

# Dr. Mohammad Abdur Rashid

## CONTACT INFORMATION

Office Address: Assistant Professor of Physics  
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## PROFESSIONAL EXPERIENCES

Assistant Professor (November 2018 – Present)  
Department of Physics  
Jashore University of Science and Technology  
Jashore 7408, Bangladesh

Part-time Faculty (January 2018 – December 2018)  
Department of Theoretical Physics  
University of Dhaka  
Dhaka 1000, Bangladesh

Assistant Professor of Physics (November 2013 – November 2018)  
Department of Arts and Sciences  
Ahsanullah University of Science and Technology  
Tejgaon, Dhaka 1208, Bangladesh

Teaching Assistant (February 2014 – October 2016)  
School of Physics and Astronomy  
University of Nottingham  
Nottingham, United Kingdom

Lecturer in Physics (September 2010 – October 2013)  
Department of Arts and Sciences  
Ahsanullah University of Science and Technology  
Tejgaon, Dhaka 1208, Bangladesh

## EDUCATION

PhD in Physics (November 2013 – April 2017)  
School of Physics and Astronomy  
University of Nottingham  
Nottingham, NG7 2RD, United Kingdom

Diploma in Condensed Matter Physics 2009 – 2010  
The Abdus Salam International Center for Theoretical Physics (ICTP)  
Strada Costiera 11, I-34151 Trieste, Italy

M. S. in Physics, 2005 (Exam held in 2008), 1<sup>st</sup> Class  
Department of Physics, University of Dhaka  
Dhaka 1000, Bangladesh

B. S. in Physics, 2004 (Exam held in 2006), 1<sup>st</sup> Class  
Department of Physics, University of Dhaka  
Dhaka 1000, Bangladesh

#### **TITLE OF PhD THESIS**

Theoretical Interpretation of Scanning Probe Images of Molecules on Surfaces

#### **TITLE OF DIPLOMA THESIS**

A Classical Potential for the Gold-Alkanethiols Interface

#### **TITLE OF MASTER'S THESIS**

Studies of Phonon Dispersion and Electronic Transport Properties of Amorphous Metals

#### **LIST OF PUBLICATIONS**

W. A. Dujana, A. Podder, O. Das, Md. Solayman, M. T. Nasir, **M. A. Rashid**, Md Saiduzzaman, and M. A. Hadi: "Structural, electronic, mechanical, thermal, and optical properties of UIr<sub>3</sub> under pressure: A comprehensive DFT study", AIP Advances 11, 105205 (2021)

Md. Alamgir Badsha, Md. Humaun Kabir, **Mohammad Abdur Rashid**: "Coherent perfect absorption in unpatterned thin films of intrinsic semiconductor", J. Opt. 49 (3) 342-350 (2020)

Md. Alamgir Badsha, **Mohammad Abdur Rashid**, Md. Humaun Kabir, Md. Mehade Hasan: "Coherent perfect absorption in epsilon-near-zero ITO thin film in near infrared", Opt. Pura Apl. **53**(1), 1-12 (2020)

M. S. S. Chowdhury, **Mohammad A. Rashid**, M. A. Rahman and A. Z. Ziauddin Ahmed: "Study of Energy of Formation for Fe<sub>x</sub>Ni<sub>1-x</sub> Liquid Binary Alloys", Asian J. of Research and Reviews in Physics **2**(4), 1-12 (2019)

Adam Sweetman, **Mohammad A. Rashid**, Samuel P. Jarvis, Janette L. Dunn, Philipp Rahe and Philip Moriarty: "Visualizing the orientational dependence of an intermolecular potential", Nat. Commun. **7**, 10621 (2016)

Adam Sweetman, Samuel P. Jarvis and **Mohammad A. Rashid**: "Modelling of 'sub-atomic' contrast resulting from back-bonding on Si(111)-7×7", Beilstein J. Nanotechnol. **7**, 937 (2016)

Samuel Paul Jarvis, **Mohammad Abdur Rashid**, Adam Sweetman, Jeremy Leaf, Simon Taylor, Philip Moriarty and Janette Dunn: "Intermolecular artifacts in probe microscope images of C<sub>60</sub> assemblies", Phys. Rev. B **92**, 241405(R) (2015)

**M. Abdur Rashid** and S. Scandolo: "A classical potential for the Gold(111)-Alkanethiols interface", The AUST Journal of Science and Technology, **4**(1), 1 (2012)

## PAPER IN INTERNATIONAL CONFERENCE

**M. A. Rashid**, P. Moriarty and J. L. Dunn: “Interpreting AFM images of the assembly of bi-isonicotinic acid molecules”, International Conference on Physics-2020, Dhaka, Bangladesh, March 2020

**M. A. Rashid**, S. P. Jarvis, A. Sweetman, A. Saywell, P. Moriarty, J. L. Dunn: “Theoretical Study of The Intra- and Intermolecular Potentials of Assemblies of C<sub>60</sub> Molecules and of Phthalocyanine Molecules”, 19th International Conference on Non-Contact Atomic Force Microscopy, Nottingham, UK, July 2016

**M. A. Rashid**, S. P. Jarvis, A. Sweetman, P. Moriarty, J. L. Dunn: “Theoretical Study of the Intermolecular Potential (Artefact) Between C<sub>60</sub> Molecules”, UK-Japan Symposium on Atomic and Molecular Manipulation: Force and Tunnel Current in Scanning Probe Microscopy, Nottingham, UK, December 2015

**M. A. Rashid**, P. Sharp, P. Moriarty, J. L. Dunn: “Theoretical Study of C<sub>60</sub>F<sub>48</sub> Using Hückel Molecular Orbital Theory”, Interdisciplinary Surface Science Conference (ISSC-20), Birmingham, UK, March 2015

**M. A. Rashid**, S. Scandolo, S. K. Bhattacharya: “A Classical Potential for the Gold-Alkanethiols Interface”, BPS Conference 2011, Dhaka, Bangladesh, February 2011

G. M. Bhuiyan, **M. A. Rashid**, A. Z. Ziauddin Ahmed and R. I. M. A. Rashid: “A Theory of Electrical Resistivity of Amorphous Metals”, DPG Spring Meeting 2009, Dresden, Germany, March 2009

## WORKSHOP ATTENDED

CECAM Tutorial **Computational Spectroscopy Using Quantum Espresso and Related Codes**, SISSA, Trieste, Italy, 26-30 July 2010

**Summer School on Atomistic Simulation Techniques for Material Science, Nanotechnology and Biophysics**, SISSA, Trieste, Italy, 5-23 July 2010

**Workshop on Dynamics of Strongly Correlated Quantum Systems**, ICTP, Trieste, Italy, 21-25 June 2010

**Spring College on Computational Nanoscience**, ICTP, Trieste, Italy, 17-28 May 2010

**Bose Winter School on Current Topics: Quantization, Wavelets and Their Applications to Physics-07**, Department of Physics, University of Dhaka, Bangladesh & The Abdus Salam ICTP, Italy, December 2007

## REFERENCES

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