International Pre-PhD Program (Online Mode)

For science, engineering, and technology disciplinary

Dear Students,

We are pleased to inform you that Institute of Advanced Materials, IAAM, Sweden (www.iaam.se) is going to start international pre-PhD program for Indian appearing or just passed post graduate students. Very limited seats are available in science, engineering, and technology disciplinary and the course fee of 1200 Euro will be fully sponsored by the International Association of Advanced Materials, Sweden (www.iaamonline.org).

As NRI and director of the institute, Dr. Ashutosh Tiwari (https://iaam.se/ashutosh-tiwari-director) will be personally coordinate this initiative to shape Indian' youth careers in high-end research and innovation for their global reach.

Please apply for Pre-PhD program at https://forms.gle/JLws564hx8UTBrGR9 until 31 May 2022.

- The pre-PhD program is intended to prepare Indian students to apply for Ph.D. programs in science, engineering, technology, or any relevant field in India or abroad.
- This course encourages promising students from under-represented or non-typical backgrounds (personal, academic, or employment) to pursue the academic profession by promoting a diverse, scholarly environment.
- After successful completion of this course, each student will gain the following
    a) Pre-PhD course Certificate by Institute of Advanced Materials, Sweden (www.iaam.se).
    b) International supervision to write high impact research paper and publication in journals with two internal supervisors.
    c) Guidance for applying national and international PhD program.
    d) Publish a high impact research article during six months of this course.
    e) International colleagues' complementary skills to boost the effect of your research career.
    f) A truly global viewpoint by expanding your foreign networks.
    g) Supportive and collegiate environment to excel your research training.
    h) Participation in high-quality research cultures and contexts.

Advance Course in
Pre-PhD Program in Science, Engineering and Technology

Course Duration: 6 months
- 3 months - Course Lectures
- 3 months - Research Assignment

Equivalent to 15 credits

Course Coordinator
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About Course

This course will provide you an up-to-date introduction to the fascinating field of integrated materials engineering and technology. The major aspects of integrated topics in materials engineering, especially structure and properties, techniques, and technological innovations. This interdisciplinary course is prepared for students and researchers from diverse backgrounds such as all branches of engineering, chemistry, materials science, physics, pharmacy, medical science, and biomedical engineering.

Course Plan

Number of lectures: 10, (Course Coordinator will give lecture 1 and 2, lectures 3 - 11 will be given by the topical experts and course participants taking the course, 1 + 1 hour lecture and discussion); duration of each lecture: 2 hours. The students will be accountable for their lecture materials. Each student should discuss their lecture materials with Course Coordinator about 10 days prior to the date of their lecture. The idea is to discuss student lecture materials with the Course Coordinator for suggestions and comments before the lecture. The examiner will send lecture materials of the course to each student at the beginning of the week. The student will prepare 5-7 sets of questions and send them to Course Coordinator by e-mail along with 5-10 key relevant literature two day before the lecture. The Course Coordinator will compile all questioners & literature and distribute to each course participant one day before the lecture.

Research Assignment

To write a high-quality research/review article on the trends in biomaterials: processing, properties, and applications; materials engineering research/ advanced technology; and innovation/ national and international policy/ and healthcare towards sustainable management.

The talks and course materials will give you valuable insight in the key area of **materials,** and cutting-edge **advanced technology.** The interdisciplinary flora of the topics will help students to find interesting new research projects. The course will comprise lectures and research assignments planned during **May - October 2022. All classes will be conducted online.**

Text/Reference Books

1. **Biomedical Materials and Diagnostic Devices,** Edited by Ashutosh Tiwari, Murugan Ramalingam, Hisashi Kobayashi and Anthony P. F. Turner, Wiley, 2012.
2. **Intelligent Nanomaterials,** First Edition, Edited by Ashutosh Tiwari, Ajay K. Mishra, Hisatoshi Kobayashi and Anthony P. F. Turner, Wiley, 2012.
3. **Intelligent Nanomaterials,** Second Edition, Edited by Ashutosh Tiwari, Yogendra K. Mishra, Hisatoshi Kobayashi and Anthony P. F. Turner, Wiley, 2016.
4. **Polysaccharides: Development, properties and applications,** Edited by Ashutosh Tiwari, Nova Science Publisher, 2010.
5. **Biosensors Nanotechnology,** Edited by Ashutosh Tiwari and Anthony P. F. Turner, Wiley, 2014.