Srikanth Rangarajan, Ph.D.
Assistant Professor, School of System Science and Industrial Engineering, Binghamton University
Chief Thermal Technologist, Center for Energy Smart Electronics System, NSF IUCRC, Binghamton U

Education

Indian Institute of Technology Madras	Madras, India	Mechanical Engineering	M.S and Ph.D., 2017
Anna University	Madras, India	Mechanical Engineering	B.E, 2011

Areas of Interest

- Heat Transfer
- Energy Storage
- Digital twinning of Electronics and battery Systems
- Heterogeneous Integration
- Machine learning based modeling of heat transfer and fluid flow
- Multi Objective optimization for heat transfer and fluid flow

Experience

• 2024 - Present	• Assistant Professor, School of System Science and industrial Engineering, Binghamton University
• 2023 – 2026	• Associate Research Professor, Mechanical Engineering Department, SUNY Binghamton
• 2022-present	• Chief Technologist (Thermal), Center for Energy Smart Electronic Systems, New York State Center of Excellence at Binghamton University
• 2020-2023	• Assistant Research Professor, Mechanical Engineering Department, SUNY Binghamton
• 2020-present	• Research Scientist, Center for Energy Smart Electronic Systems, New York State Center of Excellence at Binghamton University
• 2018-2020	• Postdoc Fellow, Binghamton University with Distinguished SUNY Professor Bahgat Sammakia
• 2017-2018	• Postdoc Fellow, Indian Institute of Science with Distinguished Scientist Professor J. Srinivasan

Honors and Recognition

1. 2023 Received certificate of appreciation for an invited talk/presentation on Battery Thermal Management Co-Authored with Nobel Laureate Dr. Stanley Whittingham (Inventor of Lithium Ion Battery) at International Microelectronics Assembly & Packaging Society Symposium held at Boston, MA, USA.
2. 2023 Doctoral dissertation invited and presented as a keynote talk at the 17th International Heat Transfer Conference (Heat Transfer Olympics), Cape Town, South Africa. (Co-Author)
3. 2023 Defined a new non dimensional number termed as “Spreading Number” and published the results in the book “Embedded Cooling of Electronics”
4. 2023 Invited Panelist, Battery Thermal Management, International Heat Transfer Conference 17, Cape Town
5. 2023 Invited Panelist, IEEE Heterogeneous Integration Roadmap, ECTC 2023, Orlando, FL, USA
6. 2023 Invited Panelist, Electronics Cooling at Scale, iTherm 2023, Orlando, FL, USA
7. 2021 Invited as a reviewer for the prestigious Nature Electronics Journal (Impact Factor: 33.25)
8. 2019 Doctoral dissertation invited and presented as a keynote talk by my Ph.D. advisor at the Asian Symposium of Computation Heat Transfer held in Tokyo, Japan. (Co-Author)=
9. 2017 Postdoctoral Fellowship, Divecha Center for Climate Change, Indian Institute of Science

10. 2017 Postdoctoral Equivalent Fellow, Indian Institute of Technology Madras
11. 2017 Doctoral Research work invited and presented as a keynote talk by my Ph.D. advisor at IEEE CPMT
12. 2012 Half-Time Research Assistantship (HTRA) by the Indian Ministry of Human Resource Development (MHRD) Ranked amongst the top 1% in GATE (mechanical engineering) which is a nationwide common examination for admission to Master's/Doctoral programs in India.

PUBLICATION STATISTICS

Journal Publications	35
Conference Proceedings	20
Patent(s) granted	1
Book(s)	1
Book Chapter(s)	1
Total Citations (Google Scholar)	1054

Selected Publications

1. Balaji, Chakravarthy, and Srikanth Rangarajan. "THERMAL ENERGY STORAGE-PATHWAY TO ENERGY- EFFICIENT ELECTRONICS AND BATTERY SYSTEMS." In *International Heat Transfer Conference Digital Library*. Begel House Inc., 2023. *Keynote Paper*
2. Rangarajan, Srikanth, Leila Choobineh, and Bahgat Sammakia. "Supervised Machine-Learning Approach for the Optimal Arrangement of Active Hotspots in 3-D Integrated Circuits." *IEEE Transactions on Components, Packaging and Manufacturing Technology* 11, no. 10 (2021): 1724-1733.
3. Rangarajan, Srikanth, Yaser Hadad, Leila Choobineh, and Bahgat Sammakia. "Minimizing temperature nonuniformity by optimal arrangement of hotspots in vertically stacked three-dimensional integrated circuits." *Journal of Electronic Packaging* 142, no. 4 (2020): 041109.
4. Rangarajan, Srikanth, Scott N. Schiffres, and Bahgat Sammakia. "Scaling Limits, Challenges, and Opportunities in Embedded Cooling." Embedded Cooling of Electronic Devices: Conduction, Evaporation, and Single-and Two-Phase Convection (2024): 381-416.
5. Singh, Ayushman, Srikanth Rangarajan, Leila Choobineh, and Bahgat Sammakia. "Thermal Management of Electronics During Continuous and Intermittent Operation Mode Employing Phase Change Material- Based Heat Sinks—Numerical Study." IEEE Transactions on Components, Packaging and Manufacturing Technology 11, no. 11 (2021): 1783-1791.
6. Fallahtafti, Najmeh, Farzaneh Hosseini, Yaser Hadad, Srikanth Rangarajan, Cong Hiep Hoang, and Bahgat Sammakia. "Experimental Characterization and Geometrical Optimization of a Commercial Twophase Designed Cold Plate." Available at SSRN 4675755.
7. Fallahtafti, Najmeh, Srikanth Rangarajan, Yaser Hadad, Charles Arvin, Kamal Sikka, Cong Hiep Hoang, Ghazal Mohsenian, Vahideh Radmard, Scott Schiffres, and Bahgat Sammakia. "Shape optimization of hotspot targeted micro pin fins for heterogeneous integration applications." *International Journal of Heat and Mass Transfer* 192 (2022): 122897.
8. Gharaibeh, Ahmad R., Mohammad I. Tradat, Srikanth Rangarajan, Bahgat G. Sammakia, and Husam A. Alissa. "Multi-objective optimization of 3D printed liquid cooled heat sink with guide vanes for targeting hotspots in high heat flux electronics." *International Journal of Heat and Mass Transfer* 184 (2022): 122287.
9. Rangarajan, Srikanth and C. Balaji. "Experimental Investigation On The Heat Transfer Performance of A PCM Based Pin Fin Heat Sink with Discrete Heating." International Journal of Thermal Sciences 111 (2017): 188-203.
10. Rangarajan, Srikanth, Pavan Nemani, and C. Balaji. "Multi-Objective Geometric Optimization of a PCM Based Matrix Type Composite Heat Sink." Applied Energy 156 (2015): 703-714.

BOOK(S)

1. Srikanth Rangarajan, C Balaji. "Phase Change Material-Based Heat Sinks: A Multi-Objective Perspective," 019, CRC Press, N