Sajid Ali

Applied Physics,
Northwestern University

1100 Church St, Apt 303
Evanston, IL 60201
224-703-9695
sajidsyed2021@u.northwestern.edu
s-sajid-ali

Education

2016–Present **Ph.D., Applied Physics**, *Northwestern University*, Evanston, IL.

2011–2016 **Bachelors & Masters of Technology, Electrical Engg.**, *IIT Madras*, Chennai, India.
Minor : Physics, Masters Thesis: Impurity induced magnetism in graphene

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.
- 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 xLi2MnO3.(1-x)LiMO2 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

Programming Python, C, Matlab

Software PETSc, Scientific Python, QuantumEspresso

Platforms Linux (Fedora, RHEL, CentOS, Ubuntu), Windows