

# Sunil Manohar Dash, Ph.D.

## Assistant Professor

Department of Aerospace Engineering  
Indian Institute of Technology Kharagpur  
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## Research Expertise

Computational Fluid Dynamics; Lattice Boltzmann Method; Immersed Boundary Method; Experimental Flow Measurement; Particle Image Velocimetry (PIV) Visualisation; MAV-UAV-Flapping Airfoil Dynamics; Complex Cavity-Natural Convection; Particle Sedimentation; Active Flow Separation Control.

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## Academic Background

### National University of Singapore, Singapore

*Doctor of Philosophy (Ph.D.)* CGPA: 4.58/5.0 Aug 2010 – Dec 2014

Thesis: Development of a flexible forcing immersed boundary-lattice Boltzmann method and its applications in thermal and particulate flows.

### National Institute of Technology, Rourkela, India

*Bachelor in Technology (B.Tech.)* CGPA: 9.34/10.0 Jul 2005 – Apr 2009

Thesis: Study of cryogenic cycles with ASPEN-HYSIS simulation

### Govt. Junior College, Rourkela, India

*12<sup>th</sup> Board* MARK: 88.0 % Apr 2004

### Chinmaya Vidyalaya, Rourkela, India

*10<sup>th</sup> Board* MARK: 89.0 % Apr 2002

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## Professional Experiences

**Assistant Professor** Apr 2018 – Continuing

Department of Aerospace Engineering  
Indian Institute of Technology Kharagpur, India

**Assistant Professor** Dec 2017 – Apr 2018

Department of Mechanical Engineering  
Indian Institute of Technology (ISM) Dhanbad, India

**Post-doctoral Research Fellow** Jan 2017 – Dec 2017

International Design Centre (IDC)  
Singapore University of Technology and Design, Singapore

**Post-doctoral Research Fellow** Jan 2015 – Dec 2016

Department of Mechanical Engineering  
National University of Singapore, Singapore

**Research Assistance** Apr 2014 – Dec 2014

Department of Mechanical Engineering  
National University of Singapore, Singapore

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## Teaching Experiences

**Assistant Professor at IIT Kharagpur, India**

1) Introduction to Aerodynamics (AE21001)

2) Physics of Fluid Flow Experiments	(AE40037/AE60037)
3) Industrial Aerodynamics	(AE51018/AE60006)
4) Mechanics	(ME10001)
5) Engineering Drawing and CAD	(CE13003/CE13001)
6) Aerodynamics Laboratories - I	(AE29002)
7) Seminar - I	(AE69001)

#### Assistant Professor at IIT (ISM) Dhanbad, India

1) Internal Combustion Engine	(MMC16103)
2) Engineering Graphics	(MMC11101)

#### Graduate Tutor (Teaching Assistant) at NUS, Singapore

1) Introduction to Fluid Mechanics I	(ME2134E)
2) Introduction to Fluid Mechanics II	(ME2135E)

#### Graduate Lab Assistant at NUS, Singapore

1) Stability of Floating Bodies	(ME2134)
2) Flow past a NACA Aerofoil	(ME2135E)
3) Drag on a settling Sphere	(ME2134E)
4) Characteristic of Centrifugal Pump	(ME2135E)

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## Administrative Experiences

<b>Assistant Warden of LBS Hall</b> Indian Institute of Technology Kharagpur, India	Jan 2022 – Dec 2023
<b>Member of Departmental Purchase Committee</b> Department of Aerospace Engineering Indian Institute of Technology Kharagpur, India	Jan 2022 – Jun 2023
<b>Co-In-Charge of Aeromodelling laboratory</b> Department of Aerospace Engineering Indian Institute of Technology Kharagpur, India	Jul 2019 – Jun 2023
<b>Co-In-Charge of Boeing Student Project</b> Department of Aerospace Engineering Indian Institute of Technology Kharagpur, India	Jul 2019 – Jun 2023
<b>Member of Departmental Academic Committee</b> Department of Aerospace Engineering Indian Institute of Technology Kharagpur, India	Jan 2018 – Jul 2022
<b>NCC Care Taker for 1 Bengal EME Coy</b> Indian Institute of Technology Kharagpur, India	Mar 2019 – Mar 2021
<b>Faculty Advisor (UG and DD)</b> Department of Aerospace Engineering Indian Institute of Technology Kharagpur, India	Jul 2019 – Jul 2024
<b>In-Charge of Departmental library</b> Department of Aerospace Engineering Indian Institute of Technology Kharagpur, India	Jul 2018 – Jul 2019

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## Research Laboratory and Facility Developed

- 1) Developed a Bio-inspired Aero-Hydrodynamics Research Laboratory in the Department of Aerospace Engineering, IIT Kharagpur.
- 2) Developed a recirculating water tunnel experimental facility in the Department of Aerospace Engineering, IIT Kharagpur.
- 3) Developed a novel flapping mechanism to mimic the flight of the insect and bird in the Department of Aerospace Engineering, IIT Kharagpur.

- 4) Developed a robotic jellyfish, an alternate underwater vehicle in the Department of Aerospace Engineering, IIT Kharagpur.

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## Software Proficiencies

Programming Language	:	FORTTRAN, MATLAB
CAD/CAM Software	:	CATIA, AUTOCAD, INVENTOR, SOLIDWORKS
CFD Software	:	FLUENT, GAMBIT, STAR CCM, COMSOL
PIV Software	:	FLOW MANAGER, DAVIS

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## Reviewer of International Journal and Conferences

- 1) Journal of Fluid Mechanics (JFM)
- 2) Physics of Fluids (POF)
- 3) Computers and Fluids (CAF)
- 4) Ocean Engineering (OE)
- 5) Journal of Fluids and Structure (JFS)
- 6) International Journal of Heat and Mass Transfer (IJHMT)
- 7) Numerical Heat Transfer (NHT)
- 8) Heat and Mass Transfer (HAMT)
- 9) Journal of Heat Transfer (JHT)
- 10) Journal of Thermal Science and Engineering Applications (TSEA)
- 11) International Communication in Heat and Mass Transfer (ICHMT)
- 12) International Journal of Micro Air Vehicles (IJMAV)
- 13) Journal of Applied Fluid Mechanics (JAFM)
- 14) Energy Reports (ER)
- 15) Computers and Mathematics with Applications (CMA)
- 16) Iranian Journal of Science and Technology Transactions A: Science (IJSCTT)
- 17) International/National Conference on Fluid Mechanics and Fluid Power (FMFP)
- 18) International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM)
- 19) International Conference on Recent Advances in Sustainable Energy Research (RAISER)
- 20) International Conference on Ship and Offshore Technology (ICSOT)

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## Awards and Achievements

- 1) Received Faculty Excellence Award Year 2021-22 in the Assistant Professor Level at IIT Kharagpur.
- 2) Received Young Engineers Award in the Aerospace Engineering Discipline from the Institutions of Engineers India (IEI) for the Year 2020-21.
- 3) Received Odisha Young Scientists Award in the Aerospace Engineering Discipline from Odisha Bigyan Academy, Department of Science and Technology Odisha for the Year 2019-20.
- 4) Received International Travel Support (ITS) from the Department of Science and Technology India to attend 72<sup>nd</sup> APS DFD Conference in USA in the year 2019. (Declined)
- 5) Received National University of Singapore (NUS) Ph.D. Research Fellowship for the years 2010-2014.
- 6) Received Best Conference Paper award in the Fluid Mechanics session in the conference IC-RIDME-2018, Shillong, Meghalaya, India.
- 7) Chaired conference sessions on Aerodynamics Study in ICAFM-2016, Malaysia, on Active Flow Control in 70<sup>th</sup> DFD meeting, APS-2017, Denver, USA and on Fluid Mechanics in IC-RIDME-2018, Shillong, Meghalaya, India.
- 8) Honoured with a Gold Medal from Institution of Engineers India (IEI) for being the Best Mechanical Engineering Graduate of the year – 2009.
- 9) Honoured with an Institute Silver Medal from National Institute of Technology, Rourkela for being the Best Mechanical Engineering Graduate of the year – 2009.
- 10) Received *Summer Research Fellowship* – year 2008, from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR).
- 11) Ranked 1<sup>st</sup> in 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> semesters of my B.Tech. studies. Secured SGPA 10.0/10.0 in 5<sup>th</sup> and 7<sup>th</sup> semesters of my B.Tech. studies.

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## Memberships

- 1) Professional member of APS (American Physical Society)
- 2) Professional member of IEEE (Institute of Electrical and Electronics Engineers)

## Sponsored Research Projects

- 1) **Project Title** Development of an unconventional flapping-based sediment-aeration system for the brackish water aquaculture  
**Funding Agency** Department of Science and Technology (DST), India  
**Amount and Duration** **INR 49,00,000 /-** **Year 2021 (Ongoing)**
  - 2) **Project Title** A study on the propulsive performance of the flapping hydrofoil near the ground  
**Funding Agency** ISIRD, IIT Kharagpur, India  
**Amount and Duration** **INR 28,00,000 /-** **Year 2019 (Ongoing)**
  - 3) **Project Title** A study on the aerodynamic and propulsion performance of tubercle flapping airfoils  
**Funding Agency** Aeronautical Research & Development Board (AR&DB), India  
**Amount and Duration** **INR 59,00,000 /-** **Year 2019 (Ongoing)**
  - 4) **Project Title** An investigation of the unconventional tandem flapping foil propulsion mechanism for UWV  
**Funding Agency** Science and Engineering Research Board (SERB), India  
**Amount and Duration** **INR 46,00,000 /-** **Year 2019 -2022 (Completed)**
  - 5) **Project Title** Building a water tunnel research facility in the Department of Aerospace Engineering, IIT Kharagpur.  
**Funding Agency** Diamond Jubilee Grant, IIT Kharagpur, India  
**Amount and Duration** **INR 30,00,000 /-** **Year 2018 (Completed)**
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## List of Invited Talks Delivered

- 1) Aerodynamics of Flapping Airfoils, 2<sup>nd</sup> November 2022, at Institutions of Engineers India (IEI) Kharagpur Local Chapter monthly lecture series.
  - 2) Investigation of Propulsive Performance of Two-dimensional Flapping Airfoils, 1<sup>st</sup> March 2021, in the Short Term Training Program on "Applied Computational Fluid Dynamics for Automotive, Space and Defence Sector" in Mechanical Engineering Department, A D Patel Institute of Technology, India.
  - 3) Lattice Boltzmann and Immersed Boundary Method for Fluid-Solid Interactions, 12<sup>th</sup> December 2019, in the Mechanical Engineering Department, NCTU Taiwan.
  - 4) A study of high frequency flapping aerodynamics, 13<sup>th</sup> December 2018, in the Mechanical Engineering Department, NCTU Taiwan.
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## List of Short-Term Courses Organised

- 1) "Flow Visualisation and Measurement Techniques in the Incompressible and Compressible Flows", 01<sup>st</sup> – 05<sup>th</sup> August 2022, AE-Seminar room, IIT Kharagpur. (Self-Sponsored, 40 Participants).
  - 2) "CFD and Experiments on Fluid-Structure Interactions for both Rigid and Elastic Materials", 14<sup>th</sup> – 18<sup>th</sup> October 2019, AE-Seminar room, IIT Kharagpur. (TEQIP-Sponsored, 30 Participants).
  - 3) "Experimental Flow Visualisation and Measurement Techniques for both Incompressible and Compressible Flow Regimes", 12<sup>th</sup> – 15<sup>th</sup> March 2018, AE-Seminar room, IIT Kharagpur. (Self-Sponsored, 50 Participants).
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## List of Seminars Organised

- 1) Talk by Prof. Lua Kim Boon from Department of Mechanical Engineering, NYCU Taiwan on " Flapping Wing Micro-Aerial Robot", 05<sup>th</sup> August 2022, at AE-Seminar room, IIT Kharagpur.
- 2) Talk by Dr. Kishora Shetty from Boeing Research & Technology, India on "Reimagining the Aerospace Materials & Their Advancements for 21st Century ", 10<sup>th</sup> March 2022, AE Department Webinar, IIT Kharagpur.
- 3) Talk by Mr. Partha Adhikari from Boeing Research & Technology, India on "Aircraft Predictive Maintenance: Trends, Opportunities and Challenges", 07<sup>th</sup> December 2021, AE Department Webinar, IIT Kharagpur.
- 4) Talk by Prof. Cheng Sheng Huang from Department of Mechanical Engineering, NCTU Taiwan on "Applications of gradient grating period guided-mode resonance filter", 27<sup>th</sup> November 2018, at AE-Seminar room, IIT Kharagpur.
- 5) Talk by Prof. Tsung Lin Chen from Department of Mechanical Engineering, NCTU Taiwan on "MEMS Logic Gate", 27<sup>th</sup> November 2018, at AE-Seminar room, IIT Kharagpur.

- 6) Talk by Prof. Lua Kim Boon from Department of Mechanical Engineering, NCTU Taiwan on "Experimental work on insect aerodynamics and flight", 15<sup>th</sup> March 2018, at AE-Seminar room, IIT Kharagpur.

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## List of Conferences Organised

- 1) In the Organising Secretariat of "International Conference on Theoretical Applied Computational and Experimental Mechanics, (ICTACEM-2021)" 20<sup>th</sup> – 22<sup>nd</sup> December 2021, Indian Institute of Technology Kharagpur, India.
- 2) In the International Advisory Committee of "International Conference on Recent Advances in Sustainable Energy Research, (RAISER Conference-2021)" 6<sup>th</sup> – 7<sup>th</sup> July 2021, University of Science Malaysia, Penang, Malaysia.
- 3) In the Co-Organising Committee of "International Conference on Recent Advances in Sustainable Energy Research, (RAISER Conference-2019)" 16<sup>th</sup> December 2019, University of Science Malaysia, Penang, Malaysia.

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## List of Media Coverage

- 1) Pablo Valdivia y Alvarado, Kenneth Tracy, Christine Yogiama, Sunil Manohar Dash, Pamela Dychengbeng Chua. (2017). "Patterned Flow: Augmenting Air Movement in Urban Environment." ARCHIFEST 2017 (Archi-Interfaces Exhibition); The URA Centre City Gallery 3F City Canvas, 45 Maxwell Road, Singapore. <http://archifest.sg/2017/archi-interfaces/>

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## List of Journals Published

1. A Numerical Study on the Drag Reduction and Wake Regime Control of the Tandem Circular Cylinders using Splitter Plates by by Sikdar P., **Dash S. M.**, Sinhamahapatra K. P., Journal of Computational Science (Accepted)
2. Mixed Convection in a Lid Driven Square Cavity using Lattice Boltzmann Method: Effects of Thermal Gradient Direction and Moving Lid Length by Bhunia A., **Dash S. M.**, Numerical Heat Transfer, Part B: Fundamentals, (Accepted)
3. Influence of the Pivot Location on the Thrust and Propulsive Efficiency Performance of a Two-dimensional Flapping Elliptic Airfoil in a Forward Flight by Sinha J., Lua K.B., **Dash S. M.**, Physics of Fluids, 33, 081912 (2021) (**Editor's Pick, Featured Article**)
4. A Numerical Study on the Lid-Driven Cavity with Power-Law Fluids at Different Moving Lengths of the Top Lid by Sikdar P., **Dash S. M.**, CFD Letters, 12, 107-117 (2020)
5. A numerical study on the enhanced drag reduction and wake regime control of a square cylinder using dual splitter plates by **Dash S. M.**, Triantafyllou M. S., Alvarado P. Vy., Computers and Fluids, 199, 104421 (2020)
6. A flexible forcing immersed boundary simplified lattice Boltzmann method for two and three-dimensional fluid-solid interaction problems by **Dash S. M.**, Computers and Fluids, 184, 165-177 (2019)
7. A study on natural convection in a cold square enclosure with two vertical eccentric square heat sources using IB-LBM scheme by **Dash S. M.**, Sahoo S., Journal of Thermal Science and Engineering Applications, 11, 051013 (2019)
8. Enhanced thrust performance of a two-dimensional elliptic airfoil at high flapping frequency in a forward flight by **Dash S. M.**, Lua K. B., Lim T. T., Yeo K. S., Journal of Fluids and Structures, 76, 37-59 (2018)
9. Experimental investigation of turbulent wave boundary layers under irregular coastal waves by Yuan J., **Dash S. M.**, Coastal Engineering, 128, 22-36 (2017)
10. On the thrust performance of a flapping two-dimensional elliptic airfoil in a forward flight by Lua K. B., **Dash S. M.**, Lim T. T., Yeo K. S., Journal of Fluids and Structures, 66, 91-109 (2016)
11. Thrust enhancement on a two-dimensional elliptical airfoil in a forward flight by **Dash S. M.**, Lua K. B., Lim T. T., International Journal of Aerospace and Mechanical Engineering, 10, 265-272 (2016)
12. Natural convection in a square enclosure with a square heat source at different horizontal and diagonal eccentricities by **Dash S. M.**, Lee T. S., Numerical Heat Transfer, Part A: Applications, 68, 686-710 (2015)
13. Particle sedimentation in a constricted passage using a novel flexible forcing IB-LBM scheme by **Dash S. M.**, Lee T. S., Huang H., International Journal of Computational Methods, 12, 1350095 (2015)
14. Two spheres sedimentation dynamics in a viscous liquid column by **Dash S. M.**, Lee T. S., Computers and Fluids, 123, 218-234 (2015)
15. A flexible forcing three dimension IB-LBM scheme for flow past stationary and moving spheres by **Dash S. M.**, Lee T. S., Huang H. , Lim T. T., Computers and Fluids, 95, 159-171 (2014)
16. A novel flexible forcing hybrid IB-LBM scheme to simulate flow past circular cylinder by **Dash S. M.**, Lee T. S., Huang H., International Journal of Modern Physics C, 25, 1340014 (2014)
17. Natural convection from an eccentric square cylinder using a novel flexible forcing IB-LBM method by **Dash S. M.**, Lee T. S., Huang H., Numerical Heat Transfer, Part A: Applications, 65, 531-555 (2014)
18. Natural convection from an inclined square cylinder using novel flexible forcing IB-LBM approach by **Dash S. M.**, Lee T. S., Huang H., Engineering Applications of Computational Fluid Mechanics, 8, 91-103 (2014)

19. A novel flexible forcing hybrid IB-thermal LB model for natural convection from a circular cylinder by **Dash S. M.**, Lee T. S., Huang H., International Journal of Dynamics of Fluids, 9, 1-15 (2013)
20. Impulsively started flow topology around tandem arrangement of two square cylinder at incidence by **Dash S. M.**, Lee T. S., International Journal of Modern Physics: Conference Series, 19, 100-108 (2012)

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## List of Conferences Published

1. Mitigation of Thrust Deterioration at High Flapping Frequencies of a Two-dimensional Elliptic Flapping Airfoil Using Asymmetric Flapping Strokes in the Forward Flight by Sinha J., Roy S., **Dash S. M.**, 75<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, USA - (2022)
2. A Numerical Study on Three-Dimensional Flapping Dragonfly Wings with Optimized Input Kinematics for hovering and forward flight by Anand K., **Dash S. M.**, Armanini S., 75<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, USA - (2022)
3. On the aerodynamic performance of the leading-edge tubercle elliptic flapping airfoil in forward flight condition by Pinapatruni G. V., **Dash S. M.**, Sinha J., Lua K. B., 75<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, USA - (2022)
4. Mitigation of Thrust Deterioration at a High Flapping Frequency of a 2D Airfoil in Forwarding Flight Condition Using Asymmetric Flapping Strokes by Sinha J., **Dash S. M.**, International Mechanical Engineering Congress and Exposition, USA - (2022)
5. Effects of Flapping Frequency on the Aerodynamic Performance of the Elliptical Tandem Flapping Wings by Ranjan R., Singh A., Sinha. J., **Dash S. M.**, 9<sup>th</sup> International and 49<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power, India - (2022)
6. Characterisation of the New Open Surface Recirculating Water Tunnel Facility at the Indian Institute of Technology Kharagpur by Pinapatruni G. V., Ranjan R., Charan D., Mishra S., **Dash S. M.**, 9<sup>th</sup> International and 49<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power, India - (2022)
7. Investigation of the Flow Physics in an Oscillating Lid-driven Cavity with a Concentric Square Obstacle using the Lattice Boltzmann Method by Sikdar P., **Dash S. M.**, Sinhamahapatra K. P., 9<sup>th</sup> International and 49<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power, India - (2022)
8. A Numerical Study on the Effects of Wing Spacing on the Thrust Performance of the Two-Dimensional Tandem Flapping Wings for Different Rear Wing Sizes by Late Nishanth S, Sinha J., Chavda S.D, **Dash S. M.**, 48<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power, India - (2021)
9. Effects of the Pivot Point Locations on the Propulsive Performance of a Two-Dimensional Flapping Elliptic Airfoil with a Pitching Angular Offset by Sinha J., **Dash S. M.**, Lua K. B., 48<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power, India - (2021)
10. Effects of the Moving Lid Length and Direction of Thermal Gradient on the Heat Transfer Characteristics of a Square Top-Lid Driven Cavity: A Numerical Study using Lattice Boltzmann Model by Bhunia A., **Dash S. M.**, 48<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power, India - (2021)
11. A Numerical Study on the Negative Lift and Point of Non-linearity in Lift Curve of NACA 0012 Airfoil at Low Reynolds Number by Gangadhar V. R. P., **Dash S. M.**, Sinha J., Sinhamahapatra K. P., 8<sup>th</sup> International Conference on Theoretical Applied Computational and Experimental Mechanics, Kharagpur, India - (2021)
12. Aerodynamic Performance of a Two-dimensional Flapping Elliptic Airfoil in Ground Proximity by Sinha J., **Dash S. M.**, 12<sup>th</sup> International Conference on Mechanical and Aerospace Engineering, Virtual Conference - (2021) (**Best Paper Presentation Award**)
13. Effect of the rear wing size on the thrust performance of the two-dimensional tandem flapping wing by Nishanth S., **Dash S. M.**, Lua K. B., 11<sup>th</sup> International Conference on Mechanical and Aerospace Engineering, Greece - (2020)
14. A numerical study on the drag reduction of a circular cylinder at low Reynolds number with two contra-rotating control cylinders by Bhunia A., **Dash S. M.**, 8<sup>th</sup> International and 47<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power, India - (2020)
15. Characterisation of steady flow regime and drag force on the forward and backward facing trapezoidal cylinders: A numerical study by Bhunia A., Sikdar P., **Dash S. M.**, Lua K. B., 46<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power, India - (2019)
16. Lattice Boltzmann simulations of a lid-driven cavity at different moving lengths of the top lid by Sikdar P., **Dash S. M.**, Sinhamahapatra K. P., 46<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power, India - (2019)
17. Effect of the pivot point locations on the wake dynamics and thrust performance of a flapping elliptic airfoil: A numerical study by Sinha J., Nishant S., **Dash S. M.**, 46<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power, India - (2019)
18. Effect of the rear wing size on the thrust performance of the two-dimensional tandem flapping wing by **Dash S. M.**, Nishanth S., Sinha J., Lua K. B., 72<sup>nd</sup> Annual Meeting of the APS Division of Fluid Dynamics, USA - (2019)
19. A study on the wake regime control and drag reduction using single splitter plate for a flow past a semicircular cylinder by **Dash S. M.**, Chavda S. D., Lua K. B., International Conference on Recent Innovations and Developments in Mechanical Engineering, India - (2018) (**Best Paper Award**)



20. Control of wake vortex street behind a square cylinder using surface travelling waves by **Dash S. M.**, Triantafyllou M. S., Alvarado P. Vy., 70<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, USA - (2017)
  21. Thrust enhancement on a two-dimensional elliptical airfoil in a forward flight by **Dash S. M.**, Lua K. B., Lim T. T., 18<sup>th</sup> International Conference on Aerodynamics and Fluid Mechanics, Malaysia - (2016)
  22. On the thrust performance of a 2D flapping foil in a forward flight condition by **Dash S. M.**, Lua K. B., Lim T. T., 68<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, USA - (2015)
  23. A novel flexible forcing IB-LBM scheme to simulate flow past moving sphere by **Dash S. M.**, Lee T. S., Huang H., APCOM and ISCM, Singapore - (2013)
  24. Efficient hybrid IB-LBM scheme to simulate flow past circular cylinder by **Dash S. M.**, Lee T. S., Huang H., 21<sup>st</sup> International Conference on Discrete Simulation of Fluid Dynamics, India - (2012)
  25. Impulsively started flow topology around tandem arrangement of two square cylinders at an incidence by **Dash S. M.**, Lee T. S., 4th International Symposium on Physics of Fluids, China - (2011)
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## List of Book Chapters

1. Pinapatruni G. V., **Dash S.M.**, Sinha J., Sinhamahapatra K. P., (2022) A numerical study on the negative lift and point of non-linearity in lift curve of NACA 0012 airfoil at low number. In: Ghosh A., Sinhamahapatra K. P., Joarder R., Hota S., (eds) Aerospace and Associated Technology, Taylor and Francis Group, London.
  2. Bhunia A., Sikdar P., **Dash S.M.**, Lua K.B., (2021) Characterisation of Steady Flow Regime and Drag Force on the Forward and Backward Facing Trapezoidal Cylinders: A Numerical Study. In: Prabu T., Viswanathan P., Agrawal A., Banerjee J., (eds) Fluid Mechanics and Fluid Power. Lecture Notes in Mechanical Engineering. Springer, Singapore.
  3. Sinha J., Sreedharan N., **Dash S.M.**, (2021) Effect of the Pivot Point Locations on the Wake Dynamics and Thrust Performance of a Flapping Elliptic Airfoil: A Numerical Study. In: Prabu T., Viswanathan P., Agrawal A., Banerjee J., (eds) Fluid Mechanics and Fluid Power. Lecture Notes in Mechanical Engineering. Springer, Singapore.
  4. Sikdar P., **Dash S.M.**, Sinhamahapatra K.P., (2021) Lattice Boltzmann Simulations of a Lid-Driven Cavity at Different Moving Lengths of the Top Lid. In: Prabu T., Viswanathan P., Agrawal A., Banerjee J., (eds) Fluid Mechanics and Fluid Power. Lecture Notes in Mechanical Engineering. Springer, Singapore.
  5. **Dash S.M.**, Chavda S.D., Lua K.B., (2020) A Study on the Wake Regime Control and Drag Reduction Using Single Splitter Plate for a Flow Past a Semicircular Cylinder. In: Biswal B., Sarkar B., Mahanta P., (eds) Advances in Mechanical Engineering. Lecture Notes in Mechanical Engineering. Springer, Singapore.
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