

Zijie Chen

E-mail: zijiech@umich.edu; Mobile Phone: (1)734-882-8806
Add.: 1666 Cram Circle, Apt. 06, Ann Arbor, Michigan, USA, 48105

Education

❖ 08/2020-Now: University of Michigan-Ann Arbor

Ph.D. candidate

Major: Mechanical Engineering

GPA: 4.0/4.0

❖ 09/2018-04/2020: University of Michigan-Ann Arbor

Degree: Master of science in engineering

Major: Mechanical Engineering

GPA: 3.912/4.0

❖ 09/2014-06/2018: Shandong Jianzhu University

Degree: Bachelor's Degree in Engineering

Major: Building Environment and Energy Application Engineering

GPA: 3.84/4.0

Awards & Honors

- ❖ 12/2020: 2020-2021 Rackham International Student Fellowship
- ❖ 08/2020: 2020-2021 Fellowship awarded by Michigan Institute for Computational Discovery and Engineering (MICDE)
- ❖ 12/2017: National Scholarship awarded by *Ministry of Education* of China
- ❖ 06/2017: Candidate for the Preliminary Contest of Artificial Environmental Engineering Scholarship, set up by National Construction Environment and Equipment Engineering Discipline Committee
- ❖ 05/2017: First Prize in National English Competition for College Students
- ❖ 04/2017: First-Class Scholarship awarded by *GREE Group*
- ❖ 04/2017: Successful Participant in 2017 Mathematical Contest in Modeling (MCM)
- ❖ 10/2016: Second Prize in China Undergraduate Mathematical Contest in Modeling
- ❖ 12/2015: Government Scholarship of Shandong awarded by *Ministry of Education* of Shandong province of China

Publications and Oral Presentations

- ❖ **Chen, Z.**, Modak, S., Kaviany, M., Bonner, R., “Direct Simulations of Biphilic-Surface Condensation: Optimized Size Effects”, *Frontiers in Heat and Mass Transfer*, **14**, 1, 2020.
- ❖ Hoeing, S., Modak, S., **Chen, Z.**, Kaviany, M. Gilchrist, J., and Bonner, R., “Role of Substrate Thermal Conductivity and Vapor Pressure in Dropwise Condensation”, *Applied thermal engineering*, **178**, 115, 2020.
- ❖ **Chen, Z.**, Bala Chandran R., 2020, “Using Monte Carlo Ray Tracing and Data-Driven Techniques for Radiative Transport in Particulate Media.”, Oral speaker for AIChE Second Solar Energy Systems Conference, in virtual.

- ❖ **Chen, Z.,** Bala Chandran R., 2020, “Using Monte Carlo Ray Tracing and Data-Driven Techniques for Radiative Transport in Particulate Media.”, Oral speaker for ASME 2020 IMECE International Mechanical Engineering Congress & Exposition, in virtual.
- ❖ **Chen, Z.,** Bala Chandran R., 2021, “Using Monte Carlo Ray Tracing and Data-Driven Techniques to Model Radiative Transport in Particulate Media.”, Oral speaker for SHTC 2021 summer heat transfer conference, in virtual.
- ❖ **Chen, Z.,** Bala Chandran R., 2021, “Monte Carlo Ray Tracing Simulations and Data-Driven Models for Radiative transport in Particulate Media.”, Oral speaker for Georgia Tech Workshop, in virtual.
- ❖ **Chen, Z.,** Mayer, M. (Equal contributor), Dai, X., Bala Chandran R., 2022, “Effects of Thermal Convection on Species Transport in Photocatalytic Suspension Reactors.”, Oral speaker for ECS 241st the electrochemical society meeting 160295, in virtual.
- ❖ **Chen, Z.,** Keene, S., Gaieck, W., Phun, G. S., Stinson, R., Stinson, W. D. H., Wang, Y., Barrera, L., **Chen, Z.,** et al, 2022, “Optimization of Z-Scheme Photocatalytic Reactors for Solar Water Splitting.”, author for ECS 241st the electrochemical society meeting 162366.
- ❖ **Chen, Z.,** Li B. (Equal contributor), Bala Chandran R., 2022, “Modeling Heat Transfer including Radiation in Gravity-Driven Granular Flows Using Discrete Element Method.”, Oral speaker for SHTC 2022 summer heat transfer conference 87817, in person.
- ❖ **Chen, Z.,** Bala Chandran R., 2022, “Data-Driven Techniques to Obtain Radiative View Factor Correlations in Particulate Media.”, Oral speaker for SHTC 2022 summer heat transfer conference 87818, in person.
- ❖ **Chen, Z.,** Li B. (Equal contributor), Bala Chandran R., 2022, “Modeling Heat Transfer including Radiation in Gravity-Driven Granular Flows using Discrete Element Method.”, Poster for SolarPACES 28th Solar Power & Chemical Energy Systems 18575, in person.
- ❖ **Chen, Z.,** Bala Chandran, R., “Radiative View Factor Correlations in Particulate Media from Ray Tracing Simulations and Data-Driven Modeling”, *International Journal of Heat and Mass Transfer*, **213**, 124250, 2023.

Professional Experience

- ❖ 09/2020-Present: Graduate Student Research Assistant, University of Michigan
 - Advisor: Rohini Bala Chandran
 - Project: Data-driven Modeling for Radiative Transport in Participating Media, funded by ARC-PRF
 - Project: Effects of Thermal Convection on Species Transport in Photocatalytic Suspension Reactors, funded by DOE-EERE
- ❖ 01/2021-04/2021:EECS545 Course project, “Image Colorization using Conditional Generative Adversarial Network (CGAN) with Local Hints”
- ❖ 01/2020-04/2020: Grader for ME530 Advanced heat transfer
- ❖ 09/2019-12/2019: ME599 Course project, “A case study of solar thermal hydrogen production”
- ❖ 09/2019-12/2019: Grader for ME335 Heat transfer
- ❖ 01/2019-09/2019: Individual Project and summer research, University of Michigan
 - Advisor: Massoud Kaviani
 - Project: Direct simulations of biphilic-surface condensation: optimized size effects

- ❖ 01/2019-04/2019: ME502 Course project, “Computational analysis for temperature distribution in laser-based additive manufacturing”
- ❖ 01/2019-04/2019: Grader for ME335 heat transfer
- ❖ 03/2018-04/2018: Internship in Shandong Dawei International Architecture Design Co., LTD, worked as Technical Assistant in Building Service Department
- ❖ 07/2017-08/2017: Internship in Shandong Tongchuang Architectural Design Co., LTD, worked as Technical Assistant in Building Service Department
- ❖ 05/2017-08/2017: Key participant in the 15th Session of Design Application Competition of MDV Central Air-Conditioning
- ❖ 07/2015: Key participant in the summer social practice on energy utilization in Blue Economic Zone of Shandong Peninsula

Outreach and Volunteering

- ❖ 01/2023: Winter 2023 Science Communication Fellows Program
- ❖ 11/2022: Graduate Employees' Organization member
- ❖ 10/2017: Student volunteer in the 10th International Symposium on HVAC
- ❖ 12/2015: Outstanding Individual as an Organizer in the 6th Energy-Saving and Emission Reduction Competition and Green Riding, Shandong Jianzhu University
- ❖ 04/2015: Outstanding Volunteer in Contemporary College Students' Entrepreneurship to Lead Public Welfare Programs
- ❖ 11/2014-12/2014: One-Star Volunteer in Unite the Force for Good, a public welfare activity launched by China Foundation for Poverty Alleviation (CFPA)

Computer Skills

- ❖ MATLAB, C++, Python, Julia, LIGGGHTS, COMSOL, Star-CCM+, ParaView, GaussViewV5.0, Adobe Illustrator, Photoshop, CAD, Office.

Hobbies

- ❖ Calligraphy, table tennis, photography, swimming.

Reviewed paper

- ❖ Y. Hammo, K.S. Al-Athel, “CFD Analysis of a Ceramic Foam Heat Absorber for Solar/Thermal Applications”.
- ❖ Yogesh Jaluria, Arvinth Sunder and Jingru Zhang, “Thermal Management of Data Centers Under Steady and Transient Conditions”.
- ❖ Iyad Hijazi , Rui Xie, “Study of the Piezoelectric Properties of UV-selective Optically Transparent ZN(O,S) Based Solar Cells”.
- ❖ Elizabeth D. Juette, Van P. Carey, Jean Pierre Fleurial, “Prediction of Thermionic Energy Conversion Performance and Parametric Effects using Genetic Algorithms to Fit Physics-Inspired Model Equations to Prototype Test Data”.
- ❖ David Garraway, Abdur Rob, Geoffrey Turbeville, Prathap Ramamurthy, Jorge Gonzalez_Cruz, “Development of Electrified Transcritical R744 Heat Pump Systems for NorthEastern Winter Markets”.