



Dr. Subha Pal

Ghatal, Paschim Medinipur
West Bengal 721212, INDIA

Date of Birth: 7th May, 1993

Phone: +91 9085293159

sp234sp@gmail.com

subhapal@tezu.ernet.in

OVERVIEW

NBHM Project Fellow, Tezpur University, Tezpur, Assam.

EDUCATION

Ph.D. in Mathematics

2016-2020

Awarded Date: 24.06.2020

Awarded University: Tezpur University

Dept. of Mathematical Sciences

Tezpur University, Tezpur

Thesis Title: A Study of Navier Stokes Equations with Navier-slip Boundary Conditions

Master of Science

2013-2015

Indian Institute of Technology, Guwahati

Branch - Mathematics and Computing

CGPA - 7.64

Bachelor of Science

2010-2013

Ramakrishna Mission Residential College, Narendrapur

University of Calcutta, West Bengal

Honours in Mathematics

Marks - 70%

Higher Secondary

2008-2010

Ghatal Vidyasagar High School

West Bengal Council of Higher Secondary Education, West Bengal

Specialization in Science

Marks - 75.40%

Secondary

2008

Ghatal Vidyasagar High School

West Bengal Board of Secondary Education, West Bengal

Marks - 75.25%

Signature

AWARDS

- 2019- NBHM Project Fellow (A Study of Navier-Stokes Equations with Navier Boundary Conditions.)
- 2017- Qualified UGC-NET with AIR 76 in the Joint CSIR-UGC National Level Test in Mathematics.
- 2013- Qualified IIT-JAM, with AIR 653 in the National Level Test in Mathematics.

RESEARCH

Area of Research

Solutions of the Navier-Stokes equations

Research Interest

My current research involves investigating the existence and uniqueness of solutions of the Navier-Stokes equations with Navier slip boundary condition. Navier slip boundary condition arises in many physical phenomena like, the moving contact line where a liquid spreads over a solid surface and the extrusion of polymer melts from capillary tubes. Mainly, we concentrate for the solutions of the Navier-Stokes equations with slip boundary condition in bounded domain of 3D.

RESEARCH PUBLICATIONS

- Subha Pal and Rajib Haloi, “ On Solution to the Navier-Stokes equations with Navier slip boundary conditions for three dimensional incompressible fluid” **Acta Mathematica Scientia** 39(6):1628-1638, 2019(Impact factor 0.99).
- Subha Pal and Rajib Haloi, “ Existence and uniqueness of solutions to the damped Navier–Stokes equations with Navier boundary conditions for three dimensional incompressible fluid” **Journal of Applied Mathematics and Computing** <https://doi.org/10.1007/s12190-020-01437-1>, 2020 (Impact factor 1.24).
- Subha Pal and Rajib Haloi, “Existence Of Weak Solutions To The Linear Damped Navier-Stokes Equations” (Submitted for Publication).
- Subha Pal, “ Existence of Weak solutions to the Navier-Stokes equations with slip boundary conditions by Time Discretization ” (Submitted for Publication)
- Subha Pal, “Existence and uniqueness of solutions to Damped Navier-Stokes equations with slip boundary conditions in n-spacial dimension” (Submitted for Publication).

PH.D. COURSE WORK

- Theory of Distributions and Sobolov Spaces
- Finite Element Methods (FEM) for PDEs

Signature

PROJECT

Project Title-A Study of Navier-Stokes Equations with Navier Boundary Conditions

Mar 2019 -

Funding Agency: NBHM

Project advisor: Dr. Rajib Haloi

Department of Mathematical Sciences, Tezpur University

Project Title- The Stokes' Theorem on Manifolds

Jan- Apr,2015

Project advisor: Dr. P.A.S. Sree Krishna

Department of Mathematics, IIT Guwahati

TEACHING

MI538 - Theory of Partial Differential Equation

Aug-Oct,2019

Department of Mathematical Sciences, Tezpur University

MS102 - Linear Algebra(Tutorial)

Jan-Jun,2017

Department of Mathematical Sciences, Tezpur University

SEMINAR AND TALK PRESENTATION

- Feb 2019 - *Weak solutions to the Damped Navier-Stokes equations constructed by semi-discretization are suitable*, KIIT Bhubaneswar.
- Feb 2019 - *A study of Damped Navier-Stokes Equations with Navier boundary conditions in n-spacial dimension*, KIIT Bhubaneswar.
- Jan 2018 - *Existence and uniqueness of solutions to the Navier-Stokes equations with slip boundary conditions*, IIT BHU, Varanasi.
- Dec 2017 - *Existence and Uniqueness of solutions to the Damped Navier Stokes equations*, Tezpur University
- Dec 2016 - *Navier-Stokes equations with different Boundary conditions*, Tezpur University
- June 2016 - *Semigroup of Linear Operator*, Tezpur University
- May 2015 - *The Stokes' Theorem on Manifolds*, IIT Guwahati.
- Nov 2014 - *The Linear algebra behind Google*, IIT Guwahati.

Signature

WORKSHOPS AND CONFERENCES

- Feb 18 - Mar 2, 2019 - Science Academies' Refresher Course on "Analysis", Tezpur University, Tezpur.
- Feb 6 - Feb 9, 2019 - 5th International Conference on Mathematics and Computing, KIIT Bhubaneswar.
- Jan 21 - Feb 2, 2019 - Compact Course on Mathematical Aspects of Euler Equations, TIFR-CAM, Bangalore.
- Jan 9 - Jan 11, 2018 - 4th International Conference on Mathematics and Computing, IIT BHU, Varanasi.
- Feb 22 - Mar 4, 2016 - School on "Analysis and Topology", ISI Tezpur.

COMPUTER PROFICIENCY:

- **Computer Language** - C, C++
- **Operating System** - Windows, Linux
- **Software Package** - Matlab, Latex, Office
- **Course** - Data structure and Algorithm, Theory of Computation.

REFERENCES:

Dr. Rajib Haloi, Associate Professor

Department of Mathematical Sciences
Tezpur University, Tezpur
Tezpur-784028, Assam, India
Phone: +91-371-227-5511
Email: rhaloi@tezu.ernet.in

Dr. Jayanta Borah, Assistant Professor

Department of Mathematical Sciences
Tezpur University, Tezpur
Tezpur-784028, Assam, India
Phone: +91-371-227-5522
Email: jba@tezu.ernet.in

Dr. P.A.S. Sree Krishna, Assistant Professor

Department of Mathematics
Indian Institute of Technology, Guwahati
Guwahati-781039, Assam, India
Phone: +91-361-258-2603
Email: passkrishna@iitg.ernet.in

DECLARATION:

I hereby declare that the information finished above is true to the best of my knowledge.

Date:

Signature

Subha Pal