

## Dr. P. MUTHU AUSTERIA

### Research experience

<b>Postdoctoral Researcher</b> Sept 2022 onwards	Dr. Geun Ho Gu, Korea Institute of Energy Technology(KENTECH) Naju-si, Republic of Korea
<b>Postdoctoral Researcher</b> (June 2021 – August 2022)	Prof. Do Hwan Kim, Graduate school of energy storage/conversion engineering Jeonbuk national university, Republic of Korea
<b>Research Associate</b> (April 2015 –April 2021)	Prof. S. Sampath, Department of Inorganic and Physical Chemistry, Indian Institute of Science, India
<b>PhD in computational Chemistry</b> 2009-2015	<b>Adviser: Dr. M.M. Balakrishnarajan</b> Pondicherry University, Pondicherry- 14, India.
<b>Research fellow</b> (April 2008 – March 2011)	Department of Chemistry, Pondicherry University, India DST Project title " <i>Bonds and bands of aromatic systems with exo-<math>\pi</math>- interactions: Insights and implications</i> "

### Selected Publications

1. Pyrrolic N-Stabilized Monovalent Ni Single-Atom Electrocatalyst for Efficient CO<sub>2</sub> Reduction: Identifying the Role of Pyrrolic-N and Synergistic Electrocatalysis  
Ramireddy Boppella, **P. Muthu Austeria**, Yujin Kim, Eunhyo Kim, Inae Song, Yaeun Eom, D. Praveen Kumar, Mani Balamurugan, Do Hwan Kim, and Tae Kyu Kim.  
*Advanced functional material*, 2022, 2202351
2. Isomers Matter: Physicochemical Properties Dictated by the Position of S and Se in Single Layer MoSSe. **Muthu Austeria P\***, P Vinoth Babu, and S. Sampath\* *J. Phys. Chem. C* 2020, 124, 21, 11669–11680
3. Bulk and Few-Layer MnPS<sub>3</sub>: A New Candidate for Field Effect Transistor and UV Photodetector. Rajat Kumar, Ramesh Naidu Jenjeti, **Muthu P Austeria\*** and S Sampath\*. *Journal of Materials Chemistry C* 7 (2), 324-329.
4. Field Effect Transistor Based on Few-Layer and Bulk NiPS<sub>3</sub>. Ramesh Naidu Jenjeti, Rajat Kumar, **Muthu P Austeria\*** and S Sampath\* *Scientific reports* - 2018, 8(1): 8586
5. Few-Layer Iron Selenophosphate, FePSe<sub>3</sub>: Efficient Electrocatalyst toward Water Splitting and Oxygen Reduction Reactions; Debdyuti Mukherjee, **P. Muthu Austeria\***, and S. Sampath\* *ACS Applied Energy Materials*, 2018, 1 (1), pp 220–231.

6. Work Function Tunable Titanium Carbonitride Nanostructures for High Efficiency Li-Iodine Batteries; V. G Anju, **Muthu P Austeria**, and S. Sampath. *Advanced Materials interfaces*, 2017, 4, 1700151.
6. Two Dimensional, Few Layer Phosphochalcogenide, FePS<sub>3</sub>: A New Catalyst for Electrochemical Hydrogen Evolution over Wide pH Range. Mukherjee, Debdyuti; **Muthu P Austeria**, Sampath, S. *ACS Energy Letters*, 2016, 1, 367–372.
7. Alternate to MoS<sub>2</sub>: 2 Dimensional, Few Layer Transition Metal Thiophosphate, NiPS<sub>3</sub> and Its HER Activities Over Wide pH Range. J. Ramesh naidu, **P. Muthu Austeria** and S. Sampath. *ChemElectroChem* 2016, 3, 1 – 9
8. Primary and Rechargeable Zinc Air Batteries Using Ceramic and Highly Stable, TiCN as Oxygen Reduction Electrocatalyst. V. G. Anju, R. Manjunatha, **P. Muthu Austeria** and S. Sampath. *J. Mater. Chem. A*, 2016, 4, 5258-5264
9. Electrically conducting palladium selenide (Pd<sub>4</sub>Se, Pd<sub>17</sub>Se<sub>15</sub>, Pd<sub>7</sub>Se<sub>4</sub>) phases: synthesis and activity towards hydrogen evolution reaction. Suresh Kukuluri, **P. Muthu Austeria** and S. Sampath. *Chemical Communications*.: 2016, 52, 206-209
10. Electronic Origin of Out-of-Plane Distortions in Porphyrins. **Muthu P. Austeria**, P.D. Pancharatna, M.M. Balakrishnarajan. *European Journal of Inorganic Chemistry*, 2014, 20, 3200–3207
11. Deltahedra with Holes: Structural Preferences of Large Polyhedral Boranes. P.D.Pancharantna, Marutheswaran Srineevasan, **Muthu P. Austeria**, and M. M. Balakrishnarajan. *Polyherdon*, 2013, 63, 55-59