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| **Kedhareswara Sairam Pasupuleti**  **Postdoctoral Researcher**  Institute of Quantum Sciences & Dept. of Physics,  Chungnam National University, Daejeon, Republic of Korea-34134.  E-mail: kedhareswaranpasupuleti@gmail.com  Mobile Phone: +82 1029495111  ORCID ID: 0000-0002-3508-6890  Google Scholar: <https://scholar.google.com/citations?user=OEZ9JDoAAAAJ&hl=en>  Web of Science ResearcherID: ABE-6605-2021 | | |  |  | | | |
|  | **SUMMARY** | | | | |
|  | As a professional researcher, I have extensive experience in the following fields:   * Passionate about highly efficient and stable semiconductor materials for the design of cost-effective sensor device for health, and environmental monitoring, and energy storage applications. * Conducting experiments, analyzing the material characterizations of thin films, surfaces, and interfaces. * Design and development of MEMS based smart sensing technologies (SAW/Chemiresitive/Metal Oxide) for real-time room temperature toxic gas sensing and photonic devices (Photodetectors/Solar cells). * Development of III-nitride semiconductors for UV-Vis photodetector and energy storage applications. * Fabrication and characterization functional oxide thin films for electronics, and energy harvesting and -storage applications   My research interests encompass the following interconnected areas: | | | | |
|  | * Surface acoustic wave device fabrication * Wearable, wireless and flexible sensors * Synthesis and characterization of MOS | * Energy storage applications * 2D materials * Sensors design | | | * H2 production * Photonics/solar cells | | |
|  | **JOB EXPERINCE** | | | | | |
| **03/2023–Present** | **Postdoctoral Research Fellow.: Chungnam National University (CNU)**, Daejeon, Republic of Korea.  *Institute of Quantum Sciences and Department of Physics*  Adviser: **Prof. Moon-Deock Kim** | | | | | |

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|  | **EDUCATION** |
| 02/2019–12-2022 | **Ph.D.: Chungnam National University (CNU)**, Daejeon, Republic of Korea.  *Department of Physics*  Dissertation title: 2D g-C3N4 hybrid nanostructures for toxic gas sensing based on surface acoustic wave sensor  *Thesis advisor*: **Prof. Moon-Deock Kim** |
| 06/2016–04/2018 | **M.Sc.: Sri Venkateswara University (SVU)**, Tirupati, Andhra Pradesh, India.  *Department of Physics*  Dissertation title:Microstructural and Supercapacitive Performance of Nickel Oxide (NiO) Thin Films Prepared by RF Magnetron Sputtering  *Thesis advisor*: **Prof. O. Mahammad Hussain** |
| 06/2013–04/2016 | **B.Sc.: Yogi Vemana University (YVU)**, Kadapa, Andhra Pradesh, India.  *Department of Natural Sciences (Mathematics, Physics and Computer science)* |

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|  | **JOURNAL PUBLICATIONS** |
|  | **First author publications**   1. **Kedhareswara Sairam Pasupuleti,** M Reddeppa, SS Chougule, NH Bak, DJ Nam, N Jung, HD Cho, SG Kim, Moon-Deock Kim, “High performance langasite based SAW NO2 gas sensor using 2D g-C3N4*@* TiO2 hybrid nanocomposite” (*Journal of Hazardous Materials* https://doi.org/10.1016/j.jhazmat.2021.128174), **[I.F: 14.22]** 2. **Kedhareswara Sairam Pasupuleti,** M Reddeppa, SS Chougule, NH Bak, DJ Nam, N Jung, HD Cho, SG Kim, Moon-Deock Kim “UV light activated g-C3N4 nanoribbons coated surface acoustic wave sensor for high performance sub-ppb level NO2 detection at room temperature” (*Sensors and Actuators B: Chemical* Just accepted) 3. **Kedhareswara Sairam Pasupuleti**, S. S. Chougule, N Jung, YJ Yu, JE Oh, Moon-Deock Kim, “Plasmonic Pt nanoparticles triggered efficient charge separation in TiO2/GaN NRs hybrid heterojunction for the high performance self-powered UV photodetectors” (*Applied Surface Science*-Impact https://doi.org/10.1016/j.apsusc.2022.153474). **[I.F: 7.39]**. 4. **Kedhareswara Sairam Pasupuleti**, NH Bak, KR Peta, SG Kim, HD Cho, Moon-Deock Kim, “Enhanced sensitivity of langasite-based surface acoustic wave CO gas sensor using highly porous Ppy@ PEDOT: PSS hybrid nanocomposite” (*Sensors and Actuators B: Chemical* https://doi.org/10.1016/j.snb.2022.131786). **[I.F: 9.2]**. 5. **Kedhareswara Sairam Pasupuleti**, DJ Nam, NH Bak, Reddeppa M, JE Oh, SG Kim, HD Cho, Moon-Deock Kim, “Highly sensitive *g-C3N4* nanosheets as a potential candidate for the effective detection of NO2 gas via langasite based surface acoustic wave gas sensor”, (*Journal of Materials Chemistry C* https//doi.org/10.1039/D1TC04904F), **[I.F: 8.06]** 6. **Kedhareswara Sairam Pasupuleti**, M Reddeppa, DJ Nam, NH Bak, KR Peta, HD Cho, SG Kim, Moon-Deock Kim, “Boosting of NO2 gas sensing performances using GO-PEDOT: PSS nanocomposite chemical interface coated on langasite-based surface acoustic wave sensor.” (*Sensors and Actuators B: Chemical*, https://doi.org/10.1016/j.snb.2021.130267), **[I.F: 9.2]** 7. **Kedhareswara Sairam Pasupuleti**, M Reddeppa, BG Park, JE Oh, SG Kim, Moon-Deock Kim, “Efficient Charge Separation in Ppy/GaN Nanorods Based Hybrid Heterojunction fEfficient charge separation in Ppy/GaN nanorods based hybrid heterojunction for high performance self-Powered UV photodetectionor High Performance Self-Powered UV Photodetection” (*physica status solidi (RRL)–Rapid Research Letters*, https://doi.org/10.1002/pssr.202000518), **[I.F: 3.27]** 8. **Kedhareswara Sairam Pasupuleti**, M Reddeppa, BG Park, KR Peta, JE Oh, SG Kim, Moon-Deock Kim, “Ag Nanowire-Plasmonic-Assisted Charge Separation in Hybrid Heterojunctions of Ppy-PEDOT: PSS/GaN Nanorods for Enhanced UV Photodetection”, (*ACS Applied Materials & Interfaces*, https://doi.org/10.1021/acsami.0c16795) **[I.F: 10.3]** 9. **Kedhareswara Sairam Pasupuleti**, G Sayandeep, N Jayababu, CJ Kang, HD Cho, SG Kim, Moon-Deock Kim, “Boron doped *g-C3N4* quantum dots based highly sensitive surface acoustic wave NO2 sensor with faster gas kinetics under UV light illumination”, (*Sensors and Actuators B: Chemical,* https://doi.org/10.1016/j.snb.2022.133140). **[I.F: 9.2]** 10. **Kedhareswara Sairam Pasupuleti**, S. S. Chougule, D Vidyasagar, NH Bak, N Jung, YH lee, JH Lee, SG Kim, Moon-Deock Kim, “UV light driven high-performance room temperature surface acoustic wave NH3 gas sensor using sulfur-doped g-C3N4 quantum dots” (*Nano Research*, https://doi.org/10.1007/s12274-023-5472-x), **[I.F: 10.2]**   **Co-author publications**   1. B Hari, AK Kakarla, **Kedhareswara Sairam Pasupuleti**, R Shanthappa, PP Waifalkar, Moon Deock Kim, Jae Su Yu, “Multifunctional hexagonal-shaped zinc vanadate nanostructures for lithium-ion battery and NH3 gas sensor applications” (*Materials Today Chemistry-* Just Accepted), **[I.F: 8.3]**. 2. A Kem, **Kedhareswara Sairam Pasupuleti**, M Jayasimhadri, MD Kim, KR Peta, “Core Shell Heterojunction Interface in Green Synthesized Sm3+ ions doped ZnO nano-particles to Promote the Charge Separation for Efficient Photocatalytic Applications” (*Journal of Alloys and Compounds*, https://doi.org/10.1016/j.jallcom.2023.170841) **[I.F: 6.2]**. 3. Akanksha Gupta, Toshali Bhoyar, B Abraham, Dong Kim, **Kedhareswara Sairam Pasupuleti**, Suresh Umare, Devthade Vidyasagar, Aharon Gedanken, “Potassium molten salt mediated in situ structural reconstruction of carbon nitride photocatalyst” (*ACS Applied Materials & Interfaces* https://doi.org/10.1021/acsami.3c00239), **[I.F: 10.3]**. 4. VN Rao, **Kedhareswara Sairam Pasupuleti**, P Ravi, Moon-Deoc Kim, M Rezakazemi, MA Tejraj, C W Ahn, Jun-Mo Yang, “1D/0D Heterojunction nanohybrids extremely excitons transfer for superior photocatalytic hydrogen evolution and NO2 gas detection at ambient temperature”, (*Journal of Environmental Management,* https://doi.org/10.1016/j.jenvman.2023.117895) **[I.F: 8.91]**. 5. VH Vuong, S.V.N. Pammi, I Swathi, J Venkatraju, NT Trinh, **Kedhareswara Sairam Pasupuleti**, Moon-Deock Kim, MJ Jeong, HS Chang, and Soon-Gil Yoon, “Flexible, Stable, and Self-Powered Photodetectors Embedded with Chemical Vapor Deposited Lead-Free Bismuth Mixed Halide Perovskite Films” (Chemical Engineering Journal, https://doi.org/10.1016/j.cej.2023.141473), **[I.F: 16.7]**. 6. Babu PR, Devarajulu G, **Kedhareswara Sairam Pasupuleti**, Kumar BK, Sushma NJ, Kim MD. Optical, emission, and excitation dynamics of Eu3+-doped bismuth-based phosphate glass for visible display laser applications (*Luminescence*, <https://doi.org/10.1002/bio.4422>), **[IF: 2.61]**. 7. VH Vuong, SVN Pammi, **Kedhareswara Sairam Pasupuleti**, W Hu, VD Tran, JS Jung, Moon‐Deock Kim, V Pecunia, Soon Gil Yoon, Engineering Chemical Vapor Deposition for Lead‐Free Perovskite‐Inspired MA3Bi2I9 Self‐Powered Photodetectors with High Performance and Stability”, (*Advanced Optical Materials*, <https://doi.org/10.1002/adom.202100192>). **[I.F: 10.05]**. 8. M Reddeppa, DJ Nam, NH Bak, **Kedhareswara Sairam Pasupuleti**, H Woo, SGKim, JE Oh, Moon-Deock Kim, “Proliferation of the Light and Gas Interaction with GaN Nanorods Grown on a V-Grooved Si (111) Substrate for UV Photodetector and NO2 Gas Sensor Applications”, (*ACS Applied Materials & Interfaces*, https://doi.org/10.1021/acsami.1c04469), **[I.F: 10.3]** 9. JB Lim, M Reddeppa, DJ Nam, **Kedhareswara Sairam Pasupuleti**, NH Bak, SG Kim, HD Cho, Moon-Deock Kim, “Surface acoustic device for high response NO2 gas sensor using p-phenylenediamine-reduced graphene oxide nanocomposite coated on langasite” (*Smart Materials and Structures* <https://doi.org/10.1088/1361-665X/ac1956>). **[I.F: 4.1]**. 10. Kumar BP, Hamieh T, Kakani V, Rao PV, **Kedhareswara Sairam Pasupuleti**, Ramesh S, Kim MD, Kim CW, “Surface Thermal Behavior and RT CO Gas Sensing Application of Oligoacenaphthylene with p-Hydroxyphenylacetic Acid Composite”, (*ACS Omega,* https://doi.org/10.1021/acsomega.2c03897), **[I.F: 4.1]**. 11. Basivi PK, **Kedhareswara Sairam Pasupuleti**, Devarjulu G, Kim MD, Pasupuleti VR, Kim CW. UV Light Enhanced Room Temperature NO2 Gas Sensing Performances Based on Sulfur-doped Graphitic Carbon Nitride Nanoflakes. (*New Journal of Chemistry*, doi.org/10.1039/D2NJ04117K), **[I.F: 3.5]**. 12. Devarajulu G, Kumar BK, Babu PR, Dhananjaya M, Bak NH, **Kedhareswara Sairam Pasupuleti**, Raju BD, Kim MD, “Sensitization effect of Nd3+ ions on Yb3+/Nd3+ co-doped oxyfluoride glasses and study of their optical, fluorescence, and upconversion abilities for visible laser and NIR amplifier applications”, (*Ceramics International*, 10.1016/j.ceramint.2022.05.098), **[I.F: 5.2]**. 13. Kumar BP, Hamieh T, Kakani V, Rao PV, **Kedhareswara Sairam Pasupuleti**, Ramesh S, Kim MD, Kim CW. Surface thermodynamic properties by reverse phase chromatography and visual traits using computer vision techniques on Amberlite XAD‐7 acrylic‐ester‐resin. (*Polymers for Advanced Technologies,* https://doi.org/10.1002/pat.5810), **[I.F: 3.3]**. 14. P Srinivas, **Kedhareswara Sairam Pasupuleti**, M Reddeppa, S Ahn, YS Kim, JH Kim, Moon-Deock Kim, SH Lee, and Min Yong-Jeon, Enhanced analytic gas sensing responsiveness of polymer-dispersed liquid crystals with a dopant of conductive functionalized-carbon nanotubes (*Sensors and Actuators B: Chemical,* <https://doi.org/10.1016/j.snb.2022.132482>), **[I.F: 9.2]**. 15. M Reddeppa, NTK Phung, G Murali, **Kedhareswara Sairam Pasupuleti**, BG Park, I In, Moon-Deock Kim, Interaction activated interfacial charge transfer in 2D *g-C3N4* /GaN nanorods heterostructure for self-powered UV photodetector and room temperature NO2 gas sensor at ppb level (Sensors and Actuators B: Chemical, <https://doi.org/10.1016/j.snb.2020.129175>), **[I.F: 9.2]**. 16. M Reddeppa, T C Kalavathi Thota, BG. Park, DJ Nam, NH Bak, **Kedhareswara Sairam Pasupuleti**, YH Kim, SG Kim, Moon-Deock Kim, “Photovoltaic photodetectors Based on In2O3/InN Core-Shell Nanorods”, (*ACS Applied Nano Materials*, doi.org/10.1021/acsanm.2c01410), **[I.F: 6.1]**. 17. N Harathi, B Manoj, **Kedhareswara Sairam Pasupuleti**, Z Tauanov, KR Peta, Moon-Deock Kim, M Reddeppa, A Sarkar, V Navakoteswara Rao, PrGO decorated TiO2 nanoplates hybrid nanocomposite for augmented NO2 gas detection with faster gas kinetics under UV light irradiation (Sensors and Actuators B: Chemical <https://doi.org/10.1016/j.snb.2022.131503>), **[I.F: 9.2]**. 18. TC kalavathi, M Reddeppa, **Kedhareswara Sairam Pasupuleti**, DJ Nam, NH Bak, YH Kim, SG Kim, Moon-Deock Kim, Feather-Shaped InGaN Nanorods for Selective ppb-Level Detection of NO2 Gas at Room Temperature, (*ACS Applied Nano Materials*. <https://doi.org/10.1021/acsanm.1c02806>), **[I.F: 6.1]**. 19. M Reddeppa, BG Park, **Kedhareswara Sairam Pasupuleti**, DJ Nam, SG Kim, JE Oh, Moon-Deock Kim, “Current–voltage characteristics and deep-level study of GaN nanorod Schottky-diode-based photodetector”, (*Semiconductor Science and Technology*, https://doi.org/10.1088/1361-6641/abda62) **[I.F: 2.3].** 20. PR Babu, G Devarajulu, Sairam, **Kedhareswara Sairam Pasupuleti**, BK Kumar, NJ Sushma, Moon-Deock Kim, Deva Prasad Raju B, “Optical, emission, and excitation dynamics of Eu3+ doped bismuth-based phosphate glasses for visible display laser applications”, (*Luminescence*, <https://doi.org/10.1002/bio.4422>) **[I.F: 2.61].** 21. G Mahendra, R Malathi, **Kedhareswara Sairam Pasupuleti**, AL Narayana, M Dhananjaya, N Guruprakash, Obili Md Hussain, A Mauger, Christian M Julien, RF Sputter-Deposited Nanostructured CuO Films for Micro-Supercapacitors (Applied Nano, <https://doi.org/10.3390/applnano2010005>), **[I.F: NA]**.   **Under Review**   1. **Kedhareswara Sairam Pasupuleti,** T A Maria; D Vidyasagar, V N Rao, Yoon, Soon-Gil; Kim, Y H Kim, S G Kim, Moon-Deock Kim, “ZnO@MXene hybrid composite based Schottky barrier coated SAW sensor for effective detection of sub ppb-level NH3 at room temperature under UV illumination” (***ACS Material Letters***), **[I.F: 11.3].** 2. Toshali Bhoyar, B M Abraham, A Gupta; G J Kim; N R Manwar; **Kedhareswara Sairam Pasupuleti**; D Vidyasagar; S S Umare, “Counterion Chemistry of 5-Halo (X: Cl, Br, I)-Uracil Derived Carbon Nitride: Unlocking Enhanced Photocatalytic Performance” (***Journal of Materials Chemistry A***), **[I.F: 26.2]**. 3. ABC Sola\*, **Kedhareswara Sairam Pasupuleti\***, JH Jeon, T Thriveni, NH Bak, S Sampath, N Jayababu, Moon-Deoc Kim, JH Lee, Rajesh Kumar Jyothi “Circular economy approach: Sustainable solution to the recycling of spent SCR catalyst and its prospective gas sensor application”, **[Equal contribution]** (***ACS materials Today Sustainability***), **[I.F: 8.2]** 4. H Tayssir, Vijay K, SM Heo, V R Pasupuleti, **Kedhareswara Sairam Pasupuleti**, Moon-Deoc Kim, V S Munagapati; Chang Woo Kim, “Exploring Advanced Materials: Harnessing the Synergy of Inverse Gas Chromatography and Artificial Vision Intelligence”, (***Engineering***), **[I.F: 10.1].** |
|  | **Under Preparation** |
|  | 1. **Kedhareswara Sairam Pasupuleti**, D Vidyasagar, NH Bak, SG Kim, Moon-Deock Kim, “High performance sub-ppb level H2S detection at room temperature based on highly sensitive CuO@MXene hybrid heterojunction coated SAW sensor” *(Target:* ***ACS Sensors****).* 2. Pham Thi Minh Thu\*, **Kedhareswara Sairam Pasupuleti**\*, W J Ruha, N T H Mena, Moon-Deock Kim\*, Young Heon Kim\*, “Highly porous TiO2 Nano needles decorated Pd nanoparticles for room temperature NO2 gas kinetics under UV activation” **[Equal contribution]** *(Target:* ***ACS Sensors****).* |

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|  | **INTERNATIONAL CONFERENCES (Total: 09)** |
|  | 1. Presented an *offline*-oral presentation entitle “*Boosting of Room Temperature NO2 Gas Sensing Kinetics Based on g-C3N4 Nanoribbons Coated Surface Acoustic Wave Sensor Under UV Irradiation*” at Compound Semiconductor Week (**CSW-2023**), May 29-June 2, 2023. 2. Presented an *online*-oral presentation entitle “*Enhanced NO2 gas sensing performances of langasite based surface acoustic wave device using a chemical interface of 2D g-C3N4@TiO2 nanoplates hybrid nanocomposite*" at International Conference on Global Trends in Applied Sciences, Medical and Health Science *(****ICGTASMH-2022***), 28-29th October, 2022. 3. Presented a poster presentation entitle “*Boron doped 2D g-C3N4 quantum dots sensitized langasite based surface acoustic wave sensor for the augmented NO2 gas detection at room temperature* “, at 20th International Symposium on the Physics of Semiconductors and Applications (***ISPSA-2022***), 17-21st July 2022. 4. Presented a poster presentation entitle “*Sulfur doped 2D g-C3N4 quantum dots decorated langasite based surface acoustic wave sensor for the effective detection NH3 gas at room temperature* “, at 12th International Conference on Advanced Materials and Devices (***ICAMD-2021***), 06-10th December 2021. 5. Presented a poster presentation entitle “*Highly Selective and Sensitive Surface Acoustic Wave NO2 Gas Sensor Based on Hybrid GO-PEDOT:PSS Nanocomposite Deposited on Langasite Substrate* ", at 22nd International Union of Materials Research Societies International Conference in Asia (***IUMRS-ICA 2021***), 3-8th October 2021. 6. Presented a poster presentation work entitle " *Plasmonic Pt Nano Participles Functionalized TiO2 Nanoplates/GaN Nanorods Hybrid Heterojunction for the Augmented Self-Powered UV Photodetectors*" at Optics and Photonics Congress (***OSK-2021***), 04-7th July 2021. 7. Presented a poster presentation work entitle "*Ag Nanowires-Plasmonic Assisted Efficient Charge Separation in Hybrid Heterojunctions of Ppy-PEDOT:PSS/GaN Nanorods for the High Performance Self-powered UV Photodetector”, at* 6th International Conference on Advances in Functional Materials (***AFM-2021***), 15-17th February 2021. 8. Presented a poster presentation entitle “*Polypyrrole/GaN Nano rods based organic/inorganic hybrid heterojunction for high performance self-powered ultraviolet photodetectors*” at The Korean Vacuum Society (***KVS-2020***), during 19-21st August 2020. |
|  | 1. Presented a poster presentation entitle “*2D/3D heterojunction between n-MoS2 and p-GaN for high response NO gas sensor applications*", at 11th International Conference on Advanced Materials and Devices (***ICAMD-2019***), 10-13th December 2019. |

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|  | **TECHNICAL SKILLS & INTERESTS** |  |
|  | **Hardware** |  |
|  | * **Research Area of Interest:** 2D Materials, Gas sensors, UV photodetectors, Photoelectrochemical cell water splitting, Electrocatalysis, Energy storage applications. * **Hands on Experience:** Design and fabrication of piezoelectric SAW, chemiresistive gas sensors, CH instrument, XRD – both powder and thin film (Rigaku), Chemical Vapor Deposition (CVD), Physical Vapor Deposition (PVD): DC & RF Sputtering, Thermal & E-beam evaporation, UV spectroscopy, Optical lithography, Wet etching, Optical photolithography, Wet etching, Hydrothermal, MBE (Beginners), Gas sensing unit (***Capable of making a whole gas sensing system setup***). * **Data acquisition:** National Instruments systems, Network analyzer, Oscilloscope, Keithley source meter. * **Material characterization:** Scanning electron microscopy, AFM (Bruker), Dektak profilometry, Parameter analyzer (Keysight), X-ray Spectroscopy, Photoluminescence, Raman, UV-Visible, Fourier transform infrared spectroscopy, Network analyzer, Oscilloscope, Keithley source meter, Transmission Electron Microscopy (Beginners). | |
|  | **Software** | |
|  | * **Data analysis:** Origin, 3D Max, X’pert High Score, Image-J, Python (Beginners) | |

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|  | **RESEARCH EXPERIENCE** |
|  | **Research Assistance on R&D Projects, CNU** |
| 02/2021–02/2023 | **Topic:** Hierarchical V-groove InN/In2O3 core shell decorated 2D g-C3N4 quantum dots for the effective room temperature NO2 sub-ppm gas sensing application (Funded by National Research Foundation of Korea) |
| 03/2019–08/2020 | **Topic:** Fabrication of langasite based surface acoustic wave (SAW) transducers for the efficient gas sensing applications (Funded by National Research Foundation of Korea) |
| 02/2017–12/2018 | **Topic:** Microstructural and Supercapacitive Performance of Nickel Oxide (NiO) Thin Films Prepared by RF Magnetron Sputtering (Funded by Thin films & Vacuum technology laboratory, SVU) |

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|  | **TEACHING EXPERIENCES** |
|  | **Teaching Assistant** |
| 06/2018–02/2019 | Introduction to Solid State Physics (PHY 102), Physics of Semiconductor Devices (PHY 302), Nanomaterials  and Devices (PHY 306), at Sai Degree College (YVU). Responsibilities included assisting students with the use of experimental apparatus and teaching experimental procedures to under graduate students. |
|  | **Supervision Experience** |
| 2022–Present | CuO@AlN based SAW senor for high performance NH3 gas detection at RT, Master’s Project, CNU. |
| 2020–2022 | Detection of toxic NO2 gas at RT using InN/In2O3 core shell nanorods, Master’s Project, CNU |
|  | **ACHIEVEMENTS & AWARDS/MEMBERSHIPS** |
| 06/2023 | Associate member of the “**Royal Society of Chemistry**”, Membership number: 743396 |
| 04/2023 | Affiliate member of the “**Royal Society of Chemistry**”, Membership number: 743396 |
| 02/2023 | Best Research Student Award in “**CNU** Research Fair” in Feb 13th 2023 at Chungnam National University, Daejeon, Republic of Korea |
| 02/2022 | Best Research Student Award in “**CNU** Research Fair” in Feb 20th 2022 at Chungnam National University, Daejeon, Republic of Korea |
| 02/2022–02/2023 | **CNU** Special Fellowship |
| 12/2021 | Best Poster Award at the 12th International Conference on Advanced Materials and Devices (**ICAMD-2021**), during 06-10th December 2021 at Jeju, Republic of Korea |
| 01/2021 | Best Poster Award at the 6th International Conference on Advances in Functional Materials (**AFM-2021**), during 15-17th February 2021 at Jeju, Republic of Korea |
| 08/2020-02/2023 | Brain Korea (**BK-21**) Fellowship |

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|  | **JOURNAL REVIEWER** |
| 02/2023 ̶ Present | **Review Editor** on the Editorial Board of Semiconducting Materials and Devices (specialty section of Frontiers in Materials and Frontiers in Electronic Materials­) |
| 08/2023 ̶ Present | **OPTICA, OSG:** Optics Express |
| 02/2023 ̶ Present | **Hindawi:** Journal of Engineering. |
| 01/2023 ̶ Present | **MDPI:** Nanomaterials, Sensors, Catalysts, Photonics, Sustainability, Crystals, Water, Polymers, International Journal of Molecular Sciences-(IJMS). |
| 07/2022 ̶ Present | **Elsevier:** Applied Surface Science Advances, Materials Chemistry and Physics, Journal of Hazardous Materials Advances, Helion, Energy Reports, International Journal of Hydrogen Energy. |
| 11/2021 ̶ Present | **IOP:** Measurement Science and Technology. |

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|  | **PROFESSIONAL REFERENCES** |
|  | 1. **Dr. Rajesh Kumar Jyothi, Ph.D.,** (Collaborator)   Professor  Principle Investigative Scientist  Department of Resources Engineering  Korea Institute of Geoscience and Mineral Resources (KIGAM)  Daejeon, Republic of Korea  E-mail: [rkumarphd@kigam.re.kr](mailto:rkumarphd@kigam.re.kr) |
|  | 1. **Dr. Jayababu Nagabandi, Ph.D.,** (Collaborator)   Scientific officer  Principle Investigative Scientist  Department of Physics  IISER Berhampur,  Odisha-760010u, India,  E-mail: [nagabandi.jay@gmail.com](mailto:nagabandi.jay@gmail.com) |
|  | 1. **Dr. Moon Deock Kim, Ph.D.,** (Ph.D. Supervisor)   Professor  Dean of Graduate School  Department of Physics  Daejeon, Republic of Korea  Email: [mdkim@cnu.ac.kr](mailto:mdkim@cnu.ac.kr) |
|  | 1. **Rambabu Kuchi, PhD.,** (Collaborator)   Post-Doctoral Research Associate  Ames Laboratory, US-DOE Lab  Iowa State University  Ames, IA USA  E-mail: rambabu.kuchi@gmail.com |
|  | 1. **Dr. O. Mahammad Hussain, Ph.D.,** (M.Sc. Supervisor)   Professor  Registrar and Dean of Research, SVU  Department of Physics  Sri Venkateswara University  Tirupati, Andhra Pradesh, India.  E-mail: [hussainsvu@gmail.com](mailto:hussainsvu@gmail.com) |