

FELICITATION
of
INTERNATIONAL OLYMPIAD MEDALLISTS OF 2024
in the sciences and mathematics

Sunday, December 22, 2024

SCIENTIFIC PROGRAMME: 09.30 to 11.30 hrs
Expository lectures by eminent scientists

AWARD CEREMONY: 12.00 to 13.30 hrs

An event organized by HBCSE (TIFR) in association with
the Infosys Foundation & the TIFR Endowment Fund.

Homi Bhabha Centre for Science Education
Tata Institute of Fundamental Research

V. N. Purav Marg, Mankhurd, Mumbai – 400 088

<http://www.hbcse.tifr.res.in>

OLYMPIADS IN MATHEMATICS, SCIENCES AND INFORMATICS

The International Olympiads in Mathematics, Physics, Chemistry, Biology, Astronomy and Astrophysics, Junior Science, Earth Science and Informatics are annual academic competitions to stimulate and challenge bright young pre-university students. The aims of the International Olympiads are to promote academic excellence and also to foster friendship among students and teachers of different countries. India started participating in International Olympiads in Mathematics from 1989, in Physics, Chemistry, Biology, Astronomy and Informatics about a decade later, followed by participation in the Earth Science and the Junior Science Olympiads. India has hosted the International Mathematical Olympiad (1996), International Chemistry Olympiad (2001), International Astronomy Olympiad (2006), International Biology Olympiad (2008), International Earth Science Olympiad (2013), International Junior Science Olympiad (2013), International Physics Olympiad (2015) and International Olympiad on Astronomy and Astrophysics (2016).

Homi Bhabha Centre for Science Education (HBCSE), Tata Institute of Fundamental Research (TIFR) is the nodal agency for implementing the Olympiad programme in Mathematics, Physics, Chemistry, Biology, and Astronomy and Astrophysics. The Olympiad programme in the four science subjects is overseen by a National Steering Committee. The Indian Olympiad programme typically involves three stages of selection. The first stage selects a few hundred students from among tens of thousands who appear for the preliminary examinations all over the country. The first stage of the science Olympiads is carried out by the Indian Association of Physics Teachers (IAPT) with support from teacher associations of chemistry and biology. In the mathematics Olympiads carried out under the aegis of the National Board of Higher Mathematics (NBHM), the first stage is conducted by the Mathematics Teachers' Association, India (MTAI) and the second stage is decentralised.

The higher stages in the four science subjects and mathematics are carried out by HBCSE with support from teachers and scientists nationwide. The second stage (third stage for mathematics) is the Indian National Olympiads – the most challenging contests in mathematics and sciences at the pre-college level held in the country. Between 35 and 50 national Olympiad winners in each subject undergo training and testing every summer at HBCSE, after which the Indian teams are selected to represent the country at the International Olympiads.

The Earth Science Olympiad programme is carried out by the Geological Society of India (GSI), the camp being held at Bengaluru or Chennai. The Junior Science Olympiad is conducted by IAPT. The Junior Astronomy Olympiad is under the supervision of the National Council of Science Museums (NCSM) with the training camp being held at NCSM centres. The Informatics Olympiad programme is carried out by the Indian Association for Research in Computing Science (IARCS), the training camp being held at The International School, Bengaluru.

The Science Olympiad programme in India is funded by the Board of Research in Nuclear Sciences (BRNS) of the Department of Atomic Energy (DAE), the Department of Science and Technology (DST) and the Ministry of Education (MoE). The Mathematics Olympiad programme is funded by NBHM (DAE) and MoE. The Astronomy Olympiad programme is funded by the Department of Space (DOS), DAE, and NCSM. The Informatics Olympiad is funded by Indian Association for Research in Computing Science (IARCS), Sasken Technologies Ltd, TCS iON (a division of Tata Consultancy Services), CodeChef (a not-for-profit educational initiative of Unacademy) and Chennai Mathematical Institute. The Earth Science Olympiad programme is funded by the Ministry of Earth Sciences (MoES).

Felicitations of International Olympiad Medallists of 2024

Indian students have been doing consistently well at the International Olympiads. In 2024 the performance was: Mathematics – 4 Gold, 1 Silver, 1 H.M; Physics – 2 Gold, 3 Silver; Chemistry – 1 Gold, 2 Silver, 1 Bronze; Biology – 1 Gold, 3 Silver; Astronomy and Astrophysics – 1 Gold, 4 Silver; Junior Science – 6 Gold; Astronomy and Astrophysics (Junior) – 2 Gold, 1 Silver; Informatics – 1 Gold, 2 Silver, 1 Bronze; Earth Science – 3 Gold, 2 Silver, 3 Bronze. Out of 41 students who participated in various Olympiads, 40 won either a gold, silver or bronze medal. Our Olympiad students are comparable with the best in the world and we are justifiably proud of them.

ACKNOWLEDGEMENTS

In 2002, the Infosys Foundation instituted awards to Indian medallists in the International Olympiads. The awards consist of a cash prize of Rs 15000, the grant for which has been given to the TIFR Endowment Fund. HBCSE (TIFR) expresses its deep gratitude to the Infosys Foundation for its spontaneous and generous response to the Institute's request for this support. We also thank the TIFR Endowment Fund for their proactive interest in the Olympiad programme.

The Government of India has been generously supportive of the Olympiad programme through its various agencies as listed above. We are thankful for this support and for the support for the Informatics Olympiad by the agencies listed. Finally, it is a pleasure to thank the Indian Association of Physics Teachers, the Association of Teachers in Biological Sciences, the Association of Chemistry Teachers, the Mathematics Teachers' Association (India), Indian Physics Association, National Council of Educational Research and Training, IARCS, GSI, NCSM and the large number of scientists and teachers from different institutions across the country for their enthusiastic collaboration in this exciting activity.

Arnab Bhattacharya
Chair, National Steering Committee
for Science Olympiads.

Morning Session

Expository Lectures by Eminent Scientists

Lecture 1 (9:30 to 10:30 hrs)

Prof. Archana Pai

Indian Institute of Technology Bombay, Mumbai



The Decade of Gravitational Wave Astronomy

The year 2015 marked a historic discovery of gravitational waves from coalescing black holes by the two LIGO detectors. It opened a brand new branch of gravitational wave astronomy. Unique in its way, gravitational wave astronomy is complementary to its electromagnetic sister, well known in its various avatars such as optical astronomy, radio astronomy, etc. Within a decade, gravitational wave astronomy has rapidly evolved, as close to 150+ compact binary merger events have been observed, mostly harbouring black holes. These detections have solved not only old puzzles in astronomy but have also opened up new mysteries. This talk will provide a brief overview of a decade-old field of gravitational wave astronomy. It will also highlight the future projections of the field with LIGO-India.

About the Speaker

Prof Archana Pai is a Professor at the Department of Physics, IIT Bombay. She obtained her bachelor's from Ruparel College and secured her Master's in Physics from IIT Bombay. Subsequently, she did a Ph.D. from the Inter-University Center for Astronomy and Astrophysics, Pune in Gravitational Wave astronomy. Post-PhD, she was a postdoctoral fellow at several renowned international groups. For example, she was a Henri Poincare Fellow at the Observatory of Nice, France, an INFN Fellow at the University of Rome, and a postdoctoral fellow at the Albert Einstein Institute, in Germany. Her broad research interests are developing signal detection algorithms for gravitational wave transients, multi-messenger astronomy and testing Einstein's theory against observations. She is a chair of LIGO India Scientific Collaboration -- a multi-institutional pan-India group of scientists who work with LIGO Scientific Collaboration. She has received several recognitions such as the N. R. Sen Young Scientist Award, the Peraiah Foundation Lecture Award, and the Vaidya Raychaudhuri Lecture Award, and shared the Special Breakthrough Prize in Fundamental Physics, the Gruber Prize in Cosmology with the LIGO Scientific Collaboration.

Morning Session

Expository Lectures by Eminent Scientists

Lecture 2 (10:30 to 11:30 hrs)

Prof. Siddhesh Kamat

Indian Institute of Science Education and Research (IISER) Pune



Enzyme Catalyzed Reactions

Enzymes are wonderful biological catalysts that greatly enhance rates of reactions and by doing so, facilitate various metabolic processes in biology. Enzymes display exquisite selectivity and have evolved over millions of years to function at physiological conditions. In this lecture, I will aim to talk about enzyme catalyzed reactions in general, factors that affect this process, and will briefly prospect on what is known about enzyme kinetics.

About the Speaker

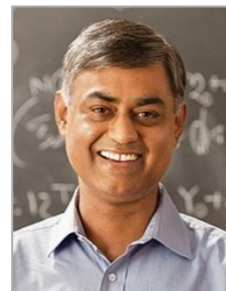
Prof. Siddhesh Kamat is currently an Associate Professor, a Swarna Jayanti Fellow, and an EMBO Young Investigator in the Department of Biology at IISER Pune. Prof. Kamat completed his BTech from the Institute of Chemical Technology (former UDCT) in 2007, and a PhD from the Department of Chemistry at Texas A&M University in 2012. Prof. Kamat was the 9th Irving S. Sigal Postdoctoral Fellow of the American Chemical Society at the Department of Chemical Physiology, The Scripps Research Institute. He joined IISER Pune in 2016, and is the chairperson, National Facility for Gene Function in the Health and Disease at IISER Pune. He is a Fellow of the Royal Society of Chemistry. He was awarded the Infosys Prize in Life Sciences in 2024.

Afternoon Session (12:00 – 13:30 hrs.)

Address & Award distribution by

Prof. Sandip Trivedi

Distinguished Professor, and former Director
Tata Institute of Fundamental Research, Mumbai









About the Chief Guest

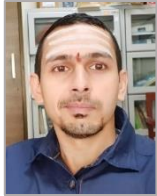



Prof. Sandip Trivedi is a Theoretical Physicist with interests in Cosmology Particle Physics and String Theory. He obtained his Master's degree in 1985 from IIT Kanpur, and his Ph.D. in 1990 from Caltech, USA. He has carried out research at the Institute for Advanced Study, Princeton, and at Fermi National Accelerator Laboratory. He joined TIFR in 1999 where he is currently a Distinguished Professor. From 2015-2020 he served as Director of TIFR. He is a Fellow of the Indian Academy of Sciences, The Indian National Science Academy and The World Academy of Science. Prof. Trivedi is a recipient of the Shanti Swarup Bhatnagar prize, the Infosys prize and The World Academy of Sciences Prize in the Physical Sciences.

**INDIAN DELEGATION TO THE
65th INTERNATIONAL MATHEMATICAL OLYMPIAD 2024**

The following team represented India at the 65th International Mathematical Olympiad held at Bath, United Kingdom from July 11 to July 22, 2024.


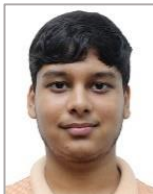



Sr. no.	Students	Medals	
1	Adhitya Mangudy Sri Chaitanya Techno School, Pune	Gold	
2	Ananda Bhaduri Sarala Birla Gyan Jyoti, Guwahati	Gold	
3	Kanav Talwar Delhi Public School, Faridabad	Gold	
4	Rushil Mathur Rahul International School, Mumbai	Gold	
5	Arjun Gupta NIOS Study Centre 270498, Mother Divine Public School, Delhi	Silver	
6	Siddharth Choppara Amanora School, Pune	Honourbale Mention	

Leaders and Scientific Observers





1	Prof. Krishnan Sivasubramanian Indian Institute of Technology Bombay, Mumbai	Leader	
2	Dr. Rijul Saini Homi Bhabha Centre for Science Education (HBCSE), Mumbai	Deputy Leader	
3	Mr. Rohan Goyal Massachusetts Institute of Technology, USA	Observer 'A'	
4	Dr. Mainak Ghosh Indian Statistical Institute, Bengaluru	Observer 'B'	

**INDIAN DELEGATION TO THE
54th INTERNATIONAL PHYSICS OLYMPIAD 2024**

The following team represented India at the 54th International Physics Olympiad 2024 held at Isfahan, Iran from July 21 to July 29, 2024.




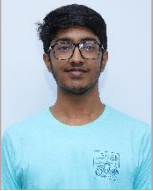
Sr. no.	Students	Medals	
1	Rhythm Kedia MB International School, Kota	Gold	
2	Ved Lahoti Disha Delphi Public School, Kota	Gold	
3	Akarsh Raj Sahay School of Scholars, Atrey Layout, Nagpur	Silver	
4	Bhavya Tiwari Apeejay School, Noida	Silver	
5	Jaiveer Singh Lal Bahadur Shastri Senior Secondary School, Kota	Silver	

Leaders and Scientific Observers

1	Prof. Deepak Garg DAV College, Chandigarh	Leader	
2	Dr. Shirish Pathare Homi Bhabha Centre for Science Education (HBCSE), Mumbai	Leader	
3	Prof. A. C. Biyani Retd., Government Nagarjuna Post Graduate College of Science, Raipur	Scientific Observer	
4	Prof. Vivek Bhide Gogate-Jogalekar College, Ratnagiri	Scientific Observer	

**INDIAN DELEGATION TO THE
56th INTERNATIONAL CHEMISTRY OLYMPIAD 2024**

The following team represented India at the 56th International Chemistry Olympiad 2024 held at Riyadh, Saudi Arabia, from July 21 to July 30, 2024.





Sr. no.	Students	Medals	
1	Devesh Pankaj Bhaiya L. H. Patil English Medium School, Jalgaon	Gold	
2	Avaneesh Bansal Maa Bharti Senior Secondary School, Kota	Silver	
3	Harshin Posina FIITJEE Junior College, Hyderabad	Silver	
4	Kashyap Khandelwal PACE Junior Science College, Mumbai	Bronze	

Leaders and Scientific Observers





1	<p>Prof. Gulshanara Shaikh Formerly, St. Xavier's College, Mumbai</p>	Head Mentor	
2	<p>Dr. Shraeddha Tiwari Institute of Chemical Technology (ICT), Mumbai</p>	Mentor	
3	<p>Prof. Seema Gupta Acharya Narendra Dev College, Delhi</p>	Scientific Observer	
4	<p>Dr. Amrit Mitra Govt. General Degree College, Singur (WB)</p>	Scientific Observer	

**INDIAN DELEGATION TO THE
35th INTERNATIONAL BIOLOGY OLYMPIAD 2024**

The following team represented India at the 35th International Biology Olympiad 2024 held at Astana, Kazakhstan from July 07 to July 13, 2024.






Sr. no.	Students	Medals	
1	Vedant Sujit Sakre Nirmala Memorial Foundation College of Science and Commerce, Mumbai	Gold	
2	Ishan Satish Pednekar Disha Delphi Public School, RK Puram, Kota	Silver	
3	Shrijith Sivakumar Sri Krish International School (CBSE), Chennai	Silver	
4	Yashashwi Kumar Delhi Public School, Bareilly	Silver	

Leaders and Scientific Observers







1	<p>Prof. Sasikumar Menon Therapeutic Drug Monitoring Lab., Mumbai</p>	Leader	
2	<p>Dr. Mayuri Rege Homi Bhabha Centre for Science Education (HBCSE), Mumbai</p>	Leader	
3	<p>Dr. Rajesh Patkar Indian Institute of Technology Bombay, Mumbai</p>	Scientific Observer	
4	<p>Dr. Devesh Suthar The Maharaja Sayajirao University of Baroda, Baroda</p>	Scientific Observer	

**INDIAN DELEGATION TO THE 17th INTERNATIONAL OLYMPIAD ON
ASTRONOMY AND ASTROPHYSICS 2024**

The following team represented India at the 17th International Olympiad on Astronomy and Astrophysics 2024 held at Rio de Janeiro, Vassouras, Brazil from August 17 to August 26, 2024.





Sr. no.	Students	Medals	
1	Daksh Tayalia Shri Ram Global School OMR, Bangalore	Gold	
2	Aayush Kuthari Mahaveer Junior College, Pune	Silver	
3	Banibrata Majee Narayana Jr. College, Hyderabad	Silver	
4	Panini Lakshya International Academy, Vaishali, Bihar	Silver	
5	Sanidhya Saraf Narayana eTechno School, Mumbai	Silver	

Leaders and Scientific Observers




1	Prof. Bhargav Vaidya Indian Institute of Technology Indore, Indore	Leader	
2	Mr. Pritesh Ranadive Homi Bhabha Centre for Science Education (HBCSE), Mumbai	Leader	
3	Mr. Yash Mehta Open AI	Scientific Observer	
4	Dr. Vaibhav Pant Aryabhata Research Institute of Observational Sciences (ARIES), Nainital	Scientific Observer	
5	Dr. Akshat Singhal Homi Bhabha Centre for Science Education (HBCSE), Mumbai	Scientific Observer	
6	Prof. Arnab Bhattacharya Homi Bhabha Centre for Science Education (HBCSE), Mumbai	Scientific Observer	

**INDIAN DELEGATION TO THE
17th INTERNATIONAL EARTH SCIENCE OLYMPIAD 2024**

The following team represented India at the 17th International Earth Science Olympiad held at Beijing, China from August 8 to August 16, 2024.






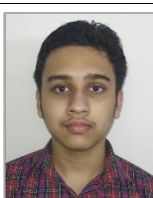
Sr. no.	Students	Medals	
1	Rudra Pethani Innovative International School, Rajkot	1 Gold, 1 Silver, 1 Bronze	
2	Siddharth Kumar Gopal Emerald International School, Bengaluru	1 Gold, 1 Silver	
3	Manan Sethia Krishna Public School, Raipur	1 Gold, 1 Bronze	
4	Yashaswee Gupta India International School, Jaipur	1 Bronze	

Leaders and Scientific Observers





1	<p>Prof. Hema Achyuthan Centre for Environmental Studies, Anna University, Chennai</p>	Mentor	
2	<p>Prof. Devesh Walia North-Eastern Hill University, Shillong</p>	Mentor	
3	<p>Dr. Jagvir Singh Ministry of Earth Sciences, Government of India, New Delhi</p>	Scientific Observer	

**INDIAN DELEGATION TO THE
21st INTERNATIONAL JUNIOR SCIENCE OLYMPIAD 2024**

The following team represented India at the 21st International Junior Science Olympiad held at Bucharest, Romania from December 2 to December 12, 2024.




Sr. no.	Students	Medals	
1	Pranit Mathur St. Kabir School, Ahmedabad	Gold	
2	Harshit Singla Om Parkash Bansal Modern School, Mandi Gobindgarh	Gold	
3	Manas Goel O. P. Jindal Modern School, Hisar	Gold	
4	Jinansh Jignesh Shah Delhi Public School, Pune	Gold	
5	Bhavyaa Gunwal Narayana E-Techno School, Jaipur	Gold	
6	Shwetank Agrawal DAV Public School, Gurugram	Gold	

Leaders and Scientific Observers



1	Dr. B. S. Achutha VVS Sardar Patel PU College, Bengaluru	Leader	
2	Dr. Rekha S. Formerly, VVS First Grade College Bengaluru	Leader	
3	Dr. Srinath T. L. GenoPhe Biotech Pvt Ltd Bengaluru	Leader	
4	Prof. Rekha Ghorpade Formerly, Ramniranjan Jhunjhunwala College, Mumbai	Scientific Observer	

**INDIAN DELEGATION TO THE 3rd INTERNATIONAL OLYMPIAD ON
ASTRONOMY AND ASTROPHYSICS (JUNIOR) 2024**

The following team represented India at the 3rd International Olympiad on Astronomy and Astrophysics (Junior) held at Kathmandu, Nepal from October 3 to October 10, 2024.





Sr. no.	Students	Medals	
1	Pranjal Dixit Delhi Public School, Secunderabad	Gold	
2	Sumant Gupta New Sainik Sr. Sec. Public School, Noida	Gold	
3	Shashank Kaundilya Central Public School, Samastipur	Silver	

Leaders and Scientific Observers



1	Mr. Suresh Kumar Kurukshetra Panorama & Science Centre, Kurukshetra	Leader	
2	Dr. Rakesh Mazumder Birla Industrial & Technological Museum, Kolkata	Leader	

**INDIAN DELEGATION TO THE
36th INTERNATIONAL OLYMPIAD IN INFORMATICS 2024**

The following team represented India at the 36th International Olympiad in Informatics held at Alexandria, Egypt from September 1 to September 8, 2024.

Sr. no.	Students	Medals	
1	Kshitij Sodani Disha Delphi Public School, Kota	Gold	
2	Sushil Raaja U Budding Minds International School, Chennai	Silver	
3	Samik Goyal St. Peters Academy, Patiala	Silver	
4	Yash Thakker Garodia International Centre of Learning, Mumbai	Bronze	

Leaders and Scientific Observers

1	Prof. Madhavan Mukund Chennai Mathematical Institute, Chennai	Leader	
2	Mr. Jatin Yadav Indian Institute of Technology Delhi, Delhi	Deputy Leader	

**Homi Bhabha Centre for Science Education
Tata Institute of Fundamental Research**
V. N. Purav Marg, Mankhurd, Mumbai – 400 088

Telephone: 91-22-2556 2132, 2507 2204, 2507 2205,
Web: www.hbcse.tifr.res.in

**TIFR Endowment Fund
Tata Institute of Fundamental Research**
Colaba, Mumbai – 400 005

Telephone: 91-22-2278 2500/2669
Web: www.tifr.res.in

Infosys Foundation
Neralu, #1/2 (1878), 11th Main,
39th Cross, 4th T Block, Jayanagar,
Bangalore 560011, Karnataka

Telephone: 91-80-26534653 / 41261700
Web: www.infosys.com/infosys-foundation/