

## **Brief Summary of the One Week Short Term Course on “Advanced Functional Materials”**

A short term course on “Advanced Functional Materials” was organized successfully by the Department of Physics, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar during 29<sup>th</sup> Dec. 2019 to 03<sup>rd</sup> Jan. 2020. This course was sponsored by TEQIP-III. We received a very good response for this course across the country. The participants from different academic and research institutes like IIT, NIT, Central University, UGC-DAE Consortium for Scientific Research and other research/academic institutions attended this course. In this course 66 outstation and 15 in-house participants were registered. Experts from different institutes/research laboratories delivered expert lecture on different advanced research activities being carried out in the field of advanced functional materials. This course covered different hot topics of current research like transparent conducting oxides, two dimensional materials, thin films, photoluminescence and their applications in forensic sciences. We arranged expert lectures on X-ray photoelectron spectroscopy, resonant photoemission spectroscopy, X-ray absorption spectroscopy, X-ray diffraction, neutron diffraction, magnetodielectric etc. There were deliberations from the scientists who are working on synchrotron and neutron facility available in India. The content of the course and knowledge disseminated by the experts was very much appreciated by the participants. We also organised hands-on training on optical properties, X-ray photoelectron spectroscopy, X-ray absorption spectroscopy, and neutron diffraction studies. We arranged several laboratory visits so that the participants can get familiar with hardware as well as software of the instruments. There were very healthy discussion between the participants and the experts. This interaction led to establishing collaborations between different research group including NIT Jalandhar Faculty and motivated young post graduate students to pursue higher education. The knowledge gained by the participants will certainly be useful in their respected research areas. We are very much thankful to TEQIP-III to provide the financial support to organise this course. The support from the Director, other institute authorities and Faculty, staff and students of Physics department is very much appreciated.

(Dr. Abhinav Pratap Singh and Dr. Kiran Singh)

**Coordinators**