

Mohammad Sanjeed HASAN

Curriculum Vitae

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Career Objective

I am looking for a research position in the field of Applied Mathematics or Mechanical Engineering, where I have the scope to utilize my potentiality, adaptability and skills to do something innovative and from where I will be able to share my knowledge in the field of mathematics for the sake of mankind.

Research Interests

- Fluid Dynamics and Heat Transfer
- Computational and Experimental Fluid Dynamics
- Curved Channel Flow and Heat Transfer
- Underground Gas Storage
- Mathematical and Numerical Modelling of Transport Phenomena in Porous Media
- Bubble Dynamics
- Droplets

Professional Experience

- 1st November 2017-to present **Senior Teacher, Mathematics (English Version)**, Bijoy International School, Dhaka, Bangladesh.
- 5th June 2017-5th October 2017 (Contractual) **Lecturer**, Department of Mathematics and Statistics, Bangladesh University of Business and Technology, Dhaka, Bangladesh.

Teaching Experience

Teaching experience (Mathematics courses) in the undergraduate level at 'Bangladesh University of Business and Technology (BUBT)', Dhaka, 2017.

Research Experience

- July 2015 to June 2017 Research experience as a **Research Associate** in the research project funded by Bangladesh Ministry of Education (MoEdu) entitled ***Flow Instability with Convective Heat Transfer through a Rotating Curved Micro-Channel with Strong Curvature*** under Prof. Dr. Rabindra Nath Mondal, Dept. of Mathematics, Jagannath University, Dhaka.
- July 2017 to Jun 2018 Research experience as a **Research Associate** in the research project funded by Bangladesh Ministry of Science and Technology (MOST) entitled ***Flow Transitions with Effects of Secondary Flow on Convective Heat Transfer through a Rotating Curved Channel*** under Prof. Dr. Rabindra Nath Mondal, Dept. of Mathematics, Jagannath University, Dhaka.

Papers and Publications

Published Papers

Journal Papers (Organize in yearly based)

- 32 **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, Md. Zohurul Islam, Giulio Lorenzini, *Physics of Coriolis-Energy Force in Bifurcation and Flow Transition through a Tightly Twisted Square Tube*, Chinese Journal of Physics, Elsevier, 77: 1305-1330, 2022, **SCOPUS & ISI** Indexed, **IF: 3.237**.
- 31 **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, Giulio Lorenzini, *Curvature Induced Instability Characteristics of Laminar Flow and Heat Transfer through a Bent Square Channel*, Chinese Journal of Physics, Elsevier, 77: 189-213, 2022, **SCOPUS & ISI** Indexed, **IF: 3.237**.
- 30 Sreedam Chandra Adhikari, **Mohammad Sanjeed Hasan**, Rabeya Akter, Rabindra Nath Mondal, *Unsteady Features of Laminar Viscous Incompressible Flow and Temperature Dissemination through a Rotating Bent Rectangular Channel: The Case of Negative Rotation*, Jagannath University Journal of Science, 8(1): 33-44, 2022.
- 29 **Mohammad Sanjeed Hasan**, Md. Tusher Mollah, Dipankar Kumar, Rabindra Nath Mondal, Giulio Lorenzini, *Effects of Rotation on Transient Fluid Flow and Heat transfer through a Curved Square Duct: The Case of Negative Rotation*, International Journal of Applied Mechanics and Engineering, 26(4): 29-50, 2021, **SCOPUS** Indexed.
- 28 **Mohammad Sanjeed Hasan**, Shamsun Naher Dolon, Himadri Shekhar Chakraborty, Rabindra Nath Mondal, Giulio Lorenzini, *Numerical Investigation on Flow Transition through a Curved Square Duct with Negative Rotation*, Journal of Applied and Computational Mechanics, 7(3): 1435-1447, 2021, **SCOPUS** Indexed.
- 27 **Mohammad Sanjeed Hasan**, Sabrina Rashid, Shamsun Naher Dolon, Ratan Kumar Chanda, Muhammad Minarul Islam, Rabindra Nath Mondal, Giulio Lorenzini, *Investigation on Energy Distribution in Steady and Unsteady Flow Instabilities through a Bend Square Pipe*, Reports in Mechanical Engineering, 2: 86-104, 2021.

- 26 Ratan Kumar Chanda, **Mohammad Sanjeed Hasan**, Md. Mahmud Alam, Rabindra Nath Mondal, *A Computational Study on Flow Characteristics and Energy Distribution in a Rotating Coiled Rectangular Duct with Longitudinal Vortex Generation*, Journal of Naval Architecture and Marine Engineering, accepted (30th November, 2021), **SCOPUS** Indexed.
- 25 Rabindra Nath Mondal, **Mohammad Sanjeed Hasan**, Md. Zohurul Islam, Md. Saidul Islam, Suvash C. Saha, *A Numerical Study of Unsteady Fluid Flow and Heat Transfer through a Rotating Curved Rectangular Duct of Small Curvature*, International Journal of Heat and Technology, 39(4): 1213-1224, 2021, **SCOPUS, ISI & EiCompendex** Indexed.
- 24 Ratan Kumar Chanda, **Mohammad Sanjeed Hasan**, Giulio Lorenzini, Rabindra Nath Mondal, *Effects of Rotation and Curvature Ratio on Fluid Flow and Energy Distribution through a Rotating Curved Rectangular Channel*, Journal of Engineering Thermophysics, Springer, 30(2): 243-269, 2021, **SCOPUS & ISI** Indexed, **IF: 1.402**.
- 23 Ratan Kumar Chanda, **Mohammad Sanjeed Hasan**, Md. Mahmud alam, Rabindra Nath Mondal, *Taylor-Heat Flux Effect on Fluid Flow and Heat Transfer in a Curved Rectangular Duct with Rotation*, International Journal of Applied and Computational Mathematics, Springer, 7(4): 146, 2021, **SCOPUS** Indexed.
- 22 Shamsun Naher Dolon, **Mohammad Sanjeed Hasan**, Giulio Lorenzini, Rabindra Nath Mondal, *A Computational Modelling on Transient Heat and Fluid Flow through a Curved Duct of Large Aspect Ratio with Centrifugal Instability*, The European Physical Journal Plus, Springer, 136:382, 2021, **SCOPUS & ISI** Indexed, **IF: 3.911**.
- 21 Noor Alam, Saykat Poddar, M Enamul Karim, **Mohammad Sanjeed Hasan**, Giulio Lorenzini, *Transient MHD Radiative Fluid Flow over an Inclined Porous Plate with Thermal and Mass Diffusion: An EFDM Numerical Approach*, Mathematical Modelling of Engineering Problems, 8(5): 739-749, 2021, **SCOPUS** Indexed.
- 20 **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, Giulio Lorenzini, *Physics of Bifurcation of the Flow and Heat Transfer through a Curved Duct with Natural and Forced Convection*, Chinese Journal of Physics, Elsevier, 67: 428-457, 2020, **SCOPUS & ISI** Indexed, **IF: 3.237**.
- 19 **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, Giulio Lorenzini, *Coriolis force effect in steady and unsteady flow characteristics with convective heat transfer through a curved square duct*, International Journal of Mechanical Engineering, 5 (1): 1-40, 2020, **SCOPUS** Indexed.
- 18 **Mohammad Sanjeed Hasan**, Md. Sirajul Islam, Md. Faisal Badsha, Rabindra Nath Mondal, Giulio Lorenzini, *Numerical Investigation on the Transition of Fluid Flow Characteristics Through a Rotating Curved Duct*, International Journal of Applied Mechanics and Engineering, 25(3): 45-63, 2020, **SCOPUS** Indexed.
- 17 Samir Chandra Ray, **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, *On the Onset of Hydrodynamic Instability with Convective Heat Transfer Through a Rotating Curved Rectangular Duct*, Mathematical Modelling of Engineering Problems, 7(1): 31-44, 2020, **SCOPUS** Indexed.

- 16 Ratan Kumar Chanda, **Mohammad Sanjeed Hasan**, Md. Mahmud alam, Rabindra Nath Mondal, *Hydrothermal Behavior of Transient Fluid Flow and Heat Transfer Through a Rotating Curved Rectangular Duct with Natural and Forced Convection*, Mathematical Modelling of Engineering Problems, 7(4): 501-514, 2020, **SCOPUS** Indexed.
- 15 Mohsen Izadi, Iman Shahivand, S. A. M. Mehryan, **Mohammad Sanjeed Hasan**, Giulio Lorenzini, *Magneto-hydrodynamic Flow of Micropolar Nanofluid Containing Motile Microorganisms Passing over a Vertical Stretching Sheet with magnetic field dependent Viscosity*, Journal of Engineering Thermophysics, 29(4): 632-656, 2020, **SCOPUS & ISI** Indexed, **IF: 1.402**.
- 14 **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, Giulio Lorenzini, *Numerical Prediction of Non-isothermal Flow with Convective Heat Transfer Through a Rotating Curved Square Channel with Bottom Wall Heating and Cooling from the Ceiling*, International Journal of Heat and Technology, 37(3): 710-726, 2019, **SCOPUS, ISI & EiCompendex** Indexed.
- 13 **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, Giulio Lorenzini, *Centrifugal Instability with Convective Heat Transfer through a Tightly Coiled Square Duct*, Mathematical Modelling of Engineering Problems, 6(3): 397-408, 2019, **SCOPUS** Indexed.
- 12 Laisa Mahtarin Iva, **Mohammad Sanjeed Hasan**, Sanjit Kumar Paul, Rabindra Nath Mondal, *MHD free convection heat and mass transfer flow over a vertical porous plate in a rotating system with hall current, heat source and suction*, Int. J. Adv. Appl. Math. and Mech., 5(4): 49-64, 2018.
- 11 Muhammad Minarul Islam, **Mohammad Sanjeed Hasan**, *A study on exact solution of the telegraph equation by (G'/G) -expansion method*, African Journal of Mathematics and Computer Science Research, 11(7): 103-108, 2018.
- 10 Muhammad Minarul Islam, Md. Tusher Mollah, **Mohammad Sanjeed Hasan**, Md. Mahmud Alam, *Numerical Solution of Unsteady Viscous Compressible Fluid Flow along a Porous Plate with Induced Magnetic Field*, AMSE JOURNALS-AMSE IIETA publication-2017-Series: Modelling B, 86: 850-863, 2017, **SCOPUS** Indexed.

Conference Proceedings Papers (Organize in yearly based)

- 9 **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, Giulio Lorenzini, *Centrifugal-Coriolis instability through a rotating curved square duct with bottom wall heating and cooling from the ceiling*, AIP Conference Proceedings, 2324, 040007, 2021, **SCOPUS** Indexed.
- 8 **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, Shinichiro Yanase, *Numerical Prediction of Unsteady Fluid Flow and Heat Transfer through a Stationary Curved Square Duct*, AIP Conference Proceedings, 2324, 050020, 2021, **SCOPUS** Indexed.
- 7 Shamsun Naher Dolon, **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, *Non-isothermal flow with convective heat transfer through a curved duct for various aspect ratios*, AIP Conference Proceedings, 2324, 050014, 2021, **SCOPUS** Indexed.

- 6 Shamsun Naher Dolon, **Mohammad Sanjeed Hasan**, Ratan Kumar Chanda, Rabindra Nath Mondal, *Numerical study of unsteady fluid flow through a tightly coiled rectangular duct of large aspect ratio*, AIP Conference Proceedings, 2324, 040006, 2021, **SCOPUS** Indexed.
- 5 **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, Toshinori Kouchi, Shinichiro Yanase, *Hydrodynamic Instability with Convective Heat Transfer through a Curved Channel with Strong Rotational Speed*, AIP Conference Proceedings, 2121, 030006, 2019, **SCOPUS** Indexed.
- 4 **Mohammad Sanjeed Hasan**, Muhammad Minarul Islam, Samir Chandra Ray, Rabindra Nath Mondal, *Bifurcation Structure and Unsteady Solutions through a Curved Square Duct with Bottom Wall Heating and Cooling from the Ceiling*, AIP Conference Proceedings, 2121, 050003, 2019, **SCOPUS** Indexed.
- 3 Mst. Nasrin Sultana, **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, *A Numerical Study of Unsteady Heat and Fluid Flow through a Rotating Curved Channel with Variable Curvature*, AIP Conference Proceedings, 2121, 030009, 2019, **SCOPUS** Indexed.
- 2 Shamsun Naher Dolon, **Mohammad Sanjeed Hasan**, Samir Chandra Ray, Rabindra Nath Mondal, *Vortex-Structure of Secondary Flows with Effects of Strong Curvature on Unsteady Solutions through a Curved Rectangular Duct of Large Aspect Ratio*, AIP Conference Proceedings, 2121, 050004, 2019, **SCOPUS** Indexed.
- 1 Md. Nahidul Islam, Samir Chandra Ray, **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, *Pressure-driven Flow Instability with Convective Heat Transfer through a Rotating Curved Rectangular Duct with Differentially Heated Top and Bottom Walls*, AIP Conference Proceedings, 2121, 030011, 2019, **SCOPUS** Indexed.

Article in Press

- 1 **Mohammad Sanjeed Hasan**, Ratan Kumar Chanda, Rabindra Nath Mondal, Giulio Lorenzini, *Effects of Rotation on Unsteady Fluid Flow and Forced Convection in the Rotating Curved Square Duct with a Small Curvature*, FACTA UNIVERSITATIS, Series: Mechanical Engineering, accepted (29th May, 2021), **SCOPUS** Indexed.

Conference Papers (Oral Presentation)

- 6 **Mohammad Sanjeed Hasan**, Ratan Kumar Chanda, Rabindra Nath Mondal, *Time-dependent Flow with Convective Heat Transfer through a Curved Square Channel*, 21th International Mathematics Conference, University of Dhaka, Bangladesh, 8-10 December, 2019.
- 5 Shamsun Naher Dolon, **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, *Effects of Aspect Ratio on Unsteady Fluid Flow and Convective Heat Transfer through a Curved Rectangular Duct of Strong Curvature*, 21th International Mathematics Conference, University of Dhaka, Bangladesh, 8-10 December, 2019.
- 4 Ratan Kumar Chanda, **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, *Effects of Rotation on Unsteady Fluid Flow and Heat Transfer through a Curved Rectangular Duct with Bottom Wall Heating and Cooling from the Ceiling*, 21th International Mathematics Conference, University of Dhaka, Bangladesh, 8-10 December, 2019.

- 3 Selim Hussen, **Mohammad Sanjeed Hasan**, Rabindra Nath Mondal, *Two-dimensional Steady Flow and Unsteady Solutions through a Curved Square Duct*, 21th International Mathematics Conference, University of Dhaka, Bangladesh, 8-10 December, 2019.
- 2 **Mohammad Sanjeed Hasan**, Md Shakil Aman and Rabindra Nath Mondal, *Flow Instability with Convective Heat Transfer through a Curved Square Duct with Heating the Lower Wall and Cooling from the Ceiling*, 20th International Mathematics Conference, University of Dhaka, Bangladesh, 8-10 December, 2017.
- 1 Maksuda Akter Sawpna, **Mohammad Sanjeed Hasan** and Rabindra Nath Mondal, *Unsteady Fluid Flow and Heat Transfer through a Rotating Curved Duct with Differentially Heated Vertical Sidewalls*, 20th International Mathematics Conference, University of Dhaka, Bangladesh, 8-10 December, 2017.

Academic Awards

- 2019 Awarded as **DEAN'S AWARD FOR SCHOLASTIC EXCELLENCE** for securing the **outstanding academic achievement for the 1st position** in Bachelor of Science in Mathematics examination From the Faculty of Science.
- 2018 Awarded as **Prime Minister Gold Medal 2015** for securing the **highest Marks/CGPA** in Bachelor of Science in Mathematics examination From the Faculty of Science.
- 2013 Awarded as **Superior Performance in the 5th National Undergraduate Mathematics Olympiad**, (Khulna Region).

Education

Master of Science

University	Bangabandhu Sheikh Mujibur Rahman Science and Technology University, Gopalganj, Bangladesh.
Department	Mathematics
Subject	Applied Mathematics
Session	2016-2017
Result	3.90 (GPA out of 4.0 scale)
Position	1 st class 2 nd position in order of merit.
Medium of Instruction	English
Major Studied Courses	Fluid Dynamics, Advanced Numerical Analysis, Magneto-Hydrodynamics, Operations Research, Astrophysics, Industrial Mathematics, Thermodynamics and Statistical Mechanics, Theory of Relativity.
Masters thesis	
Title	<i>Numerical Study of Non-isothermal Flows with Convective Heat Transfer through a Curved Square Duct with Heating the Lower Wall and Cooling from the Ceiling.</i>
	Bachelor of Science

University Bangabandhu Sheikh Mujibur Rahman Science and Technology University, Gopalganj, Bangladesh.

Department Mathematics

Subject Mathematics

Session 2011-2015

Result 3.67 (GPA out of 4.0 scale)

Position 1st class 1st position in order of merit.

Achievement **Prime Minister Gold Medal 2015**
DEAN'S Award 2019

Medium of Instruction English

Major Courses Studied Basic Algebra and Trigonometry, Geometry in Two Dimension, Geometry in Three Dimension, Calculus-I, Calculus-II, Linear Algebra, Ordinary Differential Equation, Partial Differential Equation, Vector and Tensor Analysis, Real Analysis-I, Real Analysis-II, Discrete Mathematics, Programming With Fortran, Programming With Fortran Lab, Abstract Algebra, Complex Analysis, Mechanics, Classical Mechanics, Quantum Mechanics, Mathematical Methods, General Topology, Theory of Numbers, Numerical Analysis, Numerical Analysis Lab, Linear Programming, Lattice Theory, Hydrostatics and Hydrodynamics, Astronomy, Integral Equations, Differential Geometry, Mathematical Modeling in Biology, Rings and Modules, Wavelet Analysis.

Project Thesis

Title *A Comparative Study on Exact Solution of The Sawada-Kotera and Degasperis-Procesi Equations by (G'/G) -Expansion Method.*

[Higher Secondary Certificate](#)

College Adamjee Cantonment College, Dhaka.

Group Science

Passing Year 2011

Board Dhaka

Result 4.30 (GPA out of 5.0 scale)

[Secondary School Certificate](#)

School Bangladesh Navy School, Dhaka.

Group Science

Passing Year 2009

Board Dhaka

Result 5.00 (GPA out of 5.0 scale)

Computer skills

Intermediate HTML, \LaTeX , Microsoft Windows, Microsoft Office

Programming Language MATLAB, MAPLE, C/C++, Programming with FORTRAN

Communication Skills

- 2017 Oral Presentation at the 20th International Mathematics Conference
- 2018 Oral Presentation at the 8th International Conference on Thermal Engineering
- 2019 Oral Presentation at the 21th International Mathematics Conference
- 2019 Oral Presentation at the 13th International Conference on Mechanical Engineering

Language Skill

Bengali Mother tongue
English Intermediate (IELTS Score:6) *Con conversationally fluent*

Membership

Bangladesh Mathematical Society (Serial No: 1516)

Reviewer

International Journal of Heat and Technology (IJHT)
International Journal of Applied Mechanics and Engineering (IJAME)
Journal of Naval Architecture and Marine Engineering (JNAME)

Useful Links

Personal Website <https://mohammad-sanjeed-hasan.github.io/>
Google Scholar <https://scholar.google.com/citations?user=kKilmJcAAAAJ&hl=en>
Researchgate <https://www.researchgate.net/profile/Mohammad-Hasan-26>
Scopus <https://www.scopus.com/authid/detail.uri?authorId=57198745772>
Orcid <https://orcid.org/0000-0003-2960-5524>
Publons <https://publons.com/researcher/3213662/mohammad-sanjeed-hasan/publications/>

References

- **Dr. Giulio Lorenzini**
Professor,
World's Top two percent Scientist, (Stanford University, 2020)
Environmental Technical Physics,
Department of Engineering and Architecture,
University of Parma, Parco Area delle Scienze, 181/A, 43124 Parma, Italy.
Email: giulio.lorenzini@unipr.it

- **Dr. Rabindra Nath Mondal**

Professor

Department of Mathematics,

Dean, Faculty of Science,

Jagannath University, Dhaka, Bangladesh.

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- **Dr. Dipankar Kumar**

Associate Professor & Chairman,

Department of Mathematics,

Bangabandhu Sheikh Mujibur Rahman Science and Technology University, Gopalganj,
Bangladesh.

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Declaration

I can assure that the information given here is true and accurate to the best of my knowledge and belief.

Signature

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Mohammad Sanjeed Hasan