

DR. SUDHANANDA MAHARANA

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Overview:

I am an accomplished academic professional with expertise in Mathematics and a strong record of achievement in teaching, research, and educational leadership. Currently serving as an Assistant Professor (OES-I) in the Department of Mathematics at Binayak Acharya Degree College, Berhampur, under the Department of Higher Education, Government of Odisha.

My academic journey includes a Ph.D. from the Central University of Rajasthan, complemented by an M.Sc. in Mathematics from Berhampur University and a B.Sc. in Mathematics from Utkal University. Over the years, I've honed my skills and knowledge through diverse roles, including teaching and research at NIST (Autonomous), Berhampur, GIET University, Gunupur, Utkal University, Bhubaneswar, Discipline of Mathematics at the Indian Institute of Technology Indore, and at the Centurion University of Technology and Management, Paralakhemundi.

With a passion for knowledge dissemination, fostering critical thinking, and conducting innovative research in Mathematics, I bring a deep understanding of academic administration, curriculum development, and student mentorship to the table. My goal is to continue making meaningful contributions to the academic community while nurturing the next generation of mathematicians and scholars.

Work and Academic Experience:

1. Assistant Professor (OES-I) in the Department of Mathematics, Binayak Acharya Degree College, Berhampur, Under the Department of Higher Education, Govt. of Odisha, since 29-Aug-2023.
2. Assistant Professor in the Department of Mathematics, NIST (Autonomous), Berhampur, during 23-May-2022 to 28-Aug-2023.
3. Assistant Professor in the Department of BSH (Mathematics), GIET University, Gunupur, during 06-Oct-2020 to 19-May-2022.
4. Guest Faculty in the P.G. Department of Mathematics, Utkal University, Vani Vihar, Bhubaneswar, during 06-Aug-2019 to 31-Mar-2021.

5. Post-Doctoral Fellow in the Discipline of Mathematics, Indian Institute of Technology Indore, during 16-May-2018 to 15-May-2019.
6. Awarded as Research Associate in Mathematical Sciences by CSIR in Dec-2017. CSIR Research Associate, during Dec-2017 to Apr-2018.
7. Junior Research Fellow and Senior Research Fellow at the Department of Mathematics, Central University of Rajasthan, during 06-Dec-2013 to 06-Nov-2017.
8. Lecturer in Mathematics at the Centurion University of Technology and Management, during 11-Aug-2012 to 29-Nov-2013.

Education:

1. Ph.D. (Mathematics): from the Central University of Rajasthan in the year 2017.
2. M.Sc. (Mathematics): with 88.7% marks from the Berhampur University in the year 2012.
3. B.Sc. (Mathematics Hons.): with 55.25% marks from Utkal University in the year 2008.
4. 12th (Higher Secondary Examination in Science): with 44.7% marks from the Council of Higher Secondary Education, Orissa in the year 2004.
5. 10th (High School Certificate Examination): with 60.8% marks from the Board of Secondary Education, Orissa in the year 2001.

Specializations:

Post-Doctorate: Planar (Univalent) Harmonic Mappings

Ph.D.: Geometric Function Theory, and Special Functions

M.Sc.: Ordinary Differential Equations, and Operation Research

Research:

Research Interests: Geometric Function Theory; Special Functions; Planar (Univalent) Harmonic Mappings (Functions of One Complex Variable)

Ph.D. Thesis: Geometric Properties and Characterizations of Univalent Functions and Planar Harmonic Mappings (<http://hdl.handle.net/10603/193440>)

Membership of Professional Societies:

Franklin Membership: Membership ID#VD85245

Reviewer:

1. Mathematical Reviews (Published by American Mathematical Society)
2. Banach Journal of Mathematical Analysis, Springer
3. Journal of Function Spaces
4. Annals of Functional Analysis
5. Journal of Advanced Engineering and Computation (JAEC)
6. Advances and Applications in Mathematical Sciences
7. Theory and Applications of Mathematics & Computer Science

Awards/Fellowships:

1. Post-Doctoral Fellowship: Indian Institute of Technology Indore, India.
2. Research Associate in Mathematical Sciences: CSIR, India.
3. SRF under NFSOBC: UGC, India.
4. JRF under NFSOBC: UGC, India.

Computational Skills:

Mathematica, LaTeX, MATLAB, MS Office, Applet Complex Tools

Research Publications:

(Published/Accepted Papers- 18)

1. D. Bansal, R. K. Raina, S. Maharana, and N. E. Cho, *On characterization properties of certain hypergeometric function in the open unit disk*, Journal of Inequalities and Applications, **2022**, 164 (2022). DOI: [10.1186/s13660-022-02902-0](https://doi.org/10.1186/s13660-022-02902-0)
2. S. Maharana and D. Bansal, *Coefficient estimates for the family of starlike and convex functions of reciprocal order*, Afrika Matematika **33**, 25 (2022). DOI: [10.1007/s13370-022-00959-0](https://doi.org/10.1007/s13370-022-00959-0)
3. S. Maharana and S. K. Sahoo, *Planar harmonic mappings in a family of functions convex in one direction*, Filomat, **35**(2) (2021), 431 – 445. DOI: [10.2298/FIL2102431M](https://doi.org/10.2298/FIL2102431M)
4. S. Maharana and S. K. Sahoo, *Inclusion properties of planar harmonic mappings associated with the Wright function*, Complex Variables and Elliptic Equations, **66**(10) (2021), 1619 – 1641. DOI: [10.1080/17476933.2020.1772765](https://doi.org/10.1080/17476933.2020.1772765)
5. S. Maharana, J. K. Prajapat, and D. Bansal, *Coefficient bounds for inverse of functions convex in one direction*, Honam Mathematical Journal, **42**(4) (2020), 781 – 794. DOI: [10.5831/HMJ.2020.42.4.781](https://doi.org/10.5831/HMJ.2020.42.4.781)
6. J. K. Prajapat, M. Manivannan, and S. Maharana, *Harmonic mappings with analytic part convex in one direction*, The Journal of Analysis, **28** (2020), 961 – 972. DOI: [10.1007/s41478-020-00226-0](https://doi.org/10.1007/s41478-020-00226-0)
7. S. Kanas, S. Maharana, and J. K. Prajapat, *Norm of the pre-Schwarzian derivative, Bloch's constant and coefficient bounds in some classes of harmonic mappings*, Journal of Mathematical Analysis and Applications, **474**(2) (2019), 931 – 943. DOI: [10.1016/j.jmaa.2019.01.080](https://doi.org/10.1016/j.jmaa.2019.01.080)
8. B. K. Chinhara, P. Gochhayat, and S. Maharana, *On certain harmonic mappings with some fixed coefficients*, Monatshefte für Mathematik, **190** (2) (2019), 261 – 280. DOI: [10.1007/s00605-018-1228-1](https://doi.org/10.1007/s00605-018-1228-1)
9. B. K. Chinhara, P. Gochhayat, and S. Maharana, *A subclass of harmonic univalent mappings with a restricted analytic part*, Communications of the Korean Mathematical Society, **34**(3) (2019), 841 – 854. DOI: [10.4134/CKMS.c180272](https://doi.org/10.4134/CKMS.c180272)

10. S. Maharana and J. K. Prajapat, *Pre-Schwarzian norm estimate for functions convex in one direction*, *Electronic Journal of Mathematical Analysis and Applications*, **7**(2) (2019), 198 – 204.
11. J. K. Prajapat, S. Maharana, and D. Bansal, *Radius of starlikeness and Hardy space of Mittag-Leffler functions*, *Filomat*, **32**(18) (2018), 6475 – 6486.
DOI: [10.2298/FIL1818475P](https://doi.org/10.2298/FIL1818475P)
12. S. Maharana, J. K. Prajapat, and D. Bansal, *Geometric properties of Wright function*, *Mathematica Bohemica*, **143**(1) (2018), 99 – 111. DOI: [10.21136/MB.2017.0077-16](https://doi.org/10.21136/MB.2017.0077-16)
13. D. Bansal and S. Maharana, *Sufficient condition for strongly starlikeness of normalized Mittag-Leffler function*, *Journal of Complex Analysis*, **2017**, Art. ID 6564705, 4 pp. DOI: [10.1155/2017/6564705](https://doi.org/10.1155/2017/6564705)
14. J. K. Prajapat, D. Bansal, and S. Maharana, *Bounds on third Hankel determinant for certain classes of analytic functions*, *Studia Universitatis Babeş-Bolyai Mathematica*, **62**(2) (2017), 183 – 195. DOI: [10.24193/subbmath.2017.2.05](https://doi.org/10.24193/subbmath.2017.2.05)
15. S. Maharana, J. K. Prajapat, and H. M. Srivastava, *The radius of convexity of partial sums of convex functions in one direction*, *Proceedings of the National Academy of Sciences, India Section A: Physical Sciences*, **87**(2) (2017), 215 – 219.
DOI: [10.1007/s40010-017-0348-7](https://doi.org/10.1007/s40010-017-0348-7)
16. S. Maharana, D. Bansal, and J. K. Prajapat, *Coefficient bounds for inverse of certain univalent functions*, *Bulletin of Mathematical Analysis and Applications*, **8**(3) (2016), 59 – 65.
17. A. K. Mishra, J. K. Prajapat, and S. Maharana, *Bounds on Hankel determinant for starlike and convex functions with respect to symmetric points*, *Cogent Mathematics*, **3** (2016), Art. ID 1160557, 9 pp. DOI: [10.1080/23311835.2016.1160557_s](https://doi.org/10.1080/23311835.2016.1160557_s)
18. D. Bansal, S. Maharana, and J. K. Prajapat, *Third order Hankel determinant for certain univalent functions*, *Journal of the Korean Mathematical Society*, **52**(6) (2015), 1139 – 1148. DOI: [10.4134/JKMS.2015.52.6.1139](https://doi.org/10.4134/JKMS.2015.52.6.1139)

Research Collaborations:

1. Prof. H. M. Srivastava, University of Victoria, Canada.
2. Prof. S. Kanas, University of Rzeszów, Poland.
3. Prof. N. E. Cho, Pukyong National University, Busan, Korea.
4. Prof. S. K. Sahoo, Indian Institute of Technology Indore, India.
5. Prof. J. K. Prajapat, Central University of Rajasthan, India.
6. Dr. D. Bansal, Govt. College of Engg. & Tech., Bikaner, Rajasthan, India.
7. Dr. A. K. Mishra, GLA University, Mathura, Uttar Pradesh, India.
8. Dr. P. Gochhayat, Sambalpur University, Odisha, India.
9. Dr. B. K. Chinhara, Sri Sri University, Bhubaneswar, Odisha, India.

Research Profile:

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MathSciNet: <https://mathscinet.ams.org/mathscinet/search/author.html?mrauthid=1133997>

Google Scholar: <https://scholar.google.co.in/citations?user=Opk9gRQAAAAJ&hl=en&authuser=1>

Presentations in Conferences/Workshops/Seminars:

Papers Presented at:

1. *National Seminar on Recent Innovations in Advanced Mathematics* during March 25 – 26, 2023, at the Berhampur University, Berhampur.
2. *Chief Speaker on National Seminar on Literature and Philosophy of Sri Aurobindo* on the occasion of 75th Independence Day and 150th Birth Anniversary of Sri Aurobindo, at the Department of English, Atal Behari College, Basudevpur, Bhadrak, Odisha.
3. *International Conference on Mathematical Modelling and Scientific Computing* during July 19 – 21, 2018, at the Indian Institute of Technology Indore.
4. *International Conference on Special Functions and Applications* during November 02 – 04, 2017, at the College of Engineering and Technology, Bikaner.
5. *24th International Conference on Finite or Infinite Dimensional Complex Analysis and Applications* during August 22 – 26, 2016, at the Anand International College of Engineering, Jaipur.
6. *29th International Conference of Jangjeon Mathematical Society on Number Theory, Special Functions and its Application* during August 08 – 10, 2016, at the Pondicherry University.
7. *National Conference on Topological Algebra and Analysis* during February 18 – 19, 2016, at the Govt. Gandhi Memorial Science College, Jammu.
8. *National Conference on Advances in Mathematical Sciences and Applications in Engineering and Technology* during July 25 – 26, 2015, at the Poornima University, Jaipur.
9. *National Conference on Topological Algebraic Analysis* during May 14 – 16, 2015, at the University of Jammu.
10. *International Conference on Optimization, Computing and Business Analysis for Sustainable Development* during February 20 – 22, 2015, at the Central University of Rajasthan.
11. *International Conference on Geometric Function Theory and its Applications* during December 18 – 21, 2014, at the Indian Institute of Technology Kharagpur.
12. *International Conference on Advances in Dynamical Systems* during March 10 – 13, 2014, at the Central University of Rajasthan.
13. *National Conference on Complex Analysis* during March 08 – 09, 2014, at the Central University of Rajasthan.

Conferences, Seminars, Workshops, and Refresher Courses attended:

1. *Instructional School for Teachers on Probability and Statistics* during July 10 – 21, 2023, at National Institute of Science Education and Research (NISER), Bhubaneswar.
2. *Workshop on Cauchy-Riemann Equation in Higher Dimensions* during July 15 – August 02, 2019 at ICTS-TIFR, Bangalore.
3. *Science Academies' Refresher Course on Analysis* during February 18 – March 02, 2019, at the Department of Mathematics, Tezpur University.
4. *Workshop on Complex Analysis and Complex Dynamics* during December 10 – 22, 2018, at the Indian Institute of Technology Tirupati.
5. *International Conference on Mathematical Modelling and Scientific Computing* during July 19 – 21, 2018, at the Indian Institute of Technology Indore.
6. *State Level Training Programme on Shodhganga and Anti Plagiarism Software (Urkund)* on May 09, 2016, at the Central University of Rajasthan.
7. *National Workshop on Mathematical Modelling and Simulation* during March 14 – 18, 2016, at the Central University of Rajasthan.
8. *IIT Indore-Russia-ISI Chennai Centre Joint Seminar on Complex Analysis* during December 03 – 04, 2015, at the Indian Institute of Technology Indore.
9. *International Symposium on Complex Analysis and Conformal Geometry* during December 28 – 30, 2013, at the Indian Institute of Technology Indore.
10. *National Workshop on Riemann Surfaces* organized by NPTEL, during September 23 – 24, 2013, at the Indian Institute of Technology Madras.
11. *International Conference on Analysis and Applications* during July 20 – 21, 2012, at the Berhampur University.
12. *National Conference on Recent Trend in Mathematical Analysis and Application* during December 22 – 23, 2010, at the Berhampur University.
13. *Interactive Mathematics Training Camp* – during October 18, 2004 to November 08, 2004 at the Institute of Mathematics and Application, Bhubaneswar.

Extra-Curricular Activities:

- Participated and presented actively in some *National level* and *State level Training camps, Service camps and Integration camps* during my *NCC* career such as *Annual Training Camp, ATC - Pre Thal Sena Camp, Advanced Leadership Camp, Social Service Camp, National Integration Camp, Phase-1 RDC, and some other awareness camps.*
- Received all the *NCC Certificates (Certificate C, B and A)* with good grades from the Ministry of Defence, Govt. of India.

Personal Details:

1. Date of birth : 08-August-1987
2. Gender : Male
3. Nationality : Indian

4. Permanent Address : At – College Road, Banpur, Near Syamasundara Dharmasala,
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References:

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4. **Prof. Akshay Kumar Mishra**

Former Director, Institute of Mathematics and Applications, Bhubaneswar
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Place: Berhampur

Date: September 23, 2023



Sudhananda Maharana