



# Basics of Solid-State Physics

## Name of the PMRF student

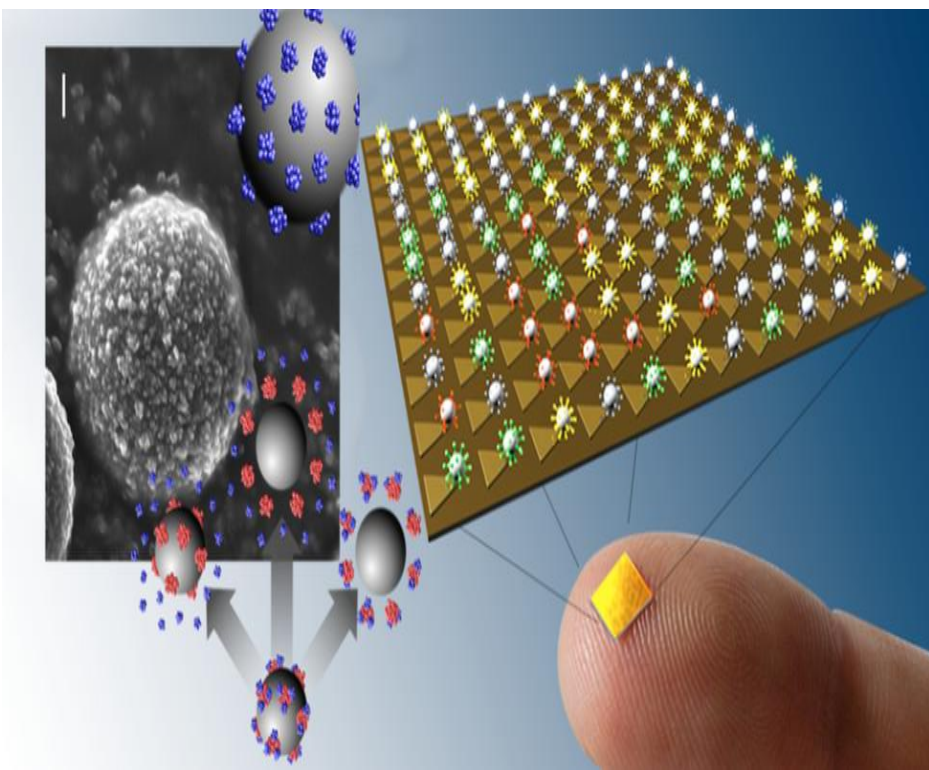
Mohammad Ateeb Munshi

## Required background of the students taught

Electronics, Electrical, Physics, Material Sciences

## Online session coordinator

Will be chosen from the list of registrants



## Details of the content of the module

- **Introduction to Quantum Mechanics**

Drude Model, Blackbody Radiation, Photoelectric and Compton Effect, Bohr's model of an atom, Wave-Particle duality, Schrodinger Equation, Uncertainty principle- Particle in a finite and infinite potential well.

- **Crystal Lattices**

Crystal Structures and defects, reciprocal lattice, X-ray diffraction, lattice dynamics.

- **Semiconductor Crystals**

Bandgap, Equations of motion, concept of holes, effective mass, intrinsic carrier concentration, doping and conductivity.

## Schedule of the module

Lectures will be uploaded on **Saturday** 8pm

Lectures will start from **1<sup>st</sup> January 2023 (Tentative)**

Course will end on April 10<sup>th</sup> 2023.

## Link

Contact email ID: [iss.forum@gmail.com](mailto:iss.forum@gmail.com)

Registration link: [Untitled form \(google.com\)](#)