

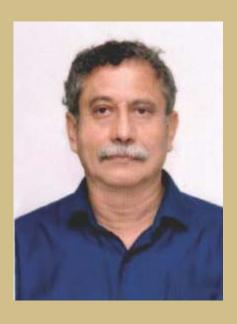
...towards excellence in science

#### भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान कोलकाता INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH KOLKATA

An Autonomous Institute under

Ministry of Human Resource Development Govt. of India

IISER Kolkata is Ranked overall No 25 and No 1 among all IISERs in the NIRF 2018



# Director's Message

Indian Institute of Science Education and Research Kolkata (IISER-K) was established in 2006 as an autonomous institute for higher education by the Ministry of Human Resource Development (MHRD), Government of India, to promote high quality education and research in basic science. IISER-K has completed more than ten years of its existence and has established excellence in science in form of teaching, publications, both in terms of quality and quantity. Many under graduate students are also engaged in research as a part of their curriculum.

IISER-K today has a vibrant campus with strong faculty members of repute and supportive non-teaching staff members. The students pursuing various degrees are among the best in the country and have established a commendable culture.

Efforts of IISER Kolkata towards excellence in science have also been geared to provide international exposure to the students through participation and presentations in the national and international conferences and summer internships in the various parts of the globe. The Institute has established mutual partnership with various national and international Universities/Institutes for exchange of students and faculty and research collaborations.

Creating research infrastructure is one of our top priorities. The Institute has state-of-the-art research laboratories equipped with sophisticated modern equipment. Notably, the faculty members are attracting significant support for their research activities from both national and international funding agencies.

Several eminent scientists/scholars from India and abroad spanning different fields regularly visit IISER Kolkata to deliver special lectures on topics of wide interest to keep the students and the faculty updated with recent scientific developments.

Sports and co-curricular activities are also strongly encouraged at IISER Kolkata and students are given every form of support to develop their talents in all fields. We have a very good support system with officers and administrative staff members, which have been relentlessly helping the Institute in its pursuits of excellence in science.

Prof. Sourav Pal

Director, IISER Kolkata

## Academic Department

#### **Biological Sciences**

The Department of Biological Sciences has been conducting research and teaching in a broad spectrum of areas in Biology. We work on animal behaviour, bio-diversity, cell and molecular biology, conservation biology, developmental biology, ecology, evolution, genetics, immunology, marine biology, microbiology, neuro-biology, plant biology, physiology, population biology, structural biology and biophysics. In our research, we not only encourage interdisciplinary scientific explorations, we also aim to apply our research in addressing health and environmental issues.

#### **Chemical Sciences**

The Indian Institute of Science Ecucation and Research-Kolkata was founded in 2006 by the Ministry of Human Resource Development (MHRD), Government of India and one of the first departments to be established was the Department of Chemical Sciences (DCS). From the beginning, the Department has incarnated the Institute's mission of excellence in both research and teaching. The DCS has appreciable strength in the core areas of physical, organic and inorganic chemistry as well as in interdisciplinary research areas at the boundaries with physics, biology, earth science and materials science. An extremely wide range of state-of-the-art instrumentations are available in different research groups to carry out the DCS research activity.

#### **Earth Sciences**

Indian Institute of Science Education & Research, Kolkata is the first among five IISERs, to have established a Department of Earth Sciences. The department started its journey in 2007, a year after IISER-Kolkata was established. The Department of Earth Sciences is committed to building a community of researchers including students and faculty members. The goal of the Department is to develop a modern center for Earth Science Education and Research in three core areas: Environmental and ecological studies in modern and ancient systems, Isotope Geochemistry and Biogeochemical studies, Solid Earth studies.

## Mathematics and Statistics

As an integral part of the fresh, dynamic and promising new concept called IISER Kolkata, the department is committed to its central theme of integrating education with research so that undergraduate teaching as well as doctoral and postdoctoral research work could be carried out in symbiosis.

#### **Physical Sciences**

Department of Physical Sciences focuses on the cutting edge research in the fields of condensed matter, astrophysics and cosmology, nano-science, optics, quantum information, nonlinear, and high energy physics. In synchrony with the institute's motto, the department also aims at teaching and training students from basic to advanced level.

# Center of Excellence in Space Sciences, India (CESSI)

The Center of Excellence in Space Sciences India (CESSI) is a multi-institutional Center of Excellence hosted by the Indian Institute of Science Education and Research (IISER) Kolkata and has been established through funding from the Ministry of Human Resource Development. CESSI aims to explore the Sun's activity, generate the understanding necessary for space weather forecasting, hunt for gravitational waves, support national space science initiatives, participate in international capacity building activities and pursue public-private partnerships in space science research. The Center will take advantage of high-



performance computing facilities, cloud computing and the high-speed National Knowledge Network grid to achieve its goals. CESSI faculty are drawn from IISER Kolkata, IISER Pune, Indian Institute of Astrophysics (Bangalore), Udaipur Solar Observatory-Physical Research Laboratory (Udaipur) and the Indian Space Research Organization (Bangalore), have wide-ranging interests in the astrophysical space sciences, and have the experience of handling international and national space science projects.

Since its inception CESSI has already contributed to major developments in astrophysics and space sciences. Notably, CESSI personnel are associated with the recently approved Aditya-L1 mission - India's first space mission to study the Sun. CESSI personnel contributed to the first direct detection of astrophysical gravitational waves from a binary Black Hole merger system and are involved with the LIGO-India mega project which aims to deploy a third gravitational wave detector in India to supplement the observations from the two detectors in the United States of America. CESSI affiliated personnel have also been involved with the planning and installation of India's most advanced ground-based solar telescope - the Multi-application solar telescope at Udaipur Solar Observatory (Physical Research Laboratory) which has been operating since 2015. CESSI faculty are also playing important roles in national and international capacity building through their roles in working groups and committees at the International Astronomical Union (IAU), Committee on Space Research (COSPAR), Scientific Committee on Solar-Terrestrial Physics (SCOSTEP), Astronomical Society of India (ASI) and the Indian Space Research Organization (ISRO).

# Centre for Advanced Functional Materials (CAFM)

At Indian Institute of Science Education and Research, Kolkata, the Centre for Advanced Functional Materials (CAFM) has a special mission to foster collaborative, interdisciplinary research and education in the science and technological applications of advanced solid state and soft materials. With an emphasis on nanoscience and nanotechnology, the research areas of CAFM include hybrid solar cells; fuel cells; strongly correlated materials; polymer and supramolecular delivery vehicles; materials for environmental remediation. CAFM coordinates to foster advanced research towards synthesis of smart materials, structure-property elucidation, device fabrication and

cutting-edge applications. Apart from establishing collaboration between researchers within and outside IISER Kolkata, CAFM promotes technology transfer of developed materials and devices. The faculty members of CAFM provide research training to BS-MS, IPhD students, PhD scholars and postdoctoral fellows, and conduct interdisciplinary courses on advanced functional materials.

## **National Centre for High Pressure Studies (NCHPS)**

The National Centre for High Pressure Studies (NCHPS) in IISER Kolkata aims to foster interdisciplinary and collaborative research in the field of Natural Sciences, Materials Sciences and Geosciences. The emphasis will be on fundamental studies of structural changes and novel phase transitions of both naturally occurring and designed materials that occur under extreme conditions, using an integration of theory and experiment. The recently created centre has facilities to achieve megabar pressures and very high temperatures using laser heated diamond anvil cell (LHDAC) and to study the changes in physical properties of materials in situ using Raman Spectroscopy and electrical transport studies.

## Academic Programmes

When the brightest meets the best, the possibilities are endless. IISER Kolkata derives strength from its talented students, faculty of excellent academic repute, state-of-theart research facilities and flexibility of academic programmes. An important aspect of IISER Kolkata is its interdisciplinary character, as modern science education and research focus on broader perspectives. Keeping this in mind, IISER Kolkata offers a 5-Year BS-MS Dual-Degree Programme, a 2-years MS in Space physics Programme for BE/BTech students, an Integrated PhD Programme (IPhD) for students joining the Institute after completing a BS/BSc degree elsewhere, and a vibrant PhD Programme. The coexistence of BS-MS, IPhD and PhD students epitomizes the synergy between research and teaching that is achieved in the Institute. Notably, all pre-doctoral students receive stipends to meet their academic expenses.



#### 5-Year BS-MS Dual-Degree

The 5-Year BS-MS Dual-Degree Programme is the flagship programme of all IISERs. At present a student at IISER Kolkata has to take courses which involve one year of compulsory exposure to all the major science disciplines to study, available at the Institute – namely Physics, Chemistry, Mathematics, Biology and Earth Sciences, with laboratory courses which also include applications of Computer Science. In the second year, students choose three of the five courses on offer as 'pre- majors' so that they can focus more on their major subjects of interest. At the end of the second year the students choose 'major subjects' (discipline) which will be the focus of their studies for the next three years. However, in these three years they have adequate opportunity to study other disciplines by taking 'minor courses' as well as elective and interdisciplinary courses on offer.

The final year is primarily devoted to a year-long research project leading to a Masters' thesis. Some disciplines also give a small number of courses in the final year in order to achieve the desired educational objectives. In the course of the five years they spend in the Institute, all our students undertake summer research either in-house or elsewhere. Understandably, our graduates are well- exposed to undertake research in frontier areas. The current strength of BS-MS students is 875 and a total number of 490 students received their BS-MS degree.

All the five IISERs work together in many ways. There is a common course philosophy that is followed and the course structures are in tune with each other. The initial curriculum development for all IISERs was undertaken by a 'National-Level Curriculum Committee', which has now evolved, based on in-house experience and expertise of IISER Kolkata faculty.

The process of admission to the 5-Year BS-MS Dual-Degree programme is through three channels, viz., Kishore Vaigyanik Protsahan Yojana (KVPY), IIT-JEE Advanced Merit List and an Aptitude Test conducted by the IISERs, taken by the top 1% students from the State and Central Board examinations.

#### **MS in Space Physics**

MM is a programme run by the Center of Excellence in Space Sciences India (CESSI) to attract qualified and motivated engineering (BE/BTech) students to scientific research. This is a programme which supports fundamental and applied national research in space sciences. It is a unique blend of basic sciences and engineering sciences allowing integration of fundamental knowledge while developing proficiency in research.

In this programme MMstudents take admission in July every year. Based on the evaluation of applications following an admission call, some candidates are short-listed and called for interview. Recommendation letters may be sought for short-listed candidates. Final selection is based on the basis of performance in the interview, academic background of the candidate and any other criterion determined by the selection committee. No candidates are selected if suitable candidates of sufficient quality are not found.

#### **Integrated-PhD**

In the year 2009, the Institute initiated the Integrated Doctor of Philosophy (IPhD) Programme. The aim of this endeavour is to attract outstanding and innovative undergraduates to research in basic sciences and to motivate them to begin research at an early stage of their educational career. It is a combination programme which starts with a comprehensive Masters' (MS) Programme followed by Research (PhD) Programme. The Institute invites applications in the fields of Biological, Chemical, Physical, Earth Sciences, and Mathematics & Statistics. Individual departments select deserving candidates from the pool of applicants, based on their academic backgrounds, research interests and performance in the selection test (written test followed by interview). The selection is conducted once a year. At present there are 155 students in the IPhD programme. It is expected that exposure to the research-oriented atmosphere in their first two years of course work will help these students to carry out research more effectively.





#### Ph.D.

The Doctor of Philosophy programme at IISER Kolkata is an introduction to cutting-edge research. The programme caters to the students who have obtained BS-MS degree from the IISERs and Masters degree from elsewhere. These students begin their research work soon after joining the Institute and have to successfully complete a minimum number of course credits, as part of their academic training. In both theoretical as well as experimental subjects IISER Kolkata strives to provide world-class training. The Institute offers Doctorate degrees in the fields of Biological, Chemical, Physical and Earth Sciences, and Mathematics & Statistics. Candidates are shortlisted on the basis of their academic background, research orientation and qualifying national-level tests like CSIR, UGC, INSPIRE and are selected on the basis of their performance in the interview. The selection is conducted twice a year. The applicants who have their own fellowships (such as, UGC/CSIR- NET, INSPIRE etc.) may apply at any time of the year through a process of rolling interviews. A number of institutional fellowships are also available for deserving candidates.

At present the Institute has 289 PhD students and so far a total of 112 students received their PhD degrees, after completing their research work from IISER Kolkata.



# Teaching and Research Infrastructure/Facilities

Laboratories for undergraduate teaching are very crucial for providing hands-on experience to our students. IISER Kolkata focused on investment of time and resources in setting up of critical and advanced research infrastructure right from the beginning and quickly established state-of-the-art facilities for imparting necessary experimental and analytical skills. We have built an e-class room to share the knowledge with other IISERs. Recognizing the fact that young faculty joining IISER Kolkata should embark on their research programme, we have quickly ramped up research infrastructure and now have a diverse array of facilities that enable high-quality research. Some of the research facilities that are available in the Institute are as follows:

- → Single-Crystal and Powder X-Ray Diffractometer Systems
- → NMR Spectrometers
- → Magnetic Properties Measurement System
- → Cryogen-free Transport Properties Measurement System
- → Magneto Optic Kerr Effect Measurement System
- → LC-MS/MS System, Q-Tof-MALDI Mass
- → Central Imaging Facility
- → FE-SEM (Scanning Electron Microscope)
- → The Flow Cytometry Facility
- → Real-time Quantitative PCR Facility
- → Seismology Laboratory
- → GC-MS-MS Laboratory
- → Climate Change Laboratory
- → Behaviour and Ecology Field Station

The Central Library of our Institute has a vast collection of text and reference books and access to a large number of scientific journals through its participation in consortia, such as INDEST. The Library also subscribes to several e-journals directly and also provides on-line access to citation such as Web of Science and scientometric database such as SciFinder.

## ACADEMIC RECOGNITIONS

#### **The Faculty**

The Institute recruited some of the best faculty from around the world with large diversity, specialization and research experience. Currently, we have 102 regular and 3 temporary faculty members and with increasing student enrolment more faculty members will be inducted which will allow strengthening of core research areas and reinforce the student training programmes. Faculty members of IISER Kolkata have already received laurels and peer recognitions. The Institute boasts of 2 Shanti Swarup Bhatnagar Awardee, 2 Fellows of National Academy of Sciences (FNASc, Allahabad), 2 Fellows of Indian National Science Academy (INSA, New Delhi), 2 Fellows of Indian Academy of Sciences (IASC, Bangalore), 1 Fellow of World Academy of Sciences (TWAS, Trieste), 1 J.C.Bose National Fellows and 1 IEEE Fellow.

Also, among the younger colleagues, there are 6 INSA Young Scientists, 4 Young Associates of Indian Academy of Sciences, 2 NASI Scopus Young Scientist, 6 Ramanujan Fellows, 5 Ramalingaswami Fellows, 2 Welcome Trust-DBT Fellows, 1 Energy Bioscience Overseas Fellow, 5 INSPIRE Faculty Awardees, 1 Harvey Prize winner of the American Astronomical Society, 2 National Geosciences Awardee, 2 Swarnajayanti Awardee, 6 Early Career Research Awardee. The Institute has 1 faculty participating in 'Max Planck Partnership Group'. A few faculty members have been invited to act as Advisory/Editorial Board members of research journals of international repute such as Dalton Transactions, Polymer Chemistry, CrystEnggComm (Royal Society of Chemistry) and Organometallics (American Chemical Society). One faculty member has been appointed as associate editor of RSC Advances. One faculty member has been appointed as Vice-Chairman of Space Weather Panel of Committee on Space Research (COSPAR), a wing of the International Council of Scientific Unions (ISCU) during 2012-2016. It is noteworthy that the trends in performance are positive with a healthy growth rates.

#### **The Students**

ISER Kolkata is in eleventh year and is doing well and growing every year as expected. The first batch of students of BS-MS Programme, 38 out of them successfully completed their course in 2011 It is a matter of great satisfaction that about 65 out of first batch of BS-MS students has booked their places in some of world's best research institute, including top-notch North American, European, Middle East and Asian Universities In addition to joining premier research institutes in India, 63. 49, 79, 76, 86 and 99 students of the second, third, fourth, fifth. sixth and seventh batch have completed their courses and also followed a similar trend.

IISER Kolkata students have been awarded and received prestigious scholarship/fellowship like DAAD WISE Scholarship, Charpok Research Internship Scholarship. Raman-Charpok Scholarship. S.N. Bose Scholarship, Khorana Program for Scholars, SPIE Optics Photonics Education Scholarship, SCOSTEP Visiting Scholarship (covered by SCOSTEP award NASA) Our students are the top rank holders in CSIR-UGC NET examinations. Some of our students had been selected to participate at Lindau Nobel Laureate Meeting in Lindau, Germany. One of our BS-MS students has been appreciated for his creativity in designing and rendering the logo of IIT Goa and received a Certificate of Appreciation in recognition of his creativity and a BS-MS student was invited to attend the 19u' World Festival of Youth and Students in Sochi, Russia. One of the greatest achievements of our students is to predict the structure of the solar eclipse by the team effort involved faculty, undergraduate and graduate students.

Institute has an exchange programme with Georg-August-Universitat Gottingen and collaboration with Max Plank Institute and Imperial Universities of Japan.

Science is global and its standards are international Both faculty and students stay connected with the rest of the world and regularly present their research works at international forums. The Institute financially supports undergraduate and post graduate students to present their work at international conferences. Notably, the undergraduates are able to get training at the international level. Some of them received fellowships to work in foreign countries.

#### **Alumni**

The alumni of IISER-K are of the highest calibre and enjoy the most prestigious reputations around the world. Most of the BS-MS students have chosen to stay in Science and pursue PhD research. Many of them have reached positions of eminence in their selected fields of research and won prestigious international and national scholarships including the Rhodes, Clarendon Scholarship and the Commonwealth Scholarship and are placed at leading Universities of the world such as Standford, Cambridge, Oxford, Cornell, Gottingen, Ecole Normale Superieure-France, Purdue University Johns Hopkins University, Yale University, Florida State University, University of California and the Max Plank Institutes. Some of them have also joined Indian Institutes such as IISc Bangalore, other IISERs, NCBS, NGRI, IIMs, IITs, BARC-Mumbai, ISI. One of our BS-MS students has been absorbed as a faculty at the Department of Geological Sciences, in Sikkim University, Sikkim and one PhD student after outstanding performance during his PhD with 7 independent publications to his credit, has been absorbed as a faculty at IIT Gandhinagar. I 1SERK recognizes its alumni, who have distinguished themselves through their work in their respective fields and done the institute proud. IISER Kolkata has already started contributing to building the scientific capital of the future.

## Research and Development

Any Institute is known by its research accomplishments and IISER Kolkata had a good start in this context. Its faculty members are engaged in diverse research areas and have been attracting significant support for their research from funding agencies in India and abroad and also from industry. We have now a total of 81 ongoing sponsored projects. So far the Institute has garnered research projects and consultancy worth more than 100 crores. New research facilities are being added on the basis of requirements of the faculty to strengthen scientific infrastructure for research. IISER Kolkata is also catering to the need of trained research personnel by engaging them in temporary research positions in these sponsored projects. Further, the grants received under these projects are strengthening the research infrastructure of this Institute. In this endeavour, the Institute is also providing start-up and matching-grants to faculty members.

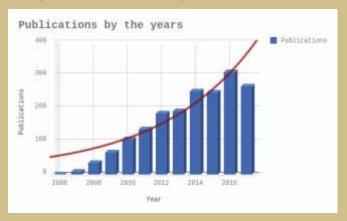
IISER Kolkata has already established a strong reputation of research reflected in terms of number of publications in interdisciplinary journals of international repute such as Nature and in the best journals in the respective fields. In the last ten years the faculty members have published more than 1306 papers and it is expected that a similar trend will be followed next year. The undergraduate students are also publishing a good amount of their works and notably the above publications often involve students from both postgraduate and undergraduate programmes.

So far, 7 patent applications have been filed by the faculty members of the Institute.

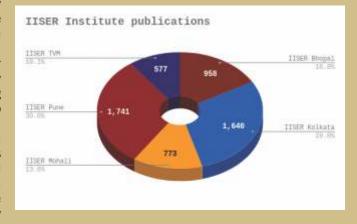
IISER Kolkata encourages the faculty members to undertake consultancy work in the fields of expertise so as to enrich the professional experience and the knowledge of the faculty members. Currently 7 consultancy projects are in progress.

#### Looking back in a glance...

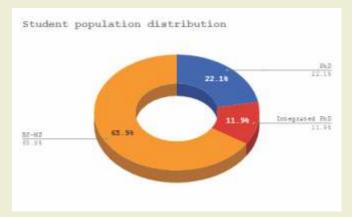
What once started as just a single paper in IISER Kolkata in the year 2006 is now an Institute that publishes more than 250 papers in any given year. Let us look at trend displaying the explosion of our research output:



IISER Kolkata has been cited more than 10,000 times( precisely 14807 times) in the last 10 years with a majority of that in the last 5 years alone. IISERs as sister institutes stand at Rank 1 in India by the Nature Index and are 31st in Asia and 113th in the World as per Nature Index Rankings(Nature Index 2016).



A quick look at our student population shows us that there are a huge number of BS-MS students, bright young minds who have put in their heads at studying Sciences to a highly advanced level and most of whom take up challenging and interesting scientific endeavours both in India and Abroad during their term here.



Because of the highly accredited training offered by IISER Kolkata and our highly acclaimed and internationally recognized degrees, we have a nearly 100% placement record every year and our students have gone on to pursue their interests in various fields in Fundamental or Applied Sciences, with a whopping majority moving on to do their PhDs and the remaining moving on to join companies or even build startups that use their advanced scientific knowledge that was a result of their time here. A brief glance at a map depicting where our students are today shows us exactly what impact we have created in the last 10 years:



So name a country that you would like to go to after your time here, chances are we already have a couple of our alumnithere.

In the last 10 years one might say IISER Kolkata has started from being an institute with a dream to pursue the truth and foundations of fundamental sciences to one which routinely part-takes in worldwide endeavours such as the LIGO Project to discover Gravitational Waves, up to finding Cosmic Fireworks and the hidden Treasures they hide and then to understanding the depths and realities of living organisms,

cells and animals and even their behaviour and then into the molecular level where scientists here delve deep in creating novel materials and chemicals that serve a multitude of Industrially and Medically important purposes.

And looking back one can indeed say, that we have embarked on our mission towards excellence in science...

### International Relation and outreach

IISER Kolkata maintaining and promoting relationships with overseas universities and institutes for international academic programme and research collaboration. The vision of IISER Kolkata is the global engagement with world class institutes of repute and develop. Sustainable international partnership with the world class leaders.

Several eminent scientists/scholars from India and abroad spanning different fields were invited to deliver special lectures of topics of wide interest to keep the students and the faculty updated with recent scientific developments. The "Institute Colloquium" lectures have been delivered by distinguish scientists of international repute like Prof. Cedric Villani, University of Lyon (France) and the Director of the Henri Poincare Institute (30th August 2016), Prof. Goverdhan Mehata, FRS, National Research Professor and Jubilant-Bhartia Chair Professor at the school of Chemistry, University of Hyderabad (26th September 2016), Prof. James Jackson, FRS, University of Cambridge (UK) (15th November, 2016), Prof. Edward I. Soloman, Standford University (USA) (6th January 2017). A part from the many eminent Scientists with IISER Kolkata on regular basis to deliver special lectures on topics of wide interest to keep the faculty and students updated with recent Scientific developments.

#### Memorandum of Understanding (MoU)

IISER Kolkata has established mutual partnership with various national and international institutes/universities involving exchange of students and faculty members for projects and research collaborates, like Institute of Environmental Research of the Faculty of Chemistry - Germany (2013), Max Planck Gesellschaft (MPG) - Germany (2013), Lund University - Sweden (2013), Institute of Molecular Science (IMS)-Indo Japan Collaborative Research Projects in Molecular Science - Japan (2015), Max Planck-Institute fur Kermphysik, Heidelberg - Germany (2016), National Institute of Biomedical Genomics (NIBMG), Kalyani, West Bengal - India (2016), Changshu Institute of Technology - China (2017)

## **Convocation and Foundation Day Lecture**

The 5th Convocation of the Institute took place on 26th May 2017. During the programme, a total of 142 students awarded degrees, of which 100 are BS-MS, 1 MS-by-Research, 10 Integrated-PhD (with MS), 10 Integrated-PhD and 23 PhD students were received their degrees. We were privileged to have Dr. R. A. Mashelkaras, FRS, National Research professor, President, Global Research Alliance, Pune as a distinguishes Chief Guest for the 5th Convocation.

This year, Prof. Narasimhaiengar Mukunda (IISc, Bangalore, delivered the IISER Kolkata 'Foundation Day Lecture' on 04.08.2017.



















#### **Initiative of Science Popularization at IISER Kolkata**

IISER Kolkata aims to be the leading centre for research and education in basic sciences in this part of the country. IISER Kolkata is also active in science outreach activities in the region with novel outreach programmes to spread the message and excitement of science among students, teachers and public in particular and society at large, by means of public lectures and workshops at various schools and colleges in both urban and semi-urban areas, and summer programmes in the campus. Apart from engaging in scientific activities, students and faculty of IISER Kolkata are also involved in various social and co-curricular activities.

IISER Kolkata, in association with KVPY and INSPIRE organized the DST-sponsored National Science Camp during 5-7 December 2016. About 500 students had registered for the programmes were registered for the programme from various parts of the country including students from IISER Kolkata. GIAN courses on Active Continental Tectonics (6- 19 November 2016), Super Oscillations and Weak Measurement (5-12 December, 2016), Ocean Acidification and Implications for Global Marine Ecosystems (2-6 April 2017) and Polyoxometalates in Materials Science, Technology and Medicine (8-17 May 2017) were held. Annual Drama Night 2016 (4 October 2016) was organized by Aarshi, the Dramatics Club of USER Kolkata. This year, the staged play was "Wedding Album" by famous playwright, Girish Karnad. "SAARANG", the classical music performance night of SPICMACAY (25 January 2017) was held with a wide range of instrumental, dance and vocal performances by the students and faculty members of USER Kolkata. Republic Day (26 January 2017) and the 18th International Mother Language Day (Matri Bhasha Diwas) (21 February 201 7) was celebrated. USER Kolkata Nature Club organized a talk on "Snake, Snake Venom & Snake Venom Research" (20 February 2017) - delivered by Prof. Antony Gomes, a distinguished professor of Department of Physiology, University of Calcutta. USER Kolkata participated at the Global Entrepreneurship Summit-2017 at IIT Kharagpur (3-5 February 2017). A seminar on the Science of Space Weather (6 March 2017) was held. Arts club of USER Kolkata successfully organized the annual art exhibition i.e 'Alter-Ego' (4-6 April 2017). Quality artworks done by the students were displayed.

We continue to support the UG and PG students attending national and international conferences. We also support summer research programs for outside students, as a part of our outreach activity.

#### Sports and **Cultural Activities**

Sports and other co-curricular activities are encouraged by IISER Kolkata and the students are given every form of support to develop and showcase their talents in all fields. Our brand of education does not have narrow horizons; we believe in exposure. Our students are encouraged to widen their knowledge - base and study beyond the confines of the syllabus. IISER Kolkata organized the 5th addition of IISER Sports Meet (IISM). A total 880 students and officials from other IISER including 120 students from IISER Kolkata had participated in the event. IISER Kolkata stood 2nd position of the championship tally. IISER Kolkata contingents abled to achieve maximum number of golds in the team events i.e. basket ball (Boys); Cricket, Football (Boys); Table Tennis (Boys & Girls). IISER Kolkata bagged the best athlet prize among boys. This time IISER Sports Meet (IISM) will be organized during 18th-22nd December 2017 at IISER Mohali, where 131 students and participating for various events.

IISER Kolkata students' organize every year a. One of its kind science, technology and cultural annual festival - INQUIVESTA.

ALL Students are encouraged to participate in the major institutional events like SPICMACAY, Fresher's Welcome, Annual Day, Hall day Celebration etc.



For more information about IISER Kolkata, please visit the Institute website: http://www.iiserkol.ac.in For any guery, please feel free to contact us. Details are given below.

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