Curriculum vitae

Dr. Suresh Perumal, M.Sc., Ph.D.,
Assistant Professor,
Department of Materials Science and Metallurgical Engineering,
Indian Institute of Technology (IIT), Hyderabad.
Kandi, Sangareddy-502 285, Telangana, INDIA.
Mobile No.: +91 7022565805 / +91 40 2301 6571
E-mail: suresh@msme.iith.ac.in

- Research Interests:
  - Thermoelectric Materials and Devices: *Silicides / Chalcogenides / Antimonides* / Oxides
  - Magnetic Refrigeration: *NiMnIn-based Heusler Alloys*
  - TE Metrology: Design and Fabrication of Transport Property Measurement Systems
  - Photodetectors, Sensors (Chemical/Optical/Thermal), Supercapacitors/ Thermochromic materials

- Educations:
  - Ph.D., Materials Research Centre, Indian Institute of Science (IISc), Bangalore (2013)
    (Title: *Nanostructurization of Metal Silicides for High-Temperature Thermoelectric Materials*)
  - M.Sc., Physics, University of Madras, Chennai, Tamilnadu (2007) – [Outstanding*]
  - B.Sc., Physics, Periyar University, Salem, Tamilnadu (2005)- [Distinction*]

- Professional experience:
  - Assistant Professor, Materials Science & Metallurgical Engineering, IIT Hyd. (April,2023 –Present).
  - Assistant Professor, Metallurgical and Materials Engineering, IIT, Jodhpur (Jan.2023 –April 2023).
  - Assistant Professor, SRM IST, Kattankulathur, Chengalpattu, Tamilnadu (June, 2018 –Jan, 2023).
  - Postdoctoral fellow, JNCASR, Jakkur, Bangalore-560 064, India. (June, 2016 – June, 2018).
  - Postdoctoral fellow, SKKU, Suwon, South Korea. (Jan., 2016 – May, 2016).
  - Postdoctoral fellow, JNCASR, Jakkur, Bangalore-560 064, India. (Dec., 2014 – Jan, 2016).
  - Postdoctoral fellow, Laboratory CRISMAT, ENSI-CAEN, Caen, France (Oct., 2013 – Oct., 2014).
  - Research Associate (Junior & Senior), MRC, IISc, Bangalore-560 012, (July, 2012 – Oct., 2013).

- Professional membership:
  - Life membership (#59468) in Indian Institute of Metals (IIM)-2023
  - Life membership *(LMB- 3377)* in Materials Research Society of India (MRSI) – 2021
  - Life membership *(SL- 454)* in Indian Ceramic Society (InCerS) -2021
  - Life membership *(LM 2011)* in Electron Microscope Society of India (EMSI) – 2021

- Ph.D. students guided
  - IITH : Ongoing: 03 and 01 (Postdoctoral Fellow)
  - SRM IST: Completed: 03
    [Dr. V. Shaleni (2023), Dr. M. Manoikumar (2023) and Dr. G. S. Madhuvathani (2023)]

- Awards/Recognition:
  - *Dr. Suresh Perumal - Top 2% Most cited Scientists, Standford University List- 2024*
  - *Editorial board member – Scientific Report [IF: 3.8] – Nature Publication-2024*
  - *Top 2% most-cited list from Stanford University--2023*
  - *Youth Editorial Board Member in Journal of Materiomics [IF. 8.3]-2023*
  - *Institute Junior and Senior Research Associate fellowship from Aug., 2012- Oct., 2013.*
  - *CEFIPRA/IFCPAR sponsored Visiting Research Student, 2012.*
  - *Prof. Selvarajan award for International Scientific Travel- 2011.*
  - *Dr. S. Kalyanaraman Memorial endowment Prize-Certificate of merit in M. Sc., 2007.*

- Sponsored Research Project
  - Principal Investigator (PI): *Project title:"*Microstructural Engineering in Higher Manganese Silicide: Novel approaches for Eco-friendly and High-performance Thermoelectric Power Generation (MEET).Agency: CEFIPRA Duration: 2024-2027 Grant: 160.00 Lakhs [Ongoing]
  - Principal Investigator (PI): *Project title: "*Development of Nanostructured Higher Manganese silicide-based Thermoelectric Power Generators to harvest the waste heat from car exhausters. (SG-167). Agency: IIT-SEED Duration: 2023-2026 Grant: 30.00 Lakhs [Ongoing]
  - Principal Investigator (PI): *Project title: "*Fabrication of Nano-structured $MnSi_{\delta}$/Si based Segmented Thermoelectric Devices: Towards Low–cost and Eco-Friendly Power Generators by recovering waste heat from car exhausters and power plants". Agency: DST-SERB Duration: 2019-2022 Grant: 49.46 Lakhs [Completed]
- Book chapter
  - Ananya Banik, Suresh Perumal and Kanishka Biswas*, Thermoelectric properties of Selected Metal Chalcogenides nanosheets/nanofilms grown by Chemicals and Physical routes, pp. 157-184,* by Springer Nature Publication. (Book title:*"Thermoelectric thin films: Materials and Devices")*
  - G. S. Madhuvathani, M. Manojkumar, Arthiya S E, Suresh Perumal*, Thermoelectric Materials for Energy Conversion, Submitted to by Springer Nature Publication. [Under revision] – 2024. (Book title:*" Design and Advanced Materials for Energy Applications")*

Peer-reviewed publications

- *Total publications: 80 Citations: 3211 H- Index: 26 i-10- Index: 41 (Source: Google Scholar citations)*

Selected Publications (5 publications from last two years):

1. Jothilal Palraj, Muhammad Sajjad, Manojkumar Moorthy, Madhuvathani Saminathan, Bhuvanesh Srinivasan, Nirpendra Singh, Rajasekar Parasuraman, Shashikant P Patole, Kiran Mangalampalli, Suresh Perumal*, High thermoelectric performance in p-type ZnSb upon increasing Zn vacancies: an experimental and theoretical study, *Journal of Materials Chemistry A*, 12, 13860-13875, 2024. [IF: 10.7 and Q1 Journal]
2. Madhuvathani Saminathan, Saravanan Muthiah, Rajasekar Parasuraman, Debattam Sarkar, Kiran Mangalampalli, Suresh Perumal*, Realizing low thermal conductivity in Cr-doped nanostructured higher manganese silicide, *Ceramics International,* 50, 33599-33606, 2024. [IF: 5.1 and Q1 Journal]
3. Moorthy, Manojkumar; Govindaraj, Prakash; Parasuraman, Rajasekar; Bhui, Animesh; Gadhavajhala, Sri Sai Samhitha; Srinivasan, Bhuvanesh; Venugopal, Kathirvel; Perumal, Suresh*, Sulfur vacancies driven band splitting and phonon anharmonicity enhance the thermoelectric performance in n-type $CuFeS_2$, *ACS Appl. Energy Mater.*, 7, 2008–2020, 2024. [IF: 5.1 and Q1 Journal]
4. Akshara Dadhich, Madhuvathani Saminathan, Saravanan Muthiah, Animesh Bhui, Suresh Perumal, MS Ramachandra Rao, Kanikrishnan Sethupathi, *Enhancement in Thermoelectric Performance in Ti-doped $Yb_{0.4}Co_4Sb_{12}$ Skutterudites via Carrier Optimization and Phonon Anharmonicity*, ACS Appl. Mater. Interfaces, 15 (45), 52368-52380, 2023. [IF: 8.5 and Q1 Journal]
5. Akshara Dadhich, Madhuvathani Saminathan, Kaushalya Kumari, Suresh Perumal*, MS Ramachandra Rao*, K Sethupathi*, *Physics and Technology of Thermoelectric Materials and Devices*, *J. Phys. D: Appl. Phys.,* 56, 333001, *2023*. [IF: 3.1 and Q2 Journal]

Declaration

I hereby declare that the information and documents which I have mentioned above are true to the best of my knowledge and belief.

Place: IIT Hyderabad
Date : 31/03/2025

(SURESH PERUMAL)