

## **Intellectual Property Rights**

The Intellectual Property Rights that is know how/design/technologies/software/patent/copyright or publication of research results generated out of the association of the engineering teacher under this scheme shall be governed by the guidelines of the concerned laboratory where the candidate is pursuing PhD programme.

## **Duration**

The duration of the Ph.D programme will be three years subject to an extension by a maximum of one year for submission of Ph.D thesis which would be carried out in his/her parent institution.

## **Application Procedure and Registration**

- (a) The engineering discipline –wise list of laboratories and the maximum number of candidates that can be accommodated in each lab is provided in APPENDIX-B.
- (b) The Director/Principal of the AICTE approved engineering college will ensure the correctness of the data for eligibility of the engineering teacher and recommend a maximum of **two teachers** each year under this scheme. Two copies of the completed application form as per APPENDIX-A shall be sent to INAE office at the following address:

Indian National Academy of Engineering (INAE)  
6<sup>th</sup> floor, Vishwakarma Bhawan  
Shaheed Jeet Singh Marg  
New Delhi – 110016

- (c) The final selection of the candidates will be done by an INAE Steering Committee (having representation from CSIR, DRDO, DAE, DOS & AICTE) in consultation with the concerned lab offering the course.
- (d) A candidate selected for admission under this scheme will execute an undertaking to serve his/her parent institution for a minimum period of three years after completing the Ph.D programme for which the parent institution shall be responsible.
- (e) The registration of the selected candidates will be done as per practice being followed by the concerned labs in respect of their own scientists/scholars who are pursuing Ph.D programme.
- (e) The Ph.D degree will be awarded by the concerned organizations of CSIR/ DRDO/ DAE/ DOS.

## APPLICATION FORM

**AICTE-INAE TEACHERS RESEARCH FELLOWSHIP SCHEME for  
Engineering Teachers for Doctoral Research in Central Laboratories**

| <b>I INSTITUTE DETAILS</b>   |                  |                  |
|--|------------------|------------------|
| Name of the Institute  |                  |                  |
| Address of the Institute   |                  |                  |
| Contact Details  | Email:           |                  |
|  | Telephone:       |                  |
|  | Fax:             |                  |
| Permanent Id of the Institute<br>(This Id is available on AICTE web portal)          |                  |                  |
| *Maximum of two candidates can be sponsored from one institute in the academic year. |                  |                  |
| <b>II DETAILS OF CANDIDATE UNDER CONSIDERATION FOR FELLOWSHIP</b>                    |                  |                  |
| Name   |                  |                  |
| Date of Birth<br>(dd/mm/yyyy)  |                  |                  |
| Designation  |                  |                  |
| Date of joining  |                  |                  |
| Appointment Type   |                  |                  |
| Scale of Appointment   |                  |                  |
| Department   |                  |                  |
| Qualifications   | UG (B.E./B.Tech) | PG (M.E./M.Tech) |
| Year of Passing  |                  |                  |
| Engineering Discipline   |                  |                  |
| Engineering College/<br>Institution  |                  |                  |
| Overall CGPA/ % Marks  |                  |                  |
| Experience in years  |                  |                  |
| Field of study / specialization  |                  |                  |
| Contact details of the<br>candidate  | Address:         |                  |

|  |                                   |
|--|-----------------------------------|
|  | Tel:<br>Mobile:<br>Email:<br>Fax: |
| GATE/ CSIR/ UGC-NET<br>Score/Percentile, if available  |                                   |
| PG students guided   |                                   |
| UG Students guided   |                                   |
| Memberships of professional<br>bodies/ fellowships awarded/<br>awards received<br>(Attach additional pages if necessary) |                                   |
| Professional activities<br>(Attach additional pages as necessary)  |                                   |
| Techno-commercial activities<br>(Attach additional pages if necessary)   |                                   |
| Outstanding achievements at<br>school level<br>(Attach additional pages if necessary)                                    |                                   |
| Outstanding achievements at<br>college / University level<br>(Attach additional pages if as necessary)                   |                                   |
| <b>III RESEARCH DETAILS</b>  |                                   |
| Title of research proposal   |                                   |
| Technical Field - Nature of<br>work to be undertaken under the<br>scheme   |                                   |
| Abstract<br>(Attach additional pages if as necessary)  |                                   |
| Objectives - Statement of the<br>purpose (500 words)<br>(Attach additional pages if as necessary)                        |                                   |
| Engineering Discipline in<br>which research will be carried<br>(Please refer to Appendix-B to<br>select discipline)      |                                   |
| Preferred laboratory of<br>CSIR/DRDO/DAE/DOS identified<br>for research<br>(Please refer to Appendix-B to<br>select lab) |                                   |
| Project Impact - Expected<br>outcome<br>(Attach additional pages if as necessary)  |                                   |
| Publications<br>(Attach additional pages if as necessary)  |                                   |
| IPR<br>(Attach additional pages if as necessary)   |                                   |
| List of Research/Consultancy<br>Projects completed<br>(Attach additional pages if as necessary)                          |                                   |
| Background/Current status of<br>activities in the area<br>(Attach additional pages if as necessary)                      |                                   |

**Declaration by Candidate:**

- a) I shall abide by the rules and regulations of the laboratory to which I will be offered admission, if selected.
- b) I shall revert to my parent institution after completion of Doctoral programme and serve there for a minimum period of three years.

**Signature of the Applicant**

**Place :**

**Date :**

Declaration by the Head of the Engineering College/Institution

Our institution ..... in which the applicant Mr. /Ms. .... is a permanent teaching faculty is approved by AICTE.

I have verified the particulars of the engineering teacher as given above and recommend him/her for consideration under the subject scheme. He/she is a worthy candidate for joining the doctoral programme.

Our institution will assist the candidate in pursuing the PhD programme. We also commit that we shall comply with the guidelines of the scheme and that the candidate will be relieved from his teaching duties for a period of 3 years and shall be paid 75% of full salary during his/her tenure under the subject scheme.

I \_\_\_\_\_ confirm that the above information is true to the best of my knowledge.

Date: \_\_\_\_\_ Name :

Place: \_\_\_\_\_ Designation :

Signature and Seal:

( Head of the Institution )

Postal Address

Phone/Mobile No.

Fax:

**Please Note: (Copy of AICTE letter of approval to be attached with the application)**

**AICTE-INAE Teachers Research Fellowship Scheme****DAE**

| Organisation | Total Seats | Discipline   |
|--------------|-------------|--|
| BARC         | 3           | Civil, Computer Science, Mechanical, Chemical, Electrical, Electronics, Metallurgy and Instrumentation |
| IGCAR        | 8           | Mechanical, Chemical and Electronics   |

**DoS**

ISRO will be able to accommodate three candidates in any of the following areas:

| Lab   | Total Seats | Discipline                |
|-------|-------------|---------------------------|
| SAC   | 1           | RF and Microwave          |
| IIST  | 1           | VLSI and Microelectronics |
| LPSC  | 1           | Mechanical Manufacturing  |
| IIST  | 1           | Combustion Studies        |
| ADRIN | 1           | Computer Science          |

**DRDO**

| Lab       | Total Seats | Discipline                           |
|-----------|-------------|--------------------------------------|
| Bangalore | 2           | Mechanical, ECE and Computer Science |
| Hyderabad | 2           |                                      |
| Chennai   | 2           |                                      |

**CSIR**

| Sl. No. | CSIR Lab Name     | Tentative Intake          | Engineering Discipline  | Area of Research   |
|---------|-------------------|---------------------------|---|--|
| 1.      | <b>CSIR-AMPRI</b> | 5                         | Material Science and Engineering  | <ol style="list-style-type: none"> <li>1. Metal Matrix Composites</li> <li>2. Foams</li> <li>3. Thermo Responsive Smart Materials</li> <li>4. Polymers and Polymer Composites</li> <li>5. Hybrid Composites</li> <li>6. Material Processing</li> <li>7. Waste Utilisation</li> <li>8. Computational Material Science</li> <li>9. Additive Manufacturing</li> <li>10. Nano Materials</li> </ol>   |
| 2.      | <b>CSIR-CBRI</b>  | <b>6 (max. this year)</b> | Civil Engineering   | Building Materials, Foundation Engineering, Structural Engineering, Fire Engineering, Habitat Planning, Corrosion and other building engineering related areas.  |
| 3.      | <b>CSIR-CECRI</b> | 10                        | <ol style="list-style-type: none"> <li>1. Mechanical</li> <li>2. Civil</li> <li>3. Bio-Technology</li> <li>4. Nanoscience</li> <li>5. Material Science</li> </ol> | <ol style="list-style-type: none"> <li>1. Energy</li> <li>2. Environmental Engg.</li> <li>3. Material Science</li> <li>4. Sensors</li> <li>5. Electroplating</li> <li>6. Corrosion</li> </ol>  |
| 4.      | <b>CSIR-CEERI</b> | <b>02</b>                 | Electronics, Instrumentation, Computer Science  | Microwave Tubes, Plasma-based Devices, Semiconductor Devices, Semiconductor Fabrication Processes, Optoelectronics, Photonics, MEMS, Microsensors, IC/VLSI Design, VLSI Architectures, Mixed Signal Design, Analog IC Design, Microelectronics, Nanoelectronics, Nanodevices, Microsystems, Digital Systems, Embedded Systems, Real-Time Systems, Electronic Instrumentation, Electronic Control, Advanced Electronic Systems, Robotics, <i>etc.</i> |

| Sl. No.  | CSIR Lab Name   | Tentative Intake | Engineering Discipline   | Area of Research  |
|--|---|------------------|--|---|
| 5.   | CSIR-CGCRI  | 2                | Glass and Ceramic Engineering  | Glass and Ceramics  |
| 6.   | CSIR-CSIO   | 4-8              | Electronics/ Instrumentation/ equivalent Branches<br><i>Problems Faced:</i><br>Lack of rapid, low cost instrumentation for Water Quality Monitoring Devices for Rivers and other platforms   | Signal Processing, Data Analytics and Artificial Intelligence |
|  |   |                  | Instrumentation/VLSI<br><i>Problems Faced:</i><br>NANOPATTERNING OF NANOPLATFORMS  | NANOFABRICATION   |
|  |   |                  | Mechanical/Electronics/Instrumentation<br><i>Problems Faced:</i><br>Role of interface in design and development of optical coating   | Interfacial effects in Optical Thin Film Coatings             |
|  |   |                  | Electronics<br><i>Problems Faced:</i><br>Materials for Energy Harvesting and Storage   | Solar Cell and Light Harvesting Systems                       |
|  |   |                  | Electronics/ Instrumentation<br><i>Problems Faced:</i><br>(1) Biofeedback, new methods for quantification of rehabilitation procedures<br>(2) Bio-signal analysis for adaptive control algorithms<br>(3) Integration of nano-materials in photonic devices and its application in sensing. | Virtual Rehabilitation  |
|  |   |                  |  | Robotic Rehabilitation  |
| Mechanical Engineering<br><i>Problems Faced:</i> | Physics, Nano-science and Nanotechnology, Photonics                             |                  |  |   |
| Mechanical Engineering<br><i>Problems Faced:</i> | Mechanical engineering / Biologicalheat transfer / Heat transfer / Fluidynamics |                  |  |   |

| Sl. No.      | CSIR Lab Name     | Tentative Intake | Engineering Discipline   | Area of Research   |
|--------------|-------------------|------------------|--|--|
|              |                   |                  | <ul style="list-style-type: none"> <li>Regulation of human body temperature during surgery</li> <li>Compact cooling helmet is required for brain surgery</li> <li>Relating the temperature measurements for diagnosis &amp; Therapeutics,</li> <li>How to estimate the blood flow dynamics during various diseases.</li> </ul> |  |
|              |                   | 1-2              | Computers/Electronics<br><i>Problems Faced:</i><br>Spectral Imaging, Object Detections and recognition, Quality Assessment of various food Products  | Computer vision and Image Processing   |
| 7.           | <b>CSIR-IMMT</b>  | <b>07</b>        | Metallurgical/ Material/ Chemical/ Electronics/ Mechanical Engineering/ Minerals Engineering   | Topics associated with Minerals and Materials Engineering  |
| 8.           | <b>CSIR-NEERI</b> | <b>03</b>        | Civil and Environmental Engineering  | Solid Waste Management, Water and Wastewater Engineering and Air Pollution Control Engineering   |
| 9.           | <b>CSIR-NML</b>   | <b>05</b>        | Materials & Metallurgical Engineering  | <ul style="list-style-type: none"> <li>- Mineral beneficiation</li> <li>- Process metallurgy</li> <li>- Material Processing</li> <li>- Physical metallurgy</li> <li>- Mechanical metallurgy</li> <li>- Advanced structural materials</li> <li>- Surface engineering &amp; corrosion</li> <li>- Materials modeling</li> </ul> |
| 10.          | <b>CSIR-NCL</b>   | 3                | Chemical Engineering   | Chemical Engineering   |
| <b>Total</b> |                   | <b>47-51</b>     |  |  |