GRD Centre for Materials Research, through summer research internship programme at

## About the College

PSG College of Technology established in 1951, is one of the many educational institutions nurtured by PSG & Sons Charities Trust. The college is Government Aided, Autonomous, ISO 9001 certified and affiliated to Anna University. Equipped with the latest facilities and excellent infrastructure, the college offers a total of 48 full time and part time programs in Science, Engineering and Management at undergraduate, post graduate and doctoral levels. The institution has a strong alumni base, most of them occupying coveted positions in many educational, industrial and research organisations all over the world. The mission of the College is to provide world-class engineering education, foster research and development, evolve innovative applications of technology, encourage entrepreneurship and ultimately mould young men and women capable of assuming leadership of the society for the betterment of the country.

### About the research centre:

GRD Centre for Materials Research aims to carry out research on materials for advanced technology. The following potential areas have been identified at present, and the research activities are being carried out in this direction.

- **Growth and Characterization of laser materials (single crystals)** and fabrication of devices
- **Development of homogeneous pure and doped materials for thermoelectric applications**
- **Preparation of amorphous materials for luminescence applications**
- **Preparation and utilization of Up-conversion luminescent nano-particles (UCLNP) for biological applications**
- **Preparation of nano crystals for solar cell applications**

The Centre has received funds from the Science and Engineering Research Board (SERB), Department of Science and Technology (DST), Department of Atomic Energy (DAE), University Grants Commission (UGC), Government of India, to the tune of rupees one crore. International collaborations with Shizuoka University, Japan, National University of Singapore (NUS), Singapore, and etc. have been established and research work is carried out. Industrial collaborations and industry-funded research projects are also being carried out.

Research collaboration with R&D organizations including National Physical Laboratory (NPL), New Delhi, Defence Research and Development Organization (DRDO), Raja Ramanna Centre for Advanced Technology (RRCAT), Indore, Indian Institute of Technology-Delhi (IIT-D), Indian Institute of Science (IISc.), Bangalore, Anna University, Chennai and other Universities are well-established.

### About the programme: Category A: Internship for research scholars

(10 continuous days during 15 April to 30 June 2017, slot shall be decided during the time of registration)

This programme is aimed at strengthening the fundamental concepts relating to materials science, thereby enhancing the research activities of scholars and to accelerate their research work.

### This programme covers

- Full lectures by experts involved in the field of materials research on crystal growth, amorphous materials, nano-materials, characterization of materials, and laboratory sessions. Experts from both academics and industry shall be resource persons.
- Participants shall undergo a full practical session every day in the laboratory.
- Participants shall attempt to grow single crystals / prepare polycrystalline glasses based on the problem identified after discussion.
- Hands-on-training to operate high temperature furnaces (open and closed atmospheres), crystal growth equipment (sol-gel, melt growth techniques), nano materials preparation (sol-gel, solid-state reaction, combustion synthesis, hydrothermal techniques), etc.
- Analysis of characterization data and their interpretation will also be covered.
- Sessions to enable them to prepare research manuscripts for journal submission will also be conducted. In addition to it they shall be trained to effectively communicate their research findings.

### Eligibility: M.Phil / Ph.D. research scholars from Universities / National Laboratories / institutions

**TARIF:** Rs. 5,000 (Rupees five thousand only) (including service tax)

The course fee shall cover course materials, lunch, and refreshments during the working hours, along with a training certificate.

**Course timing:** 09.00 a.m. to 04.00 p.m.

Accommodation to limited number of participants may be made available in college hostel based on payment basis.

### Category B : Internship for undergraduate / post-graduate students

(5 continuous days during 15 April to 30 June 2017, slot shall be decided during the time of registration)

This programme is aimed at strengthening the fundamental concepts relating to materials science, thereby enhancing motivation among young minds to pursue research career.

### This programme covers

- Full lectures by experts involved in the field of materials research on crystal growth, amorphous materials, nano-materials, characterization of materials, and laboratory sessions.
- Participants shall undergo practical sessions combined with the lectures.
- Participants shall attempt to grow single crystals / prepare polycrystalline glasses based on the problem identified after discussion.
- Participants shall be trained to effectively communicate their research interests.

### Eligibility: Students pursuing undergraduate / post-graduate programme in Engineering / Science

**TARIF:** (including service tax):  
- Category B – Rs. 3,000 (Rupees three thousand only)
- Category C – Rs. 1,500 (Rupees one thousand five hundred only)

The course fee shall cover course materials, lunch, and refreshments during the working hours, along with a training certificate.

**Course timing:** 09.00 a.m. to 04.00 p.m.

Accommodation to limited number of participants may be made available in college hostel based on payment basis.
Summer Research Internship Programme at
GRD Centre for Materials Research, through
PSG Centre for Non-Formal & Continuing Education,
PSG College of Technology, Coimbatore - 641 004

REGISTRATION FORM

1. Full Name (in BLOCK LETTERS): ________________________________

2. Date of Birth (DD-MM-YY): _________________________ Age: ________ Sex: ____________

3. Institution/ University/College where studying at present: ________________________________

4. Present position: (as applicable)
   Specialization: Specialization: Specialization:
   Year: I / II / III / IV / V  Year: I / II  Date of registration:

5. Address for Correspondence: _______________________________________________________

6. Telephone (R): ____________________________ (M): ____________________________

7. Email: _______________________________________________________________

8. Present research interests (4-5 lines):

9. Publications (if any):

10. How do you think participation in summer research internship will benefit you?

11. Whether accommodation is required: Yes / No

12. Payment details
   Registration category: Category A / Category B / Category C  DD amount: _______________________
   DD Number: ______________ Date: __________ Name of the Bank: ___________________________

   Recommended / Forwarded

Head of the Department / Supervisor  Signature of the Candidate

Note:  1. Multiple students can pay by a single Demand Draft.
       2. Write any one of the students name from your group with affiliation in rear of the DD.
       3. Filled application forms along with the DD should be sent to the coordinator’s address.