

SAI RAJ ALI



» Seeking to be inspired, to envision the unlikely, to work hard for things that are worth it, and to be surrounded by those who bring out the best in me.

CURRENT POSITION

I am currently working as CSIR Senior Research Fellow at the Department of Physics Jamia Millia Islamia (JMI) Central University, New Delhi, India.

EDUCATION

- Since 2017 **Ph.D. in Material Science** JMI, Delhi, India
Thesis: *Investigation of the Catalytic Role of Nanostructured Surfaces.*
Supervisor: Prof. Lekha Nair and Dr. Praveen Kumar (IACS, Kolkata.)
Division: First, CGPA: 8.6/10
- 2014-2016 **M.Sc. in Physics** JMI, Delhi, India
Division: First, CGPA: 8.9/10
- 2011-2014 **B.Sc. in Physics Hons.** DU, Delhi, India
Division: First, CGPA: 7.8/10
- 2009-2011 **Higher Secondary** GBSSS, Delhi, India
Division: First, CGPA: 7.8/10
- 2009-2011 **Matriculation** GBSSS, Delhi, India
Division: First, CGPA: 9.1/10

EXPERIENCE

- » Worked as a **Teaching Assistant** for one semester in **Electronics Lab** B.Sc.(H) Physics, at the Department of Physics Jamia Millia Islamia New Delhi, January-June, 2019.
- » Worked as a **Teaching Assistant** for one semester in **Mechanics Lab**, B.Sc.(H) Physics at the Department of Physics Jamia Millia Islamia New Delhi, July-December, 2018.

INVITED TALKS/TEACHING ASSISTANT/RESOURCE PERSON

- Invited as **Teaching Assistant** in the workshop on "**Quantum Mechanical Modeling of Materials by Quantum Espresso**" jointly organised by IEEE Nanocouncil PSIT Student Chapter, MRSI, Allahabad Chapter, and School of Basic Sciences, CSJM University, India, held during 15th - 19th March 2023.
- Invited as **Teaching Assistant** in the workshop on "**Mollywood to Molecular Nodes**" jointly organised by Gdańsk University of Technology, Poland, IRB Barcelona, Spain and Scidart Academy, India held during 8th - 11th September 2022.
- Invited as **Teaching Assistant** in winter school on "**Advanced Molecular Dynamics simulation**" jointly organised by International School of Photonics, Cochin University of Science and Technology (CUSAT), India, Department of Physics and Green Club of thoughts, Kathmandu University, Nepal, held during 6th - 17th Sept, 2021.
- Invited as **Teaching Assistant** in summer school on "**Advanced Molecular Dynamics simulation**" jointly organised by Department of Chemistry, IISER Pune, India, Department of Physics and Green Club of thoughts, Kathmandu University, Nepal, held during 5th - 16th July, 2021.

PERSONAL DETAILS

Sai Raj Ali
 03-07-1993
 Male
 Married
 Indian
 Hindi, English

CONTACT

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 sairajdream.github.io
 Google Scholar

RESEARCH INTERESTS

Electrocatalysis, Water Splitting
 CO-Oxidation, CO₂ reduction
 2D-Materials, MXene
 Density Functional Theory

PROGRAMMING

Shell Scripting
★★★★★★★★★★★★★
 Fortran, Python
★★★★★★★★★★★☆☆

SOFTWARE EXPERTISE

Quantum Espresso, PWTk
 Latex, Vim, MS Office
 Gnuplot, Grace
 Inkscape, GIMP, Blender

OPERATING SYSTEMS



ACHIEVEMENTS

1. Got "**Best Oral Presentation**" award at CSIR-CSIO Chandigarh "1st IEEE-NTC AcSIR-CSI International Conference on Emerging Materials for Sustainable Development (EMSD-2022)" October 9-11, 2022.
2. Qualified **CSIR Senior Research Fellowship** 2022-2023.
3. Got **2nd position** on report submitted in the "Winter School on Electronic structure and Molecular Dynamic Simulations Using Open Source Softwares: From Theory to Practice" jointly organized by Parvatibai Chowgule College of Arts and Science, Margao, Goa and Supercomputer Center, Kathmandu University, Nepal held during September 27- October 04, 2020
4. Qualified **CSIR Senior Research Fellowship** 2020-2021.
5. Got "**Best poster**" award at Jamia Millia Islamia University National Symposium on "Advances in Material Science and Theoretical Physics" February 19-20, 2020.
6. Qualified **National Eligibility Test (NET)** examination for lectureship conducted by *Council of Scientific and Industrial Research (CSIR)*: Eligible for a junior research fellowship in India. **All India rank-92**, in December 2016 exam.
7. Got **1st position** in "**Powerpoint presentation**" organised by physics society (Invenio 2014) at Shivaji College, University of Delhi.
8. Got **2nd position** in "**Science quiz competition**" organised by physics society (Invenio 2014) in Shivaji College, University of Delhi.
9. Got **2nd position** in Zonal level "**Science quiz competition**" from GBSS School Rajouri Garden in 2009-10.
10. Got scholarship for obtaining "**99 marks in Social-Science**" in 10th class.
11. Got **1st position** in School level "**Science quiz competition**" in GBSS School Mohan Garden in 2006-07.

SCHOOLS, WORKSHOPS & CONFERENCES ATTENDED

1. Online 2nd International Conference on "Advanced Functional Materials and Devices (AFMD-2023)"organised by Organized by IQAC & Physics Department of Atma Ram Sanatan Dharma College, Delhi, held during 13th - 15th March, 2023.
2. International Materials Conclave (IMC-2023) & 33rd Annual Foundation Day, organised by Centre for Materials for Electronics Technology (C-MET), Pune, held during 8th - 10th March, 2023.
3. International Conference on Nanotechnology: Opportunities and Challenges (ICNOC-2022) virtual mode, organised by JMI University, Delhi, held during 28th - 30th November, 2022.
4. International Conference on on H_2 & CO_2 virtual mode, organised by S&T Digital, India, held during 17th - 19th November, 2022.
5. 1st IEEE AcSIR-CSIO International Conference on Emerging Materials for Sustainable Development (EMSD-2022) virtual mode, organised by CSIR-CSIO, Chandigarh, held during 9th - 11th October, 2022.
6. One Week National Certificate Program on "Instrumental methods of analysis" virtual mode under MHRD Govt. of India held during 7th - 13th October, 2020.
7. One Week National Faculty Development Program on "Research Ethics and Characterisation Techniques in Materials Science" virtual mode under MHRD Govt. of India held during 9th - 15th September, 2020.
8. National Symposium on "Advances in Material Science and Theoretical Physics" at JMI, New Delhi, India held during 19th - 20th February 2020.
9. Winter School on "Materials and Molecular Simulations using Open Source Softwares from theory to practice" at Department of Physics, Bishop Moore College, Mavelikara, Kerala, India held during 16th - 22nd October 2019.
10. Workshop and Symposium on "Advanced Simulation Methods: DFT, MD and Beyond" at IIT Delhi, India held during 6th - 10th March, 2019.
11. International School on "Ion Beams in Material Science" at Inter University Accelerator Centre (IUAC) New Delhi, India held during 3rd - 7th October, 2018.
12. Density Functional Theory for Heterogeneous Catalysis at IIT Guwahati, India held during 6th - 11th August, 2018.
13. The GIAN course on "Probing Large-Scale Structure of the Universe with Weak Lensing" at CTP, JMI, New Delhi, India held during March 07 – 12, 2016
14. The GIAN course on "Cosmological and Theoretical applications of exact solutions of Einstein's equations" at CTP, JMI, New Delhi, India held during February 12 – 23, 2016.

COMMUNICATED/UNDER PREPARATION

JOURNAL

1. Javeesh Alex, S. Rajkumar[†], **Sai Raj Ali**[†], J.Princy Merlin*, Arun Aravind, D. Sajan*, C. S. Praveen, "Enhanced Pseudocapacitance Performance of NiO and Ce-Doped NiO Synthesized via Modified Combustion Technique"
2. Takwa Chouki, Sreejith P. Nandan, **Sai Raj Ali**, CS Praveen, Romana Cerc-Korošec, Dominik Eder, Alexey S. Cherevan, Urška Lavrenčič Štangar, Iwona A. Rutkowska, Pavel Kulesza, Saim Emin*, "Phase transformation approach for the preparation of active Fe₂P catalyst for oxygen evolution"
3. **Sai Raj Ali**, Lekha Nair, Praveen Kumar*,
"A Review of Electrochemical Water Splitting for Sustainable Hydrogen Production."

►►► PUBLISHED/ACCEPTED

IMPACT FACTOR

1. **Sai Raj Ali**, CS Praveen, Sung Gu Kang, Lekha Nair, KC Bhamu*, Praveen Kumar*, "Exploring the catalytic properties of Ti₂CO₂ MXene decorated with Cu-cluster for Hydrogen evolution reaction.", *Applied Surface Science* 6.7

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| <ol style="list-style-type: none"> 1. Prof. Lekha Nair
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Jamia Millia Islamia University,
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