Sunil Manohar Dash, Ph.D.

Assistant Professor

Department of Aerospace Engineering
Indian Institute of Technology Kharagpur
West Bengal – 721302
Primary Email: smdash@aero.iitkgp.ac.in
Alternate Email: sunilmanohardash@gmail.com
Phone: +91-3222-304512 (O), +91-9958673652 (M)
Website: https://www.sunilmanohardash.com/

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.

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
12th Board — MARK: 88.0 % — Apr 2004

Chinmaya Vidyalaya, Rourkela, India
10th Board — MARK: 89.0 % — Apr 2002

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

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)

Administrative Experiences

Assistant Warden of LBS Hall — Jan 2022 – Dec 2023
Indian Institute of Technology Kharagpur, India

Member of Departmental Purchase Committee — Jan 2022 – Jun 2023
Department of Aerospace Engineering
Indian Institute of Technology Kharagpur, India

Co-In-Charge of Aeromodelling laboratory — Jul 2019 – Jun 2023
Department of Aerospace Engineering
Indian Institute of Technology Kharagpur, India

Co-In-Charge of Boeing Student Project — Jul 2019 – Jun 2023
Department of Aerospace Engineering
Indian Institute of Technology Kharagpur, India

Member of Departmental Academic Committee — Jan 2018 – Jul 2022
Department of Aerospace Engineering
Indian Institute of Technology Kharagpur, India

NCC Care Taker for 1 Bengal EME Coy — Mar 2019 – Mar 2021
Indian Institute of Technology Kharagpur, India

Faculty Advisor (UG and DD) — Jul 2019 – Jul 2024
Department of Aerospace Engineering
Indian Institute of Technology Kharagpur, India

In-Charge of Departmental library — Jul 2018 – Jul 2019
Department of Aerospace Engineering
Indian Institute of Technology Kharagpur, India

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.

Software Proficiencies

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

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)

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 72nd 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 70th 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 1st in 4th, 5th, 6th, 7th and 8th semesters of my B.Tech. studies. Secured SGPA 10.0/10.0 in 5th and 7th semesters of my B.Tech. studies.

Memberships

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

3) Lifetime member of IEI (Institutions of Engineers India)

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)**

List of Invited Talks Delivered

1) Aerodynamics of Flapping Airfoils, 2nd Novemeber 2022, at Institutions of Engineers India (IEI) Kharagpur Local Chapter monthly lecture series.
2) Investigation of Propulsive Performance of Two-dimensional Flapping Airfoils, 1st 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, 12th December 2019, in the Mechanical Engineering Department, NCTU Taiwan.
4) A study of high frequency flapping aerodynamics, 13th December 2018, in the Mechanical Engineering Department, NCTU Taiwan.

List of Short-Term Courses Organised

1) "Flow Visualisation and Measurement Techniques in the Incompressible and Compressible Flows", 01st – 05th 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", 14th – 18th 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", 12th – 15th March 2018, AE-Seminar room, IIT Kharagpur. (Self-Sponsored, 50 Participants).

List of Seminars Organised

1) Talk by Prof. Lua Kim Boon from Department of Mechanical Engineering, NYCU Taiwan on " Flapping Wing Micro-Aerial Robot", 05th 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 ",10th 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",07th 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", 27th 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", 27th 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", 15th March 2018, at AE-Seminar room, IIT Kharagpur.

List of Conferences Organised

1) In the Organising Secretariat of "International Conference on Theoretical Applied Computational and Experimental Mechanics, (ICTACEM-2021)" 20th – 22nd 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)" 6th – 7th 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)" 16th December 2019, University of Science Malaysia, Penang, Malaysia.

List of Media Coverage

1) Pablo Valdivia y Alvarado, Kenneth Tracy, Christine Yogiaman, 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/

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)

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.**, 75th 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., 75th 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., 75th 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.**, 9th International and 49th 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.**, 9th International and 49th 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., 9th International and 49th 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.**, 48th 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., 48th 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.**, 48th 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., 8th 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.**, 12th 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., 11th 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.**, 8th International and 47th 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., 46th 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., 46th 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.**, 46th 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., 72nd 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., 70th 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., 18th 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., 68th 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., 21st 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)

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.