



## Dr Adarsh Mangal

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Address: Ajmer ,Rajasthan,India - 305025

## Expertise

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### Applied Mathematics

Mathematical Programming & Operations Research

## Work experience

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1. Government Engineering College Ajmer 2007 — Present

Assistant Professor

Ajmer

## Education

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1. NPTEL Online Certification Course - 2022

IITR

2. NPTEL Online Certification Course - 2022

IITM

3. NPTEL Online Certification Course - 2020

IITM

4. NPTEL Online Certification Course - 2020

IITM

5. NPTEL Online Certification Course - 2019

IITR

6. PhD - 2007

Government College Ajmer (M D S University Ajmer)

7. M.Phil. - 2000

Government College Ajmer (M D S University Ajmer)

## Honours and Awards

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1. Invited Lecture in an National Webinar - 2022

Council for Scientific and technical Terminology, Gol

2. Hony. Secy. - 2022

ORSI-Ajmer Chapter

3. Expert Lectures in Short Term Course - 2022

National Institute of Technical Teacher's Training and Research, Chandigarh

4. Editorial Board Member - 2022

Aryabhata Journal of Mathematics & Informatics

5. Invited Lecture in an National Webinar - 2021

Council for Scientific and technical Terminology, Gol

6. Expert Lectures in Pre PhD Course Work - 2021

M D S University AJmer

7. Central Council Member - 2021

Operational Research Society of India-An International Federation

8. **Hony. Secy. - 2020**

ORSI-Ajmer Chapter

9. **Editorial Board Membership - 2020**

Science Publishing Group, New York, USA

10. **Editorial Board Membership for CSTT Comprehensive Glossary of Mathematics Vol. XXI - 2019**

Council for Scientific and technical Terminology, Gol

11. **Hony. Secy. - 2018**

ORSI-Ajmer Chapter

12. **Section Editor of Encyclopedia of Mathematics in Hindi - 2018**

Central Institute of Hindi (A project of MHRD,Gol)

13. **Editorial Board Membership for CSTT Comprehensive Glossary Vol.-I - 2018**

Council for Scientific and technical Terminology, Gol

14. **Editorial Board Membership for CSTT Comprehensive Glossary Vol.-II - 2018**

Council for Scientific and technical Terminology, Gol

15. **Editorial Board Membership for CSTT Comprehensive Glossary Vol.-III - 2018**

Council for Scientific and technical Terminology, Gol

16. **Editorial Board Membership for CSTT Comprehensive Glossary Vol.-IV - 2018**

Council for Scientific and technical Terminology, Gol

17. **Editorial Board Membership for CSTT Comprehensive Glossary Vol.--V - 2018**

Council for Scientific and technical Terminology, Gol

18. **Editorial Board Membership for CSTT Comprehensive Glossary Vol.-VI - 2018**

Council for Scientific and technical Terminology, Gol

19. **Editorial Board Membership for CSTT Comprehensive Glossary Vol.-VII - 2018**

Council for Scientific and technical Terminology, Gol

20. **Editorial Board Membership for CSTT Comprehensive Glossary Vol.- VIII - 2018**  
Council for Scientific and technical Terminology, Gol
21. **Member, Editorial and Consultation for Vigyan Garima Sindhu ( A Research Magazine) - 2017**  
Council for Scientific and technical Terminology, Gol
22. **Hony. Secy. - 2016**  
ORSI-Ajmer Chapter
23. **Translator (Hindi to English) - 2016**  
State Institute of Education Research and Training
24. **Editorial Board Membership - 2015**  
International Science Community Association
25. **Hony. Secy. - 2014**  
ORSI-Ajmer Chapter
26. **Hony. Secy. - 2014**  
ORSI-Ajmer Chapter
27. **Academic Counselor - 2014**  
Vardhman Mahaveer Open University, Kota
28. **Editorial Board Membership - 2013**  
Asian Journal of Fuzzy and Applied Mathematics
29. **Hony. Secy. - 2012**  
ORSI-Ajmer Chapter
30. **Hony. Secy. - 2010**  
ORSI-Ajmer Chapter
31. **Academic Counselor - 2009**  
Indira Gandhi National Open University

# Research Project

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## Optimal Scheduling of Micro grid with high Renewable Penetration

Role: Co-PI

Year 2019, Amount 1018000

## Membership In Professional Bodies

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1. Soft Computing Research Society, 2018  
Life Member
2. Ramanujan Mathematical Society, 2010  
Life Member
3. Indian Mathematical Society, 2010  
Life Member
4. Operational Research Society of India-An International Federation, 2004  
Life Member
5. Rajasthan Ganita PARishad, 2000  
Life Member
6. Rajasthan Academy of Physical Sciences,  
Life Member
7. Indian Society of Industrial & Applied Mathematics,  
Life Member

## Membership In Committees

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1. Journal of Applied Mathematics and Statistical Analysis, 2022  
Editorial Board Member
2. Asian Journal of Probability and Statistics, 2022  
Reviewer
3. 10th INTERNATIONAL CONFERENCE ON COMPUTING FOR SUSTAINABLE

## GLOBAL DEVELOPMENT, 2022

Member (Technical Programme Committee)

4. International Conference on Computational Intelligence and Emerging Power System (ICCIPS-2021), 2021  
General Chair
5. AORBI-2021, 2021  
Member, Advisory Committee
6. 23rd Annual Conference of Vijnana Parishad of India, 2021  
Member, Advisory Committee
7. Board of Studies (Mathematics), 2020  
External Member, M D S University Ajmer
8. Board of Studies (Rajasthan ILD Skill University), 2019  
Member
9. Faculty Development Programme on “Nature Inspired Algorithms and Its Engineering Applications” , 2018  
Member, Organizing Committee
10. I International Young Scientist Congress (IYSC- 2015), 2015  
Sectional President
11. National Workshop on Indigenous Model of Teacher’s Education , 2014  
Workshop Cpprdinator
12. International Science Congress Association ( ISCA- 2014) , 2014  
Core Member, Apex Committee
13. 4 th International Science Congress (ISC- 2014), 2014  
Sectional Recorder in Mathematical and Statistical Sciences
14. National Seminar on Educational Reforms for Sustainable Development, 2013  
Seminar Convener
15. Short Term Training Programme on Research Methods and Data Analysis ( Using SPSS & EViews), 2013  
Course Coordinator
16. National Workshop on Research Methodology, 2012  
Workshop Coordinator

17. **National Workshop on Statistical Software for Research, 2012**  
Workshop Coordinator
18. **“ International Conference on Optimization Modelling and Applications”, 2012**  
Member, Organizing Committee
19. **National Conference On Recent Advance in Mathematics with Application in Engineering” , 2012**  
Member, Organizing Committee
20. **Workshop on “Creating A Share Vision”, 2008**  
Member, Organizing Committee
21. **National Conference on “Recent Advancement in Engineering and Technology”, 2008**  
Member, Organizing Committee

## Patent

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1. **MACHINE LEARNING BASED OBESITY ANALYSIS FOR EARLY DETECTION OF HEART DISEASE**  
Inventor(s): Kumar, P. Santhosh; Reddy, S. L. Prathapa; Rajakumari, Kavitha Esther; Sneha, Yerram; Murthy, Ch. V. Ramana; Varigonda, Ravikanth; Pathuri, Ruchitha Sree; Veladi, Sai Harshini; Bhattacharya, Sumanta; Dixit, Chandra Kumar; Mangal, Adarsh and Gummadi, Anand Kumar, Assignee:  
Published: 2021-08-25
2. **ARTIFICIAL NEURAL NETWORK BASED BRAIN DISORDER DIAGNOSTIC SYSTEM**  
Inventor(s): Chandiran. I, Sarath; Sharma , Mukta; Soubache, I. D.; Sneha, Yerram; Bindu, P.; Raman, S.G.; Mangal, Adarsh; Padmanayaki, S.; Bhattacharya, Sumanta; Bora, Ashim; Dixit, Chandra Kumar and Swamy, B Venkata, Assignee:  
Published: 2021-08-25
3. **IOT based small portable low-cost Apparatus for unauthorized parking detector**  
Inventor(s): Acharya, Biswaranjan; Makkar, Sandhya; Nanda, Ipseeta; Imam, Haru; Goyal, Mukta; Das, Puja; Jamader, Asik Rahaman; Jain, Sanjay; Mangal, Adarsh; Kar, Rahul; Verma, Kirti, Assignee:  
Published: 0000-00-00
4. **A system and method for optimum wavelet basis function selection for ECG arrhythmia denoising using artificial intelligence**  
Inventor(s): CHANDNANI, NEERAJ; Chandani, Mukta; Godhandaraman, P.; Jain, Sanjay; Kar, Rahul; Mangal, Adarsh; Poongothai, V.; Sahu, Uma; Shrivastava, Vineeta; Singh, Ganga; Verma, Kirti; Verma,

Shivali, Assignee:

Published: 0000-00-00

5. **A SYSTEM AND DEVICE FOR SREET LIGHT AUTOMATION**

Inventor(s): KIRTI VERMA, NEERAJ CHANDNANI, M. SUNDARARAJAN, SAJAL KANTI DAS, ADARSH MANGAL, HEMANT SHARMA, KIRTI JAIN, SHITAL GUPTA, ASHOK KUMAR, ANAND MOHAN, Assignee: KIRTI VERMA  
Published: 2023-01-01

6. **COPYRIGHT - A SMART STICK SOLUTION FOR ASSISTING BLIND PEOPLE USING INTERNET OF THINGS**

Inventor(s): KIRTI VERMA, NEERAJ CHANDNANI, ADARSH MANGAL, MAHADEV BIRADAR, ISHWAR MAHARUDRAPP, MANISH BADLANI, MAMTA VERMA, APOORWA MISHRA, DALVINDER SINGH WADHWA,  
Assignee:  
Published: 2021-11-22

7. **A SMART STICK SOLUTION FOR ASSISTING BLIND PEOPLE USING INTERNET OF THINGS**

Inventor(s): KIRTI VERMA, NEERAJ CHANDNANI, ADARSH MANGAL, MAHADEV BIRADAR, ISHWAR MAHARUDRAPP, MANISH BADLANI, MAMTA VERMA, APOORWA MISHRA, DALVINDER SINGH WADHWA,  
Assignee:  
Published: 2021-10-29

## Publication

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1. **A Comprehensive Review of the Smart Health Records to Prevent Pandemic**

Kirti Verma, Naresh Chandnani, Adarsh Mangal and M. Sundararajan  
System Design for Epidemics Using Machine Learning and Deep Learning, Signals and Communication, Volume , Year 2023, Pages 19-36

2. **Solar Power Prediction in Stochastic Framework**

Nand Kishor Gupta, K.G.Sharma, Adarsh Mangal, K.C.Sharma & R.A.Gupta  
Proceedings of International Conference on Computational Intelligence and Emerging Power System ICCIPS-2021 published in Algorithms for Intelligent Systems by Springer, Volume , Year 2021, Pages 223-234

3. **Applications of Mathematics in Research, Education and Medical Sciences**

Neeraj Chandnani, Kirti Verma, Sneha Joshi, Adarsh Mangal, M. Sunararajan and Akash Mohan  
Design Engineering, Volume Issue 7, Year 2021, Pages 13026-13037

4. **The impact of COVID-19 to the trade in India using digital, IOT and AI techniques**

Verma, K., Sundararajan, M., Mangal, A., Ray, S. and Kumar, A,  
2nd Int. Conf. on Advance Computing and Innovative Technologies in Engineering (ICACITE), Volume , Year 2021, Pages 390-394



5. **Study on non-linear planning model of green building energy consumption under multi-objective optimization**

Miao Fan, Danna Su, Mohammed Wasim Bhatt & Adarsh Mangal  
Int J Syst assur Eng Manag, Volume , Year 2021, Pages

6. **Applied Mathematics**

Dr Sanjay Jain, Dr Adarsh Mangal etc.,  
Applied Mathematics, Volume 1, Year 2021, Pages

7. **Solution of Linear Fractional Programming Problem by Fourier-Motzkin Elimination Technique**

Pawan Kishore Tak, Gyan Shekhar, Sanjay Jain, Adarsh Mangal  
Turkish Journal of Computer and Mathematics Education,, Volume , Year 2021, Pages

8. **New (S+As) EIR Mathematical Model For Covid Epidemic**

Sanjay Jain, Adarsh Mangal, Shagun Jain  
Vigyan Prakash, Volume , Year 2021, Pages 65-74

9. **Mathematics-I**

Sanjay Jain, Nitin Arya, Anil Maheshwari & Adarsh Mangal  
Mathematics-I, Volume , Year 2021, Pages

10. **KKL Simplex Algorithm for Multi-Objective Linear Programming Problem**

Sanjay Jain & Adarsh Mangal  
Journal of Xidian University, Volume 15(6), Year 2021, Pages 358-363

11. **New Mathematical Model for Covid Epidemic**

Sanjay Jain, Adarsh Mangal, Shagun Jain  
Advancement in Biotechnology and Pharmaceutical Mathematics, Volume , Year 2021, Pages 10-20

12. **Solution of Multi-Objective Linear Programming Problem using Modified Fourier Elimination Technique & AHA Simplex Algorithm**

Sanjay Jain, Adarsh Mangal  
AryaBhatta Journal of Mathematics and Informatics, Volume , Year 2020, Pages

13. **MODELLING OF NATURE INSPIRED MODIFIED FOURIER ELIMINATION TECHNIQUE FOR QUADRATIC OPTIMISATION**

Sanjay Jain, Adarsh Mangal & Sangeeta  
INT. J. SWARM INTELLIGENCE, Volume 5(2), Year 2020, Pages 182-190

14. **A Heuristic Approach to Deduct the Redundant Constraints in Fractional Programming Model**

M L Agrawal, Sanjay Jain, Adarsh Mangal, Vijay Raj Singh Shekhawat  
Vigyan Prakash, Volume January-June, Year 2020, Pages 1-6

15. **A COMMENT ON S NAHAR & MD. ABDUL ALIM (2017) : A NEW STATISTICAL AVERAGING METHOD TO SOLVE MULTI-OBJECTIVE LINEAR PROGRAMMING PROBLEM**

Sanjay Jain & Adarsh Mangal

INTERNATIONAL JOURNAL OF SCIENCE & RESEARCH, Volume 9(5), Year 2020, Pages 573-576

16. **C-Approach of abs algorithm to solve linear fractional programming problem by converting it into single linear programming problem**

Sanjay Jain, Adarsh Mangal, Sangeeta

AryaBhatta Journal of Mathematics and Informatics, Volume , Year 2019, Pages

17. **Solution of Multi-objective Linear Programming Problem by Fourier – Motzkin Elimination Technique**

Sanjay Jain, Adarsh Mangal & Sangeeta

FIRMS's International Journal of Mathematical Science, Volume 1(1), Year 2019, Pages 9-15

18. **Modelling of Gauss Elimination Technique for Quadratic Optimization**

Sanjay Jain, Adarsh Mangal & Sangeeta

AMA\_A, Volume , Year 2019, Pages 31-34

19. **Inverse Optimization & Its Applications**

Sanjay Jain, Adarsh Mangal, Vijay Raj Singh Shekhawat & Nitin Arya

Vigyan Garima Sindhu, Volume 102, Year 2017, Pages

20. **Solution of an extended fractional programming problem with non-differentiable function**

Sanjay Jain, Adarsh Mangal

Research Journal of Mathematics and Statistical Science, Volume 4(6) July, Year 2016, Pages 1-5

21. **ABS Solution of Linear Programming Problems with Fuzzy Variables**

Adarsh Mangal & Saroj Sharma

Research Journal of Mathematical & Statistical Sciences, Volume 4(7), Year 2016, Pages 1-6

22. **Denominator Objective Restriction Method and ABS Algorithm to Solve Linear Fractional Programming Problems**

Adarsh Mangal & Saroj Sharma

Jornal of Computer & Mathematical Sciences, Volume 7(7), Year 2016, Pages 358-372

23. **A Textbook of Engineering Mathematics-III (CS/IT) (Second Edition)**

Adarsh Mangal, Anil Maheshwari & Shalini Walia

A Textbook of Engineering Mathematics-III (CS/IT), Volume , Year 2014, Pages 437

24. **A Textbook of Engineering Mathematics-III (EE/ECE) (Second Edition)**

Adarsh Mangal, Anil Maheshwari & Shalini Walia

A Textbook of Engineering Mathematics-III (EE/ECE), Volume , Year 2014, Pages 383

25. **A Textbook of Engineering Mathematics-II (Third Edition)**

Adarsh Mangal, Anil Maheshwari & Shalini Walia

A Textbook of Engineering Mathematics-II, Volume , Year 2013, Pages 390

26. **C-Approach of ABS Algorithm for Fractional Programming Problem**

Sanjay Jain, Adarsh Mangal, Saroj Sharma  
Journal of Computer and Mathematical Sciences, Volume , Year 2013, Pages

27. **ABS Methods to Solve Optimization Problems : A Review**

Adarsh Mangal & Saroj Sharma  
Research Journal of Mathematical & Statistical Sciences, Volume 1(2), Year 2013, Pages 19-21

28. **A Textbook of Quantitative Techniques for Management**

Adarsh Mangal & Ashu Sharma  
A Textbook of Quantitative Techniques for Management, Volume , Year 2011, Pages 431

29. **Solution of fuzzy linear fractional programming problem**

Sanjay Jain, Adarsh Mangal & P.R.Parihar  
OPSEARCH, Volume 48, Year 2011, Pages 129-135

30. **On Extended Fractional Programming Problem**

Adarsh Mangal, Pawan Kishore Tak & Praveen Deora  
International Journal of Operations Research & Optimization, Volume 2, Year 2011, Pages 279-284

31. **A Textbook of Engineering Mathematics-I**

Adarsh Mangal, Anil Maheshwari & Shalini Walia  
A Textbook of Engineering Mathematics-I, Volume , Year 2011, Pages 393

32. **A Textbook of Engineering Mathematics-III (CE/ME)**

Adarsh Mangal, Anil Maheshwari & Pawan Kishor Tak  
A Textbook of Engineering Mathematics-III (CE/ME), Volume , Year 2010, Pages 388

33. **A Textbook of Statistics & Probability Theory**

Sanjay Jain, Adarsh Mangal, Anil Maheshwari & Praveen Deora  
A Textbook of Statistics & Probability Theory, Volume , Year 2010, Pages 397

34. **A Textbook of Engineering Mathematics-IV**

Adarsh Mangal, Anil Maheshwari, Lalit Rankawat and Nitin Arya  
A Textbook of Engineering Mathematics-IV, Volume , Year 2009, Pages 350

35. **Applications for Statistical Tools in Behavioral Sciences : A Comparative Study**

Adarsh Mangal & Amit Sharma  
Business Research- An International Journal in Business, Volume July, Year 2009, Pages 1-13

36. **Modified Parametric Approach for Linear Plus Linear Fractional Programming Problem**

Sanjay Jain & Adarsh Mangal  
Journal of Computer & Mathematical Sciences, Volume 1(1)87-91, Year 2009, Pages

37. **Alternative Approach to Solve Linear Plus Linear Fractional Programming Problem**

Sanjay Jain, Adarsh Mangal & Sangeeta

International Journal of Mathematical Sciences and Engineering Applications, Volume 2, Year 2008, Pages 11-17

38. **A Communication Network with Erlangian Service Time and Random Phases of Service**

Adarsh Mangal & Uma Shankar Modani

International Journal of Mathematical Sciences and Engineering Applications, Volume 2, Year 2008, Pages 81-86

39. **Extended Gauss Elimination Technique for Integer Solution of Linear Fractional Programming Problem**

Sanjay Jain & Adarsh Mangal

Journal of Indian Mathematical Society, Volume 75, Year 2008, Pages 1-4

40. **Extended Modified Fourier Elimination Technique for Integer Solution of Fractional Programming Problem**

Sanjay Jain & Adarsh Mangal

Varahmihir Journal of Mathematical Science, Volume 8, Year 2008, Pages 179-186

41. **Solution of a multi-objective linear plus linear fractional programming problem containing non-differentiable term**

Sanjay Jain, Adarsh Mangal, P R Parihar

International Journal of Mathematical Sciences & Engineering Application, Volume , Year 2008, Pages

42. **Gauss elimination technique for fractional programming problem**

Sanjay Jain, Adarsh Mangal

Journal of Indian Society of Statistics and Operations Research, Volume , Year 2008, Pages

43. **On the Posynomial Linear Plus Linear Fractional Programming Problem**

Sanjay Jain, Adarsh Mangal & P.R.Parihar

The Mathematics Student, Volume 75, Year 2006, Pages 187-196

44. **Solution of Multi-objective Fractional Programming Problem**

Sanjay Jain & Adarsh Mangal

Journal of Indian Acad. Mathematics, Volume 28, Year 2006, Pages 133-141

45. **Linear plus linear fractional programming with non-differentiable function**

Sanjay Jain, Adarsh Mangal, P R Parihar

Journal of Combinatorics Information & System Sciences, Volume , Year 2005, Pages

46. **Programming with fractional type objective functions**

Sanjay Jain, Adarsh Mangal

Applied Science Periodical, Volume , Year 2004, Pages

47. **Modified Fourier Elimination Technique for Fractional Programming Problem**

Sanjay Jain & Adarsh Mangal

Acharya Nagarjuna International Journal of Mathematics and Information Technology, Volume 1(2), Year

2004, Pages 121-131

48. **Solution of a Generalized Fractional Programming Problem**

Sanjay Jain, Adarsh Mangal

J of Indian Academy of Mathematics , Volume , Year 2004, Pages

49. **Useful model in Fractional Programming**

Sanjay Jain, Adarsh Mangal

Applied Science Periodical, Volume , Year 2003, Pages

50. **Algorithm for Fractional Programming Problem with homogeneous constraints**

Sanjay Jain, Adarsh Mangal

Ganita Sandesh, Volume , Year 2003, Pages

51. **A Textbook of Business Mathematics**

Sanjay Jain & Adarsh Mangal

A Textbook of Business Mathematics, Volume , Pages