WORKSHOP REPORT

TUBERCULOSIS EPIDEMIOLOGY AND THE NATIONAL TUBERCULOSIS ELIMINATION PROGRAM (NTEP)

ORGANIZED BY

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE (DMACS),
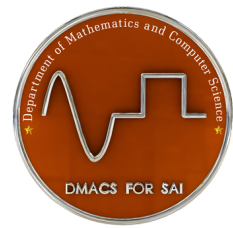
SRI SATHYA SAI INSTITUTE OF HIGHER LEARNING (SSSIHL)

AND

NATIONAL TUBERCULOSIS INSTITUTE (NTI), BANGALORE (BLR)

G20

भारत 2023 INDIA

वसुधैव कुटुम्बकम्
ONE EARTH • ONE FAMILY • ONE FUTURE

CONVENOR

DR. D. K. K. VAMSI, DMACS – SSSIHL
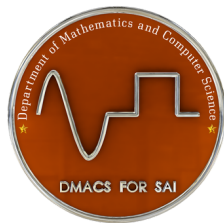
RESOURCE PERSONS FROM DMACS - SSSIHL

DR. RAGHUNATHA SARMA, HOD, DMACS – SSSIHL

FACULTY, DMACS – SSSIHL

RESOURCE PERSONS FROM NTI - BANGALORE

DR. VINEET KUMAR CHADHA, ADVISOR, NTI – BLR

*DR. UMA SHANKAR S, CHIEF MEDICAL OFFICER ,
HEAD OF EPIDEMIOLOGY & RESEARCH IN TB, NTI – BLR*

*DR. GEORGE SEBASTIAN, JR. BACTERIOLOGIST,
NTI – BLR*

JANUARY 27, 2023 - DAY 1

MORNING SESSION

The morning session majorly focused on the discussion on the topic "To estimate the impact of nutritional supplementation to household contacts of microbiologically confirmed pulmonary TB patients in addition to TB preventive treatment." A mathematical model was formulated and was finalized. The session ended with discussion and identification on some of the possible refences for parameter estimation for the proposed mathematical model.

MEMBERS INVOLVED - DMACS, PSN CAMPUS MATHEMATICAL MODELING GROUP & NTI RESOURCE PERSONS

AFTERNOON SESSION

The afternoon session majorly focused on the discussion on the topic "Prediction of Tuberculosis Recurrence in Patients at Scale and Prediction of Mortality in Tuberculosis Patients at Scale." Initially a brief presentation was made by faculty from BRN campus regarding the proposed topic followed by a discussion on the same. The session ended on a note to further strengthen and carry this collaboration by a physical visit of faculty from BRN campus to NTI, BLR for finalization and continuation of the proposed work.

MEMBERS INVOLVED - DMACS, PSN & BRN CAMPUS MATHEMATICAL MODELING GROUP & NTI RESOURCE PERSONS

CENTRAL RESEARCH AND INSTRUMENTATION FACILITY (CRIF) - VISIT

The afternoon discussion session was followed by a brief visit to the CRIF stationed at PSN Campus, SSSIHL. The NTI resource persons had been briefed about the various instruments available and the research activities happening at CRIF. There were also discussions about the possible collaborations with the CRIF research actiivities.

MEMBERS INVOLVED - DMACS, PSN CAMPUS MATHEMATICAL MODELING GROUP, NTI RESOURCE PERSONS & CRIF FACULTY
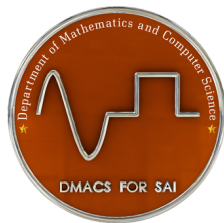
JANUARY 28, 2023 - DAY 2

MORNING SESSION

The morning session majorly focused on the possible collaborations between DMACS - SSSIHL and NTI, BLR. Initially the visiting team from NTI presented about the TB Epidemiology, about the NTEP program, the various digital data collected, a brief go through the NIKSHAY Database and a brief update regarding the various Laboratory methods being carried out at NTI to all the faculty and research scholars of DMACS - PSN Campus. After these presentations there were open discussions with the faculty and NTI resource persons regarding the possible collaborations.

MEMBERS INVOLVED - FACULTY & RESEARCH SCHOLARS, DMACS - PSN CAMPUS & NTI RESOURCE PERSONS

AFTERNOON SESSION

In the afternoon for the first time at PSN Campus, SSSIHL a common science colloquium was organized across the science departments. The audience comprised of PG Science students and Science Faculty. The visiting team from NTI made detailed presentations regarding the TB Epidemiology, about the NTEP program, the various digital data collected, a brief go through the NIKSHAY Database and about the various Laboratory methods being carried out at NTI. This was followed by a discussion of NTI members with PG Science students and Science Faculty.

MEMBERS INVOLVED - PG SCIENCE STUDENTS, SCIENCE FACULTY - PSN CAMPUS, SSSIHL & NTI RESOURCE PERSONS

THE WORKSHOP CONCLUDED WITH THE COLLOQUIUM SESSION
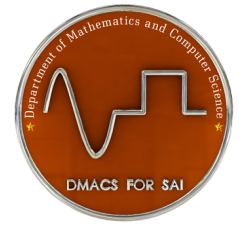
PROPOSED COLLOBRATIONS BETWEEN SSSIHL & NTI

- TO ESTIMATE THE IMPACT OF NUTRITIONAL SUPPLEMENTATION TO HOUSEHOLD CONTACTS OF MICROBIOLOGICALLY CONFIRMED PULMONARY TB PATIENTS IN ADDITION TO TB PREVENTIVE TREATMENT AND DIABAETIC TREATMENT

- COMPUTER VISION TECHNIQUES FOR ACID FAST BACTERIA IDENTIFICATION IN DIGITIZED SPUTUM SMEAR IMAGES FOR FAST TUBERCULOSIS DETECTION.

- PREDICTION OF TUBERCULOSIS RECURRENCE IN PATIENTS AT SCALE

- PREDICTION OF MORTALITY IN TUBERCULOSIS PATIENTS AT SCALE

- MULTI-OMIC ANALYSIS OF TUBERCULOSIS MICOBACTERIUM AND HOST RESPONSE TO INFECTION TO UNDERSTAND POTENTIAL BIOMARKERS AND THERAPEUTIC TARGETS

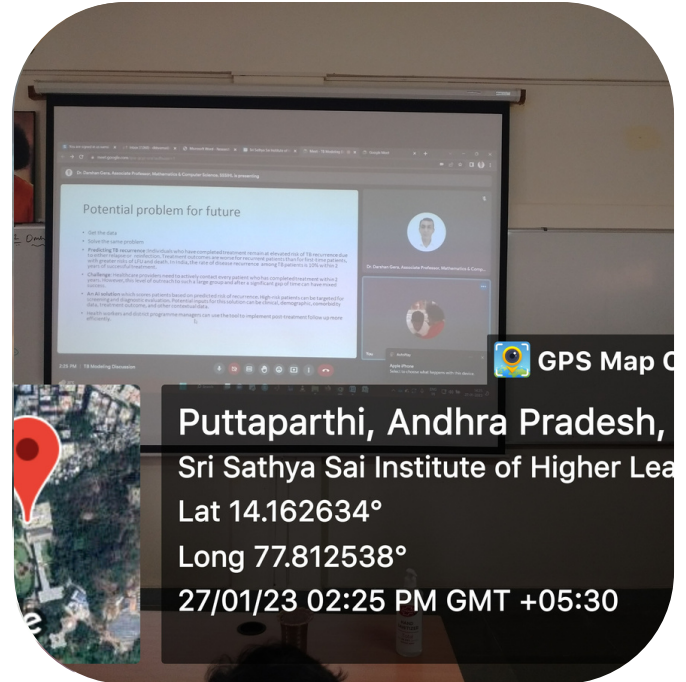- AI FOR LPA AND WHOLE GENOME SEQUENCING

PHOTO GALLERY

Puttaparthi, Andhra Pradesh, India
Sri Sathya Sai Institute of Higher
Learning
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