



## Faculty Details proforma for DU Web-site

<b>Title</b>	Professor	<b>First Name</b>	<b>Ruchi</b>	<b>Last Name</b>	<b>Das</b>	<b>Photograph</b>
<b>Designation</b>		Professor				
<b>Address</b>		Department of Mathematics University of Delhi Delhi-110007				
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<b>Web-Page</b>						
<b>Educational Qualifications</b>						
<b>Degree</b>	<b>Institution</b>				<b>Year</b>	
Ph.D.	The MS University of Baroda				<b>1996</b>	
PG	University of Allahabad				<b>1988</b>	
UG	University of Allahabad				<b>1984</b>	
<b>Career Profile</b>						
<ul style="list-style-type: none"> <li>Recipient of Research Scholarships and Post doctoral Fellowships</li> <li>Have served Department of Mathematics, Faculty of Science, The M.S. University of Baroda, Vadodara in various capacities including Professor and Head.</li> <li>Currently serving as Professor at the Department of Mathematics, University of Delhi.</li> </ul>						
<b>Administrative Assignments</b>						
<ul style="list-style-type: none"> <li>Member, Board of Research Studies ( Mathematical Sciences), University of Delhi</li> <li>Member, M.Phil Committee, Department of Mathematics, University of Delhi</li> <li>Member, Department Council , Department of Mathematics, University of Delhi</li> <li>Member, Department Research Council , Department of Mathematics, University of Delhi</li> <li>Member, Pre.-Ph.D Seminar Committee, Department of Mathematics, University of Delhi</li> </ul> <p>Have worked in various committees while serving at M.S. University of Baroda which include</p> <ul style="list-style-type: none"> <li>Member , Board of studies in Mathematics, Faculty of Science, M.S. University of Baroda</li> <li>Member, Faculty Board of Science Faculty, M.S. University of Baroda</li> <li>Member, Departmental M.Phil committee, Department of Mathematics</li> <li>Member, Departmental Research committee, Department of Mathematics</li> <li>Convener, Syllabus Revision Committee ( at UG Level), Department of Mathematics, Faculty of Science, M.S.University of Baroda</li> <li>Member, Syllabus Revision Committee ( at PG Level), Department of Mathematics,</li> </ul>						

<p>Faculty of Science, M.S.University of Baroda</p> <ul style="list-style-type: none"> <li>• Member, CBCS Implementation Committee, Faculty of Science, M.S. University of Baroda</li> <li>• Member, Annual Report committee , Faculty of Science, M.S. University of Baroda</li> <li>• Member ,IQAC committee Faculty of Science, M.S. University of Baroda</li> </ul>
<b>Areas of Interest / Specialization</b>
<b>Dynamical Systems, Topology , Analysis</b>
<b>Subjects Taught</b>
<b>Have taught courses related to</b> <b>Algebra ( Abstract and Linear), Analysis ( Real, Complex, Functional), Differential Geometry, Topology, Advanced calculus, Number Theory, Linear Programming, Dynamical systems</b>
<b>Research Guidance</b>
<p><b>Ph.D students</b></p> <ul style="list-style-type: none"> <li>• <b>Dhaval Thakkar, Core Area: On Nonautonomous Discrete Dynamical Systems ( PhD awarded at The M.S.University of Baroda )</b></li> <li>• <b>Mukta Garg, Core Area : Topological Dynamical Systems ( Viva Voce exam completed, University of Delhi)</b></li> <li>• <b>Radhika Vasisht, Core Area: Discrete and Continuous Dynamical Systems ( working at Department of Mathematics, University of Delhi)</b></li> <li>• <b>Rahul Thakur , Core Area: Dynamical Systems ( working at Department of Mathematics University of Delhi)</b></li> </ul> <p><b>M. Phil. Students:</b></p> <ul style="list-style-type: none"> <li>• <b>Geeta Gupta, On Topological entropy and chaos in nonautonomous discrete dynamical systems ( completed, 2017)</b></li> <li>• <b>Nikhil Kher, Dynamical properties of continuous flows( completed, 2017)</b></li> <li>• <b>Mohammad Salman, Dynamical behaviour of maps in non-autonomous systems ( completed, 2018)</b></li> </ul>
<b>Publications Profile</b>
<p><b>Some recent publications .....</b></p> <ol style="list-style-type: none"> <li>1. On Stronger Forms of Sensitivity in Non-autonomous Systems, Taiwanese Journal of Mathematics Published online , April 2018 DOI: 10.11650/tjm/180406</li> <li>2. Transitivity of maps on G-spaces , Advances in Pure and Applied Mathematics, 9, (2018),75–83</li> <li>3. Bowen’s decomposition theorem for topologically Anosov homeomorphisms on noncompact and non- metrizable spaces ,Commun. Korean Math. Soc. 33 (2018), 337-344</li> <li>4. Sensitivity, Property P and Uniform Entropy, Asian-European Journal of Mathematics, 8 pages. Published online , November 2017</li> <li>5. Continuous semi-flows with the almost average shadowing property, Chaos, Solitons and Fractals, 105 (2017), 1-7.</li> <li>6. When a Minimal Map Is Totally Transitive on a G-Space, Journal of Dynamical and Control Systems, 23 (2017), 499-508.</li> <li>7. Exploring stronger forms of transitivity on G-Spaces, Matematicki Vesnik, 69 (2017) 164-175</li> <li>8. Average Chain transitivity and the almost average shadowing property, Communications of the Korean Mathematical Society 32 (2017) 201-214.</li> </ol>

9. Specification Property for Topological Spaces , Journal of Dynamical and Control Systems, 22 (2016), 615-622.
10. Relations of the almost average shadowing property with ergodicity and proximality, Chaos, Solitons and Fractals 91 (2016) 430–433.
11. Spectral decomposition theorem in equicontinuous nonautonomous discrete dynamical systems, Journal of Difference Equations and Applications, 22 (2016), 676-686.
12. On collective sensitivity for  $Z^d$  actions, Dynamical Systems, 31 (2016), 221-227.
13. A note on uniform entropy for maps having topological specification property, Applied General Topology, 17 (2016) 123-127.
14. Some properties of chain recurrent sets in a nonautonomous discrete dynamical system. Advances in Pure and Applied Mathematics, 6 (2015), 173–178.
15. A note on chaos for  $Z^d$ -action, Dynamics of Continuous, Discrete and Impulsive Systems Series A: Mathematical Analysis 22 (2015) 95-103.
16. On nonautonomous discrete dynamical systems, International Journal of Analysis, Volume 2014 (2014), Article ID 538691, 6 pages.
17. Topological stability of a sequence of maps on a compact metric space, Bulletin of Mathematical Sciences, 4 (2014), 99-111.

#### Conference Organization/ Presentations (in recent times)

- Local Organizing Committee Member : 14<sup>th</sup> Discussion Meeting on Harmonic Analysis Department of Mathematics, University of Delhi, December 10-12, 2015  
Advisory Committee Member : International conference on Topology and Geometry at Department of Mathematics, University of Delhi, Delhi, November 23-24, 2017.
- Organizer, Symposium on Dynamical Systems, 33<sup>rd</sup> annual conference of RMS conference, June 1-3, 2018 at the Department of Mathematics, University of Delhi, Delhi
- Have delivered many invited talks at National and International conferences / workshops / discussion meetings. Have also worked in many organizational committees to organize major international conferences such as satellite conference of ICM 2010, ICTP sponsored discussion meeting and workshop in 2012 (many major mathematicians active in dynamical systems participated in these conferences across the globe which include Field medalists. Have also been part of organizing ATM school, MTTs program and DST/UGC supported seminars and meetings.

#### Awards and Distinctions

- Faculty Level award at Faculty of Science, The M.S. University of Baroda for publishing research paper in Mathematics with highest impact factor in 2012
- Short term visit under Math Vision 2013 Project for collaborative research work at the Chungnam National University, Daejeon, South Korea in 2007.
- Visit to Department of Mathematics, University of Athens, Greece under Indo-Greek Cultural Exchange Programme during 2000 - 2001
- Selected for Indo-Russian Scholarship for post doctoral Work in 1999

#### Association With Professional Bodies

Life member of

- Ramanujan Mathematical Society
- Indian Mathematical Society
- Indian Science Congress Association
- Gujarat Ganit Mandal
- Bombay Mathematical Society.

<b>Other Activities</b>
Besides working on areas as reflected in my recent publications, I am particularly working on autonomous / nonautonomous discrete dynamical systems including topological transformation groups. We have obtained interesting results including celebrated Spectral decomposition theorems in nonautonomous discrete dynamical systems. Also, we are studying variants of shadowing property and its implications on stability theory. During my visit to University of Athens, Greece, I got a chance to work in a new area in Analysis and I am also continuing work in that direction and trying to relate dynamical systems with theory of convergence in Analysis.
<b>Member of the Special Committee of the School of Physical Sciences of Jawaharlal Nehru University.</b>