

LIKHITH MANJUNATHA

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RESEARCH INTERESTS

Hydrogen energy systems, polymer electrolyte fuel cells

EDUCATION

Kyushu University, Japan	Ph.D	Hydrogen Energy Systems	<i>Expected:</i> Fall 2023
Kyushu University, Japan	M.E	Mechanical Engineering	Oct 2018 – Sept 2020
Kyushu University, Japan	B.E	Mechanical Engineering	Oct 2014 – Sept 2018

RESEARCH EXPERIENCE

Advanced Hydrogen Energy System Lab, Kyushu University	Graduate Researcher <i>Supervisor:</i> Prof. Akari Hayashi	Oct 2020 – Present
. Investigating cell reversal and degradation mechanisms in polymer electrolyte fuel cells		
Energy Transport Research, University of Illinois (U-C)	Research Scholar <i>Supervisor:</i> Prof. Nenad Miljkovic , Dr. Soumyadip Sett	Aug 2019 – Nov 2019
. Investigated defrosting mechanisms on lubricant infused surfaces for heat exchanger applications		
Heat and Mass Transfer, Kyushu University	Undergraduate / Graduate Researcher <i>Supervisor:</i> Prof. James J. Cannon	Apr 2017 – Nov 2019
. Developed a molecular-scale technique to gain an enhanced understanding of atomic interaction mechanisms that contribute to thermal conductivity and viscosity of liquids		

INTERNSHIP EXPERIENCE

Q&A Works Fukuoka, Japan	Data Science Intern	Feb 2019 – May 2019
. Designed a novel image-processing method to detect molten nickel level in a container using computer vision and regression techniques		
Takaishi Foods, Kitakyushu, Japan	Data Science Intern	Feb 2019 – Apr 2019
. Built inventory demand and sales forecast model using SARIMAX time series analysis and also identify factors that contribute to increased sales of mochi rice cakes		
Airtec Inc. Fukuoka, Japan	Engineering Intern	Nov 2016 – Dec 2016
. Explored markets for drain timer valves in Taiwan; visited steel plants, air compressor manufacturers, a calcium carbonate factory and attended various business proceedings		
Toyota Kirloskar Motor Bangalore, India	Engineering Intern	Feb 2016 - Mar 2016
Performed analysis on cycle-time and accuracy, of newly installed welding equipment during installation and process change in a manufacturing line		

TEACHING EXPERIENCE

1) TA for Python Programing for Analysis course for 2 nd year undergrad students	Oct 2020 – Feb 2021
2) TA for Advanced Engineering course for 2 nd year undergrad students	Oct 2020 – Feb 2021
3) TA for Complex Function Theory course for 3 rd year undergrad students	Apr 2019 – Aug 2019
4) <i>Student mentor</i> for Linear Algebra II for 2 nd year undergrad students	Oct 2017 – Feb 2018
5) <i>Student mentor</i> for Linear Algebra I for 1 st year undergrad students	Apr 2017 – Aug 2017

HONOURS AND AWARDS

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| 1) Q-Energy Innovator Fellowship , Govt. of Japan | Apr 2021 – Sept 2023 |
| 2) Research Assistant Support , Dept. of Hydrogen Energy Systems | Apr 2021 – Sept 2023 |
| 3) Kobayashi Scholarship , 1 of 50 recipients from top 25 universities in Japan; | Apr 2019 – Apr 2021 |
| 4) HP Ideathon , Best concept award by Hewlett-Packard for business applications of Immersive technology, 2017 | |
| 5) International Business trip (Taiwan) , Explored markets for drain timer valves with CEO of Airtec Inc. , 2017 | |
| 6) JASSO Scholarship , Awarded on recommendation based on academic performance | Apr 2016 – Mar 2019 |
| 7) Ranked top 2% (145000+ students statewide) in Common Entrance Exam, India | May 2013 |

TECHNICAL SKILLS

Languages: Python (numpy, pandas, seaborn, scikit-learn), Java, Scilab
Software: LAMMPS, Linux, TeX
Others: web scraping, data analysis, Git

JOURNAL PUBLICATIONS

L. Manjunatha, H. Takamatsu, J. J. Cannon, "*Atomic-level breakdown of Green-Kubo relations provides new insight into the mechanisms of thermal conduction.*" Scientific Reports 11.1 (2021): 1-11.

CONFERENCE

L. Manjunatha, H. Takamatsu, J. J. Cannon, "An investigation into the role of hydroxyl groups on the thermal conductivity of small alcohols using molecular simulation with atomic-level Green-Kubo analysis," 31st International Symposium on Transport Phenomena (13-16 October 2020, Honolulu, Hawaii) (**Online**)

L. Manjunatha, H. Takamatsu, J. J. Cannon, "Ethylene glycol and Propanol: Understanding the influence of an extra hydroxyl group on the mechanisms of thermal conductivity," UK Heat Transfer Conference (8-10 September 2019, Nottingham, UK)

L. Manjunatha, H. Takamatsu, J. J. Cannon, "An investigation into application of the Green-Kubo method in molecular simulation to help understand the mechanisms of thermal conductivity of alcohols," JSME Thermal Engineering conference (20-21 October 2018, Toyama, Japan)

L. Manjunatha, H. Takamatsu, J. J. Cannon, "Investigation into influence of hydroxyl group placement on the thermal conductivity of propane-base alcohols using molecular dynamics simulation," The 8th Symposium on Micro-Nano Science and Technology (31 Oct- 2 Nov 2017, Hiroshima, Japan) (**Poster**)

PRESENTATIONS

- 1) Falling Walls, *Breaking the wall of experimental search time*, (13 June 2019, Tokyo, Japan)
- 2) Kyushu University Future Creators in Science Project (December 2018, Fukuoka, Japan) (**Invited talk**)
- 3) International Conference for Undergraduate Research (25 September 2018, Fukuoka, Japan)

MEMBERSHIP

The Japan Society of Mechanical Engineers (JSME)