Indian Institute of Technology Palakkad
भारतीय प्रौद्योगिकी संस्थान पालक्काड
Under Ministry of Human Resource Development, Govt. of India
मानव संसाधन विकास मंत्रालय के अधीन, भारत सरकार

IIT PALAKKAD

Information Brochure (2018 August Semester)
(for candidates wishing to join Research Programmes)

Important Dates[+]

Last date for submission of application online	April 14, 2018
Interview Call letters to be sent by:	May 11, 2018
Interview and Test	June 11 to June 26
Selection list to appear	June 29, 2018
Last date to issue admission letters	July 2, 2018
Date of Joining	July 16, 2018

[+]While all efforts will be made to stick to these dates, you are advised to consult our home page and check for any changes in the dates, that may be announced there.

Important Note

In situations which are not covered or made clear in this document, an appropriate decision will be taken by the Dean R&D after examining the situation carefully. His/her decision on the matter will be final.

Important Guidelines for Ph.D. & M.S. (Research) Application

i.	Please read the instructions given in the admission brochure carefully before filling up the application form.
ii.	Online application form is available at the Institute website iitpkd.ac.in. After filling the form, please take a printout and keep it for records.
i.	The application fee is as follows: GN/OBC-NCL Male candidates : Rs.100/- GN/OBC-NCL Female candidates : Rs.50/- SC/ST and PwD candidates : Rs.50/- **APPLICATION FEE IS NON-REFUNDABLE.**
*	A valid *OBC-NCL certificate* must be uploaded with the ONLINE application and submitted at the time of admission.
*	You should check the IIT website for important announcements and the results.
*	Candidates called for interview must bring with them printed copy of the application that they submitted online along with originals and photocopies of the relevant certificates.

<p align="center" style="color:red">General</p>

<h2 style="color:red">1. The Institute</h2>

The Indian Institute of Technology Palakkad (IITPKD) is established as an autonomous institute of national importance by the Government of India. It is currently located inside the scenic Ahalya Integrated Campus, Kozhipara, Palakkad, 678557. Considering that the IIT is in its infancy, good facilities are available in its present campus, and more are being setup/planned. Land for the permanent campus was made available by the Government of Kerala near the Sahya mountains, and construction activities have already started.

IITPKD conducts B.Tech. programs in Civil, Electrical, Mechanical and Computer Science and Engineering, and is starting its M.S.(research) and Ph.D. programs in July 2017.

Research Areas and facilities available/planned

Areas in which research is being carried out, and the details of the existing facilities are given below. Note that for the **August 2018** admissions, it is planned to take students only in the areas that are highlighted with blue color.

1) Chemistry:

Biophysical chemistry and molecular dynamics simulations, Mechano-chemistry, Equilibrium and non-equilibrium statistical mechanics of soft matter, Structure and dynamics of polymers/ macromolecules, Materials Chemistry and Heterogeneous Catalysis, Organic macromolecules - Design, Synthesis and Applications.

A well-equipped synthesis lab is available for the research in experimental chemistry. A central facility of sophisticated analytical instruments have been planned for this year.

2) Civil Engineering:

Structural Engineering: Buckling and post-buckling of open sections, cold formed steel structural members, reinforced and pre-stressed concrete.

Geotechnical Engineering: Foundation engineering, strength and deformation behavior of soil, Geosynthetics and Ground improvement techniques, Geotechnical & Geoenvironmental engineering.

Water Resource Engineering: Hydrological modelling and uncertainty analysis, climate and land use change modelling.

Environmental Engineering: Microbial Fuel Cells, Bioelectrochemical systems, Electrochemical Wastewater Treatment Methods, Metal Reduction/Recovery, Advanced Oxidation Process, and Bioremediation.

Transportation Engineering: Transportation systems planning, traffic flow modelling and simulation, freight transportation modelling

The research oriented lab facilities listed below (but not limited to) are being planned:

Structural Engineering:100kN and 500kN Servo Hydraulic Universal Testing Machines; Actuators:100 kN, 250kN, and 500kN; 2D and 3D testing frames; data acquisition systems, Controlled UTMs :300kN and 3000kN.

Geotechnical Engineering: Servo controlled monotonic/cyclic triaxial testing system, consolidation test apparatus, Direct shear apparatus, Flexible wall permeameter and various geosynthetics testing equipment.

Environmental Engineering: Potentiostat, Data Acquisition System, TOC Liquid / Solid Analyzer and TN analyzer, UV – VIS Spectrophotometer, and various Consumables.

General computational facilities: Various analysis and design software, Finite Element Method software, Spatial data analysis softwares, and High performance computing cluster of the Institute. General workshop: Lathe, milling, grinding and drilling machines, welding, power tools etc.

3) **Computer Science & Engineering**:

Algorithms, Graph Theory, Combinatorics, Type theory, Functional Programming and Proof Assistants, Machine Learning, Deep Learning, Natural Language Processing, Optimization, Bioinformatics, Wireless Networks, Social Networks, Hardware security, Multi/many core processors, Real-time systems.

4) **Electrical Engineering**:

Semiconductor devices and modeling, nanoelectronics, plasmonics/optoelectronics; Microwave Engineering, Microwave Remote Sensing, Radio-Frequency and Microwave Circuits/Filters, Microwave and mmWave antennas, MEMS based metamaterials; Wireless communication, communication theory, statistical signal processing, information and coding theory; Biomedical signal processing, Brain-Computer Interface Systems, Ultrasound medical imaging; Embedded signal processing and low power reconfigurable circuits, VLSI; Power Electronics; Control Systems

Facilities: High performance computing cluster of the Institute. High frequency microwave and communication, MEMS and device fabrication and characterisation facility, power electronics, machines labs and research facilities are being setup.

5) **Mathematics:**

Functional Analysis, Differential Equations and Nonlinear Analysis, Several Complex Variables, Mathematical Statistics and Probability.

6) Mechanical Engineering:

Engine modelling/control, Optical diagnostics in combustion, Fracture mechanics, Computational fluid dynamics & turbulence, manufacturing, materials and tribology.

Facilities: Engine research facility, laser diagnostic lab, High performance computing cluster, 3D printing, material characterization facility etc.

7) Physics:

Quantum information theory, Non Equilibrium quantum systems, Physics of soft materials: Theory and simulations, Plasmonic systems: Experiments and Numerical simulations. Transport studies in 2D materials and perovskites.
AdS/CFT correspondence & supersymmetric quantum field theories

8) Humanities and Social Sciences:

Philosophy: Continental Philosophy, Phenomenology and Existentialism

2. PH.D AND M.S ADMISSIONS

1. Application:

A candidate can apply to more than one department. The maximum number of departments to which he/she can apply will be three.

2. Financial Assistance:

Assistance will be as per MHRD norms. Fulltime Scholars admitted to Ph.D. and M.S. programmes are eligible for the Half-time Teaching/Research Assistantship (HTRA) for which:

a. They should work for 8 hours per week for the Institute to earn this assistantship. The work would normally involve assistance in teaching/research, and will be assigned by the Institute.

b. Renewal of assistantship every semester will be contingent on enrolment, satisfactory progress in research work and good performance during the preceding semester in the discharge of responsibility as teaching/ research assistant.
Other scholarships like UGC- JRF, CSIR-JRF, ICMR, ICAR & AICTE etc. may also be available for those who have qualified for these schemes and get admission and the amount of fellowship will be as per the norms of the funding agency.

3. **Selection Procedure:**

Eligible candidates possessing the minimum educational qualifications (as given in section 4) and satisfying additional and stiffer criteria set from time to time, will be called for an interview and/or test by the Selection Committee.

For candidates who have obtained PG degree 10 years earlier as on the last date prescribed for receipt of the completed application, a departmental test will be conducted.

The applications of foreign nationals may be considered without a personal interview / test .

Based on the academic record and the performance of the candidates in the interview and/or test, the Selection Committee will recommend to the Chairman, Senate the names of candidates found suitable for admission.

4. **Reservation of Seats**

Reservations are applicable to SC/ST/OBC-NCL/PwD candidates as per Govt. of India rules.

3.4 Fees and Deposits:

Fees for MS & Ph.D Scholars to be admitted in January Semester 2018 (**For Day scholars**)			
Sl. No	Items of Fees & Deposits	**M.S**	**Ph.D**
I. Institute Fee			
A. One Time Fee			
1	Admission Fee	150	150
2	Grade Card/ Thesis Fee	450	950
3	Provisional Certificate	100	100
4	Medical Exam Fee	100	100
5	Student Welfare Fund	500	500
6	Alumi Life Membership Fee(NS)	1000	1000
7	Publication Fee (NS)	250	250
	Total	**2550**	**3050**
B. Semester Fees:			
1	Tuition Fee	2500	2500
2	Examination Fee	300	300
3	Registration -Enrolment Fee	300	300
4	Gymkhana	1000	1000
5	Medical Fee	500	500
6	Student Wellness Fee	100	100
7	Medical Insurance Premium	1100	1100
	Total	**5800**	**5800**
C. Deposits (Refundable) :			
1	Institute Deposit	1000	1000
2	Library Deposit	1000	1000
	Total	**2000**	**2000**
II. Establishment Charges per semester			
1	Esst. 'A' Charges	5000	5000
	Total Fee Payable at the time of Admission	**15350**	**15850**

	Fees for MS & Ph.D Scholars to be admitted in the January Semester 2018 (**For Hostellers**)		
Sl.No	Items of Fees & Deposits	**M.S**	**Ph.D**
I. Institute Fee			
A. One Time Fee			
1	Admission Fee	150	150
2	Grade Card/ Thesis Fee	450	950
3	Provisional Certificate	100	100
4	Medical Exam Fee	100	100
5	Student Welfare Fund	500	500
6	Alumi Life Membership Fee(NS)	1000	1000
7	Publication Fee (NS)	250	250
	Total	**2550**	**3050**
B. Semester Fees:			
1	Tuition Fee	2500	2500
2	Examination Fee	300	300
3	Registration -Enrolment Fee	300	300
4	Gymkhana	1000	1000
5	Medical Fee	500	500
6	Student Wellness Fee	100	100
7	Medical Insurance Premium	1100	1100
	Total	**5800**	**5800**
C. Deposits (Refundable) :			
1	Institute Deposit	1000	1000
2	Library Deposit	1000	1000
	Total	**2000**	**2000**
II. Hostel Fees, Mess & Establishment Charges per semester			
1	Hostel Admission Fee	100	100
2	Hostel Deposit (NS) (Refundable)	3000	3000
3	Esst. 'A' Charges	5000	5000
4	Esst. 'B' Charges	1500	1500
5	Hostel Seat Rent	5400	5400
6	Electricity & Water Charges	750	750
7	Advance Dining Charges	17000	17000
8	SWD Charges	50	50
	Total Establishment, Hostel and Mess Charges	**32800**	**32800**
	Total Fee Payable at the time of Admission	**43150**	**43650**

Hostel rooms are allotted depending on availability on sharing basis. If you wish to be a day scholar, you should register your name in the Office of the Dean Students and obtain day scholar certificate immediately after admission.

1. **Attending Interview for Ph.D/M.S. programme:**

   Candidates who expect to complete the requirements of their degree by the time of their admission may also appear for interview.

   Candidates called for Ph.D. interview under the fulltime (HTRA) category will be paid one second class to and fro rail fare from their place of residence to Palakkad by the shortest route.

3.6 Completing the Qualifying Degree and production of Provisional Certificate:

   Candidates joining Ph.D/M.S programme in July-December/December-June session have to submit their original mark/grade sheets along with provisional certificates at the time of admission. They should also produce their required degree certificate for having passed the
   qualifying examination **on or before 31st October for July admission / 31st March for December admission**.

3.7 Original Documents to be submitted for verification at the time of interview/Admission:

At the time of Interview:

1. Printed copy of application submitted.
2. All the semesters Mark sheet/grade card / provisional / degree certificates beginning from first degree towards proof of qualification.
3. Community Certificate in the case of SC/ST/OBC-NCL candidates issued by the respective State Government.
4. Authorised Doctor's Certificate with disability descriptions in the case of Person with Disabled (PwD) candidates.
5. Copy of GATE score or UGC - JRF/NET/CSIR/ DAE-JEST or other fellowship award.
6. Project Co-ordinator's certificate in the prescribed format and a copy of project appointment letter in the case of Project Associate if already appointed.

   At the time of Admission:

1. Offer of admission.
2. Birth Certificate.
3. Aadhar No. & PAN No.
4. First page of SSLC/SSC/Matriculation certificate
5. Copy of the submitted application form.
6. Original GATE Score Card/UGC-JRF/NET/CSIR-JRF/DAE-JEST or other fellowship award letter.
7. Degree certificate/Provisional/Course completion certificate/Grade Cards/Mark sheets of all the semesters of degrees obtained.
8. SC/ST/OBC-NCL community certificate for the candidate belonging to SC/ST/OBC-NCL category. [OBC-NCL scholars to bring a Non-creamy layer community certificate valid at the time of admission.

9. Relieving order/Resignation acceptance letter from the employer in the case of fulltime candidates , if employed except candidates selected under IITPKD Staff scheme.

In addition to the above......

External candidates need to produce the following from their employer:
1. Research Co-ordinator's letter
2. Research Co-ordinator Degree certificate
3. NoC/Relief from the present employer

Project candidates need to produce:
   a) Project Co-ordinators's letter.

The above have to be submitted in the prescribed format, given in the Appendices at the end of the Brochure.

<div align="center">MINIMUM EDUCATIONAL QUALIFICATIONS FOR ADMISSION</div>

1. Doctoral Program:

   The minimum educational qualifications for admission to the Ph.D. programme of the Institute are as follows:

4.1.1 Ph.D. in Engineering

1. Candidates with a Master's degree in Engineering/Technology with a good academic record or a Master's degree by Research in Engineering/Technology with a good academic record.

2. Candidates with Master's degree in Sciences with a good academic record and of exceptional merit are eligible for the relevant Engineering discipline. They should have a valid GATE score or UGC/CSIR-NET/NBHM or equivalent qualification in the relevant area tenable for the year of registration.

3. Candidates who have qualified for the award of Bachelor's degree in Engineering/Technology from a Centrally Funded Technical Institute (CFTI) with an exceptionally good academic record in an eligible discipline will be considered for direct admission to Ph.D. provided he/she has a minimum CGPA of 8/10 (7.5/10 for OBC-NCL and 7/10 for SC/ST/PwD candidates).

4.1.2 Ph.D. In Sciences

   Master's degree in Sciences with a good academic record and having a valid GATE score or UGC/CSIR-NET/NBHM or equivalent qualification tenable for the

current year in the relevant area. Master's degree holders in Engineering/Technology are also eligible.

Candidates who have qualified for the award of Bachelor's degree in Engineering/Technology from a Centrally Funded Technical Institute (CFTI)[1] with an exceptionally good academic record in an eligible discipline will be considered for direct admission to Ph.D. in Sciences provided he/she has a minimum CGPA of 8/10 (7.5/10 for OBC-NCL and 7/10 for SC/ST/PwD candidates).

4.1.3 Ph.D. in Humanities and Social Sciences

Master's degree in an eligible discipline with a good academic record or equivalent and having a valid GATE score or UGC/CSIR- NET/NBHM or equivalent qualification tenable for the current year in the relevant area.

4.2. Qualifications for M.S.(Research) Program

The minimum educational qualifications for admission to the M.S. by research degree are as follows:

1.	Candidates with a Bachelor's degree in Engineering/Technology/Master's degree in Science with valid GATE score.

2.	Candidates having Associate Membership of the following professional bodies are also be eligible for admission to the M.S. programme of their parent discipline provided they have a valid GATE score and have passed both part A and part B of the Membership examinations with a good academic record. (The Institution of Engineers (India) (Civil, Mechanical, Electrical and Electronics, Electronics and communications), The Aeronautical society of India, The Indian Institute of Metals, The Indian Institute of Chemical Engineers, The Institute of Electronics and Tele-communication Engineering and other professional bodies approved by the Senate from time to time.

c) Engineering graduates from IITs and other Centrally Funded Technical Institutes (CFTI) with a minimum CGPA of 8/10 (7.5/10 for OBC-NCL and 7/10 for SC/ST/PwD candidates) are eligible for seeking admission, without GATE score, to the MS Programme and they can be offered HTRA, if selected.

4.3 Institute staff members or Research Scholars under External Registration.

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[1] See Appendix 5 for the list of CFTI that would be used for admission purposes.

For M.S./Ph.D. Research Scholars in these categories, the minimum educational qualifications are the same as prescribed for full time research scholars. However, valid GATE score or CSIR / UGC JRF or Lectureship / NBHM or equivalent qualification as applicable for regular full time research scholars shall not be required in these cases.

5. AMENITIES IN THE CAMPUS

5.1 Accommodation:

IIT Palakkad is a residential institute and provides on-campus accommodation to all the students in its hostels. The hostel rooms are furnished with a bed, a chair and a writing table. Students are expected to bring their own bedding. Establishment fees cover the rent for hostel accommodation. (vide section 3.4 for fees and deposits).

Students residing in the hostels are provided with exclusive dining facility. This covers breakfast, lunch, evening coffee/tea and dinner. The menu for these is decided by an elected student body. Each hostel has

1. A common room for recreation which has Television, News papers and selected magazines (decided by the student body)
2. Limited sports facility such as table tennis, volley ball / ball-badminton courts etc.,
3. Guest rooms for visitors to the Institute faculty, staff and students.

5.2 Sports Facility:

The Institute has playfields for football, cricket, volleyball and basketball as well as a boxing area. A gymnasium with various equipment is part of the recreation facility.

5.3 Medical Facility:

A full-fledged hospital run by Ahalyia group of institutions takes care of the medical needs of the students, faculty and staff. All students of Institute are registered with the hospital and are also covered by a Medical Insurance scheme. Apart from general practitioners, services of leading specialists (on part-time basis) are provided by the hospital.

5.4 Banks:

Canara Bank operates a branch within the campus. ATM's of SBI and Canara Bank are housed on campus.

5.5 Other Amenities:

A few restaurants and a small provisions shop are available in the Ahalia Campus.

APPENDICES

[To be submitted at the time of Admission]

Admission to Ph.D./M.S. programme under
External Registration Scheme at IIT Palakkad

Proforma for Relieving Certificate

Shri/Smt/Kumari…………………………………………………………….. *employed as* ……………………………………………………………. *is granted leave for 20 weeks (140 days) commencing from* ………………… *to* ……………… *and is relieved of his/her duties with effect from* ………………………………… *to* …………………..… *to enable him/her to pursue M.S./Ph.D. Research programme under External Registration Scheme in August /January ………….. semester at the Indian Institute of Technology Palakkad, Kerala - 678557 as per their offer of admission letter No……………………………. dated* …………………………..

Date :

Signature of the Officer with name
and address of the Organisation

Office Seal

[To be submitted at the time of Interview]

Certificate from the Employing Organisation
for external registration of their employees
in Ph.D./M.S. programme of IIT Palakkad

The application of …….….....….…………………………. working as …..…....…….

…………..………………………… in …………..…....…….…………………………………… since ….…........ is herewith

recommended and forwarded for admission under External Registration Scheme of the Indian

Institute of Technology Palakkad for Ph.D./M.S. Research programme in the Department of

………………………………………………………

1 This organization has adequate facilities for carrying out the research indicated by the applicant and if he/she is selected, these will be made available to him/her till the completion of the programme.

2 The applicant will be deputed/given leave for duration of his/her residence period at IIT Palakkad.

3 Facilities will be made available to the Co-guide to supervise the work of the applicant and to attend the meetings at IIT Palakkad when necessary.

4 Till the completion of his/her research programme, the applicant will not ordinarily be transferred to another unit or place which may impede his/her work under the scheme. If such a transfer is necessary, IIT Palakkad will be informed within a month of such transfer. We understand that continuing of registration will depend on IIT's decision in this regard, taking into account all the relevant factors.

5 We note that the facilities of the Institute will be made available to him/her for carrying out the work and that there will be no separate charge (other than tuition fees payable by the candidate) for the use of laboratory, library and other facilities.

6 No part of the work carried out in fulfilment of the Research programme will be utilized commercially or for applying for a Patent without the approval of Indian Institute of Technology Palakkad and other than on terms mutually agreed to by IIT Palakkad and this organization.

Date: Signature of the Officer :
                                             Name and Designation :
                                             Postal address of the Organisation :

Seal of the organization/Institution

[To be submitted at the time of Interview]

Particulars of Co-guide for external Registration Scheme

In addition to being in a position to ensure technical and logistic support to the scholar in his/her research work in the organization, the Co- guide must have a minimum academic qualification of a Master's degree in Engineering or Ph.D. in Science and adequate professional experience in the relevant field. The Co -guide should not himself be a scholar working for any higher degree of any university. He will be an invitee to the Doctoral Committee/General Test Committee meetings at IIT Palakkad.

(1) Name of proposed Co-guide   :
     (in block letters)

(2) Academic qualifications of Co-guide   :

(3) Membership of Professional Societies of   :
     Co-guide

(4) Designation of Co-guide   :

Certificate from Co-guide

This is to state that in the event of Mr./Ms. _____ of this

organization being selected for Ph.D. / M.S. programme in the Department of

_____ under the External Registration Scheme of IIT

Palakkad, I agree to be one of his/her guides and I shall extend all possible facilities to enable

him/her to carry out his/her research towards the completion of the programme.

Date: Signature of Co-guide

[To be submitted at the time of Interview]

Admission to Ph.D. / M.S. programme under Project Scheme at IIT Palakkad
Certificate from the Project Co-ordinator

I have noted the conditions stated below concerning the registration of project staff for Ph.D. /

M.S. programme.

This is to certify that Mr./Ms. _____ is working in the project titled

_____ since _____ as

_____. The candidate is eligible to continue in the project for a

minimum period of one more year from the date of his/her joining the research programme (Ph.D./

M.S.) even though his/her appointment is up to _____ as per his/her appointment order.

The actual duration of the project is up to _____.

<u>Conditions</u>:

1. For a person employed on a project to be eligible for Ph.D./M.S registration, there should be a minimum residual period of one year's service in the project from the date of registration.

2. Person employed on a project can apply for admission to M.S. programme with a minimum project experience of six months without valid GATE score subject to qualifying in selection procedure (interview / written examination) of the concerned department. They will not be eligible for HTRA until they qualify in the GATE examination. The scholars may seek conversion from project to HTRA provided they qualify in GATE with the minimum cut-off prescribed for the selection of scholars admitted in his/her batches.

3. Eligibility requirement of project staff applying for Ph.D. will be treated equivalent to that of External registration candidates.

Date: Signature and name of the Project Coordinator

                                     Department of_____

                                     Countersigned:

Date: Head of the Department of _____

LIST OF CFTI INSTITUTIONS

1. INDIAN INSTITUTES OF TECHNOLOGY (All IITs)

2. INDIAN INSTITUTES OF MANAGEMENT (All IIMs)

3. INDIAN INSTITUTE OF SCIENCE (IISc), BANGALORE

4. INDIAN INSTITUTES OF SCIENCE EDUCATION AND RESEARCH (IISERs)

5. INDIAN INSTITUTES OF INFORMATION TECHNOLOGY (IIITs):

    * Indian Institute of Information Technology, Allahabad.
    * Atal Bihari Vajpayee – Indian Institute of Information Technology (ABVIIITM), Gwalior.
    * Pandit Dwarka Prasad Mishra Indian Institute of Information, Technology, Design and Manufacturing (IIITDM), Jabalpur.
    * Indian Institute of Information Technology, Design and Manufacturing (IIITD & M), Kanchipuram

6. NATIONAL INSTITUTES OF TECHNICAL TEACHERS' TRAINING AND RESEARCH (NITTTRs)

7. NATIONAL INSTITUTES OF TECHNOLOGY (All NITs)

8. OTHER CENTRAL INSTITUTIONS

    1. Indian School of Mines University (ISMU), Dhanbad
    2. National Institute of Industrial Engg. (NITIE), Mumbai
    3. National Institute of Foundry & Forge Technology (NIFFT), Ranchi
    4. School of Planning & Architecture (SPA), New Delhi
    5. School of Planning & Architecture (SPA), Bhopal
    6. School of Planning & Architecture (SPA), Vijayawada
    7. Central Institute of Technology, Kokrajhar
    8. Sant Longowal Institute of Engineering & Technology (SLIET), Longowal, Punjab
    9. North Eastern Regional Institute of Science & Technology (NERIST), Itanagar