

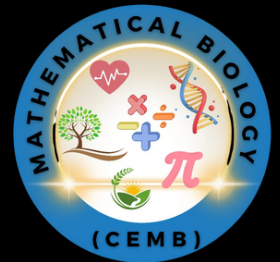


SRI SATHYA SAI INSTITUTE OF HIGHER LEARNING
(Deemed to be University)

Popular Science Talk Series

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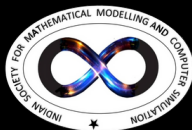
SPEAKER

DR. RANI MADHAVAPEDDI PATEL

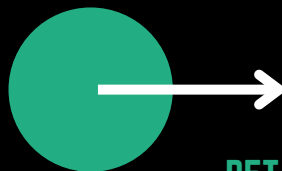
TOPIC

**The Second Brain -
What is it and how does it
impact Health and Disease**

IN COLLABORATION WITH



**INDIAN SOCIETY FOR MATHEMATICAL
MODELING AND
COMPUTER SIMULATION (ISMMACS)**



DETAILS

7 June 2025

6 p.m. to 7 p.m. IST

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*As part of
Sri Sathya Sai Centenary Celebrations*

TOPIC

The Second Brain - What is it and how does it impact Health and Disease

ABSTRACT

Over five thousand years ago, Ayurveda proclaimed that you are only as healthy as your gut. Families took this seriously ensuring that both children and adults maintained good digestion and regular bowel movements. A weekly or monthly dose of castor oil was a common household remedy. A predominantly vegetarian diet rich in fiber naturally supported digestive health by preventing the accumulation of toxins generated through metabolic processes. While Western medicine once dismissed these practices going so far as to define constipation as the absence of a bowel movement for up to five days times have changed. Over the last decade, scientific attention has returned to the gut. Discussions about gut health, including curious questions like "Are you a sinker or a floater?", have entered mainstream conversation.

In the last 10–15 years, a growing body of scientific research has confirmed that the digestive tract and its microbial ecosystem play a vital role in our physical, mental, and emotional well-being. The gut houses over 100 million neurons collectively known as the enteric nervous system, often referred to as the "second brain". This system produces more than 30 neurotransmitters, including 95% of the body's serotonin, famously called the "happy hormone."

The age old saying, "The way to a man's heart is through his stomach," may have more truth than we thought! The intestinal microbiome the vast community of microorganisms living in our gut interacts with these neurons to regulate everything from mood and immunity to metabolism and cognition. The health or dysfunction of this system can be a determining factor in wellness or disease. In this session, we will take a deep dive into what constitutes the gut microbiome, the factors that influence its balance, its impact on overall health, cutting-edge studies using fecal microbiota transplantation (FMT) to treat various diseases, the emerging field of microbe based precision medicine.

Organised along with the Departments of:

MATHEMATICS AND COMPUTER SCIENCE (DMACS), BIOSCIENCES (DBIO), AND FOOD & NUTRITIONAL SCIENCES (DFNS), SSSIHL

SPEAKER

DR. RANI MADHAVAPEDDI PATEL

BIO

Dr. Rani Madhavapeddi Patel is a distinguished nutritionist with a career spanning over four decades across India and the United States. She served for more than 16 years at the National Institute of Nutrition (NIN), India, where she contributed to critical research, including the WHO/NIN/SEARO project on vitamin losses during the cooking of green leafy vegetables.

She was the Founder Joint Secretary of the Indian Dietetic Association and received the prestigious Sagarmal Goenka Award for her contributions to the field of dietetics. Her doctoral research on “Energy Requirements of Breastfeeding Mothers” gained international recognition and laid the foundation for the Indian Council of Medical Research (ICMR)'s current recommendations on nutritional requirements for Indian populations.

After moving to the United States, Dr. Patel continued her impactful work in public health, collaborating with the Centers for Disease Control and Prevention (CDC) on health promotion and disease prevention initiatives. For her exemplary efforts in training employees on Continuous Quality Control at the Texas Department of Health, she was honored with a Gold Medal.

Transitioning into the private sector, she held senior leadership roles, including Chief Science Officer and later Executive Vice President at Nutracea, a company focused on nutritional innovation. She has also held academic positions, teaching at San Jose State University, Southwestern College of Naturopathic Medicine, and currently serves as a Visiting Professor at DeVry University, Phoenix, Arizona.

Dr. Patel has delivered numerous professional presentations in India and the U.S. and has authored over 24 scientific publications. Her work is frequently cited in academic textbooks on breastfeeding, nutrition during pregnancy, and lactation. She has served as a reviewer for scientific journals and as a mentor to MS and PhD students, significantly contributing to research development. She was also a member of the Research Committee at the University of Arizona Medical School, Phoenix for several years.

Currently residing in Phoenix, Arizona, Dr. Patel remains active in community service. She is a dedicated member of the Mesa Sai Center and teaches Sri Sathya Sai Balvikas Group 2.

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