

Biodirectory



The Institute occupies nearly 400 acres of prime land in Bangalore, generously donated by the Maharaja of Mysore in March 1907. Indeed, the contribution from the princely state of Mysore was the decisive element in determining the location of J.N. Tata's proposed institution. Remarkably, in a gesture unmatched in the annals of private philanthropy in India, Tata did not wish his name to be associated with the Institute. His dream was to create an institution that would contribute to the development of India. The name, Indian Institute of Science, which was finally chosen, reflects in every way the wishes of J.N. Tata. Visitors to Bangalore who seek out IISc still have to ask local residents for directions to the 'Tata Institute', a clear recognition that Jamsetji Tata's act of generosity has remained undimmed in public memory, despite the passage of a century.



IISc
Bangalore
India

The Indian Institute of Science (IISc) was conceived as a 'Research Institute' or 'University of Research' by Jamsetji Nusserwanji Tata, in the final years of the 19th century. A long period of almost thirteen years was to elapse from the initial conception in 1896 to the birth of the institute on May 27, 1909. The early history of the Institute is a fascinating chapter in the story of higher education and scientific research in India. The cast of characters in the drama that led to the establishment of the Institute includes, in addition to its charismatic and generous founder J.N. Tata, figures from the pages of Indian history. There is Swami Vivekananda, whom J.N. Tata befriended on his famous voyage to the United States, the Maharaja of Mysore, Shri Krishnaraja Wodeyar IV and his mother then acting on his behalf, and Lord Curzon the Viceroy of India, whose first task on arrival on December 31, 1898 was to receive a draft proposal prepared by the Provisional Committee set up to plan the establishment of the Institute. The plan was shepherded through many difficult years by Burjorji Padshah, a close associate of J.N. Tata. Unfortunately, J.N. Tata died in 1904 unaware that his vision would indeed be realized a few years later. When the British Government finally issued the Vesting Order in 1909, an unmatched experiment in higher education and research was launched in India. IISc is truly the first example of a public-private partnership in this country; an institution, whose evolution over a century is testimony to the robustness of its foundations.

The Institute began with only two departments: General and Applied Chemistry and Electro-Technology. The first Director, Morris W Travers began the task of organizing the Institute shortly after his arrival in India at the end of 1906. Travers began the construction of the main building, which is one of Bangalore's landmarks today. The Departments of Organic Chemistry and Biochemistry were among the earliest to be established. The Physics department came into being in 1933, when C.V. Raman became the first Indian Director of the Institute. In the century that has passed since its inception, IISc has grown to become India's premier centre for research and postgraduate education in science and engineering. The evolution of the Institute over the past one hundred years has mirrored the development of science and technology in India. A long history, a strong tradition of academic research and an ambience that favours scholarly activity have been important elements in making the Institute a most attractive place for students and faculty. As the Institute has grown, several new areas of research have been established, many of them for the first time in India. The Institute's departments in

fields ranging from Biochemistry to Aerospace Engineering have served to nucleate research and development in both the public and private sectors. The faculty and alumni of the Institute have been responsible for establishing and spearheading many new institutions and programs across the country, reflecting in a real sense, a major contribution of this centre of learning to national growth and development. Homi Bhabha conceived the idea of the Tata Institute of Fundamental Research (TIFR) and an Atomic Energy Program while working in the Department of Physics. Vikram Sarabhai, the founder of India's space program was an alumnus. Following his premature death, the Indian Space Research Organization (ISRO) was built by the farsighted leadership of Satish Dhawan, who simultaneously held the position of the Director of the Institute with the greatest distinction. The first Indian Institute of Technology (IIT) at Kharagpur was established by J.C. Ghosh, who was the Director of IISc in the critical period 1939-48, during which much of the activity in engineering was initiated at the Institute. Many of India's most distinguished scientists have been associated with the Institute as students or faculty. Notable among them are G.N. Ramachandran, Harish Chandra, S. Ramaseshan, A. Ramachandran, C.N.R. Rao and R. Narasimha. Alumni of the Institute head many major organizations in India and abroad.



Sir Jamshedji Tata
3 March 1839 – 19 May 1904

IISC offers a variety of Master's degree programs in Engineering, an integrated Ph.D. (post-B.Sc.) program in Sciences and Ph.D. programs in a wide spectrum of disciplines in science and engineering. Last year the Institute launched a 4-year undergraduate program leading to a B.S. degree, with an opportunity for students to obtain a broad foundation in science, including an exposure to research.

The face of science and engineering research has been changing very rapidly over the past few years. In approaching the second century of the Institute many new activities have been initiated. Notable among them are the interdisciplinary Ph.D. programs in Mathematical Sciences and Nanoscience and Engineering. A new program in Bioengineering has been launched this year. These programs are intended to blur the traditional boundaries between disciplines, thereby promoting cross-disciplinary research. New centres in the areas of Earth Sciences, Climate Change and Neuroscience have been established in the last few years.

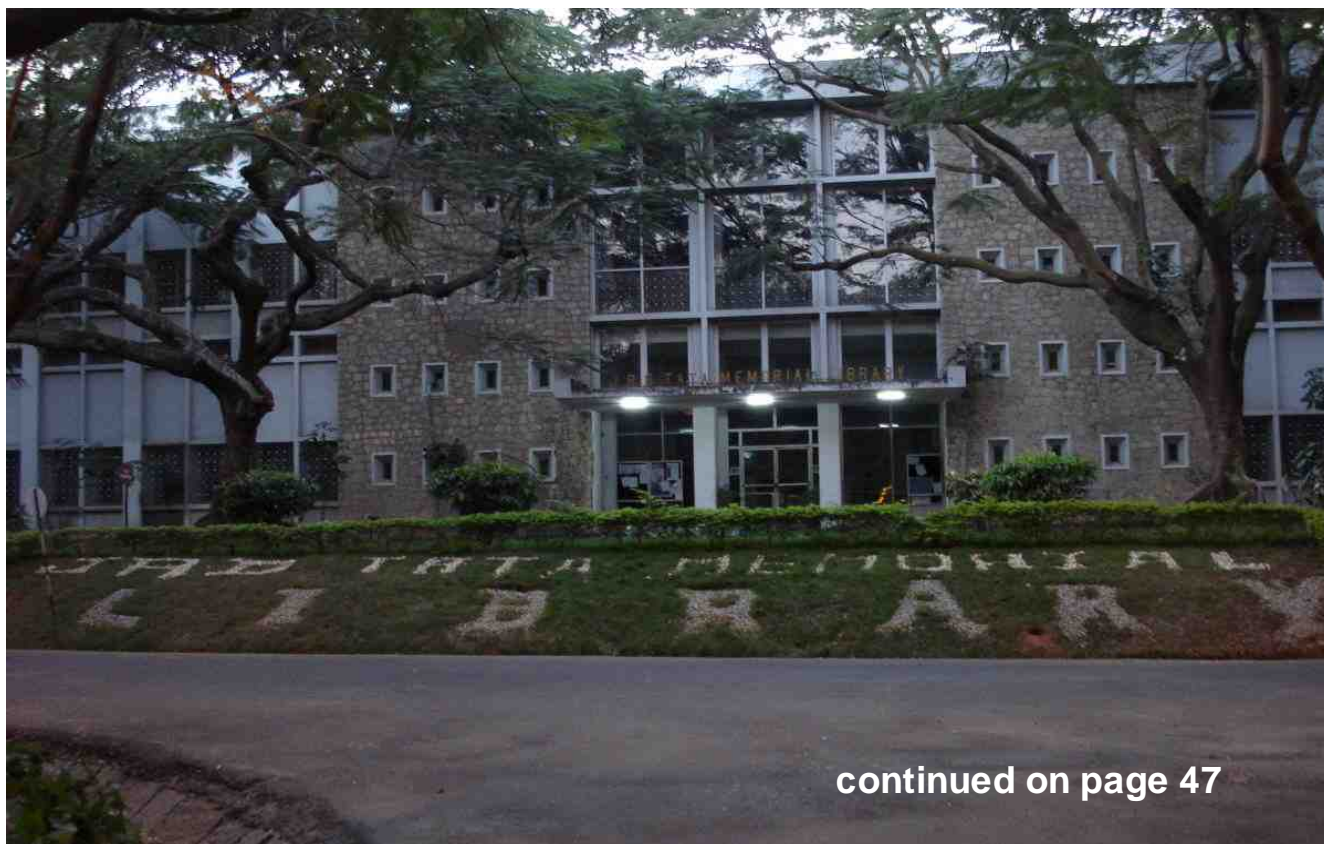
The Institute engages in interactions with society and industry through a variety of outreach programs. The Centre for Scientific and Industrial Consultancy (CSIC) and the Society for Innovation and Development (SID) promote collaborative interactions with industry, while the Centre for Continuing Education (CCE) provides an opportunity for working scientists and engineers to enrich

themselves academically. The Institute actively promotes programs that encourage bright young school and undergraduate students to undertake research careers. The Institute administers the Kishore Vaigyanik Protsahan Yojana (KVPY) program of the Department of Science and Technology (DST). The Institute's commitment to socially relevant research is specifically emphasized by the activities undertaken at the Centre for Sustainable Technologies (CST), together with the Karnataka State Council for Science and Technology (KSCST), which is housed on the campus.

The Institute completed a century of existence in 2009. It has embarked on a new phase of expansion and renewal. To live and work at the Institute is a special privilege. The Faculty, Staff and Students of the Institute can be rightly proud of its past and optimistic about its future.

Campus

The IISc campus is located in North Bangalore about 4 kilometers from the Bangalore City Railway Station and bus stand on the way to Yeshwantpur. The Institute is about 35 kilometres from new Bangalore International Airport. A number of other research institutes viz. Raman Research Institute, Indian Space Research Organization (ISRO), Wood Research Institute and Central Power Research Institute (CPRI) are close to IISc.



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Facilities for researchers at IISc

The campus houses more than 40 departments marked by routes such as the Gulmohar Marg, the Mahogany Marg, the Badami Marg, the Tala Marg, the Ashoka Marg, the Nilgiri Marg, the Silver Oak Marg, the Amra Marg and the Arjuna Marg. The Institute is fully residential and spreads over 400 acres of land situated in the heart of Bangalore city. The campus features six canteens (cafeterias), a gymkhana (gymnasium and sports complex), a football and a cricket ground, five dining messes (halls), one multicuisine family restaurant, nine men's and five women's hostels (dormitories), an air strip, a library, two shopping centers and residence areas for faculties and other staff members, besides other amenities.

The IISc campus harbors both exotic and indigenous plant species with about 110 species of woody plants. The roads on the campus are named after the dominant avenue tree species.

IISc Library

The library was established in 1911 and it is one of the first three departments started in the Institute (the other two are Departments of General and Applied Chemistry and Electrotechnology). It is regarded as one of the best scientific and technical libraries in India.

Apart from the main library, the Institute also has independent departmental libraries. The library moved into the present premises in January 1965, built out of grants provided by University Grants Commission (UGC), in commemoration of the golden jubilee celebrations of the Institute in 1959. In 1995, the library was renamed as "J. R. D. Tata Memorial Library". The National Board for Higher Mathematics (NBHM) has recognised this library as Regional Center for Mathematics for the south region and continued to award a special grant towards subscription of Journals in Mathematics.

The annual budget of the library is over Rs. 100 million (almost US\$ 2,500,000) of which subscription towards periodicals alone is about Rs. 90 million. The library currently receives over 1,734 periodical titles, of which 1381 are subscribed, while the remaining titles are received as gratis or on an exchange basis. About 600 titles are accessible through the library subscription. In addition, over 10,000 journals are accessible online, thanks to INDEST subscription. The total holdings of the

library exceed 411,000 documents.

Central computing facility

The Computer Centre, established in 1970 as a central computing facility, became Supercomputer Education and Research Centre (SERC) in 1990 to provide state-of-the-art computing facility to the faculty and students of the Institute. SERC is created and fully funded by the Ministry of Human Resource Development (MHRD) to commemorate the platinum jubilee of the Institute. It has the 6th fastest supercomputer of India.

Apart from functioning as a central computing facility of IISc, the SERC is engaged in education and research programs in areas relating to supercomputer development and application. The Centre is also involved in several sponsored research projects in collaboration with several high-profile government and private agencies.

Ranking

In 2011, IISc was the only Indian university ranked in the top 500 by the Academic Ranking of World Universities, at 301-400th place overall. IISc managed to maintain its overall ranking through the 2012 and 2013 rankings. In 2013, it ranked 43rd in Chemistry and 51-75 in Computer Science. In latest World Reputation Rankings for 2013, Times Higher Education (THE) magazine, UK, for the first time, has released an India top-10 list. According to The India Reputation Rankings, Indian Institute of Science (IISc), Bangalore, is in the first position. In 2012, IISc was ranked 35 in the Global Employability Survey and it was the only Indian institution in that list. IISc was ranked 39 in Materials Science, 59 in Chemistry, 50-100 in Engineering/Technology and Computer Science in the QS World University Rankings 2012-2013. It was also ranked 137 in Natural Sciences and 167 in Life Sciences, with no overall ranking.

Faculty of Science at IISC

The Faculty of Science comprises of three divisions consisting of Departments and Centres. The Division of Biological Sciences at the Institute is engaged in frontline research at the frontiers of modern biology. It encompasses three major departments, four smaller Centres and three facilities and has on its rolls more than fifty faculty members and about 300 research scholars and post doctoral fellows. The scientists in the Division deal with almost all aspects of modern biology: molecular biology, structural biology, immunology, enzymology, reproductive and developmental biology, ecological and environmental studies and so on. The methods employed in these investigations include genetic engineering, immunological techniques, PCR, spectroscopy, X-ray Crystallography, electron-microscopy, bioinformatics and computer modeling.

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The Biological sciences Division at the Institute has been for decades known as an internationally recognized Centre for fundamental modern biological rch. In recent years, useful applications of the research is receiving increased attention. The general current strategy is to carry out excellent fundamental research and to vigorously pursue the applications that flow from it. Currently, the scientists in the Division are in the process of collectively orchestrating most of their efforts under the following three broad areas with considerable application potential. They are:

Infectious Diseases
Drug and Molecular Design
Gene Targetting, Genetic Disorders and Genetic Diversity

Through these efforts, the scientists in the Division are committed to continue to carry out excellent biological research and also address real life problems such as those involving tuberculosis, malaria, diarrhoeal diseases, and disorders of various kinds.

Division of Biological Sciences comprises of 6 departments
Biochemistry
Centre for Ecological Sciences
Centre for Neuroscience
Microbiology & Cell Biology
Molecular Biophysics Unit
Molecular Reproduction, Development & Genetics