




Faculty Details proforma for DU Web-site

Title	Dr.	First Name	RANDHEER	Last Name	SINGH	Photograph
Designation		Assistant Professor				
Address		Department of Mathematics, University of Delhi, Delhi-110007				
Phone No Office		011-2766 66 58				
Residence Mobile						
Email Web-Page		rsingh1@maths.du.ac.in				
Educational Qualifications						
Degree		Institution			Year	
Ph.D.		University of Delhi, Delhi			2013	
M. Sc. Mathematics		C. C. S. University, Meerut			2007	
B. Sc.		C. C. S. University, Meerut			2005	
Career Profile						
Institution		Designation		Duration		Duties
Department of Mathematics, University of Delhi, Delhi-110007		Assistant Professor		Aug. 2014- Present		Post-Graduate Teaching and Research
Administrative Assignments						
Member of various administrative committees of the Department						
Areas of Interest / Specialization						
Partial Differential Equations, Shock Waves, Gas Dynamics.						
Subjects Taught						
2009– 2014 Mathematics I, Mathematics II, Mathematics III, Mathematics IV, Partial Differential Equations, Operations Research.						
2014–till date Complex Analysis, Advanced Compressible Flows, Fluid Dynamics, Functional Analysis, Differential Equations, Methods of Applied Mathematics.						
Research Guidance						
Supervision of Doctoral Thesis, Submitted 01, under progress : 02 Supervision of M. Phil. Dissertation, awarded : 02						
Publications Profile						
Research papers published in Refereed/Peer Reviewed Journals						
<ul style="list-style-type: none"> • “Existence and Interaction of Acceleration Wave with a Characteristic Shock in Transient 						

Pinched Plasma" (with J. Jena) *Meccanica (Springer)* 48 (2013) 733-738, Impact factor: 2.1.

- "Interaction of an Acceleration Wave With a Strong Shock in a Polytopic Reacting Gas" (with J. Jena) *Applied Mathematics and Computation (Elsevier)* 225 (2013) 638–644, Impact factor: 3.4.
- "Existence of Self-similar Solutions in Reacting Gases" (with J. Jena) *Shock Waves, (Springer)* 24 (2014) 211-218, Impact factor: 1.2.
- "Existence and Interaction of the Acceleration Wave with Elementary waves in a Reacting Gas" (with J. Jena) *Lobachevski Journal of Mathematics (Springer)* 34 (2013) 248-255.
- "One Dimensional Steepening of Waves in Non-ideal Relaxing Gas" (with J. Jena) *International Journal of Non-Linear Mechanics (Elsevier)* 77 (2015) 158–161, Impact Factor: 2.3.
- "Evolution of Weak Waves and Central Expansion Waves in a Non-ideal Relaxing Gas" (with J. Jena) *Ain Shams Engineering Journal (Elsevier)* 7 (2016) 409–413, Impact Factor: 1.9.
- "On evolution of non-linear waves in polytropic reacting gases" (with J. Jena) *Journal of Mathematical Chemistry (Springer)* 56 (2018) 232–246, Impact factor: 1.7.
- "Evolution of singular surface and interaction with a strong shock in reacting polytropic gases using Lie group theory" (with S. Shah) *International Journal of Non-Linear Mechanics (Elsevier)* 116 (2019) 173–180, Impact Factor: 2.3.
- "Collision of a steepened wave with a blast wave in dusty real reacting gases" (with S. Shah) *Physics of Fluids (AIP USA)* 31 (2019) 076103, Impact factor: 3.5.
- "Propagation of non-planar weak and strong shocks in a non-ideal relaxing gas" (with S. Shah) *Ricerche di Matematica (Springer)* <https://doi.org/10.1007/s11587-019-00472-w>, Impact factor: 0.9.
- "Imploding shocks in real reacting gases with dust particles" (with S. Shah) *Journal of Mathematical Physics (AIP USA)* 61 (2020) Impact factor: 1.4.

Conference Organization/ Presentations (in the last three years)

<ol style="list-style-type: none"> 1. "Evolution of breaking of waves in van der Waals gas" in International conference on Differential Geometry, Algebra and Analysis (ICDGAA-16) November 15-17, 2016, held at Jamia Millia Islamia University, Delhi. 2. "Evolution of jump in characteristic wave front in non-ideal reacting gases" in International Conference in Conjunction with 14th Biennial Conference of ISIAM to be held at Guru Nanak Dev University Amritsar from February 2-4, 2018.
Research Projects (Major Grants/Research Collaboration)
R & D Grant from University of Delhi for Oct. 2015- Sept. 2016 on "Nonlinear wave propagation in non-ideal relaxing gases."
Awards and Distinctions
<ul style="list-style-type: none"> • Research Fellow, Department of Mathematics, Netaji Subhas Institute of Technology (DU), New Delhi, Oct. 2008- Aug. 2009. • Teaching-cum Research Fellow, Department of Mathematics, Netaji Subhas Institute of Technology (DU), Delhi, Aug. 2009 – Oct. 2012.
Association With Professional Bodies
Life Member: <ul style="list-style-type: none"> • Indian Society of Theoretical and Applied Mechanics (ISTAM) IIT Kharagpur. • Indian Society of Industrial and Applied Mathematics (ISIAM).
Other Activities
<ul style="list-style-type: none"> • Attended refresher course on "LATEX and MATLAB," held in NSIT, New Delhi on July 12-24, 2010. • Attended "International Workshop on Advances in Computational Partial Differential Equations" from 7th February – 5th March, 2011 Organized by jointly BITS, Pilani-Goa Campus and Industrial Mathematics Group, IIT Bombay. • Attended "Advanced Instructional School - Mechanics" from 5th –24th December, 2011 Organized by NBHM, at Hyderabad Central University, Hyderabad. • Attended "Refresher Course in Mathematical Sciences" from 26th November to 16th December 2015 Organized by Centre for Professional Development in Higher Education, University of Delhi, Delhi. • Attended "Orientation Programme (OR-86)" from 25th November to 23th December 2016 Organized by Centre for Professional Development in Higher Education, University of Delhi, Delhi.