

## CALL FOR SUMMER INTERNSHIP RESEARCH PROJECT ON NANOSCIENCE

### An Overview

The project training is focused on explaining applications of Materials Science and Nanotechnology and inter- and cross-multidisciplinary research excellence. The resultant technological innovations are due to the commercialization of resultant products in various fields. The students pursuing their Diploma/Bachelors or Master's thesis project in the fields of Science and Technology must know about the Nanotechnology advancements in their fields, which is usually not a part of their syllabus. This project enables them to enhance their knowledgebase, pertaining to the developments in their fields of study as a result of global developments in Nanoscience & Nanotechnology which has changed the landscape of new research and product developments at all the industries and domains.

### Project Aim & Scope

These projects are exclusive for the Engineering & Science and Technology students aim to give participants a broad view of latest and most in-demand technologies and its prospects, so that they could know about the various applications and new achievements of nanotechnology in their respective field. The project contains the various topics related to every field of technology and sufficient material on that topic.

### Project topics

**SP-1/BU18:** Scale up synthesis and processing of 2D transition metal oxide nanoparticles

**SP-2/BU18:** Mechanism of various nanostructures formation by employing novel techniques and surface engineering for activated materials in catalysis

**SP-3/BU18:** Ultra-thin graphene based materials preparation for electrochemical energy storage systems

**SP-4/BU18:** Synthesis and applications of CNT's in nanoelectronics

**SP-5/BU18:** Smart electronic materials graphene utilization in transparent flexible electrodes and super capacitor application of

**SP-6/BU18:** Liquid Crystal, hybrid nanocomposite, polymeric nanomaterials spectroscopic response

**SP-7/BU18:** Modulation of Nano-Bio sensor technology and Biotechnology applications in drug delivery

**SP-8/BU18:** Flexible electronics, smart display device, optoelectronics and novel switchable device

## Candidature of applicants and duration of the projects

Prospective participants those who are pursuing B. Sc., M. Sc., B. Tech, M. Tech., M. Phill and Ph.D. in any field of Multi-disciplinary Science and Technology and engineering branches e.g. Physics (expt. soft-condensed matter physics), Chemistry, Nano-Bio technology and engineering, Tissue engineering, Nano-textile engineering, Chemical engineering, Electrical and Electronic Sciences, Nano-engineering, Bio-medical engineering, Mechatronics, Mechanical engineering may join in this project. All the National/International participants have to submit their CV along with institution letter forwarded by the concern authority should have to enclose via e-mail apply to the project group leader & advisor: **Prof (Dr.) Kaushik Pal**. These projects are entitled for at least **one (01) month- Outstation participants National or International (alternative group everyday 3hours)** to **three month (03) – local candidates: students/ research scholars/ lecturers/ associate teachers in a week (alternative group 2-days/3 hours)**. All students should present their work and tutorial courses in each week as progress report of research. The project includes Students will get another opportunity to **publish their review paper\*** written by them and evaluated by external experts under the guidance of group leaders after which it could be published in the International journals or posted on Nano-connect platform.

## Enrollment Procedure

- Covering letter should addressing group leader 'project code' with title assignment
- Brief CV with recent color photograph
- Letter host institution should forwarded by Principle/Head Department/Director/Dean
- Attach copies of your recent degree
- Registration, training program, and project by payment fees
- Maximum 30 to 50 members will be enrolled in this training program
- Complete application soft-copy should be sent to concern group leader via e-mail along with payment proof copy

## Important time:

Based on the nos. of applicants we are planning to start from **1<sup>st</sup> August, 2018**

**Name of the Research Group Leader & Project Advisor:** Prof. (Dr.) Kaushik Pal

**Designation:** Research Professor (Independent Scientist & PI)

**E-mail:** [kpalphysics.nano@gmail.com](mailto:kpalphysics.nano@gmail.com) ; [kaushikpaul.nano@bharathuniv.ac.in](mailto:kaushikpaul.nano@bharathuniv.ac.in)

**&**

**Project Co-coordinator:** Prof. (Dr.) Kanniga E

**Designation:** HOD, EIE, BIHER

**E-mail:** [kanniga.etc@bharathuniv.ac.in](mailto:kanniga.etc@bharathuniv.ac.in)

## Benefits to Participants

- ✓ Participants will get to know that what is nanoscale technology, Materials Science and “Liquid Crystal Nanoscience” how it is applicable in others emerging fields.
- ✓ Will train how to write a regular article, review article, book’s chapters for exclusive International Journals publications.
- ✓ Presentation to scientific community with the novelty of research foundation and innovations
- ✓ How to work with abroad research group of Institutions or foreign universities/industry etc.
- ✓ Thesis writing skills and literature survey should cover in the program
- ✓ After completion of this project, participants will be aware of role of nanotechnology in advancements of the present technology in their respective fields.
- ✓ Participants will get scopes for the experts speeches and guidance according to subjects
- ✓ Participants will be aware of various revolutions in every field of technology such as e.g. liquid crystals, polymeric nanomaterials, nano-bio sensor technology, switchable device modulation, smart display technology, electron microscopy and various spectroscopy analysis, fabrication tools and strategies. This could be possible only due to Nanotechnology and Materials Science research innovations
- ✓ Apart from their current syllabus contents and project topics, they can get some additional information from abroad Universities/Institutions research ideas techniques and knowledge
- ✓ After successful complete successfully students will get another opportunity to publish their review paper\* written by them under completely group leader’s supervision and advice.
- ✓ Then will be capable of research after delivering presentation on respective project.
- ✓ Additional summer training project fellow certificate will be provided and which could be most beneficial in their academic and further research career entry in the industry/institutions.

### Fee structure and norms of the payment process to avail this training

The program fee should be sent along with duly completed **application form** should download from BIHER webpage <https://www.bharathuniv.ac.in/> along with the details of **payment procedure**. Completed application form along with payment receipt proof copy have to be send via e-mail to the group leader **Prof.(Dr.) Kaushik Pal**. Without payment incomplete application should rejected. The local candidates make payment via BIHER finance department for this research internship program.

Fee Details	1 Month	2 month	3 Month
Registration fee	Rs.500	Rs.500	Rs.500
External resource fees	Rs.3000	Rs.2500	Rs.2000
Research project charges included (Experiments/Review/Editing) and extra publication charges are require (Rs.2000 to Rs.5000) but not mandatory for all journals)	Rs.3000	Rs.3000	Rs.3000
<b>Total Fees</b>	<b>Rs.6500</b>	<b>Rs.6000</b>	<b>Rs.5500</b>

### Payment for summer project training on Nanoscience-2018 at BIHER

Name of the Bank	<b>Punjab National Bank</b>
Branch Name	<b>BIHER Tambaram</b>
City	<b>Selaiyur, Chennai- 600073</b>
Account number (A/C no.)	<b>4557000100017514</b>
Branch Code	<b>455700</b>
IFSC Code	<b>PUNB0455700</b>
MICR Code	<b>600024038</b>

## Application form of summer project on Nanoscience at BIHER-2018

<b>Name of the Applicants</b>	
<b>Date of Birth (in Words &amp; digit)</b>	
<b>Official Address</b>	
<b>Permanent address</b>	
<b>Mobile number</b>	
<b>Name and full address of the host Institution/Organization/University</b>	
<b>Highest academic degree (enclosed proof copy of certificate)</b>	
<b>Name of the department/stream of Science &amp; Technology</b>	
<b>Pursuing courses at the host institution</b>	
<b>Official Registration number</b>	
<b>Identity Card of the Institution (enclosed photocopy)</b>	
<b>Summer Project Number &amp; Research topic</b>	
<b>Accommodation (On request for outstation candidates)</b>	
<b>Signature of the head institution/authority</b>	Signature:  Seal:

Soft-copy application should sent via e-mail to group leader & advisor: **Prof.(Dr) Kaushik Pal**

[kpalphysics.nano@gmail.com](mailto:kpalphysics.nano@gmail.com) ; [kaushikpaul.nano@bharathuniv.ac.in](mailto:kaushikpaul.nano@bharathuniv.ac.in)