

National Science Day

27th February, 2022

- Welcome Address by **Prof. G Ambika** | **10:00**
- Talk by CELESTIC on **Astrophysics in Daily Life** | **10:10**
- ECS Presentation on **Sustainable Environment** | **10:35**
- **Communicating Science through Art** - Finals | **11:10**
- **iGEM Indian League** Initiative | **12:00**

28th February, 2022

Forenoon

- Science Day Address to students by **Prof. Ramesh Sonti** | **10:00**
- **Jeopardy** by Shemushi Club | **10:10-11:40**
- **Escape Room** by Synergy Club | **10:10-11:40**

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Afternoon

- Opening Remarks by **Prof. K.N. Ganesh** | 2:00
- Introduction of the Chief Guest by **Prof. Vijaymohanan Pillai** | 2:10
- Invited talk by **Prof. Ganapati D. Yadav** | 2:20
- Presentation by **Hattrick Gold winning iGEM Team** | 3:05
- Science Day Competitions-**Prize announcement** | 3:45
- **Closing Remarks** and **Vote of Thanks** | 4:00



About the Speaker

Professor Ganapati D. Yadav is one of the topmost, highly prolific, and accomplished scientists in India. He is internationally recognized for his seminal contributions to education, research and innovation in green chemistry and engineering, catalysis, chemical engineering, biotechnology, nanotechnology, and the development of clean and green technologies. For about ten years, he served as the founding vice-chancellor, R.T. Mody distinguished professor, and Tata Chemicals Darbari Seth distinguished professor of leadership and innovation at the Institute of Chemical Technology (ICT), Mumbai.



He currently holds the titles of Emeritus professor of eminence and J.C. Bose national fellow at ICT. He also serves as the adjunct professor at University of Saskatchewan, Canada, RMIT University, Melbourne, Australia and Conjoint Professor, University of New Castle, Australia.

He has supervised 47 post-doctoral fellows, 107 doctoral, 135 master's theses and several summer fellows and research staff. He has published 498 original research papers, 115 granted national and PCT patents.

Awards and Honours:

He has received over 125 national and international honours, awards, fellowships, editorships, and several life time achievement awards by prestigious industrial organizations; For instance, Zaheer Husain Medal of the Indian National Science Academy, Jai Krishna Memorial Award of the Indian National Academy of Engineering among many others. He is an elected fellow of Indian National Science Academy, Indian Academy of Sciences, National Academy of Sciences, India, Indian National Academy of Engineering as well as The World Academy of Sciences, Trieste (TWAS). He is a fellow of the Royal Society of Chemistry, UK, Institution of Chemical Engineers, UK, Indian Institute of Chemical Engineers, Indian Chemical Society, and Indian Society for Technical Education, among others. He is currently the President of the Indian Chemical Society and Editor-in-Chief, Journal of the ICS being published by Elsevier. He has been recently elected as a fellow of the National Academy of Engineering (NAE), USA. He was conferred Padma Shri, the fourth highest civilian honour, by the President of India in 2016 for his outstanding contributions to Science and Engineering. He has also been recipient of two honorary doctorates: D. Sc. (Hon. Causa, DYPU) and D. Eng. (Hon. Causa, NIT Agartala).

About iGEM 2021

The International Genetically Engineered Machine (iGEM) competition is an annual, worldwide synthetic biology event, giving students the opportunity to solve everyday issues faced by the world. More than 350 teams from 40+ countries participate in iGEM every year.

We are a team of 15 undergraduate students from the Indian Institute of Science Education and Research (IISER) Tirupati designing a novel contraceptive for uterus owners: "OviCloak"



The modern contraceptives used at present have improved efficiency, but they have certain drawbacks that need immediate attention both from a human health and environmental perspective. Keeping in mind the importance of contraception globally, we aim to develop a safe and environment-friendly contraceptive for uterus owners by utilizing commensal bacteria of the fallopian tubes. Using synthetic biology, we plan to equip the bacteria with a progesterone sensing system that regulates the production of ovastacin, an ovum-specific human protease. Ovastacin acts as a contraceptive molecule by specifically targeting the outer layer of the ovum to prevent sperm entry. The bacteria is also engineered with a xylose inducible kill switch to ensure reversibility of the contraception and a blue-light inducible kill switch to kill the bacteria upon any environmental release. OviCloak aims to offer its users control over their fertility and uphold their fundamental rights without compromising their health or the environment.



Please join in live on the YouTube Channel of IISER Tirupati

PC: Manasa Uppala & Shivam Kumar

For any queries, contact:
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