

SAIFUL I. KHONDAKER

Professor of Physics and Nanoscience
12424 Research Parkway Ste 400
Orlando, FL 32826
Tel: 407-882-2844
saiful@ucf.edu

a. Professional Preparation:

University of Dhaka, Bangladesh	Physics	B.Sc. - 1990
University of Dhaka, Bangladesh	Physics	M.S. - 1992
International Center for Theoretical Physics, Trieste, Italy,	Condensed Matter Physics	Diploma - 1993
University of Cambridge, UK	Condensed Matter Physics	Ph. D. - 1999

b. Appointments:

Professor, Nanoscience Technology Center, Department of Physics and School of Electrical Engineering and Computer Science, University of Central Florida, 2017 - present
Associate Professor, Nanoscience Technology Center, Department of Physics and School of Electrical Engineering and Computer Science, University of Central Florida, 2010 - 2017
Assistant Professor, Nanoscience Technology Center & Physics Department, University of Central Florida, 2005-2010
Assistant Director, Center for Nano & Molecular Science and Technology, University of Texas at Austin, 2003 –2005
Postdoctoral Research, University of Texas at Austin, 2001 – 2003

c. Products:

i) Most recent products related to my current area of research

1. Ammon C. Johnston and Saiful I. Khondaker, Can Metals Other than Au be Used for Large Area Exfoliation of MoS₂ Monolayers? *Advanced Materials Interfaces* 9, 2200106 (2022)
2. Sajeevi S. Withanage and Saiful I. Khondaker, Low Pressure CVD Growth of Large Area PdSe₂ and its Application in PdSe₂-MoSe₂ Vertical Heterostructures, *2D Materials* 9, 025025 (2022)
3. Sajeevi S. Withanage, Bhim Chamlagain, Ammon C. Johnston, and Saiful I. Khondaker, Charge transfer doping of 2D PdSe₂ thin film and its application in fabrication of heterostructures. *Advanced Electronic Materials*, 7, 2001057 (2021).
4. Bhim Chamlagain and Saiful I. Khondaker, Electrical properties tunability of large area MoS₂ thin film by oxygen plasma treatment. *Applied Physics Letters* 116, 223102 (2020).
5. Bhim Chamlagain, Sajeevi Withanage, Ammon Johnston, and Saiful I. Khondaker, Scalable lateral heterojunction by chemical doping of 2D TMD thin films. *Scientific Reports* 10, 12970 (2020).

ii) other significant products

1. Muhammad R. Islam, Narae Kang, Udai Bhanu1, Hari P. Paudel, Mikhail Erementchouk, Laurene Tetard, Michael N. Leuenberger, and Saiful I. Khondaker. Electrical property

tuning via defect engineering of single layer MoS₂ by oxygen plasma. *Nanoscale* 6, 10033 (2014).

2. Biddut K. Sarker¹, and Saiful I. Khondaker, Thermionic Emission and Tunneling at Carbon Nanotube-Organic Semiconductor Interface. *ACS Nano*, vol 6, 4993 (2012).
3. Biddut K. Sarker¹, Shashank Shekhar² and Saiful I. Khondaker, Semiconducting enriched carbon nanotube align arrays of tunable density and their electrical transport properties. *ACS Nano* 5, 6297 (2011).
4. Shashank Shekhar, Paul Stokes, and Saiful I. Khondaker, Ultra-high density alignment of carbon nanotubes array by dielectrophoresis, *ACS Nano*, vol 5, 1739 (2011).
5. 47. Daeha Joung, Lei Zhai, and Saiful I. Khondaker, Coulomb blockade and hopping conduction in graphene quantum dots array, *Phys. Rev. B* 83, 115323 (2011).

(d) Graduate teaching experience

- IDS 6260, Properties of Nanoscale Materials: Graduate elective course at Nanotechnology MS program. Taught in fall 2019, Fall 2020, Fall 2021, and Fall 2022 semester.

(e) Graduate students mentored (to completion, if applicable)

- List up to 5 most recent- Chair of thesis/dissertation committees, overall number, names of students, degree, year graduated
Sajeevi Whitange, Ph.D. Thesis, Department of Physics, University of Central Florida.
Title: Chemical vapor deposition growth of transition metal dichalcogenide and their heterostructure integration. Graduated in Spring 2021 semester.
Vanessa Charles, MS thesis, Nanoscience technology Center, University of Central Florida.
Title: Synthesis of 2D MoS₂ Based Nanostructures Using MoO₃ Thin Film via Chemical Vapor Deposition. Graduated in summer 2019.
Udai Bhanu, Ph.D. Thesis, Department of Physics, University of Central Florida.
Title: Investigation of electronic and optical properties of gold decorated molybdenum disulfide. Successfully defended in May 2015.
Narae Kang, Ph.D. Thesis, Department of Physics, University of Central Florida.
Title: Nanoelectronic devices using carbon nanotubes and graphene electrodes: fabrication and electronic transport investigations. Successfully defended in May 2015.
Muhammad Islam, Ph.D. Thesis, Department of Physics, University of Central Florida.
Title: Parallel fabrication of single electron transistors using single wall carbon nanotube. Successfully defended in May 2015.
 - List up to 5 most recent- Member of thesis/dissertation committees, overall number, names of students, degree, year graduated
 - List total number of graduate students mentored on thesis/dissertation committees over the course of your career.
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(f) Other synergistic activities related to Graduate Education

1. Chair of the organizing committee, Science and Technology of Emerging Materials 2023, Orlando, FL, March 16-17, 2023
2. Graduate program director- Nanotechnology MS.
3. Director, PREM center for ultrafast dynamics and catalysis in emerging materials (C-UDCEM) – increasing URM students participation in materials research.
4. Session Chair for American Physical Society March meetings
5. Referee for many scientific journals including ACS Nano, Nano Letters, Advanced Materials, Applied Physics Letters, ACS Applied Materials and Interfaces, Advanced Functional Materials