TITAN CHANDRA PAUL, Ph.D.
Associate Professor of Engineering
University of South Carolina Aiken
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EDUCATION

Ph.D. in Mechanical Engineering **July 2014**
University of South Carolina, Columbia, SC
M.S. in Mechanical Engineering **July 2009**
Tuskegee University, Tuskegee, AL
B.S. in Mechanical Engineering **June 2005**
Bangladesh University of Engineering and Technology, Dhaka

AWARDS & HONORS

- USCA Scholarly Achievement Award 2020, 2024
- Nominee of USCA Community Service Award 2023
- Nominee of USCA Excellence of Teaching Award 2021
- Travel Grant Award to Attend ASTFE Conference 2017
- Travel Grant to Attend the NSF-HTD Workshop, 2013
- Travel Grant Award from Graduate School, USC, 2012, 2013
- Graduate Research Assistantship, USC (2010-2014)
- Graduate Research and Teaching Assistantship, Tuskegee University (2007-2009)
- Dean's List Award, BUET (2003)
- Merit List Scholarship, BUET, Dhaka, Bangladesh 2000-2005

PROFESSIONAL EXPERIENCE

- USCA Engineering Endowed Chair **Aug 2023-Present**
- Associate Professor of Engineering (Tenured) **Aug 2021-Present**
  University of South Carolina Aiken, SC, USA
- Assistant Professor of Engineering **Aug 2016-July 2021**
  University of South Carolina Aiken, SC, USA
- Postdoctoral Research Associate & Instructor **Aug 2014-Jul 2016**
  Department of Mechanical Engineering
  University of South Carolina, Columbia, SC, USA
- Lecturer, Department of Mechanical Engineering **Dec 2006-Jul 2007**
  Dhaka University of Engineering and Technology, Gazipur, Bangladesh
- Lecturer, Department of Mechanical Engineering **Jul 2006-Nov 2006**
  Military Institute of Science and Technology, Dhaka, Bangladesh

RESEARCH INTEREST

- Heat transfer and energy storage liquid for solar technologies
- Convective heat transfer, Heat transfer with phase change
- Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC&R)
- Numerical methods in conjugate heat and mass transfer problem
- Nanoscale heat transfer and thermal management of microelectronics
- Heat transfer and moisture migration problems in building environment
- System level thermal modeling
- Nanoengineered fluids and thermal transport across nanoengineered interfaces

Research Grant

1. **CORE-SC-2024** "Exploring Thermophysical Properties of Ionic Liquids (ILs) based Nanofluids using Machine Learning Techniques for Solar Thermal Applications" (Amount requested: $49,958) (**Granted, Role: PI**).
2. **SC EPSCoR Scientific Advocate Network (SAN)-2024** "Effect of Synthesis Parameter on Thermophysical Properties of Ionic Liquids (ILs) based Nanofluids for Solar Thermal Applications" (Amount requested: $14,921) (**Granted, Role: PI**).
3. **NSF ERI-2023: "**Enhancing Flow Boiling Stability through Secondary Flow Interconnectors in Divergent Microchannels" (Amount requested: $199,891) (**Pending, Role: PI**).
4. **USCA Grant Preparation Award 2023,** Amount $5000.00
5. **NSF ERI-2022: "**Stabilization of flow boiling by introducing secondary flow through interconnector in counterflow diverging microchannel" (Amount requested: $199,871) (**Not granted, Pending, Role: PI**).
6. **ASPIRE-1-2022** "Flow Boiling Stabilization by using Interconnector in Counterflow Microchannel" $15000.00 (**Granted, Role: PI**)
7. **RISE-2022** "Entropy Generation of Nanoparticles Enhanced Ionic Liquids (NEILs) for Solar Thermal Applications" Amount: $6000.00 (**Granted, Role: PI**)
8. **USCA Teaching Innovation Grant-2021** "Hands-on experience with data acquisition system using NI myDAQ-University Kit" Amount: $2912.00 (**Granted, Role: PI**)
9. **RISE-2021 "**Experimental Investigation of Stability of Nanoparticle Enhanced Ionic Liquids (NEILs)" Amount: $6000,00 (**Granted, Role: PI**)
10. **WORC-2020** Research Emphasis Group Grant for AY2020-2021, Amount: $15000.00 (**Granted, Role: PI**).
11. **RISE-2017 "**Computational Modeling of Ionic Liquids (ILs) Based Nanofluids for Solar Thermal Applications- Amount-$6000.00 (**Granted, Role: PI**).
12. **ASPIRE-I-2018**: Nanoparticles Size Effect on Thermophysical Properties of Ionic Liquids Based Nanofluids, Amount: $15,000.00 (**Granted, Role: PI**).
13. **ASPIRE-III-2021 "**Acquisition of a Modern Materials Science Instrumentation Suite to Enhance Research Capacity, Student Work-Readiness, and External Partner Engagement at USC Aiken**"** Amount: $93,220.00 **(Granted, Role: PI).**
14. **NSF CAREER-2021: "**Quantification of Nanoparticles-Ionic Liquid (IL) Molecular Interaction for Stable IL Based Nanofluids" (Amount requested: $507,870) (**Not granted, Role: PI**).
15. **NSF ERI-2021: "**Stabilization of flow boiling by introducing secondary flow through interconnector in counterflow diverging microchannel" (Amount requested: $199,871) (**Not granted, Role: PI**).
16. **NSF-2021:** "System Dynamics-Based Framework for Plug-In Electric Vehicle and Smart Grid Integration" (Amount requested: $412,656) (**Not granted, Role: Co-PI**).
17. **NSF CAREER-2020: "**Comprehensive Assessment of Ionic Liquid (IL) Based Nanofluids for Solar Thermal Energy (STE) Systems". (Amount requested: $734,140) (**Not granted, Role: PI**).
18. **RISE-2018:** "Thermodynamic Optimization of Ionic Liquids (ILs) Based Nanofluids Flow through Circular Tube" Amount requested: $6,000.00 (**not granted, Role: PI**).
19. **ASPIRE-II** "System Dynamics-Based Framework for Vehicle-to-Grid Systems Incorporating Battery Thermal Management" Amount requested: $100,000.00 **(Not granted, Role: Co-PI)**

Student Funding

1. **Magellan and Mini-Magellan 2018**: Brandon Eberl "Effect of Nanoparticles Shape on Thermal Conductivity of Ionic Liquids Based Nanofluids" Amount: $2750.00+$750.00.

2. **Summer Scholar Institute 2018**: Kevin Main "Nanoparticles Shape Effect on Viscosity of Ionic Liquids Based Nanofluids" Amount: $7,000.00.
3. **Magellan 2019**: Melanie L Howe "The Effect of the Water Content on Thermophysical Properties of Ionic Liquids" Amount: $2500.00.
4. **USCA Connections Award 2020**: Melanie L Howe "The Light Absorption of Nanoparticle-enhanced Ionic Liquids for Solar Thermal Applications" Amount: $1,000.00.
5. **Summer Scholar Institute 2019**: Bradley Clifford Jones "Nanoparticles Surface Area Effect on Thermophysical Properties of Nanofluids" Amount: $7,000.00.
6. **Summer Scholar Institute 2020**: Melanie L Howe, "The Effect of the Water Content on Nanoparticle-Enhanced Ionic Liquids" Amount: $8,000.00.
7. **Summer Scholar Institute 2020**: Caroline Dempsey, "Thermal Management in Electronic Devices Using Nanofluids" Amount: $8,000.00**.**
8. **Magellan 2020:** Caroline Dempsey, "Nanoparticles Shape Effect on Stability of Water-Al_2O_3 Nanofluids" Amount: $2750.00
9. **Magellan 2021:** Anna Hawcroft, "Nanoparticles Size Effect on Stability of Ionic Liquids Based nanofluids" Amount: $2750.00
10. **Magellan 2023**: Crystal Garcia, "Effect of Surface Roughness and Oxidation on Contact Angle for Heat Transfer Applications" Amount: $2930.00
11. **USCA Connection Award 2023**: Anthony V. Longobardo "The Effect of Mixing Time on the Viscosity of Nanofluids" Amount: $1,000.00
12. **Magellan 2023:** Anthony V. Longobardo "Effect of Nanoparticles Shape on the Dispersion Stability of Nanoparticle Enhanced Ionic Liquids (NEILs)" Amount: $3,000.00.
13. **Magellan 2024**: Truman J. Brabham "Comparative Study of Pressure Drop of Nanoparticle Enhanced Ionic Liquids (NEILs) with Traditional Heat Transfer Fluids (HTFs)" Amount: $2,500.00.

RESEARCH EXPERIENCE

- **University of South Carolina Aiken** **Aug 2016-Present**

Research direction#1: Ionic liquids based nanofluids for concentrated solar applications.

I have demonstrated thermophysical properties and thermal performance of ionic liquids based nanofluids. In USCA, we have investigated the nanoparticles size and shape effect on ionic liquids based nanofluids and radiative properties of ionic liquids based nanofluids. My RISE and ASPIRE-I grants were based on this project, and I have applied for NSF CAREER grant this year based on the preliminary results.

Research direction#2: Water-Al_2O_3 nanofluids for electronic cooling devices

Nanofluids are the liquids prepared by dispersing small amounts of nanoparticles in base fluids and it shows the enhanced thermophysical properties and thermal performance. We are now investigating the effect of nanoparticles morphology on thermophysical properties of nanofluids. There are two summer scholar institute award recipients based on water-Al2O3 based nanofluids project. There are three student's presentation in USCA summer symposium. I have one (co-authored) journal publication based on the water based nanofluids.

Research direction#3: Nanofluids for Lithium-ion battery thermal management

The experimental framework will be mini-channel counter flow configuration with Al_2O_3 nanofluids flow in different concentrations. I have submitted a proposal to NSF as a co-PI.

Research direction#4: Microchannel heat sink for heat removal of high heat flux electronic devices

Experimental and numerical investigation was conducted for interconnected counterflow mini channel for heat removal of high heat flux electronic devices. Preliminary results have been used to prepare my NSF ERI proposal.

Research direction#5: Molecular dynamic simulation of nanoengineered surface for heat transfer application.

Heat transfer performance of a surface can be tailored by controlling the nanostructures to suit different applications, i.e. thermal management of microelectronics, ultra-compact two-phase heat exchanger, heat transfer equipment for corrosive environment, friction reduction in oil pipeline, etc. Using molecular dynamics (MD) simulation we demonstrate the detail of the boiling heat transfer. Outcomes of this project are: two published journal articles and six conference proceedings.

- **Postdoctoral Research Associate** **Aug 2014-Jul 2016**
  Department of Mechanical Engineering, University of South Carolina

System-level thermal models and simulations (Supported by the **ESRDC** consortium funded by **US Office of Naval Research**).

- **Graduate Research Assistant** **Jan 2010-Jul 2014**
  Department of Mechanical Engineering, University of South Carolina

Noble energy storage liquid development for concentrating solar power (CSP) applications (Supported by **Department of Energy (DOE)** Solar Energy Technology Program through **Savannah River National Laboratory**)

Innovative heat transfer research for high heat flux electronics cooling (Supported by the **ESRDC** consortium funded by **US Office of Naval Research**)

- **Graduate Research Assistant** **Aug 2007-Jul 2009**
  Department of Mechanical Engineering, Tuskegee University

Moisture migration and indoor air quality of building envelopes (Supported by the **Department of Homeland Security** through **Oak Ridge National Lab**)

TEACHING EXPERIENCE

- **University of South Carolina Aiken**
  Introduction to Engineering-I (ENCP A101)- Fall-2016
  Statics (ENCP A200)-Fall-2016
  Fluid Mechanics (ENCP A360)-Fall-2016,2017,2018,2019,2020,2021, 2022.
  Instrumentation, Measurements, and Statics (ENCP A361)-Fall-2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, Summer 2018, 2019, 2020, 2021, 2022, 2023.
  Dynamics (ENCP A310)-Spring-2017, 2018
  Design of Mechanical Elements (ENCP A327)-Spring-2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024.
  Thermodynamics Fundamentals (ENCP A290)-Spring-2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024.
  Mechanics of Solids (ENCP A260)-Spring-2017, 2019, 2020, 2021
  Control Systems (ENCP A316)-Fall-2017, 2018, 2019, 2020, 2021, 2022, 2023
  Thermodynamic System Design and Analysis (ENCP A394)-Fall-2017, 2018, 2019, 2023
  Heat Transfer (ENCP A354)-Spring 2021, 2022, 2023, 2024.
  Heat Transfer Lab (ENCP A354L)-Spring 2022, 2023, 2024.
  Mechatronics (ENCP A368)-Fall 2022, 2023
- **University of South Carolina, Department of Mechanical Engineering**
  Heat Transfer (EMCH 354)-Summer 2020, 2022, 202, 2024

Intermediate Fluid Mechanics (EMCH 560)-Summer-2019.
Introduction to the Mechanics of Solids (EMCH 260) Summer-2016.
Statics (EMCH 200)-Summer 2017.
Thermodynamic Fundamentals (EMCH 290)-Fall 2014, 2015, Spring 2015, 2016, Summer 2016
Fluid Mechanics (EMCH 360)-Spring 2015 (58 Students), Summer 2015 (20 Students), Fall 2015 (112 Students), Spring 2016 (78 students).
Thermodynamic System Design and Analysis (EMCH 394)-Fall 2015 (123 Students), Spring 2016 (100 students).

SUPERVISION EXPERIENCE

Current Student

Truman J. Brabham (BS in Mechanical Engineering at USC Aiken)
Turner Miles Peeples (BS in Mechanical Engineering at USC Aiken)
Othello Gene Cooper (BS in Mechanical Engineering at USC Aiken)

Former Student

Anthony Vincent Longobardo (BS in Industrial Process Engineering at USC Aiken)
Matthew Dunlop (BS in Mechanical Engineering at USC Aiken)
Crystal I Garcia (BS in Mechanical Engineering at USC Aiken)
Brandon Eberl (BS in Industrial Process Engineering at USC Aiken) Graduated-May 2019
Kevin Main (BS in Industrial Process Engineering at USC Aiken)- Graduated-May 2019
Daniel McDaniel (BS in Industrial Process Engineering at USC Aiken)- Graduated-May 2019
Bradley Jones (BS in Industrial Process Engineering at USC Aiken)- Graduated-May 2020
Bryana Preston (BS in Industrial Process Engineering at USC Aiken)- Graduated-May 2020
Melanie L Howe (BS in Industrial Process Engineering at USC Aiken)- Graduated-May 2021
Caroline Dempsey (BS in Industrial Process Engineering at USC Aiken)- Graduated-May 2021
Anna Hawcroft (BS in Industrial Process Engineering at USC Aiken)- Graduated-May 2022
James Hale (BS in Industrial Process Engineering at USC Aiken)- Graduated-May 2022
Andrew Kricke (BS in Industrial Process Engineering at USC Aiken) Graduated-May 2022
Amitav Tikadar (MS in Mechanical Engineering at USC Columbia, Graduated: Summer-2019)
Ahmed M. Abir (MS in Mechanical Engineering at USC Columbia, Graduated: Spring-2017)
Iftekhar Khan (BS in Mechanical Engineering at USC Columbia, Graduated: Spring 2016)
Anshul Karn (Visiting undergraduate student (Int. student exchange program) –Summer 2015
Supervised 2 visiting undergraduate student (Int. student exchange program) –Summer 2013

PROFESSIONAL SERVICES AND ACTIVITIES

Professional Membership

- American Society of Mechanical Engineers (ASME)
- American Society of Thermal and Fluid Engineers (ASTFE)
- Institute of Industrial and Systems Engineers (IISE)

Conferences:

- Session Chair, 4th Thermal and Fluid Engineering Conference 2019.
- Session Chair, 5-6th Thermal and Fluid Engineering Conference 2021
- Session Chair, 7th Thermal and Fluid Engineering Conference 2022
- Session Chair, 8th Thermal and Fluid Engineering Conference 2023

Reviewer Services

Conference:

- ASME Summer Heat Transfer Conference 2012, 2013, 2019, 2020, 2021, 2023, 2024

- International Congress on Advances in Nuclear Power Plants ICAPP 2014, 2015, 2020
- ASME International Mechanical Engineering Congress & Exposition 2015, 2016, 2018, 2019, 2022
- International Conference of Mechanical Engineering ICME 2013, 2015
- Thermal and Fluid Engineering Conference, 2019, 2020, 2022, 2023, 2024.
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Journal:

2016

Entropy (1)

2017

Applied Sciences (1), ASME Journal of Fluids Engineering (2), ASME Journal of Solar Energy Engineering (1), Energies (3), Entropy (1), Journal of Nanomaterials (1), Micron (1), Nanomaterials (2) Materials (1)

2018

Applied Sciences (3), Chemical Physics Letters (1), Energies (3), Entropy (1), Iranian Journal of Science and Technology (1), Materials (1)

2019

Applied Sciences (1), Energies (1), Engineering Sciences and Technology an international Journal (2) Entropy (1), Frontiers in Physics (1), International Communications in Heat and Mass Transfer (1) Inventions (2), Journal of Applied and Computational Mechanics (1), Journal of Energy Storage (1) Journal of Molecular Liquids (1), Micromachines (1), World Journal of Nano Science and Engineering (1)

2020

Energies (4), International Communications in Heat and Mass Transfer (4), International Journal of Critical Infrastructures (1), International Journal of thermal Science (2), Materials (1), Micron (1), Molecules (1), Nanomaterials (2), Processes (3), SN applied science (1), Sustainable Energy Technologies and Assessments (1), World Journal of Nano Science and Engineering (1)

2021

Applied Sciences (3), Chemical physics letter (2), Crystals (1), Energies (4), Fluids (3), Frontiers in Mechanical Engineering (1), International Communication of Heat & Mass Transfer (4), International Journal of Heat & Mass Transfer (1), International Journal of Thermal Sciences (4), Journal of Energy Storage (3), Journal of Molecular Liquids (1), Processes (1), Sensors (1), Sustainability (4), Sustainable Energy Technologies and Assessments (1).

2022

Case Studies in Thermal Engineering (3), Energies (2), Entropy (2), Frontiers in Energy Research (1), Heat Transfer (1), International Communication of Heat & Mass Transfer (6), International Journal of Thermal Sciences (2), Journal of Energy Storage (8), Journal of Engineering Advancements (1), Journal of molecular liquids (4)

2023

Materials Today Communications (1), International Communication of Heat & Mass Transfer (14), Heliyon (1), Journal of Molecular Liquids (1), Applied Thermal Engineering (1), ASME Journal of Manufacturing Science and Engineering (1), Case Studies in Thermal Engineering (2), Frontiers in Mechanical Engineering (1), Frontiers in energy research (1), Heat Transfer (1)

2024

International Journal of Thermofluids (1), International Journal of Heat and Mass Transfer (1), Sustainable Energy Technologies and Assessments (2), International Communication of Heat & Mass Transfer (1), Case Studies in Thermal Engineering (2)

Special Issue Editor

"Processes: Molecular Dynamics Simulation of Nanofluids and Nanoengineered Surface".
"Processes: Energy Storage Liquid for Solar Technologies"
Editorial board member of Frontiers in Thermal Engineering
Editorial board member of Processes

Department Service:

I have been serving as a chair of the departmental seminar series since Fall-2017 where I arrange departmental seminars each semester. I invite speakers from other universities and SRNL and coordinate the seminar schedule and send out notices on the events to UofSC Aiken students and faculty.
I have been serving as a member of the Engineering program accreditation committee (ABET accreditation) since Fall 2016.
I have developed the two-engineering labs (Instrumentation & measurement lab and Heat Transfer lab) in the engineering program at USCA from scratch. I have processed all the lab equipment's purchase and their test run.
Mentored 14 undergraduate students at USCA in my lab.
Supervised two master's students in the Department of Mechanical Engineering at University of South Carolina.
Served as a committee member in a Ph.D. dissertation in the Department of Mechanical Engineering at University of South Carolina.

University Committee:

- Member, Undergraduate Research Action Team, 2020-Present
- Member of Post-tenure Review Committee 2023-Present
- Member of Nomination Committee 2023-Present
- Member of USCA Provost Search Committee 2023-2024.
- College of Sciences & Engineering Dean Search Committee member 2020
- Chair, Honors, Awards, & Scholarship (HAS) Committee, 2022-2023
- Member, Honors, Awards, & Scholarship (HAS) Committee, 2020-2022
- Computer science faculty search committee member 2018-2019, USCA
- Engineering faculty search committee member 2016-2017, USCA
- Department seminar committee chair, USCA-2017-continue.
- ABET accreditation committee member, USCA-2016-continue.
- College of Sciences & Engineering Dean Search Committee member 2020
- Computer science faculty search committee member 2018-2019, USCA
- Engineering faculty search committee member 2016-2017, USCA

Local Community Service:

Presented to Science on Tap program (2020) to showcase USCA engineering program.
Presented to FIRE (Fueling Instructional Rigor for Educators) (2022) to showcase the USCA engineering program. FIRE is organized by Aiken County Public School District.
Served as a judge to the future city competition 2023. Savannah River Nuclear Solutions, LLC in partnership with the Ruth Patrick Science Education Center presents the 2023 Future city competition. I was the judge for middle school students design project for future city.

Served in the AP Research Presentation and Oral Defense panels in Aiken Scholar Academy 2021 and 2022.
Served as an expert advisor of AP research in Aiken Scholar Academy 2020.
Magellan proposal review panel 2019, 2020, 2022, 2024
USCA connection award proposal review panel 2018
Proposal review for summer INBRE proposal for Presbyterian College 2022, 2020
ASPIRE proposal review panel 2019.
RISE proposal review panel 2023.
SPARK proposal review panel 2024.
Moderator at Scholar Showcase at USCA-2018
USCA SEED Day volunteer-2018
Reviewer for Discover USC 2017, 2018, 2019, 2021, 2022 USC Columbia

JOURNAL PUBLICATIONS

The following information is based on Google Scholar profile.
Google Scholar: https://scholar.google.com/citations?user=aS6z6dUAAAAJ&hl=en
Articles found: 69, Citations: 1007, H-index: 17
Publication includes one Solar Energy Materials & Solar Cells (Impact Factor: 7.267), one in ***Applied Energy*** (Impact Factor: 7.182), one in Journal of Molecular Liquids (6.165), one in ***Building and Energy*** (Impact Factor: 4.067), five in ***Applied Thermal Engineering*** (Impact Factor: 3.356), four in ***International Journal of Heat and Mass Transfer*** (Impact Factor: 3.458), two in ***Experimental Thermal and Fluid Science*** (Impact Factor: 2.83), and one in ***Physica E: Low-dimensional Systems and Nanostructures*** (Impact Factor: 2.221), One in **International Communication of Heat & Mass Transfer** (Impact Factor: 3.971), One in **Processes** (Impact Factor: 2.753), one in **ASME Journal of Thermal Science and Engineering Applications** (Impact Factor: 1.544)
*Indicates the corresponding author, underlines are the undergraduate authors.

1. Khan, M. A., Morshed, AKM. M. **Paul, T. C.** "A machine learning-oriented pseudo-field approach to accelerate runtime of molecular dynamics simulation of liquids" Molecular Simulation https://doi.org/10.1080/08927022.2023.2238074
2. Morshed, AKM. M., Shuvo, A.A., Bappy, M. O, Tikadar, A., **Paul, T. C.*** "Investigation of Fluid Flow and Heat Transfer Characteristics in Wavy Mini-Channel Heat Sink With Interconnectors" ASME Journal of Heat and Mass Transfer, NOVEMBER 2023, Vol. 145 / 111002-1.
3. **Paul, T. C.*,** Tikadar, A., Mahamud, R., Salman, A. S., Morshed, AKM. M., Khan, J. A. "A Critical Review on the Development of Ionic Liquids-Based Nanofluids as Heat Transfer Fluids for Solar Thermal Energy" Processes 2021, 9, 858. https://doi.org/10.3390/pr9050858.
4. Main, K. L., Eberl, B. K., McDaniel, D., Tikadar, A., **Paul, T.C.*,** Khan, J. K. "Nanoparticles size effect on thermophysical properties of ionic liquids based nanofluids" Journal of Molecular Liquids 343 (2021) 117609.
5. Howe, M.L., **Paul, T.C.*,** Khan, J. A. "Radiative properties of Al_2O_3 nanoparticles enhanced ionic liquids (NEILs) for direct absorption solar collectors" Solar Energy Materials & Solar Cells 232 (2021) 111327
6. Shahadat, M. B., Roni, R. H., Masnoon, A. S., Shamim, S. A., Morshed,AKM. M., **Paul, T. C.*** "A Molecular Dynamics Study of Enhancement of Heat Transfer during Phase Change from a Nano Engineered Solid Surface" *Processes 2021, 9, 715. https://doi.org/10.3390/pr9040715*
7. Mahmud, R., Morshed, AKM. M. **Paul, T.C.*** "Enhanced Specific Heat Capacity of Liquid Entrapped between Two Solid Walls Separated by a Nanogap" Processes 2020, 8, 459; doi:10.3390/pr8040459.

8. Tikadar, A., **Paul, T.C.,** Oudah, S. K., Salman, A. S., Khan, J. A. "Enhancing thermal-hydraulic performance of counter flow mini-channel heat sinks using transverse inter-connectors: numerical study with experimental validation" *International Communications in Heat and Mass Transfer 111 (2020) 104447.*
9. McCants, D. A., Hayes, A., **Paul, T. C.,** M., Shaaban, A., Khan, J. A. "Experimental and numerical evaluation of heat transfer enhancement potential of Copper-II and Zinc oxide nanofluids flowing over a heated plate" *ASME Journal of Thermal Science and Engineering Applications 11(4), 041015 (Jul 15, 2019).*
10. Tikadar, A., Oudah, S. K., **Paul, T.C**., Salman, A. S., Morshed, AKM. M., Khan, J. A. "Parametric study on thermal and hydraulic characteristics of inter-connected parallel and counter flow mini-channel heat sink" *Applied Thermal Engineering 153 (2019) 15-28.*
11. Mahmud, R., Morshed, AKM. M. **Paul, T.C.**, Rahman, S. "Atomistic simulation of size-dependent heat capacity of liquid in molecular scale confinement at different temperatures" *Micro & Nano Letters (2019), DOI: 10.1049/mnl.2018.5288.*
12. **Paul, T.C.*,** Mahmud, R., Khan, J. A. "Multiphase modeling approach for Ionic Liquids (ILs) based nanofluids: Improving the performance of heat transfer fluids (HTFs)" *Applied Thermal Engineering 149 (2019) 165-172*.
13. Salman, A. S., Abdulrazzaq, N.M., Oudah, S. K. Tikadar, A., Anumbe, N., **Paul, T.C**., Khan, J. A. "Experimental Investigation of the Impact of Geometrical Surface Modification on Spray Cooling Heat Transfer Performance in the Non-Boiling Regime" *International Journal of Heat and Mass Transfer 133 (2019) 330–340.*
14. Tikadar, A., Najeeb, U., **Paul, T. C.**, Oudah, S. K., Salman A. S. Abir, A. M., Carrilho, L. A., Khan, J. A. "Numerical Investigation of Heat Transfer and Pressure Drop in Nuclear Fuel Rod with Three-Dimensional Surface Roughness" *International Journal of Heat and Mass Transfer 126 (2018) 493–507*.
15. **Paul**,**T.C.,** Morshed, AKM. M., Fox, E.B., Khan, J.A. "Enhanced thermophysical properties of NEILs as heat transfer fluids for solar thermal applications" *Applied Thermal Engineering* 110 (2017) 1–9.
16. **Paul,T.C.,** Morshed, AKM. M., Fox, E.B., Khan, J.A. "Thermal Performance of Al_2O_3 Nanoparticle Enhanced Ionic Liquids (NEILs) for Concentrated Solar Power (CSP) Applications" *International Journal of Heat and Mass Transfer* 85 (2015) 585–594.
17. **Paul**,**T.C.,** Morshed, AKM. M., Fox, E.B., Khan, J.A. "Experimental Investigation of Natural Convection Heat Transfer of Al_2O_3 Nanoparticle Enhanced Ionic Liquids (NEILs)" *International Journal of Heat and Mass Transfer* 83 (2015) 753–761.
18. **Paul**,**T.C.,**Morshed,AKM. M., Khan,J. A. "Effect of Nanoparticle Dispersion on Thermophysical Properties of Ionic Liquids for its Potential Application in Solar Collector" *Procedia Engineering* 90 (2014) 643–648.
19. **Paul**,**T.C.,** Morshed, AKM. M., Fox, E.B., Visser, A.E., Bridges, N. J., Khan, J.A. "Thermal Performance of Ionic Liquid for Solar Thermal Applications" *Experimental Thermal and Fluid Science* 59(2014)88-95.
20. **Paul**,**T.C.,** Morshed, AKM. M., Fox, E.B., Visser, A.E., Bridges, N. J., Khan, J.A. "Buoyancy Driven Heat Transfer Behavior of $[C_4mim][NTf_2]$ Ionic Liquid: An Experimental Study" *Applied Thermal Engineering* 66 (2014) 534-540.
21. **Paul**,**T.C.,** Morshed, AKM. M., Khan, J. A. "Nanoparticle Enhanced Ionic Liquids (NEILs) as Working Fluid for the Next Generation Solar Collector" *Procedia Engineering* 56 (2013) 631–636.

22. Morshed, AKM. M., **Paul**, **T. C.,** Khan, J. A. "Effect of Al_2O_3 Nanoparticle Deposition on Flow Boiling Performance of Water in a Microchannel" *Experimental Thermal and Fluid Science* 47(2013) 6–13.
23. Morshed, AKM. M., **Paul**, **T. C.,** Khan, J. A."Atomistic Simulation of Temperature Dependent Thermal Transport across Nanoconfined Liquid",*Physica E: Low-dimensional Systems and Nanostructures* 47 (2013) 246–251.
24. Morshed, AKM. M., **Paul**, **T. C.,** Khan, J. A. "Effect of Cu-Al_2O_3 Nanocomposite Coating on Flow Boiling Performance of a Microchannel" *Applied Thermal Engineering* 51 (2013) 1135-1143.
25. Morshed, AKM. M., **Paul**, **T. C.,** Khan, J. A. "Effect of Nanostructures on Evaporation and Explosive Boiling of Thin Liquid Films: A Molecular Dynamics Study" *Applied Physics A: Materials Science and Processing* 105 (2011) 2; 445-451.
26. Sree, D., **Paul, T.,** Aglan, H. "Temperature and Power Consumption Measurements as a Means for Evaluating Building Thermal Performance".*Applied Energy* 87 (2010) 2014–2022.
27. **Paul**, **T.,** Sree, D., Aglan, H. "Effect of Mechanically- Induced Ventilation on the Indoor Air Quality of Building Envelopes" *Energy and Buildings* 42 (2010) 326–332.

JOURNAL UNDER REVIEW AND IN PREPARATION

1. Mahamud, R., **Paul, T. C.*** "Analysis of the First and Second Laws for Optimizing a Nanofluid-Based Heat Exchanger" Under review in *Energies.*
2. Das, P., Bhuiyan, Z. A., **Paul, T. C.,** Morshed, AKM. M. "Thermal Properties of liquid entrapped between hybrid wettability surface" Under review in *Computational Materials Science*.
3. Das, P., Bhuiyan, Z. A., **Paul, T. C.,** Morshed, AKM. M. "Phonon Transport in Vacancy Induced Defective stanene/ hBN van der Waals Heterostructure" Under review in *Nanotechnology*.
4. Tikadar, A., **Paul, T.C.,** Oudah, S. K., Salman, A. S., Khan, J. A. "experimental study of forced convection heat transfer and flow friction of a water-cooled inter-connected mini-channel heat sink" ASME Journal of Electronic Packaging (Ready for submission).
5. Hawcroft, A.A., Prendergast, G.R., **Paul, T.C.*** "Dispersion stability of ionic liquids based nanofluids: Experimental study" (Ready for submission)

CONFERENCE PROCEEDINGS

1. Dey, A., Zim, N. S., Morshed, AKM. M., **Paul, T. C.** "Comparative Analysis of Different Void Shapes on Thermal Conductivity of Silicon Nanowires" *Proceedings of the International Mechanical Engineering Congress and Exposition IMECE 2024. (Draft paper submitted)*
2. Rafi, K. H., Mojumder, A. H., Morshed, AKM. M., **Paul, T. C. "**Investigation of Thermal Conductivity of Partial Periodic Si/Ge Superlattice in Si Nanowire**"** *Proceedings of the International Mechanical Engineering Congress and Exposition IMECE 2024. (Draft paper submitted)* Naim, A. A., Sarker, C., Paul, T. C., Ahshan, K. N., "Applicability Assessment of Rooftop Photovoltaic (PV) Solar System in Bangladesh: A Case Study" 9^{th} *Thermal and Fluid Engineering Conference TFEC 2024.*
3. Sourov, M. A., Tikadar, A., **Paul, T. C.,** Morshed, AKM. M. "The Effect of Interconnected Microchannels On-Chip Cooling Via Flow Boiling of Water" 9^{th} *Thermal and Fluid Engineering Conference TFEC 2024.*
4. Mansur, Y., Habib, M. A., Morshed, AKM M., **Paul, T. C., "**Comparative Analysis of Thermal and Hydraulic Performance of a Mini-Channel Heat Sink with Supercritical Carbon Dioxide and Water

Coolants" *Proceedings of the International Mechanical Engineering Congress and Exposition IMECE 2023.*

5. Lily, M. A., Refat, T. A., Morshed, AKM M., **Paul, T. C., "**Performance Analysis of a Packed Bed Latent Heat Thermal Energy Storage with Encapsulated Silica As PCM: Numerical Investigation**"** 8th *Thermal and Fluid Engineering Conference TFEC 2023.*
6. Abir, Y.H., Rahi, S.H.M. M., Hasan, M, **Paul, T. C.,** "Non-Destructive Evaluation of embedded cracks in metal by ultrasound: Experimental Investigation" *Proceedings of the International Mechanical Engineering Congress and Exposition IMECE 2022.*
7. Shuvo, A. A., Bappy, M. O., Tikadar, A. **Paul, T.C.*,** Morshed, AKM M., "Heat Transfer and Flow Characteristic of Sinusoidal Wavy Microchannel Heat Sink with Different Phase Shift" *Proceedings of the International Mechanical Engineering Congress and Exposition IMECE 2022.*
8. Hawcroft, A.A., Prendergast, G.R., **Paul, T.C.*** "Nanoparticle Size Effect on Stability of Ionic Liquids (ILs) Based Nanofluids" 7th *Thermal and Fluid Engineering Conference TFEC 2022.*
9. Roy, S., Tasnim, A., Ratry, S. I., Morshed, AKM M., Shuvo, A. A., **Paul, T. C.*** "Numerical Investigation of Heat Transfer Performance Of Nanofluid Jet Impingement on a Surface With Convex Dimples" *HEFAT 2021.*
10. Khan, M. A., Morshed, AKM M., **Paul, T.C.*** "Enhancement of Dual Phase Pulsating Heat Pipes using Hybrid Ferritic Nanofluid Under Active Magnetic Field" *HEFAT 2021.*
11. Saha, A., Ruslan, A. R., Morshed, AKM M., **Paul, T.C.*** "Thermal Performance of a Packed Bed Latent Heat Thermal Energy Storage with Pure Silicon as PCM" *Proceedings of the International Mechanical Engineering Congress and Exposition IMECE 2021. .*
12. Aziz, R., Md. Bappy, O., Morshed, AKM M., **Paul, T.C.*,** "Study of vapor condensation on a vertical porous microgroove copper plate" *Proceedings of the International Mechanical Engineering Congress and Exposition IMECE 2021.*
13. Bappy, M. O., Aziz, R., Shuvo, A. A., Morshed, AKM M., **Paul, T.C.*** "Effect of Leaf Vein Structure on Condensation Behavior of Vertical Copper plate: An Experimental Approach" *Proceedings of the International Mechanical Engineering Congress and Exposition IMECE 2021.*
14. Main, K., Ebrel, B., McDaniel, D., Tikadar, A., **Paul, T. C*., Khan**, J. A. "Nanoparticles Shape Effect on Viscosity and Thermal Conductivity of Ionic Liquids Based Nanofluids" *5th Thermal and Fluid Engineering Conference TFEC 2020.*
15. Howe, M. L., **Paul, T. C.*** "Effect of Water Content on Viscosity of Ionic Liquids (ILs) Based Nanofluids" 6th *Thermal and Fluid Engineering Conference TFEC 2021.*
16. Shahadat, M. R. B., Morshed, AKM. M., Tikadar, A, **Paul, T. C.,** Khan, J. A. "Nano Sized Bubble Formation, Growth and Collapse in Liquid Water by Central Heating: A Molecular Dynamics Simulation" *Proceedings of the International Mechanical Engineering Congress and Exposition IMECE 2019, November 11-14, 2019, Salt Lake City, Utah, USA.*
17. Roni, M. R. H., Morshed, AKM. M., Tikadar, A, **Paul, T. C.,** Khan, J. A. "Nanoparticles Shape Effect on Thermal Conductivity of Nanofluids: A Molecular Dynamics Study" *Proceedings of the International Mechanical Engineering Congress and Exposition IMECE 2019, November 11-14, 2019, Salt Lake City, Utah, USA.*
18. Shuvo, A. A., Morshed, AKM. M., Emon, S. A., Tikadar, A., **Paul. T. C.** "Heat Transfer Characteristics of a Phase Change Material Fluid in Microchannels under Pulsating Flow Condition" *Proceedings of the ASME Summer Heat Transfer Conference, HT2019, July 15-18, 2019, Bellevue, WA, USA.*

19. Shakil, M. F., Morshed, AKM. M., Salman, A. S., **Paul, T. C.** "Experimental Investigation of Heat Pipe Heat Exchanger (HPHE) for Waste Heat Recovery Application" *Proceedings of 4th Thermal and Fluids Engineering Conference (TFEC), April 14–17, 2019, Las Vegas, NV, USA.*
20. Tikadar, A., Qudah, S., Salman, A. S., Morshed, Akm M., **Paul, T. C.,** Khan, J. A. "Effect of inter-connector on thermo-hydraulic characteristics of parallel and counter flow mini-channel heat sink" *Proceedings of the International Mechanical Engineering Congress and Exposition IMECE2018, November 9-15, 2018, Pittsburgh, PA, USA.*
21. Salman, S. A., **Paul, T. C.**, Khan, J. A. "Effects of coverage area on the spray cooling heat transfer performance" *Proceedings of the 3rd Thermal and Fluid Engineering Conference, TFEC2018. March 4-7, 2018, Fort Lauderdale, FL, USA.*
22. Alam, M. F., Bin Shahadat, M. R., Morshed, AKM, M., **Paul, T. C.** "A Molecular Dynamic Study of Boiling on a Nano Dot Decorated Solid Surface" *Proceedings of the 3rd Thermal and Fluid Engineering Conference, TFEC2018. March 4-7, 2018, Fort Lauderdale, FL, USA.*
23. Reda, M. N., Mahamud, R., **Paul, T.C.** "Thermodynamic Optimization of Horizontal multichannel Ground Heat Exchanger" *Proceedings of the 3rd Thermal and Fluid Engineering Conference, TFEC2018. March 4-7, 2018, Fort Lauderdale, FL, USA.*
24. Khan, J. A., **Paul, T. C.**, Salman, A.S., Morshed, AKM. M. "Ionic Liquids Based Nanofluids: Development of Heat Transfer Fluids for Solar Thermal Energy" Proceedings *of the 12th International Conference on Mechanical Engineering ICME 2017.*
25. Mahmud, R., Morshed, AKM M. **Paul, T.C**. "Heat Capacity of Nanoconfined Liquid: A Molecular Dynamics Simulation" Proceedings *of the International Mechanical Engineering Congress and Exposition IMECE2017, November 3-9, 2017, Tampa, Florida, USA.*
26. Abir, A. M., **Paul, T. C.,** Carrilho, L. A., Khan, J. A., "Experimental and Numerical Investigation of Pressure Drop in Silicon Carbide (Sic) Fuel Rod for Pressurized Water Reactor" *Proceedings of the 2nd Thermal and Fluid Engineering Conference, TFEC2017.*
27. **Paul**,**T.C.,** Morshed, AKM. M., Khan, J.A. "Numerical Investigation of Natural Convection of Nanoparticle Enhanced Ionic Liquids (NEILs) in Enclosure Heated from Below" *AIP Conference Proceedings. 1754, 050019-1–050019-6; doi: 10.1063/1.4958410.*
28. Liu K., **Paul, T. C.**, Carrilho, L. A., Khan, J. A. "Enhancement of Heat Transfer Performance in Nuclear Fuel Rod using Nanofluids and Surface Roughness Technique" *International Mechanical Engineering Congress and Exposition, IMECE2015*.
29. **Paul**,**T.C.,** Morshed, AKM. M., Fox, E.B., Visser, A.E., Bridges, N. J., Khan, J.A."Natural Convection of Heat Transfer Fluid (Therminol VP-1) in Square Cavity Heated from Below" *ASME Summer Heat Transfer Conference HT2013*, July 14-19, 2013, Minneapolis, MN, USA.
30. **Paul**,**T.C.,** Morshed, AKM. M., Fox, E.B., Visser, A.E., Bridges, N. J., Khan, J.A."Enhanced Thermal Performance of Ionic Liquid-Al_2O_3 Nanofluid as Heat Transfer Fluid for Solar Collector" *7th International Conference on Energy SustainabilityES2013*, July 14-19, 2013, Minneapolis, MN, USA.
31. **Paul**, **T.C.,** Morshed,AKM. M., McCants, D. A., Khan, J.A. "Buoyancy Driven Heat Transfer Behavior of Zinc Oxide (ZnO)-Water Nanofluids" *ASME Summer Heat Transfer Conference HT2013*, July 14-19, 2013, Minneapolis, MN, USA.
32. **Paul**,**T.C.,** Morshed, AKM. M., Fox, E.B., Visser, A.E., Bridges, N. J., Khan, J.A."Numerical Investigation of Natural and Forced Convection of Ionic Liquids" *International Mechanical Engineering Congress and Exposition, IMECE2013*.
33. **Paul**,**T.C.,** Morshed, AKM. M., Fox, E.B., Visser, A.E., Bridges, N. J., Khan, J.A."Heat Transfer and Flow Behavior of Nanoparticle Enhanced Ionic Liquids (NEILs)" Proceedings of the *ASME Summer Heat Transfer Conference HT2012*; July 8-12, 2012, Puerto Rico, USA.

34. Morshed, AKM. M., **Paul**,**T. C.,** Khan, J. A."Effect of Cross Groove on Flow Boiling in a Microgap" Proceedings of the *ASME Summer Heat Transfer Conference HT2012*; July 8-12, 2012, Puerto Rico, USA.
35. **Paul**,**T.C.,** Morshed, AKM. M., Fox, E.B., Visser, A.E., Bridges, N. J., Khan, J.A."Natural Convection in Rectangular Cavity with Nanoparticle Enhanced Ionic Liquids (NEILs)" Proceedings of the *International Mechanical Engineering Congress and Exposition, IMECE2012*, November 9-15, 2012, Houston, Texas, USA.
36. Morshed, AKM. M., **Paul**,**T. C.,** Khan, J. A. "Flow boiling Characteristics of a Dilute Emulsion in a Microchannel" Proceedings of the *International Mechanical Engineering Congress and Exposition, IMECE2012*,November 9-15, 2012, Houston, Texas, USA.
37. **Paul**,**T.C.,** Morshed, AKM. M., Fox, E.B., Visser, A.E., Bridges, N. J., Khan, J.A."Experimental Investigation of Natural Convection Heat Transfer of an Ionic Liquid in a Rectangular Enclosure Heated from Below" Proceedings of the *International Mechanical Engineering Congress and Exposition IMECE2011* November 11-17, 2011, Denver, Colorado, USA.
38. Morshed, AKM. M., **Paul**,**T. C.,** Khan, J. A."Nanostructures Length Effect on Phase Transition Phenomena of Ultra-Thin Liquid Film from a Nanostructured Surface: A Molecular Dynamics Study", ASME 2011 *9th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM2011)*, June 19–22, 2011, Edmonton, Alberta, Canada.

POSTER PRESENTATION

1. B. Truman, **Paul, T.C.** "Comparative Study of Pressure Drop of Nanoparticle Enhanced Ionic Liquids (NEILS) with Traditional Heat Transfer Fluids (HTFs)" (Poster presentation in TFEC 2024).
2. Tikadar, A., **Paul, T. C.,** Khan, J. A. "Experimental Investigation of Flow Boiling Heat Transfer Through Interconnected Microchannel Heat Sink " (Poster presentation in IMECE 2023).
3. Morshed, AKM. M., **Paul**,**T. C.,** Khan, J. A. "Convective Heat Transfer in a Microchannel with Integration of Nanoengineered Interfaces" *International Mechanical Engineering Congress and Exposition, IMECE2012*,November 9-15, 2012, Houston, Texas, USA (Poster).
4. **Paul**,**T.C.,** Morshed, AKM. M., Fox, E.B., Visser, A.E., Bridges, N. J., Khan, J.A. "Natural Convection in Rectangular Cavity with Nanoparticle Enhanced Ionic Liquids (NEILs)" *International Mechanical Engineering Congress and Exposition, IMECE2012*,November 9-15, 2012, Houston, Texas, USA (Poster and presentation).
5. **Paul**,**T.C.,**Aglan,H. A. "Study of Moisture Migration in Building Envelopes".Poster Presentation, *Proceedings of the 36th Annual Student Research Symposium*, the Tuskegee University Chapter of Sigma Xi, 13th March, 2009 (Poster).

Seminar Presentation

Paul, T. C. "Nanomaterials for Energy Storage and Thermal Management" USCA Department of Mathematical Sciences seminar 2016.
Paul, T. C. "Ionic liquids Based Nanofluids and Thermal Management" Science on Tap, Spring 2020.

Student Presentation at Discover USC and USCA Scholar Showcase poster presentation

1. Kevin Main, Paul, T.C. "Thermophysical properties of ionic liquids" USCA summer symposium 2018.
2. Main, K., McDaniel, D., Paul, T. C. "Nanoparticles Size Effect on Rheological Behavior of Ionic Liquids Based Nanofluids" Discover USC 2019.

3. Kevin Main, Paul, T. C. “Viscosity of Ionic liquids based nanofluids” Science on Tap, Spring 2019.
4. Ebrel, B, Paul, T. C. “Effect of Nanoparticle Shape on Thermal Conductivity of Ionic Liquids Based Nanofluids” Discover USC 2019 (Honorable mention).
5. Howe, M. Paul, T. C. “Effect of water content on thermophysical properties of ionic liquids” Science on Tap, Spring 2020.
6. Howe, M. Paul, T. C. “Effect of water content on thermophysical properties of ionic liquids based nanofluids” USCA summer symposium 2020.
7. Jones, B., Paul. T. C. “Nanoparticles Surface Area Effect on Thermophysical Properties of Nanofluids” USCA summer symposium 2019.
8. Dempsey, C., Paul, T. C. “Thermal Management in Electronic Devices Using Nanofluids” USCA summer symposium 2020.
9. Dow, J., Paul, T. C. “Experimental Investigation of Stability of Al_2O_3-water Nanofluids” USCA summer symposium 2020. (**High School Student**).
10. How, M., Paul. T.C. “The Light Absorption of Nanoparticle-Enhanced Ionic Liquids for Solar Thermal Applications” Science on Tap Fall 2020.
11. How, M., Paul. T.C. “The Effect of Water Content on Nanoparticle-Enhanced Ionic Liquids” SC Academy of Science 2021.
12. Dempsey, C., Paul, T. C. “Nanoparticles Shape Effect on Stability of Water-Al_2O_3 Nanofluids” SC Academy of Science 2021, Discover USC 2021, USCA Scholar Showcase.
13. How, M., Paul. T.C. “Radiative properties of Al_2O_3 Nanoparticles Enhanced Ionic Liquids (NEILs) for direct absorption solar collectors” Discover USC 2021.
14. How, M., Paul. T.C. "Radiative properties of Al_2O_3 Nanoparticles Enhanced Ionic Liquids (NEILs) for direct absorption solar collectors" USCA Scholar Showcase 2021.
15. Hawcroft, A, Paul, T. C. "Stability of Ionic Liquid-Based Nanofluids Using UV Spectroscopy" USCA Scholar Showcase 2021, Discover USC 2022 (Honorable mention).
16. Kricke, A., Hale, J., Paul, T. C. "The Stability of Nanoparticles in Base Fluids" USCA Scholar Showcase 2021.
17. Longobardo, A. V., Paul, T. C., “Literature Review of Thermal Hydraulic Performance of Microchannel Heat Sink (MCHS)” USCA Scholar Showcase 2023.
18. Garcia, C., Paul, T. C. “Effect of Surface Roughness on Contact Angle for Heat Transfer Applications” USCA Scholar Showcase 2024.
19. B. Truman, Paul, T.C. “Comparative Study of Pressure Drop of Nanoparticle Enhanced Ionic Liquids (NEILS) with Traditional Heat Transfer Fluids (HTFs)” (USCA Scholar Showcase 2024, Discover USC 2024(2^{nd} Prize award), and TFEC 2024)
20. Longobardo, A., Paul, T. C. “Effect of Mixing Time on Viscosity of Nanofluids” USCA Scholar Showcase 2024.
21. Longobardo, A., Paul, T. C. “Effect of Nanoparticle Shape on the Dispersion Stability of Ionic Liquids-Based Nanofluids” Discover USC 2024.

Capstone Project:

1. In my research group I have mentored one capstone project entitled “Thermophysical Properties of Ionic Liquids Based Nanofluids”. Kevin Main and Daniel McDaniel completed the project during fall 2018 and spring 2019.
2. I have also been involved as an advisor in another capstone project entitled “Flow Loop for Nanoparticle Enhanced Ionic Liquids”. David Mast and Rebekah Sightler completed the project during the fall of 2018 and spring of 2019.