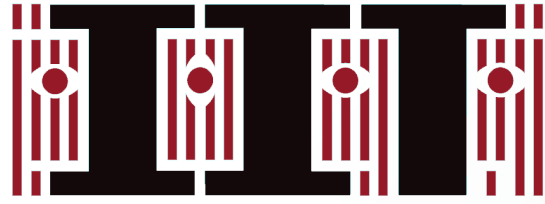


# Information Brochure

January 2023

January-2023 TIH Intake

भारतीय प्रौद्योगिकी संस्थान तिरुपति



**TIRUPATI**



IIT Tirupati  
Navavishkār  
I-Hub Foundation

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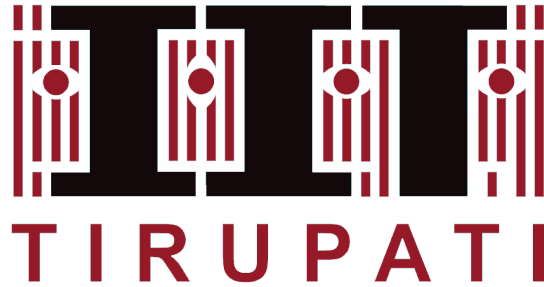
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January-2023 TIH Intake

CHANAKYA-Doctoral Fellowship

भारतीय प्रौद्योगिकी संस्थान तिरुपति



IIT Tirupati  
Navavishkār  
I-Hub Foundation

Indian Institute of Technology Tirupati  
TIRUPATI-517619

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# 1. About the IITNiF



## 1.1 Introduction

IIT Tirupati Navavishkar I-Hub Foundation (IITNiF), a not-for-profit Section-8 company, is set up to host the Technology Innovation Hub (TIH) in Positioning and Precision Technologies (PPT).

The project is funded by the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), Department of Science and Technology (DST), India.

## 1.2 About the NM-ICPS

Cyber-Physical Systems (CPS) are a new class of engineered systems that integrate computation and physical processes in a dynamic environment. CPS encompasses

technology areas of Cybernetics, Mechatronics, Design and Embedded systems, Internet of Things (IoT), Big Data, Artificial Intelligence (AI), and many more. The CPS systems are intelligent, autonomous, and efficient and are expected to drive innovation in sectors as diverse as agriculture, water, energy, transportation, infrastructure, security, health, and manufacturing. Thus, it is heralded as the next paradigm shift in technology that can exponentially spur growth and technology-led economic development. To harness the potential of this new wave of technology and make India a leading player in CPS, the Union Cabinet approved the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) to be implemented by DST with a total outlay of Rs.3660 crore for a period of five years. The Mission aims to create a strong foundation and a seamless ecosystem for CPS technologies by coordinating and integrating nationwide efforts encompassing knowledge generation, translation research, technology, product development, human resource development, innovation & commercialization standards, and international collaborations. The Mission is implemented through a network of 25 Technology Innovation Hubs (TIHs) established across the country. Each hub will follow a technology life cycle approach, addressing all stages viz—Knowledge-Development-Translation-Commercialization in their assigned Technology Vertical. The hubs will be equipped and supported to function independently as stand-alone entities. However, they would leverage each other's strengths and power of collaboration to produce synergistic outcomes. The NM-ICPS Detailed Project Report (DPR) shall be an overall guiding document for the Mission and Hubs.

### 1.3 About the PPT

Positioning and Precision Technologies (PPTs) are indispensable tools for monitoring, integrating, and analyzing spatially and temporally distributed resources to aid in effective decision-making across multiple domains. These technologies include remote sensing (non-invasive), Geographical Information Systems (GIS) and Global Positioning Systems (GPS). The Technology Innovation Hub (TIH) on PPT will provide a unique platform for researchers, industries, stakeholders and end-users across multiple disciplines. The TIH aims to become a top contributor to many Government of India initiatives such as Make in India, Atmanirbhar Bharat Abhiyaan, and Start-up Ecosystem making India a self-reliant in PPT. The TIH will follow a technology life cycle approach, addressing all stages viz. Knowledge-Development-Translation-Commercialization in the PPT Technologies. Besides, the TIH will align with the country's broad objective of using GIS as an essential component for empowering citizens and bring inclusive growth by mapping, monitoring, and analyzing the interplay between the various socio-economic factors that supports the sustainable development of the country. In addition, the Hub will primarily focus on Public

Private Partnership (PPP) model to generate revenue through: (i) Research and development sponsorship from industries, government and start-ups in form of innovative products and services in PPT; (ii) linkage with industries, accelerators and Venture Capital to create funding ecosystem; (iii) training and consulting; (iv) standards development and policy creation for rapid adaptation of PPT across various stakeholders; and (v) databank creation across strategic areas of PPT. The TIH on PPT will find and nurture new and innovative solutions for the interconnected grand problems in Positioning and Precision Technologies which include applications of precision timing and positioning devices (atomic clocks), precision sensors for air/water/soil monitoring and remote sensing applications to terrain mapping, monitoring of agricultural and natural resources development, management and conservation and also towards addressing challenges related to disaster management.

#### 1.4 About the CHANAKYA - Doctoral Fellowship

IITTNiF, DST and IIT Tirupati believe that human resource development has to be the heart of the NM-ICPS which includes encouraging and involving students and faculty members of the technical institutes to solve industry problems, training graduates to fill the gap between academia and industry, creating pool of trained professionals. The goals of HRD can be ensured under the programme Comprehensive and Holistic Advancement of National Knowledge Yield and Analytics (CHANAKYA). IITTNiF at IIT Tirupati invites innovative and entrepreneurial ideas from motivated students for CHANAKYA-Doctoral Fellowships (CHANAKYA-DF) who would like to work in the broad areas of Positioning and Precision Technology.

## 2. PhD Admissions



### 2.1 Ph.D. Programme

The award of the Ph.D. degree in this call is based on the high achievements, independent research, and application or product development related to Positioning and Precision Technologies (PPT). A creative product development is a basic concept underlying the research work. This Ph.D programme is funded by IITTNiF under CHANAKYA-Doctoral Fellowship. The duration of the fellowship is for 4 years. Therefore, apart from the basic course work and academic requirements, IITTNiF expects product delivery, IPs and encouraging filing of patents at the end of the fourth year. This fellowship targets highly self-motivated, self-reliant, research-oriented and hardworking persons across India.

#### Admission to the Ph.D. Programmes:

Admission to the Ph.D. programme is made on the basis of interviews of eligible candidates jointly conducted by the respective department members and IITTNiF members. IITT and IITTNiF reserve the right to conduct written tests or multiple interviews or other ways of testing in order to screen the candidates.

#### Funding:

The funding from IITTNiF under the CHANAKYA-Doctoral Fellowship (CHANAKYA-DF) is for a **maximum of 4 years only**. The monthly fellowship under the CHANAKYA-DF is Rs. 31,000/- + House Rent Allowance (HRA) for the first two years and Rs. 35,000/- + HRA for the remaining years. HRA is as per the prevailing norms of IIT Tirupati. Note: HRA will not be paid to the scholars who are provided hostel accommodation within campus.

### Monitoring Process:

Unlike the regular Ph.D. programme, the scholar has to submit a monthly report to IITTNiF by the 20th of every month to receive the fellowship. Further, the scholar has to present his progress report to the monitoring committee (MC) of IITTNiF. MC will evaluate the project and product development and recommend releasing the subsequent month's fellowship. This MC is different from the Doctoral Committee (DC) of IITT.

## 2.2 Minimum Eligibility Criteria

As per the IIT Tirupati regular admission procedures.

## 2.3 Selection Procedure

The Selection Committee will call eligible candidates possessing the minimum educational qualifications and satisfying the additional criteria set from time to time, for the interview and/or 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 suitable for admission.

## 2.4 Original Documents to be submitted for Verification

### At the time of Interview and/or Written Test:

1. Copy of the application submitted.
2. All the semesters' Mark sheet/grade card / provisional / degree certificates beginning from first degree towards proof of qualification and all other educational qualifications (SSC/ 10th onwards)
3. Community Certificate in the case of SC/ST/OBC-NCL/EWS 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 CSIR-UGC-JRF/LS/NET/DAE-JEST or other fellowship awards



**At the time of Admission:**

1. Offer of admission.
2. Birth Certificate (If Date of Birth is not mentioned in SSLC Certificate.
3. Aadhar & PAN Card
4. SSLC/SSC/Matriculation certificate
5. Copy of the submitted application form.
6. GATE Score Card or CSIR-UGC-JRF/LS/NET/ 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/EWS/OBC-NCL community certificate for the candidate belonging to SC/ST/EWS/OBC-NCL category. [OBC-NCL scholars to bring a Non-creamy layer community certificate valid at the time of admission].

**Important:** Please note that the originals of the above certificates should be produced at the time of physical verification.