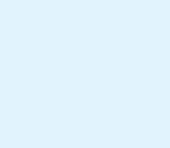


# सप्तम दीक्षांत समारोह *Seventh Convocation*

May 31, 2019

निदेशक प्रतिवेदन  
प्रोफ़ेसर शिवा उमापति

Director's Report  
**PROFESSOR SIVA UMAPATHY**



It is my privilege to welcome you all to the seventh convocation of IISER Bhopal. Professor Jayant V Narlikar, is with us today to bless our graduands.

In the current academic year, we have a combined strength of about 1581 students in BS-MS, Ph.D. and Integrated Ph.D. programmes pursuing their studies in various branches of science. We are proud to make special mention that more than 30 % of the student population is female.

So far, a total of 594 students have graduated from IISER Bhopal and all of them have been well placed in different corners of the world, bringing glories to the Institute. It is the result of the hard work put together by the students and our team of Faculty members. Our Institute is continuously rising in various parameters of science and research, duly making a mark in the international platform. The institute submitted its data to NIRF website on the 30<sup>th</sup> of November, 2018. In April 2019, IISER Bhopal has been ranked 37 amongst the top 100 institutes of the country. This is a significant improvement from the performance of the last two iterations.

This year 146 BS-MS (Dual Degree), 3 BS Degrees, 22 MS Degrees and 31 Ph.D. degrees are being awarded by the Institute and I extend my heartiest congratulations to all graduands. Now, it's a pleasure for me to present a brief report on the activities and achievements of the Institute during the year 2018-2019.

## **ACADEMIC ACTIVITIES**

At IISER Bhopal, it is our constant endeavour to refine and introduce appropriate programmes in a variety of disciplines in order to prepare our graduates for careers in research,

academia, and industry. Presently, the Institute is running the following programmes:

- Bachelor of Science-Master of Science, BS-MS (Dual Degree) programme in Biological Sciences, Chemistry, Earth and Environmental Sciences, Mathematics and Physics.
- Bachelor of Science, BS programme in Chemical Engineering, Electrical Engineering & Computer Science and Economic Sciences.
- Integrated Ph.D. programme in the Departments of Chemistry, Mathematics and Physics.
- Ph.D. programme in the Departments of Biological Sciences, Chemical Engineering, Chemistry, Earth and Environmental Sciences, Economic Sciences, Electrical Engineering and Computer Science, Humanities and Social Sciences, Mathematics and Physics.

IISER Bhopal will start the four year BS Program in Data Science and Engineering from the semester beginning August 2019.

The total of 1581 students enrolled in the Academic Year 2018-2019 of which, nearly 30% are post-graduate students.

The detailed break up is as under:

***Five year BS-MS (Dual Degree) Programme:***

Total Strength 1017

<b>Stream →</b>	<b>Natural Sciences</b>						<b>Total</b>
<b>Batch ↓</b>	<b>BIO</b>	<b>CHM</b>	<b>EES</b>	<b>MTH</b>	<b>PHY</b>	<b>NA</b>	
2013 Batch	1	1	1	-	3	-	6
2014 Batch	36	35	27	15	55	-	168
2015 Batch	44	45	19	12	56	4	180
2016 Batch	43	44	25	16	38	9	175
2017 Batch	-	-	-	-	-	288	288
2018 Batch	-	-	-	-	-	200	200

***BS Programme:***

Total Strength 91

<b>Batch</b>	<b>Economic Sciences</b>	<b>Engineering Sciences</b>	<b>Total</b>
2018 Batch	34	57	91

***Integrated Ph.D. Programme:***

Total Strength 74

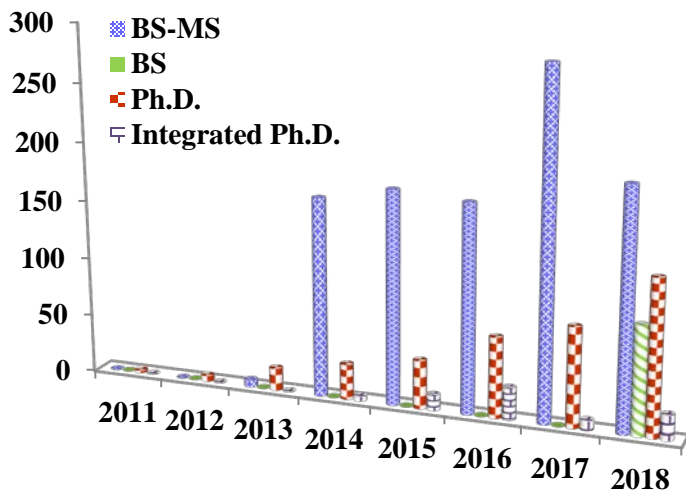
<b>Batch</b>	<b>CHM</b>	<b>MTH</b>	<b>PHY</b>	<b>Total</b>
2014 Batch	-	2	2	4
2015 Batch	4	4	6	14
2016 Batch	12	5	10	27
2017 Batch	3	2	3	8
2018 Batch	8	7	6	21

**Ph.D. Programme:**

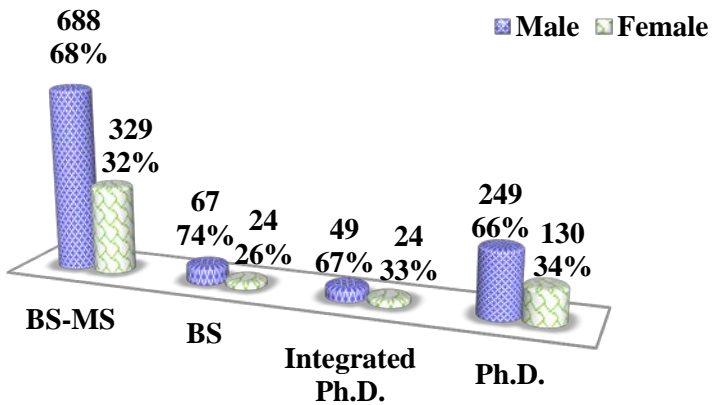
Total Strength 399

Batch	BIO	CHE	CHM	EES	EECS	HSS	MTH	PHY	Total
2011 Batch	3	-	1	-	-	-	-	-	4
2012 Batch	5	-	5	1	-	-	-	2	13
2013 Batch	6	-	13	1	-	-	-	5	25
2014 Batch	18	-	5	1	-	-	-	7	31
2015 Batch	18	-	15	1	-	-	2	5	41
2016 Batch	16	1	33	4	1	-	3	11	69
2017 Batch	17	3	35	14	-	-	2	13	84
2018 Batch	36	3	44	20	2	1	5	21	132

**Registered Students as on May 24, 2019**

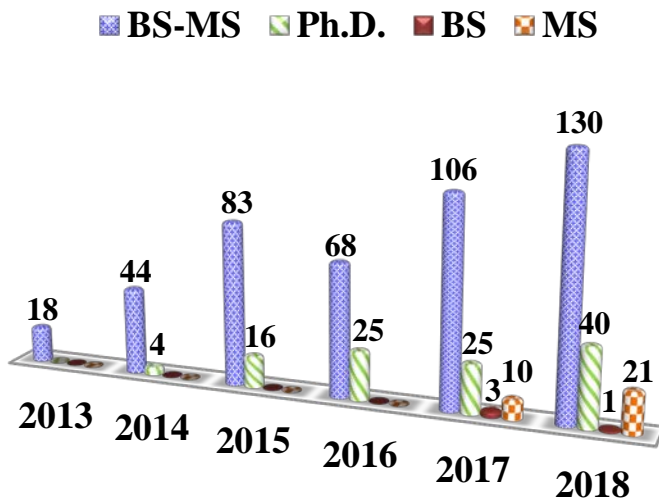


## Gender-wise Distribution as on May 24, 2019



The break-up of the degrees awarded during the last six convocations are outlined in the following graph:

### Degree Awarded



During academic session (2018-2019), which commenced from August 2018, 455 students were admitted in various programmes across all the Departments. Another set of 42 students were admitted in Ph.D. programme in January 2019, thereby making a total of 497 students for the Academic Year 2018-2019.

Today, 202 students, who have successfully completed their programmes will receive their degrees in the following disciplines:

### **BS**

<b>Total</b>	<b>Earth and Environmental Sciences</b>	<b>Physics</b>
3	2	1

### **BS-MS (Dual Degree)**

<b>Total</b>	<b>Biological Sciences</b>	<b>Chemistry</b>	<b>Earth and Env. Sciences</b>	<b>Mathematics</b>	<b>Physics</b>
146	34	33	13	12	54

### **MS**

<b>Total</b>	<b>Chemistry</b>	<b>Mathematics</b>	<b>Physics</b>
22	12	3	7

### **Ph.D.**

<b>Total</b>	<b>Biological Sciences</b>	<b>Chemistry</b>	<b>Earth and Env. Sciences</b>	<b>Physics</b>
31	10	17	1	3

## INSTITUTE-LEVEL ACADEMIC ACTIVITIES

In order to promote and popularize science education amongst youth, **Center for Outreach Programs in Education (COPE)** carried out the following academic activities:

- ❖ **“Understanding Science”** – In-house Outreach Program to make science interesting for high school students, provide them an exposure to the state-of-the-art laboratories and hands on experience in working therein. This year the Outreach Program was conducted from May 07 – 12, 2018 and 83 participants from Classes X, XI, XII all over India attended this residential program.
- ❖ **Salters’ Chemistry Camp** – The Royal Society of Chemistry (India) and Salters’ Institute (UK) conducted a three-day residential Chemistry Camp for IX<sup>th</sup> standard students at the Indian Institute of Science Education and Research Bhopal from July 03 – 05, 2018. The aim of the Salters’ Chemistry Camps is to promote appreciation for Chemistry by giving the students a feel of practical Chemistry. A total of 65 students (31 girls and 34 boys) studying various State Government schools of Madhya Pradesh attended the three-day residential camp. In this camp, hands-on experience in practical Chemistry was provided to the student participants in the state-of-the-art Chemistry laboratory.
- ❖ **Rashtriya Avishkar Abhiyaan (RAA)** – RAA is an MHRD initiative that aims at nurturing a spirit of enquiry and creativity for Science and Mathematics in school children from an early age. Following are the activities taken up by the RAA team this year:



- Visiting the Government schools in the villages of Bhauri, Jamuniyacheer and Bakaniya every Saturday to conduct classes in Science and Mathematics
  - Received a grant of Rs 4.00 lakhs in April 2018 from Department of Biotechnology, Government of India under the citizen science endeavour for using “Foldscopes” as teaching tools in these schools.
  - A one day workshop on "Foldscopes" was organized on November 04, 2018. The workshop taught the participants basic principles of microscopy (in local language) and guided them on assembling and using *Foldscopes*. 78 students from Classes XI-XII attended the workshop.
- ❖ **Regional Science Congress Outreach:** On November 19, 2018 a half day Outreach was conducted on request from Navodaya Vidyalaya, Ratibad as a part of the Regional Science Congress. Interesting talks from the Department of Physics, Chemistry and Biology was followed by a tour to these labs and the Earth and Environmental Sciences lab. Around 130 students from Navodaya Vidyalaya Madhya Pradesh, Chattisgarh and Odisha attended the program.
- ❖ **12<sup>th</sup> Foundation Day Outreach:** On February 20, 2019 on the occasion of our 12<sup>th</sup> Foundation Day celebrations, 294 students (accompanied by teachers) from Subhash Excellence School, Bhopal, Sarojini Naidu Higher Secondary School, Bhopal and People’s University, Bhopal visited our campus and were a part of the

Foundation Day celebrations. A campus/facility tour was organized for all the participants.

## **CONFERENCES / WORKSHOPS / SCHOOLS / SEMINARS**

Various conferences, seminars, and workshops were organised by the Departments of the Institute during the year. A few of them are outlined below:

- **23<sup>rd</sup> CRSI National Symposium in Chemistry:** The 23<sup>rd</sup> CRSI National Symposium in Chemistry (CRSI-NSC-23) was held in IISER Bhopal from July 13-15, 2018 under the auspices of the Chemical Research Society of India (CRSI). The main objectives of the CRSI are to recognize, promote and foster talent in Chemistry and Chemical Sciences, and to improve the quality of chemical education at all levels. In the symposium, a Special Invited Lecture was delivered by Bharat Ratna Prof. C.N.R. Rao on 13<sup>th</sup> July, 2018. Prof. Rao talked about “Chemically linking 2D nanosheets to generate new materials with novel properties”. While interacting with the students, Prof. Rao emphasized on focusing research in a proper direction along with keeping an eye on the research areas in vogue. Further, there were 10 Invited Lectures, 2 Silver Medal Lectures, 10 Bronze Medal Lectures from Postdoctoral and Ph.D. students. Also, 125 posters were presented during the symposium.
- **Inter Disciplinary Explorations in Chemistry 2018 (I-DEC 2018):** The ‘Inter-Disciplinary Explorations in Chemistry 2018 (I-DEC 2018)’ Conference was held at IISER Bhopal on December 06-08, 2018. The

conference aimed to bring the brightest minds in Chemistry together to inspire the attendees to take an integrated and interdisciplinary approach in research. It also provided a platform to the upcoming researches (Ph.D. students and Postdocs) to present their works both as oral talks as well as through posters in front of an international audience. There were about 320 participants in the Conference. These included 5 Foreign Speakers from US and Europe, and 1 Speaker from Industry and about 30 speakers from Academia across India. In addition to the above, there were two sessions of more than 60 Poster Presentation by the students.

- **The Annual Biology Meet (ABM)-2019:** The department of Biological sciences continued to organize the Annual Biology Meet (ABM). Its 6<sup>th</sup> edition was successfully organized in Auditorium, Visitors' Hostel, IISER Bhopal main campus, from 10-12<sup>th</sup> January, 2019. Prof. Debi P. Sarkar (Director, IISER Mohali), Dr. Krushnamegh Kunte (NCBS Bengaluru), Dr. Krishanu Ray (TIFR Mumbai), Dr. Manoj Majee (NIPGR, New Delhi) and Dr. Santosh Chauhan (ILS Bhubaneswar) graced the occasion. This was one of the noticeably successful events of IISER, Bhopal.
  
- **IPA DAE – C V Raman Lecture Series:** This series was initiated in the year 1989 by Indian Physics Association, with a grant from the Department of Atomic Energy. Initially, these lectures were given to undergraduate students in science and professional colleges within the limits of Greater Bombay on topics in nuclear sciences and their applications or

other topics of interest to the Department of Atomic Energy, with the objective of exciting the young minds. Four DAE - C V Raman lecturers were selected every year, who usually delivered two lectures each at different. Invited Speaker for this Lecture Series was Prof N Mukunda, INSA Distinguished Professor, Indian Academy of Sciences, Bengaluru, who talked about “E C G Sudarshan's Life and Work - An Appreciation” on 14<sup>th</sup> November 2018.

- **DST - QUST Meeting – 2018:** The Department of Physics, IISER Bhopal hosted the Quantum Enabled Engineering and Science QuEST meeting under the aegis of the DST during 21-23 April 2018. The meeting brought together close to hundred theorists and experimentalists from all over the country engaged in the field of quantum computing and information processing.
- **In-House Symposium 2018:** The Department of Physics organizes an annual in-house symposium where all the faculty members and students actively participate and showcase their ongoing research work. On this occasion, the Department also invites one/two eminent teachers/scientists to be part of the symposium and deliver lectures. The symposium helps to inculcate intra-departmental scientific discussions and collaborations. The latest in-house symposium was held on 26-27<sup>th</sup> October 2018 Speaker: Professor Tuhin Roy, TIFR, Mumbai, were our guests to deliver lecture during the symposium. There were total of 25 talks and 49 poster presentations. Best Poster Awards were given to three best Posters.

- **Workshop on Dynamics of Ultracold Systems with Embedded Highly Excited Rydberg Atoms:** The workshop was organised by Dr. Sebastian Wuster on 22<sup>th</sup>-24<sup>th</sup> October 2018. This workshop main aim was to bring together researchers working on various aspects of cold Rydberg atomic physics for quantum simulations and quantum impurities in cold gases. A focus on Rydberg atoms in cold gases and Bose-Einstein condensates was established, and also included talks on other impurities such as ions and molecules as well as non-cold atom talks on subjects that were the target of future quantum simulations. The targeted audience were physicists working on the topics above including post-graduate researchers as well as graduate and senior-level physics students. In the framework of the funding guidelines we made arrangements for invited speakers from India and Germany as well as local researchers.
  
- **2<sup>nd</sup> Technical Workshop & SASS Training** Organized by Dr. Ramya Sunder Raman (EES dept.) This workshop of the national consortium project NCAP-COALESCE (Carbonaceous aerosol emissions, Source apportionment and Climate Impacts) was coordinated and hosted by IISER Bhopal between 03 and 13 June, 2018. Over 70 participants from institutions including several IITs, IISERs, Universities, and CSIR labs attended the workshop. The NCAP-COALESCE project is envisaged to further our understanding of the sources, fate and impacts of carbonaceous aerosols, on climate and air quality, in the Indian region, through interdisciplinary research. NCAP is a Ministry of Environment and Forests - Climate Change (MoEFCC) funded 5 year consortium project led by IIT Bombay with 18 institutions from all over the country.

- **National conference on “*Advances in Chemical Engineering and Science (ACES2019)*”:** The Department of Chemical Engineering has successfully organized ACES 2019 during 07<sup>th</sup> – 08<sup>th</sup> March 2019. Padma Shri Prof. G. D. Yadav was the Chief-Guest of the inaugural function of ACES-2019. The symposium is the debut event organized by the department to aspire and exhibit the technical excellence of budding technocraft for students, young researchers, faculty and industrialists. The aim of the this meeting was to provide a platform to showcase their knowledge, research findings, creative thinking and effective communication skills in generating innovative solutions to the issues related to Chemical Engineering and Sciences.
  
- **In-House Symposium, February 8-9, 2019** The In-House Symposium of the Department of Mathematics was conceived as a platform for post-doctoral researchers and Ph.D. students to present their research, and to engender fruitful discussion among them and faculty members with disparate research interests. The second symposium was held on 8<sup>th</sup> and 9<sup>th</sup> of February, 2019. Dr. Manjunath Krishnapur (IISc) was invited as a special guest. In addition to his excellent plenary talk, there were eleven other talks; five by post-docs and six by Ph.D. students, and several lively discussions over coffee. The Symposium also included a poster presentation by some Ph.D. students. The culture of free exchange of ideas that has been a core value of the department was there for all to see, and it is hoped that future iterations continue building on this.

- **NCM workshop on Contact and Symplectic Geometry, December 3-14, 2018:** In this workshop, the speakers gave the audience a fairly good knowledge about the two dominant features of Contact and Symplectic structures, namely "Flexibility" and "Rigidity" as envisaged by Gromov and propagated further by Eliashberg and others. The students in the advanced stages of Ph.D. program, postdocs and young faculty members working in this or related fields got great benefit from this workshop.
- **AFS - I (2018) IISER Bhopal | National Centre for Mathematics, December 3-29, 2018:** Basic knowledge in algebra, analysis and topology forms the core of all Advanced Instructional Schools organized by NCM. The main objectives of AFS were to bring up students with diverse background to a common level and help them acquire basic knowledge in these subjects required in Advanced Instructional Schools. AFS programs are targeted at fresh Ph. D. students in research institutions and universities in the country.
- **Simon Marais Mathematics Competition (SMMC) October 13, 2018:** The SMMC is an international mathematics competition involving participation from students from various institutions from the Asia Pacific region.

## **ACADEMIC INFRASTRUCTURE DEVELOPMENT**

### ***Instrumentation Facilities***

The Central Instrumentation Facility CIF and Departmental facilities are equipped with the most sophisticated and state-of-

the-art equipment which are fully functional. Depending on the requirements, both teaching and research, the existing infrastructural facilities are improved on a regular basis and a number of new equipments have been installed as a part of Departmental research facilities and/or CIF.

Some of the major research equipments and facilities acquired by the Institute during 2018-19 are:

- Time-resolved confocal microscope, Rs. 200 lakhs (Department of Chemistry)
- Sputtering System, 65 lakhs (Dept. of Elec. Engg. & CS)
- Custom-built confocal microscope (CFM), Rs. 100 lakhs (Department of Physics)
- Diamond Magnetometer, Rs. 150 lakhs (Department of Physics)

### ***Central Library***

The Central Library is a vibrant nexus, connecting collections, ideas, spaces, and intellectual capital of the institute. It is regarded as the heart of our institute to fulfil the academic needs of the users mainly towards the completion of their academic programmes as well as the research activities. At present, the library is catering to the needs of more than fifteen hundred undergraduates, postgraduates, research scholars, faculty members and staff members of the institute. The Library has an excellent print collection of about 10,500 books, which can be viewed by using the Library Online catalogue. The Library is fully automated and RFID application has been successfully implemented. Through this, all bonafied members can carry out the Self-Check-in, Self-Check-out and Self-Renewal of books from the Library.



The Library offers services as Lending facility, Claims/Reservations, Renewals, Reading Room, Inter Library Loan, Document Delivery Services, SDI/CAS Services, Library website, Reprography Services, Orientation Programme, Remote Login Access, Grammarly software, Anti plagiarism software, Institutional Digital Repository, Web of Science (citation database), SciFinder, etc. As most of the research activities are heavily dependent on journal publications, the Institute emphasises on regular subscription of current scientific journals and periodicals. Presently, the Institute subscribes to more than 6000 e-journals and 8 databases across all academic disciplines. In addition, being a core member to e-Shodh Sindhu (e-SS) consortium, the Institute has access to few online databases through 'e-SS Consortium'. Institutional Digital Repository (IDR) has been set-up to host full-text of research publications of Faculty and researchers of the IISER Bhopal. IDR provides a platform for Faculty and researchers to deposit, reuse and share their research publications. The Library organizes orientation programme on a regular basis for academic community to give exposure about Library collection, services, and subscribed e-resources and how to make a best use of them. Besides, the regular support to the users, Library has also organized few 'Author workshop' to motivate researchers to publish research articles in reputed journals. Facilities like Discussion room, Browsing area, Reading zone, Photocopy and e-Library are also made available to the users. The Library is actively involved in different activities of the National Digital Library project of MHRD under NME-ICT.

### *Centre for Archives and Digitization (CAD)*

Centre for Archives and Digitization (CAD) under Institute's Digital Initiatives Project (DIP) completed its one year in November, 2018. The major achievement of CAD during 2018-19 is that all the awarded degrees of the past 10 years students are uploaded on NAD portal as on December 14, 2018. Uploading of transcripts is under process. The in-charge of CAD is also responsible for other MHRD portals like AISHE, Sodhganga, and also co-ordinating with Nodal officer for NIRF, ARIIA etc. Data for AISHE has been uploaded in the month of February, 2019.

### **RESEARCH AND DEVELOPMENT**

The research in this Institute aims toward exploring new fields and generating innovative ideas using young and bright minds in order to contribute to the development of the society and the growth of the industry. The Institute benefits tremendously from such research activities that not only address the current problems in the society but also aim towards the development of new technologies.

The Research and Development at IISER Bhopal has shown a phenomenal growth from R&D Projects sanctioned worth Rs. 16.5 lakhs in 2009-10 to Rs. 2119.88 lakhs in FY 2018-19. The Institute has so far received more than 358 different research projects including Young Faculty Fellowship Programmes and MHRD projects, sponsored by various governmental and non-governmental agencies with a financial outlay of about Rs. 140.38 crores. The table depicted below provides a summary of the Research and Development Projects with details of funding agencies supporting R&D activities, and the distribution of Young

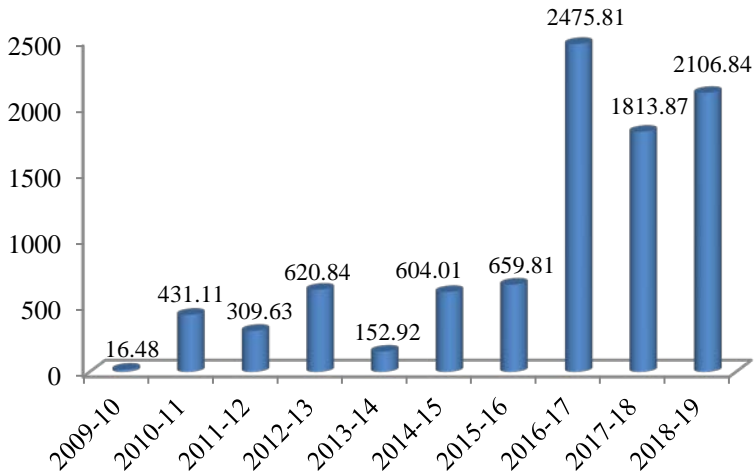
Faculty Fellowship Programmes. The main research findings arising from these projects are regularly published in internationally reputed and peer reviewed journals.

S. No.	Particular	Financial Year	Total No. of Projects	Total Value of Projects Sanctioned (Amount in Rs.)
A	Research & Development Projects	FY 2009 - 10	01	16,48,000
		FY 2010 - 11	16	4,31,11,210
		FY 2011 - 12	12	3,09,63,927
		FY 2012 - 13	20	6,20,84,824
		FY 2013 - 14	06	1,52,92,200
		FY 2014 - 15	12	6,04,01,170
		FY 2015 - 16	23	6,95,81,955
		FY 2016 - 17	39	24,75,81,372
		FY 2017 - 18	40	18,09,87,911
		FY 2018 - 19	52	21,06,84,476
<b>Total</b>			<b>221</b>	<b>92,23,37,045</b>
B	Consultancy Projects	FY 2016 - 17	4	1,42,01,009
		FY 2017 - 18	1	4,42,500
		FY 2018 - 19	3	13,03,754
<b>Total</b>			<b>8</b>	<b>1,59,47,263</b>
C	Young Faculty Fellowship Programmes	FY 2010 - 11	02	1,43,00,000
		FY 2011 - 12	03	2,19,00,000
		FY 2012 - 13	01	35,00,000
		FY 2013 - 14	07	4,67,97,832
		FY 2014 - 15	05	4,34,09,709
		FY 2015 - 16	05	2,79,94,141
		FY 2016 - 17	19	5,06,92,499
		FY 2017 - 18	21	3,86,20,000
		FY 2018 - 19	10	3,69,17,699
<b>Total</b>			<b>73</b>	<b>28,41,31,880</b>
D	DST Projects - FIST	FY 2015 - 16	02	7,78,00,000
		FY 2016 - 17	01	1,98,00,000
<b>Total</b>			<b>03</b>	<b>9,76,00,000</b>

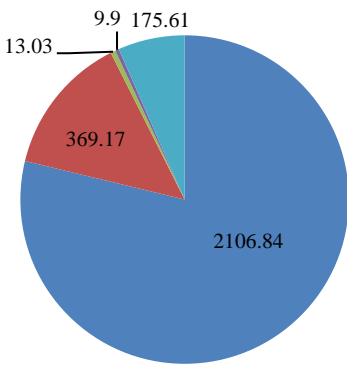
E	MHRD Projects	FY 2014 - 15	01	1,50,00,000
		FY 2015 - 16	01	3,25,00,000
		FY 2016 - 17	05	34,39,000
		FY 2017 - 18	01	8,16,000
<b>Total</b>			<b>08</b>	<b>5,17,55,000</b>
F	Travel Grant	FY 2016 - 17	1	6,07,500
		FY 2017 - 18	3	3,49,265
		FY 2018- 19	6	9,90,819
<b>Total</b>			<b>10</b>	<b>19,47,584</b>
G	Seminar/ Conference/ Workshop	FY 2015 - 16	02	2,00,000
		FY 2016 - 17	03	27,41,000
		FY 2017 - 18	12	95,89,866
		FY 2018- 19	18	1,75,61,38888
<b>Total</b>			<b>35</b>	<b>3,00,92,254</b>
<b>Grand Total (A+B+C+D+E+F+G)</b>			<b>358</b>	<b>1,40,38,11,026</b>

The graphical representation below depicts the Amount sanctioned against projects over the years:

### Total Value of Projects Sanctioned (Amount in Lakh)

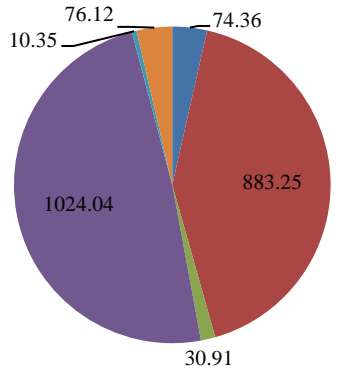


## Fund Sanctioned during 2018-19 (Rs. In Lakhs)



- Sponsored
- Fellowships
- Consultancy
- Travel Grant
- Conferences

Total Research Projects

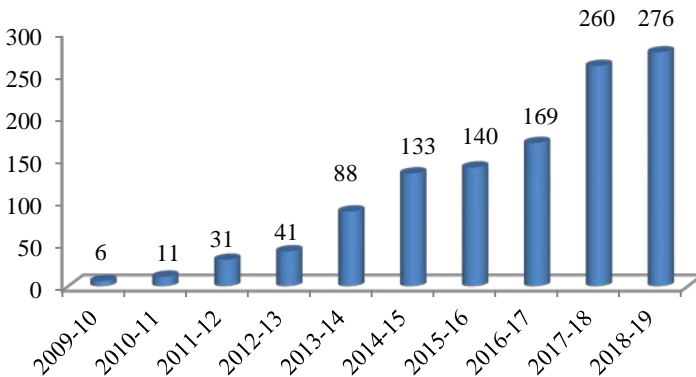


- CSIR
- DBT
- DST
- SERB
- UGC
- MHRD

Sponsored Research Projects

## Research Publications and Patents

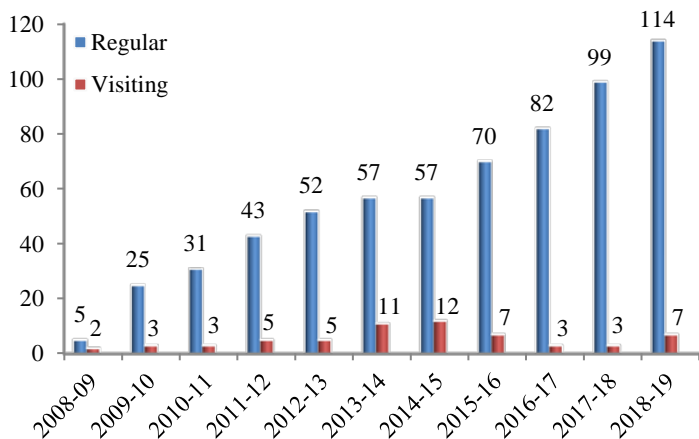
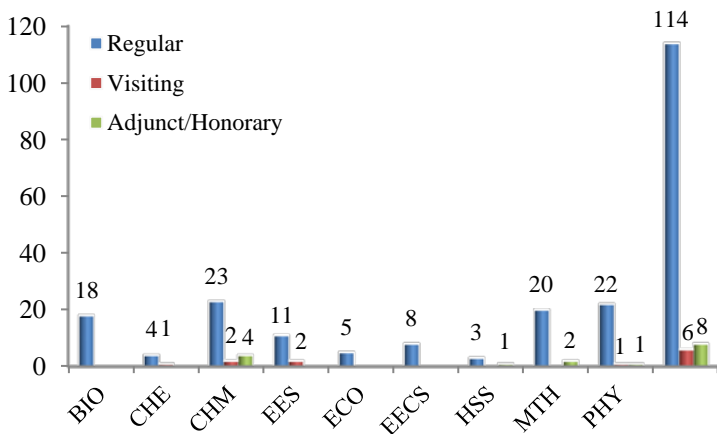
Total no. of Publications: 1155



Number of Patents filed: 08

## FACULTY AND STAFF

There is a continuous drive to recruit faculty members in all disciplines keeping in mind the global academic requirements, and to meet the ever increasing demand of quality teaching and research. As on May 7, 2019, the faculty strength in the Institute is 128 (114 Regular, 6 Visiting, and 8 Adjunct/Honorary Professors). The graphs below exemplify the rising trend in the number of faculty members in the Institute as well as across each discipline over the years.



## ***Faculty Achievements***

Our Faculty members are actively involved in cutting edge researches which have earned them and the Institute several accolades in the form of awards / honours / fellowships and distinctions from National and International organizations. Some of the major distinctions achieved by our Faculty members during 2018-19 are:

- Dr. J Sankar's (Department of Chemistry) research work on Organic Solar Cells got highlighted in The Hindu.
- Dr. Nitin T. Patil (Department of Chemistry) has been chosen for the SERB Distinguished Investigator Award.
- Dr. Himanshu Kumar (Department of Biological Sciences) has been awarded with Visiting Scientist fellowship for generation of transgenic and knockout rodent model at the Transgenic and Genetically Engineered Model Facility at the University of Alabama, Birmingham (UAB-TGEMS), USA (January 2019 to July 2019).
- Dr. Himanshu Kumar (Department of Biological Sciences) has been appointed as a DBT representative in IBSC (Institutional Biosafety Committee) of All India Institute of Medical Sciences (AIIMS), Bhopal.
- Dr. Himanshu Kumar, Department of Biological Sciences, is appointed as Editor-in-Chief of International Reviews of Immunology, a Taylor & Francis (USA) Journal (from 1<sup>st</sup> July 2018).
- Dr. Sanjeev Shukla's (Department of Biological Sciences) research work on the root cause of head and

neck cancer from his lab was recognized by 'The Hindu' newspaper. (Edition dated 5<sup>th</sup> August, 2018)

- Dr. Deepak Chopra (Department of Chemistry) was selected for the "Japan-Asia Youth Exchange Program in Science" (SAKURA Exchange Program in Science) administered by Japan Science and Technology Agency, Osaka University, Japan.
- Prof. Alakesh Bisai (Department of Chemistry) received the CRSI Young Scientist Award (2018).
- Dr. R. Mahalakshmi's (Department of Biological Sciences) work has been featured in the Nature Special Issue titled "Decade of Discovery: Connecting science, innovation and society in India" commissioned by the Wellcome Trust DBT India Alliance in collaboration with Nature, as part of the 10<sup>th</sup>-anniversary celebrations of the India Alliance. She is one among the ~25 nationwide Wellcome Trust DBT India Alliance fellows to receive this recognition.
- Dr. R. Mahalakshmi (Department of Biological Sciences) has received the Young Scientist Award-2019 from the Indian Peptide Society for the year 2019.
- Dr. R. Mahalakshmi's (Department of Biological Sciences) work on the thermodynamic contribution of interface residues has been featured by the Wellcome Trust - DBT India Alliance for the month. (Edition dated 29<sup>th</sup> November, 2018).
- Dr. R. Mahalakshmi's (Department of Biological Sciences) work on the structural annotation of membrane protein aggregation loci using peptide-based reverse



mapping has been featured by the Wellcome Trust-DBT India Alliance. (Edition dated 1<sup>st</sup> August, 2018)

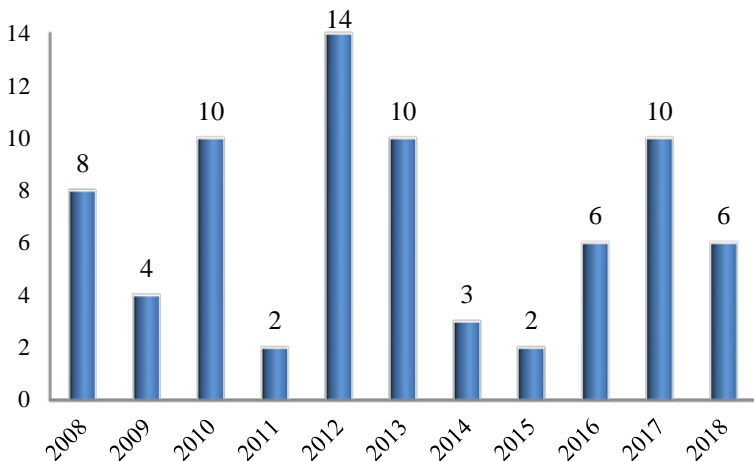
- Dr. R. Mahalakshmi (Department of Biological Sciences) has been awarded with the Exceptional Fellows Fund from the Wellcome Trust-DBT India Alliance for the year 2019-2020.
- Dr. R. Mahalakshmi (Department of Biological Sciences) is a member of the Editorial Advisory Board of Peptide Science (Wiley, USA) from January, 2018.
- Dr. Joyanta Choudhury (Department of Chemistry) has been selected for the Bronze Medal of the Chemical Research Society of India (CRSI) in recognition of his outstanding contributions to research in chemistry (2018).
- Dr. Vineet Sharma's (Department of Biological Sciences) research on 'new species of dandruff in Indian population' has been published in 'Frontiers Cellular and Infection Microbiology' and was highlighted in the 'Times of India' newspaper. (Edition dated 6<sup>th</sup> October, 2018) and on Nature Asia website on 20<sup>th</sup> November, 2018.
- Dr. Vineet Sharma's (Department of Biological Sciences) group research work on Indian Gut Microbiome published in Giga Science journal has been widely highlighted by the media.
- Dr. Vineet Sharma (Department of Biological Sciences) carried out the genome sequencing of Peacock, which is the national bird of India. The preprint has been published on BioRxiv on May 5, 2018 and related manuscripts are also under review. This work is very significant since it is the first major eukaryotic bird

genome reported from India. The work was highlighted on the front page of Times of India newspaper.

- Dr. Sourav Datta's (Department of Biological Sciences) research work on plant protection against UV-B rays featured in Hindustan Times.
- Dr. Nagarjun Vijay (Department of Biological Sciences) has been awarded the "Innovative Young Biotechnologist Award for the year 2018".
- Dr. Sankar Chakma (Department of Chemical Engineering) has been awarded IEI Young Engineers Award 2018-19 by Chemical Engineering Division.

The graph below summarizes the recruitment for non-teaching positions.

### Recruitment for Non-teaching Positions



## **CONSTRUCTION AND CAMPUS DEVELOPMENT**

On completion of execution of the permissible area of 1,17,000 sqm as per approved DPR and shifting of the Institute completely to the permanent campus, the Institute Works Department focussed on development of campus. During the year, the work of rain water harvesting by providing numbers of recharge wells & big ponds for storage of rain water, construction of footpaths, covered parkings, and peripheral road along BMC water treatment plant have been completed and put to use. 5 nos. more duplex houses have been completed and put to use by the faculties. Ideation hut and Brain space have been created for the students in the hostels area.

On renewable energy front, grid connected roof top solar plant of 347 KWp on zero cost model has been installed and commissioned after obtaining statutory approvals. For upgradation of internet services data centre has been commissioned in Computer Centre building.

Apart from its vast and ultramodern infrastructure IISER Bhopal campus boost of splendid horticulture and picturesque landscape work with different species of trees being planted all around the campus. There was no tree when the land was acquired whereas more than 6500 numbers of trees have been planted now. 40,000 sqm of green sprawling lawn have been developed and are being maintained. Within a span of 5 years one can see greenery everywhere in the campus. Most of the water requirement of horticulture is met with the treated effluent of STP.

I am proud to announce that the Institute has completed the development of all the infrastructural facilities as per the DPR in the FY 2017-18 and the MHRD on recommendation of the External Peer Review committee has notified the closure of initial project mode of operation and shifted the Institute to normal mode of funding. Thus, IISER Bhopal was first among all IISERs to get the project closed. Also, IISER Bhopal is the first among all IISERs to get approval of ministry for Rs.71.33 Crore for its expansion plan under HEFA.

## **STUDENTS' ACTIVITIES**

IISER Bhopal endeavours to provide students with a perfect balance of extra-curricular skills along with the regular academic curriculum, so that the students passing out from here are not just good academicians, but are good citizens of the nation as well.

### ***Students' Achievements***

Our students have achieved fellowships and internships from various reputed Institutions. Given below are some of the major accomplishments of our students:

- The following students working under the supervision of Dr. Apurba Lal Koner have received poster awards in the international conference, Second World Congress on Microscopy: Instrumentation, Techniques and Applications in Life Sciences and Materials Sciences (WCM 2018), 10-12 August 2018, Kottayam, Kerala, India:
  - ❖ Suprakash Biswas, Ph.D. student: First prize for poster.

- ❖ Tanoy Dutta, Ph.D. student and Kovida, Int. Ph.D. student: Jointly second prize for poster.
- ❖ Rupam Roy, Ph.D. student: Third prize for poster.
- Mr. Prashant Kumar, jointly working under the supervision of Dr. Apurba Lal Koner and Dr. Vimlesh Kumar, has got the 1<sup>st</sup> prize for the short invited talk in the international conference, Second World Congress on Microscopy: Instrumentation, Techniques and Applications in Life Sciences and Materials Sciences (WCM 2018), 10-12 August 2018, Kottayam, Kerala, India.
- Ms. Arya Devi U R, BS-MS student was selected for the Twelfth Asian Science Camp-2018.
- The prestigious “CNR Rao Education Foundation Prize” instituted in the honour of Professor CNR Rao was given to the following students of BS-MS (Dual Degree) programme in Natural Science Stream for their exemplary performance in the first semester of the AY: 2018-19.
  - ❖ Mr. Atharv Ambekar
  - ❖ Mr. Manas Joshi
  - ❖ Ms. Parvathy P Sekhar
  - ❖ Mr. Revat Mehra

They obtained a perfect CPI of 10.00 on a 10.00 point scale. The award was presented on January 26, 2019.

- The “Academic Excellence Award” to recognise the excellence of UG students across all academic programmes during first year of study was given to Mr. Vijay Chakravarty for securing highest CPI during first semester of AY 2018-19. He obtained a perfect CPI

of 10.00 on a 10.00 point scale. The award was presented on January 26, 2019.

- Mr. Rupam Roy, Research Scholar, Department of Chemistry received the ACS Best Poster Award in the International Conference, “Frontiers in Chemical Science 2018”, held in IIT Guwahati during December 6-8, 2018.
- Mr. Aditya Kumar Dubey, Research Scholar, Department of Earth and Environmental Sciences won the Pre-Ph.D. Best Poster Competition Award comprising a cash award of Rs. 3000/- in the “TROPMET-2018” held in Banaras Hindu University (BHU), Varanasi during October 24-27, 2018.
- The prestigious “CNR Rao Education Foundation Prize” instituted in the honour of Professor CNR Rao will be given to Mr. Manas Joshi for his exemplary performance in the first year second semester of BS-MS (Dual Degree) programme in Natural Science Stream for the AY: 2018-19. He obtained a perfect CPI of 10.00 on a 10.00 point scale. The award will be presented on August 15, 2019.
- The “Academic Excellence Award” to recognise the excellence of UG students across all academic programmes during first year of study will be given to Mr. Vijay Chakravarty for securing highest CPI during second semester of AY 2018-19. He obtained a perfect CPI of 10.00 on a 10.00 point scale. The award will be presented on August 15, 2019.
- Mr. Gokul Nair (Ph.D. scholar, Department of Biological Sciences) received the best poster award in the 11<sup>th</sup> National Symposium cum Workshop on "Recent Trends

in Structural Bioinformatics and Computer Aided Drug Design [SBCADD' 2019]" organized by the Bioinformatics and Drug Discovery Society at the Department of Bioinformatics, Alagappa University, Karaikudi during February 12-15, 2019.

- Mr. Rasenjit Ghosh Dastidar (Ph.D. scholar, Department of Chemistry) received the best poster award in an international conference on "Recent Advances in Dynamics at the Interface of Chemistry and Biology" (DICB-2019), organized by SSCU (Solid State Structural Chemistry Unit), IISc Bangalore during February 18-20, 2019.
- Mr. Subha Biswas, 5<sup>th</sup> year BS-MS (Dual Degree) student in the Department of Chemistry has received the best poster award in "Indo-German Joint Scientific Workshop on Membranes for Water and Energy" (IGWMWE-19), organized by CSIR-CSMCRI, Bhavnagar, Gujrat, India during February 18-20, 2019.
- Ms. Asawari Albal (14030), 5<sup>th</sup> year BS-MS (Dual Degree) student in the Department of Biological Sciences has received the best poster award in the UG-PG category for a poster on "When does a flower become male? Exploring role of ecological factors and energy resources in driving gender expression in sympatric plants" at the Understanding Behavior Conference 2019 at IISER Kolkata during January 11-13, 2019. He was also selected for Mitacs Globalink Research Internship during May 2018.
- Mr. Dattatraya G Rawale (Ph.D. Scholar, Department of Chemistry) received the best poster award in the Indian

Peptide Symposium at BITS Pilani, Hyderabad during February 28 - March 1, 2019.

- Mr. Kartikay Sharma, 5<sup>th</sup> year BS-MS (Dual Degree) student in the Department of Chemistry received the best poster award in the 1<sup>st</sup> International Conference on “Crystal Engineering: From Molecule to Crystal” organized by NIT-Raipur during March 30-31, 2019.
- Mr. Md Saquib Saharwardi (Ph.D. Scholar, Department of Earth and Environmental Sciences) secured the 1<sup>st</sup> position for best poster presentation in the “Annual Monsoon Workshop (AMW-2018) and Prof. D.R. Sikka Memorial Symposium” organized by IITM, Pune, Maharashtra during March 28-30, 2019.
- Ms. Neha Upadhyay (Ph.D. Scholar, Department of Biological Sciences) secured the 1<sup>st</sup> position for best poster presentation in the International Symposium entitled “Sensing and Signalling in Plant Stress Response” organized by INDIA EMBO in New Delhi during April 15-17, 2019.
- Ms. Parvathy Priya Sekhar 1<sup>st</sup> year BS-MS (Dual Degree) student is selected for the Thirteenth Asian Science Camp-2019 to be held at Shantou, Gaungdong Province, China, during July 28 – August 03, 2019.
- Mr. Ajith Ashokan (Ph.D. Scholar, Department of Biological Sciences) has been awarded the Sibbald Trust Grant from the Royal Botanic Gardens, Edinburgh, UK.
- Ayush Kumar (14040) was selected for Mitacs Globalink Research Internship during November 2018.



- Shivani Gonde (14163) won the Helmholtz Interdisciplinary Doctoral Training in Energy and Climate (HITEC) fellowship in March-2019 for three-year Ph.D. programme in Germany.
- K Sridevi (15078) was awarded Deutscher Akademischer Austauschdienst (DAAD) fellowship. She will be working under the supervision of Dr. Sebastian Boeser, Experimental Particle and Astroparticle Physics (ETAP) Johannes Gutenberg University of Mainz, Germany 08 May 2018 to 20 July 2018.
- Vishnu Narayanan S S (15191) secure Rank 4 in CSIR-JRF (NET) Life sciences exam which was conducted on December 2018.
- Keerthana S Nair (14077) was selected for Summer Undergraduate Research Fellowship (SURF) at California Institute of Technology, USA.
- Ashutosh Agrahari (15038) was selected for Summer Research Internship at George August Universitat Gottingen, Germany during May 2018.
- Swayangdipta Bera (16208) was selected as a DAAD-WISE summer intern and currently working under Prof. Pablo Esquinazi at Leipzig University, Germany at Department of Physics.
- Akash Singh Bias (17001) got first Prize in Battle of Bands Music competition at SPA, Bhopal during college fest Synergy,2019.
- Himanshu Verma (17106) got Gold Medal in Chess during IISM 2018.

## **STUDENTS' ACTIVITY COUNCIL**

Students Activity Council (SAC) is a council of students that address their concerns and organizes extracurricular activities in the Institute. It is totally managed, organized and maintained by the students themselves. SAC contains six different Activity Councils (Computing & Networking, Cultural, Fine Arts and Literary, Career Development Council, Science and Sports) and a Representative Council. The Activity Councils of SAC manage the extracurricular affairs while the Representative Council works as the channel to address all the issues of the students related to academics, hostels, and student life in general. The Students Senate is the overall governing body of SAC; all the decision-making regarding the students is done here. Cultural activities are a set of performing and non-performing arts, which are run by a set of clubs corresponding to different skills and interests.

The Student Activity Council is responsible for developing, reviewing, and evaluating plans and setting directions for student affairs in accordance with the vision, mission and strategic plan of the institute. SAC primarily fosters the coordination and communication between Institution and student body and make sure student's opinions are being heard.

### ***Enthuzia-19: IISER Bhopal Annual Cultural Festival***

The Cultural Council under SAC had organized the sixth edition of the Annual Cultural Fest of IISER Bhopal, Enthuzia-19 from 18<sup>th</sup> - 20<sup>th</sup> January 2019. The competitions witnessed participation from students of IISERB as well as from other Institutions in and around Bhopal.

## ***Singularity-2018: IISER Bhopal Annual Science Festival***

The Students Activity Council organized the fifth edition of the annual Science Festival of IISER Bhopal on 5<sup>th</sup> 6<sup>th</sup> and 7<sup>th</sup> October. The event was inaugurated on 5<sup>th</sup> October and saw huge participation from the student's community. Competitions like Renaissance, Model Solvay Conference, Quiz, Blood-work and many other were held on the following days. It was also the first time when specific inter school events were organized where various schools from Bhopal participated and competed against each other. Different clubs under the Science Council prepared exhibits which were displayed during the fest. The fest concluded on 7<sup>th</sup> October with a talk by guest speaker Professor Rajesh Gopakumar (ICTS, Bengaluru).

## ***Dining Hall***

There are 4 Dining halls that are located in the Institute campus and are operated by the Students Cooperative Mess Management Committee for each Dining hall. The Mess Committee consists of the students who look after the hygiene and mess management which includes the Menu. Every Dining hall has a separate Mess Committee.

## ***Hostel Facilities***

Institute provides an on-campus hostel accommodation to all the students registered in the BS-MS, Ph.D. and Integrated Ph.D. Programmes. Institute has a total of 06 Hostels (4 Boys Hostel and 2 Girls Hostel). Hostel buildings have provision of ramp at entrance and lift (elevators) facility is also available for easy movement of students. Provision of rooms with attached toilet is also made available for the students with disability. Each hostel room is provided with all the basic amenities for

the students. Gym facilities for boys and girls equipped with latest equipment are available in the Institute. Another gym is also located at the Institute club.

### ***Counselling Services***

The students' counsellors strive to ensure welfare of students by providing them with emotional and moral support during times of academic or emotional stress, anxiety, depression etc. Counselling Service is completely driven by trust and the highest degree of confidentiality is maintained. The counsellor also arranges for regular talks and seminars by eminent psychologists to boost morale of the students and also to address specific issues faced by the students.

### ***Sports Initiatives***

#### ***Students Achievements in Inter IISER Sports Meet (IISM-18) held at NISER Bhubaneswar***

NISER Bhubaneswar hosted 7<sup>th</sup> Inter IISER Sports meet from December 15, 2018 to December 20, 2018. A total of 4 Coaches and 139 students represented IISER Bhopal in this sports meet. IISER Bhopal was declared Overall Champion of IISM-2018.

<b>Gold</b>	<b>Silver</b>	<b>Remarks</b>
Badminton Girls	Athletics	<b>Points Tally (IISER Bhopal) 5000 pts Declared Overall Champion of IISM-2018</b>
Chess	Basketball Girls	
Football Boys	Cricket	
Kho-Kho Girls	Football Girls	
Lawn Tennis Girls	Kho-Kho Boys	

### ***Mini Marathon 2018***

The 5<sup>th</sup> mini marathon was organised on the occasion of Sports Day. The Institute Campus community members including large number of students participated in the event. The mini marathon experienced a good participation in kid's category as well.

### ***IISER Bhopal Cultural and Sports Foundation (ICFS)***

Institute has constituted the “IISER Bhopal Cultural and Sports Foundation” (ICSF, Bhopal) to promote sports and other cultural and recreation activities for the students and campus community members. This also comprises of the Sports Council represented by the Students under the Student Activity Council (SAC).

### ***Activities conducted under the aegis of ICSF***

#### ***National Youth Day- 2019***

The National Youth Day is observed all over India to commemorate the birthday of great Swami Vivekananda i.e. 12<sup>th</sup> January as a National Youth Day every year. As a mark of respect to great Swami Vivekananda IISER Bhopal observed National Youth Day during cultural activities on January 26, 2019.

#### ***International Day of Yoga- IDY-2018***

The Indian Institute of Science Education and Research, Bhopal (IISER Bhopal) celebrated **International Day of Yoga-IDY 2018** on June 21, 2018.

A weeklong celebration from June 15 to June 21, 2018 was organized on the occasion by organising Yoga Sessions. In

addition to this Exhibition on Yoga Asana – (Display of posters in the Atrium lounge area), Yoga Asana Competition, Yoga Dance presentation were organised. The International Day of Yoga celebrations elicited widespread participation by the students, faculty, and staff members.

***Celebration of 150<sup>th</sup> birth anniversary of Mahatma Gandhi):***

***Swachhta-Hi- Seva***

On the Occasion of 150<sup>th</sup> Birth anniversary of Father of Nation Mahatma Gandhi, Observed Swachhta Hi Seva activities in nearby village Bhauri. IISER Bhopal selected 03 Best Swachh Bharat Summer interns-2018 with reference to MHRD letter no. DO 11014/2/2018-EBSB dated 18/07/2018 regarding Swachh Bharat Summer internship Program (SBSI)-2018).

***Swachhta Pakhwada-2018***

The Institute observed Swachhta Pakhwada-2018 on the occasion of 150<sup>th</sup> Birth anniversary of Father of Nation Mahatma Gandhi commenced 2 October 2018.

The initiatives undertaken during the occasion were cleanliness awareness, Cleanliness drives by the UBA team. An off campus cleanliness drives and awareness programme by the Institutes UBA team was conducted in nearby villages.

As a part of celebration on the occasion of 150<sup>th</sup> Birth anniversary of Mahatma Gandhi, activities like Sowing of one million seeds, A Plantation Drive - “Let Pollution-Quit India” in the campus was organised. The IISER Bhopal Quiz Club organised Quiz Competition based on Gandhian Principles and Ideology. A Movie Screening GANDHI was organised for the Students and campus community members.

An Initiatives “My Clean IISERB” a cleanliness Drive-competition was organised by Environmental & Social Initiative (ESIC) a Student club.

### *National Unity Day*

The Institute Observed **Rashtryia Ekta Diwas (National Unity Day)** on Wednesday, October 31, 2018 to mark the Birth Anniversary of Late Sardar Vallabh Bhai Patel. As a part of the Celebration of Rashtryia Ekta Diwas, ‘**Run for Unity**’ under the aegis of Walkathon Team was organized for the students and community members to mark the unity and integration of the Nation. Swachagrahi SBSI-2018 Successful students were given Certificates during the celebration.

### *Observance of Qaumi Ekta Diwas*

The IISER Bhopal observed “**Qaumi Ekta Diwas**” on November 25 by Observing “Qaumi Ekta Walk”.As a part of the Celebration of Qaumi Ekta Diwas, The Institute’s UBA students in collaboration with Institute Security wing organized “Qaumi Ekta Walk” for Unity & National Integration. Further, as part of the celebration, to celebrate the Qaumi Ekta Week, the EBSB core committee under the aegis of Ek Bharath Shreshtha Bharat EBSB organized a quiz on the topic of India:- Land of Diverse Heritage and Culture.

### *Ek Bharat Shreshtha Bharat (EBSB)*

The Indian Institute of Science Education and Research, Bhopal (IISER Bhopal) is Celebrating Ek Bharat Shreshtha Bharat (EBSB) a year-long cultural integration under EBSB activities. During the current period from March 2018 to August 2018 a series of online (e-stage online events), open

stage and field events were organized by the student community under EBSB activities. Celebrations and events involved participation from students of different cultural backgrounds and aim was to enlighten them with the traditions of the states.

All the events involved participation from students of different cultural backgrounds and the aim was to enlighten them with the traditions of the states.

## **ALUMNI AND INTERNATIONAL RELATIONS**

**Institute Career Development & Placement Council (ICDPC)**, IISER Bhopal is facilitating student's placements, in addition to training them for career and personality development. Additionally, the ICDPC coordinates several placement related activities such as organizing workshops, as well as publishing newsletters and magazines.

In the year 2018-19, ICDPC hosted a number of successful campus placements and arranged for student internships.

The ICDPC conducted a personality development & placement training program for the students of IISER Bhopal to groom them further as per need of the industry. A leading professional training firm was roped in for the same.

ICDPC also started registration of students who were willing to take part in the activities namely trainings, workshops and Campus Placement Drives. The registered students submitted their CV/Resume and their credentials were verified.

Regular ICDPC meetings are being conducted to discuss various aspects such as placement training programs,



interaction with students, conducting in-house programming courses, using Alumni contacts, etc.

One of the leading global manufacturers of additives for the plastics industry which is investing US\$30 million in its Indian subsidiary visited the campus of IISER Bhopal to conduct campus placement for the final year BS-MS and senior I-Ph.D. students. They visited IISER Bhopal's chemistry research facilities and initiated the discussion on the establishment of awards and research collaborations.

In order to educate the students about rules, regulations, protocols, and modalities of pursuing an education in the USA, the ICDPC organized a presentation entitled "Study in the U.S. and the VISA application process". It covered topics such as choosing the right school, financing of education and the visa application process.

### ***Intellectual Property Rights and Incubation Cell (IPRIC), IISER Bhopal***

The Intellectual Property Rights and Incubation Cell (IPRIC) which functions under the R&D wing of the Institute helps the faculty and students at IISER Bhopal in preparing and filing the patent and other IP applications. IPRIC also organizes various seminars and workshops to sensitize the faculty and students about IPRs and different grant opportunities. To provide basic knowledge of different IPRs, a short course in IPR is also offered to the BSMS and Ph.D. students of all disciplines every year.

During the year 2018-19, the following patent application were filed through IPRIC and the details are given below:

<b>S.No.</b>	<b>Title of Patent</b>	<b>Inventors</b>	<b>Patent Application No.</b>	<b>Status</b>
1	NANOPOROUS ORGANIC FRAMEWORK OF METAL CHELATED TRIAMINO GU ANIDINIUM	Abhijit Patra Ajit Chande MD. Waseem Hussain Vipin Bhardwaj	201921010663	Filed

The following three patents were published in the year 2018-19:

<b>S.No.</b>	<b>Title of Patent</b>	<b>Inventors</b>	<b>Publication</b>
1	MULTI-FUNCTIONAL CHEMICAL AGENTS, AND THE METHOD FOR PROTEIN MODIFICATION	<b>Vishal Rai</b>	March 2019
		Srinivasa Rao Adusumalli	
2	HEMIAMINAL-TAG FOR PROTEIN LABELING AND PURIFICATION	<b>Vishal Rai</b>	March 2019
		Landa Purushottam	
3	SITE-SELECTIVE PEPTIDES AND PROTEIN LABELLING AND SYNTHESIS OF HOMOGENOUS PROTEIN CONJUGATES	<b>Vishal Rai</b>	March 2019
		Maheshwerreddy Chilamari	
		Landa Purushottam	

## ***Innovation and Incubation Centre for Entrepreneurship (IICE): Technology Business Incubator at IISER Bhopal***

Innovation and Incubation Centre for Entrepreneurship (IICE), is an initiative of IISER Bhopal to promote entrepreneurial ecosystem at the campus, and supported by the grant from Department of Science and Technology (DST). IICE aims to motivate faculties and students to convert research ideas and in-house generated technologies into commercially viable products. The infrastructure available at IICE can accommodate upto 12 business startups and 15-20 pre-startups. The common instrumentation facility provides several benchtop instruments for the incubated startups.

IICE has received a proactive response from faculties and students of IISER Bhopal, and its vicinity. Currently, IICE houses three business startups and two of them have received BIRAC-Biotechnology Ignition Grant (BIG). Besides, six student pre-startups have been selected through the institute-level entrepreneurial contest "SharkTank", co-organized by SAC and IICE during Singularity 2019. To encourage students in the entrepreneurial activities, IICE has initiated student activity clubs namely, Innovation Club, RoboTech Force Club, and iGEM club.

IICE also organizes several activities to promote entrepreneurship, and providing hands-on training on the new areas such as 'Internet of Things'. IICE organized a 2-days Workshop on "Open-Source Arduino Technology for Startups and Academia" which was attended by more than 50 students. IICE also conducted an Interactive session on "Biotechnology Ignition Grant (BIG)" funding program to sensitise the faculty and students and to encourage them to apply for the available

grants. This year, IICE partially supported a team of undergraduate students (IISER-Bhopal-India), as a student pre-startup, which represented IISER Bhopal in International Genetically Engineered Machines (iGEM-2018) and received the Bronze medal.

## **CLOSING REMARKS**

Today as you are all set to become IISER Bhopal graduates, I take this opportunity to congratulate all the degree recipients, their parents and family members. You are about to enter a new segment of your life, a special phase that will make you independent individuals. I am sure that the knowledge that you have imbibed during your stay in this Institute will enable you all to achieve success in whatever you do. As an alumnus of IISER Bhopal, you will always stand up for the right cause and keep the spirit and ethos of your alma mater high. There will be several avenues which you all venture to explore; the road will be rough, there will be hurdles. However, through sheer dedication and hard work, you will reach the zenith. Our best wishes will always be there for every one of you. We will eagerly wait to hear the success stories that you will achieve and the laurels you will acquire. Your contributions will enrich the heritage of the Institute. As students you have helped us to build IISER Bhopal and now as alumni, you will contribute in creating a mark on the global academic canvas. I wish you all the very best in all your endeavours.

Jai Hind.

Professor Siva Umapathy  
Director, IISER Bhopal



**भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान भोपाल**  
**Indian Institute of Science Education and Research Bhopal**

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