Name: Dr. Rajib Haloi

Date of birth: 01 January, 1981.

Designation:

- Professor in the Department of Applied Sciences, Tezpur University since December 16, 2021.
- Head of the Department of Applied Sciences, Tezpur University since January 27, 2022.

Positions held:

- Associate Professor in the Department of Mathematical Sciences, Tezpur University since November 19, 2019 to December 15, 2021.

- Assistant Professor Stage-III in the Department of Mathematical Sciences, Tezpur University since June 16, 2017 to November 18, 2019.

- Assistant Professor Stage-II in the Department of Mathematical Sciences, Tezpur University since June 16, 2012 to June 15, 2017.

- Assistant Professor Stage-I in the Department of Mathematical Sciences, Tezpur University since July 31, 2006 to June 15, 2012.

- Scientist B in Defence Research and Development Organizations, Ministry of Defence from June 06, 2005 to July 27, 2006.

- Junior Research Fellow(CSIR–UGC) at IIT Kanpur from December 26, 2003 to June 03, 2005.

Courses Taught:

B. Tech.
- Mathematics I.
- Mathematics II.

Integrated M. Sc.
- Integral Equations and Integral Transforms.
- Theory of ODE.
- Partial Differential Equations.
- Advanced Analysis.

M. Sc.
- Partial Differential Equations (M. Sc.).
- Mathematical Methods (M. Sc.).
- Algebra (M. Sc.).
- Measure theory (M. Sc.).
- Fourier Analysis (M. Sc).
- Ordinary Differential Equations (M. Sc).
- Theory of Partial Differential Equations (M. Sc).

Ph. D. Guidence:

- Dr. Subha Pal (Defended, June 2020), Thesis Title: A Study of Navier Stokes Equations with Navier-slip Boundary Conditions.
- Dr. Duranta Chutia (Defended, February 2022), Thesis Title: Weighted Estimates for Certain Maximal Functions and Integral Operators.
- Tanmoy Barman Joined in October 2021 (continuing), Thesis Title: Weighted Estimates for scalar and vector valued Maximal Functions and related problems.
- Jyotirmay Barman, Joined in September 2022, (continuing).

M. Sc. Guidence:

- Ms Rasmita Borah, A study of semigroup of bounded linear operators: An Introduction, 2015–2016.
- Mr. Duranta Chutia, A brief study of approximate controllability, July 2016– May 2017.
- Mr. Tanmoy Barman, Almost periodic solutions to a class of non-instantaneous impulsive differential equation with deviating argument, July 2020– September 2021.
- Ms. Debangana Saha, A Study on Bloch-Periodic Solutions to Integro Differential Equation with Deviating Arguments, October 2021– June 2022.
- Ms. Kahuwa Kuwali Barman, A brief Study of Abstract Cauchy Problem, October 2021– June 2022.
- Mr. Partha Protim Saikia, Fixed Point Theorems and Applications, October 2021– June 2022.

Academic Qualifications:

- HSLC from Bharati High School securing 71.5% in 1996.

- HSSLC from Patacharkuchi Vidyapith securing 70.8% in 1998.

- B. Sc. with Mathematics as Major from Bajali College securing 77.6% (Best Science Graduate, Gauhati University) in 2001.

- MSc. in Mathematics from Gauhati University with 86.2% marks (University Gold Medalist) in 2004.

- Qualified CSIR-UGC NET in June 2003.

- Qualified GATE in 2003.

- Ph.D from Indian Institute of Technology Kanpur in 2012.

    - Thesis Title: **A study of some abstract parabolic initial value problems with deviating arguments** .
    - Thesis Supervisor: **Prof. Dhirendra Bahuguna**.

Award

- DST International Travel Scheme to Participate in 12th American Institute of Mathematical Sciences (AIMS) Conference on Dynamical Systems, Differential Equations and Applications, July 5-9, 2018, Taipei, Taiwan.

Research Interest:

- Differential Equations, Fourier Analysis, Navier-Stokes equations and its solutions.

Projects Grants:

- Name of the Project : A Study of Navier-Stokes Equations with Navier Boundary Conditions
  Funding Agency : National Board for Higher mathematics, DAE
  Sanction No. and Date : $No02011/9/2019NBHM(R.P.)/RandDII/1324$ dated 29.01.2019
  Duration : 3 Years(Completed)
- Name of the Project : A Study of controllability of Navier-Stokes Equations with Navier boundary conditions
  Funding Agency : SERB
  Sanction No. and Date : $SERB/F/12082/2018 - 2019$ dated 14 March 2019
  Duration : 3 years(Completed)

School/conference/Refresher course conducted:

- Science Academies Refresher course on "Analysis", February 18-March 02, 2019.
- NCM Instructional School on "Partial Differential Equations", November 21-December 03, 2022.

Published articles in Journals:

2021

- **S. Pal and R. 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, 66 (1), 307-325, 2021.
- **D. Chutia and R. Haloi,** *Weighted inequalities for one-sided fractional minimal function*, The Journal of Analysis, 29, pages 1151-1163, 2021.

2019

- **D. Chutia and R. Haloi**, *Existence of solutions to a non-autonomous abstract neutral differential equation with deviated argument*, Electronic Journal of Differential Equations, Vol 2019 (2019) No. 63, 1-14.
- **S. Pal and R. Haloi**, *On solution to the Navier Stokes equations with Navier-Slip boundary conditions for three dimensional incompressible fluid*, Acta Mathematica Scienctia, 39 (6),1628-1638, 2019

2018

- **R. Haloi**, *Solutions to abstract Volterra integro-differential equations with iterated deviating arguments*, The Journal of Analysis, June 2018, pp. 1–26.
- **R. Haloi**, *On solutions to fractional neutral differential equations with infinite delay*, Journal of fractional Calculus and Applications, Vol. 9(2) Jan 2018, pp. 77–92.

2017

- **R. Haloi**, *Approximate controllability of nonautonomous nonlocal delay differential equations with deviating arguments*, Electronic Journal of Differential Equations, Vol. 2017 (2017), No. 111, pp. 1-12.

2016

- P. Kumar, **R. Haloi**, D. N. Pandey and D. Bahuguna, *Existence of Solutions to a new class of abstract non-instantaneous impulsive fractional integro-differential equations*, Nonlinear Dynamics and Systems Theory, 16(1) 2016, 73-85.

2014

- **R. Haloi**, *Solutions to quasi-linear differential equations with iterated deviating arguments*, Electronic Journal of Differential Equations, Vol. 2014 (2014), No. 249, pp. 1-13.
- **R. Haloi**, Pradeep Kumar and D. N. Pandey,*Sufficient conditions for the existence and uniqueness of solutions to impulsive fractional integro-differential equations with*

    deviating arguments, Journal of fractional Calculus and Applications, Vol. 5(1) Jan 2014, No. 7, pp. 73–84. **Citation** : 01

- **R. Haloi**, *Existence of Weighted Pseudo-almost Automorphic Mild Solutions to Non-autonomous Abstract Neutral Differential Equations with Deviating Arguments*, Differential Equation and Dynamical systems, 22(2), 2014, 165–179. **Citation** : 00

2013

- **R. Haloi,** *On solutions to a non-autonomous neutral differential equation with deviating arguments*, Nonlinear Dynamics and Systems Theory, Vol 13(3), 242–257.**Citation** : 02

2012

- **R. Haloi**, D. N. Pandey and D. Bahuguna, *Existence and Uniqueness of a Solution for a Non-Autonomous Semilinear Integro-Differential Equation with Deviated Argument*, Differential Equation and Dynamical systems, 20(1), 2012, 1–16.**Citation** : 04

- **R. Haloi**, D. N. Pandey and D. Bahuguna, *Existence and uniqueness of solutions for quasi-linear differential equations with deviating arguments*, Electronic Journal of Differential Equations, Vol. 2012 (2012), No. 13, pp. 1–10. **Citation** : 12

- **R. Haloi**, D. N. Pandey and D. Bahuguna, *Existence, uniqueness and asymptotic stability of solutions to non-autonomous semi linear differential equations with deviated arguments,* Nonlinear Dynamics and Systems Theory, 12 (2) (2012), 179–191. **Citation** : 07

2011

- **R. Haloi**, D. N. Pandey and D. Bahuguna, *On Solutions to fractional neutral differential equations with infinite delay*, Journal of fractional Calculus and Applications,Vol. 9(2),2018, pp.1-16.viated argument, Journal of Nonlinear Evolution Equations and Applications, 2011 (5) (2011) p. 75–90. **Citation** : 09

Conference article:

- **R. Haloi** A note on necessary condition for L_p multipliers with power weights, Proceedings of the 4th International Conference on Mathematics and Computing (ICMC 2018), Springer Proceedings in Mathematics and Statistics, vol 253, pp 237-247.
- **R. Haloi**, Some Existence Results on Impulsive Differential Equations, Proceedings of the Sixth International Conference on Mathematics and Computing, Advances in Intelligent Systems and Computing (2021), Vol. 1262, 535–548.
- D Chutia,**R. Haloi**, Weighted Norm Inequality for General One-Sided Vector Valued Maximal Function, Proceedings of the Sixth International Conference on Mathematics and Computing(2021), Vol. 1262, pp 549-563.

Conference, Workshop attended:

2020

- Frontiers in Industrial and Applied Mathematics, FIAM 2020, NIT Jamshedpur December 21-22, 2020 (online).

2019

- 85th Annual Meeting of the Academy, November 08-10, 2019, the University of Hyderabad.
- Equadiff 2019, July 8-12, 2019, Leiden University, The Netherlands.
- International Conference on Differential Equations and Control Problems: Modeling, Analysis and Computations (ICDECP19)' department of Mathematics, IIT Mandi, June 17 -19, 2019.
- Refresher course on analysis, Indian Academy of Sciences and Tezpur University, February 18 -March 02, 2019.

2018

- 12th American Institute of Mathematical Sciences (AIMS) Conference on Dynamical Systems, Differential Equations and Applications, July 5-9, 2018, Taipei, Taiwan.
- 4th International Conference on Mathematics and Computing (ICMC 2018) January 09-11, 2018 at IIT (BHU), Varanasi, India.

2017

- Recent developments in Nonlinear Partial Differential Equations and Applications, 1st - 4th November 2017, TIFR CAM, Bangalore, India

2016

- International Conference on Mathematical Analysis and its applications, IIT Roorkee, Nov 28- Dec 02,2016.
- National workshop on Mathematical Analysis and Its Applications to Engineering, IIT Guwahati, Jan 02-04,2016.

2015

- International conference on current trends in PDEs: Theory and Computations, South Asian University, Dec 28-30, 2015.
- Workshop on Integral Equations-solvability,analysis and applications, NPDE, Jaypee University of Information Technology and IIT Gandhinagar, October 19-25, 2015.

2014

- Compact Course on Navier-Stokes Equations for Incompressible Fluids, TIFR CAM Bangalore, June 03 - 13, 2014.

- Advanced Instructional School on Theoretical and Numerical Aspects of Inverse Problems, TIFR CAM Bangalore, June 16 - 28, 2014.

2012

- Instructional School for Lecturers Differential Equations and Computation (2012), NBHM and Jaypee University of Information Technology, June 04–16, 2012.

- Workshop on Analysis, ISI and Tezpur University, January 03–09, 2012.

2010

- Satellite Conference on Harmonic Analysis (ICM 2010), NBHM and NISER, Bhubneswar, Aug 29 to Sept 02, 2010.

- Eleventh discussing meeting in Harmonic Analysis, NBHM and NISER, Bhubneswar, January 06–09, 2010.

- Workshop in Harmonic analysis, NBHM and NISER, Bhubneswar Dec 28, 2009 to Jan, 5, 2010.

2008

- Workshop in Harmonic Analysis and PDE, IMI and Dept. of Mathematics, Indian Institute of Science, Bangalore, December 05–13, 2008.

- 23rd Annual Conference of Ramanujan Mathematical Society, NBHM and Indian Institute of Technology Kanpur ,May 19– 21, 2008.

- National Instructional Workshop on Harmonic Analysis, NBHM and Indian Institute of Technology Kanpur, May 14–18, 2008.

2007

- Advanced Instructional School Representation Theory and its Application, NBHM and Bhaskaracharya Pratisthana and Department of Mathematics, University of Pune, July 2–28, 2007.

2006

- Short Term course on 'Matrix Computations and Applications' Department of Mathematics, IIT, Guwahati, December 18–22, 2006.

2004

- Instructional Workshop on Harmonic Analysis on symmetric spaces, IIT Kanpur and Indian Statistical Institute, June 21–July 09, 2004.

2002

- MTTS Program held at IIT Guwahati (sponsored by NBHM) during June 03–29, 2002.

Reviewer Experiences:

- Mathematical Methods in the Apllied sciences.
- Dynamics of Continuous, Discrete and Impulsive Systems A, Mathematical Analysis

Academic/Administrative responsibilities:

- Member, Tezpur University Entrance examination 2007.
- Senior Warden, Transit Men's Hostel I since September 2016.

Membership in the Scientific Societies:

- Life Member, Assam Academy of Mathematics.

Address for correspondence:

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  Assistant Professor.
  Department of Applied Sciences.
  Tezpur university.
  Napaam, Sonitpur, Assam-784028, India.
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  C/O: Mr. Ghanashyam Haloi.
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  Dist: Nalbari, Assam-781371.

References:

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Guwahati 781014 Assam, India
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