



**DR. NAGJIBHAI S. RABARI**

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## **Personal Information**

Name: NAGJIBHAI SAGARBHAI RABARI

Designation & Affiliation: Assistant Professor,  
Post Graduate Department of Mathematics,  
Sardar Patel University,  
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Date of Birth: 15.12.1986

Gender: Male

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Subject: Mathematics

Experience: 11 years (As on 31<sup>st</sup> August, 2021)

## **Educational Qualifications**

- B.Sc. in Mathematics from Hemchandracharya North Gujarat University, Patan. (2007)
- M.Sc. in Mathematics from Sardar Patel University, Vallabh Vidyanagar. (2009)
- M.Phil. in Mathematics from Sardar Patel University, Vallabh Vidyanagar. (2010)
- Ph.D. in Mathematics from Hemchandracharya North Gujarat University, Patan. (2017)
- Qualified Gujarat State Eligibility Test (GSET) for Assistant Professor. (2017)

## **Work Experience**

- Assistant Professor in Mathematics, Sardar Patel Institute of Technology (affiliated with GTU), Mehsana, Gujarat. (September, 2010 – June, 2012)
- Assistant Professor in Mathematics, Hansaba College of Engineering & Technology (affiliated with GTU), Sidhpur, Gujarat. (June, 2012 – March, 2013)
- Assistant Professor & Course Coordinator, Department of Mathematics, Mehsana Urban Institute of Sciences (constitute institute of Ganpat University), Ganpat Vidyanagar, Mehsana, Gujarat. (March, 2013 – August, 2021)
- Assistant Professor in Mathematics, Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, Anand, Gujarat. (August, 2021 to till date)

## **Publications**

- Finite Element Solution of One Dimensional Flow in Unsaturated Porous Media, IOSR Jr. Math., 10 (2014), 49-57.
- Finite Element Solution of One Dimensional Flow in Unsaturated Porous Media with Parabolic Permiability, ISST Jr. Math. & Computing System, 5 (2014), 15- 24.
- Numerical Behavior of Instability in Displacement Process through Homogeneous Porous Media, Int. Jr. Math. and Comp. Appl. Research, 4 (2014), 33- 46.
- Numerical Behavior of Fingering Phenomenon in a Homogeneous Medium Involving Magnetic Fluid, Int. Jr. Eng. and Innovative Technology, 4 (2014), 133-141.
- A Mathematical Model for Fingero-imbibition Phenomenon in a Homogeneous Porous Media with Magnetic Fluid, Int. Jr. Math. and Comp. Appl. Research, 5 (2015), 107- 118.
- Numerical Solution of Imbibition Phenomenon in a Homogeneous Medium with Magnetic Fluid, IOSR Jr. Math., 11 (2015), 11- 19.
- A Mathematical Model for Fingero - Imbibition Phenomenon in a Slightly Dipping Porous Media with Magnetic Fluid, Int. Jr. Math. and Comp. Appl. Research, 5 (2015), 155- 166.
- Numerical Solution of Imbibition Phenomenon in a Cracked Porous Medium with Magnetic Fluid, Int. Jr. Inno. Research in Sci., Eng. and Tech., 4 (2015), 10971- 10983.
- Numerical Solution of Imbibition Phenomenon in a Homogeneous Medium with Capillary Pressure, Int. Jr. Adv. Info. Sci. and Tech., 43 (2015), 25- 35.
- Numerical Solution of Imbibition Phenomenon in a Slightly Dipping Porous Medium with Magnetic Fluid, Int. Jr. of Inno. Research in Sci., Eng. and Tech., 4 (2015), 10984- 10997.
- A Mathematical Model for Fingero-imbibition Phenomenon in a Cracked Porous Media with Magnetic Fluid, Int. Jr. Adva. Tech. in Eng. and Sci., 4 (2016), 233- 243.
- Lecture Notes on Engineering Mathematics, Scholar's Press, ISBN 9786138912781.
- Solved Problems on Differential Equations, GRIN Verlag, ISBN 9783346085405.
- Proc. of 19<sup>th</sup> Annual Cum 4<sup>th</sup> International Conference of GAMS, 2014, Author of a Chapter in a Book, ISBN 9788192810058.
- Proc. of 3<sup>rd</sup> International Conference on Recent Trends In Engineering Science And Management, 2016, Author of a Chapter in a Book, ISBN 9788193207444.
- Smarnika, 53<sup>rd</sup> Annual Convention of GGM, 2016, Editor of a Book.
- Souvenir, 22<sup>nd</sup> Annual Cum 6<sup>th</sup> Int. Conference of GAMS, 2017, Editor of a Book

## **Invited Lectures / Resourse Person / Paper Presentation in Seminars / Conferences / Full Paper in Conference Proceedings**

- Fingering Phenomenon in a Homogeneous Medium Involving Magnetic Fluid, National Conference on Applied Mathematics, Parul Institute of Engineering & Technology, Limda, Vadodara, 28/08/2014.
- Numerical Solution of Imbibition Phenomenon in a Homogeneous Medium with Capillary Pressure, 19<sup>th</sup> Annual cum 4<sup>th</sup> International Conference of Gwalior Academy of Mathematical Sciences (GAMS) on Advances in Mathematical Modeling to Real World Problems, S. V. National Institute of Technology, Surat, 06/10/2014.
- A Mathematical Model for Fingero - Imbibiton Phenomenon in a Cracked Porous Media with Magnetic Fluid, 3<sup>rd</sup> International Conference on Recent Trends in Engineering Science and Management, Vedant College of Engineering and Technology, Bundi, Rajasthan, 10/04/2016.
- Properties of Non Unital Banach Algebra, 22<sup>nd</sup> Annual cum 6<sup>th</sup> International Conference of Gwalior Academy of Mathematical Sciences (GAMS) on Advances in Pure and Applied Mathematics, Mehsana Urban Institute of Sciences, 22/12/2017.
- Fractional Calculus: A Classical Approach, 55<sup>th</sup> Annual Conference of Gujarat Ganit Mandal and International Conference of Mathematics, Indian Institute of Teacher Education, Gandhinagar, 17/11/2018.
- Application of Derivative in Life Science, BT-CBC Crash Course, Mehsana Urban Institute of Sciences, 22/12/2018.
- Elementary Mathematics Problem, BT-CBC Crash Course, Mehsana Urban Institute of Sciences, 24/01/2019.
- Poster presentation on Proof without words, 34<sup>th</sup> Gujarat Science Congress - 2020, Mehsana Urban Institute of Sciences, 08/02/2020.
- Matrix Algebra, Three Weeks Induction Program on Basic Concepts in Physics | Chemistry | Mathematics | Biology for Science & Engineering, Mehsana Urban Institute of Sciences, 17/08/2020.
- Riemann Integration, One-Week Advanced Level Bridge Course on Mathematics, Mehsana Urban Institute of Sciences, 07/09/2021.

**Research Guidance** one student completed M.Phil. and one student is pursuing Ph. D. under my supervision.

## **Academic Events Organized**

- Co-convener, A Short Term Hands on Training Programme on Innovative Approach In Mathematics Education during 8-12 December, 2016.
- Co-convener, 53rd Annual Convention of Gujarat Ganit Mandal during 23-25 December, 2016.
- Joint organizing secretary, 22nd Annual cum 6th International Conference of GAMS during 22-24 December, 2017
- Event Coordinator, GNU SciTech fest -2018 on 28th February, 2018
- Member of Core Committee, Crash Course 2018-19 for preparation of IIT - JAM
- Event Coordinator, GNU SciTech fest -2019 on 28th February, 2019
- Member of Core Committee, Crash Workshop 2019 for preparation of IIT - JAM

## **Membership of Professional Bodies and other Positions held**

- Gujarat Ganit Mandal (GGM): Life Membership No.: 1000/L1183
- Indian Mathematical Society (IMS): Life Membership No.: R-12-149
- Intellectuals Society for Socio-Techno Welfare (ISST): Life Membership No.: ILM/124
- Member – Board of Studies, Faculty of Science, Ganpat University, Ganpat Vidyanagar (up to August 2021).
- Member – Faculty Committee, Faculty of Science, Ganpat University, Ganpat Vidyanagar (up to August 2021).
- Member – Governing Council, Faculty of Science, Ganpat University, Ganpat Vidyanagar (up to August 2021).

## **Participation in Workshop/Seminar/Conference/Symposium/STTP/ FDP**

- Workshop on Problem Solving in Mathematics, Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, January 24-29, 2009.
- Seminar on Project Demonstration on Differential Equations, General Department, L. D. College of Engineering, Ahmedabad, July 16, 2011.
- National Seminar on Advances in Mathematics: Historical Developments & Engineering Applications, Department of Mathematics, Madhuben & Bhanubhai Patel Women Institute of Engineering, New Vallabh Vidyanagar, January 9-11, 2012.
- Short Term Training Program on Finite Element Method: A Mathematical Approach, Mechanical Engineering Department, C. K. Pithawala College of Engineering and Technology, Surat, April 30-May 4, 2012.

- Workshop on Pedagogy Sessions in Calculus, L. D. College of Engineering, Gujarat Technological University, Ahmedabad, June 25-29, 2012.
- Short term course on MATLAB, Department of Mathematics, Municipal Arts and Urban Bank Science College, Mehsana, July 13, 2013.
- 50th Annual (Golden Jubilee) Conference of Gujarat Ganit Mandal, Sanskardham, Godhavi-Bopal, Ahmedabad, November 14-17, 2013.
- Workshop on Scope of Research in Applied Mathematics, Vishwakarma Government Engineering College, Chandkheda, December 28, 2013.
- National Conference On Applied Mathematics, Department of Applied Sciences & Humanities, Parul Institute of Engineering & Technology, Vadodara, June 27-28, 2014.
- Experts meet on Mathematics Science Questionnaire Programme of GUJCOST, Gujarat Science City, Ahmedabad, July 22, 2014.
- 19th Annual cum 4th International Conference of Gwalior Academy of Mathematical Sciences on Advances in Mathematical Modeling to Real World Problems, Department of Applied Mathematics & Humanities, S. V. National Institute of Technology, Surat, October 3-6, 2014.
- 51th Annual Conference of Gujarat Ganit Mandal, P. P. Savani Group of Schools, Surat, November 6-8, 2014.
- State level workshop on Introduction to Scientific Computing with Python, Pramukh Swami Sciences & H.D.Patel Arts College(PSSHDA), Kadi and Shri U.P.arts, Smt. M.G. Pachal Science & Shri V.L.Shah Commerce College(ASCC), Pilvai held at Kadi, January 6-7, 2015.
- National Seminar on Research Methodology, U. V. Patel College of Engineering, Ganpat Vidyanagar, January 16-17, 2015.
- State level Seminar on Advances in Mathematical Sciences, Department of Mathematics, Bai Jivkor Lallubhai Trust Sanchalit K. K. Shah Jarodwala Maninagar Science College(KKSJMISC), Ahmedabad, February 14, 2015.
- One week Faculty Development Programme on Computational Methods in Engineering using MATLAB, Acharya Motibhai Patel Institute of Computer Studies, Ganpat University, Ganpat Vidyanagar, April 20-24, 2015.
- Workshop on LaTeX – Report Preparation & Presentation, Department of Mechatronics and Mechanical Engineering, U.V.Patel College of Engineering, Ganpat Vidyanagar, July 25, 2015.
- One Day State Level Workshop on MATLAB Graphics, Sheth M.N. Science College, Patan, August 25, 2015.
- State level Seminar on Drug Development – A Mathematical Perspective, Department of Mathematics, Pramukh Swami Sciences & H.D.Patel Arts College(PSSHDA), Kadi, Hemchndracharya North Gujarat University, Patan and Kadi Sarva Vishwavidyalaya, Gandhinagar held at Gandhinagar, February 21, 2016.
- Entrepreneurship Awareness Camp, Mehsana Urban Institute of Sciences, ganpat Vidyanagar, September 27-29, 2017.