

Sazid Zamal Hoque

CONTACT INFORMATION	Department of Applied Mechanics Indian Institute of Technology, Madras Chennai India	+ (91)-9841689427 am15s008@smail.iitm.ac.in
RESEARCH INTERESTS	Microhydrodynamics, microfluidics, dissipative particle dynamics, computational fluid dynamics	
EDUCATION	Indian Institute of Technology Madras , Chennai, Tamil Nadu, India M.S. (by Research), Applied Mechanics, July 2018 <ul style="list-style-type: none">• Thesis: <i>Dissipative particle dynamics simulation of red blood cells in flow through a microchannel.</i>• Advisor: Patnaik B. S. V., PhD Tezpur University , Tezpur, Assam, India B.Tech, Mechanical Engineering, June 2015 <ul style="list-style-type: none">• Thesis: <i>Exergy analysis and thermoeconomic optimization of a cascaded vapour compression refrigeration system.</i>• Advisor: Gogoi T. K., PhD	
RESEARCH EXPERIENCE	Research Assistant Department of Applied Mechanics, Indian Institute of Technology, Madras Supervisor: Patnaik B. S. V., Ph.D	July 2015 to present
	Summer Internship Department of Engineering Design, Indian Institute of Technology, Guwahati Topic: Interpolation of basis spline polynomial curve from a given set of 2D data points using Python.	June 2013 to July 2013
REFEREED JOURNAL PUBLICATIONS	1. S. Z. Hoque , D. Vijay Anand and B. S. V. Patnaik, “The Dynamics of a healthy and infected red blood cell in flow through constricted channels: A DPD simulation.” <i>International Journal of Numerical Methods in Biomedical Engineering</i> , e3105:1–22, 2018.	
PAPERS IN PREPARATION	1. S. Z. Hoque , D. Vijay Anand and B. S. V. Patnaik, “ A dissipative particle dynamics simulation of multiple red blood cells in flow through a symmetric and asymmetric bifurcated microchannel.” 2. S. Z. Hoque , T. K. Gogoi, “Exergy based thermoeconomic optimization of a two stage cascade refrigeration system with $R134a/CO_2$, $R404a/CO_2$ and NH_3/CO_2 refrigerant pairs.”	
CONFERENCE PUBLICATIONS	1. S. Z. Hoque , D. Vijay Anand and B. S. V. Patnaik, “Dynamics of Red Blood Cell in Flow through Microchannel”, 44 th National Conference on Fluid Mechanics and Fluid Power, 2017. (best paper award for academia) 2. S. Z. Hoque , D. Vijay Anand and B. S. V. Patnaik, “DPD simulation on the dynamics of a healthy and infected red blood cell in flow through a constricted channel”, Bulletin of American Physical Society, APS-DFD, 2017.	

3. **S. Z. Hoque**, D. Vijay Anand and B. S. V. Patnaik, “Dissipative particle dynamics simulation of red blood cell motion in microchannel”, Indian Conference on Applied Mechanics, 2017.
4. K. Talukdar, T. K. Gogoi, **S. Z. Hoque**, “Comparative analysis of performance of a combined power and cooling system with vapor compression and absorption refrigeration system as bottoming cycle”, Conference on Mechanical Engineering and Technology, January, 2016.
5. **S. Z. Hoque** and P. Kalita, “Numerical Simulation and Analysis of Supersonic flow over a flat plate.” International symposium on Aspect of Mechanical Engineering and Technology for Industry, 2014.
6. **S. Z. Hoque** and T. K. Gogoi, “Thermodynamic Analysis of a Cascaded Vapour Compression Refrigeration System through Exergy”. International symposium on Aspect of Mechanical Engineering and Technology for Industry, 2014.

ACHIEVEMENTS
AND AWARDS

- Dr. MG Deshpande award for best paper at 44th National Conference on Fluid Mechanics and Fluid Power, December 14-16, 2017.
- Graduate Scholarship from MHRD, Government of India for pursuing masters’ degree.
- Tezpur University merit based scholarship for the 3rd semester for securing 5th position in class of 60 students, 2012.
- Certificate of Proficiency from the Government of Assam for securing full marks (100%) in mathematics in high school board examination

COURSEWORK

Advanced Fluid Mechanics, Biofluid Mechanics, Computational Techniques in Applied Mechanics, Introduction to Turbulence, Finite Element Methods in Engineering, Foundation of Computational Fluid Mechanics.

TEACHING
EXPERIENCE

Teaching Assistant	July–Nov 2016
AM5530 - Advanced Fluid Mechanics	
Instructor: Panchagnula, M., Ph.D	
Department of Applied Mechanics,	
Indian Institute of Technology, Madras	
Teaching Assistant	Jan–May 2017
AM1100 - Engineering Mechanics	
Instructor: Patnaik, B. S. V., Ph.D	
Department of Applied Mechanics,	
Indian Institute of Technology, Madras	

SKILLS

Modelling of fluid flows and suspension dynamics and mesoscopic simulation using dissipative particle dynamics, Programming efficiency in C, MATLAB, Expertise in fluid flow solver viz., Ansys Fluent.

REFERENCES

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 Indian Institute of Technology, Madras, India
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