Curriculum Vitae

Dr. Aneeya Kumar Samantara

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My studies have assisted me in gaining relevant scientific and technical skills in experimental nanoscience and nanotechnology for Electrochemical Energy Storage and Conversion applications especially for Fuel cell and Supercapacitor. During Ph.D. span I achieved in depth knowledge in the field of nanoscience and its Energy perspectives. During this period, I enthusiastically active in, designing of active catalyst materials for Electrochemical splitting of water and Supercapacitor. My skills and expertise are summarized in the CV starting below.

Educational Qualification

2022- July 2023	Institute Post doctorate fellow, School of Chemical Sciences, National Institute of Science Education and Research, Khordha, Odisha, India
2020-2022	SERB-National Post doctorate Fellow at School of Chemical Sciences, National Institute of Science Education and Research, Khordha, Odisha, India
2017-2019	Post doctorate fellow, School of Chemical Sciences, National Institute of Science Education and Research, Khordha, Odisha, India
2012-2017:	Ph.D. in Chemistry, CSIR-Institute of Minerals and Materials Technology, Odisha, India. **Thesis title**: *Synthesis and Characterization of Carbon Quantum Dot/Reduced Graphene Oxide Composites for Electrochemical Energy Storage Application*
2010-2011:	M.Phil. (Chemistry), Specialization: Organic Chemistry, Utkal University, Odisha, India **Thesis title:** *ZnO/Au Nano hybrids and its application on photocatalytic degradation*
2008-2010:	M.Sc. (Chemistry), Specialization: Advanced Organic Chemistry, Ravenshaw University, Odisha, India **Project title:** Protein Crystallography
2005-2008:	BSc. (Hons) in Chemistry, Utkal University, Odisha, India

Prizes and Awards

- Young Scientist Award by Orissa Chemical Society, 2020
- Prof. G.B Behera Best Ph.D. Thesis award by Orissa Chemical Society, 2017
- ***Young Scientist Awardee by Lindau Nobel Laureate Foundation in the 67th Lindau Nobel Laureate Meet Lindau, Germany***

- Best Poster presentation award by Indian Science Congress Association, Bhubaneswar chapter, 2017
- Prof. Dayanidhi Pattanaik memorial award by Orissa Chemical Society, 2015
- Best Poster presentation award at CSIR-IMMT on the golden jubilee celebration day, 2014
- Qualified National Eligibility Test (NET) conducted by Council of Scientific and Industrial Research (CSIR) in 2011 securing an All India Rank of 23

Membership of Scientific Society

- Community Board Member of "Materials Horizon" Royal Society of Chemistry, London
- Editorial Board member of American Journal of Nanoscience, Science Publishing Group, USA
- Editorial Advisory Board Member of Journal "Current Graphene Science", Benthem Science
- Life Member of Electron Microscope Society of India
- Life Member of Odisha Chemical Society

Research Publications

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❖ Research Articles:

1. Rajat Kumar Tripathy, **Aneeya K Samantara**, J. N. Behera, Cobalt Metal Organic Framework (Co-MOF) derived $CoSe_2$/C hybrid nanostructures for Electrochemical Hydrogen Evolution Reaction Supported by DFT Studies, *New J. Chem.*, 2022, 46, 2730-2738 **(I.F: 3.591).**
2. Rajat Kumar Tripathy, **Aneeya K Samantara**, J. N. Behera, Electrochemically activated Co-Prussian blue analogue derived amorphous CoB nanostructures: Efficient electrocatalyst for oxygen evolution reaction, *Dalton Trans.*, 2022, 51, 2782-2788 **(I.F: 4.569).**
3. Malaya K Sahoo, **Aneeya K. Samantara**, J. N. Behera, Impact of Iron in Three-Dimensional Co-MOF for Electrocatalytic Water Oxidation, *Inorg. Chem.* 2022, 61, 1, 62–72 **(I.F: 5.436).**
4. Arnab Ghosh, Himanshu Saini, Arijit Sarkar, Puspendu Guha, Aneeya K Samantara, Ranjit Thapa, Suman Mandal, Ajoy Mandal, J. N. Behera, Samit K Ray, Dipak K Goswami, Nitrogen vacancy and hydrogen substitution mediated tunable optoelectronic properties of g-C_3N_4 2D layered structures: Applications towards blue LED to broad-band photodetection, *Applied Surface Science*, 2021, 556, 149773, **(I.F: 7.392).**
5. **Aneeya K. Samantara**, Jiban K Das, Satyajit Ratha, Naresh K Jena, Brahmananda Chakraborty, J. N. Behera, Enhanced Oxygen Evolution Reaction with a Ternary Hybrid of Patronite–Carbon Nanotube-Reduced Graphene Oxide: A Synergy between Experiments and Theory, *ACS Applied Materials & Interfaces*, 2021, 13, 35828-35836, **(I.F: 10.383)**.
6. Abhisek Padhy, **Aneeya K. Samantara**, J. N. Behera, Cobalt pyrophosphate ($Co_2P_2O_7$) derived from an Open-Framework Cobalt Phosphite: A Durable Electroactive Material for Electrochemical Energy Conversion and Storage Application, *Sustainable Energy & Fuels*, 2021, **5**, 3729-3736, **(I.F: 6.813)**.
7. R. K. Tripathy, **A. K. Samantara** and J. N. Behera, Metal Organic Framework (MOF) derived Amorphous Nickel Boride: An electroactive material for electrochemical energy conversion and storage application, *Sustainable Energy & Fuels*, 2021, 5, **5**, 1184-1193, **(I.F: 6.813)**

8. R. R. Samal, **Aneeya K. Samantara**, S. Mahalik, J. N. Behera, B. Dash and K. Sanjay, Anionic and cationic surfactants-assisted hydrothermal synthesis of cobalt oxide nanoparticles as the active electrode material for supercapacitor, *New J. Chem.*, 2021, 45, 4506-4506, **(I.F: 3.925)**
9. Malaya K. Sahoo, **Aneeya K. Samantara** and J. N. Behera, In-situ Transformed Cobalt Metal-Organic Framework Electrocatalysts for Electrochemical Oxygen Evolution Reaction, *Inorg. Chem*, 2020, 59, 12252, **(I.F: 5.436)**
10. Syed Mukulika Dinara, Chandra Sekhar Rout, **Aneeya K. Samantara**, J. N. Behera, Saroj K. Nayak, Self-supported two-dimensional $NiCo_2S_4$ micro-spheres for ultra-high supercapacitor application via two-step methods: Electro-deposition and chemical vapor deposition, *AIP Conference Proceedings*, 2020, 2276, 020017.
11. Jiban K. Das, **Aneeya K. Samantara**, Saumya Satyarthy, Chandra Sekhar Rout and J. N. Behera, Three dimensional NiCoP hollow spheres; efficient electrode material for hydrogen evolution reaction and supercapacitor application, *RSC Adv.*, 2020, 10, 4650-4656 **(I.F: 4.036)**
12. Syed Mukulika Dinara, **Aneeya K. Samantara**, Jiban K. Das, J. N. Behera, Saroj K. Nayak, Dattatray Late and Chandra Sekhar Rout, Synthesis of 3D free standing Crystalline $NiSe_x$ matrix for Electrochemical Energy Storage Application, *Dalton Trans.*, 2019, 48, 16873-16881, **(I.F: 4.569) Highlighted as the cover page of the article**
13. Jiban K. Das‡, **Aneeya K. Samantara‡**, Sree Raj K. A., Chandra Sekhar Rout and J.N. Behera, Synthesis of Ge_4Se_9 nano plates and its Reduced Graphene Oxide Composite for Electrochemical Energy Storage Application, *Dalton Trans.*, 48, 15955-15961, **(I.F: 4.569) ‡Both authors have contributed equally**
14. R. K. Tripathy‡, **A. K. Samantara‡** and J. N Behera, Cobalt Metal Organic Framework (Co-MOF): A bi-functional Electro active material for Oxygen Evolution and Reduction Reaction, *Dalton Trans.*, 2019, 48, 10557, **(I.F: 4.569) ‡Both authors have contributed equally**
15. **Aneeya K. Samantara**, Debasrita Dash, Dipti L Bhuyan, Namita Dalai and Bijayalaxmi Jena, Tuning the Photocatalytic Performance of Plasmonic Nanocomposites (ZnO/Aux) Driven in Visible Light, Current Catalysis, 2019, DOI: 10.2174/2211544708666190124114519
16. Jiban K. Das, **Aneeya K. Samantara**, Arpan K. Nayak, Debabrata Pradhan and J.N. Behera, VS_2: An Efficient Catalyst for Electrochemical Hydrogen Evolution Reaction in Acid Medium, *Dalton Trans.*, 2018, **47**, 13792, **(I.F: 4.569)**
17. **Aneeya K. Samantara**, Swagatika Kamila, Arnab Ghosh, Bikash Kumar Jena, Highly Ordered 1D $NiCo_2O_4$ Nanorods on Graphene: An Efficient Dual-functional Hybrid Materials for Electrochemical Energy Conversion and Storage Applications, *Electrochimica Acta*, 2018, 263, 147, **(I.F: 7.336)**
18. Avinna Mishra, **Aneeya K. Samantara**, Swagatika Kamila, Bikash Kumar Jena, U. Manjua, Sarama Bhattacharjee, Non-precious transition metal oxide calcium cobaltite: Effect of dopant on oxygen/hydrogen evolution reaction and thermoelectric properties, *Materials Today Communications*, 2018, 15, 48 **(I.F: 3.662)**
19. Anirban Dutta, **Aneeya K. Samantara**, Sankararao Mutyala, Bikash Kumar Jena and Narayan Pradhan, Synergistic Effect of Inactive Iron Oxide Core on Active Nickel Phosphide Shell for Significant Enhancement in Oxygen Evolution Reaction Activity, *ACS Energy Lett.*, 2018, 3, 141, **(I.F: 23.991)**
20. Swagatika Kamila, Bishnupad Mohanty, **Aneeya K. Samantara**, Puspendu Guha, Arnab Ghosh, Bijayalaxmi Jena, Parlapalli V Satyam, B. K. Mishra, Bikash Kumar Jena, Highly Active 2D Layered MoS_2-rGO Hybrids for Energy Conversion and Storage Applications, *Sci. Reports*, 2017, 7, 8378, **(I.F: 4.996)**
21. Satyajit Ratha‡, **Aneeya K. Samantara‡**, Krishna Kanta Singh, Bikash Kumar Jena, Chandra Sekhar Rout, Urea-assisted Room Temperature Stabilized Metastable β-$NiMoO_4$: Experimental

and Theoretical Insights into its Unique Bi-functional Activity towards Oxygen Evolution and Supercapacitor, *ACS Appl. Mater. Interfaces*, 2017, 9, 9640, **(I.F: 10.383)**

‡Both authors have contributed equally

22. Anirban Dutta‡, **Aneeya K. Samantara‡**, Sumit K. Dutta, Bikash Kumar Jena and Narayan Pradhan, Surface Oxidized Dicobalt Phosphide Nanoneedles as a Non-Precious, Durable and Efficient OER Catalyst, *ACS Energy Lett.*, 2016, 1, 169, **(I.F: 23.991)**

    ‡Both authors have contributed equally

23. Anirban Dutta, **Aneeya K. Samantara**, Samrat Das Adhikari, Bikash Kumar Jena and Narayan Pradhan, Au Nanowire-Striped Cu_3P Platelet Photoelectrocatalysts, *J. Phys. Chem. Lett.*, 2016, 7, 1077, **(I.F: 6.888)**
24. **Aneeya K. Samantara**, Santanu Maji, Arnab Ghosh, Bamaprasad Bag, Rupesh Dash and Bikash Kumar Jena, Good's buffer derived highly emissive carbon quantum dots: excellent biocompatible anticancer drug carrier, *J. Mater. Chem. B*, 2016, 4, 2412, **(I.F: 7.571)**
25. Indrani Mukherjee, **Aneeya K. Samantara**, Satyajit Ratha, Bimal P. Singh, Bikash Kumar Jena and Sriparna Chatterjee, A facile approach for the synthesis of copper(II) myristate strips and their electrochemical activity towards the oxygen reduction reaction, *RSC Adv.*, 2016, 6,15599, **(I.F: 4.036)**
26. Satyajit Ratha‡, **Aneeya K. Samantara‡**, Chandra Sekhar Rout and Bikash Kumar Jena, Synergistic Electro catalytic Activity of Spinel $ZnCo_2O_4$/Reduced Graphene Oxide Hybrid towards Oxygen Reduction Reaction, *J Solid State Electrochem.*, 2016, 20, 285, **(I.F: 2.747)**

    ‡ Both authors have contributed equally

27. Arnab Ghosh, Puspendu Guha, **Aneeya K. Samantara**, Bikash Kumar Jena, Rajshekhar Bar, Samit Ray and Parlapalli V. Satyam, Simple Growth of Faceted Au−ZnO Hetero-nanostructures on Silicon Substrates(Nanowires and Triangular Nano flakes): A Shape and Defect Driven Enhanced Photocatalytic Performance under Visible Light, *ACS Appl. Mater. Interfaces*, 2015, 7, 9486, **(I.F: 10.383)**
28. **Aneeya K. Samantara**, Subash Chandra Sahu, Arnab Ghosh and Bikash Kumar Jena, Sandwiched Graphene with Nitrogen, Sulphur co-doped CQDs: Efficient Metal Free Material for Energy Storage and Conversion Application, *J. Mater. Chem. A*, 2015, 3, 16961, **(I.F: 14.511) Highlighted as the cover page of the article**
29. **Aneeya K. Samantara**, Dillip Kumar Mishra, Sachin R. Suryawanshi, Mahendra A. More, Ranjit Thapa, Dattatray J. Late, Bikash Kumar Jena and Chandra Sekhar Rout, Facile synthesis of Ag nanowire–rGO composites and their promising field emission performance, *RSC Adv.*, 2015, 5, 41887, **(I.F: 4.036)**
30. **Aneeya K. Samantara**, Subash Chandra Sahu, Bamaprasad Bag, Bijayalaxmi Jena and Bikash Kumar Jena, Photoelectrocatalytic oxidation of NADH by visible light driven plasmonic nanocomposites, *J. Mater. Chem. A*, 2014, 2, 12677, **(I.F: 14.511)**
31. Subash Chandra Sahu, **Aneeya K. Samantara**, Ajit Dash, R. R. Juluri, Ranjan K. Sahu, B. K. Mishra, and Bikash Kumar Jena, Graphene induced Pd nanodendrites: A highly performance hybrid nano electro catalyst, *Nano research*, 2013, 6,635, **(I.F: 10.269)**
32. Subash Chandra Sahu, **Aneeya K. Samantara**, Madhabi Seth, Shaikh Parwaiz, Bimal P. Singh, Purna C. Rath, Bikash Kumar Jena, A Facile Electrochemical Approach for Development of Highly Corrosion Protective Coatings Using Graphene Nano sheets, *Electrochemistry Communications*, 2013, 32, 22, **(I.F: 5.443)**
33. Subash Chandra Sahu, **Aneeya K. Samantara**, A. Ghosh and Bikash Kumar Jena, A Bioinspired Approach for Shaping Au Nanostructures: The Role of Biomolecule Structures in Shape Evolution, *Chemistry-A European Journal*, 2013, 19, 8220, **(I.F: 5.020)**

34. Subash Chandra Sahu, **Aneeya K. Samantara**, Biswarup Satpati, Sarama Bhattacharjee and Bikash Kumar Jena, A facile approach for in situ synthesis of graphene–branched-Pt hybrid nanostructures with excellent electrochemical performance, *Nanoscale*, 2013,5, 11265, **(I.F: 8.307)**

❖ Books in National/International Publishing House:

1. Daisuke Tashima and **Aneeya Kumar Samantara**, Supercapacitors for the Next Generation, *Intech Open*, 2022, ISBN: 978-1-83968-323-7
2. **Aneeya K. Samantara*** and Satyajit Ratha, New forms of Carbon: Nanocarbon, *Apple Academic Press*, Taylor & Francis, USA, 2023, ISBN: 9781774912799.
3. **Aneeya K. Samantara*** and Satyajit Ratha, Metal-Ion Hybrid Capacitors for Energy Storage, *Springer Brief*, 2020, ISBN: 978-3-030-60812-5
4. **Aneeya K. Samantara*** and Satyajit Ratha, Nanomaterials-Based Sensing Platforms, *Apple Academic Press*, Taylor & Francis, USA, 2021, ISBN: 9781774630372.
5. Laszlo Nanai, **Aneeya Kumar Samantara**, Satyajit Ratha and Laszlo Fabian, Methods for Film Synthesis and Coating Procedures, *Intech Open*, 2019, ISBN: 978-1-78985-226-4
6. **Aneeya K. Samantara*** and Satyajit Ratha, Metal Oxides/Chalcogenides and Composites; Emerging Materials for Electrochemical Water Splitting, *Springer Brief*, 2019, ISBN: 978-3-030-24861-1
7. **Aneeya K. Samantara*** and Satyajit Ratha, Nanoparticles and their Conjugates for Biomedical Applications: An Advanced Material for Diagnosis and Therapeutic Treatment, *Nova Science*, USA, 2019, ISBN: 978-1-53616-596-8
8. **Aneeya K. Samantara*** and Satyajit Ratha, Electrochemical Energy Conversion and Storage Systems for Future Sustainability: Technological Advancements, *Apple Academic Press*, Taylor & Francis, USA, 2019, ISBN: 9781771888851.
9. Satyajit Ratha and **Aneeya K. Samantara***, Supercapacitor: Instrumentation, Measurement and Performance Evaluation Techniques, *Springer Brief*, 2019, ISBN: 978-981-13-3086-5 **(*Corresponding author)**
10. **Aneeya K. Samantara*** and Satyajit Ratha, Materials development for active/passive components of a Supercapacitor: background, current trends and future scope, *Springer Brief*, 2018, ISBN:978-981-10-7262-8 **(*Corresponding author)**
11. **Aneeya K. Samantara***, Satyajit Ratha, "Nano structures for energy storage and conversion and their application as catalysts for photochemistry and sensing", *Arcler Education*, Canada, 2018, ISBN: 9781773615394 **(*Corresponding author)**
12. **Aneeya K. Samantara***, Satyajit Ratha, "Nano structures toward Biomedical Application", *Arcler Education*, Canada, ISBN: 9781773615400 **(*Corresponding author)**
13. **Aneeya K. Samantara** and Rajendra Prasad Choudhary, Chemistry Foundation Course, For Class 11th, *Global Academics Pvt. Ltd.*, India, 2018, ISBN: 978-93-86144-13-3.
14. **Aneeya K. Samantara** and Rajendra Prasad Choudhary, Chemistry Foundation Course, For Class 12th, *Global Academics Pvt. Ltd.*, India, 2018, in press.

❖ Book Chapters in National/International Publishing House

1. Chinmayee Acharya, **Aneeya K. Samantara**, Abhisek Sasmal, Chittaranjan Panda, Hrudayanath Thatoi, Biochar: An Advanced Remedy for Environmental Management and Water Treatment, Book Chapter, *CRC Press*, 2021, Paperback ISBN: 9781003057826.
2. Lakkoji Satish, Ayonbala Baral, **Aneeya K. Samantara***, Hybrid nanocomposites based on cellulose nanocrystals/nanofibrils with graphene and its derivatives: From preparation to applications, Book Chapter, *Elsevier*, 2021, Paperback ISBN: 978-0-12-822906-4. **(*Corresponding author)**
3. **Aneeya K. Samantara**, R. K. Tripathy and J. N. Behera, Hybrid Nanocomposites Based on Graphene and Gold Nanoparticles: From Preparation to Applications, Book Chapter, *Springer*, 2021, Paperback ISBN: 978-981-334-987-2.

4. **Aneeya K. Samantara**, J. K. Das and J. N. Behera, Supercapacitors based on graphene and its hybrids, Book Chapter, "Fundamentals and Supercapacitor Applications of 2D Materials" *Elsevier*, 2021, Paperback ISBN: 9780128219935.
5. **Aneeya K. Samantara***, Satyajit Ratha, Sudarsan Raj, Functionalized Graphene Nanocomposites in Air Filtration applications, Elsevier, 2018, *Chapter in Book Series*, ISBN: 9780128145531 Accepted, In Press **(*Corresponding author)**
6. **Aneeya K. Samantara**, Chinmayee Acharya, Dharmendra Satpathy, Chitta R. Panda, Abhisek Sasmal, Functionalized Graphene: An unique platform for Biomedical Application, *Elsevier*, 2018, 545-584, 1st edition, ISBN: 978-0-12-813691-1.
7. Subash Chandra Sahu, **Aneeya K. Samantara**, Jagdeep Mohanta, Bikash Kumar Jena, and Satyabrata Si, Graphene: Synthesis, Properties and Application, *John Wiley & Sons, Inc.*, 2015, 139-193, ISBN: 1119179068.
8. Subash Chandra Sahu, **Aneeya K. Samantara** and Bikash Kumar Jena, Graphene Supported Noble Metal Nanostructures: Synthesis and Electrochemical Application, *Nova Science Publishers*, 2015, 267-292, ISBN: 978-1-63483-5.

❖ Workshops/Conferences/Seminars:

1. **Aneeya K. Samantara**, "Carbon Nanoparticle/Reduced Graphene Oxide Composites: Advanced Material for Electrochemical Energy Storage Application", poster presentation at Indian Science Congress Association, Bhubaneswar chapter, National seminar on Reaching the unreached through Science and Technology, 2017. ***Received best Poster Award***
2. **Aneeya K. Samantara**, Bikash Kumar Jena, "Highly Emissive Carbon Quantum Dots: Vehicle for Anticancer Drug Carrier", poster presentation at Indian Science Congress Association, Bhubaneswar chapter, National seminar on Science and Technology for indigenous development in India
3. **Aneeya K. Samantara**, Bikash Kumar Jena, "N, S-codoped CQDs/rGO hybrid: A metal-free electrode material for energy conversion and storage applications", International conference on nanomaterials for energy, environment, catalysis and sensors.
4. **Aneeya K. Samantara**, Subash Chandra Sahu and Bikash Kumar Jena, "In Situ Synthesis of Graphene-Branched Pt Hybrid nanostructures with Excellent Electrochemical Performance", Poster presentation on Golden Jubilee year at Institute of Minerals and Materials Technology, Bhubaneswar, 2013. ***Received best Poster Award***
5. **Aneeya K. Samantara**, Subash Chandra Sahu, Bikash Kumar Jena, Shape controlled synthesis of Au nanoparticles, International Conference on Frontiers in Energy, Environment and Materials Research *(EEMR-2013)*
6. Avinna Mishra, **Aneeya K. Samantara**, Bikash Kumar Jena, Sarama Bhattacharjee, Misfit layered Chalcogenides: doped $Ca_3Co_4O_9$ as prospective electrocatalyst, 35th International Conference & the 1st Asian Conference on Thermoelectrics (ICT/ACT 2016).
7. Subash Chandra Sahu, **Aneeya K. Samantara**, Bikash Kumar Jena, Graphene supported Pd Nanodendrites: Excellent Electrocatalyst for Methanol Oxidation, International Conference on Frontiers in Energy, Environment and Materials Research *(EEMR-2013)*
8. Subash Chandra Sahu, **Aneeya K. Samantara**, Bikash Kumar Jena, Shape Modulated Electro-catalytic Activity of Pd Nanostructures, International Conference on Electro Analytical Chemistry and Allied Topics *(ELAC-2013)*

Biographical data

Date of Birth:	15th July 1987
Marital Status:	Married
Category:	Unreserved
Nationality:	Indian
Sex:	Male