

DR. SANJAY J. GHEVARIYA

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PERSONAL & PROFESSIONAL DETAILS

Designation **Professor** (Since February 2024)
Associate Professor (February 2021 to January 2024)
Assistant Professor (February 2008 to January 2021)
Post Graduate Department of Mathematics, Sardar Patel University

Scopus <https://www.scopus.com/authid/detail.uri?authorId=57203685990>

Google Scholar <http://scholar.google.com/citations?hl=en&authuser=1&user=DzHw5McAAAAJ>

ORCID [0000-0002-8227-6689](https://orcid.org/0000-0002-8227-6689)

IRINIS <https://spuvvn.irins.org/profile/265670>

EDUCATIONAL DETAILS

- **Ph.D. (Financial Mathematics)**, Sardar Patel University (2014)
- **M.Phil. (Mathematics)**, Sardar Patel University (2007) – 89.20%
- **M.Sc. (Mathematics)**, Sardar Patel University (2006) – 87.31%
- **B.Sc. (Mathematics)**, Sardar Patel University (2004) – 85.00%

RESEARCH AREA

- **Financial Mathematics:** Topics include Financial Derivatives, Black-Scholes Theory, and Fractional Differential Equations.

KEY ACHIEVEMENTS

- **Graduate Aptitude Test in Engineering (GATE):** Qualified in 2007 with All India Rank 11 (Percentile: 99.57), 2008 (Percentile: 96.92), and 2009 (Percentile: 93.81).
- **National Eligibility Test (NET):** Qualified CSIR-JRF (Dec 2006), UGC-JRF (June 2007), and CSIR-JRF (Dec 2007).
- Qualified **Joint Admission to M.Sc. (JAM)** in 2004 (AIR 384).
- Selected for Ph.D. Programme at **IIT Bombay** in 2007.
- Selected for **National Board for Higher Mathematics (NBHM)** Research Award in 2007 conducted by DoE, New Delhi.
- Selected as Junior Research Fellow in 2007 at **Institute of Mathematical Sciences (IMSc)**, Chennai.
- **Gujarat State Eligibility Test for Lecturership (GSET)** Qualified in July 2006.

PRIZES WON (TOTAL: 03, INCLUDING 02 GOLD MEDALS)

- **Minaxi Lalit Science Awards** (Organized by Gujarat Science Academy) for getting top three positions at the graduate level in Mathematics in 2004.
- **Golden Jubilee Fund Award** with two Gold Medals for standing First among all students of Sardar Patel University at the graduate level in Mathematics in April 2004.
- **Prof. J. A. Inamdar Prize** for getting maximum marks in External Examination of all students of Sardar Patel University at the graduate level in Mathematics in 2004-05.

TALKS DELIVERED (TOTAL: 43)

- Two sessions in the workshop on Problem Solving in Mathematics on Advanced Algebra, Analysis and Topology in Feb 2008 organized by Department of Mathematics, SPU, V. V. Nagar.
- Two sessions in the workshop on Problem Solving in Mathematics and Related Areas on Financial Mathematics and Probability Theory in Jan 2009 organized by Department of Mathematics, SPU, V. V. Nagar.
- Two sessions in the workshop "Problem Solving in Mathematics" on 28th January to 3rd February 2010 organized by Department of Mathematics, SPU, V. V. Nagar.
- One session in the workshop "Problem Solving in Mathematics" on 20th to 26th December 2011 organized by Department of Mathematics, SPU, V. V. Nagar.

- One session in the workshop "An Art of Problem Solving in Mathematics" on 5th to 11th January 2013 organized by Department of Mathematics, SPU, V. V. Nagar.
- One invited talk in the State Level Seminar on Applications of Mathematics on 29th January 2013 at N. V. Patel College of Pure and Applied Sciences, V. V. Nagar.
- One guest lecture delivered to B.Com. students on 12th February 2013 at V. Z. Patel Commerce College, Anand.
- One guest lecture delivered to B. B. A. students on 13th February 2013 at V. Z. Patel Commerce College, Anand.
- One session in the workshop "An Art of Problem Solving in Mathematics" on 16th to 22nd January 2014 organized by Department of Mathematics, SPU, V. V. Nagar.
- One session in the "National Workshop on Problem Solving Techniques in Mathematics" during February 21-26, 2015 organized by Department of Mathematics, Faculty of Science, The Maharaja Sayajirao University of Baroda.
- Resource person on Reasoning (including mathematics) during 1st coaching programme on paper of NET/SET held during September 6, 13, and 17, 2015 organized by NET/SET coaching centre, S P University.
- One expert lecture on "Fundamentals of Differential Equations" in the TEQIP-II sponsored '05 days' (May 30 to Jun 3, 2016) STTP on "Mathematical Tools and Techniques for Engineering Research" organized by General Department of Government Engineering College, Gandhinagar.
- One session in the workshop "An Art of Problem Solving in Mathematics" on 25th to 30th January 2017 organized by Department of Mathematics, SPU, V. V. Nagar.
- Two sessions in the workshops "Problem Solving in Techniques in Mathematics" at and by department of mathematics V. S. Patel College of Arts and Science, Bilimora during 23-26 May 2017.
- One Popular lectured delivered at V. S. Patel College of Arts and Science, Bilimora on 16th August 2017.
- One session in the "National Workshop on Problem Solving Techniques in Mathematics-II" during November 27 December 01, 2017 organized by Department of Mathematics, Faculty of Science, The Maharaja Sayajirao University of Baroda.
- One session in the workshop "National Workshop on Problem Solving in Mathematics-IX" during 02-07 May 2018 organized by Department of Mathematics, SPU, V. V. Nagar.
- One session in "Summer School in Mathematics" during 20th May to 2nd June 2018 organized by St. Xavier's College, Ahmedabad.
- One popular talk on "Applications of Group Theory in Number Theory" at V. S. Patel College of Arts and Science, Bilimora on 28th July 2018.

- One session in one-day national seminar on "Keys to Prepare for CSIR-NET Mathematical Sciences Examination" at Vadodara Institute of Engineering, Vadodara on 4 August 2018.
- Three sessions in the state level workshop on LATEX at V. S. Patel College of Arts and Science, Bilimora during 24-12-2018 to 25-12-2018.
- One session in "5th State Level Workshop on Problem Solving and Enrichment in Mathematics" at St. Xavier's College, Ahmedabad during 26th Dec. to 29th Dec. 2018.
- Two sessions in "Prof. P. C. Vaidya Second Summer School in Advanced Mathematics" during 18th May to 31st May 2019 organized by St. Xviers College, Ahmedabad.
- One session in Refresher course in Mathematics and Statistics at UGC-HRDC, SPU, V. V. Nagar during September 2019.
- One session in the "Workshop on Problem Solving in Mathematics-X" during 17-22 February 2020 organized by Department of Mathematics, SPU, V. V. Nagar.
- One session in the 58th Annual Conference of Gujarat Ganit Mandal during 26-29 December 2021 held at M. N. J. Patel high school, Surat.
- One session in "State Level Mathematical Problem-Solving Workshop for NET-SLET Examination" during 5th to 6th March 2022 organized by Department of Mathematics, VNSGU, Surat.
- One session in 76th Online Refresher course in Mathematics and Statistics at UGC-HRDC, SPU, V.V. Nagar on 16th November 2022.
- Two sessions in the workshop "on Problem Solving in Mathematics-XI (NWPSM-XI)" on 20th to 24th February 2023 organized by Department of Mathematics, SPU, V.V. Nagar.
- One webinar on Real World Applications of Financial Mathematics organized by Dept. of Applied Sciences & Humanities, Parul Institute of Engineering & Technology, Parul University, Vadodara on 14th August 2023.
- Two sessions in "National Workshop on Problem Solving in Mathematics-XII (NWPSM-XII)" held on 12th to 17th February 2024 organized by Department of Mathematics, SPU, V.V. Nagar.
- One session in "National Workshop on Problem Solving in Mathematics" during 5th to 7th March 2024 organized by Department of Mathematics, VNSGU, Surat.
- One session in "National Workshop on Problem Solving in Mathematics-XIII (NWPSM-XIII)" held on 20th to 24th January 2025 organized by Department of Mathematics, SPU, V.V. Nagar.

- One session in "National Workshop on Problem Solving in Mathematics-XIV (NWPSM-XIV)" held on 3rd to 7th February 2026 organized by Department of Mathematics, SPU, V.V. Nagar.

RESEARCH PAPERS PUBLISHED (TOTAL: 17, 10 SINGLE AUTHOR)

- Ghevariya, S. J. & Dedania H. V., Option Pricing Formulas for Fractional Polynomial Payoff Functions, *International Journal of Pure and Applied Mathematical Sciences*, 6 (1) (2013), 43-48.
- Ghevariya, S. J. & Dedania H. V., Option Pricing Formulas for Modified Log Payoff Function, *International Journal of Mathematics and Soft Computing*, 3 (2) (2013), 129-140.
- Ghevariya, S. J. & Dedania H. V., Graphical Interpretation of Various BSM Formulas, *Global Journal of Pure and Applied Mathematics*, 13(9) (2017), 6107-6112.
- Ghevariya, S. J., BSM Option Pricing Formulas Through Probabilistic Approach, *Mathematics Today*, 32(June & December 2017), 31-34.
- Ghevariya, S. J., BSM European Put Option Pricing Formula for ML-Payoff Function with Mellin Transform, *International Journal of Mathematics and its Applications*, 6(2) (2018), 33-36.
- Ghevariya, S. J., BSM European Put Option Pricing Formula for ML-Payoff Function Through PDTM, *Asian-European Journal of Mathematics*, 13(1) (2020), 2050024(6 pages).
- S. J. Ghevariya, Analytical Solution of Fractional BSM Differential Equation for ML-Payoff Function Using GDTM, *International Journal of Mathematics and its Applications*, 7(3) (2019), 23-27.
- S. J. Ghevariya, Solution of BSM Differential Equation with Time Dependent Parameters for Standard Powered Option, *International Journal of Mathematics and its Applications* 7(3) (2019), 119-121.
- Ghevariya, S. J., An Improved Mellin Transform approach to BSM Formula of ML-Payoff Function, *Journal of Interdisciplinary Mathematics*, Taylor and Francis Group, 22(6) (2019), 863-871.
- S. J. Ghevariya and D. R. Thakkar, BSM model for Generalized ML-Payoff, *Journal of Applied Mathematics and Computational Mechanics*, 18(4) (2019), 19-25.
- S. J. Ghevariya, PDTM Approach to Solve Black Scholes Equation for Powered ML-Payoff Function, *Computational Methods for Differential Equations*, 10(2) (2022), 320-326.
- S. J. Ghevariya, Homotopy Perturbation Method to Solve Black Scholes Differential Equation for ML-Payoff Function, *Journal of Interdisciplinary Mathematics*, Taylor and Francis Group, 25(2) (2022), 553-561.

- S. J. Ghevariya, Adomian Decomposition Method for Standard Power Options, *Ratio Mathematica*, 42 (2022), 257-269.
- S. J. Ghevariya, C. N. Patel and S. E. Fadugba, Laplace transform homotopy perturbation method for Black-Scholes multi-assets model, *Eurasian Journal of Mathematical and Computer Applications*, 10(4) (2022), 62-72.
- S. E. Fadugba and S. J. Ghevariya, Alternative approach for solving a European power put option model with modified-log-power payoff function, *Eurasian Journal of Mathematical and Computer Applications*, 11(1) (2023), 66-78.
- S. J. Ghevariya, Black Scholes formula for Standard Power European Options with Discrete Dividend Payment, *Eurasian Journal of Mathematical and Computer Applications*, 11(4) (2023), 29-39.
- S. J. Ghevariya and C. N. Patel, Analytical solution of time-fractional N-dimensional Black-Scholes equation using LHPM, *Ratio Mathematica*, 48 (2023), 400-418.

BOOKS PUBLISHED (TOTAL: 03, 02 SINGLE AUTHOR)

- Lecture Notes on Algebra. Some advanced topics of abstract algebra of M.Sc. Programme in Mathematics (Author: S J Ghevariya), Grin Verlag, Germany, 2017 with ISBN: 9783668590342.
- Lecture Notes on Mathematical Probability Theory (Author: S J Ghevariya), Grin Verlag, Germany, 2020 with ISBN: 9783346162328.
- Business Mathematics and Statistics (Book Chapter), Sardar Patel University, V. V. Nagar, 2021 with ISBN: 9789381386842.

PRESENTED PAPERS (TOTAL: 08)

- Innovations in Science SPU Research Scholars Meet during 8-9 January 2012 at SPU, V. V. Nagar.
- "European Option Pricing Formulas for Modified Log Pay-off Function" in the National Seminar on "Advances in Mathematics: Historical Developments & Applications" from 9-11 January 2012, MBICT, New V. V. Nagar.
- "European Option Pricing Formulas" in the National Conference on "Interdisciplinary Perspectives: Defense Studies, Earth System Science and Bio Medical Science (IPDEB-2013)" during 15-17 November 2013 at CISST, SPU.
- "Comparisons of three BSM Formulas with Graphs" in the national seminar on "Analysis, Geometry and Applications" held in the Department of Mathematics, SPU on 17-18 February 2014.

- "Analysis of BSM Formulas" in the national seminar on "Functional Analysis and Harmonic Analysis" held in the Department of Mathematics, SPU on 16-18 January 2017.
- "A Generalization of Black Scholes Formulas with Discrete Dividend" in Online International Conference on "Recent Trends in Science, Humanities & Engineering" held at Seth Gyaniram Bansidhar Podar College, Rajasthan on 18-19 June 2021.
- "A Generalization of Black Scholes Formula for Modified Log Payoff Function Using PDTM" in International Virtual Conference On Recent Applications of Mathematical Sciences, Mohanlal Sukhadia University, Udaipur on 15-16 July 2021.
- "Black Scholes Models Using HPM" in Online International Conference on "Recent Advancement in Science, Engineering, Management & Humanities" held at Government College, Degana, Rajasthan on 18-19 December 2021.

RESEARCH GUIDANCE & PROJECTS

- **Ph.D. Guidance:** Thesis entitled "Solution of N-Dimensional BS Equation in Option Pricing Theory Using LTHPM and LCFD" completed by Chetan N. Patel in January 2025. One student currently pursuing Ph.D.
- **M.Phil. Guidance:** Dissertation entitled 'A Generalization of BSM Model of ML-Payoff Function' completed by Miss Dhara R. Thakkar in 2019.
- **M.Sc. Projects Guided:** Three students completed projects related to B-S-M Formulae, Futures Markets, and Probability Theory supported by UGC-SAP-DRS grant.
- **Research Project:** Completed interdisciplinary research project "An Investigation into some Mathematical Aspects in Financial Derivatives" as collaborator sponsored by Sardar Patel University (2012).

PROGRAMMES ORGANIZED (TOTAL: 05 NATIONAL LEVEL)

- Organizing Secretary in Prof. P. C. Vaidya National Conference on Mathematical Sciences (15-16 March 2022).
- Coordinator of National Workshop on Problem Solving in Mathematics-XI (NWPSM-XI) during 20-24 February 2023.
- Coordinator of National Workshop on Problem Solving in Mathematics-XII (NWPSM-XII) during 12-17 February 2024.
- Coordinator of National Workshop on Problem Solving in Mathematics-XIII (NWPSM-XIII) during 20-25 January 2025.
- Coordinator of National Workshop on Problem Solving in Mathematics-XIV (NWPSM-XIV) during 03-07 February 2026.

FACULTY DEVELOPMENT PROGRAMMES ATTENDED (TOTAL: 08)

- An Orientation Programme at Academic Staff College, V. V. Nagar (01-28 February 2010).
- 7th Short Term Course in Research Methodology at Academic Staff College (6-11 February 2012).
- Refresher Course in Mathematical Sciences (MD) at Academic Staff College, V. V. Nagar (19 Nov - 09 Dec 2012).
- Refresher Course in ICT Applications and Soft Skills (ID) at Academic Staff College, V. V. Nagar (05 - 27 Sep 2015).
- International Faculty Development Programme at Academic Staff College, V. V. Nagar (01-02 August 2017).
- 3rd Faculty Development Programme: Motivation for Quality and Impactful Research (Science) at HRDC, SPU (03-07 December 2018).
- FDP on Outcome-based Education as per NEP-2020 (18-20 December 2025).
- Three Days FDP on Empowering Teachers for Digital Teaching Excellence through E-Content Development and MOOCs (11-13 March 2026).

RESEARCH COLLABORATORS

- H. V. Dedania, Department of Mathematics, Sardar Patel University.
- S. E. Fadugba, Department of Mathematics, Ekiti State University, Nigeria.
- D. R. Thakkar, Department of Mathematics, Sardar Patel University.
- C. N. Patel, S. G. M. English Medium College of Commerce and Management, CVM University.

I hereby declare that the above-mentioned information is correct up to my knowledge.

(Dr. S. J. Ghevariya)
18/06/2026