Post-doctoral Fellow, Lawrence Berkeley National Laboratory (Supervisor: A.Z. Weber)

[2] Ann Marie Murray, Ph.D., Department of Mathematics, Statistics, and Physics, WSU, "Modeling the Melt Pool during Powder Bed Fusion Additive Manufacturing", 12/2023.

[3] Amin Hosseini, Ph.D., Department of Mechanical Engineering, WSU, " A Predictive Machine Learning Model for the Future Trend of Energy Consumption in Fully Electricity Homes Considering Occupancy Status of the Building", 07/2023.

[4] Preethi Santhanam, Ph.D., Computer Science, WSU, "Algorithms for Detecting Leftover Account Information and Extracting Android Programming Rules", 12/2022.

[5] Elaheh Shahryari, Ph.D., Department of Chemistry, WSU, " Innovative Approaches to Enhance Student Learning in Chemistry Laboratories: An Independent Study Conducted in Three Distinct Parts on Solvatochromism, Virtual Reality and Python Programing Applications", 12/2023.

[6] Farshad Houtaham, Ph.D., Department of Mechanical Engineering, WSU, "Investigation of Surface Facilitation for Upgrading Natural Gas to Value-Added Liquids und 9 Tf1 0S/F4 9 TfPh.D.,

[12] Azhar Hussain Mohammed, M.S., Department of Mechanical Engineering, WSU, “Tuning the Energy Bands of Sol-Gel Based $TIO_2$ Nanoparticles via $C_{60}$, SWCNT and ITO as Dopants”, 07/2016.

[13] Salahuddin Mohammad, en-US

[11] Qi Heng Weng, Department of Mechanical Engineering, WSU, "Development of Heterogeneously Surface Treated Gas Diffusion Layer of High Performance and Low Cost Proton-Exchange-Membrane Fuel Cells", 01/2015 – 12/2015.

[12] Yatharsana Manickavasagar, Department of Mechanical Engineering, WSU, "Development of Thin Sample Thermal Conductivity Measurement", 01/2015 – 12/2015.

[13] Aneek Noor, Department of Mechanical Engineering, WSU, "Development of Optimal Water Management System for a Proton Exchange Membrane Fuel Cell (PEMFC)", 01/2015 – 12/2015.

Undergraduate Projects (12 Graduates):

[1] Thy Tran, Khanh Tran, Dan Tha Thangi, and Jennifer Speck, Capstone Design, Department of Mechanical Engineering, WSU, "Smart Air Filter Quality Monitoring System", 01/2022 - 05/2022. Best Sustainable Engineering Project Award at Engineering Open House 2022 at WSU.

[2] Robert Winter, Darren Richardson, Henry Reichenberger, and

- Research Council, College of Engineering, WSU 09/18 – Present
- Undergraduate Coordinator, Department of Mechanical Engineering, WSU 08/19 – 05/20
- Award Committee Member, College of Engineering, WSU 09/15 – 08/18
- Mentor for Junior Faculty, College of Engineering, WSU 07/19 – 12/19
- Track Organizer, 2020 ASME ICNMM, Orlando, FL 09/19 – 07/20
- Topic Organizer, 2018 AIAA/ASME Joint Thermophysics and Heat Transfer Conference 08/17 – 06/18
- Topic Organizer, 2017/2018 ASME InterPACK, San Francisco, CA 01/17 – 07/17
- Topic Organizer, 2017 ASME Power and Energy Conference, Charlotte, NC 12/16 – 06/17
- Topic Organizer, 2016 ASME ICNMM, Washington DC 01/16 – 07/16
- Topic Organizer, 2015 ASME InterPACK&ICNMM, San Francisco, CA 02/15 – 07/15
- Topic Organizer, 2014 ASME IMECE, K10, Montreal, Canada 01/14 – 11/14
- Session Chair (Thermofluid Session), the 2009 Engineering Graduate Student Symposium, University of Michigan 11/09

Vice-President of the Student Union, Mechanical Engineering, Handong University 03/99 - 12/99

## CERTIFICATIONS

- Certificate in University Teaching, University of Michigan (attended learning and teaching related seminars and produced reflective essays, and subjected to observation and critical evaluation of multiple teaching events, improvement targets set)
- National Technical Qualification Certificate for Computer Programming, Korea

## PROFESSIONAL AFFLIATIONS

- Member of American Society for Mechanical Engineers (ASME)
- Member of Electrochemical Society (ECS)
- Korean-American Scientists and Engineers Association (KSEA)

## PROFESSIONAL PRESENTATIONS (Underlined for Presenter)

Presentations at Conferences:

[1] G.A. Riley, D.E. Mendez, M.K. Egbo, G. Hwang, and M. Derby, "Heat Transfer Effects of Sintered Particle Monolayers on Steam Flow Condensation in Mini-Channels With Flow Visualization (MNHMT2024-132214)", ASME 2024 7th Micro/Nanoscale Heat & Mass Transfer International Conference (MNHMT2024), 2024, 8/5-7, University of Nottingham, Nottingham, UK.

[2] S. Mehdi, M. Borumand, and G. Hwang, "(Poster Presentation) Probabilistic Machine Learning Models for Pool Boiling on Enhanced Surfaces", Micro Flow and Interfacial Phenomena, Evanston, IL, USA, 6/19 - 6/21/2023.

[3] W.R. Sixel, M. Kaviany, G. Hwang, and M.K. Egbo, "Experimental Demonstration and Characterization of a Ceramic Sintered Wick Heat Pipe Evaporator", American Institute of Aeronautics and Astronautics (AIAA) Aviation 2023 Forum, 3878, 2023, 06/12-16, San Diego, CA, USA.

[4] S. Mehdi, and G. Hwang, "(Poster Presentation) Accurate and Robust Prediction of Enhanced Pool Boiling Heat Transfer on Micro-structured Surfaces using Probabilistic Machine Learning Models", *Artificial Intelligence (AI) for Thermal Energy Science Workshop*, Irvine, CA, USA, 4/17 - 4/18/2023.

[5] W. Bevan, G. Hwang, and K. Choo, "Boiling Enhancement Using Water Jet Impingement on Porous Media Columnar Post Surface", 8th Thermal and Fluids Engineering Conference (TFEC), 993-999, 2023, 03/26-29, College Park, MD, USA.

[6] M. Borumand, S. E. Borujeni, M. Ausherman, G. Madiraddy, S. Nannapaneni, M. Sealy, and MCID 25/Langdy1(dy)7(ng)]TJETQ7.3

[28] P.A. Garcia-Salaberri, J.T. Gostick, G. Hwang, M. Vera, and A.Z. Weber, "Pore-Scale Calculations of Effective Diffusivity in Partially-Saturated GDLs: Application to PEFC Continuum Models," *12th Symposium on Fuel Cell and Battery Modeling and Experimental Validation*, Schloss Reinach, Freiburg-Munzingen, German, 3/27/2015.

[29] J. Gostick, G. Hwang, and A.Z. Weber, "Understanding invasion mechanisms in fibrous gas diffusion media: Direct comparison of simulations with tomographic visualization", *223rd Electrochemical Society (ECS) Meeting*, Toronto, Ontario, Canada, 05/12-05/16, 2013.

[30] G. Hwang, D. Parkinson, A. Kusoglu, A. MacDowell, and A.Z. Weber, "Understanding Water Uptake and Transport in Nafion® using X-ray Micro-Tomography", *245th American Chemical Society (ACS) National Meeting*

[45] G. Hwang, "Advanced Two-Phase Thermal Management Systems," Seminar at Thermal Hardware and Fluid Systems Engineering Group, NASA Jet Propulsion Laboratory (JPL), Pasadena, California, 12/06/2016.

[46] G. Hwang, "Advanced Thermal Management Systems," Seminar at Department of Applied Photonic Microsystems, Sandia National Laboratories, Albuquerque, New Mexico, 9/22/2016.

[47] G. Hwang, "

[61] E.

[4] Jacob Keese (Undergraduate Student) and G. Hwang (Faculty Advisor), “Enhanced Capillary Flow in Sintered Particles for Efficient Two-Phase Cooling Systems”, Undergraduate Research and Creative Activities (URCA) Grant, Wichita State University, $1,000, 12/01/2019-11/30/2020.

[5] Evan Waddell (Undergraduate Student) and G. Hwang (Faculty Advisor), “Ultrasound-Heated Polymer Skin for Efficient Deicing Systems”, Undergraduate Research and Creative Activities (URCA) Grant, Wichita State University, $1,000, 11/04/2019-11/04/2020.

[6] Nathan Albu (Undergraduate Student) and G. Hwang (Faculty Advisor), “Design of Highly Permeable Monolayer Wick for Enhanced Cooling”, Nebraska Nanoscale Facility Professor/Student Pair Project, University of Nebraska-Lincoln, $5,500, 06/01/2019 - 08/12/2019.

[7] Evan Waddell (Undergraduate Student) and G. Hwang (Faculty Advisor), “Deicing Performance Characterizations of Ultrasound-Activated Polymer Skin”, Undergraduate Engineering Summer Research Grant, College of Engineering, Wichita State University, $3,620, 06/07/2019 - 08/31/2019.

[8] G. Hwang (PI), “Dynamic 3D Capillary Flow Visualization using Fast X-ray Microtomography”, Award for Research/Creative Projects in Summer (ARCS), Wichita State University, $4,000, 05/01/2018 – 08/31/2018.

[9] Nathan Albu (Undergraduate Student) and G. Hwang (Faculty Advisor), “Design of Highly Permeable Monolayer Wick for Advanced Thermal Management Systems”, Undergraduate Engineering Research Grant, College of Engineering, Wichita State University, $3,500, 06/01/2018 - 08/17/2018.

[10]

3/1/2015-2/28/2016.

Computing Time:

[1] G. Hwang (PI), "Optimal Designs of Heterogeneous Nanomaterials for Advanced Thermal Management Systems", CTS160045, Computing Time and Data Storage in NSF XSEDE (SDSC), 400 K SUs and 2 TB, (Equivalent Value of $14,218), 10/01/2016 – 12/31/2017.

[48] G. Hwang, M. Kaviany, "Critical Heat Flux in Thin, Uniform Particle Coatings", *Int. J. Heat Mass Transfer*, 49, 844-849, 2006. (Citations: 134)

[49] J.Y. Lee, G. Hwang, M. Kim, "Experimental Investigation on Onset Criteria of Liquid/Gas Entrainment in the Header-Feeder System of CANDU", *J. Mech. Sci. Tech.*, 20, 1030-1042, 2006.

[50] J.Y. Lee, G. Hwang, M. Kim, H.C. NO, "Experimental Analysis of Off-Take Phenomena at Header-Feeder System in CANDU", *Ann. Nucl. Energy*, 33, 1-12, 2006. (Citations: 8)

## Peer-Reviewed Conference Papers

[1] G.A. Riley, D.E. Mendez, M.K. Egbo, G. Hwang, and M. Derby, "Heat Transfer Effects of Sintered Particle Monolayers on Steam Flow Condensation in Mini-Channels With Flow Visualization (MNHMT2024-132214)", ASME 2024 7th Micro/Nanoscale Heat & Mass Transfer International Conference (MNHMT2024), 2024, 8/5-7, University of Nottingham, Nottingham, UK.

[2] W. Bevan, G. Hwang, and K. Choo, "Boiling Enhancement Using Water Jet Impingement on Porous Media Columnar Post Surface", 8th Thermal and Fluids Engineering Conference (TFEC), 993-999, 2023, 03/26-29, College Park, MD, USA.

[3] W.R. Sixel, M. Kaviany, G. Hwang, and M.K. Egbo, "Experimental Demonstration and Characterization of a Ceramic Sintered Wick Heat Pipe Evaporator", American Institute of Aeronautics and Astronautics (AIAA) Aviation 2023 Forum, 3878, 2023, 06/12-16, San Diego, CA, USA.

[4] M. Borumand and G. Hwang, "Enhanced Pool Boiling Critical Heat Flux on Tilted Heating Surfaces using Columnar-Post Wicks (IMECE2021-70054)", Proceedings of the ASME 2021 International Mechanical Engineering Congress and Exposition (IMECE), 2021.

[5] M. Borumand, S. E. Borujeni, S. Nannapaneni, M. Ausherman, G. Madiraddy, M. Sealy, and G. Hwang, "Process Mapping of Additively-Manufactured Metallic Wicks Through Surrogate Modeling (IMECE2021-71241)", Proceedings of the ASME 2021 International Mechanical Engineering Congress and Exposition (IMECE), 2021.

[6] M. Borumand, T. Lee, and G. Hwang, "Enhanced Wickability of Thin Non-uniform sintered Particle Wicks using Lattice Boltzmann Method (IMECE2020-24311)", Proceedings of the ASME 2020 International Mechanical Engineering Congress and Exposition (IMECE), 2020, 11/17.

[7] M. Bashir, K. Sit, R. Nair, and G. Hwang, "Additive Manufacturing of Thin Wick Structures using Microsecond Pulse Laser (ICES-2019-234)", 49th International Conference on Environmental Systems, 2019, 07/07-11, Boston, MA, USA.

[8] N. Albu, J. Keese, and G. Hwang, "Bimodal, Thin Wick Structures for High Heat Flux Two-Phase Thermal Control Systems (ICES-2019-206)", 49th International Conference on Environmental Systems, 2019, 07/07-11, Boston, MA, USA.

[9] M. Borumand and G. Hwang, "High Heat Flux Two-Phase Thermal Control System using Non-Uniform Capillary Evaporator