

CURRICULUM VITAE

Dr. Vidyottama Jain

*Associate Professor & Head,
Data Science and Analytics,
Central University of
Rajasthan,
INDIA*

+91-8290076680
✉ vidyottama.jain@gmail.com



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Career Highlights

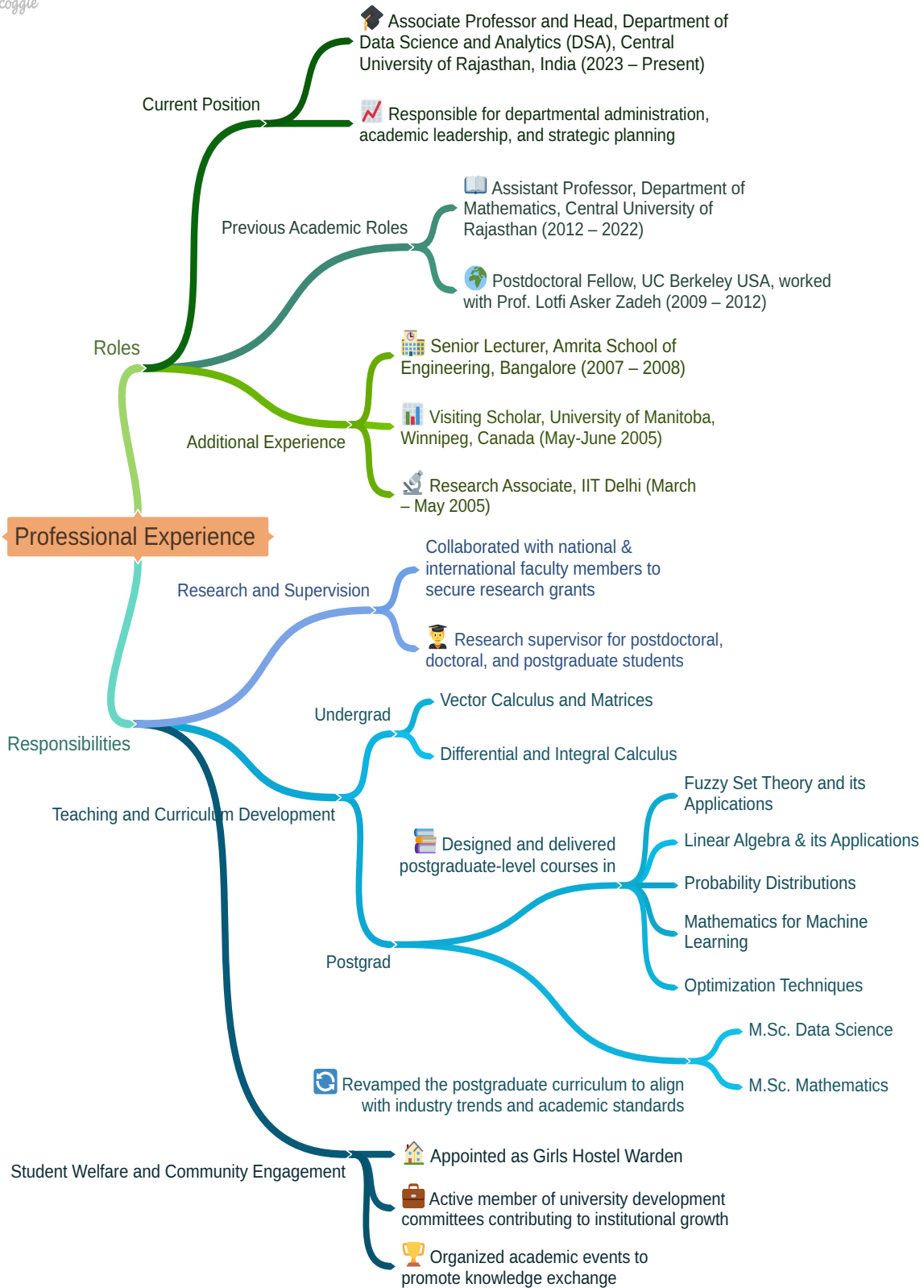
- Expertise in Operations Research, Queueing Theory, and Stochastic Models.
- 15+ years of experience in academic leadership and research.
- Postdoctoral fellowship under **Prof. Lotfi A. Zadeh** at UC Berkeley.
- Published 15+ papers in top-tier international journals.
- Collaborated with research institutions in India, USA, Russia, and Canada.
- Led projects funded by DST (India) and other international bodies.

Educational Qualifications

- 2000-2005 **Ph.D. (Mathematics) 8.4 CGPA, Indian Institute of Technology Delhi, India, Thesis Title-Fuzzy Matrix and Bi-Matrix Games**
- 1996-1998 **M.Sc. (Mathematics), University of Rajasthan, India, 83.4%**

Professional Experience

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Skills

Expertise	Operations Research, Stochastic Modeling, Fuzzy Optimization
Data Science	Probability Theory, Statistical Methods, Machine Learning
Programming	Python, MATLAB, C++, LaTeX
Proficiency	Technical Writing, Public Speaking, Research Presentations

Sponsored Projects

- 2023–2026 Indo-Russia (Department of Science & Technology (DST)–Russian Science Federation (RSF)) Joint research project entitled “**Development and study of methods for reliability enhancement of tethered high-altitude unmanned telecommunication platforms**” sponsored by DST with funding 9.8 million INR.
- 2022 - 2024 Project on the development of “**Queueing Theory and Modelling Lab**” sponsored by Virtual Labs (A Ministry of Education Govt. of India Initiatives-Under the National Mission on Education through ICT) with funding 2 million INR.
- 2022 - 2024 Project on the development of “**Probability and Statistics Lab**” sponsored by Virtual Labs (A Ministry of Education Govt. of India Initiatives-Under the National Mission on Education through ICT) with funding 2 million INR.
- 2014–2016 UGC-BSR Research project entitled “**Farmer satisfaction over crop insurance: A fuzzy cognitive map approach**” sponsored by UGC with funding 0.6 million INR.

Key Research Publications

- 2024 Nikita Mittal, Nika Ivanova, **Vidyottama Jain***, and V. M. Vishnevsky “Reliability and Availability Analysis of High Altitude Platform Stations through Semi-Markov Modeling”, *Reliability Engineering & System Safety*, 252, 110419. (Springer, **IF: 9.4**) ([10.1016/j.res.2024.110419](https://doi.org/10.1016/j.res.2024.110419))
- 2024 Raina Raj and **Vidyottama Jain***, “Resource Optimization for MMAP[c]/PH[c]/S Catastrophic Queueing Model with PH Retrial Times”, *OPSEARCH*, 61, 1192–1223. (Springer, **IF: 1.4**) ([10.1007/s12597-023-00731-3](https://doi.org/10.1007/s12597-023-00731-3))
- 2024 **Vidyottama Jain***, Raina Raj and S. Dharmaraja, “Performability Analysis of a MMAP[2]/PH[2]/S Model with PH Retrial Times”, *Communications in Statistics: Theory and Methods*, 53(8), 2868-2887. (Taylor & Francis, **IF: 0.919**) ([10.1080/03610926.2022.2150053](https://doi.org/10.1080/03610926.2022.2150053))
- 2023 Raina Raj and **Vidyottama Jain***, “Resource Optimization in MMAP[2]/PH[2]/S Priority Queueing Model with PH Retrial Times and the Preemptive Resume Policy”, *Annals of Operations Research*, 331, 1119-1148. (Springer, **IF: 4.4**) ([10.1007/s10479-023-05588-9](https://doi.org/10.1007/s10479-023-05588-9))

- 2023 Raina Raj and **Vidyottama Jain***, “Resource and Traffic Control Optimization in MMAP[c]/PH[c]/S Queueing System with PH Retrial Times and Catastrophe Phenomenon”, *Telecommunication Systems*, 84, 341-362. (Springer, **IF: 1.7**) ([10.1007/s11235-023-01053-x](https://doi.org/10.1007/s11235-023-01053-x))
- 2023 Nikita Mittal and **Vidyottama Jain***, “Power Efficient Stochastic Modeling for NB-IoT Devices in 5G Networks”, *Transactions on Emerging Telecommunications Technologies*, In Press. (Wiley, **IF: 3.311**) ([10.1002/ett.4825](https://doi.org/10.1002/ett.4825))
- 2023 **Vidyottama Jain***, Nikita Mittal and S. Dharmaraja, “Stochastic Modelling for Bandwidth Part Switching based DRX Mechanism in 5G NR”, *Telecommunication Systems*, 83, 159-176. (Springer, **IF: 1.7**) ([10.1007/s11235-023-01007-3](https://doi.org/10.1007/s11235-023-01007-3))
- 2023 Raina Raj and **Vidyottama Jain***, “Optimization of Traffic Control in MMAP [2]/PH [2]/S Priority Queueing Model with PH Retrial Times and Preemptive Repeat Policy”, *Journal of Industrial and Management Optimization*, 19(4), 2333-2353. (AIMS, **IF: 1.411**) ([10.3934/jimo.2022044](https://doi.org/10.3934/jimo.2022044))
- 2023 S. Dharmaraja, D. Khichar, P. Kalita and **Vidyottama Jain**, “Estimation of Mortality Rate of COVID-19 in India using SEIRD Model”, *OPSEARCH*, 60, 539-553. (Springer, **IF: 1.4**) ([10.1007/s12597-021-00557-x](https://doi.org/10.1007/s12597-021-00557-x))
- 2020 S. Dharmaraja, Srijan Narang and **Vidyottama Jain***, “A Mathematical Model for Supply Chain Management of Blood Banks in India”, *OPSEARCH*, 57, 541–552. (Springer, **IF: 1.4**) ([10.1007/s12597-019-00425-9](https://doi.org/10.1007/s12597-019-00425-9))
- 2020 Raju Srinivasan, **Vidyottama Jain** and S. Dharmaraja, “Perception Based Performance Analysis of Higher Education Institutions: A Soft Computing Approach”, *Soft Computing*, 24, 513-521. (Springer, **IF: 3.1**) ([10.1007/s00500-019-03931-6](https://doi.org/10.1007/s00500-019-03931-6))
- 2020 S. Dharmaraja, **Vidyottama Jain**, Priyanka Anjoy and Hukum Chandra, “Empirical Analysis for Crop Yield Forecasting in India”, *Agricultural Research*, 9, 132-138. (Springer, **IF: 1.4**) ([10.1007/s40003-019-00413-x](https://doi.org/10.1007/s40003-019-00413-x))
- 2007 **Vidyottama Vijay**, A. Mehra, S. Chandra and C.R. Bector, “Fuzzy Matrix Games via a Fuzzy Relation Approach”, *Fuzzy Optimization and Decision Making*, 6, 299-314. (Springer, **IF: 4.8**)
- 2005 **Vidyottama Vijay**, S. Chandra and C.R. Bector, “Matrix Games with Fuzzy Goals and Fuzzy Pay-offs”, *Omega*, 33, 425-429. (Elsevier, **IF: 6.7**)
- 2004 **Vidyottama Vijay**, S. Chandra and C.R. Bector, “Bi-matrix Games with Fuzzy Goals and Fuzzy Payoffs”, *Fuzzy Optimization and Decision Making*, 3, 327-344. (Springer, **IF: 4.8**)
- 2004 C. R. Bector, S. Chandra and **Vidyottama Vijay**, “Duality in Linear Programming with Fuzzy Parameters and Matrix Games with Fuzzy Payoffs”, *Fuzzy Sets and Systems*, 146, 253-269. (Elsevier, **IF: 3.2**)
- 2004 C. R. Bector, S. Chandra and **Vidyottama Vijay**, “Matrix Games with Fuzzy Goals and Fuzzy Linear Programming Duality”, *Fuzzy Optimization and Decision Making*, 3, 263-277. (Springer, **IF: 4.8**)

Recently Communicated/Work in Progress

- Communicated Nikita Mittal and **Vidyottama Jain***, “Analysis of $M^X/M/m/2m$ queueing model for bandwidth allocation in 5G networks”, Communicated to *Transactions on Emerging Telecommunications Technologies*.
- Communicated Nikita Mittal and **Vidyottama Jain***, “Power Efficient Multiserver based Semi-Markov Modeling for NB-IoT Devices in 5G Networks”, Communicated to *OPSEARCH*.
- Communicated Priyanka Kalita, **Vidyottama Jain** and S. Dharmaraja, “Energy Efficiency in Hybrid Base Station for 5G Networks: An Analytical Approach”, Communicated to *IJCS*.
- Communicated Nikita Mittal, Kuldeep Saini, **Vidyottama Jain*** and Viswanathan Arunachalam, “Analysis of Power Efficiency of NB-IoT Devices through Semi-Markov Model with Auxiliary State”, Communicated to *Ad Hoc Networks*.
- In Progress Nikita Mittal and **Vidyottama Jain***, “Stochastic Analysis of Split PO for Paging in beyond 5G Networks in RRC Modes”.
- In Progress Komal Suwalka, Nika Ivanova and **Vidyottama Jain***, “Semi-Markov Framework for Enhanced Handoff Efficiency in High-Altitude Platform Stations”.
- In Progress Santosh Shekhawat and **Vidyottama Jain***, “Mathematical Modelling for Hydrogen Based Steel Industry With Carbon Management Technologies”.

***Corresponding Author**

Student Supervision

Supervisor of Postdoctoral, Ph.D., and postgraduate students. For detailed information, see the section [Students' Supervision](#) in Appendix.

Overseas Conferences and Keynotes

- Oct. 1, 2024 Keynote talk over “Performance Analysis of Multi-Server Semi-Markov Model for NB-IoT Devices”, 8th International Conference on Information, Control, and Communication Technologies (ICCT-2024), Russia.
- Sep. 25, 2024 Invited talk over “HAPS-UAVs Network: A Novel Stochastic Geometry Model”, 27th International Conference on Distributed Computer and Communication Networks (DCCN-2024), Moscow, Russia.
- Sep. 26, 2023 Invited talk over “A Semi-Markov Approach for Reliability Analysis of High-Altitude Platforms”, 26th International Conference on Distributed Computer and Communication Networks: : Control, Computation, Communications (DCCN 2023), Peoples' Friendship University of Russia (RUDN University), Moscow, Russia.
- Sep. 26, 2022 Invited talk over “Analysis of Power Management in a Tethered High Altitude Platform using MAP/PH[3]/1 Retrial Queueing Model”, 25th International Conference on Distributed Computer and Communication Networks (DCCN 2022), Peoples' Friendship University of Russia (RUDN University), Moscow, Russia.

May 26, 2011 Contributed talk over Presented the paper entitled “Perception Based Modeling on Energy Options?-Towards Decision Making under Risk”, *World Conference on Soft Computing 2011*, San Francisco, USA.

Convenor Webinar/FDP

Oct. 11-Nov. 11, 2021 Organised *International Six Day Webinar Series on Applications of Stochastic Models and Queueing Theory*, Central University of Rajasthan, Ajmer, Rajasthan.

Mar 15-25, 2021 Coordinated *Ten Days Online Faculty Development Program on Teaching Learning and Assessment*, under the scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT), Central University of Rajasthan, Ajmer, Rajasthan, .

Academic Referees

Prof. Suresh Chandra **Professor (Retired)**, *Department of Mathematics, Indian Institute of Technology Delhi, India.*, **Email: sureshiitdelhi@gmail.com**

Prof. S. Dharmaraja **Senior Professor & Former Head**, *Department of Mathematics, IIT Delhi, India.*, **E-mail: dharmar@maths.iitd.ac.in**

Prof. A.P. Singh **Professor and I/C Vice Chancellor (Former)**, *Department of Mathematics, Central University of Rajasthan, India.*, **E-mail: anandpsingh.2020@gmail.com**

Personal Interests

Committed **Vipassana Meditator**: Engaged in the practice of Vipassana meditation, enhancing focus, emotional balance, and resilience through regular retreats and daily meditation practice.

Additional Details

Full Name Vidyottama Jain
Date of Birth May 20, 1977
Sex Female
Nationality Indian
Marital Status Married
Links www.curaj.ac.in/faculty/vidyottama-jain
www.linkedin.com/in/dr-vidyottama-jain-2368366/
Orcid Id [0000-0001-8479-8897](https://orcid.org/0000-0001-8479-8897)

Appendix

Refereed Journal Publications

- 2023 **Vidyottama Jain***, Raina Raj and S. Dharmaraja, “Numerical Optimization of Loss System with Retrial Phenomenon in Cellular Networks”, *International Journal of Operational Research*, 46(2), 210-226. (Inderscience, Scopus Indexed)
- 2011 Ashok Deshpande and **Vidyottama Jain***, “Computing with Words on Energy Options?-Towards Decision under Risk and Uncertainty”, *International Journal of Nuclear Knowledge Management*, 5(2), 219-232. (Inderscience)

Refereed Book Chapters/Research Papers appeared in Conference Proceedings

- 2024 Srinivas R Chakravarthy, Shruti Goel, **Vidyottama Jain**, Serife Ozkar, Raina Raj, “Analysis of a Queueing System with Batch Poisson Arrivals and Batch Services in Blockchain Applications”, *Intelligent Computing on IoT 2.0, Big Data Analytics, and Block Chain Technology* (Mohammad S. Obaidat, Padmalaya Nayak, Niranjana K. Ray (Eds.)), Chapter 8, Chapman and Hall/CRC, New York.
- 2022 **Vidyottama Jain***, Vladimir Vishnevsky, Raina Raj and S. Dharmaraja, “Power Management in Tethered High Altitude Platforms: A Quasi Birth-Death Approach”, *Lecture Notes in Computer Science*, DCCN-2022.
- 2022 S. Dharmaraja, **Vidyottama Jain** and Raina Raj, “Performance Analysis for Tethered HAP Systems: An Analytical Approach”, *Lecture Notes in Computer Science*, DCCN-2022.
- 2019 **Vidyottama Jain*** and S. Dharmaraja, “Crop Insurance in India: A Mathematical Review”, *Operations Research in Development Sector*, Asset Analytics, (A. Tripathy, R. Narayan, S. S. Patnaik and J. Nayak (Eds.)), Springer Singapore, 97-107.
- 2014 **Vidyottama Jain***, D. Datta and Ashok Deshpande, “Decision Making on Energy Options: A Case Study”, *Human-Centric Decision -Making Models for Social Sciences*, Studies in Computational Intelligence 502, (W. Pedrycz and P. Guo (Eds.)), Springer Verlag Berlin Heidelberg, 401-418.
- 2010 **Vidyottama Jain** and Ashok Deshpande, “Prospect Theory on Energy Options?-Towards Decision Making under Risk”, *IEEE International Conference on Reliability, Safety and Hazard (ICRESH-2010)*, Mumbai, 112-117, Dec. 14-16.
- 2010 **Vidyottama Jain** and Ashok Deshpande, “Decision Making under Risk and Uncertainty: Revisited”, *Computer Society of India-Communications*, Theme Article 3, 34(8), 10-12, November.
- 2004 **Vidyottama Vijay**, “Constrained Matrix Games with Fuzzy Goals”, *Proceedings of the ISFUMIP National Conference on Fuzzy Logic and its Application in Technology and Management FLATeM-2004*, IIT Kharagpur, May 20-21.

2003 W. Shukla, P. Sinha and **Vidyottama Vijay**, “A Categorical Look at Duality in Fuzzy Linear Programming”, *Proceedings of the Sixth International Conference APORS 2003*, New Delhi, Dec. 8-11, 93-100.

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Postdoctoral Supervision

2024–Present Dr. Santosh Shekhawat, (DST-WISE-PDF), Project: “A Systematic Study of the Indian Iron and Steel (I&S) Industry and Mathematical Modelling for Its Sustainable Supply Chain”.

Ph.D. Supervision

2017–2023 Ms. Raina Raj, “A Study of Retrial Queueing Models with Optimization Problems in Cellular Networks”.

2019–Present Ms. Nikita, “A Study of Stochastic Modeling for Power Efficiency in 5G and Beyond Networks” (Thesis submitted on June 10, 2024).

2022–Present Ms. Komal Suwalka, “A Study of Reliability Issues for High Altitude Platform Stations”.

Intern Supervision

2024–2025 Ms. Shreya Singh, M.Sc. Data Science and Analytics, Chennai Mathematical Institute, India.

2024–2025 Mr. Suryakumaran B, 5-year Integrated M.Sc. Data Science, Thiagarajar College of Engineering, Madurai.

2024–2025 Ms. Mirdula K, 5-year Integrated M.Sc. Data Science, Thiagarajar College of Engineering, Madurai.

2024–2025 Ms. Anu Gayathri S, 5-year Integrated M.Sc. Data Science, Thiagarajar College of Engineering, Madurai.

2024–2025 Ms. Sowmyashri V, 5-year Integrated M.Sc. Data Science, Thiagarajar College of Engineering, Madurai.

2024–2025 Ms. Suha Roy, M.Sc. (Computer Science) Big Data Analytics, Central University of Rajasthan.

Conferences and Keynotes within India

Mar 22-28, 2024 Delivered invited talks over “Queueing Models and Inventory Models” in the Webinar Series on Optimization Techniques, Data Science - Applied Mathematics & Computational Science Dept., Thiagarajar College of Engineering, Madurai, India.

Feb. 6, 2024 Delivered an invited talk over “LaTeX for All: Empowering Your Writing Process”, Faculty Development Program on Enhancing Computation and Visualization through AI Powered Tools, Manipal University, Jaipur, India.

Dec 18-20, 2023 Delivered a contributory talk over “Analysis of Power Efficiency of NB-IoT Devices in 5G Networks: A Semi-Markov Approach”, 56th Annual Convention of Operational Research Society of India (2023-ORSI) & 10th International Conference on Business Analytics and Intelligence (2023-ICBAI), IISc Bangalore, India.

- Dec 18-20, 2023 Delivered a contributory talk over “The Effect of Covariates on the Duration of Unemployment in India”, 56th Annual Convention of Operational Research Society of India (2023-ORSI) & 10th International Conference on Business Analytics and Intelligence (2023-ICBAI), IISc Bangalore, India.
- July 13-14, 2023 Delivered an invited talk over “Semi-Markovian analysis for Power Efficiency in 5G Networks”, International Conference on Computational Applied Sciences and Its Applications (ICASSA 2023), University of Engineering and Management, Jaipur, India.
- June 05, 2023 Delivered an invited talk over “Mathematics behind Principal Component Analysis”, National Seminar on Perspectives of Data Science, VIT Chennai, India.
- Feb 28, 2023 Delivered an invited talk over “Power Efficient Model for NB-IoT Devices in 5G Networks: A Semi-Markov Approach”, International Conference on Applied Mathematics and Computing (ICAMC 2023), Dwaraka Doss Goverdhan Doss Vaishnav College, Chennai, India.
- Feb 25, 2023 Delivered an invited talk over “Semi-Markov Modeling for Power Efficiency of NB-IoT Devices in 5G Networks”, International Conference on Recent Trends in Applied Mathematics (ICRTAM2023), Loyola College, Chennai, India.
- Jan 06, 2023 Delivered an invited talk over “Stochastic Modeling for Performance Enhancement in 5G Wireless Networks”, Fifth International Conference on Applied Mathematical Models, PSG College of Technology, Coimbatore, India.
- June 23-25, 2022 Delivered a contributory talk over “Optimization of Traffic Control in Multiserver Preemptive Priority Queueing Model”, International Conference of Recent Advances in Mathematical Sciences and Interdisciplinary Areas, GLA University, Mathura.
- May 10, 2022 Delivered an invited talk over “Multi-Server Preemptive Priority Queueing Model with PH Retrial Times”, Short Term Training Workshop Program on “Emerging Applications of Mathematics and Statistics in Engineering Science and Technology (EAMSEST-2022)”, NIT Rourkela.
- Dec 12, 2021 Delivered an invited talk over “Combinatorial and Stochastic Optimization”, *SERB sponsored Karyashala on Statistical Modelling & Computational Intelligence*, NIT Tiruchirappalli.
- Dec 6-8, 2021 Participated in *13th International Workshop on Retrial Queues and Related Topics*, Centre for Research in Mathematics, Dept. of Mathematics, CMS College Kottayam, Kerala .
- Sep 17, 2021. Delivered an invited talk over “Modelling of Retrial Queueing Model with Correlated Arrival Flows in Cellular Networks”, *International Conference on Advances in Applied and Computational Mathematics (ICAACM-2021)*, Manipal University Jaipur.
- Aug 9, 2021. Delivered an invited talk over “Application of Calculus in Management”, Jaipuria Institute of Management, Jaipur.

- Feb. 4, 2021 Delivered an invited talk over “An Introduction to Optimization Techniques”, *Online Short Term Training Programme: Gyan-Ganga Programme*.
- Dec. 9-10, 2020 Delivered invited talks over “Integer Linear Programming Problems”, *1-week Online Short Term Course on Operations Research and its Applications*, Indian Institute of Technology Delhi.
- Nov. 9-23, 2020 Participated in *2-week Online Refresher Course on “Artificial Intelligence”* (with Grade-A), UGC-HRDC Jawaharlal Nehru Technological University Hyderabad.
- March 12-16, 2019 Participated in *5-day Workshop on Enhancing of Teaching and Learning Skills in Statistics*, Central University of Rajasthan.
- Sep. 11-12, 2018. Delivered invited talks over “Linear Optimization, Non-linear Optimization and Fuzzy Optimization”, *1-Week Short Course on Computational Techniques and their Applications in Engineering*, Government Engineering College, Ajmer.
- Dec 12-14, 2016 Presented the paper entitled “Crop Insurance: A Game Theoretic Approach”, *49th Annual Convention and International Conference of Operational Research Society of India and International Conference on Analytics in Operational Research*, BIMTECH, Delhi.
- March 18, 2016 Delivered an invited talk over “Introduction to Fuzzy Set Theory”, *1-Week National Workshop on Mathematical Modelling and Simulation*, Central University of Rajasthan.
- Dec 17-19, 2015 Presented the paper entitled “Crop Insurance in India: A Mathematical Survey”, *48th Annual Convention of the Operational Research Society of India*, Bhubaneswar, Orissa.
- Jul 23, 2015 Delivered an invited talk over “Introduction to Fuzzy Set Theory”, *Faculty Development Programme*, Manipal University, Jaipur.
- July 22-23, 2015 Delivered a series of lectures over “Latex”, *Faculty Development Programme*, Manipal University, Jaipur.
- Mar 12-13, 2015 Participated in the *International Symposium in the Honor of Dr. A. Ravi Ravindran*, IISc Bangalore, India.
- June 20-24, 2014 Participated in the *QIP Sponsored Short Term Course on Applied Game Theory for Engineers and Managers*, IIT Kanpur.
- April 1-5, 2013 Participated in the *Short Term Course on Computational Techniques in Engineering and Science*, MNIT Jaipur.
- May 20-21, 2004 Presented the paper entitled “Constrained Matrix Games with Fuzzy Goals” *Conference on Fuzzy Logic and its Applications in Technology and Management-2004*, IIT Kharagpur, India.
- Dec. 25-27, 2002 Presented the paper entitled “Matrix Games with Fuzzy Goals and Fuzzy Linear Programming Duality”, *Conference on Fuzzy Set Theory and Its Mathematical Aspects*, BHU Varanasi, India.
- Dec 8-11, 2003 Presented the paper entitled “Matrix Games with Fuzzy Goals and Fuzzy Payoffs”, *Sixth International Conference APORS 2003*, New Delhi, India.

Jan 8-10, 2004 Presented the paper entitled “Bi-Matrix Games with Fuzzy Goals and Fuzzy Payoffs”, *International Conference on Operations Research with Economic and Industrial Applications*, ISI Kolkata, India.

Reviewer

- IEEE Transactions on Reliability.
- Methodology and Computing in Applied Probability.
- Telecommunication Systems.
- Simulation Modelling Practice and Theory.
- Applied Soft Computing.
- National Academy Science Letters.
- Journal of Intelligent and Fuzzy Systems.
- Transactions on Fuzzy Systems.
- Proceedings of the National Academy of Sciences.
- OPSEARCH.

Membership of Professional and Academic Societies

Life member, Operations Society of India.

Life member, Indian Mathematical Society.

Achievements

- 2001 Qualified CSIR-UGC NET for Lectureship held on July 1, 2001.
 - 1999 Qualified Graduate Aptitude Test in Engineering (GATE)-1999 in Mathematical Sciences.
 - 2003 Awarded the “Best Student Paper I Prize” at APORS 2003 - Sixth International Conference of the Association of Asia-Pacific Operational Research Societies, New Delhi, Dec 8-11, 2003.
 - 2005 Paper “Duality in linear programming with fuzzy parameters and matrix games with fuzzy pay-offs” included in Science Direct Top 25 Hottest Articles in February 2005, within the journal *Fuzzy Sets and Systems*.
-