Curriculum Vitae of Dr. Rai Nauman Ali

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***Permanent Address*:**
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Marital Status: *Married*
Nationality: *Pakistan*
Date of Birth: *5-09-1985*

Career Objective:

To prove my worth in the challenging atmosphere.

Academic Education:

- **PhD** in *Materials Science and Engineering (Physics and Chemistry of Material) from University of Science and Technology of China* (USTC). (2015-2019)

- **M.Phil.** in *Physical Chemistry* from Quaid-i-Azam University Islamabad (QAU). (2011-2013)

- **Bachelor of Science Honors *(BS Hons)*** in Chemistry from Government College University Lahore, Pakistan (GCU). (2005-2009)

- **Intermediate *(FSc)*** from MRF Degree Science College Kamra, Attock, Pakistan. (2004)

- **Matriculation** from MRF Degree Science College Kamra, Attock, Pakistan. (2002)

Professional Experience:

Sep 2013 - Sep 2015 Lecturer Chemistry

Cadet College Hasan Abdal, Hassan Abdal, Pakistan

May 2010 - Mar 2011 Project Assistant

PIEAS, Islamabad, Pakistan

Dec 2009 - Mar 2010 Lecturer Chemistry

Cadet College Rawalpindi, Rawalpindi, Pakistan

Sep 2006 - Apr 2009 Lecturer Chemistry

Thanet Hall School, Lahore, Pakistan

FIELDS OF INTEREST:

NANOPOROUS MATERIALS, PHOTOCHEMISTRY, PHOTOVOLTAICS/SOLAR CELLS, BATTERIES, SURFACE CHEMISTRY, COLLOIDS, CHEMICAL KINETICS, THERMODYNAMICS, MATERIAL SCIENCE, ALL BRANCHES OF PHYSICAL CHEMISTRY.

RESEARCH INTEREST:

- Electrocatalytic water splitting HER and OER
- Nanoporous 2-D materials synthesis including transition metal phosphides, nitrides and their composites for catalysis applications.
- Organic-Inorganic nano-hybrid materials Synthesis.
- Photovoltaics/solar cells.
- Surface functionalization & Surface chemistry.
- Anode materials for lithium ion batteries.

LIST OF PUBLICATIONS:

1. **Rai Nauman Ali**, Hina Naz, Xingqun Zhu, Junxiang Xiang, Guojing Hu, and Bin Xiang. "Synthesis, characterization and applications of pH controlled Fe_2O_3 nanoparticles for electrocatalytic hydrogen evolution reaction" Materials Research Express 6 2019 025516 **impact factor 1.449**.

2. **Rai Nauman Ali**, Hina Naz, Jing Li, Xingqun Zhu, Ping Liu, and Bin Xiang. "Band gap engineering of transition metal (Ni/Co) codoped in zinc oxide (ZnO) nanoparticles." Journal of Alloys and Compounds 744 (2018): 90-95 **impact factor 4.175**.

3. **Rai Nauman Ali**, Kaidi Diao, Hina Naz, Xudong Cui, and Bin Xiang. "Synthesis, characterization, and applications of zinc oxide nanoparticles and nanorods in acetone gas detection." Materials Research Express 4, no. 9 (2017): 095015 **impact factor 1.449**.

4. **Rai Nauman Ali**, Hina Naz and Syed Mujtaba Shah. Sulphonic acid functionalized porphyrin grafted ZnO nanorods: Synthesis, characterization and applications in the solid state dye sensitized solar cells. Dyes and Pigments 99(2013)571-576 **impact factor 4.018**.

5. Ping Liu, Yunxiang Lin, Jing Li, Zhi Wang, **Rai Nauman Ali**, Li Song, Bin Xiang, and Yalin Lu. "Engineering ternary pyrite-type CoPS nanosheets with ultrathin porous structure for efficient electrocatalytic water splitting." ChemElectroChem **impact factor 3.975**.

6. Ping Liu, **Rai Nauman Ali**, Jing Li, Guojing Hu, Xingqun Zhu, Yalin Lu, and Bin Xiang. "Self-reconstruction in 2D nickel thiophosphate nanosheets to boost oxygen evolution reaction." Applied Surface Science (2019) **impact factor 5.155**.

7. Guojing Hu, Junxiang Xiang, Jing Li, Ping Liu, **Rai Nauman Ali**, Bin Xiang. "Urchin-like ternary cobalt phosphosulfide as high-efficiency and stable bifunctional electrocatalyst for overall water splitting." Journal of Catalysis 371(2019): 126-134 **impact factor 7.723**.

8. Li Jing, Xuefeng Li, Ping Liu, Xingqun Zhu, **Rai Nauman Ali**, Hina Naz, Yan Yu, and Bin Xiang. "Self-Supporting Hybrid Fiber Mats of Cu3P-Co2P/NC Endowed with Enhanced Lithium/Sodium Ions Storage Performances." ACS applied materials & interfaces (2019) **impact factor 8.456**.

9. Xuefeng Li, Jing Li, **Rai Nauman Ali**, Zhi Wang, Guojing Hu, and Bin Xiang. "Preparation of ZnNb2O6/N-doped carbon composites for lithium ion storage." Chemical Engineering Journal (2019) **impact factor 8.355**.

10. Hina Naz, **Rai Nauman Ali*** (Corresponding author), Qing Liu, Shangfeng Yang, and Bin Xiang. "Niobium doped zinc oxide nanorods as an electron transport layer for high-performance inverted polymer solar cells." Journal of colloid and interface science 512 (2018): 548-554 **impact factor 6.361**.

11. Hina Naz, **Rai Nauman Ali**, Xingqun Zhu, and Bin Xiang. "Effect of Mo and Ti doping concentration on the structural and optical properties of ZnS nanoparticles." Physica E: Low-dimensional Systems and Nanostructures 100 (2018): 1-6 **impact factor 3.176**.

12. Zhu Xingqun, Hina Naz, **Rai Nauman Ali**, Yongfei Yang, Zhou Zheng, Bin Xiang, and Xudong Cui. "Fast synthesis of transparent and hydrophobic silica aerogels using polyethoxydisiloxane and methyltrimethoxysilane in one-step drying process." Materials Research Express (2018) **impact factor 1.449**.

13. Wang, K., Xiang, J., **Rai Nauman Ali**, Xiang, B., & Cui, X. (2018). The computational probing of carrier transport in MAPbI 3-x Cl x. Computational and Theoretical Chemistry **impact factor 1.344**.

14. Yang, L., Xie, C., Jin, J., **Rai Nauman Ali**, Feng, C., Liu, P., & Xiang, B. (2018). Properties, Preparation and Applications of Low Dimensional Transition Metal Dichalcogenides. Nanomaterials (Basel, Switzerland), 8(7) **impact factor 4.034**.

15. Guojing Hu, Jing Li, Ping Liu, Xingqun Zhu, Xuefeng Li, **Rai Nauman Ali**, and Bin Xiang. "Enhanced electrocatalytic activity of WO3@ NPRGO composite in a hydrogen evolution reaction." Applied Surface Science (2018) **impact factor 5.155**.

16. Zhu Xingqun, Jing Li, Ping Liu, Chao Feng, **Rai Nauman Ali**, Bin Xiang. Nitrogen-doped thermally reduced graphene oxide quantum dots–MnO composite toward enhanced-performance Li-ion battery. Applied Physics A. 2018 Oct 1;124(10):722 **impact factor 1.784**.

17. Zhu Xingqun, Siqi Li, Jing Li, **Rai Nauman Ali**, Hina Naz, Ping Liu, Chao Feng, and Bin Xiang. "Free-standing WTe2QD-doped NiSe/C nanowires for highly reversible lithium storage." Electrochimica Acta (2018) **impact factor 5.383**.

18. Zhu Xingqun, Jing Li, **Rai Nauman Ali**, Meng Huang, Ping Liu, and Bin Xiang. "Toward a high-performance Li-ion battery: Constructing a $Co_{1-x}S$/ZnS@ C composite derived from metal-organic framework@ 3D disordered polystyrene sphere template." Materials & Design 160 (2018): 636-641 **impact factor 5.77**.

19. Ping Liu, Chao Ma, Jing Li, Zhi Wang, Hina Naz, **Rai Nauman Ali**, Yalin Lu, and Bin Xiang. "Se–assisted synthesis of WO3-x nanowires and its intrinsic metallicity." Materials Research Express 6 (2019): 025020 **impact factor 1.449**.

20. Junxiang Xiang, **Rai Nauman Ali**, Yongfei Yang, Zhou Zheng, Bin Xiang, Xudong Cui. "Monolayer MoS2 thermoelectric properties engineering via strain effect." Physica E: Low-dimensional Systems and Nanostructures 109 (2019): 248-252 **impact factor 3.176**.

21. Syed Mujtaba Shah, Hina Naz, **Rai Nauman Ali**, Fakhr-e-Alam, Abid Ali, Muhammad Farooq, Afzal Shah, Amin Badshah, Muhammad Siddiq, Amir Wasim. Optical and Morphological studies of Transition Metal Doped ZnO Nanorods and their Applications in Hybrid Bulk Heterojunction Solar Cells. Arabian Journal of chemistry (2014) **impact factor 3.298**.

22. Wang, Zhi, Yulan Han, Ping Liu, Yue Li, Shujuan Xu, Junxiang Xiang, **Rai Nauman Ali** et al. "Electronic transport and optoelectronic applications of a new layered semiconductor CuTaS3." Applied Surface Science (2019): 143932 **impact factor 5.155**.

Research Gate Profile:

https://www.researchgate.net/profile/Rai_Ali2/publications

International Conferences:

- Participated in the ***22nd international conference on Photochemical Conversion and Storage of Solar Energy*** as an **Oral Speaker** at 31st July, 2018 in Hefei, Anhui, China.

- *I had participated as* ***listener*** *in the* ***international conference and workshop on nanoscience and technology held on October 1-5, 2012 in department of electronics Quaid-i-Azam University Islamabad.***

- *I had participated in the* ***short course on Activated Carbon and their Environmental Applications conducted from 13-14 December, 2010 at Pakistan Institute of Engineering and Applied Sciences (PIEAS).*** *As an* ***organizer*** *of the short course on Activated Carbon and their Environmental Application I worked with my level best for the success of this International Short Course which was presented by* ***Dr. Laurent Duclaux, LCME, France***

Reference:

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