

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,**
Computational Condensed Matter Group, IIT Madras, PI: Prof Ranjit Nanda.
 - Investigated the magnetic properties of intercalated bilayer graphene using DFT.
 - 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 a novel cathode material for Li-ion batteries.
 - Created complex heterostructures and studied their electronic structure using DFT.

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.
 - Introduction to the basics of scientific computing using C and Python.
 - Facilitated lab sessions, held office hours and graded assignments.

Publications

- 2018 **Zone Plate Performance as a Function of Tilt Analyzed via Multislice Simulations** Syed Sajid Ali, Kenan Li, Michael Wojcik and Chris Jacobsen *Volume 24, Suppl. S2 (Proc. of the 14th Intl. Conf. on X-ray Microscopy) pp. 298-299*
- 2016 **Magnetism in intercalated graphene** Sajid Ali, BRK Nanda *AIP Conference Proceedings 1731, 130040*

Outreach, Volunteer and Leadership Experience

- 2018 Taught a class on Emergence for Splash at NU
- 2013 Graphic Designer for Saarang, IIT Madras
- 2013 Coordinator for Shaastra Symposium, IIT Madras
- 2012–2013 Coordinator for Colloquium, IIT Madras

Computer Skills

- Programming Python, C, Matlab, Bash
- Software PETSc, Scientific Python, QuantumEspresso
- Perf. Eng. Intel VTune, Intel APS
- Sys. Admin. Spack, Environment Modules, yum, dnf, apt
- Soft. Eng. Git (GitHub, Bitbucket), Travis CI, Codecov, Flake8, GNU Debugger
- Platforms Linux (CentOS, RHEL, Fedora, Ubuntu), Windows