Disorders

As part of the ongoing doctoral research programme, nutritional biology and metabolomic studies are being carried out on indigenous pigmented rice varieties related to diabetes. Several rice varieties were found to exhibit good inhibitory activity against carbohydrate digesting enzymes, an incretin hormone degrading enzymes, implicated in diabetes. They also inhibited the formation of advanced glycated end products, implicated in the aetiology and progression of diabetes. In vivo, glycemic response studies in human volunteers revealed Kattuyanam, Chennangi and Karungkuvai, to be low glycemic index (GI) varieties compared to the high GI white rice. An untargeted Q-TOF LC-MS analysis identified over hundred phenolic metabolites across ten pigmented rice varieties. In silico analysis confirmed the antidiabetic activity of the abundant pigmented rice phenolics. Kattuyanam, a traditional Indian red rice cultivar, exhibited the highest overall antidiabetic potential based on the multi-mechanistic evaluation.



Microgreens – Tiny vegetables with mega health and nutrition potential

As part of another ongoing doctoral research programme, metabolomic analysis of a genre of novel food crop, microgreens, revealed a unique phenolic metabolite fingerprint for each of the microgreens with the flavonol class being the most abundant compound. Microgreens were also found to be good sources of protein, dietary fiber and essential minerals. They were excellent sources of Vitamin-C, Vitamin-E and beta-carotene (pro-vitamin A). They also exhibited a very high anti-oxidant potential. Moreover, microgreens were found to be significantly more nutrient-denser than spinach mature greens. The study concluded that these micro-formats of green leafy vegetables could be a beneficial and interesting culinary addition for wholesome nutrition.

Gluten-Free Multigrain Nutri-Dense Foods

The Nutri bars are one of the popular convenient snack foods, nutritionally balanced, and versatile products made up of whole grains, pseudo-cereals, millets, dehydrated fruits, nuts, and sweeteners and used as ideal meal replacers to prevent nutrition-related disorders. Nutritionally balanced bars using locally available ingredients were developed and evaluated for their nutritional quality and shelf stability. The snack bars were optimised to meet the needs for categories like balanced nutrition for public health, PCOS for women nutrition and specialised bar like zone diet. The developed bars were found to be rich in energy, carbohydrates, protein, fat, minerals, polyphenols, and flavonoids. Antioxidants like rosemary were added to enhance the oxidation stability of the product. The developed products were highly acceptable and shelf-stable. The research intends to provide healthier bite-size snack bars for various therapeutic conditions to help consumers choose among the alternatives based on their preferences and needs. Also, different millets of Indian origin were used to reformulate traditional breakfast from different parts of India. The products were wholesome, nutritious and added a range of varieties to the existing Indian cuisine.



Food Processing Waste Utilization for Value Addition

Fruit and vegetable processing waste contain potential byproducts which contain many bioactive components that could be utilized in the formulation of value-added products. A study was conducted to understand the awareness and practices followed at domestic and industrial utilization of vegetable and fruit waste. The results revealed that most of the waste was used for cattle feed and vermicomposting and a minor quantity was used in food preparations. The targeted population was provided with the information regarding the processing and incorporation of peels in food preparations and developing value-added products to minimise the disposal. Dietary fiber and antioxidants were characterized from the waste and studied for their chemical composition and in vitro biological activities. Pectin was extracted and spray dried for its further utilization. Ready to eat food products were developed utilizing the vegetable processing waste. The developed products were found to have good sensory acceptability and shelf-stability. Recovery of valuable products from fruit and vegetable processing wastes not only reduces the environmental pollution but also gives a wider scope for the development of various functional foods



Postharvest Technology and Quality Management of Organic Fruits and Vegetables

Organic farming has come to a central focus, as consumers have recognized the impact of synthetic agrochemicals on soil, environment, and also human health. In India, fresh organic produce especially, fruits and vegetables are of highest demand among the categories of organic food. Many parts of the country inherited the traditional organic farming methods which are gathered under one umbrella termed as 'Jaivik Krishi'. The assessment of the impact of Indian organic farm inputs on the yield and economics of production are being explored very recently. However, studies with respect to the influence of Indian organic farming practices on

postharvest quality and safety of the produce are negligible. Fresh organic and conventional tomatoes grown at Anantapur district, Andhra Pradesh were assessed for postharvest quality characteristics. Organic tomatoes grown adopting Jaivik Krishi technique were found to be superior compared to conventional tomatoes in terms of physicochemical properties, phytochemical content and antioxidant activities. Further, a novel and cost-effective postharvest technology is being explored for safeguarding the quality of fresh organic produce.

Awareness of Baby Food Adulteration

The rapidly expanding market of baby foods in India necessitates the need for having a clear idea about the current trends of baby food usage in India. Unfortunately, baby foods are also not out of the grip of adulteration and the issues often do not get clinically diagnosed as the symptoms are similar to those of many other health issues. An online exploratory survey to find out whether parents in India are aware of the concept of baby food adulteration and if they have encountered any such issues. The survey revealed that parents, if aware of the adulteration issues (2% of respondents), preferred exclusive breastfeeding for a longer time and used homemade baby foods instead of commercially available products. Some of the common homemade baby foods were found to be equivalent or superior to similar branded products in terms of nutritional evaluation and cost-effectiveness.

Humanities and Social Sciences

Economics

Financial and Macroeconomic Modelling:

Research at the Department of Economics is primarily focused on financial and macroeconomic modelling leading to policy analysis on the domestic and international economies. While the studies relating to economic policies, financial markets, and their interlinkages in the emerging economies were taken up on the international front; the research on the domestic economy concentrated on diverse issues relating to various aspects of the Indian economy. These include topics like determination of inflation, Defence expenditure, Foreign Exchange Exposure, Current Account Balance, Foreign Direct Investment inflows, Demand for Money, Macro stress testing of selected banks, digital payment system, education expenditure, energy consumption, oil market dynamics, and Decoding the Indian voters' mindset.

The research is quantitatively oriented, relying on leading-edge techniques in statistics and econometrics in delivering research publications of a high standard. Apart from producing high-quality research publications in reputed national and



international journals, the faculty at the department have also been regular participants in the conferences and seminars conducted by prestigious institutions across India.

Two doctoral research studies were done in the areas of Stock Markets and the construction of Multidimensional indices. The summary is as follows:

An Empirical Study on Some Behavioural Aspects and Predictability of Stock Markets:

It is a well-recognized fact that capital accumulation plays an important role in the growth of an economy. One of the significant sources for capital accumulation is stock markets, which mobilize savings and channel them to productive investment purposes. The characteristics of stock returns were studied under various mathematical models. Several researchers have analyzed the characteristics of the stock markets such as efficiency, volatility, value at risk, and forecasting the stock returns. However, most of these studies are limited to either country-specific or small groups of markets. So, there is a necessity to conduct a study to know the features of major world stock markets. This helps in constructing a portfolio with several diversifying markets to minimize the risk. In this context, this study has been taken up with an objective to comprehend the characteristics of the world stock markets. For this purpose, we considered 24 stock indices representing the stock markets of developed, emerging, and frontier markets according to the MSCI classification of markets. The daily closing prices of the selected indices data ranging from 1st January 2000 to 31st December 2018 have been obtained. This study aims at analyzing the characteristics such as efficiency, volatility, value at risk, and evaluates the forecasting performance of different forecasting techniques for these markets. Further, we employ data mining techniques to classify the stock markets with quantitative variables as an alternative to the MSCI classification of markets.

A Study on Some Aspects and Issues of Development in Multidimensional Perspective

The overall development is widely regarded as the end goal of any economic policy. The concept of development in most of the discussions is considered synonymous with economic growth, measured as year-on-year growth rates of GDP. However, by definition, development is a far broader concept than a mere increase in the level of income. Apart from economic growth, development also encompasses dimensions such as social, environmental, institutional, and political setup that can bring about positive change in the standard of living of the people and the economy at large. Thus, studies on development must include these dimensions while measuring and analyzing patterns and dynamics of development.

In this context, the current study has four objectives. At first, a Broad-Based Development Index (BBDI) is constructed along with its four sub-indices namely, Economic Development Index (EDI), Social Development Index (SDI), Institutional Development Index (IDI), and Nature Development Index (NDI). Based on the availability of uniform data and its relevance to the development process, we have chosen 15 variables for each of the 102 countries during the period from 1996 to 2015. The variables are aggregated using weights derived from the Principal Component Analysis (PCA). The second objective of our study relates to classifying the countries based on their development profile. For this purpose, we have employed the K- Means clustering methodology. However, before proceeding with clustering, we have analyzed the sub-indices using the Grey Relation Analysis (GRA).

The results from clustering classify countries into four clusters with twelve countries in the first cluster, fifty in the second, twenty-seven and thirteen countries in third and fourth clusters respectively. The third objective is to analyse the dynamic relationship between the various dimensions of development as captured by its sub-indices. The short-run panel causality tests and the panel ARDL methodology is used for this purpose. The results from the clusters and in the overall sample show that the relationship and dynamics in the development pattern are unique for each cluster. In short, this study offers a broader measure for development (BBDI) and provides insights into the development process and its dynamics based on various aspects of development captured by EDI, SDI, IDI, and NDI. The final objective is to study the convergence phenomena within the clusters. This will help to understand the process of development within the clusters. Convergence is analysed using the Phillips and Sul methodology. The results from the convergence test reveal the absence of overall convergence in clusters leading to the formation of clubs within clusters that converge.

Languages & Literature

English

The department encourages research work in wide-ranging and constantly evolving interdisciplinary areas alongside traditional areas of English Literature Studies. Ecocriticism, Climate Change, Indian Aesthetics, Sanskrit Poetics, Indian Writing in English, Indian Bhasha Literatures in English Translation, Cognitive Poetics, English Language Teaching and Linguistics, Postcolonial Literature, Popular Culture Studies, Cross-Cultural Romantic Literature, Modern Fiction, Contemporary Novel, South Asian Writing, Modern European Classics, Twentieth-Century Drama, Life Writing, American Literature, Trauma Studies, and Media Studies constitute some of the research interests of the faculty members and Ph.D. scholars.



The Traumatic Cycle: A Study on Trauma as Experience and Framework in Kashmiri Literature in English

The research aims to study the issues associated with trauma as an experience, presence, and absence in Kashmiri literature written in English. The project emphasizes the singularity of the issue in an attempt to address trauma as a symptom and urges action to put an end to the traumatic cycle.

Use of Indian Aesthetic Theories in Reading English Literature

The research area seeks to expand the scope of Sanskrit poetics and find wider application for Indian aesthetic theories such as Dhvani, Rasa, and Alankara in the analysis of works belonging to the tradition of English Literature. The study aims to establish the universality of Sanskrit poetic theories even as it acknowledges the specific cultural and linguistic matrices that conditioned the development of Sanskrit aesthetic approaches. In making Sanskrit poetics available for the scrutiny and appreciation of English Literature, the focus is mainly on the theory of Dhvani.

Developing a Comprehensive Framework for Testing Communicative Competence in Communication-Intensive Sectors in the Indian Workplace

In the field of Applied Linguistics, the theory of communicative competence is a theoretical framework, and several models have been developed since 1972 by linguists ranging from Dell Hymes to Celce-Murcia. There is a growing need for a shift from the LSRW skill-based assessment of language skills to a linguistic and paralinguistic-based assessment of communicative competence. This study aims to design a comprehensive and effective model and develop a testing kit to test communicative competence in communication-intensive sectors in the Indian workplace. The proposed eclectic communicative competence model for workplace communicative competence and the testing kit are novel, as they are designed to include linguistic and paralinguistic parameters that will address the needs for a testing and training model that is more comprehensive and competent than the currently followed LSRW skills format.

Cognitive Poetics as an Approach in Reading Indian Poetry in English

This research seeks to explore the theory and technique of cognitive poetics in reading Indian Poetry in English. Cognitive Poetics is an interdisciplinary theoretical framework that combines Cognitive Stylistics with Cognitive Sciences. A cognitive literary study of poems will spell out the conceptual processes by which a poem, probably, was constructed, and by which it probably would be most consciously and conscientiously read. It will not only unravel the poets' mental

space of conceptualisation, but also systematically lead the readers towards their experience, culture, and context by examining their available text corpus. Therefore, in looking at the 'what' or the interpretations of the poems while explicitly stating the 'how' or the process through which such an interpretation was constructed, the study aims to both reveal and enlist the power of poetry to think about thinking.

Climate Crisis and Environmental Nightmares in Selected Novels of South Asian Writers

Environmental concern is one of the most debated areas of study in recent times as many prominent writers and critics have voiced their concerns about it and on it. Climate Change novel (Cli-fi) is one of the offshoot fields of ecocritical study. It has attempted to highlight the drastic effects of climatic change and its impact on human life. It offers a scientific approach to understanding the crisis that might befall life in the future. The research aims to understand the aspects of Climate Change Fiction that figure in the writings of South Asian writers and analyse the impact on readers and their response to the crisis. The research will create awareness among the young generation to be conscious of the environmental crisis and will help them in understanding that the crisis brought forth by climate change is not a hoax or just a random theory to be debated upon.

The "Quest for Transcendence"—Towards a Hermeneutic of Faith in the Emerging Spiritual Self in Selected Works of Cross-Cultural Romantic Poets, Interpreted through a Neo-Vedantic Lens

The thesis deals with a selection of cross-cultural Romantic poems, which deal with the emergence and evolution of the spiritual self through aesthetic practice. The process outlined in and deciphered from these poems addresses the 'fragmentation of the human psyche, an impact of 'modernity', which is witnessed worldwide with far-reaching consequences.

Self in Selected Novels of Iris Murdoch: An Upanishadic Reading Based on Archival Methods and Textual Analysis

Iris Murdoch has already been extensively studied from the perspective of Western philosophies and theories. The current research work examines selected novels of Iris Murdoch through the optics offered by Upanishadic perspectives on Self, thereby seeking to make an original contribution to Murdoch studies. The study draws on hitherto less examined sources such as commentaries from the author's archives. The work intends to establish a relationship between literature and spiritual philosophy by focusing on possible spiritual-philosophical interpretations of Iris Murdoch's novels. Also, the research work, interdisciplinary in nature, aims to find certain practical Vedantic pointers that one could focus on, in a post-modern world filled with perplexity and dissonance.



Management and Commerce

Behavioral Finance

The research explored the influence of behavioural factors in decision-making. The research questions applied to retail investors, fund managers, and corporations, examining the retail investor resilience, fund manager over-confidence, and corporate social media communications.

Social Entrepreneurship

The work focuses on the challenges faced by Indian social entrepreneurs in maintaining a balance between their social mission and financial sustainability. It also explores the role of cultural and universal values in effectively shaping their agency against the dynamic structural constraints.

Environmental Responsibility as a Part of CSR

The research aims to study the present approaches in Environmental Responsibility as a part of CSR (ER-CSR) and propose a framework for effective implementation and assessment of (ER-CSR) interventions in the Indian business context.

Behavioral Insurance

The research uses behavioral economics to provide a nuanced understanding of consumer decision-making in insurance markets. It investigates the role of behavioral factors in affecting demand for insurance and identifies behavioral interventions that can be used to help consumers make better insurance decisions.

Corporate Social Responsibility

Explores the role of Indian companies in improving the quality of secondary education through corporate social responsibility. The study follows mixed methods research to study the demand side requirements that can become opportunities for the supply side to carry out the effective implementation of their interventions. The study aims to identify the best practices and create a framework for the effective engagement of companies and NGOs in secondary education.

Organisational Learning and Green Supply Chain Management

The research study aims to empirically examine the relationship between Organisational Learning and Green Supply Chain Management practices from the standpoint of organizational members, to understand the subtleties of the concepts pertaining to the two, and examine their interplay in the Indian business context.

Rural Finance

Focuses on how the income of rural households can be augmented from alternative livelihood strategies, with a primary focus in the rural areas of Anantapur Region, Andhra Pradesh, India.

Rural Financial Inclusion

Agrarian Incomes are dependent on several variables like monsoons, irrigation facilities, government support, and access to credit. The agrarian household is the most vulnerable in case of negative fluctuations in any of these variables. This research seeks to understand the concept of 'Financial well-being' of agrarian households, through the lens of Financial Inclusion. Access to formal financial services should augment their efforts towards achieving stable and sustainable rural incomes.

Values-Centered Leadership

This research is an exploratory study of three renowned socio-political leaders - Mahatma Gandhi, Nelson Mandela, and Martin Luther King, Jr. using the grounded theory approach with data from published sources. The theoretical framework that emerged from the study of these leaders was validated through two questionnaire-based surveys on employees of business organizations to create a new scale of leadership called - 'holistic leadership'. This study addresses a significant gap in extant research - the absence of a study of the leadership and values of social/political leaders who lived their lives on a bedrock of values in the midst of facing ethical/moral challenges and social/political pressures.

Rural-Entrepreneurship

This study is about assessing the various entrepreneurship development programmes (EDPs) to suggest a model EDP that is suitable to boost rural development through rural entrepreneurship. It can improvise the legacy schemes for a better impact. The study can give suggestions to the government or private agencies about special focus areas to improve the socio-economic status. The framework thus developed can be used to replicate the impactful EDPs elsewhere.

Leadership Development

Current leadership research focuses on the 'becoming' of leadership via deciphering the 'being' of leadership with a hope to bridge the gap between conceptual ideas of leadership development and actual leadership practice. Within the area of leadership development in a VUCA world, resilience has gained much attention. Resilience is not an end state but a process of adaptation and growth within a risky landscape. This research aims to understand resilience through a developmental lens and suggest strategies to develop resilience for future leaders.



Sustainable Consumption

The research includes factors affecting sustainable consumption among Indian individuals. It also discusses the sustainability of sustainable consumption in terms of life satisfaction and happiness provided by such a lifestyle change. The research is about the atomic habits that can make a huge difference in an individual's environmental footprint.

Microfinance

This research aims to develop a novel risk management framework to manage the credit risk facing Microfinance institutions. The novelty lies in the combining of traditional credit risk management techniques with actuarial techniques. This could ensure robust and predictable credit risk management of Microfinance institutions which could ensure their sustainability.

Mathematics and Computer Science

Differential and Fourier Analysis

Global problems of hyperbolic equations are addressed using new metrics and their associated pseudo-differential calculus. New identities for partial fractions of cyclotomic polynomials are derived. The identities are applied to several problems in the area of partition of numbers. Further, using Fourier analysis, the Fourier-Dedekind sums and the associated reciprocity theorems are generalized.

Studies on the controllability of various kinds of differential equations with instantaneous as well as non-instantaneous impulses in abstract spaces are carried out. The research focus is to get insight into the different types of controllability, existence, and stability of solutions of fractional differential equations. For example, the existence and uniqueness of solutions for Caputo-Hadamard fractional differential equation with impulsive boundary conditions are attempted.

Studies related to qualitative properties of solutions of generalized higher-order systems ordinary differential equations are in progress. Conditions guaranteeing solutions of such systems with certain asymptotic properties are being worked out.

The classical cubic spline does not give appropriate solutions if the non-homogeneous differential equation involves a continuous function that is not differentiable. Since the classical cubic spline is a particular case of fractal spline, a method to solve the two-point BVPs using the cubic spline FIFs through moments is proposed.

Fractal interpolation is a modern and advanced tool to analyze various scientific and natural data that are non-smooth in nature. We proposed a new family of C1-rational cubic trigonometric fractal interpolation functions (RCTFIFs) that are the generalized fractal versions of the classical rational cubic trigonometric polynomial spline to analyze different shape-preserving properties of a given data.

Mathematical Modelling

Studies on the within-host modeling of COVID-19 with respect to crucial inflammatory mediators and the efficacy of multiple drug interventions at specific sites of pathogenesis are in progress. An optimal drug regimen for treating COVID-19 based on combined therapy is being proposed. Also, research is carried out on ecological models with specific applications to pest control and biological conservation. For example, additional food supplements as a tool for biological conservation of Predator-Prey Systems were studied extensively.

Riemannian Geometry of Complex and Contact Spaces

The study of Ricci solitons has become a very hot topic of research and more so because Perelman turned down three world prestigious prizes awarded to him. Perelman (2002) used Hamilton's Ricci flow with surgery to prove Poincare and Thurston conjectures. A seminal result of Perelman asserts that a compact Ricci soliton is gradient. Silva Filho proved the same conclusion for Ricci solitons admitting a closed homothetic vector field. Further, gradient Ricci solitons and (m, ρ) quasi-Einstein manifolds admitting a closed conformal vector field were studied by Diogenes et al. and Demirbag, Guler respectively. Motivated by their works we investigated a generalized m -quasi Einstein manifold M endowed with a closed conformal vector field V and obtained an explicit expression of the Ricci tensor and showed that i) M is conformally flat in dimension 4, ii) Cotton and Bach tensors of M vanish in dimension > 3 , iii) M is a warped product of an open real interval with an Einstein manifold, in particular, a cone over an Einstein manifold when V is homothetic. Also, we obtained an integral formula and a rigidity result.

The Yamabe flow is a natural geometric deformation to metrics of constant scalar curvature and corresponds to the fast diffusion case of the porous medium equation (the plasma equation) in mathematical physics. Just as a Ricci soliton is a special solution of the Ricci flow, a Yamabe soliton is a special solution of the Yamabe flow that moves by a one-parameter family of diffeomorphisms generated by a time-dependent vector field on the manifold M , and homotheties. Sharma studied Yamabe soliton in the framework of contact Riemannian geometry and proved that a 3-dimensional Yamabe soliton whose metric is Sasakian, has constant scalar curvature, and the associated vector field V is Killing. In our



research, we have generalized this result in any dimension and further validated it on a K-contact manifold when it is compact or gradient.

Graph Theory

Domination in graphs is one of the interesting and fastest-growing areas in Graph Theory in terms of both theory and applications. The current research involves a theoretical approach of finding the bounds of domination parameters and their respective separation problems with pawns on chessboard graphs. The work was carried out on a few domination parameters like perfect domination and independent domination on different shaped boards like square and hexagon. Independence separation with pawns on rectangular boards and hexagonal boards was done. The total number of solutions and fundamental solutions for the queens' independence separation on an $m \times n$ board were found using python programming.

Explainable AI

In the current data-driven world of scientific investigation and business processes, AI models have found a strong acceptance. However, it is noteworthy that most of these Machine Learning or Deep Learning models can be classified as what are called "Black Box Models". Meaning the outcome of the models, though useful, the user does not have any clue as to how the model has arrived at the conclusion. This brings the issue of trust and reliability into the game. This becomes extremely important in domains like healthcare and medicine. In order to make these black-box models trustworthy and acceptable to the user community, it is important to augment the models with another component to explain the decisions. That is the field of Explainable AI or XAI. A group of researchers in DMACS are working to develop such XAI models. The work aims to develop techniques and tools to explain the working of a trained black box model using formal concept lattice.

Machine and Deep Learning

Compositionality, the property of data being comprised of a hierarchy of semantic properties, is important to the way data is processed. Deep learning research has not had as much work studying the compositionality of models and their representing compositional data, specifically for image data. We study the compositionality of capsule networks for image data and develop a model that can behave appropriately to non-compositional data, even if the prototypes are present.

Actuarial Data Science

Research in this area at SSSIHL aims at integrating the strengths of several Data Science Techniques with Actuarial Science. With the aim, to develop data-driven models to support and enhance the implementation of actuarial models, the group strives to build effective and efficient actuarial data science models which is a key factor in the growing domain of the insurance industry, especially in India. Fraud detection, enhancing operational efficiency in the insurance industry, and enterprise risk management are some of the broad areas of focus. The group primarily work in developing and implementing blended models by integrating actuarial methods like Extreme Value Theory, GLM, applied statistical model with methods from Big Data Analytics, AI, and HPC.

Physics

Surface-Enhanced Raman Spectroscopy (SERS) is a well-known detection technique that results in the enhancement of Raman signals of molecules in the presence of a metal surface. Catecholamine neurotransmitters, which have a significant impact on attention span, motivated behaviours, learning, and memory have been studied using SERS. Experimentally, the fabrication of a simple, inexpensive, A4-paper-based SERS substrate is performed. Under similar experimental conditions, this substrate shows enhancement greater than even a commercially available substrate, fabricated by SERSitive Inc. We can report the detection of Dopamine down to $1 \mu\text{M}$, and Norepinephrine and Epinephrine down to $10 \mu\text{M}$ concentrations. Density Functional Theory (DFT) studies of the Catecholamine neurotransmitters were carried out in the presence of small silver clusters to understand the interaction of these compounds with silver. Increasing Raman activity is observed for an increasing number of atoms in the silver cluster.

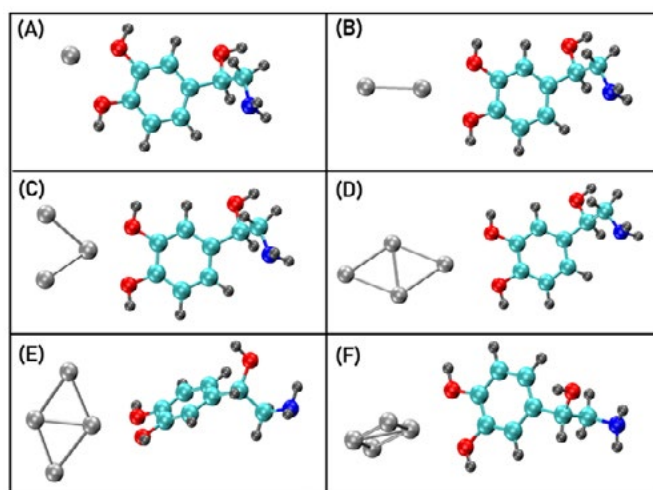


Fig: Optimized Geometries of a Catecholamine in the presence of silver clusters, obtained by DFT



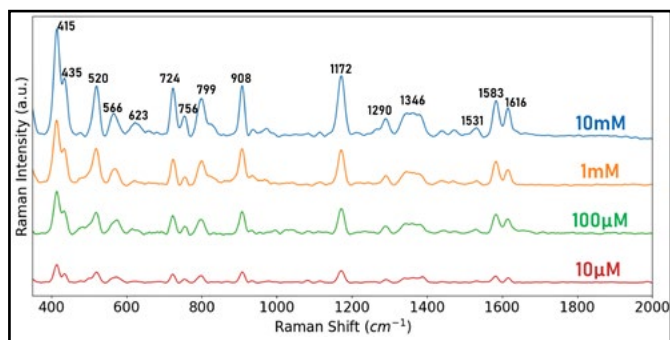


Fig: Experimental SERS demonstrating detection of Catecholamines down to 10 μ M concentrations.

Functional Materials and Composites

Multifunctional rare-earth orthoferrites (RFeO_3 , where $\text{R} = \text{Nd}^{3+}, \text{Gd}^{3+}, \text{Sm}^{3+}$, etc.) are widely being researched upon due to their exhibition of various physical properties. These qualify orthoferrites for a variety of applications that include capacitors, memory devices, magneto-electric sensors in transducers, spintronic devices, and microwave electronic devices. These exciting properties emerge from the interaction between spin, charge, and orbital ordering and their dependence on lattice distortion. The structural deformation of orthoferrites could be comprehended by the degree of tilting in the fundamental component, FeO_6 octahedra, which arises due to the mismatch of ionic radii between R and Fe in RFeO_3 . As a consequence, the lattice distortion significantly influences their properties. Therefore, our research emphasis is on the effect of monovalent, divalent, trivalent, and multivalent cation doping on structural distortion and their influence on optical and magnetic properties.

The functional materials research group has fabricated binary and ternary nanocomposite films composed of Tin Ferrite and Lanthanum Nickelate nanoparticles embedded in the polymer Polyvinylidene Fluoride (PVDF). The flexible and lightweight films have predominantly the electroactive γ -phase of PVDF. The films show superparamagnetic behaviour and have good dielectric properties, including a low dielectric loss. This holds promise in applications such as environmental remediation, magnetic separation, micro-electronics, and ultra-large-scale integration.

Electronic Structure Calculations

Electronic structure calculations using density functional theory and the calculation of band structure-dependent thermoelectric transport properties using the semiclassical Boltzmann transport theory were carried out in Full Heusler and Half Heusler alloys, Quaternary chalcogenides, and Brownmillerites.

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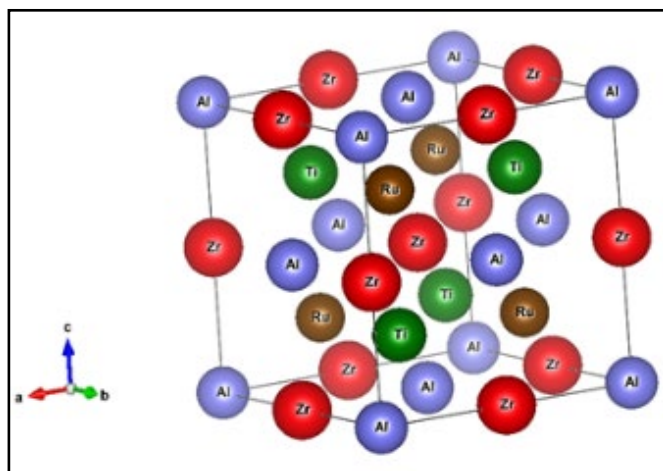


Fig: Unit cell of Quaternary Heusler Alloy RuZrTiAl

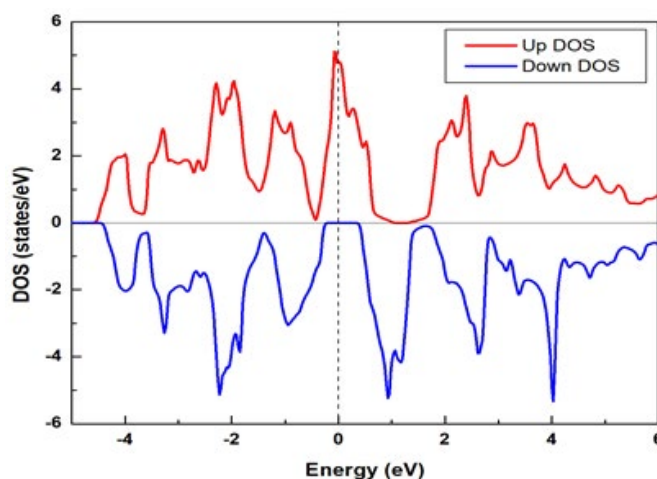


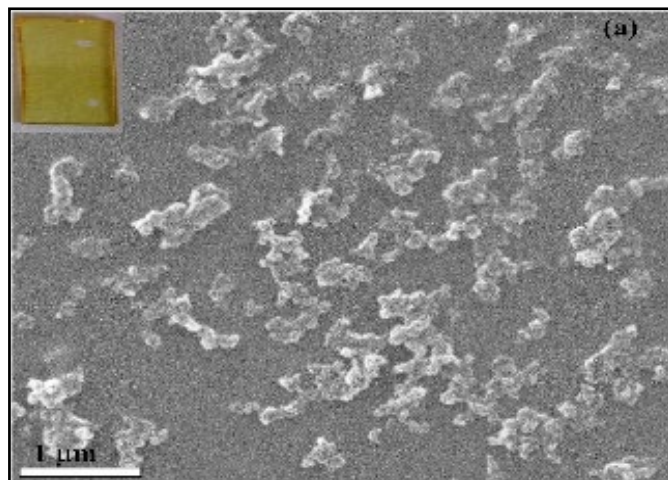
Fig: Spin resolved Density of States of Quaternary Heusler Alloy RuZrTiAl



Glasses and Glass Nanocrystal Composites

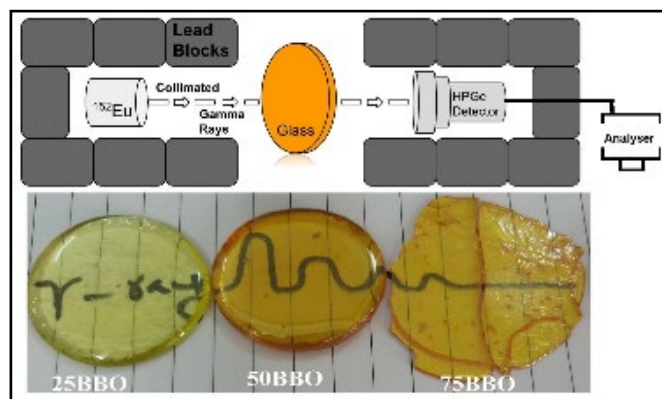
Silver nanocrystal glasses

Glasses embedded with metal nanocrystals (NCs) have been investigated for optoelectronic, photonic, and biomedical applications due to their surface plasmon resonance characteristics and antibacterial properties. There exists great importance in understanding the nucleation and growth characteristics of the metal nanocrystal in the glasses. Non-isothermal crystallization-kinetic studies have been carried out on the pristine Na^+ to Ag^+ ion-exchanged soda-lime-silicate glasses to understand the silver (Ag) nanocrystals nucleation- growth in the glass matrix. Our results suggest the heterogeneous surface nucleation and 1-D growth of the Ag nanocrystallites in the glass matrix. The present study gives crystallization and kinetic features of Ag metal NCs embedded in the glasses which will be helpful in tuning, modifying, limiting, and controlling the Ag NCs growth.



Dense Lead-free Glasses for Radiation Shielding Applications

Nuclear radiation such as gamma (γ)-rays are widely used in medical, agricultural, industrial, nuclear power plants as well as academic (high energy physics laboratories) and scientific applications. For the potential and safe exercise of ionizing γ -radiation, the development of environmentally friendly radiation shielding materials is of great interest. Transparent glass-based radiation shielding materials provide a visual inspection of the radiation environment and the equipment accessories as desired by the engineers and technicians. Lead-free glasses in the binary bismuth-borate system, $x\text{Bi}_2\text{O}_3-(1-x)\text{B}_2\text{O}_3$ (BBO), $x=0.25, 0.5$, & 0.75 were prepared with high density $5.5 - 8.29 \text{ g/cm}^3$. Gamma radiation shielding properties of the dense BBO glasses were investigated by calculating mass attenuation coefficients, effective atomic number, and different buildup factors. Transparent dense binary bismuth borate glasses showed better shielding properties and promising for radiation shielding in radiological applications.



Nanomaterials for Remediation of Contaminants from Water

The presence of contaminants in groundwater is a global problem and fluoride is one such hazardous contaminant. The hazardous impacts of high levels of fluoride in water on human health necessitate defluoridation. Towards this direction, Ceria incorporated trititanate nanotubes composite (CTNC) was designed and developed as an efficient defluoridating material for real-time groundwater. It could remove 90% of fluoride from water at neutral pH in just 1 min of contact time and a maximum of 97% within 15 minutes of its contact with the fluoride in water. CTNC exhibited the characteristics of an ideal adsorbent such as high adsorption capacity of 65 mg/g , ultrafast kinetics with 90% fluoride removal in 1 min, and pH-independent adsorption. These attractive characteristics enabled the applicability of CTNC for real-time use. CTNC successfully remediated the groundwater samples, collected from the Anantapur District of Andhra Pradesh, bringing down the fluoride content in them to the permissible WHO limits ($\leq 1.5 \text{ mg/L}$) without altering its pH within a short span of 15 min. The stability of CTNC in terms of negligible leaching of metal ions and good regeneration capacity while defluoridating groundwater, makes it an attractive and potential nanomaterial for designing real-time fluoride water filters for households.

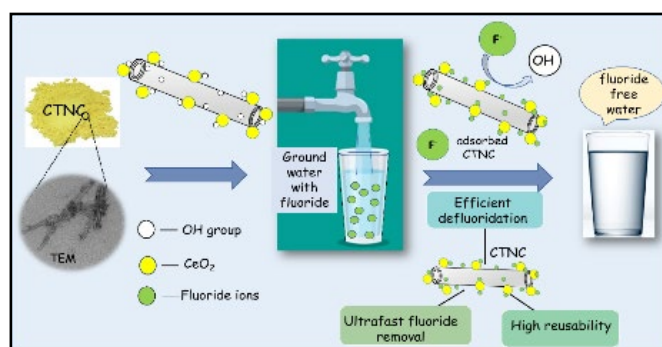


Fig: Pictorial depiction of removal of contaminants from water using nanoadsorbents



Development of Lab on Chip platforms for Biomedical Applications

Lab on Chip (LoC) can perform multiple fluidic functionalities and sensing functionalities with very small volumes of samples. LoCs are highly compact, mobile and can be integrated with optical (Waveguides, filters, couplers, etc.) and electric elements (2D / 3D metallic micro/ nanostructures, microelectrodes, micro heaters, etc). Due to this (LoC) has revolutionized the fields of biochemistry, chemical synthesis, drug development, and medical diagnostics.

Realizing Fused Silica-based LoCs have several advantages over Polymer-based LoCs and Femtosecond Laser Micromachining (FLM) is emerging as an alternative tool for photo Lithographic methods for realizing fused silica-based LoC prototypes. Using FLM all the components of an LoC such as microchannels, waveguide/ coupler/splitter, and microelectrodes and/or metallic micro/nanostructures can be easily fabricated. Our research group focusses on fabricating Fused Silica-based LoC platforms for biomedical applications using a Femtosecond Laser

i) Realization of Rectangular Microchannels for LoCs.

We fabricate truly rectangular buried microchannels of record lengths in fused silica, using a novel femtosecond laser irradiation geometry, at 1030 nm, followed by chemical etching in hot KOH alone. As the result of a judicious choice of the laser parameters and writing geometry, an effective chemical etching rate of 500 microns per hour in the laser-irradiated region is achieved, competing with the traditional and hazardous HF-based etching, and faster than all earlier reports with KOH. This has resulted in the longest reported (6 mm) rectangular, microchannels, in a record etching time of 6 hours. Linear and Cross microchannels have been fabricated with mean surface roughness less than 200 nm of the sidewalls. These results have been validated using an optical microscope, SEM, and AFM imaging. The use of fused silica, the much-eased safety concerns with KOH, the simplicity of our method, together with the enhanced ability to image from the top surface of smooth, rectangular, buried micro-channels, will motivate microfluidics for Optofluidic lab-on-chip applications, especially for biomedical diagnostics.

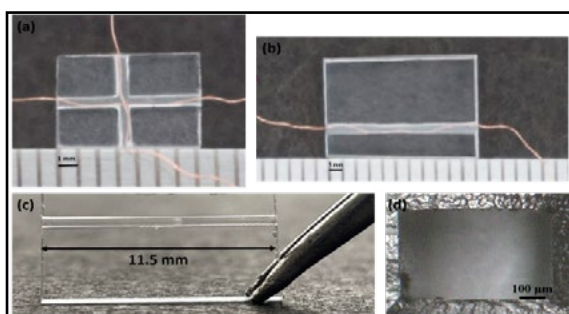


Fig: Cross and Linear rectangular Microchannels fabricated in fused silica using a femtosecond Laser

ii) Fabrication of Micro/ Nano Metallic Structures Inside a Microchannel for Surface-Enhanced Raman Scattering (SERS) Applications.

Surface-Enhanced Raman Scattering (SERS) has emerged as a very powerful analytical tool due to its unique capability of molecular fingerprint detection. Integration of SERS onto microfluidic platforms will enable the study of liquid samples, especially for point-of-care medical diagnostics and Biology. Fabrication of uniform, reproducible and large area microfluidic SERS substrates are essential in order to get consistent results especially while dealing with samples in liquid form. Femtosecond Laser Micromachining as a tool is being extensively used in various fields as it gives consistent and reproducible results. In the present work, we integrated SERS substrate onto a fused silica-based microfluidic channel by employing Femtosecond Laser Sintering of Silver Nano Particles. Due to the inherent advantages of Femtosecond Laser Micromachining, uniform and large-area SERS substrates were fabricated to study the SERS of liquids. The parameters suitable for the fabrication of SERS substrates in a microfluidic channel are discussed. The Average Enhancement Factor of the SERS signals is correlated with the Femtosecond Laser Sintering parameters. As a proof of concept, we have demonstrated the SERS studies of 1 mM Rhodamine-6G (in water) solution. Reproducibility of the SERS results was verified and an Average Enhancement Factor of 104 is achieved. This facile fabrication add nuances to the glass-based microfluidic channels to perform SERS measurements

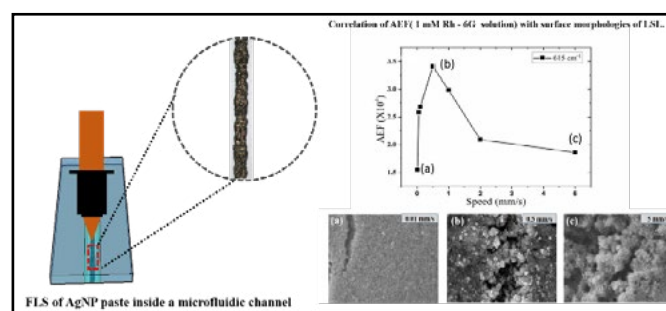


Fig: Laser Sintering of Silver nanoparticles inside a micro channel for SERS applications.

(iii) Fabrication of Waveguides for Optical Sensing in LoCs

Waveguides have been fabricated in a fused silica substrate by varying the wide number of laser parameters. This systematic study is very important to identify the most suitable laser parameters for fabricating low-loss waveguides. Laser parameters such as laser power, wavelength (515 and 1030 nm). Laser polarization and writing speeds were varied to identify the suitable laser parameters for low-loss waveguide fabrication. Following is the waveguide characterization.



Funded Research Projects

SSSIHL continues to pursue needs-based research that will help alleviate problems affecting the poorer sections of society. During the academic year 2020/21, the total value of ongoing projects at the University was ₹9.13 Crores.

Biosciences

Perturbation in Metabolic Pathways Might Drive Avascular Necrosis of Femoral Head by Modulating Bone Biology: Mechanisms, Potential Biomarkers, and Therapeutic Targets
DST - SERB
₹60.8 Lakhs

Mechanism of Resistance Involved in the Emergence of Nitrofurantoin Resistance Among Uropathogenic Enterobacteriaceae
Indian Council of Medical Research (ICMR)
₹60 Lakhs

Developing a Prediction Model for Determining Probability of Harboring ESBL Producing Enterobacteriaceae in UTI
BIRAC - PACE- CRS
₹136.95 Lakhs

Grant for Infrastructural Support to the Department of Biosciences
UGC SAP DRS III
₹111 Lakhs

Chemistry

REsCUE Device: Rapid Estimation of COVID-19 Based on Ultrasensitive Emission Detection
SSSIHL-CSR
₹120 Lakhs

Synthesis Water Treatment of Identified Physico - Chemical Parameters in the Three Mandals of Anantapur District of Andhra Pradesh
4S Foundation
₹5.03 Lakhs

Synthesis of Novel Andrographolide Derivatives as Potential Anticancer and Antibacterial Agents
CSIR
₹24 Lakhs

Hand-held Mobile for Non-invasive Monitoring of Bilirubin in Neonates
Indian Council of Medical Research (ICMR)
₹64.45 Lakhs

Mobile Dengue Diagnostic Technology (m-DDT): A Smartphone-based Point-of-care Diagnostic Device
Defense Research and Development Organisation (DRDO)
₹40.67 Lakhs

Soneera: Surface-water Quality Observation 'N' elimination of Effluents Using Radio-frequency Transmitter Technology
Prasanthi Trust, USA
₹31.34 Lakhs

Food & Nutritional Sciences

Antidiabetic Evaluation of Indian Pigmented Rice Varieties: A Mechanistic Metabolomic Based Approach
Indian Council of Medical Research (ICMR)
₹24 Lakhs

XRF Based Profiling of Essential Minerals in Native and Bio-Processed Pigmented Rice Varieties
UGC-DAE-Consortium
₹1.35 Lakhs

Humanities and Social Sciences

Economics

A Structural Model of the Current Account of India's Balance of Payment Under the New Economic Policy Regime
Indian Council of Social Science Research (ICSSR)
₹3.15 Lakhs

Mathematics and Computer Science

Role and Interactions of Biological Markers in Causation of Type 1/Type 2 Leprosy Reactions: A In Vivo Mathematical Modelling with Clinical Validation
CSIR
₹15.60 Lakhs

Physics

Gamma-Ray and Ion Beam Irradiation Studies on Lead-Free Piezoelectric Ceramics and Their Polymer Composites
UGC-DAE-CSIR Kolkata
₹0.45 Lakh

Development of Dual-Purpose Nano Materials for Sensing and Adsorbing Heavy Metal Ions from Water
Kurita Water and Environment Foundation (KWEF) by Kurita Water Industries, Japan
₹2.75 Lakhs



Design and Development of Gamma-Florescence Dual Imaging Sentinel Lymph Node Navigation Surgery Intraoperative Probe

DAE-BRNS

₹98 Lakhs

FLAP-MED: Femtosecond Laser Assisted Prototyping of Micro Electro Optofluidic Devices

DST-AMT

₹48 Lakhs

Design and Development of Glass Based Optofluidic Platform by Femtosecond Laser Micromachining

DST-BDTD

₹46 Lakhs

Design and Development of Nano-material Based Dipstick and tea bags for Instant Removal of Fluoride from Water

Kurita Water and Environment Foundation (KWEF), Japan

₹3 Lakhs

UGC BSR Research Start-up Grant

UGC-BSR

₹10 Lakhs

Experimental Investigations on the Level Structures of Doubly Odd to Isotopes

UGC DAE CSR Kolkata Center

₹6.4 Lakhs



Research Publications in Peer Reviewed Journals

Biosciences

- S Skanda and B S Vijayakumar. Antioxidant and Antibacterial Potential of Crude Extract of Soil Fungus *Periconia* sp. **Arabian Journal for Science and Engineering**, (2021).
- Jayant K K and Vijayakumar B S. In-vitro Bioactive Potential of Endophytic Fungi *Curvularia Lunata* Isolated from Medicinal Plant *Ficus Religiosa*. **Int J Pharm Sci & Res** 2021; 12(8): 4322-30., (2021).
- S Skanda and B S Vijayakumar. Antioxidant and Anti-inflammatory Metabolites of a Soil Derived Fungus *Aspergillus arcovirens* SSSIHL 01. **Current Microbiology**, (2021).
- Kottapalli Kameswara Jayant, and Buddhan Sundaram Vijayakumar. In-vitro anti-oxidant and anti-Diabetic Potential of Endophytic Fungi Associated with *Ficus religiosa*. **Italian Journal of Mycology**, 50(2021), 10-20, (2021).
- Mukul Anand and Basavaraju R. A Review on Phytochemistry and Pharmacological uses of *Tecoma stans* (L.) Juss. ex Kunth. **Journal of Ethnopharmacology**, 265, 1-18, (2021).
- Mukul Anand and Basavaraju R. A Comparative GC-FID fatty Acid Profile of *Tecoma Stans* (L.) Juss. ex Kunth of Puttaparthi, Andhra Pradesh, India. **Current Botany**, 12, 16-21, (2021).
- Mukul Anand and Basavaraju R. Chemical Composition and in vitro Antioxidant Potential of *Tecoma Stans* (L.) Juss. ex Kunth. **Indian Journal of Nutrition and Dietetics**, 58(2), 222-243, (2021).
- Ranendra Pratap Biswal, Durga Prasad Patnana, Sujith Kumar Pulkool, Venketesh Sivaramakrishnan, Ashish Pargaonkar, and Rajesh Babu Dandamudi. Triterpene Profiling of Neem Exudate (Toddy) using HPLC-QTOF-MS and its Anti-inflammatory Activity. **Planta Medica International Open**, 8(1), e25-e33, (2021).
- Arumugam Natarajan, Abdulrahman I Almansour, Raju Suresh Kumar, Santhakumar Yeswanthkumar, Ramanathan Padmanaban, Yuvaraj Arun, Sevgi Kansiz, Necmi Dege, Thota Sai Manohar, and S Venketesh. Design, Stereoselective Synthesis, Computational Studies and Cholinesterase Inhibitory Activity of Novel Spiropyroolidinoquinoline Tethered Indole Hybrid Heterocycle. **Journal of Molecular Structure**, 1225(0), 129165, (2021).
- Sai Manohar Thota, Kimberly Chan, Sai Sanwid Pradhan, Bhavana Nagabushana, Priyanka G B, Sunil H V, Krishna Murthy Vinnakote, Sanjaya Viswamitra, Madhav Thambisetty, Dileep Kumar, Vivek Tiwari, Joshy E V, and Venketesh Sivaramakrishnan. Multimodal Imaging and Visually Evoked Potentials Reveal Key Structural and Functional Features that Distinguish Symptomatic from Pre-symptomatic Huntington's Disease Brain. **Neurology India**, (2021).
- Saha Rohini, Shalimar, Das P, Mishra P, Singh R, Pradhan S S, Venketesh Sivaramakrishnan, and Acharya P. Inflammatory Signature in Acute-on-Chronic Liver Failure Includes Increased Expression of Neutrophil Specific Genes ELANE, MPO, and CD177. **Scientific Reports**, 11(18849), 1-18, (2021).
- Rathnakumar, Sriram, Bhaskar, Seemesh, Rai, Aayush; Saikumar, Darisi V V; Kambhampati, Naga Sai Visweswar; Sivaramakrishnan, Venketesh; and Ramamurthy, Sai Sathish Plasmon-Coupled Silver Nanoparticles for Mobile Phone-Based Attomolar Sensing of Mercury Ions. **ACS Applied Nano Materials**, 2(8), 8066-8080, (2021).
- Biswal R, Durga P, Sujit Kumar, Venketesh Sivaramakrishnan, and Rajesh Babu. Triterpene Profiling of Neem Exudate Toddy using UHPLC QTOF MS and its Anti-inflammatory Activity. **Plant Medica International Open Journal**, 8(1), 25-33, (2021).
- Sai Krishna Srimadh Bhagavatham, Prakash Khanchandani, Vishnu Kannan, Damodaram Potikuri, Divya Sridharan, Sujith Kumar Pulkool, Ashwin Ashok Naik, Rajesh Babu Dandamudi, Sai Mangala Divi, Ashish Pargaonkar, Rahul Ray, Saibharath Simha Reddy Santha, Polani B Seshagiri, Narasimhan K, Narsimulu Gumdal, and Venketesh Sivaramakrishnan. Adenosine Deaminase Modulate Metabolic Remodeling and Orchestrates Joint Degradation in Rheumatoid Arthritis. **Scientific Reports**, 11(1), 1-22, (2021).
- Sujit Kumar Pulkool, Sai Krishna Srimadh Bhagavatham, Vishnu Kannan, Piruthivi Sukumar, Rajeshbabu Dandamudi, Shamika Ghaisas, Haripriya Kunchala, Darshan Saieesh, Ashwin Ashok Naik, Ashish Pargaonkar, Anuj Sharma, and Venketesh Sivaramakrishnan. Elevated Dimethylarginine, ATP, cytokines, Metabolic Remodeling Involving Tryptophan Metabolism and Potential Microglial Inflammation Characterize Primary Open Angle Glaucoma. **Scientific Reports**, 11(1), 1-19, (2021).
- Ashwin Ashok Naik, Aswath Narayanan, Prakash Khanchandani, Divya Sridharan, Piruthivi Sukumar, Sai Krishna Srimadh Bhagavadam, Polani B Seshagiri, and Venketesh Sivaramakrishnan. Systems Analysis of Avascular Necrosis of Femoral Head using Integrative



- Data Analysis and Literature Mining Delineates Pathways Associated with Disease. *Scientific Reports*, 10(18099), 1-20 (2021).
- Manmath Lama, Pachi Pulusu Chanakya, Balaram Khamari, Arun Sai Kumar Peketi, Prakash Kumar, Valakunja Nagaraja, and Bulagonda Eswarappa Pradeep. Genomic and Phylogenetic Analysis of a Multidrug-resistant Burkholderia Contaminants Strain Isolated from a Patient with an Ocular Infection. *Journal of Global Antimicrobial Resistance*, 25, 323-325, (2021).
 - Chanakya Pachi Pulusu, Balaram Khamari, Manmath Lama, Arun Sai Kumar Peketi, Prakash Kumar, Valakunja Nagaraja, and Bulagonda Eswarappa Pradeep. Draft Genome Sequence of Pandrug-Resistant Pseudomonas aeruginosa SPA03, Isolated from a Patient with Benign Prostatic Hyperplasia. *Microbiol Resour Announcements*, 10, e00336-21 (2021).
 - A Ebrahimi, M Sivakumar, C McLauchlan, A Ansari, and A S Vishwanathan. A Critical Review of the Symbiotic Relationship Between Constructed Wetland and Microbial Fuel Cell for Enhancing Pollutant Removal and Energy Generation. *Journal of Environmental Chemical Engineering*, 9(1), 105011, (2021).
 - A S Vishwanathan. Microbial Fuel Cells: A Comprehensive Review for Beginners. *3 Biotech*, 11(5), 248, (2021).
 - Balaram Khamari, Prakash Kumar, and Bulagonda Eswarappa Pradeep. Resistance to nitrofurantoin is an Indicator of Extensive Drug-resistant (XDR) Enterobacteriaceae. *Journal of Medical Microbiology*, 70(4), 001347, (2021).
 - Manmath Lama, Pachi Pulusu Chanakya, Balaram Khamari, Arun Sai Kumar Peketi, Prakash Kumar, Gopi Krishna Muddu, Valakunja Nagaraja, and Bulagonda Eswarappa Pradeep. Genomic Analysis of a Multidrug-resistant Brucella Anthropi Strain Isolated from a 4-day old Neonatal Sepsis Patient. *Journal of Global Antimicrobial Resistance*, 26, 227-229, (2021).
 - Pachi Pulusu Chanakya, Balaram Khamari, Manmath Lama, Arun Sai Kumar Peketi, Prakash Kumar, Valakunja Nagaraja, and Bulagonda Eswarappa Pradeep. Complete Genome Sequence of an Extensively Drug-resistant (XDR) M. morganii SMM01 Isolated from a Patient with Urinary and Fecal Incontinence. *BMC Genomic Data*, 22(27), (2021).
 - S Skanda, P S J Bharadwaj, Swayamsiddha Kar, V Sai Muthukumar and B S Vijayakumar. Bioremoval Capacity of Recalcitrant azo dye Congo Red by Soil Fungus Aspergillus arcoverdensis SSSIHL-01. *Bioremediation Journal*, (2021).
 - Aiyer K S, Rai R, and Vijayakumar, B S. Dye Reduction-based Electron-transfer Activity Monitoring Assay (DREAM) for Assessing Microbial Electron Transfer Activity of Microbial Fuel Cell Inocula. *Journal of Environmental Sciences* 96: 171-177, (2020).
 - Isha Sai and R Basavaraju. Antioxidant Properties of Two Wild Edible Mushrooms from Andhra Pradesh. *KAVAKA*, 54, 107-114, (2020).
 - Isha Sai and R Basavaraju. Nutritional Composition and Antimicrobial Activity of Two Wild Edible Mushrooms from Andhra Pradesh. *Research Journal of Agricultural Sciences*, 11(6), 1388-1394, (2020).
 - Isha Sai and R Basavaraju. Quantification of β -1, 3-D-glucan in two Wild Edible Mushrooms Collected from Andhra Pradesh, India. *Mushroom Research*, 29(2), 165-172, (2020).
 - Sai Manohar Thota, Venkatesh Balan, and Venketesh Sivaramakrishnan. Natural Products as Home-based Prophylactic and Symptom Management Agents in the Setting of COVID-19. *Phytotherapy Research*, 34(12), 3148-67, (2020).
 - Raju Suresh Kumar, Abdulrahman I, Almansour, Natarajan Arumugam, D Kotresha, Thota SaiManohar, and S Venketesh. Cholinesterase Inhibitory Activity of Highly Functionalized Fluorinated Spiropyrrolidine Heterocyclic Hybrids. *Saudi Journal of Biological Sciences*, 28(1), 754-61, (2020).
 - Almansour AI, Arumugam N, Kumar R S, Kotresha D, Manohar TS, and Venketesh S. Design, Synthesis and Cholinesterase Inhibitory Activity of Novel Spiropyrrolidine Tethered Imidazole Heterocyclic Hybrids. *Bioorg Med Chem Lett*. 30(2), 126789, (2020).
 - Prasanth G, Shweta S, Mukesh D, and Basavaraju R. Potential of Pyrroquinazoline Alkaloids from Adhatoda vasica Nees as Inhibitors of 5-LOX - A Computational and an in-vitro study. *Journal of Biomolecular Structure and Dynamics*, (2020).
 - Prasanth G, Mukesh D, and Basavaraju R. Alkaloids of Adhatoda vasica Nees as Potential Inhibitors of Cyclooxygenases - An in-silico Study. *Journal of Biomolecular Structure and Dynamics*, (2020).
 - Kartik M, Prasanth G, Sushank A, Gayathri C, Basavaraju R, and Mukesh D. Dual Inhibitors of SARS-CoV-2 Proteases: Pharmacophore and Molecular Dynamics Based Drug Repositioning and Phytochemical Leads. *Journal of Biomolecular Structure and Dynamics*, 39(16), 6324-6337, (2020).



Chemistry

- Vijay Sai Krishna Cheerla, Prasanth Ghanta, and C N Sundaresan. Design, Synthesis and in-silico Screening of Benzoxazole-thiazolidinone Hybrids as Potential Inhibitors of SARS-CoV-2 Proteases **RSC Advances**, 11, 39328-39342, (2021).
- Rokkam Siva Kumar, Mamta Yadav, Mayank Joshi, Angshuman Roy Choudhury, Dinkar Sahal, and Nageswara Rao Golakoti. Synthesis, in Vitro Anti-plasmodial Potency, in-silico-cum-SPR Binding with Inhibition of Pf Pyridoxal Synthase and Rapid Parasitocidal Action by 3, 5-bis {(E) arylidene}-N-methyl-4-piperidones. **New journal of Chemistry**, 45, 22150-22165, (2021).
- Sai Kiran M, Rajni Bhandari, Anita Nehra, Chelli Sai Manohar and Siva Kumar Belliraj. Zirconium-Cerium and Zirconium-Lanthanum Complexed Polyvinyl Alcohol Films for Efficient Fluoride Removal from Aqueous Solution. **Journal of Dispersion Science and Technology**, 42(10), 1550-1565, (2021).
- Sai Kiran M, Rajni Bhandari, and Anita Nehra. Self-assembled Cylindrical Zr (IV), Fe (III), and Cu (II) Impregnated Polyvinyl Alcohol-based Hydrogel Beads for Real-time Application in Fluoride Removal. **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, 610, 125751, (2021).
- Sai Prasad Nayak, Venkatesh Srinivasan, Pradeep Kumar Badiya, J K Kiran Kumar, and Sai Sathish Ramamurthy. Engineering Metal-dielectric Nanostructures Involving Silver Decorated Halloysite for Augmented Surface Plasmon-coupled Directional Emission. **Physica E: Low-dimensional Systems and Nanostructures**, 131, 114718 (2021).
- Bebeto Rai, Prasad V Sarma, Venkatesh Srinivasan, Manikoth M Shaijumon, and Sai Sathish Ramamurthy. Engineering of Exciton-Plasmon Coupling using 2D-WS2 Nanosheets for 1000-fold Fluorescence Enhancement in Surface Plasmon-Coupled Emission Platform. **Langmuir**, 37(5), 1954-1960, (2021).
- Nageswara Rao Golakoti, Swayamsiddha Kar, Prashant Rai, Chelli Sai Manohar, Akhir, Shivalingegowda, and Chopra. Exploring the unexpected formation of spirobenzopyrans and benzopyrylium salts and effect of Lewis acids on the Claisen-Schmidt reaction. **Journal of Molecular Structure**, 1240, 130598, (2021).
- Seemesh Bhaskar, Naga Sai Visweswar Kambhampati, K M Ganesh, Mahesh Sharma P, Venkatesh Srinivasan, and Sai Sathish Ramamurthy. Metal-Free, Graphene Oxide based Tunable Soliton and Plasmon Engineering for Biosensing Applications. **ACS Applied Materials, and Interfaces**, 13(14), 17046-17061, (2021).
- Seemesh Bhaskar, Prajant Jha, Chandramouli Subramaniam, and Sai Sathish Ramamurthy. Multifunctional Hybrid Soret Nanoarchitectures for Mobile Phone-based Picomolar Cu²⁺ ion sensing and Dye Degradation Applications. **Physica E: Low-dimensional Systems and Nanostructures**, 132, 114764 (2021).
- Pradeep Kumar Badiya, Sasidhar Siddabattuni, Debarshi Dey, Akkamahadevi C Hiremath, Raj Lakshmi Nalam, Venkatesh Srinivasan, Sridhar Vaitheswaran, Aarthi Ganesh, Yendluri Prabhakar, and Sai Sathish Ramamurthy. Task-sharing to Screen Perinatal Depression in a Resource-limited Setting in India: Comparison of Outcomes Based on Screening by Non-expert and Expert Rater. **Asian Journal of Psychiatry**, 62, 102738, (2021).
- Bebeto Rai, Dominik Suter, Venkatesh Srinivasan, Koushik Venkatesan, and Sai Sathish Ramamurthy. Concentration Effect in Surface Plasmon-Coupled Phosphorescence (SPCP) Emission Engineering with Augmented S-Polarization from N-Heterocyclic Carbene Platinum (II) Complexes. **The Journal of Physical Chemistry C**, 125(30), 16681-16688, (2021).
- Seemesh Bhaskar and Sai Sathish Ramamurthy. Synergistic coupling of Titanium carbonitride Nanocubes and Grapheme Oxide for 800-fold Fluorescence Enhancements on Smartphone-based Surface Plasmon-coupled Emission Platform. **Materials Letters**, 298, 130008, (2021).
- Aayush Rai, Seemesh Bhaskar, and Sai Sathish Ramamurthy. Plasmon-Coupled Directional Emission from Soluplus-Mediated AgAu Nanoparticles for Attomolar Sensing Using a Smartphone. **ACS Applied Nano Materials**, 4, 5940-5953, (2021).
- Bebeto Rai, Santhosh Bukka, Venkatesh Srinivasan, Noriyoshi Matsumi, and Sai Sathish Ramamurthy. 30 Seconds Procedure for Decoration of Titania Nanotube with Noble Metals as Metal-dielectric Spacer Materials Towards Tunable Purcell Factor and Plasmon-coupled Emission Enhancement. **Physica E: Low-dimensional Systems and Nanostructures**, 134, 11486, (2021).
- Rai Prashant, Chhetri P, Kar S, Malhar A, Srivastava, and Nageswara Rao G. Synthesis, Characterization and Structure-activity Relationship of Chalcone Derivatives with in Silico Insights. **Chemical Papers, Springer**, (2021).



- K V S Manichandrika and V Prathyusha. Quantum Mechanical Study on Physisorption of Dissolved Metal Ions in Seawater using Cellulose, Chitosan, and Chitin. *International Journal of Biological Macromolecules*, 183, 2109-2120, (2021).
- Pradeep Kumar Badiya, Sasidhar Siddabattuni, Debarshi Dey, Akkamahadevi C Hiremath, Raj Lakshmi Nalam, Venkatesh Srinivasan, Sridhar Vaitheswaran, Aarthi Ganesh, Yendluri Prabhakar, and Sai Sathish Ramamurthy. Effect of Mode of Administration on Edinburgh Postnatal Depression Scale in the South Indian population: A Comparative Study on Self-administered and Interviewer-Administered Scores. *Asian Journal of Psychiatry*, 66, 102890, (2021).
- Kar, Swayamsiddha, Abdul Akhir, Sidharth Chopra, Shinya Ohki, Balasubramanyam Karanam, and Nageswara Rao Golakoti. Benzopyrylium Salts as New Anticancer, Antibacterial, and Antioxidant Agents. *Medicinal Chemistry Research*, 30(4), 877-885, (2021).
- Malasala, Satyaveni, Anusha Polomani, Sai Manohar Chelli, Swayamsiddha Kar, Madhavi Venkata Yaddanapudi, and Srinivas Nanduri., Microwave-assisted Copper-mediated Tandem Approach for Fused Quinazoline Derivatives. *Organic & Biomolecular Chemistry*, 19(8), 1854-1859, (2021).
- Durga Prasad Patnana, Ranendra Pratap Biswal, Rajesh Babu Dandamudi, Chandra S, and Meera Pandey. Simple HPLC-DAD-based Method for Determination of Ergosterol in Lichens and Mushrooms. *Journal of Liquid Chromatography & Related Technologies*, 44(3), 229-234, (2021).
- Ranendra Pratap Biswal, Durga Prasad Patnana, Sujith Kumar Pulukool, Venketesh Sivaramakrishnan, Ashish Pargaonkar, and Rajesh Babu Dandamudi. Triterpene Profiling of Neem Exudate (Toddy) Using UHPLC-QTOF-MS and its Anti-inflammatory Activity. *Planta Medica International Open* 8, no. 01: e25-e33. (2021)
- Beбето Rai, Robert Malmberg, Venkatesh Srinivasan, K M Ganesh, Naga Sai Visweswar Kambhampati, Abhay Andar, Govind Rao, Carani B Sanjeevi, Koushik Venkatesan, and Sai Sathish Ramamurthy. Surface Plasmon-Coupled Dual Emission Platform for Ultrafast Oxygen Monitoring After SARS-CoV-2 Infection. *ACS Sensors*, (2021).
- Ram Murthy, Parth Gupta, and C N Sundaresan. Theoretical and Electrochemical Evaluation of 2-thioureidobenzheteroazoles as Potent Corrosion Inhibitors for Mild Steel in 2 M HCl Solution. *Journal of Molecular Liquids*, 319, 1-11, (2020).
- Nitesh Tamang, Ramamoorthy, G, Joshi, M, Choudury, A. R, Kumar, S, Mukesh Doble and Nageswara Rao Golakoti. Diarylidene cyclopentanone Derivatives as Potent Anti-inflammatory and Anticancer agents. *Medicinal Chemistry Research*, 29(9), 1579-1589, (2020).
- Seemesh Bhaskar, Pratyusha Das, Venkatesh S, Shivakiran Bhaktha B N, and Sai Sathish Ramamurthy. Bloch Surface Waves and Internal Optical Modes-Driven Photonic Crystal-Coupled Emission Platform for Femtomolar Detection of Aluminum Ions. *The Journal of Physical Chemistry C*, 124(13), 7341-7352, (2020).
- Seemesh Bhaskar, Maku Moronshing, Venkatesh Srinivasan, Pradeep Kumar Badiya, Chandramouli Subramaniam, and Sai Sathish Ramamurthy. Silver Soret Nanoparticles for Femtomolar Sensing of Glutathione in a Surface Plasmon-Coupled Emission Platform. *ACS Applied Nano Materials*, 3(5), 4329-4341, (2020).
- Seemesh Bhaskar, Adarsh Kumar Singh, Pratyusha Das, Palash Jana, Sriram Kanvah, Shivakiran Bhaktha B N, and Sai Sathish Ramamurthy. Superior Resonant Nanocavities Engineering on the Photonic Crystal-Coupled Emission Platform for the Detection of Femtomolar Iodide and Zeptomolar Cortisol. *ACS Applied Materials & Interfaces*, 12(30), 34323-34336, (2020).
- Seemesh Bhaskar, Ramay Patra, N Charan, S S Kowshik, K M Ganesh, Venkatesh Srinivasan, Prathap Chandran S, and Sai Sathish Ramamurthy. Nanostructure Effect on Quenching and Dequenching of Quantum Emitters on a Surface Plasmon-coupled Interface: A Comparative Analysis using Gold Nanospheres and Nanostars. *Physica E: Low-dimensional Systems and Nanostructures*, 124(114276), (2020).
- Sai Prasad Nayak, Sai Sathish Ramamurthy, and J K Kiran Kumar. Green Synthesis of Silver Nanoparticles Decorated Reduced Graphene Oxide Nanocomposite as an Electrocatalytic Platform for the Simultaneous Detection of Dopamine and Uric Acid. *Materials Chemistry and Physics*, 252, 123002, (2020).



Education

- B Sai Soujanya Kumari and P Lavanya. Integration of Values Through a Pedagogy of Biological Science Among Secondary School Children-A study. **Shodh Sarita: An International Bilingual Peer Reviewed Refereed Research Journal (UGC Care Listed Journal)**, 8(29), 108-112, (2021).
- Supriya C P and Madhu Kapani. Impact of Value Education on the Socialisation of Adolescents Studying in Residential and Non-residential schools. **Pedagogy of Learning**, 6(3), 01-06, (2020).
- M Meera and Anuradha R K. A Comparative Study to Assess Nutritional Games and Modified Hearth Approach for Adolescents. **International Journal of Advance Research, Ideas, and Innovations in Technology**, 6(4), 93-98, (2020).
- Y Shanmuganathan and M Meera. Impact of Communication Technique Used for the Application of Health Education on COVID-19 Control and Prevention. **International Journal of Medicine and Health Profession Research**, 7(2), 75-82, (2020).

Humanities and Social Sciences

Food & Nutritional Sciences

- Andallu B and Shobha RI. Protective Effects of Phytochemicals in Aniseed Extracts. **Spinco Biotech: Cutting Edge**, 28-33, (2021).
- Ashrita C Haldipur and N Srividya. A Comparative Evaluation of in vitro Antihyperglycemic Potential of Bamboo Seed Rice (*Bambusa arundinacea*) and Garudan Samba (*Oryza sativa*): An Integrated Metabolomics, Enzymatic and Molecular Docking Approach. **Journal of Cereal Science**, 99, (2021).
- Ashrita C Haldipur and N Srividya. In vitro Glycemic Response of Indigenous Pigmented Rice Cultivars from South India and Influence of Different Carbohydrate Components. **Current Research in Nutrition and Food Science**, 8(3), (2021).
- V Harshini, H Sai Gayathri and A Padmaja. Development of Muntingia Calabura Fruit-based Squash. **Asian Journal of Dairy and Food Research**, 39(3), 256-260, (2020).
- Himaja K and Meera M. Development and Nutritional Analysis of Sorghum Millet-Nut Bar. **Journal of Ready to Eat Food**, 07(03), 39-43, (2020).
- Avanthika K and Meera M. Development and Shelf-life Studies of Pea Enriched Gluten-free Cookies. **International Journal of Advance Research, Ideas, and Innovations in Technology**, 6(3), 1083-1089, (2020).
- Sai Dharshini S and Meera M Formulation. Development and Sensory Acceptability of High-calorie Snack Bars. **International Journal of Advance Research, Ideas, and Innovations in Technology**, 6(4), 317-322, (2020).
- Sayel Basel, Gopakumar K U, and R Prabhakara Rao. Testing Club Convergence of Economies by Using A Broad-Based Development Index. **Geojournal**, 86(5), 2351 - 2365, (2021).
- Kaushik Narayan S, Abishek V M, Gopakumar K U, Bharath T, Milind V P, and Khanchandani P. Displaced Midshaft Clavicle Fractures in Adults - Is Non-Operative Management Enough? **Injury, Elsevier Publications**, 52, 493-500, (2021).
- Vikram G N and Gopakumar K U. Determinants of Volume of IPOs In India: A Count Model with Overdispersion. **Economic Research Guardian**, 11(1), 27-46, (2021).
- B C Sutradhar and R Prabhakara Rao. Asymptotic Inferences in a Doubly-Semi-Parametric Linear Longitudinal Mixed Model. **Sankhya A: The Indian Journal of Statistics**, (2021).
- Sayel Basel, Gopakumar K U and R Prabhakara Rao. Classification of Countries Based on Development Indices by Using K-Mean and Grey Relational Analysis. **Geojournal**, (2021).
- Sayel Basel, R Prabhakara Rao, and Gopakumar K U. Analysis of Club Convergence for Economies: Identification and Testing Using Development Indices. **Asia-Pacific Journal of Regional Science**, (2021).
- Sayel Basel, R Prabhakara Rao, and Gopakumar K U. Causal Relationship Among Various Development Indices: A Panel Study. **The Indian Journal of Economics and Development**, 17(3), 624 - 631 (2021).
- Sai Raj Sekhar Ch and Raghavender Raju G. Determination and Stabilization Issues of India's Exchange Rate - A Game Theoretic Approach. **Journal of Economic Policy and Research**, 15(2), 14-34 (2020).



- Ramakrishnan R and Raghavender Raju G. Analysis of The Sustainability of India's Current Account Deficit. *Journal of International Economics*, 11(2), 2 - 18, (2020).
- Rajbhushan J Nayak, V Pandit, and Gopakumar K U. Structural Modeling of Fiscal Structure for Policy Analysis: A Case Study of India. *Theoretical and Applied Economics*, 27(3), 139-160, (2020).
- R Prabhakara Rao and B C Sutradhar. Multiple Categorical Covariates-Based Multinomial Dynamic Response Model. Sankhya A: *The Indian Journal of Statistics*, 82(1), 186-219 (2020).
- Yoshino Naoyuki, Rajendra N Paramanik, Gopakumar K U F Taghizadeh-Hesary, M L Revilla, and K E Seetha Ram. An Aggregate Level Macro Model for The Indian Economy, *Asian Development Bank Institute*, Working Paper No. 1201, (2020).
- Majumdar S and A K Behera. Understanding the Complexity of Language Through A Feminist Lens: Re-Reading Charlotte Perkin's The Yellow Wallpaper. *The Dawn Journal*, 9(3), 1466-1468, (2021).
- Vivek Chauhan. Providential Dispensation of Justice in Silas Marner, *International Journal of English Literature and Social Sciences*, 5(4), 1262-1265, (2020).
- Vivek Chauhan. Allegiance and Honour in The Bride of Lammermoor. *International Journal of English Language, Literature and Translation Studies*, 7(3), 215-219, (2020).
- Vivek Chauhan. Dickens and The Universal Relevance of His Veiled Message in A Christmas Carol. *The Literary Herald*, 6(3), 207-210, (2020).
- Vivek Chauhan. Fagin, The Avaricious Benefactor, and Teacher in The Parish Boy's Progress. *International Journal of Creative Research Thoughts*, 7(3), 489-492, (2020).

Languages & Literature

English

- Maitali Khanna and Rajeshwari C Patel. Sympathetic 'Distance' and Distant 'Sympathy': A Study of Yeats' 'Inner View', Owen's 'Overview' and Larkin's 'Outer View' of Moral Mayhem in Modern Milieu. *Shimla Journal of Multidisciplinary Research*, 1(1), 9-20, (2021).
- Vivek Chauhan. Meerabai and Her Unparalleled Devotion to Lord Krishna as Studied in a Few of Her Poems. *International Journal of English Language, Literature and Translation Studies*, 8(1), 89-94, (2021)
- Behera A K. Capitonyms Affect Pronunciation, *International Journal of English & Studies*, 3(6), 229-238, (2021).
- Behera A K. Tharoorosaurus and Its Desirability, *Research Journal of English*, 6(2), 270-278, (2021).
- Behera A K. Ambiguities in English, *International Journal of Trends in English Language and Literature* 2(3), 10-17, (2021).
- Behera A K. Infodemic Kills? *International Journal of English & Studies*, 3(6), 9-17, (2021).
- Behera A K. Language of Social Media Impacts the Use of English. *International Journal of ELT, Linguistics and Comparative Literature*, 9(1), 5-11, (2021).
- Vivek Chauhan. Faith and Positivity as Driving Forces in the Life of Joan of Arc. *International Journal of Creative Research Thoughts*, 8(10), 3499-3506, (2020).
- Vivek Chauhan. Meg Dods: A Study in Scott's Preoccupation with the Glorious Past, *International Journal of Creative Research Thoughts*, 9(4), 2265-2272, (2020).
- Vivek Chauhan. The Messiah of the Poor: Valjean's Eventful Journey from Hell to Emancipation. *International Journal of English Literature and Social Sciences*, 6(1), 091-094, (2020).
- Behera A K. Social Crises and Lexical Innovation: An Analysis. *Journal of English Language Teachers' Association of India*, 62(3), 14-19, (2020).
- Rath T and A K Behera. Manoeuvring Indigenous Literature in Elt. *The Dawn Journal*, 9(2), 1442-1447, (2020).
- B Venkataramana. Byronic Temper and Byronism. *The Indian Review of World Literature in English*, 16(1), 1-5, (2020).
- **Book:** Behera A K. (2020) Speaking English Confidently & Effortlessly. BFC Publications (Lucknow). ISBN: 978-93-90478-89-7, (2020).
- **Book:** Behera A K. Sreejhara (translation). The Dawn Publishers (Coimbatore). ISBN: 978-81-946418-1-0, (2020).



- **Book Chapter:** Behera A K. COVID and Its Impact on English. In BK Gupta (Ed.), The COVID-19 Pause: Uncommon Tales of Common Folks. Giantstep, (2020).

Sanskrit

- N Venkatesha Rao. Characteristics of Students. *International Journal of Multi-Disciplinary Educational Research*, 10(1), 116-121, (2021).
- N Venkatesha Rao. Vidya Vinaya Samarasyam. *International Journal of Sanskrit Research*, 6(2), 93-97, (2020).
- N Venkatesha Rao. Page No157-159, Vol.6, Issue.2 (Part-C). Charming Description of Rivers in Vadiraja's works, *International Journal of Sanskrit Research*, 6(2), 157-159, (2020).
- N Venkatesha Rao. Page No 88-97, Vol.6, Issue 3. Gradation of Sacred Rivers of India and Glory of River Ganga. *International Journal of Sanskrit Research*, 6(3), (2020).
- N Venkatesha Rao. Page No 287-292, Vol.6, Issue 2 (Part-E). www.Anantakoruk, *International Journal of Sanskrit Research*, 6(2), 287-292, (2020).
- N Venkatesha Rao. Hitaya, Vol.5, ISSN.2581-7787. Brahmasutre Janmadhikarane Adi Padartah. *Hitaya*, 5(1), 22-25, (2020).
- N Venkatesha Rao. Vol.6. Hyuktimallikayam Yuktivilasah. *Hitaya*, 6(1), 12-13, (2020).
- N Venkatesha Rao. Page No.12-15, Vol.9, Issue-6. ISSN.2277-7881, 2020 11 O Mounam Himuktisadhanam, *International Journal of Multi-Disciplinary Educational Research*, 9(6), 12-15, (2020).
- N Venkatesha Rao. The Teacher and Student Relationship in Taittiriyaopaniṣad. *International Journal of Multi-Disciplinary Educational Research*, 9(5), 09-20, (2020).
- N Venkatesha Rao. Guroonam Gururaajosou. *International Journal of Multi-Disciplinary Educational Research*, 9(7), 155-167, (2020).
- N Venkatesha Rao. Importance of Charity in Scriptures. *International Journal of Trend in Scientific Research and Development*, 4(6), Page no.146-151, (2020).
- N Venkatesha Rao. Page No.89-93. Vol-4, Issue -5. (2020). ISSN.2456-6470.The Concept of Duty in Kalidasa's works. *International Journal of Trend in Scientific Research and Development*, 4(5), 89-93, (2020).

- N Venkatesha Rao. Year 2021. ISSN.2456-6470. Social Service in Puranas. *International Journal of Trend in Scientific Research and Development*, 5(2), 55-61, (2020).

Telugu

- M Praphulla. Valmiki Ramayane Naithika mulyani - Thesham Chadyathve Prasangikathvam. *Vedanjali*, 2(23), 224 - 229, (2020).

Management & Commerce

- Aditya Ganesh and Subramanian Iyer. Impact of Firm-Initiated Tweets on Stock Return and Trading Volume. *Journal of Behavioural Finance*, (2021).
- Aditya Ganesh and Subramanian Iyer. Social Networking Effect: How Do Large Corporations use #Hashtags on Twitter. *International Journal of Scientific & Engineering Research*, 12(7), 1260-1269, (2021).
- K J Srinivas and B Sai Giridhar. Pathway to Achieve Sustainable Rural Development in India. *Academia Letters*, 6 (2021).
- Padmalalitha T V and Rajeswari TR. Indispensable Link Between Green Supply Chain Practices, Performance and Learning: An ISM Approach. *Journal of Cleaner Production*, 279, (2021).
- Padmalalitha T V and Rajeswari TR. Environmental Drivers on Green Supply Chain Practices. *International Research Journal of Business Studies*, 13(3), 269-283, (2021).
- Padmalalitha T V and Rajeswari TR. Twitch the Corporate Green Tale: An Empirical Study on the Learning Styles to Enhance Green Supply Chain Practices. *SDMIMD Journal of Management*, 12(2), 47-65, (2021).
- U Pranav and N Sivakumar. Stakeholder Identification for CSR in Secondary Education in India: A Mixed-Method Approach. *International Journal of Indian Culture and Business Management*, (2021).
- O Lakshmi Pratyusha and C Jayashree. A Study on The Influence of Covid'19 on Individuals' Perception Towards Impact Investment, *Turkish Journal of Computer and Mathematics Education*, 12(11), 5792-5795, (2021).
- Bhabani Shanker P and Bhaskar R K. Social Entrepreneurs and Values - An Indian Perspective. *International Journal of Creative Research Thoughts (IJCRT)*, 6(1), 264-280, (2020).



- Bhabani Shanker P and Bhaskar R K. Analyzing The Dynamics of Stakeholder Engagement in Social Enterprise- Values Divergence & The Saliency Framework. *International Journal of Emerging Technologies and Innovative Research*, 5(9), 682-693, (2020).
- Book: Guru Dutt (Pen name of R Kumar Bhaskar). Life with the Teacher of Teachers, Personal Experiences of a University Professor who served Bhagavan Sri Sathya Sai Baba and His University for Over Three and Half Decades. Prowess Publishers, (Chennai). ISBN: 978-81-909128-2-2, (2020).
- Sai Shyam and V Chandrasekaran. A Novel 3-level DWT and CNN-based Blind Grayscale Image Watermarking for Copyright Protection against Adversarial Attacks. *ICTACT Journal of Image and Video Processing*, 11(3), 2460-2469, (2021).
- Bishal Chhetri, Vijay M Bhagat, D K K Vamsi, Ananth V S, Bhanu Prakash, Roshan Mandale, Swapna Muthuswamy, and Carani B Sanjeevi. Within-host Mathematical Modeling on Crucial Inflammatory Mediators and Drug Interventions in COVID-19 Identifies Combination Therapy to be Most Effective and Optimal. *Alexandria Engineering Journal*, 60, 2491-2512, (2021).

Mathematics & Computer Science

- Darshan Gera and S Balasubramanian. Consensual Collaborative Training and Knowledge Distillation Based Facial Expression Recognition Under Noisy Annotations. *International Journal of Engineering Trends and Technology* (IJETT), 69.7(2021):244-254. DOI: 10.14445/22315381/IJETT-V69I7P231, (2021).
- Darshan Gera and S Balasubramanian. Co-curing Noisy Annotations for Facial Expression Recognition. *ICTACT Journal on Image and Video Processing* (IJIVP), DOI:10.21917/ijivp.2021.0356, (2021).
- A K Nain, R K Vats, and A Kumar. Coupled Fractional Differential Equations Involving Caputo-Hadamard Derivative with nonlocal Boundary Conditions. *Mathematical Methods in the Applied Sciences*, 44(5), 4192-4204 (2021).
- S Khanna and V Chandrasekaran. Fractional Differentiation-Based Edge Energy-Driven Active Contours for Robust Image Segmentation. *ICTACT Journal of Image and Video Processing*, vol. 12, issue 1, pp. 2493-2501, doi: 10.21917/ijivp.2021.0354, (2021).
- S Khanna and V Chandrasekaran. Fractional Differentiation-based Hybrid Active Contour Model for Noisy Image Segmentation. *International Journal of Engineering Trends and Technology*, vol. 69, issue 8, pp. 243-259, doi:10.14445/22315381/IJETT-V69I8P230. (2021).
- S K Verma, R K Vats, A Kumar, V Kumar, and A Shukla. A Discussion on the Existence and Uniqueness Analysis for the Coupled Two-term Fractional Differential Equations. *Turkish Journal of Mathematics*, (2021).
- A K Nain, R K Vats, and A Kumar. Caputo-Hadamard Fractional Differential Equation with Impulsive Boundary Conditions. *Journal of Mathematical Modeling*, 9(1), 93-106, (2021).
- Bishal Chhetri, D K K Vamsi, Bhanu Prakash, and Carani B sanjeevi. Combined Drug Interventions and its Efficacy in the Reduction of COVID-19 Burden: A Within-host Modeling Study with Reference to HCQ and BCG Vaccination. *Advances in Dynamical Systems and Applications*, 16(1), 369-403, (2021).
- D Bhanu Prakash, Bishal Chhetri, D K K Vamsi, Balasubramanian S, and Carani B sanjeevi, Low Temperatures or High Isolation Delay Increases the Average COVID-19 Infections in India: A Mathematical Modeling Approach. *Computational and Mathematical Biophysics*, 9(1), 146-174, (2021).
- Roshan Mandale, Anuj Kumar, D K K Vamsi, and Prashant Srivastava. Dynamics of an Infectious Disease in the Presence of Saturated Medical Treatment of Holling Type III and Self-protection. *Journal of Biological Systems*, 29(2), 1-45, (2021).
- Bishal Chhetri, K D S S Murari, and D K K Vamsi. Influence of Gestation Delay and the Role of Additional Food in Holling Type III Predator-prey Systems: A Qualitative and Quantitative Investigation. *Modeling Earth Systems and Environment, Springer*, 7(2), 897-915, (2021).
- Deva Siva Sai Murari Kanumoori, D Bhanu Prakash, D K K Vamsi, and Carani B Sanjeevi. A Study of within-host Dynamics of Dengue infection incorporating both Humoral and Cellular Response with a Time Delay for production of Antibodies. *Computational and Mathematical Biophysics*, 9, 66-80, (2021).
- Rohan Yashraj Gupta, Satya Sai Mudigonda, and Pallav Kumar Baruah. TGANs with Machine Learning Models in Automobile Insurance Fraud Detection and Comparative Study with Other Data Imbalance Techniques. *International Journal of Recent Technology and Engineering* (IJRTE), 9(5), 236-244, (2021).



- Rohan Yashraj Gupta, Satya Sai Mudigonda, and Pallav Kumar Baruah. A Comparative Study of Using Various Machine Learning and Deep Learning-Based Fraud Detection Models for Universal Health Coverage Schemes. *International Journal of Engineering Trends and Technology*, 69(3), 96-102, (2021).
- B V K Bharadwaj and Pallav Kumar Baruah. Existence of Asymptotically Polynomial Type Solutions for Some 2-dimensional Coupled Nonlinear ODEs using Banach's Theorem. *Advances in Dynamical Systems and Applications*, 16(2), 873-880, (2021).
- Darshan Gera and S Balasubramanian. Landmark Guidance Independent Spatio-channel Attention and Complementary Context Information Based Facial Expression Recognition. *Pattern Recognition Letters*, 145, 58-66, (2021).
- K S P Sowndarya and Y Lakshmi Naidu. Independence Separation on Square Hexagonal Chess Board. *South Asian Journal of Mathematics*, 10(1), 1-12, (2020).
- K S P Sowndarya and Y Lakshmi Naidu. Perfect Domination Separation on a Square Chessboard. *Malaya Journal of Matematik*, 8(4), 1497-1501 (2020).
- Kelam Goutam, S Balasubramanian, Darshan Gera, and Raghunath Sarma. LayerOut: Freezing Layers in Deep Neural Networks. *SN Computer Science*, 1(295), (2020).
- B V K Bharadwaj and Pallav Kumar Baruah. Asymptotically Polynomial Type Solutions for 2-Dimensional Coupled Non-linear ODEs with Derivative Terms. *International Journal of Dynamical Systems and Differential Equations*, (2020).
- S R Pranav Sai, Satya Sai Mudigonda, Phani Krishna Kandala, and Pallav Kumar Baruah. Assessing the Sustainability of General Insurance Business Through Real-Time Monitoring of KPIs using Recurrent Neural Network. *International Journal of Recent Technology and Engineering*, 9(3), 728-738, (2020).
- Rohan Yashraj Gupta, S S Mudigonda, P K Baruah, and P K Kandala. Implementation of Correlation and Regression Models for Health Insurance Fraud in Covid-19 Environment using Actuarial and Data Science Techniques. *Int. J. Recent Technologies*, 9(3), 699-706, (2020).
- Pradeep Kumar Badiya, Sasidhar Siddabattuni, Debarshi Dey, Sai Kiran Javvaji, Sai Prasad Nayak, Akkamahadevi C Hiremath, Rajani Upadhyaya, Loukya Madras, Raj Lakshmi Nalam, Yendluri Prabhakar, Sridhar Vaitheswaran, A R Manjjuri, Kiran Kumar J K, M Subramaniyan, R Raghunatha Sarma, and Sai Sathish Ramamurthy. Identification of Clinical and Psychosocial Characteristics Associated with Perinatal Depression in the South Indian Population. *General Hospital Psychiatry*, 66, 161-170, (2020).
- Sai Shyam and V Chandrasekaran. A Robust Hybrid Digital Watermarking Technique Against a Powerful CNN-based Adversarial Attack. *Multimedia Tools and Applications*, 79, 32769-32790, (2020).
- Bhanu Prakash, D K K Vamsi, D Bangaru Rajesh, and Carani B Sanjeevi. Control Intervention Strategies for Within-Host, Between-Host and their Efficacy in the Treatment, Spread of COVID-19: A Multi-Scale Modeling Approach. *Computational and Mathematical Biophysics*, 1(8), 198-210, (2020).
- D K K Vamsi, K D S S Murari, and Bishal Chhetri. Additional Food Supplements as a Tool for Biological Conservation of Biosystems in the Presence of Inhibitory Effect of the Prey. *Acta Biotheoretica*, 68, 321-355, (2020).
- Ankit Kumar, R K Vats, and A Kumar. Approximate Controllability of Second-order Non-autonomous System with Finite Delay. *Journal of Dynamical and Control Systems*, 26(4), 611-627, (2020).
- Avadhesh Kumar, R K Vats, A Kumar, and D N Chalisehajar. Numerical Approach to the Controllability of Fractional Order Impulsive Differential Equations. *Demonstratio Mathematica*, 53(1), 193-207, (2020).

Physics

- Amar Mullankandy Vadavathi, Sai Kumar Chinthakayala, Vijay Sai Kollipara, Gowrishankar Ramadurai, and Paramesh Gadige. Physical properties and Gamma Radiation Shielding Capability of Highly Dense Binary Bismuth Borate Glasses. *Ceramics International*, 47(7), 9791-9805, (2021).
- P Lavanya Rathi, Bharathi Ponraj, and S Deepa. Structural, Magnetic and Electrical Properties of Electroactive-superparamagnetic PVDF-Sn_{0.2}Fe_{2.8}O₄ Nanocomposite Films. *Ceramics International* (2020), 47(7), 9727-9735, (2021).
- Rajasimha Kurnoothala, Sai Muthukumar V, and Krishna Chaitanya Vishnubhatla. Facile fabrication of Integrated Microfluidic SERS Substrate by Femtosecond Laser Sintering of Silver Nanoparticles. *Optical Materials*, 111, 110518, (2021).
- Bharadwaj P S J, Vijay Sai Kollipara, and Varma K B R. Ferromagnetic Evolution in Nd³⁺, Ti⁴⁺ co-doped Antiferromagnetic YFeO₃. *Materials Research Bulletin*, 141, 111375-111380, (2021).



- Bharadwaj P S J and Vijay Sai Kollipara. Evaluating the Structure-property Correlation in $Y_{1-x}Nd_xFeO_3$ ($0 \leq x \leq 0.15$) Perovskites. *Ceramics International*, 47, 30797-30806, (2021).
- Abishek Hariharan, Rajasimha Kurnoothala, Sai Kumar Chintakayala, Krishna Chaitanya Vishnubhatla, and Prathyusha Vadlamudi. SERS of Dopamine: Computational and Experimental Studies. *Spectrochimica Acta - Part A Molecular and Biomolecular Spectroscopy*, 260, (2021).
- Abishek Hariharan and Prathyusha Vadlamudi. SERS of Norepinephrine: A Computational and Experimental Study. *Materials Today Communications*, 27, (2021).
- Ranjan Rai and Muralikrishna Molli. Effect of Different Complexing Agents on the Magnetic, Optical, and Photocatalytic Properties of sol-gel Synthesized $KBiFe_2O_5$. *Bulletin of Materials Science*, 44, 34, (2021).
- Prashant Rai, Prajal Chettri, Swayamsiddha Kar, Malhar Anupam Nagar, Shailesh Srivastava, and Nageswara Rao Golakoti. Synthesis, Characterization and Structure-activity Relationship of the non-linear Optical Response of Chalcone Derivatives with in Silico Insights. *Chemical Papers* (Springer), 76(6), 2603-2615, (2021).
- P S J Bharadwaj, Krishna Prasad Gannavarapu, Vijay Sai Kollipara, and Rajesh Babu Dandamudi. Study of Magneto-supercapacitance Properties of Nickel Cobalt Ferrite-activated Carbon Composite. *Journal of Energy Storage*, 36, 102444, (2021).
- Balraj Singh, Gopal Mukherjee, S K Basu, Srijit Bhattacharya, Sudeb Bhattacharya, A Chakraborti, A K De, R Gowrishankar, A K Jain, Sushil Kumar, and Sukhjeet Singh. *Nuclear Data Sheets* for A=219. Nuclear Data Sheets, 175, 150-268, (2021).
- P C Sood, Praveen M Jodidar, and R Gowrishankar. Level structures of the Transfermium odd-odd nucleus 252Md. *Phys. Rev. C*, 103, 014310, (2021).
- O S K S Sastri, Swathi, S Deepa, and Sapna Sharma. Video Analysis of Double Pendulum using Tracker. *Journal of Research: The Bede Athenaeum*, 12, 33-42, (2021).
- Anjana Biswas and C Prathibha. Fe^{3+} Decorated Titanate Nanotubes for Enhanced Fluoride Adsorption. *Materials Today: Proceedings*, 43, 2933-2938, (2021).
- P Lavanya Rathi, Gowrishankar R, and S Deepa. Dielectric and Magnetic Properties of Oxides of Tin and Iron and their Composites - A Comparative Study. *AIP Conference Proceedings*, 2265, 030157, (2020).
- C Prathibha, Anjana Biswas, L A A Chunduri, S K Reddy, P Loganathan, M Kalaruban, and V Kamiseti. Zr(IV) Functionalized Graphene Oxide Anchored Sand as Potential and Economic Adsorbent for Fluoride Removal from Water. *Diamond and Related Materials*, 109, 108081, (2020).
- Anjana Biswas and C Prathibha. Fe (III) and Zr (IV) Surface-functionalized 1-D Hydrogen Titanate Nanotubes for Remediating Fluoride from Water at Neutral pH. *Journal of Water Process and Engineering*, 37, 101331, (2020).
- Anjana Biswas and Prathibha C. Fabrication and Characterization of Low cost 1-D TiO_2 Nanotubes and their use in Defluoridation of Water, *AIP Conference Proceedings*, 2265, 030708, (2020).
- Bharadwaj P S J, Swarup Kundu, Vijay Sai Kollipara, Kalidindi B R Varma. Synergistic Effect of Trivalent (Gd^{3+} , Sm^{3+}) and High Valent (Ti^{4+}) co-doping on antiferromagnetic $YFeO_3$. *RSC Advances*, 10, 22183-22195, (2020).
- K Vijay Sai, K Madhusudhana Rao, E Rajasekhar, Dwaraka Rani Rao, Deepa Seetharaman and Venkataramaniah Kamiseti. Precision Measurements of Internal Conversion Coefficients of Low Energy Transitions in ^{169}Tm for Efficiency Calibration of Electron Detectors. *Physics of Atomic Nuclei*, 83(6), 827-832, (2020).
- M Sainath, K Vijay Sai, Dwarakarani Rao, Deepa Seetharaman, and K Venkataramaniah. Design and Development of a Mini-Orange Magnetic Spectrometer with Multichannel Facility for Conversion Electron Spectroscopy. *J. Nucl. Phys. Mat. Sci. Rad. A.*, 8(1), 25-31, (2020).
- L A Avinash Chunduri, K Madhusudhana Rao, Vijay Sai K, Aditya D Kurdekar, Prathibha C, and Venkataramaniah K. Influence of Surface Charge on the Functional Properties of Silica Nanoparticles and Cellular Toxicity. *Letters in Applied Nanobioscience*, 9(3), 1225-1238, (2020).
- Sandeep Patnaik, Madhusudhana Rao Kari, Vijay Sai Kollipara, L A Avinash Chunduri, Prathibha Chinnkoti, and Venkataramaniah Kamiseti. Cytotoxicity Studies on Naproxen and Piroxicam Nanoformulations. *Asian Journal of Pharmaceutical Research and Development*, 8(3), 87-94, (2020).
- Ranjan Rai and Muralikrishna Molli. Synthesis of Novel g-C $_3$ N $_4$ /KBiFe $_2$ O $_5$ Composite with Enhanced Photocatalytic Efficiency. *Bulletin of Materials Science*, 43, 257, (2020).
- Krisanta Rai and Swarup Kundu. Fabrication and Performances of High Lithium-ion Conducting Solid Electrolytes Based on NASICON $Li_{1.3}Al_{0.3}Ti_{1.7-x}Zr_x(PO_4)_3$ ($0 \leq x \leq 0.2$). *Ceramics International*, 46(15), 23695-23705, (2020).
- Abishek Hariharan and Prathyusha Vadlamudi. SERS of Epinephrine: A Computational and Experimental study. *Journal of Molecular Structure*, 1246, (2020).





Conference Presentations and Proceedings

Biosciences

- Chandrasekar S N, Abhishek Rao G, Sai Swaroop R, Sai Muthukumar V, Venketesh S, and R Raghunatha Sarma. "Detection of Hotspots in Fluorescence Imaging of Yeast Cell Model used in Neuro-Degenerative Research", **First IEEE International Conference on Advances in Electrical, Computing, Communications and Sustainable Technologies (ICAECT 2021)**, Shri Shankaracharya Technical Campus (SSTC), Bhilai, Chhattisgarh, India (February 19, 2021).
- B E Pradeep, Pachi Pulusu Chanakya. "Comparative Genome Analysis of a High-risk, Extensively Drug-resistant ST-111 *Pseudomonas Aeruginosa*" at an **International conference on Antimicrobial Resistance - Genomes, Big Data and Emerging Technologies**, Wellcome Genome Campus, United Kingdom (November 04-06, 2020).
- B E Pradeep, Pachi Pulusu Chanakya. "Comparative Genome Analyses of an Extensively Drug-resistant (XDR), Uropathogenic *Morganella Morganii* SMM01" at the **4th International Conference on Bioinformatics: From Algorithms to Applications**, Saint Petersburg, Russia (July 27-28, 2020).
- Seemesh Bhaskar and Sai Sathish Ramamurthy. "Plasmonic Platinum and 2D-Graphene Oxide for Mobile Phone-Based Surface Plasmon-Coupled Emission", **International E-Conference on Advanced Research in Materials Science (ICAMS2021)**, Department of Physics Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu, India (March 24-26, 2021).
- Seemesh Bhaskar, Aayush Rai, and Sai Sathish Ramamurthy. "Nanointerfacial Coupling of Platinum Nanoparticles and Graphene Oxide for 650-fold Fluorescence Enhancements in Smartphone-based Plasmon coupled Spacer Architecture", **International Materials Science Conference IMSC- 2021**, School of Physical Sciences Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon, India (March 18-20, 2021).
- Seemesh Bhaskar and Sai Sathish Ramamurthy. "Resonant Coupling of Platinum Colloid and Graphene Oxide II- Plasmon at Spacer Nano-interface for Sharply Directional Mobile Phone-based Augmented Surface Plasmon-coupled Emission", **Optoelectronic and Nano Materials for Advanced Technology, ncONMAT 2021** (Centre of Excellence in Advanced Materials Department of Physics. CUSAT, India (March 18-19, 2021).

Chemistry

- Sai Prasad Nayak, Sai Sathish Ramamurthy, and JK Kiran Kumar. "Electrodeposition of Gold Nanoparticles on Halloysite Nanotubes Modified Glassy Carbon Electrode for Detection of Dopamine and Serotonin", **239th ECS Meeting with the 18th International Meeting on Chemical Sensors (IMCS)**, (May 30-June 3, 2021).
- Seemesh Bhaskar and Sai Sathish Ramamurthy. "High Refractive Index Dielectric TiO₂ and Graphene Oxide as Salient Spacers for > 300-fold Enhancements, Proceedings of AICTE sponsored 2021 IEEE International Conference on Nanoelectronics", **Nanophotonics, Nanomaterials, Nanobioscience and Nanotechnology, 5NANO 2021**, Mangalam College of Engineering, Department of Electrical & Electronics Engineering Vettimukal, Ettumanoor, Kottayam, India. IEEE Photonics Society Student Chapter, ISBN: 9-781665-423045. Paper ID: 54; Pages: 93-98, (April 29-30, 2021).
- Seemesh Bhaskar and Sai Sathish Ramamurthy. "Hybrid Soret Nano-assemblies for Mobile Phone-based Picomolar Copper Ion Sensing", **Applied Nanotechnology, and Nanoscience International Conference, ANNIC 2021**, PremC, Conferences, events and workshops, France (March 24-26, 2021).
- Seemesh Bhaskar and Sai Sathish Ramamurthy. "Nanoassemblies with Metal-Dielectric Hybrid Properties for Smartphone-based Picomolar Copper ion sensing and Dye Degradation Applications", **International Conference on Current Trends in Materials Science and Engineering**, Institute of Engineering & Management, Kolkata, India. Book of Abstracts CTMSE 2021 (March 11-13, 2021).
- Rai B, Srinivasan V, Malmberg R, Suter D, Venkatesan K, and Ramamurthy S S. "Plasmonics based O₂ Uptake Monitoring in COVID-19 Recovered Patients", **Student Conference on Advances in Optics 2021**, OSA Student Chapter, Tata Institute of Fundamental Research, Mumbai, India (February 04, 2021).

Food and Nutritional Sciences

- Ashrita C Haldipur and N Srividya. "Antidiabetic Potential and Metabolomics-based Screening of Phenolics from Bamboo Seed Rice", **International e-Conference on Novel Nutrition Approach and Emerging Opportunities to Sustain in Pandemic Scenario**, Mount Carmel College, Bengaluru, (June 15, 2021).
- B Andallu. "Medicinal Potential of Coriander (*Coriandrum Sativum* L.)", **The First National Conference on the Applications of Advanced Chemical and Agricultural Research for Development of Medicinal Plants (focusing on *Coriandrum sativum* L.)** Dept. of Agriculture, University of Nahavand, Iran, (May 29, 2021).



- B Andallu and Shobha RI. "Amelioration of H2O2-induced Oxidative Stress in Human Leukocytes by Aniseed (*Pimpinella Anisum* L.) Extracts", **National e-conference-Integration of Modern and Traditional Nutrition Approaches Towards Health and Wellbeing: Importance, Challenges, and Future**, Dept. of Clinical Nutrition and Dietetics, Sri Devaraj Urs Academy of Higher Education and Research, Tamaka, Kolar, (April 28-29, 2021).
- Sai Sruthi Shree K K, Ashrita C Haldipur, and N Srividya. "Ayurvedic Perspective and Modern Nutritional Evaluation of Traditional Indian Brown Rice Varieties", **Integration of modern and Traditional Nutrition Approaches Towards Health and Wellbeing: Importance, Challenges, and Future**, National e-conference by Sri Devraj URS Academy of Higher Education and Research, Kolar, (April 28, 2021).
- B Andallu. "Antihyperglycemic, Antioxidant and Cataract Retardation Effects of Mulberry Leaves in STZ-diabetic Rats", **5th International Diabetes Summit (Virtual) 2021**, Chellaram Foundation Diabetes Research, Pune, India, (March 12-14, 2021).
- Ashrita C Haldipur and N Srividya. "Glucose Regulatory Indian Red Rice Genotypes for Diabetes Management: Metabolomic, Invitro and Invivo validation", **5th International Diabetes Summit (Virtual)**, Chellaram Diabetes Institute, Pune, (March 12, 2021).
- Shrijana Rasaily, Ashrita C Haldipur, and N Srividya. "Indian Red Rice Phenolic Metabolites as Natural Inhibitors of SARS-CoV-2: A Metabolomic and in silico Study", **International Webinar on Nutrition and Health the United Kingdom**, (March 12, 2021).
- B Andallu. "The Role of Spices Beyond Flavoring", **Pre-conference Webinar on Nutri-health Gardens-Sustainable Models for Food and Nutritional Security**, organized by Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur Campus, (September 25, 2020).
- Manjula D Ghoola and N Srividya. "Indoor Microgreens Farming", **Pre-conference webinar on Nutri-health Gardens-Sustainable Models for Food and Nutritional Security** organised by the Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur. (September 25, 2020).
- Sai Sruthi Shree K K and N Srividya. Video demonstration of "Indoor Microgreen Cultivation", **Pre-conference webinar on Nutri-health Gardens-Sustainable Models for Food and Nutritional Security** organised by Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur (September 25, 2020).
- Ashrita C Haldipur and N Srividya. "Immunity Booster Home Garden Kit", **Pre-conference webinar on Nutri-health Gardens-Sustainable Models for Food and Nutritional Security** organised by Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur (September 25, 2020).
- Alisha Pradhan and Shrijana R. Documentary on "Home-based Agro Diversity specific to North-Eastern Region", **Pre-conference webinar on Nutri-health Gardens-Sustainable Models for Food and Nutritional Security** organised by Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur. (September 25, 2020).
- N Sai Harini, Manjula D Ghoola and N Srividya. "Vermicomposting - From Waste to Black Gold", **Pre-conference webinar on Nutri-health Gardens-Sustainable Models for Food and Nutritional Security** organised by Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur. (September 25, 2020).
- Sai Darshini and N Srividya. "Hydroponics for Indoor Gardening", **Pre-conference webinar on Nutri-health Gardens-Sustainable Models for Food and Nutritional Security** organised by Department of Food & Nutritional Sciences, Sri Sathya Sai Institute of Higher Learning, Anantapur (September 25, 2020).
- Sai Sruthi Shree K K and N Srividya. "A Novel Approach to Address Iron Deficiency", **International e-Conference on Novel Nutrition Approach and Emerging Opportunities to Sustain in Pandemic Scenario**, Mount Carmel College, Bengaluru, (June 15, 2020).

Humanities and Social Sciences

Economics

- Gopakumar K U. "An Aggregate Level Macro Model for the Indian Economy", **Conference on International Macroeconomics and Finance** conducted online, jointly by Department of HSS Indian Institute of Technology Patna and Gulati Institute of Finance and Taxation, Trivandrum, Kerala, (March 28, 2021).
- Vikram G N and Gopakumar K U. "Determinants of Volume of IPOs in India: A Case of Count Model with Overdispersion", **2nd Rajagiri Conference on Economics and Finance**, conducted online jointly by Rajagiri Business School and Rajagiri College of Social Sciences, Kochi, in association with The Indian Econometric Society and the University of Economics, Ho Chi Minh City (UEH), (November 06, 2020).



- Gopakumar K U. "Income Convergence and Inequality Among Indian States: Policy Analysis Using a Simulated Club Convergence Model", **2nd Rajagiri Conference on Economics and Finance**, conducted online jointly by Rajagiri Business School and Rajagiri College of Social Sciences, Kochi, in association with The Indian Econometric Society and the University of Economics, Ho Chi Minh City (UEH), (November 05, 2020).

Languages and Literature

English

- Megha Santhosh and Rani P L. "" Transgenerational Trauma in "The Inheritance of Memory"" in the international e-conference on **Including the Excluded: Challenging Existential Peripheries**, hosted by Language Department & IQAC Don Bosco College, Mannuthy, Kerala (May 20, 2021).
- Megha Santosh and Rani P L. "Days of Parting - A Testimony to Trauma", virtual national conference on **The Story: Life Narratives of Experience, Memory, Identity, and Agency** Kristu Jayanti College (Autonomous), Bengaluru, Karnataka, India (March 25-26, 2021).
- Sreenidhi S and Maitali Khanna. "Metaphor as a Matter of Thought: Need for Cognitive Approaches to the Study of A K Ramanujan's Metaphors", virtual conference on **Recent Trends in Indian Writing in English** Nehru Arts and Science College, Coimbatore (February 12, 2021).

Telugu

- G Yamuna Rani. "Singamaneni Kathalu -Seema Samajika Jeevana Chitrana", **The Role of Writers, Artists, Journalists and Social Activists in Inclusive Society**. Sri Krishna Devaraya University, Anantapuram. Isbn 9789354574061 Pg. No 37-41, (March 25, 2021).
- G Yamuna Rani. "Daakshinathya Saahityam Pai Shaiva Matha Prabhavam", international webinar on **Daakshinathya Sahithyam-Saamajika Spruha**, Sri Krishnadevaraya University, Anantapuram. Three Day online International Conference Special Issue Isbn 9789354168123 Pg. No 237-241, (August 19, 2020).

Management and Commerce

- Akanksha Aggarwal, Chandrasekhar Balasubramanian, and Soumya Sivakumar. "Do Sustainable Lifestyles Influence Happiness Levels? - A Study Based on An Emerging Market", **Southwestern Social Science Association Annual Meeting**, New Orleans, LA USA, (April 7 & 16, 2021).

Mathematics and Computer Science

- Sapan Gupta. "Recent Trends in Domination and Graph Labelling", **University of Delhi and Academy of Discrete Mathematics and Applications** (May 27-31, 2021).
- Darshan Gera and S Balasubramanian. "Facial Expression Recognition with Flatcam Lensless Imaging", **2nd International Conference on Data Science and Applications (ICDSA 2021)**, Jadavpur University, Kolkata, India (April 10-11, 2021).
- S N Chandrasekar, Abhishek Rao G, Sai Muthukumar V, Venketesh S, and R Raghunatha Sarma. "Detection of Hotspots in Fluorescence Imaging of Yeast Cell Model used in Neuro-Degenerative Research", **International Conference on Advances in Electrical, Computing, Communication and Sustainable Technologies (ICAECT)** Bhilai, India (February 19-20, 2021).
- Sai Krishna R K N, Tekur C, Mukkamala R, and Baruah P K. "Leveraging Federated Clouds for Improving Blockchain Performance", **CLOUD 2020 Virtual. Lecture Notes in Computer Science, vol 12403. Springer, Cham.** (Oct 18-24, 2020).
- Rahul Raju Pattar. "Global Well-posedness of a Class of Strictly Hyperbolic Cauchy Problems with Coefficients Non-Absolutely Continuous in Time", **International Conference on Generalized Functions**, Ghent, Belgium (on Zoom). Organized by: International Association for Generalized Functions and Department of Mathematics: Analysis, Logic and Discrete Mathematics at Ghent University, Belgium, (August 31 - September 4, 2020).
- Dasu Gautham Sreeram and Pallav Kumar Baruah. "Automatic Detection and Extraction of Information", **Proceedings of the International Virtual Conference on Distributed Computing, Intelligence & its Applications (IVDCIA)** - 2020, pages 40-50, (June 20, 2020).
- Rohan Yashraj Gupta and Goli Uma Sankar. "A Proposed Unsupervised Learning Approach for Fraud Detection in Automobile Insurance Using Apache Spark", **International Virtual Conference on Distributed Computing, Intelligence & its Applications IVDCIA**, Tamil Nadu, India, (June 20, 2020).



- Sairaam Venkatraman, S Balasubramanian, and R Raghunatha Sarma. "Building Deep, Equivariant Capsule Networks", ***Eighth International Conference on Learning Representations, (ICLR 2020)***, Ethiopia (April 26 - May 1, 2020).

Physics

- S N Chandrasekar, Abhishek Rao G, Sai Muthukumar V, Venketesh S, and R Raghunatha Sarma. "Detection of Hotspots in Fluorescence Imaging of Yeast Cell Model used in Neuro-Degenerative Research", 2021 ***International Conference on Advances in Electrical, Computing, Communication and Sustainable Technologies (ICAECT)***, Bhilai, India (February 19, 2021).
- N Susshma, S Deepa, and R Gowrishankar. "Study of Production Cross-sections of Neutron-rich ^{184}Ta and ^{186}Ta ", ***International Conference on Theoretical Aspects of Nuclear Physics (ICTANP) - 2021***, Central University of Himachal Pradesh, Dharmashala, Himachal Pradesh (Online), (February 16, 2021).
- Anjana Biswas. " Fe^{3+} Decorated Nanotubes for Enhanced Fluoride Adsorption", ***International Conference on Cutting Edge Research in Materials Science and Chemistry***, Manipal University, Jaipur, Rajasthan, (January 11-12, 2021).
- Sai Kiran Posam, Venkata Narasimha Challa, Sai Kishore B, Siva Sankara Sai S, and Gowrishankar R. "Reactive Hitless Hop Tuning Based Defragmentation Algorithm for Enhanced Spectrum Efficiency in Elastic Optical Networks", ***IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)***, online. 10.1109/ANTS50601.2020.9342786, (December 14, 2020).



Special Annual Events

There are five special annual events that relate to the devotional, cultural, physical and service dimensions of the model of Sri Sathya Sai Values-based Integral education. These events are orchestrated to bring out the hidden values and good qualities in students and teachers. A lot of planning and effort goes into each of these events. Students participate in these events in accordance with their individual skills and talents.

Embodiments of Love!

If education is not used for the welfare of society, it is no education at all. Man can be called truly educated only when his education benefits people at large and he becomes recipient of their love. It is not enough if one merely acquires bookish knowledge, one should cultivate all virtues and attain supreme wisdom. True education is that which bestows on man the wealth of morality, spirituality and character. The purpose of education is not merely to sustain the body; it should broaden the mind and make the human being an ideal and a virtuous one.

Bhagawan Sri Sathya Sai Baba

Revered Founder Chancellor, SSSIHL
Benedictory Address, SSSIHL Annual Convocation,
22 November 2001

Summer Course in Indian Culture & Spirituality

The Summer Course in Indian Culture & Spirituality serves as an induction programme at the beginning of each academic year to all students and teachers of Sri Sathya Sai Institute of Higher Learning with an objective to expose students of the University to the rich cultural and spiritual heritage of Bharat. It orients students into Bhagawan Baba's educational philosophy and gives them deep, first hand insights into how they can directly benefit from this unique institution.

The genesis of the event dates back to the early seventies, when Bhagawan Baba organized Summer Courses in Indian Culture and Spirituality for the benefit of students. The course then was usually three to four weeks long and would typically consist of a series of lectures on Indian culture, the essence of the scriptures and other spiritual topics delivered by learned scholars, senior devotees and men of esteem. The highlight however was the daily discourse by Baba Himself, delivered typically in the evening.

In 2011, Bhagawan willed that the Summer Course be re-initiated in a shorter format of two-and-a-half days and which is now an annual event at SSSIHL in the beginning of each academic year that the Students and Teachers of the University eagerly look forward to participate, experience and learn.

Annual Convocation

22 November 2020

Sri Sathya Sai Institute of Higher Learning (SSSIHL) (Deemed to be University) held its 39th Annual Convocation at Sai Kulwant Hall, Prasanthi Nilayam, Andhra Pradesh in the Divine Presence on 22 November 2020. The grand ceremony saw the Honourable Chancellor, Sri K Chakravarthi, IAS (Retd.), admit 449 candidates to their degrees. This included 292 undergraduate, 84 postgraduate, 65 professional and 8 Ph.D. awardees.

SSSIHL was honoured to have Dr. Soumya Swaminathan, Chief Scientist, World Health Organisation (WHO), Geneva, Switzerland, join the event online as the chief guest for the event.

The format, planning and execution of the SSSIHL convocation ceremony is second to none. The ceremonial procession was led by the Registrar (who carried the Ceremonial Mace). Other members of the procession included the Chancellor, Vice-Chancellor, Deans and the Heads of Departments along with the Chief Guest, members of the Sri Sathya Sai Central Trust and the Board of Management.

Following the invocatory Veda chanting, the Vice-Chancellor, Prof. (Dr.) C B Sanjeevi prayed to the Revered Founder Chancellor to declare the convocation open. The Convocation was then declared open in the Divine voice of Bhagawan Baba.

The programme included speeches by the Vice-Chancellor, the Chief Guest and the Revered Founder Chancellor (video broadcast of a previous Convocation Address).

<https://www.youtube.com/watch?v=rKTOGdMWYTI>

Annual Convocation Drama

A popular event for the current and graduating students, and a tradition of the Institute is the Convocation Drama. It serves as a display of the talent and learning of the students, and is an offering of Love and gratitude to their Divine Founder Chancellor.

The 2020 Convocation Drama kept up with the changing times, and was presented as a short film titled - Mann Mandir.

An ageing father declares his will to his two sons, causing a rift between the brothers. The younger son, takes time off to ponder in solitude when he has a conversation with an unexpected being - a park bench!

The engaging talk with the seemingly inanimate object revives memories, and reveals lessons learnt and forgotten.

<https://youtu.be/55Oh1wZf3Y8>



All-Round Gold Medallists

Bulusu Shivani

Anantapur Campus – Master of Business Administration

Mr. Rebally Achyuth

Prasanthi Nilayam Campus - Master of Business Administration

Gold Medallists

Karan Kumar

Master of Business Administration

Ankit Anand

Master of Technology in Computer Science

Bulle Kousalya Sai

Master of Science in Food and Nutritional Sciences

Jasa Ranjan Podh

Master of Science in Biosciences

Kurup Unninarayanan Sreenivasan

Master of Arts in Economics

Samir Kumar Majhi

Bachelor of Business Administration

Abhishek Baratam

Bachelor of Commerce (Honours)

Abhinav Kumar

Bachelor of Science (Honours) in Biosciences

Aakshara Sai Satapathy

Bachelor of Science (Honours) in Chemistry

Hamsaa S K

Bachelor of Science (Honours) in Physics

Suravazula Sai Latha

Bachelor of Science (Honours) in Mathematics

Dendup Wangel Lama

Bachelor of Arts (Honours) in Economics

Ph.D. Awardees

Siva Kiran Guptha K – Economics

The Relationship Between Financial Development and Economic Growth: An Empirical Evidence from BRICS Economies

Boddapaty Vallikiran Bharadwaj – Mathematics

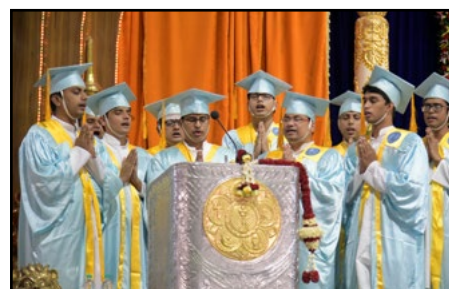
A Qualitative Study of Solutions of Nonlinear Coupled Ordinary Differential Equations

Murali Ravi – Physics

SAI-GC: A Portable High-Resolution Gamma Camera for Functional Imaging - From Conception to Clinical Realization

Swathi Metla – English Literature

The Quest for One's Self in the Perilous Realm: A Study of Select Fantasy Texts of J. R. R. Tolkien and J. K. Rowling



Lalith Srikanth Chintalapati – Computer Science

Enhanced Affinity Measures using Local Properties for Spectral Clustering

Sumukh Nandan R – Physics

Design, Analysis and Characterization of the Resonant Optical Gyroscope with a 'Reflector' using Novel Techniques for Performance Enhancement

M Mallikarjuna – Economics

An Empirical Study on Some Behavioural Aspects and Predictability of Stock Markets

Swayamsiddha Kar – Chemistry

Novel Spirobibenzopyrans, Benzopyrylium Salts and Andrographolide Derivatives as New Pharmacophores with Potent Biological Properties



Annual Sports & Cultural Meet

11 January 2020

January 11th is a golden lettered day in the life of every Sai Student. The Annual Sports and Cultural Meet of the Sri Sathya Sai Educational Institutions is an opportunity to express their love to their Eternal Chancellor and offer every act only to please the Lord and nothing else. It is a celebration of the sportive spirit that Baba inculcates in every student of His university.

The Annual Sports and Cultural Meet of 2021 was a special and unique one in its own way. A video presentation titled "A Reconnect - 2021" was offered at the divine lotus feet of the founder chancellor. The video was a collage of various sports meet events and programs performed by the students of Sri Sathya Sai Educational Institutions at the Sri Sathya Sai Hill View Stadium from 1990 to 2020. Aptly titled, the video made all the students, alumni, parents and devotees of Swami, reconnect and relive the beautiful days of the past. The grand procession, the Institute band performances, the march past, jaw-dropping stunts, artistic presentations, and impressive display of teamwork makes the sports meet a grand display of sports and cultural events. It was a trip down memory lane for all the viewers. The 2 parts, each two hours long video was telecasted on the **Prasanthi Mandir Live - SSSMC YouTube channel**. More than 15000 people saw the video and relived the grand sports meet celebrations.

Morning Program: <https://youtu.be/XQsSDbsELo4>

Evening Program: <https://youtu.be/gQ6Fp1p8jQO>



S G Sundaraswamy Memorial Lecture

22 September 2020

The S G Sundaraswamy Memorial Lecture is an annual endowment lecture at Sri Sathya Sai Institute of Higher Learning (SSSIHL) instituted in honour of late Sri S G Sundaraswamy—a doyen of the legal profession in Bengaluru and an ardent devotee of Bhagawan Baba—by his son, Sri S S Naganand, Trustee, Sri Sathya Sai Central Trust, Sri Sathya Sai Institute of Higher Learning (Public Charitable Trust), Sri Sathya Sai Sadhana Trust and Sri Sathya Sai Media Foundation.

The 2020 (online) lecture on 22 September, on the topic, Inspiring Innovation, was delivered by Lieutenant General (Dr.) Madhuri Kanitkar, AVSM, VSM, a highly decorated serving General Officer in the Indian Army.

She is only the third woman in the Indian Armed Forces to be promoted to a Three-star rank, and currently serves as the Deputy Chief of Integrated Defence Staff (Medical) under the Chief of Defence Staff. Lt. Gen. (Dr.) Madhuri Kanitkar has been nominated to the PM-Science and Technology Innovation Advisory Committee and Board of Governors of the Medical Council of India in October 2018 and July 2019.

Watch: <https://youtu.be/XXx-WDw9-AA>



Community Service

Service is one of the five integral dimensions that form a part of every student's life, learning, and development at SSSIHL. Each year, students and teachers of the University work with local communities to contribute to the betterment of both society and the environment at large. Many of these service activities are initiatives by students themselves. Inspired by the example and precepts of our Revered Founder Chancellor, Bhagawan Sri Sathya Sai Baba, it reflects the impact of the unique blend of secular and spiritual education they receive during their student life at SSSIHL. Given the extraordinary year 2020-21 was, offering both opportunities and limitations, we are pleased to share that the good work done by our staff and students received great acknowledgment from near and far.

The screenshot shows the United Nations Department of Economic and Social Affairs Sustainable Development website. The main heading is "Sri Sathya Sai Values-Based Integral Education Initiatives" by Sri Sathya Sai Central Trust (Non-governmental organization (NGO)). The page is categorized under "SDG GOOD PRACTICES" and lists the following details:

- Intro:** Founded on the vision of providing values-based integral education of the highest quality, Sri Sathya Sai Baba, the Founder, started various primary, secondary as well as tertiary educational institutions for students free of all charges. The Sri Sathya Sai Central Trust develops and maintains all such institutions. Currently there are four university campuses providing undergraduate, post-graduate and doctoral program and three schools providing primary, secondary and higher secondary education.
- Implementation of the Project/Activity:** Chronology: 1. 1968 - Sathya Sai Arts and Science College (for Women) in Anantapur, Andhra Pradesh; 2. 1969 - Sri Sathya Sai Arts, Science and Commerce College (for Men), Whitefield, Karnataka; 3. 1979 - Sri Sathya Sai College of Arts, Science and Commerce College (for Men), Prashanti Nilayam, Andhra Pradesh. All campuses were brought under one single umbrella in 1981 to become the Sri Sathya Sai Institute of Higher Learning (deemed university) (the "Institute"), and headquartered in Prashanti Nilayam, Andhra Pradesh. The Institute now has four campuses after the addition of Muddenahalli campus in 2009 in state of Karnataka. The total number of students at the Institutes is over 1500 as of date. In addition to the above, the Trust has also run numerous free schools in Andhra Pradesh: 1. Sri Sathya Sai Higher Secondary School in Prashanti Nilayam; 2. Sri Sathya Sai Gurukulam School, in Rajamundry; 3. Smt. Eswaramma English Medium School in Puttaparthi, (a day school catering to the children of underprivileged, indigent parents, who have never had any formal schooling themselves and who largely survive on subsistence living).
- Results/Outputs/Impacts:** The provision of free primary, secondary and tertiary level education to those who are less fortunate in India has had a positive impact not just on the recipients, but also on their families, their communities as well as rural India itself. The Founder's vision of "leaving no one behind" is truly bearing fruits. This goes towards fulfilling many of the SDGs in the area of human development. All students participate in community service outside the set curricula that sensitizes them to the challenges facing the rural populations in India.
- Enabling factors and constraints:** Financially, the Trust's total annual expenditure in running all the institutions is US\$3.57 Million. As all education is provided free of charge, there is no income to the Trust from this initiative.
- Sustainability and replicability:** All institutions have been sustained successfully since their respective inceptions, and as shown above, they have gradually grown and increased in size and capacities. All infrastructures, including the buildings, the equipments, the teachers and all support staff are in place. This includes the post-Covid-19 Pandemic on-line teaching methodologies. The free Sri Sathya Sai Integral Human-Values Based Education models is replicable in India as well as other parts of the world where similar conditions as in India are prevalent. More such institutions may be

On the right side of the page, there are sections for "Share" (Facebook, Twitter, LinkedIn), "Timeline" (N/A), "Entity" (Sri Sathya Sai Central Trust), "Ongoing" (No), "SDGs" (1, 2, 3, 4, 5, 8, 10, 13, 17), and "Other beneficiaries" (The provision of free education at the institutions have had a positive impact on the families and the communities of the students, fulfilling the intent of the Founder Sri Sathya Sai Baba. Many alumni have attained key leadership positions with some of the

UN Recognition for Sri Sathya Sai Values-Based Integral Education

Sri Sathya Sai Values-Based Integral Education Initiatives is now part of the Sustainable Development Goals (SDG) - Good Practices, a division of the United Nations Department of Economic and Social Affairs (UN DESA).

As envisioned by our Founder Chancellor Sri Sathya Sai Baba, SSSIHL is a unique Temple of Learning, which offers merit-based, free education for all, irrespective of income, religion, or social status. In this modern Gurukula, the five human values of Truth, Right Conduct, Peace, Love, and Non-violence form the undercurrent of all the dimensions (Physical, Cultural, Intellectual, Devotional, and Service) of integral education, thus providing a holistic environment (EDUCARE), for the development of a student's mind, body, and spirit.



Recognized as “Green Institutional Mentor” by MGNCRE

SSSIHL was recognized by the MGNCRE, Ministry of Human Resource Development, Government of India as a “Green Institutional Mentor” for our exemplary performance in campus water and sanitation management, in March 2020.

The award is in recognition of our contribution to the field of water conservation and for promoting professionalism and capacity building in water and sanitation management on our campus.

Recognized Beat-COVID Campaign Institution by MGNCRE

As part of their “Each One Reach One COVID Mission”, The MGNCRE, Ministry of Education, Govt. of India, recognised the services and support offered by the faculty and students of Sri Sathya Sai Institute of Higher Learning to COVID patients and their families during these trying and difficult times.

Recognized as District Green Champion for Anantapur District by MGNCRE

Sri Sathya Sai Institute of Higher Learning was conferred the ‘One District One Green Champion’ award for the Anantapur district by the MGNCRE, Ministry of Education, Govt. of India, recognizing our contribution to Swachhta Education and Practice. As part of the Swachhta Action Plan (SAP), the SSSIHL constituted an SAP Committee and conducted activities in the areas of Swachhta in Campus, Campus Jal Shakti (Water Conservation in the Campus), and Campus-Post COVID-19 Sanitation Plan.

Prof. Dr. C. B. Sanjeevi, Vice-Chancellor, SSSIHL, and Prof. Sai Giridhar, Registrar, SSSIHL accepted the ‘District Green Champion’ Certificate for Ananthapuramu District, for the year 2020-21 from the District Collector and Magistrate, Ananthapuramu, Andhra Pradesh, Ms. Nagalakshmi Selvarajan, I.A.S, at a Swachhta Action Plan Award Function, held on 31 July 2021, in the presence of Prof. G. Ranga Janardhana Vice-Chancellor, JNTU and Prof. C. Sashidhar, Registrar, JNTU Anantapur, Andhra Pradesh and other eminent Academicians who attended the event from the district.

The award is in recognition of our contribution for successfully setting up the Swachhta Action Plan Committee, adopting and implementing best practices in the areas of Sanitation, Hygiene, Waste Management, Water Management, Energy Management, and Greenery Management.





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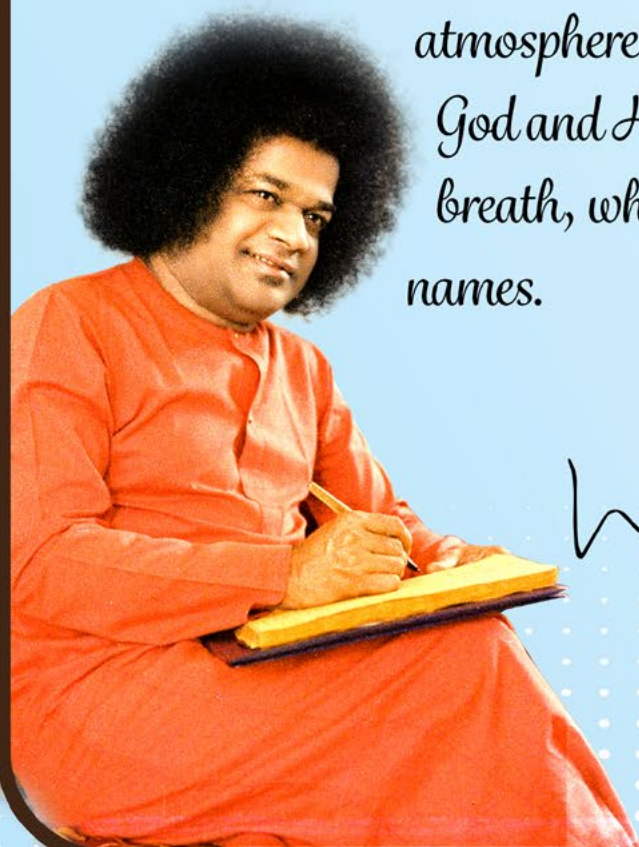
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Swami's Letter to Students

My Dears!

Each of you must take some spiritual sadhana or other in order to cleanse the mind of lust and greed, anger and hatred. Come out of the well of ego and swim in the ocean of Universal Spirit or Paramatma of which you are a part. Force your mind or persuade it gently and caressingly to breathe the pure and more vital atmosphere of the eternal. Remember God and His Glory, every second, every breath, when you repeat one of His names.



Wm Lall
Baba

Prema Dhaara Vol. 1



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The End of Knowledge is Freedom.

SRI SATHYA SAI BABA