

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

(A Deemed University)

Homi Bhabha Road, Colaba, Mumbai 400005.

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Advertisement No. 2017/1

Research opportunities for exceptionally talented and strongly motivated students

PH.D. AND INTEGRATED M.SC.-PH.D. PROGRAM IN MATHEMATICS, PHYSICS, CHEMISTRY, BIOLOGY, COMPUTER & SYSTEMS SCIENCES; PH.D. PROGRAM IN SCIENCE EDUCATION; M.SC. PROGRAM IN BIOLOGY (MUMBAI ONLY) AND WILDLIFE BIOLOGY & CONSERVATION (BENGALURU ONLY).

The Tata Institute of Fundamental Research invites applications for admission to its M.Sc., Integrated M.Sc.-Ph.D.

(I-PhD), and Ph.D. Graduate Programs in the subjects given below:

SUBJECTS: ● **Mathematics (Ph.D. and I-Ph.D. Programs):**

● School of Mathematics, Mumbai (<http://www.math.tifr.res.in>)

● Centre for Applicable Mathematics, Bengaluru (<http://math.tifrbng.res.in>).

● International Centre for Theoretical Sciences (ICTS), Bengaluru (<https://www.icts.res.in>): **only Ph.D. program.**

● **Physics (Ph.D. and I-Ph.D. Programs):**

● Department of Astronomy & Astrophysics, Department of Condensed Matter Physics & Materials Science, Department of High Energy Physics, Department of Nuclear & Atomic Physics, Department of Theoretical Physics (all at Mumbai campus) (<http://www.tifr.res.in/~sbp>). ● National Centre for Radio Astrophysics (NCRA), Pune (<http://ncra.tifr.res.in>). ● TIFR Centre for Interdisciplinary Sciences (TCIS), Hyderabad (<http://www.tifr.res.in>): Theoretical and experimental activities in physical, chemical, biological and engineering sciences, within and across disciplines. ● International Centre for Theoretical Sciences (ICTS), Bengaluru (<http://www.icts.res.in>).

● **Chemistry (Ph.D. and I-Ph.D. Programs):** ● Department of Chemical Sciences, Mumbai (<http://www.tifr.res.in/~dcs>). ● TIFR Centre for Interdisciplinary Sciences (TCIS), Hyderabad (<http://www.tifr.res.in>).

● **Biology (Ph.D., I-Ph.D. and M.Sc. Programs):** ● Department of Biological Sciences, Mumbai (<http://www.tifr.res.in/~dbs>). ● National Centre for Biological Sciences (NCBS), Bengaluru (<http://www.ncbs.res.in>): Ph.D. and I-Ph.D. Programs only ● TIFR Centre for Interdisciplinary Sciences (TCIS), Hyderabad (<http://www.tifr.res.in>): Ph.D. and I-Ph.D. Programs only.

● **Computer & Systems Sciences (Ph.D. program) including Communications and Applied Probability:** School of Technology & Computer Science (STCS), Mumbai (<http://www.tcs.tifr.res.in>).

● **Science Education (Ph.D.):** Homi Bhabha Centre for Science Education, Mumbai. For admission procedure, see (<http://www.hbcsce.tifr.res.in>)

GRADUATE SCHOOL (GS-2018):

The academic year starts from August 1, 2018. **Stipend: Ph.D. students** receive a monthly fellowship of Rs.25,000/- enhanced to Rs.28,000/- after registration. **I-Ph.D. Students** receive a monthly fellowship of Rs 16,000/- for the first year. At the end of the first year, upon satisfactory performance, the fellowship is enhanced to Rs.25,000/- per month (further raised to Rs.28,000/- after registration for Ph.D.). Monthly fellowship for M.Sc. (Biology) is Rs 16,000 (+HRA as applicable) and for M.Sc. (Wildlife Biology & Conservation) is Rs 12,000 (fixed).

ELIGIBILITY: (Candidates in the final year of qualifying degree can also apply).

● **Mathematics:** ● **For Ph.D.:** M.A./M.Sc./M.Tech. ● **For I-Ph.D.:** B.A./B.Sc./B.E./B.Tech. (Students already having/ completing an M.Sc. degree by July 2018 are not eligible). ● **Physics:** ● **For Ph.D.:** M.Sc./M.S. in Physics, or equivalent, on completion of programme (s) of duration not less than 5 years in total. ● **For I-Ph.D.:** M.E./M.Tech./B.Sc./B.S./B.E./B.Tech./B.Chem in Physics, Engineering Physics, or equivalent degree, on completion of programme (s) of duration not less than 3 years in total. Any other degree in Science / Engineering / Medicine, or equivalent, on completion of programme (s) of duration not less than 3 years in total.

In addition:

I-Ph.D. candidates with not less than 4 or more years of university education who clear the written test may be considered by **TCIS for their Ph.D. program.**

● **Chemistry:** ● **For Ph.D.:** M.Sc./B.E./B.Tech./M. Pharm or equivalent degree. ● **For I-Ph.D.:** B.Sc./B.Pharm./B.S. degree or equivalent degree.

Candidates with B.E./B.Tech degrees can optionally get an M.Sc. degree by fulfilling necessary requirements. ● **Biology:** Candidates will be short-listed for interview based on written test marks, CV and Scientific Write-up.

● **For Ph.D.:** Masters in Basic Science (M.Sc. Physics/Chemistry/Any branch of Biology) or Bachelors in Applied Science. These include, M.Sc.(Ag.), B.Tech., B.E., B.V.Sc., B.Pharm. (4 years course), MBBS, BDS, M.Pharm.

● **For I-Ph.D./M.Sc.:** Bachelors in any Basic Science (Physics/Chemistry/Any branch of Biology).

● **For M.Sc. Wildlife Biology & Conservation:** Indian nationals who have a Bachelor's degree in any discipline (with a minimum of 60% in core subjects) and a strong interest in wildlife research and conservation. Graduate nationals for Central, South and Southeast Asian countries, with similar qualifications, are also eligible to apply.

The TIFR Nationwide Entrance Examination (GS2018) for Biology is also called the Joint Graduate Entrance Examination for Biology and Interdisciplinary Life Sciences (JGEEBILS). See <http://www.ncbs.res.in/JGEEBILS>. All participating institutions use the score from this examination, but each institution has its own admission procedure. Students need to apply separately to each institution that uses the JGEEBILS score.

● **Computer Science & Systems Sciences (including Communications and Applied Probability)**

: **For Ph.D.:** B.Tech./B.E./M.Tech./M.E./M.C.A./M.Sc. or equivalent degree in Computer Science / Electronics & Communications Engineering / Electrical Engineering or related branches. Exceptionally well qualified students with B.Tech./B.E./M.Tech./M.E./M.Sc. degrees in other disciplines may also be considered. Exceptionally well qualified students with a three year degree in related subjects may be considered for I-Ph.D.

Candidates not holding a Master's degree and admitted to a Ph.D./I-Ph.D. program can receive an M.Sc.

degree in some subjects by fulfilling prescribed requirements (see <http://www.tifr.res.in/~gsoffice> for details).

ADMISSION PROCEDURE: The admissions procedure (in all subjects except Science Education) consists of a written test at one of the several nationwide centres followed by interviews of shortlisted candidates. The written test will be held on **Sunday, December 10, 2017** in the following cities: Ahmedabad, Bengaluru, Bhubaneswar, Chandigarh, Chennai, Cochin, Delhi, Guwahati, Haldwani, Hyderabad, Indore, Jammu, Jaipur, Kanpur, Kolkata, Madurai, Mangalore, Mumbai, Nagpur, Patna, Pune, Varanasi and Visakhapatnam.

Interviews: For information on subsequent interviews, please check our website.

GATE score based applications in Systems Science (including Communications and Applied Probability): Engineering students with exceptional performance in GATE examination of 2016-2018 in Electrical, Electronics and Communications Engineering, Mathematics may apply for the Ph.D. program without appearing for the TIFR Entrance Test. The link for GATE score based applications will be made available on our website on February 5, 2018. Last date for applying will be two weeks after the GATE 2018 results are displayed on their website. In case a student takes the Systems Science TIFR Entrance Test and also submits a GATE score based application, the better of the two performances will be considered.

GATE score based applications in Ecology and Evolution: Students with exceptional performance in GATE examination of 2016-2018 in Ecology and Evolution may apply for the Ph.D. program in Biology at the National Centre for Biological Sciences without appearing for the TIFR Entrance Test. The link for GATE score based applications will be made available on the NCBS website on February 5, 2018. Last date for applying will be two weeks after the GATE 2018 results are displayed on their website.

In addition to the admissions through this nationwide examination in December, some admissions in Physics based on GATE / NET / JEST scores are also possible. Details of these admission procedures will be available on the websites of TIFR Mumbai, ICTS, TCIS and NCRA, separately at appropriate times.

APPLICATION PROCEDURE: Submit online applications at <http://univ.tifr.res.in>

Only students from remote areas who have no access to internet may send their request for application form along with a self-addressed stamped (Rs. 20/-) envelope (size 25cm x 17cm) superscribed GS-2018 (Subject). All others should submit online applications only.

APPLICATION FEE (Non-Refundable): **Male Applicants** - Rs 600/- for applications submitted online and Rs 650/- for applications sent manually by post. **Female Applicants** - Rs 100/- for applications submitted online as well as for applications sent manually by post. Payment can be made online by Netbanking/Credit/Debit cards OR by Demand Draft drawn on State Bank of India.

● **For Biology:** DD to be drawn in favour of "National Centre for Biological Sciences", payable at Bengaluru.

● **For all other subjects:** DD to be drawn in favour of "Tata Institute of Fundamental Research", payable at Mumbai.

Hall Tickets will be issued only after the receipt of the application fee. Online applicants sending DD by post should write their reference code, name and mobile number behind the DD and send it to the address as given below. Students applying manually should send the DD along with the filled-in application form.

Address for mailing application/DD: ● **For Biology:** Admissions Section, National Centre for Biological Sciences, TIFR, GKVK, Bellary Road, Bengaluru 560065. Enquiries to phd@ncbs.res.in or call 080-23666021. ● **For all other subjects:** University Cell, Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai 400005. Enquiries to gsch@tifr.res.in Please superscribe GS2018-(Subject) on the envelope.

A waiver of application fee on grounds of financial distress may be requested by a letter from the Principal or the Head of the Department justifying the request. Students may apply online and send the waiver letter/request from the Principal/HOD (on their letter head duly signed and stamped) by post with a covering letter mentioning the reference code. Candidates applying manually may send the waiver letter along with the filled-in application form. These requests would be considered depending on availability of seats in each Centre and cannot be guaranteed.

Candidates may appear for the written test in multiple subjects if the timings do not clash. Please send/submit separate application (including Demand Draft) for each subject.

Last date for Application: October 12, 2017.

Last date for GATE Score based applications in Systems Science (including Communications and Applied Probability) will be two weeks after the GATE 2018 results are displayed on their website.

NO WALK-IN CANDIDATES WILL BE ALLOWED FOR ANY SUBJECTS. NATIONWIDE GRADUATE SCHOOL ENTRANCE EXAMINATION (GS2018): SUNDAY, DECEMBER 10, 2017

Morning Session: Physics, Chemistry, Computer & Systems Sciences and M.Sc. Wildlife Biology & Conservation: 9:30 a.m. to 12:30 p.m. Afternoon Session: Biology (JGEEBILS): 2:30 p.m. to 4:30 p.m.; Mathematics: 2:30 p.m. to 5:30 p.m.

NATIONWIDE GRADUATE SCHOOL ENTRANCE EXAMINATION (GS2018) : SUNDAY, DECEMBER 10, 2017

Physics, Chemistry and Computer & Systems Sciences and M.Sc. Wildlife Biology & Conservation: 9:30 a.m. to 12:30 p.m.

Mathematics and Biology (JGEEBILS) : 2:30 p.m. to 4:30 p.m.