Sajid Ali

Applied Physics,
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Education

2016–Present **Northwestern University**, *Evanston, IL*,
Ph.D., Applied Physics,
Computational x-ray optics, New Techniques X-ray Microscopy.

2011–2016 **IIT Madras**, *Chennai, India*,
Masters of Tech. in Microelectronics and VLSI Design Electrical Engg.,
Master's Thesis : Impurity induced magnetism in Graphene.

2011–2016 **IIT Madras**, *Chennai, India*,
Bachelors of Technology, Electrical Engg.,
Minor: Physics.

Research Experience

2016–Present **Zone Plate Testing**,
X-Ray Microscopy Group, Northwestern University, PI: Prof Chris Jacobsen.
- Tested high aspect ratio zone plates for efficiency and tilt tolerance at APS and NSLS.
- Developing parallelized computer codes for high resolution x-ray optics simulation to model tilt misalignment effects.

2015–2016 **Magnetism in Graphene**,
Computaional Condensed Matter Group, IIT Madras, PI: Prof Ranjit Nanda.
- Investigating the magnetic properties of functionalized monolayer and intercalated bilayer graphene using Density Functional Theory.
- Studied a range of candidates for intercalation and performed stability analysis for those which exhibited a non-trivial magnetic moment.

Summer 2015 **A preliminary DFT Study on the stability of cathode materials**,
Center for Automotive Energy Materials, ARCI IITM Research Park, PI: Dr Sahana MB.
- Studied the relative stability of three structural phases of Li1:15(Mn:54Ni:23Co:08)O2,a novel cathode material for Li-ion batteries.
- Created complex heterostructures and studied their electronic structure using Density Functional Theory.

Teaching Experience

2018 **Department of Physics, Northwestern University**, *Evanston, IL*, Graduate Teaching Assistant.
- Undergraduate Lab methods course for calculus based EM
- Led laboratory sections to demonstrate and facilitate experiments.
- Held discussion hours to facilitate learning by one-on-one discussion of homework problems.

2015 **Department of Electrical Engineering, IIT Madras**, *Chennai, India*, Graduate Teaching Assistant.

- The course has a C-language and Python-language component and serves as an introduction to the basics of scientific computing.
- Facilitated lab sessions, held office hours and graded assignments.

Computer Skills

Languages	Python, C, Matlab
Software	PETSc, Scientific Python, QuantumEspresso
Platforms	Linux (CentOS, RHEL, Fedora, Ubuntu), Windows
Soft. Eng.	Git, Travis CI, Codecov, Flake8, GNU Debugger