

BIO-DATA

1. Name : **Mridul Kumar Gupta**
2. Father's Name : Shri Shiv Prakash Gupta
3. Office Address : Department of Mathematics,
Ch. Charan Singh University,
Meerut
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4. Residential Address : 527/5, Jagriti Vihar, Meerut-250005
Telephone / Mobile : 09411619236, 9412207236
5. Present Designation : **Professor and Ex. Head, Department of Mathematics
&
Dean, Faculty of Science, CCS University, Meerut
Ex. Dean, Faculty of Engineering & Technology,
Ch. Charan Singh University, Meerut**
6. Date of Birth : 12-10-1963
7. **Academic Qualifications:** M.Sc, M. Phil., Ph. D.
8. **Research Fellowships / Awards:**
 - Received Merit Certificate for obtaining first position in M.Sc. (Mathematics) 1984
 - Received Merit Scholar Ship for one year in M.Phil. 1984
 - Received Chancellor's medal for securing highest marks in all subjects in M.Phil. Examinations 1985
 - JRF (NET) of CSIR in 1986
 - JRF (NET) of UGC in 1986
 - Joint CSIR-UGC (NET) in 1989
 - **Associate Editor**, Journal of Mathematical Analysis and Approximation theory
9. **Teaching Experience:**
 - Under-graduate Classes : 5 years (July 1986 to February 1991)
 - Post- graduate Classes : 1987 to till date
 - Total Teaching Experience : 35 years
10. **Research Experience:**
 - Guided **13** students for Ph. D. Degree
 - Supervised **57** students for M. Phil. Degree
 - Four students are working for Ph.D. degree under my supervision
11. **Conferences / Seminars / Workshops / Symposia attended:**



- Participated in the 61st annual Conference of National Academy of Science, India held at Meerut during Dec.19 - 21, 1991.
- Participated and presented a paper entitled “Pre- T_2 , Pre - R_0 and Pre- R_1 spaces” in the 61st annual conference of IMS held at Aligarh from Dec. 27- 30, 1995.
- Participated in the 62nd annual conference of IMS held at IIT Kanpur from Dec. 22-25, 1996.
- Participated and presented a paper entitled “Generalizations of compactness modulo an ideal” in the 63rd annual Conference of IMS held at Ahmednagar from Dec. 27-30, 1997.
- Attended 84th Session of *ISCA* held at Delhi from Jan. 3 - 4, 1997.
- Participated and presented a paper entitled “ I-open sets and I-continuous mappings in Bitopological spaces” in the 64th annual Conference of IMS held at Gurukul Kangari University, Haridwar, 1998.
- Participated and organized two days Seminar on “Mathematics in 21st Century” sponsored by UGC held at C.C.S. University on 26-27 March, 2000.
- Attended 88th Session of *ISCA* held at IARI, Delhi, 2001.
- Participated in the National Seminar on “e-Learning and e-Learning Technologies” organized by C-DAC at Hyderabad on 7-8 August, 2001.
- Attended “A date with Mathematicians” function organized by IMS on 13th April every year at Delhi University regularly since 1985 up to 2006.
- Attended a Symposium on “Recent advances in General Topology” held at Delhi University sponsored by UGC from March 22 - 25, 1987.
- Attended and participated in the Workshop for the development of problem book in Mathematics for Class 7th from Sep. 12 - 16, 1988 at NCERT, New Delhi.
- Attended and participated in the seventh Workshop on “Automation and Networking of University Libraries” held at INFLIBNET (AIUC of UGC) Centre at Ahmedabad from 25th June to 1st July, 2001.
- Participated and presented a paper entitled “ On the linear combinations of a new sequence of Linear Positive Operators” in the joint 9th National Conference of Vijnana Parishad of India and 5th Annual Conference of Indian Society of Information Theory and Applications held at NSIT, New Delhi from Feb. 22-24,2002
- Participated and presented a paper entitled “ Direct results for a certain family of summation integral type operators” in the International conference on Analysis and Applications held at BHU, Varanasi from Dec. 22-25, 2003
- Participated and presented a paper entitled “ An Error estimate for Durrmeyer type Beta-Szasz operators” in the 19th annual conference of Ramanujan Mathematical Society held at Agra from July 21–24, 2004.
- Organized and participated an International Conference on Interdisciplinary approach in Physical Sciences at Meerut from December 29-31, 2005
- Attended 9th Conference of the International Academy of Physical Sciences held at Agra from February 3-5, 2007
- Member of organizing committee of National Seminar on “Mathematics in Computer Applications” held at Department of Mathematics, CCS University, Meerut during March 28-29, 2009.
- Participated in the National workshop on ‘Discrete Mathematics’ at Banasthali University, Rajasthan from May1, 2010 to May 5, 2010.
- Participated in the Annual Conference of Ramanujan Mathematical Society organized by Shiv Nadar University at Delhi from October 20- 23, 2012.

- Participated in National Workshop on Cryptography at LNMIIT, Jaipur during December 14 – December 20, 2015
- Participated in the National Seminar at Devta Mahavidyalaya, Bijnor as Resource Person, March 03, 2018
- Participated and presented a paper in “Security Analysis of a Threshold Quantum State Sharing Scheme of an Arbitrary Single-Qutrit Based on Lagrange Interpolation Method” in International Conference on evolving Technologies for computing, communication and smart world (ETCCS-2020) at C-DAC sponsored by Ministry of Electronics and Information Technology, Government of India during January 31st –February 01st, 2020.

12. *Lectures Delivered:*

- Delivered 10 Lectures on *Discrete Mathematics* at DN (PG) College, Meerut from 12 - 2 - 2001 to 23 -2- 2001 to Faculty members of Mathematics Department.
- Under the Institute of Correspondence Courses and Continuing Education, I delivered Lectures on Topology and Boolean algebra to M.A. / M.Sc. students.
- Delivered an invited talk on *Role of Ideals in General Topology* in the National Seminar on *Analysis and Applications* held at Jammu University, Jammu from Feb. 20-21, 2003.
- Delivered three lectures on *Planar Graphs and its Applications* to the Participants of Refresher Course (24 Nov. to 14 Dec. 2003) at Department of Mathematics, CCS University, Meerut.
- Delivered an invited talk on ‘*Cryptology and Network Security*’ in the National Conference on Computer Science & Information Technology held at Krishna Institute of Engineering and Technology, Muradnagar during Nov. 11-12, 2006.
- Delivered three invited talks on ‘*Goal Programming*’ in the Faculty Development Programme sponsored by AICTE held at Meerut Institute of Engineering and Technology, Meerut during Jan. 02-12, 2010.
- Delivered an invited talk on ‘*Applications of Planar Graphs*’ in the National Seminar held at Amity University, Noida from May 20-22, 2010.
- Invited as an Expert on Akashwami (Doordarshan) on the topic ‘ **Development of Meerut Zone: Opportunities and Challenges**’ on 20.08.2011
- Participated in **Meri Baat** Programme of Doordarshan along with students of the Department on 04.10.2011 at Delhi.
- Delivered an invited talk on ‘*Some Aspects of Mathematical Cryptography*’ in the National Seminar held at SRM University, Modi Nagar from March 30-31, 2012.
- Delivered an invited talk on ‘*Cryptography*’ in the National Seminar held at DAV College, Muzaffarnagar on March 20, 2013.
- Delivered an invited talk on ‘Sets, relations and functions’ in the Science Camp Under Inspire Internship Sponsored by DST held at Bundelkhand University, Jhansi, on January 21, 2014
- Delivered an invited talk on ‘*Cryptography*’ in the National Seminar held at SSV College, Hapur on November 30, 2014
- Delivered an invited talk on ‘Planar Graphs and its Applications’ in the Faculty Development Program on Innovative Approaches in Mathematical & Statistical Sciences held at SRM University, Modinagar from July 6-11, 2015 on 7th July, 2015.
- Delivered an invited talk in the National Seminar at Devta Mahavidyalaya, Bijnor during 3rd – 4th February, 2018.

- Delivered an invited talk in the 2nd International Conference of Vijnana Parishad of India at Bundelkhand University, Jhansi during March 09- 11, 2018
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13. *Memberships:*

- Life member of Indian Mathematical Society, India.
- Life member of Indian Science Congress Association.
- Life member of Jammu Mathematical Society.
- Life member of Deen Dayal Sewa Sansthan, Meerut
- Life member of Bharata Ganita Parisad, Lucknow
- Life member of Ramanujan Mathematical Society
- Life member of Forum for Interdisciplinary Mathematics

14. *Teaching Material Produced:*

- Written 8 lessons (articles) on Metric Spaces (Analysis I) Course of M.A./M.Sc. students of Correspondence Courses & Continuing Education, Meerut University, Meerut.
- Written a Book on Discrete Mathematics for PG students.
- Written a Book on Numerical Analysis and Boolean algebra jointly with Mr. A.R. Vasishtha.

15. *Research Publications:*

- Published : 59 (National: 25, International: 34)
- Communicated 03

16. *Refresher Courses Attended:*

- Attended and successfully completed **two** refresher courses from Aug. 30 to Sep. 19, 1993 at Roorkee University and from Dec. 20 1994 to Jan.13,1995 at Allahabad University, Allahabad sponsored under the Academic Staff College programme of UGC.
- Attended and participated “All India Refresher Course in Coding Theory, Cryptography and Discrete Mathematics” from Dec. 2 -14, 2002 at Panjab University, Chandigarh organized by *Indian Academy of Science, Bangalore*.

17. *Extension Services / Administrative Assignments:*

- **Warden**, New Boy’s Hostel from 11-6-93 to 10-6-94.
- **Warden**, New Boy’s Hostel from 01-8-97 to 11-1-99.
- Acted as Assistant Controller Marks-sheet writing for 1996 and 1997 annual Examinations, CCS University, Meerut.
- Member of the Committee for disposal of used Answer-books and pulp 1998-99.
- Member of the Committee for Automation and Networking of University Library.
- Conducted Remedial Coaching in the Department of Mathematics for the upliftment of SC/ST Students from 1999 to 2002.

- Organized “Mathematics Exhibition” on Science Day in the Department of Mathematics in the years 2000, 2001.
- Member of the Board of Studies for preparing and updating Syllabi for M.Sc. (Mathematics), M.Sc. (Computer Science), M.Sc. (Polymer and Chemical Technology), M.Sc.(Ceramic Science and Technology) & M.Sc.(Printing and Packaging Technology),2001.
- **Recorder** of the Section of Information and Communication Science & Technology for the years 2004-2005 and 2005-2006 of the *Indian Science Congress Association*.
- **Treasurer** of an International Conference on Interdisciplinary approach in Physical Sciences held at Meerut from December 29-31,2005
- **Associate Editor**, *J. of Mathematical Analysis and Approximation Theory*.
- **Assistant Proctor**, from 01.07.05 to 31.03.07.
- **Proctor** from 01.04.07 to 06.09.2010.
- **Coordinator**, UGC NET/JRF Examinations, December 2007, June 2008, June 2009 & Dec. 2009.
- **Assist. Director**, Sir Chhotu Ram Institute of Engineering & Technology, CCS University Campus, Meerut from May, 2008 to Nov., 2009
- **Director**(Officiating), from 03-09-2008 to 03-12-2008, Sir Chhotu Ram Institute of Engineering & Technology, CCS University Campus, Meerut
- **Dean**, Faculty of Engineering & Technology, CCS University, Meerut from Dec. 2008 – Nov. 2009 and March 03, 2014 to March 02, 2017.
- **Head**, Department of Mathematics since 04.05.2009 to 03.05.2012 and from 04.05.2015 to till date
- **First Appellate Officer**, CCS University, Meerut, since 07.07.2011- 17.06.2012
- **Evaluation Coordinator**, Main / Private / Professional examinations, 2012, 2013
- **Controller of Examination, CCS University, Meerut:** July, 2014 to February, 2015
- Member, Board of Studies (Mathematics), Gurukul Kangri University, Haridwar since May, 2015
- Nodal Officer, National Academic depository, CCS University, Meerut since 27-04-2018.
- Member, Board of Studies (Mathematics), HNB Garhwal University, Srinagar since June 18, 2015
- **First Appellate Officer**, CCS University, Meerut, since 10.12.2018- Till date
- **Dean**, Faculty of Science, CCS University, Meerut January 15, 2020 to till date

18. *M.Phil. Students Supervised:* 57

19. *List of Publications:*

1. On some separation properties on bitopological spaces, *The Mathematics Student*, **68**(1999), 175-183.
2. Pairwise compactness modulo an ideal, *Indian J. of Math.* **42** (2000), 241-251.
3. Pairwise fuzzy compactness modulo an ideal, *Fuzzy Set Theory, Its Mathematical Aspects and Applications*, Allied Publishers Private Limited, Delhi, 2002
4. On some weak separation axioms, *The Mathematics Student* **71**(1- 4) (2002), 83-89.
5. Rate of convergence of the Szasz-Kantorovitch-Bezier operators for bounded variation functions, *Publications de l' Inst. Math.* **72**(86) (2002), 137-143. (Yugoslavia).

6. Rate of convergence of summation-integral type operators with derivatives of bounded variation, *J. Inequalities in Pure and Applied Mathematics* **4**(2) (2003), Art.34. (Australia)
7. An estimate on the rate of convergence of Bezier type summation integral operators, *Kyungpook Math. J.* **43** (2003), 345-354. (Korea)
8. Simultaneous approximation by summation integral type operators, *J. Nonlinear Functional Analysis and Applications*, **8**(3) (2003), 399-412.(Korea)
9. On the iterative combinations of a new sequence of linear positive operators, *Math. Computer Modeling* **39** (2004) 521-527. (Elsevier Science Pub.) (USA).
10. On the linear combinations of a new sequence of linear positive operators, *Mathematics and Information Theory: Recent topics and applications*, Anamaya Publishers, New Delhi, 2004
11. Direct results for a certain family of summation integral type operators, Proceedings of the International Conference on *Analysis and Applications*, Allied Publishers Private Limited, Delhi, 2004
12. Rate of convergence for certain families of summation-integral type operators, *J. Math. Anal. Appl.* **296**(2) (2004) 608-618. (Elsevier Science Pub.) (USA)
13. On fuzzy pairwise s-continuous and fuzzy pairwise s-open mappings, *International J. of Pure and Applied Math. Sci.* **1**(1) (2004), 101-109.
14. Improved AIMD- A Mathematical Study, *J. Comp. Science* **1**(4) (2005) 514-519.(Science Publication, USA)
15. A note on the Bezier variant of certain Bernstein Durrmeyer operators, *J. Inequalities in Pure and Applied Mathematics* **6**(3) (2005), Art. 74. (Australia)
16. Linear combinations of certain family of linear positive operators, *Ind. J. Pure and Applied Math.* **36**(9) (2005), 479-492.
17. On some generalizations of continuous functions in fuzzy bitopological spaces, *Bull. Pure and Applied Sciences*, Vol. 24(1)(2005), 133-143.
18. On Demand bandwidth based routing algorithm for ad hoc wireless networks, *J. of Math. And System Sciences*, **1**(2)(2005), 62-67
19. An error estimate for certain Durrmeyer type summation-integral operators, *Ganita*, **56**(2) (2005), 145-152.
20. C-compactness modulo an ideal, *International J. Math. Math. Sciences*, (2006) Article ID 78135, 1-12 (U S A).
21. I-open sets and I-continuous mappings in bitopological spaces, *J. Math. Anal. Approx. Theory*, Vol.1 (2) (2006), 189-200.
22. On Simultaneous Approximation for Certain Baskakov Durrmeyer Type Operators, *J. Inequalities in Pure and Applied Mathematics* **7**(4) (2006), Art. 125. (Australia)
23. Direct and inverse estimates for a new family of linear positive operators in simultaneous approximation, *J. Math. Anal. Appl* **3306**(2) (2007), 799-816. (Elsevier Science Pub.) (USA)
24. On b-I-open sets and a new decomposition of semi-I-continuity via ideals, *Bull. Allahabad Math. Soc.* Vol. **32**, (2007), 59 -68.
25. Connectedness in fuzzy bitopological spaces, *Cubo J. Mathematics*, **9**(1) (2007), 1-12. (Brazil).
26. Rate of Approximation of Derivatives for Durrmeyer type Operators, *Southeast Asian Bull. Math.* Vol.**32** (2007), 79-88.
27. A note on Mixed Summation-integral type Operators, *Ukrainian Mathematical Journal* (Springer Verlag), Vol. **59**(8) (2007), 1258-1263.
28. On the Efficiency and Fairness of Congestion Control Algorithms, *Innovative Algorithms and Techniques in Automation, Industrial Electronics and Telecommunications*, T. Sobh et al. (eds), 2007 Springer, 405-407.
29. Rate of convergence for Szasz- Mirakyan- Durrmeyer operators with derivatives of bounded variation, *Applied Mathematics and Computation*, **199** (2008), 828-832. (Elsevier Science Pub.).

30. On Weakly α -I-Open sets and a New Decomposition of Continuity via Ideals, *Southeast Asian Bull. Math.*, **33**(1) (2009), 49-57.
31. A note on mappings on topological spaces via ideals (Submitted).
32. On Lp-approximation for Modified Baskakov Durrmeyer type Operators, *J. Inter. Academy of Physical Sci.*, Vol. **13**(3) (2009), 311-325
33. Fuzzy γ -I-Open Sets and a New Decomposition of Fuzzy Semi-I-Continuity, *International J. of Mathematical Analysis (Bulgaria)* Vol. **3** (28) (2009), 1349-1357.
34. Click to Zoom-inside Graphical Authentication, International Conference on Digital Image Processing, IEEE Computer society, (2009), 238-242.
35. Iterative Combination of Baskakov Durrmeyer Type operators, *International journal of essential sciences*, Vol. **3** (1) (2009), 80-88.
36. Strongly Compact Spaces with respect to Ideals, *Advances in Theoretical Appl. Math.*, Vol. **4**(1-2) (2009), 109-117.
37. Pairwise Quasi-H-closed Modulo an Ideal Spaces, *Ultra Scientist*, Vol. **22** (3), (2010), 845-52
38. A Remote Login Authentication Scheme with Smart Cards Based on Unit Sphere, *Indian J. Computer Science and Engineering*, Vol. **1**(3), (2010) 192-198.
39. Direct Results in Lp-approximation of Certain Generalized Integral Baskakov type Operators, *General Mathematics (Romania)* Vol. **19**(2)(2011), 49-58
40. Pairwise C-compactness Modulo an Ideal, *Journal of Advanced Studies in Topology (Egypt)* Vol. **2** (2), (2011), 53-61
41. Cryptanalysis of Enhancements of a Password Authentication Scheme over Insecure Networks, S. Aluru et al. (Eds.): 4th International Conference on Contemporary Computing (IC3), CCIS 168, Springer-Verlag Berlin Heidelberg (2011), 524–532.
42. An Improved Efficient Remote Password Authentication Scheme with Smart Card over Insecure Networks, *International J. Network Security*(Taiwan), Vol. **14**(3) (2011), 167-177
43. Cryptanalysis and Security Enhancement of Chen et al.'s Remote User Authentication Scheme using Smart Card, *Central European J. Com. Science.*, DOI:10.2478/S13537-012-0003-y, (2012) (*Springer Publication*) 1-16.
44. Further Cryptanalysis of 'A Remote Authentication Scheme Using Mobile Device' *IEEE (2012) Fourth International Conference on 'Computational Aspects of Social Networks'*, 234-37.
45. More efficient key-hash based fingerprint remote authentication scheme using mobile device, *Computing* (Springer), DOI: 10.1007/s00607-013 (2013), 1-24.
46. [Cryptanalysis of Truong et al.'s Fingerprint Biometric Remote Authentication Scheme Using Mobile Device](#), *Advances in Brain Inspired Cognitive Systems* (Springer), (2013), 271-277.
47. An Improved Timestamp-based Password Authentication Scheme: comments, cryptanalysis and improvements, *Security and Communication Networks*, **7**(11) (2013), 1921-1932
48. New forms of compactness via grills, *International Journal of Mathematics Trends and Technology* **48** (4), (2017) 270-275.
49. C- α (I)-Compact Spaces, *Proceedings of the Jangjeon Mathematical Society (Korea)* **21**(4) (2018) 661-665.
50. C-compactness via Grills, *World Scientific News (Poland)*, **113** (2018) 130-137.
51. [\(T, N\)-Threshold Quantum State Sharing Scheme Of An Arbitrary One-Qutrit Based On Linear Equation](#), *International Journal of Scientific & Technology Research* **8** (10) (2019), 334-340.
52. Soft theta-generalized closed sets with respect to a soft ideal, *Journal of Interdisciplinary Mathematics*, Taylor & Francis, **23**(6), (2020), 1241–1249
<https://doi.org/10.1080/09720502.2020.1819679>

53. Cryptanalysis and Improvement of an Authentication Scheme for IoT, Accepted for publication in *International Journal of Information and Computer Security*, Inderscience Publishers Ltd. 2020.
54. An enhancement of ECC- based Session Initiation Protocol, *International Journal of Internet Technology and Secure Transactions*, vol. 11(2)(2021)193-208, Inderscience Publishers Ltd, DOI: 10.1504/IJTST.2021.113521(Scopus)
55. A Comparative Study of Purchasing EOQ (Economic Order Quantity) Models for Non-Deterioration and Deteriorating Items Under Stock-Linked and Exponential Demand, *Jnanabha* , Vol. 50(2) (2020), 244-253.
56. Security Analysis of a Threshold Quantum State Sharing Scheme of an Arbitrary Single-Qutrit Based on Lagrange Interpolation Method, *Lecture Notes in Electrical Engineering* (Springer) vol. 694, 373-389, (2021) https://doi.org/10.1007/978-981-15-7804-5_28.(Scopus)
57. Flaws and Amendment in an ECC-based Authentication Scheme for SIP, *IEEE Xplore* (2020) 9th International Conference System Modeling and Advancement in Research Trends (SMART), 372-376, doi:10.1109/SMART50582.2020.9336790.
58. New Forms of Compactness in Bitopological Spaces, *Proceedings of Jangjeon Mathematical Society (PJMS)* 24(4), (2021) 481–498
59. ECC-based Three-Factor Authentication Scheme for Multi-Server Environment, ISIC2021: International Semantic Intelligence Conference, February 25–27, 2021, New Delhi, India

20. . No. of papers in SCOPUS indexed journals or UGC approved Journals: 48
 (i) **No. of papers in SCOPUS indexed journals: 27**
 (ii) **No. of papers in UGC approved journals: 31**
 (No. of papers common to both: 10)

Total No. of experience in the grade of Professor: 15 Years 07 Months

Total No. of experience in Administrative Positions: More than 15 years

- (i) **Head of Department: 06 years**
- (ii) **University Proctor: 03 years 06 months**
- (iii) **Dean, Faculty of Engineering & Technology: 03 years**
- (iv) **Dean. Faculty of Science- Continuing for 2 years**
- (iv) **Hostel Warden: 02 year**