

## **Dr. AMITAVA CHOUDHURY**

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### **Professional Preparation**

2004-2008: Postdoctoral fellow at Colorado State University.

2003-2004: Postdoctoral fellow at Indian Institute of Science, Bangalore, India.

1998-2003: Ph.D., Indian Institute of Science, Bangalore, India.

1996-1998: Research Associate, University of North Bengal and in the University of Hyderabad.

1994-1996: M.Sc. (Chemistry with inorganic major), University of North Bengal, West Bengal, India.

1990-1993: B.Sc. (Chemistry Honors with physics and mathematics as minor) University of North Bengal, West Bengal, India.

### **Appointments**

Sept'2016 – Current: Associate Professor of Chemistry at Missouri S&T.

Sept'2011 –Aug'2016: Assistant Professor of Chemistry at Missouri S&T.

Aug'08 - Aug'2011: Assistant Research Professor of Chemistry at Missouri S&T.

### **Awards and Honors**

- K. P. Abraham award of Indian Institute of Science for the best doctoral thesis in Materials Chemistry in 2003.
- Tappmeyer award of Chemistry, Missouri S&T, for outstanding teaching performance in 2014, 2016, and 2023.

### **Affiliation with professional societies**

- Member, American Chemical Society (ACS)
- Member, Materials Research Society (MRS)
- Electrochemical Society (ECS)

### **Graduate Advisor and Postdoctoral Sponsor**

Prof. C. N. R. Rao – graduate advisor, JNCASR, Bangalore, India.

Prof. Peter K. Dorhout – postdoctoral sponsor, Colorado State University (currently, Vice President of Research, Iowa State University.)

### **Graduate (PhD) Students**

- Bahareh Etimadi (SS 2024-)
- Milad Aghayi Anaraki (Fall 2023-)
- Sutapa Bhattacharya (Fall 2020 -)
- Santhoshkumar Sundaramoorthy (Fall 2019 – SS 2024) now at Lam Research)
- Srikanth Balijapelly (Spring 2018 – SP 2022, now at A123)
- Prashanth Sandineni (Spring 2015 – Fall 2019, now at Intel Corp)
- Hooman Yaghoobnejad (Spring 2012 –Fall 2016, now scientist at Aspen Aerogels)

### **Post-doctoral Advisees**

- Dr. Ramesh Deokate, Visiting post-doc, BASE fellow, Govt. of India, (Feb' 2019 -July 2019)

- Dr. Subal Manna, Visiting Post-doctoral Fellow, Raman Fellow of Govt. of India (Oct'2016 – Oct'2017)
- Dr. Amit Adhikary (April 2015 –Oct'2017, Currently National post-doctoral fellow, India)
- Dr. Anand Pariyar (Dec. 2014 – March 2016, currently Assistant Professor, Sikkim University, India)

### M.S thesis co-advised

- Siddharth Gopalakrishnan (Spring 2013 - summer 2015)

### Current Research Interests

General theme of research in this group includes solid-state chemistry, synthesis of new materials and study of their properties with special focus on energy related materials. Current research thrusts are on:

- Search for potential cathode materials for lithium- and Sodium-ion batteries based on polyanion compounds.
- Synthesis of complex chalcogenides with potential application in thermoelectrics, magnetic semiconductor and solid electrolyte.
- Synthesis of porous Metal Organic (MOF) and zeolitic Frameworks for possible applications in hydrogen storage, catalysis, drug delivery and other applications.

### Funding Sources

**Choudhury lab** has been funded through National Science Foundation (NSF-DMR), ACS-PRF, UM-Research Board and various centers of Missouri S&T.

### Publications

1. S. Sundaramoorthy, R. U. Soni, S. Y. Owusu, S. Bhattacharya, A. B. M. Shaheen ud Doulah, V. A. Edlabadkar, Chariklia Sotiriou-Leventis\* and **Amitava Choudhury**,\* “High-capacity Anode for Sodium-ion Batteries Using Hard Carbons Derived from Polyurea-crosslinked Silica Xerogel Powders” *ACS Applied Energy Materials* 2024 (Just accepted)
2. S. Sundaramoorthy, S. Balijapelly, S. Mohapatra, S. Bhattacharya, K. Ghosh, **Amitava Choudhury**,\* “Interpenetrated Lattices of Quaternary Chalcogenides Displaying Magnetic Frustration, High Na-Ion Conductivity, and Cation Redox in Na-Ion Batteries” *Inorganic Chemistry* 2024, **63** (25), 11628-11638.
3. S. Sundaramoorthy, N. Gerasimchuk, K. Ghosh, S. P. Kelley, **Amitava Choudhury**,\* “Li<sub>2</sub>MP<sub>2</sub>S<sub>6</sub>: Building-Block Approach to a Family of 2D Non-van der Waals-Layered Materials and Their Water, Ammonia, and Ion Intercalation Properties” *Chemistry of Materials*, 2024, **36** (8), 3574-3587.
4. S. K. Sahoo, B. Harfmann, H. Bhatia, H. Singh, S. Balijapelly, **Amitava Choudhury**, P. Stavropoulos, A Comparative Study of Cationic Copper(I) Reagents Supported by Bipodal Tetramethylguanidinyll-Containing Ligands as Nitrene-Transfer Catalysts, *ACS Omega*, 2024, **9** (13), 15697-15708.
5. S. Bhattacharya and **Amitava Choudhury**,\* “Gamma polymorph of vanadium oxy-selenite and its solid-state Li-ion electrochemistry” *Journal of Solid State Chemistry*, 2024, **332**, art. no. 124575.
6. M. Sharma, R. M. Fritz, J. O. Adebajo, Z. Lu, T. R. Cundari, M. A. Omary, **Amitava Choudhury**, P. Stavropoulos, “Nitrene-Transfer Chemistry to C-H and C=C Bonds Mediated by Triangular Coinage Metal Platforms Supported by Triply Bridging Pnictogen Elements Sb(III) and Bi(III)” *Organometallics*, 2024, **43** (6), 634-652.
7. S. Balijapelly, S. Sundaramoorthy, D. J. Mondal, S. Konar, N. Gerasimchuk, A. Chernatynskiy, **Amitava Choudhury**,\* NaGaSe<sub>2</sub>: A Water-Loving Multifunctional Non-van der Waals Layered Selenogallate, *Inorganic Chemistry*, 2023, **62** (9), 3886 – 3895.
8. S. K. Sahoo, B. Harfmann, L. Ai, Q. Wang, S. Mohapatra, **Amitava Choudhury**, P. Stavropoulos, “Cationic Divalent Metal Sites (M = Mn, Fe, Co) Operating as Both Nitrene-Transfer Agents and Lewis

Acids toward Mediating the Synthesis of Three- and Five-Membered N-Heterocycles” *Inorganic Chemistry*, 2023, **62** (27), 10743 - 10761,

9. R. P. Wilkerson, M. P. Petkov, G. E. Voecks, C. S. Lynch, H. S. Shulman, S. Sundaramoorthy, **Amitava Choudhury**, D. L. Rickman, M. R. Effinger, “Outgassing behavior and heat treatment optimization of JSC-1A lunar regolith simulant” *Icarus*, 2023, **400**, art. no. 115577.
10. S. Kumar, M. K. Gupta, R. Mittal,\* S. Sundaramoorthy, **Amitava Choudhury**,\* N. C. Osti, A. I. Kolesnikov, M. B. Stone, Y. Cheng, S. L. Chaplot, “Topology driven and soft phonon mode enabled Na-ion diffusion in quaternary chalcogenides,  $\text{Na}_3\text{ZnGaX}_4$  ( $\text{X} = \text{S}$ , and  $\text{Se}$ )” *Journal of Materials Chemistry A*, 2023, 11(44), 23940-23949.
11. Santhoshkumar Sundaramoorthy, Aleksandr V. Chernatynskiy, Nikolay Gerasimchuk, **Amitava Choudhury**,\* “Lithium selenometallates of triel elements,  $\text{Li}_5\text{MSe}_4$  ( $\text{M} = \text{Al}$  and  $\text{Ga}$ ), aliovalent doping and their ionic conductivity” *Dalton Transactions*, 2022, **51**, 17772-17779.
12. S. Balijapelly, A. Hauble, S. Sundaramoorthy, J. L. Watts, S. M. Kauzlarich, A. Chernatynskiy, **Amitava Choudhury**,\* “Ultralow Lattice Thermal Conductivity in the Aikinite Structure Family,  $\text{Cu}_x\text{Pb}_x\text{Bi}_{2-x}\text{S}_3$ , and Thermoelectric Properties of  $\text{Cu}_{0.14}\text{Pb}_{0.14}\text{Bi}_{1.86}\text{S}_3$ ” *ACS Applied Energy Materials*, 2022, 5, 14222 – 14230.
13. A. J. Craig, S. H. Shin, J. B. Cho, S. Balijapelly, J. C. Kelly, S. S. Stoyko, **Amitava Choudhury**, J. I. Jang, J. A. Aitken,\* “Crystal structure, electronic structure, and optical properties of the novel  $\text{Li}_4\text{CdGe}_2\text{S}_7$ , a wide-bandgap quaternary sulfide with a polar structure derived from lonsdaleite” *Acta Cryst. C*, 2022, **78**, 470-480.
14. S. Balijapelly, A. J. Craig, J. Bin Cho, J. I. Jang, K. Ghosh, J. A. Aitken, A. V. Chernatynskiy, **Amitava Choudhury**,\* “Building-block approach to the discovery of  $\text{Na}_8\text{Mn}_2(\text{Ge}_2\text{Se}_6)_2$ : A polar chalcogenide exhibiting promising harmonic generation signals with a high laser-induced damage threshold” *Journal of Alloys and Compounds*, 2022, **900**, art. no. 163392.
15. Srikanth Balijapelly, Kartik Ghosh, Aleksandr V. Chernatynskiy, **Amitava Choudhury**,\* “Discovery of an olivine-type lithium manganese thiophosphate,  $\text{LiMnPS}_4$ ,: Via a building block approach” *Chemical Communications*, 2021, **57** (97), 13182-13185.
16. Y. Gao, H. Yu, P. Sandineni, X. He, **Amitava Choudhury**, J. Park, X. Liang, “Fe Doping in  $\text{LiMn}_{1.5}\text{Ni}_{0.5}\text{O}_4$  by Atomic Layer Deposition Followed by Annealing: Depths and Occupation Sites” *Journal of Physical Chemistry C*, 2021, **125** (14), 7560-7567.
17. S. Balijapelly, A. Hauble, M. Pollard, M. Poupon, V. Petříček, J. L. Watts, Y. S. Hor, S. M. Kauzlarich, **Amitava Choudhury**,\* “Ultralow thermal conductivity through the interplay of composition and disorder between thick and thin layers of makovickyite structure” *J. Mater. Chem. C*, 2021, **9** (34), 11207 – 11215.
18. Srikanth Balijapelly, Q. Zhang, Prashanth Sandineni, Amit Adhikary, Sudip Mohapatra, Santhoshkumar Sundaramoorthy, Nikolay Gerasimchuck, Aleksandr V. Chernatynskiy, **Amitava Choudhury**,\* “High Sodium-Ion Conductivity in Interlocked Quaternary Chalcogenides Built with Supertetrahedral Building Units” *ACS Appl. Energy Mater.*, 2021, **4** (8), 7942 – 7951.
19. Srikanth Balijapelly, Amit Adhikary, Sudip Mohapatra, Aleksandr Chernatynskiy, **Amitava Choudhury**,\* “Sodium-Stuffed Open-Framework Quaternary Chalcogenide Built with  $(\text{Cu}_2\text{Ga}_6\text{S}_{18})_{16}$ -Ribbons Cross-Linked by Unusual Linear  $\text{Cu(I)}$  Pillars” *Inorg. Chem.*, 2021, **60** (16), 12059 – 12066.
20. A. Kalra, V. Bagchi, P. Paraskevopoulou, P. Das, L. Ai, Y. Sanakis, G. Raptopoulos, S. Mohapatra, **Amitava Choudhury**, Z. Sun, T. R. Cundari, P. Stavropoulos, “Is the Electrophilicity of the Metal Nitrene the Sole Predictor of Metal-Mediated Nitrene Transfer to Olefins? Secondary Contributing

Factors as Revealed by a Library of High-Spin Co(II) Reagents” *Organometallics*, 2021, **40** (12), 1974 – 1996.

21. Srikanth Balijapelly, Prashanth Sandineni, Amit Adhikary, Nikolay N. Gerasimchuk, Aleksandr V. Chernatynskiy and **Amitava Choudhury**, “Ternary alkali ion thiogallates,  $A_5GaS_4$  ( $A = Li$  and  $Na$ ), with isolated tetrahedral building units and their ionic conductivities” *Dalton Trans*, 2021, **21**, 7372 – 7379.
22. J. Bai, Richard K. Brow, C. W. Kim, Prashanth Sandineni, **Amitava Choudhury**, “Redox effects on the structure and properties of Na-Mo-Fe-phosphate glasses” *J. Non-Cryst Solids*, 2021, **557**, art. no. 120573.
23. Prashanth Sandineni, Hooman Yaghoobnejad Asl, W. Zhang, P. Shiv Halasyamani, Kartik Ghosh, **Amitava Choudhury**, “Interplay between Oxo and Fluoro in Vanadium Oxyfluorides for Centrosymmetric and Non-Centrosymmetric Structure Formation” *Molecules* (Basel, Switzerland) (Invited), 2021, **26** (3), 603.
24. Subal Chandra Manna, Prashanth Sandineni, **Amitava Choudhury** “Low temperature hydrothermal synthesis of  $Na_3Fe_2(PO_4)_2F_3$  and its cathode electrochemistry in Na- and Li-ion batteries”, *J. Solid State Chem.*, 2021, **295**, art. no. 121922.
25. Prashanth Sandineni, Pranal Madria, Kartik Ghosh, **Amitava Choudhury**, “A square channel vanadium phosphite framework as high voltage cathode for Li- and Na- ion batteries”, *Mater. Adv.*, 2020, **1**, 698-707.
26. Amit Adhikary, Hooman Yaghoobnejad Asl, Prashanth Sandineni, Srikanth Balijapelly, Sudip Mohapatra, S. Khatua, Sanjit Konar, Nick Gerasimchuk, Alex Chernatynskiy, **Amitava Choudhury**, “Unusual Atmospheric Water Trapping and Water Induced Reversible Restacking of 2D Gallium Sulfide Layers in  $NaGaS_2$  Formed by Supertetrahedral Building Unit” *Chem. Mater.*, 2020, **32** (13), 5589-5603.
27. Prashanth Sandineni, Kartik Ghosh, **Amitava Choudhury**, “Electrochemistry of illusive barbosalite,  $Fe^{2+}Fe^{3+}_2(PO_4)_2(OH)_2$ : An iron phosphate related to lipscombite structure”, *J. Electrochem. Soc.*, 2019, **166** (15), A3585-A3592.
28. Prashanth Sandineni, Hooman Yaghoobnejad Asl, Nikolay Gerasimchuk, Kartik Ghosh and **Amitava Choudhury**, “Soft chemical routes to electrochemically active iron phosphates” *Inorg. Chem.*, 2019, **58** (7), 4117 – 4133.
29. Vivek Bagchi, Anshika Kalra, Purak Das, Patrina Paraskevopoulou, Saidulu Gorla, Lin Ai, Qiuwen Wang, Sudip Mohapatra, **Amitava Choudhury**, Zhicheng Sun, Z., Thomas R. Cundari, Pericles Stavropoulos, Comparative Nitrene-Transfer Chemistry to Olefinic Substrates Mediated by a Library of Anionic Mn(II) Triphenylamido-Amine Reagents and M(II) Congeners ( $M = Fe, Co, Ni$ ) Favoring Aromatic over Aliphatic Alkenes” *ACS Catalysis*, 2018, **8** (10), 9183 – 9206.
30. Hooman Yaghoobnejad Asl, Kartik Ghosh and **Amitava Choudhury**, “A highly fluorinated lithium iron phosphate with interpenetrating lattices: electrochemistry and ionic conductivity” *Dalton Trans.*, 2017, **46**, 12588 – 12596.
31. Sudip Mohapatra, Amit Adhikary, Kartik Ghosh, **Amitava Choudhury**, “Magnetically Frustrated Quaternary Chalcogenides with Interpenetrating Diamond Lattices” *Inorg. Chem.*, 2017, **56** (14), 7650-7656.
32. **Amitava Choudhury**, Sudip Mohapatra, Hooman Yaghoobnejad Asl, Seng Huat Lee, Yew San Hor, Julia E. Medvedeva, Devon L. McClane, Gregory E. Hilmas, Michael A. McGuire, Andrew F. May, Hsin Wang, Shreeram Dash, Aaron Welton, Punit Boolchand, Kasey P. Devlin, Jennifer Aitken, Regine Herbst-Irmer, Václav Petříček, “New insights into the structure, chemistry, and properties of  $Cu_4SnS_4$ ” *J. Solid State Chem.*, 2017, **253**, 192 - 201.

33. Anand Pariyar, Hooman Yaghoobnejad Asl, and **Amitava Choudhury**, “Tetragonal versus Hexagonal: Structure Dependent Catalytic Activity of Co-Zn Bimetallic Metal Organic Frameworks” *Inorg. Chem.* 2016, **55** (18), 9250 – 9257.
34. Hooman Yaghoobnejad Asl and **Amitava Choudhury**, “A Combined Theoretical and Experimental Approach to the Discovery of Electrochemically Active Mixed Polyanionic Phosphatonitrates,  $AFePO_4NO_3$  ( $A = NH_4/Li, K$ )” *Chem. Mater.* 2016, **28** (14), 5029 – 5036.
35. Anand Pariyar, Joseph Stansbery, Rajankumar L. Patel, Xinhua Liang, **Amitava Choudhury**, “The ubiquitous paddle-wheel building block in two-dimensional coordination polymers with square grid structure” *J. Coord. Chem.*, 2016, **69** (11-13), 1957 – 1969. (Invited peer reviewed research article for a special issue on Emerging Leaders).
36. Anand Pariyar, Siddharth Gopalakrishnan, Joseph Stansbery, Rajankumar L. Patel, Xinhua Liang, Nikolay Gerasimchuk and **Amitava Choudhury**, “A 1-D coordination polymer route to catalytically active  $Co@C$  nanoparticle” *RSC Advances*, 2016, **6**, 38533 – 38540.
37. Prashanth Sandineni, Hooman Yaghoobnejad Asl, **Amitava Choudhury**, “Kagomé lattices as cathode: Effect of particle size and fluoride substitution on electrochemical lithium insertion in sodium- and ammonium Jarosites” *J. Solid State Chem.*, 2016, **242**, 78 – 86. (Invited peer reviewed research article for a special issue on energy)
38. Hooman Yaghoobnejad Asl, Ronetta Morris, T. Thao Tran, P. Shiv Halasyamani, Kartik Ghosh, **Amitava Choudhury**, “A Cubic Non-Centrosymmetric Mixed-Valence Iron Borophosphate-Phosphite” *Cryst. Growth Des.* 2016, **16**(3), 1187 – 1194.
39. Amit Adhikary, Sudip Mohapatra, Seng Huat Lee, Yew San Hor, Puja Adhikari, Wai-Yim Ching, **Amitava Choudhury**, “Metallic Ternary Telluride with Sphalerite Superstructure” *Inorg. Chem.* 2016, **55**(5), 2114 – 2122.
40. Hooman Yaghoobnejad Asl, Patrick Stanley, Kartik Ghosh, and **Amitava Choudhury**, “Iron Borophosphate as a Potential cathode for Lithium- and Sodium-ion Batteries” *Chem. Mater.* 2015, **27**(20), 7058 – 7069.
41. Hooman Yaghoobnejad Asl and **Amitava Choudhury**, “Phosphite as Polyanion-Based Cathode for Li-Ion Battery: Synthesis, Structure, and Electrochemistry of  $LiFe(HPO_3)_2$ ” *Inorg. Chem.* 2015, **54**(13), 6566 – 6572.
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43. **Amitava Choudhury**, K. Ghosh, F. Grandjean, G. J. Long, Peter K. Dorhout, “Structural, optical, and magnetic properties of  $Na_8Eu_2(Si_2S_6)_2$  and  $Na_8Eu_2(Ge_2S_6)_2$ : Europium(II) quaternary chalcogenides that contain an ethane-like  $(Si_2S_6)_6^-$  or  $(Ge_2S_6)_6^-$  moiety” *J. Solid State Chem.*, 2015, **226**, 74 – 80.
44. Hooman Yaghoobnejad Asl and **Amitava Choudhury**, “Phosphorous acid route synthesis of iron tavorite phases,  $LiFePO_4(OH)_xF_{1-x}$  [ $0 \leq x \leq 1$ ] and comparative study of their electrochemical activities” *RSC Adv.*, 2014, **4**, 37691-37700.
45. Akira Saitoh, Naoto Kitamura, Lina Ma, Parker Freudenberger, **Amitava Choudhury**, Hiromichi Takebe, Richard K. Brow, “Structural study of chemically durable  $BaO-FeO_x-P_2O_5$  glasses by Mössbauer spectroscopy and high performance liquid chromatography” *J. Non-Cryst Solids*, 2017, **460**, 106 – 112.
46. Nikolaos Levesanos, Wipula P. R. Liyanage, Eleftherios Ferentinos, Grigorios Raptopoulos, Patrina Paraskevopoulou, Yiannis Sanakis, **Amitava Choudhury**, Pericles Stavropoulos, Manashi Nath, Panayotis Kyritsis, “Investigating the Structural, Spectroscopic, and Electrochemical Properties of

[Fe{(EPiPr)<sub>2</sub>N}<sub>2</sub>]}<sub>2</sub>] (E = S, Se) and the Formation of Iron Selenides by Chemical Vapor Deposition” *Eur. J. Inorg. Chem.* 2016, 5332 – 5339.

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48. Debatra Narayan Neogi, Satyadeep Singh Chhetri, Purak Das, Achintesh Narayan Biswas, **Amitava Choudhury**, Pinaki Bandyopadhyay, “Role of auxiliary donors in tuning the selectivity of C-H activation in arylazonaphthalenes by palladium(II) : Isolation and photoisomerization of isomeric cyclopalladates” *J. Indian Chem. Soc.* 2015, **92**, 1783 – 1790.
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51. A. Kejriwal, A. N. Biswas, **Amitava Choudhury**, P. Bandyopadhyay, “Diferic oxo-bridged complexes of a polydentate aminopyridyl ligand: Synthesis, structure and catalytic reactivity” *Trans. Met. Chem.*, 2014, **39**, 909 - 915.
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54. A. N. Biswas, D. N. Neogi, P. Das, **Amitava Choudhury**, P. Bandyopadhyay, “Regioselective and regiospecific C(naphthyl)-H bond activation: Isolation, characterization, crystal structure and TDDFT study of isomeric cyclopalladates”, *J. Organomet. Chem.* 2014, **761**, 147-155.
55. J. K. Mistry, R. Dawes, **Amitava Choudhury**, M. R. Van De Mark, “5-Mercapto-1,3,4-thiadiazole-2(3H)-thione: Synthesis and structure of alkylated derivatives”, *J. Heterocyclic Chem.*, 2014, **51 (3)**, 747-754.
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58. Z. Afrasiabi, R. Almudhafar, D. Xiao, E. Sinn, **Amitava Choudhury**, A. Ahmad, A. Vyas, F. Sarkar, S. Padhye, "Metal-based anticancer agents: Targeting androgen-dependent and androgen-independent prostate and COX-positive pancreatic cancer cells by phenanthrenequinone semicarbazone and its metal complexes" *Transition Metal Chemistry*, 2013, **38 (6)**, 665 - 673.

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### **Recent conferences and presentations:**

1. **Amitava Choudhury**, Santhoshkumar Sundaramoorthy, Sutapa Bhattacharya, Accessing Cation and Anion Redox in a 1-D Iron-Chalcogenide,  $\text{Na}_3\text{Fe}_2\text{S}_{4-x}\text{Se}_x$  ( $x = 0, 2, \& 4$ ) in Na-ion Battery, Gordon Research Conference, New Hampshire, July 21 - 26, 2024 (Poster)
2. **S. Sundaramoorthy**, S. Bhattacharya, A. Choudhury, Accessing Cation and Anion Redox in a 1-D Iron-Chalcogenide,  $\text{Na}_3\text{Fe}_2\text{S}_4\text{-XSe}_x$  ( $x = 0, 2, \& 4$ ), in Na-Ion Batteries, Electrochemical Society Meeting Abstracts 245, 14-14, May 26-May 30, 2024, San Francisco. (Oral)
3. Sutapa Bhattacharya, and Amitava Choudhury, Molybdenum phosphate-based frameworks as cathode materials for rechargeable batteries. ACS Spring 2023. March 26-30, Indianapolis, IN. (Poster)
4. **Santhoshkumar Sundaramoorthy** and Amitava Choudhury, *Anion redox  $\text{Li}_{5-x}\text{Cu}_x\text{GaS}_4$  triggered through  $\text{Cu}^+$  cation in Li-ion battery cathode*, 79th Pittsburgh Diffraction Conference, Argonne National Laboratory, Oct 2-4, 2022. (Poster)
5. Srikanth Balijapelly, Santhoshkumar Sundaramoorthy, Qi Zhang, Aleksandr V. Chernatynskiy, **Amitava Choudhury**, *Building Block Approach: A New Synthetic Toolbox for Rational Design of Complex Chalcogenides*, Gordon Research Conference on Solid State Chemistry, Jul-24-2022 - Jul-29-2022, Colby-Sawyer College in New Hampshire, United States. (Poster)
6. Amitava Choudhury (Invited talk), ‘Strategies to increase energy density of lithium and sodium ion batteries’ in Faculty Development Program (FDP) on Recent Advances in Functional Materials: Design, Development and Applications held in SRM Institute of Science and Technology, March 13, 2022 (**Zoom**)
7. **Sutapa Bhattacharya**, Santhoshkumar Sundaramoorthy, and Amitava Choudhury, “Transition metal selenites as cathode materials for rechargeable batteries” ACS Midwest Regional Meeting, Springfield, 2021, October 20 – October 22.
8. Srikanth Balijapelly, Karthik Ghosh, Amitava Choudhury, Synthesis of new quaternary thiophosphates through building block approach, ACS Midwest Regional Meeting, Springfield, 2021, October 20 – October 22.
9. **Santhoshkumar Sundaramoorthy**, Srikanth Balijapelly and Amitava Choudhury, “Chalcogen based cathodes for reversible Na-ion storage.” ACS Midwest Regional Meeting, Springfield, 2021, October 20 – October 22.

10. Amitava Choudhury (Invited talk), Enhancing the capacity of rechargeable Li-ion batteries through a combination of anion and cation redox. Missouri State University, 08/22/21
11. Amitava Choudhury (Invited talk), Rechargeable batteries: From lithium ion to sodium ion and cation redox to anion redox. 'Recent advances in condensed matter and material science' conference attendees, organized by Department of Chemistry and Physics, Cooch Behar Panchanan Barma University, India, 07/13/2021 (zoom).
12. Srikanth Balijapelly and Amitava Choudhury, A series of complex chalcogenides with Makovickyite structure-type possessing ultra-low thermal conductivity. North American Solid State Conference, University of Southern California, 2021, July 28 – July 31
13. Santhoshkumar Sundaramoorthy, Srikanth Balijapelly and Amitava Choudhury, "New Sulfide based Cathodes for Na-ion Batteries." North American Solid-State Conference, University of Southern California, 2021, July 28 – July 31.
14. Srikanth Balijapelly, Ashlee Hauble, Mathew Pollard, Yew San Hor, Susan M. Kauzlarich, and Amitava Choudhury, "Ultralow lattice thermal conductivity through the interplay of composition and disorder in complex chalcogenides" VCT 2021, July 20-21 (Virtual conference on thermoelectrics by International thermoelectric society)
15. Srikanth Balijapelly, Qi Zhang, Santhoshkumar Sundaramoorthy, Prashanth Sandineni, Aleksandr V. Chernatynskiy, Amitava Choudhury, Interlocked chalcogenide lattice showing high sodium-ion conductivity and facile electrochemistry, 239<sup>th</sup> ECS Meeting: Digital presentation, Chicago, May 30-June 3, 2021
16. Amitava Choudhury (Invited talk), In search for cost-effective high energy density rechargeable batteries: From lithium ion to sodium ion and cation redox to anion redox. Middle Tennessee State University, **11/13/2020 (zoom)**
17. Amit Adhikary, Srikanth Balijapelly, Prashanth Sandineni, Hooman Yaghoobnejad Asl, Aleksandr Chernatynskiy, and Amitava Choudhury, "Water induced reversible restacking of 2D gallium sulfide layers." North American Solid State Conference (NASSC), July 31- Aug. 2, 2019, Golden, Colorado. (Poster)
18. Prashanth Sandineni and Amitava Choudhury, "A square channel vanadium phosphite framework as cathode for Li- and Na- ion batteries." 235th ECS meeting, May 26-30, 2019, Dallas, TX. (Oral)
19. Amitava Choudhury and Prashanth Sandineni, "Soft chemical routes to new iron phosphates and their electrochemical properties." Gordon Research Conference, July 22-27, 2018, Colby-Sawyer College, New London, NH. (Poster)
20. Amitava Choudhury, Subal Manna, and Prashanth Sandineni, "One Step Soft-Chemical Approach Towards the Synthesis of  $\text{Na}_3\text{V}_2\text{O}_2(\text{PO}_4)_2\text{F}$  and Its Electrochemical Properties in Na- and Li-Ion Batteries." 233rd ECS Meeting (May 13-17, 2018), Seattle. (Oral Presentation)
21. Prashanth Sandineni and Amitava Choudhury, " $\text{NaFe}(\text{HPO}_4)_2$ : A new polyanion cathode material for alkali-ion batteries." 231st ECS meeting, May 28-June 1, 2017, New Orleans, LA. (Oral)
22. Hooman Yaghoobnejad Asl and Amitava Choudhury, "*New Polyanion-based Cathode Materials for Secondary alkali-ion Batteries*" Gordon Research Conference in Solid State Chemistry, July, 2016, Colby Sawyer College, New London, NH. (Poster presentation)
23. Amitava Choudhury and Hooman Yaghoobnejad Asl, "*New iron-based mixed-polyanionic compounds as cathode materials for rechargeable lithium- and sodium-ion batteries for grid*

*applications*” Abstracts of Papers, 2016 MRS Spring Meeting, March 28 – April 1, Phoenix, Arizona. (Oral presentation)

24. Amitava Choudhury, Sudip Mohapatra, Hooman Yaghoobnejad Asl, “*New insights into the structure, properties, and chemistry of Cu<sub>4</sub>SnS<sub>4</sub>*” Abstracts of Papers, 251st ACS National Meeting & Exposition, San Diego, CA, United States, March 13-17, 2016 (2016), INOR-741. (Oral)
25. Amitava Choudhury and Anand Pariyar, “*Structure dependent catalytic activity of bimetallic metal organic framework*” Abstracts of Papers, 251st ACS National Meeting & Exposition, San Diego, CA, United States, March 13-17, 2016 (2016), INOR-59. (Oral presentation)