

August 2023 | Issue - II



NEWSLETTER

March 2023 - June 2023

DEPARTMENT OF MATHEMATICS

A white rectangular sign with blue text and two small circular logos is mounted on the glass entrance. The text reads 'DEPARTMENT OF MATHEMATICS AND HUMANITIES'. The sign is positioned above the main entrance doors.

DEPARTMENT
OF
MATHEMATICS AND HUMANITIES

Message from Head of the Department



Dear all,

I am pleased to release the second issue of our newsletter 2023. As we commemorate India's 77th Independence Day and honor the 202nd birthday of Arthur Cayley, we take this opportunity to reflect on the strides of the past four months. This newsletter is a tribute to our shared accomplishments, growth, and unyielding pursuit of knowledge.

Best Wishes
Dr. Jayesh M. Dhodiya

Message from Faculty Co-ordinator



Dear readers,

I am pleased to release this issue of the newsletter. Just like every previous issue, this one has also been laboriously produced, encompassing a wealth of diverse information.

I am glad to witness the numerous achievements of both our students and faculty members, which serve to enhance the reputation of our department in various ways. The concept of nurturing indigenous thoughts and ideas should guide our path forward. I hope that, in the future, our students and alumni will apply the creative thought processes they have cultivated during their time at SVNIT to make a significant difference by casting light in various directions.

Happy reading!
Dr. Saroj R. Yadav

About Department



Vision

To be a model for excellence in educational research in Mathematics and Humanities in order to meet the changing needs of society.

Mission

To become an exemplary Centre of Excellence for research and training in the Mathematical Sciences and Humanities by promoting learning, growth and development of young minds and finding solutions to scientific, technological and real-life problems.

In 2023, the Department of Mathematics received its current status. The Department was a part of Department of Mathematics & Humanities during 2021-23. Since 2009, it has been Applied Mathematics & Humanities, and before that, it was part of the Applied Sciences and Humanities Department. Through out these years, the department has evolved into one of the epicenters of research in India. Since 2007, the department has been offering its own 5 years Integrated M.Sc. Degree Program in Mathematics, in which students are enrolled through Joint Entrance Examination (JEE Mains). The department offers courses in Mathematics, English, and Management to undergraduate and postgraduate students in Engineering and other Science courses. A number of alumni from this department have attained prestigious positions in teaching and research in India and abroad.

The department has highly qualified faculty members including three Professors, three Associate Professors, and twelve Assistant Professors, who have extensive expertise in Fluid Mechanics, Special functions, Algebra, Integral Trans- forms, Approximation theory, Mathematical modeling, Magnetic fluid dynamics, Biomathematics, Data Mining, and Finite element modeling.

More than 283 students have enrolled in the department for Five Years Integrated M.Sc., and 87+ Ph.D. students are presently pursuing research. In total, 729+ papers have been published by the Department in the reputed SCI/SCIE and Scopus indexed journals. During the last five years, the department has published 117 H index papers and 109 i10 index papers. A total of INR 2,11,00,000/- worth of projects have been carried out by the department in the last five years funded by different agencies such as Department of Science and Technology (DST), NBHM, ISRO and GUJCOST. So far, the department has produced 97+ Ph.D. students specializing in Mathematics, Management, and English and the department has a good placement record as well.

Achievements

Prof. V.H. Pradhan

- Member of Advisory board of 2nd International (4th National) Conference on Recent Trends in Advanced Sciences and Computing Engineering 2023 (RTASCE-23) organized by the Bhopal campus of the Vellore Institute of Technology, VIT University, Bhopal, Madhya Pradesh, India during 10th March to 12th March, 2023.
- Expert member of the selection committee for faculty positions in Applied Mathematics at M.S. University of Baroda for A.Y. 2023-24.

Dr. Ranjan Kumar jana

- Inducted as a member of Board of Studies in Mathematics at Woxsen University, Hyderabad.

Aaishwarya Bajaj

- Aaishwarya Bajaj has won Best Paper Presentation Award for the paper "Solution of Multi-Objective Travelling Salesman Problem with Carbon Emission by Aspiration Level based Multi-Objective Quasi Oppositional Jaya Algorithm" presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organised by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Harini Mandapaka

- Harini Mandapaka received a cash prize for her performance in Madhava Mathematics Competition 2023.

DAAD Fellow 2023



Priyanshi Chandra
119MA012

Think Swiss 2023



Suryam Vivek Gupta
119MA038

SRFP Fellows



Rajarapu Mahesh
I20MA002



Shruti Shah
I20MA003



Tarang Pansuriya
I20MA005



Dharmik Patel
I20MA020



Jatin Dhanani
I20MA022

Ph.D. Entrants Autumn Semester A.Y. 2023-24



DEPARTMENT OF MATHEMATICS

Congratulations on being selected for our doctoral program!

 <p>THACKER SONIYA LAXMIDAS</p>	 <p>DAVE PINAKIN MAHENDRABHAI</p>	 <p>GAOJI SHUBHAM YADAORAO</p>	 <p>PATEL UTSAV KUMAR</p>	 <p>BAPOLIYA HARTIKKUMAR</p>	 <p>ANIL MAURYA</p>
 <p>PREETI PANT</p>	 <p>JOSHI NIKUNJ KIRITBHAI</p>	 <p>CHAUDHARY NIKITABEN</p>	 <p>MS. RAKHI YADAV</p>	 <p>ZAPADIYA NILESHKUMAR BHARATBHAI</p>	 <p>RUCHIBEN HITESHBHAI GAJJAR</p>

Message from HoD

We are thrilled to have you join our department and contribute to the academic community. Your expertise and dedication will undoubtedly enrich our research endeavors and inspire fellow students.

Being part of our department will provide you with valuable networking opportunities, a supportive and collaborative environment, and access to cutting-edge resources that will support your academic growth. We believe that your research endeavors will contribute significantly to the betterment of humanity. Together, let us strive to create a bright and more sustainable future for generations to come.

Dr. Jayesh M. Dhodiya
Head, DoM

Expert Lectures delivered

Prof. A. K. Shukla

- Delivered a talk on "Laguerre Transforms in two variables and Applications" in National Conference on Special Functions and Allied Areas ,organized by Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, Gujarat, India during 17th March to 18th March, 2023

Prof. V.H. Pradhan

- Delivered Expert talk on "Numerical Simulation of Advection Dispersion Equation(ADE) in "4th Prof. P. C. Vaidya International Conference on Mathematical Sciences" at Veer Narmad South Gujarat University, Surat, Gujarat during 04th March to 05th March, 2023.
- Delivered Expert talk in ONLINE mode in 2nd International (4th National) Conference on Recent Trends in Advanced Sciences and Computing Engineering 2023 (RTASCE-23) organized by the Bhopal campus of the Vellore Institute of Technology, VIT University, Bhopal, Madhya Pradesh, India during 10th March to 12th March, 2023.

Dr. Hemantkumar P. Bulsara

- Delivered a Keynote Speech on "Techno-innovation to Techno-entrepreneurship: Issues and Challenges" in the 48th MADRID International Conference on "Futuristic Trends in Science, Engineering & Technology" (DFSET-23), during 11th April to 13th April, 2023 Madrid (Spain), organized by Engineering & Technology Research Group under Dignified Researchers Publication (DiRPUB), operating under PILARES D'ELEGANCIA LDA (Portugal)
- Delivered a Keynote Speech on "Commercialization of Technology Innovations: Issues and Challenges" in the 34th ISTANBUL International Conference on Advances in Science, Engineering & Technology" (IASSET-23) during 22nd May to 24th May, 2023 Istanbul, Turkey, organized by Eminent Association of Researchers in Engineering & Technology (EARET) under Eminent Association of Pioneers (EAP) Eminent Association of Pioneers (EAP), operating under PILARES D'ELEGANCIA LDA (Portugal).
- Delivered an expert session on "Techno-innovation to Techno-entrepreneurship: Issues and Challenges" in the Short Term Training Program (STTP) titled "Design Thinking for Entrepreneurship" during 17th July to 21st July, 2023, organized by the Association of Harnessing Innovation and Entrepreneurship (ASHINE) and Sardar Vallabhbhai National Institute of Technology, Surat (SVNIT).

Dr. Sushil Kumar

- Delivered an invited talk on 'Numerical solution of variable-order space-time fractional diffusion equation using space-time pseudospectral method' in a one-week online national workshop on Mathematical Modelling with Simulations in Applied Sciences (MMWSAS) during 22nd May to 26th May, 2023 at Department of Mathematics, Central University of Haryana.
- Delivered an invited contributory talk on "Thermal Damage Analysis in Skin Tissue using Space-Time Fractional Single-phase-lag and Dual-phase-lag Heat Transfer Model" in National Conference on Differential Equations (NCDE-2023) during 17th March to 19th March, 2023 at IIT Patna.
- Delivered keynote speech on "Computational study on 2D space-time fractional single-phase-lag bioheat model using RBF and Chebyshev polynomial based space-time collocation method" in 5th International Conference on Recent Trends in Science and Technology (ICRTST-2023) organized by MS Trust Greater Noida, during 4th March to 5th March, 2023.

Dr. Jayesh M. Dhodiya

- Operations Research Based Multi-objective Mathematical Models and their solutions by Evolutionary Algorithms at VIT Bhopal, Madhya Pradesh, India in International conference on 8th June, 2023.
- "Aligning classroom teaching with learning objectives and outcomes " in Faculty Development Program at J H Ambani High School at Vesu, Surat, Gujarat, India on 28th March, 2023.
- "Fuzzy Multi-objective Optimization Problem and their solutions by computational method with aspiration level at Gujarat University in National Conferences "Aarye 2023 on 25th March, 2023.
- "Uncertain real problems and their solutions by Mathematical and Simulation modelling" in one day National workshop at Navyug Science College Surat on 15th March, 2023.

Dr. Twinkle R. Singh

- Fundamentals of Fluid and Applications in the Five Day FDP on Mathematical Modelling in Solid and Fluid Dynamics at School of Advance Science, VIT University, Chennai on 27th June, 2023.
- Detection of Diabetes Model in the Five Day FDP on Mathematical Modelling in Solid and Fluid Dynamics at School of Advance Science, VIT University, Chennai on 28th June, 2023.

Dr. Ranjan Kumar Jana

- Delivered a Motivational and Interactive Talk for Higher Secondary students at Pataspur Haro-Charan Vidyapith on 25th March, 2023 as per Social Science Responsibility.
- Delivered an invited talk on "Inequalities Associated with Special Functions" at International Training / Workshop on Computing Special Functions and Their Applications organized by MathTech Thinking Foundation in collaboration with SVNIT, Surat and other Institutes during 24th May to 30th May, 2023.

Placement Statistics (March 2023 – June 2023)



Ankit Jaiswal
PP Savani



Aditya Desai
PP Savani



Ayushi Gupta
PP Savani



Mitkumar Patel
TCS Digital



Ankit Birla
KGK Groups



Sanath Thumma
Infinity Academy



Chetla Bhaskar
ESAF Small Finance Bank



Vamshi Angidi
ESAF Small Finance Bank



Jekki Aswini
ESAF Small Finance Bank



Manoj P.
Allen Overseas



Kattamuri Rohit Gupta
Allen Overseas

Departmental Activities

3rd International Conference on Mathematical Modelling and Simulation in Physical Sciences (MMSPS-2023)

The 3rd International Conference on “Mathematical Modelling and Simulation in Physical Sciences” (MMSPS-2023) was organized by Prof. V. H. Pradhan, Dr. Jayesh M. Dhodiya, Dr. Saroj R. Yadav and Dr. Sourav Gupta of Department of Mathematics and Dr. Yogesh M. Sonvane of Department of Physics in SVNIT during 23rd June to 24th June, 2023. In this conference, academicians, technocrats and researchers got an opportunity to interact with eminent persons in the fields of Mathematics, Physics and allied subjects. The topics covered in this International Conference were comprehensive and will be adequate for developing and understanding about new developments and emerging trends in this area. The technical program of the program was rich varied with 1 keynote address, 3 plenary talks, 2 invited talks and 12 parallel sessions for the researchers to present their research articles in online mode. Around hundreds of research articles were presented by the participants in the conference. An interactive session on “Research Trends and Challenges” between the participants and International researchers was arranged as well. The interaction between the participants and the experts with lots of experience and knowledge, will be fruitful for faculty and students. The presence of eminent mathematicians, national and international, at a single platform will help in forming networks to facilitate solving inter-disciplinary research problems. The proceeding of the conference will be of immense use to the participants and other researchers working in the fields of Mathematical Modelling and Simulation.



Short Term Training Program on “Data Science and Statistical Analysis through R and Python”

The program was organized by Dr. Jayesh M. Dhodiya, Dr. Raj Kamal Maurya, and Dr. Sourav Gupta, Department of Mathematics. The objective of program is to provide participants with in-depth knowledge and understanding of the concept of data analysis. To promote collaboration and knowledge sharing among participants from diverse backgrounds. To facilitate networking opportunities with experts and professionals in the field. The Short-Term Training Program (STTP) was a valuable learning experience for all participants. It successfully achieved its objectives of imparting knowledge, enhancing skills, and fostering collaborations. The program’s well-structured curriculum, experienced speakers, and interactive sessions contributed to its effectiveness. The STTP left a lasting impact on the participants, equipping them with the necessary tools and knowledge to excel in their professional endeavors. The STTP attracted 66 participants from various academic institutions, industries, and research organizations. Dr. Suneel B. Chatla and Dr. Tanmay Sen conducted lectures for 4 and 6 hours, respectively on respective topics. Dr. Chandrakant Lodhi and Mr. Vaibhav Shakya conducted technical sessions for 4 and 6 hours, respectively on assigned topics.



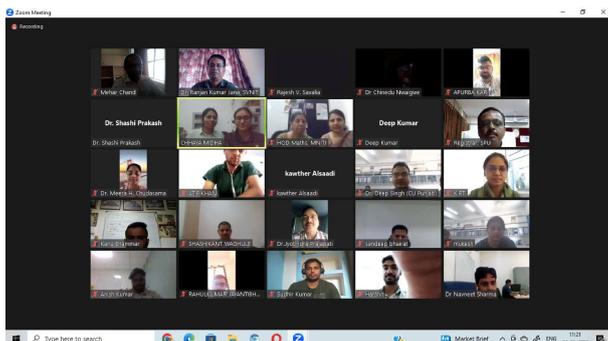
International Conference on Recent Trends in Engineering and Sciences (RTES-2023)

"International Conference on Recent Trends in Engineering and Sciences (RTES'2023)" held at Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat during 2nd May to 03rd May, 2023. Dr. Shailesh Kumar Srivastava and Dr. Amit Sharma from Department of Mathematics were part of the Organizing Committee. The conference was hosted by Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat, during 2nd May to 03rd May, 2023. Conducted exclusively in the Hindi language, the conference provided a platform for global researchers to exchange their latest work and ideas in the fields of Science and Engineering. A total of 183 abstracts were submitted, indicating significant interest. After rigorous review, 118 abstracts were selected for presentation across four parallel sessions, ensuring comprehensive coverage of various topics. Some selected papers presented at the conference are currently under consideration for possible publication in the journal "Vigyan Prakash, a peer-reviewed research focused journal of science and technology.



International Workshop on Computational Special Functions and Their Applications

International Workshop on Computational Special Functions and Their Applications organized by MathTech Thinking Foundation virtually during 24th May to 30th May, 2023. Prof. A.K. Shukla (General Chair) and Dr. Ranjan Kumar Jana (Convener) from Department of Mathematics are part of the organizing committee. As part of the workshop, total 9 fruitful sessions have been organized which mostly focussed on contents Gamma Functions, Beta Functions, Error Functions, Other Special Functions, and Extended and Generalized Special Function. The experts were from various institutes globally. Dr. Prashantkumar G. Patel, Dr. Harendra Singh, Prof. Jyotindra C Prajapati, Dr. Avinita Gautam, Dr. Ranjan Kumar Jana, Dr. Mehar Chand, Prof. Mohammad Sajid, and Dr. Vishwesh A. Vyawahare. The sessions were successful and participants enjoyed and gained insights in field of Special Functions.



International Day of Mathematics 2023

The Department of Mathematics and Humanities, SVNIT Surat has celebrated the International Day of Mathematics 2023 on 14th March, 2023, which is proclaimed by UNESCO in 2020. The programme started at 10:30 by Ms. Kruti Tamakuwala. Dr. Jayesh M. Dhodiya, head of the department, addressed the gathering regarding the latest initiatives of the department in recent months.

Following the speech, AMAThing 4.0 was released by Dr. Jayesh M. Dhodiya, the Head of the Department, along with the Professors. The programme further moved on with the speeches of Prof. A. K. Shukla, in which Prof. Shukla urged students to focus on the foundations of mathematics, followed by Prof. V. H. Pradhan, in which Prof. Pradhan motivated students to pursue quality research in mathematics. Prof. Neeru Adlakha has delivered a speech on the beauty of mathematics.

Mr. Pavan Patel, a doctoral student at DoMH, has delivered a speech entitled " π day." Following the speech, Newsletter 2023 Issue 1 was released by Dr. Jayesh M. Dhodiya, the Head of the Department, along with the Professors. The programme was concluded by a vote of thanks given by Ms. Aishwarya Bajaj.

The first edition of newsletter 2023 is released by Dr. Jayesh M. Dhodiya, Head, Dr. Saroj R. Yadav, Faculty Coordinator, Dr. Syeda Beenish Naqvi and the team. Technical events started at 14:00. The following events were conducted: Fish in the Bowl, Telephone, and Pictography.



Interaction with Dr. Madhu Jain

The Department of Mathematics has organised an interaction talk with Prof. Madhu Jain, Professor, Department of Mathematics, Indian Institute of Technology Roorkee, on 17th March, 2023.

The session started with Dr. Jayesh M. Dhodiya, Head of the Department, inviting Prof. Jain, following which a bouquet was delivered by him. Dr. Dhodiya has briefed about the history, students, and recent achievements of the department.



The session was then handed over to Prof. Jain, who interacted with the doctoral students. She urged the students to perform societal-oriented research, which will help in uplifting the lower sections of society. Further, Prof. Jain has briefed about the Department of Mathematics at IIT Roorkee as well as the visiting places in and around Roorkee.

After her talk, she enlightened students by resolving their queries. The session has ended with a vote of thanks delivered by Dr. Jayesh M. Dhodiya, followed by a high tea.

Award Ceremony 2023

The Department of Mathematics has organised the Award Ceremony 2023 on 20th April, 2023. The award ceremony 2023 was organised to hand over medals and certificates from various events and competitions that took place during the academic year 2022–23. The programme started at 12:30 with the anchors, Ms. Samiksha Mahajan and Ms. Ekata Jain. Dr. Jayesh M. Dhodiya, the Head of the Department, addressed the gathering regarding the various activities, events, and programmes that took place during the entire academic year.

The Head has congratulated all the winners and runners of the programme and motivated the gathering to work on real-world mathematical problems that could help in social development.

Further, Ms. Aaishwarya Bajaj, a doctoral student at DoM, has delivered a speech entitled "An Overview of Ph.D. Events during the A.Y. 2022–23." Following which, the awards and certificates for various Ph.D. events were distributed. Towards the end, certificates were distributed for NET and GATE speakers. The programme was concluded by a vote of thanks delivered by Ms. Ekata Jain.



Further, Prof. A. K. Shukla, Prof. V. H. Pradhan, and Prof. Neeru Adlakha have delivered small motivating talks for students about the importance of extracurricular activities in academic life. Mr. Sai Charan Gannamaneni, a master's student at DoM, has delivered a speech titled "An Overview of M.Sc. Events during the A.Y. 2022–23." Following which, the awards and certificates for various M.Sc. Events were distributed. Further, Ms. Aaishwarya Bajaj, a doctoral student at DoM, has delivered a speech entitled "An Overview of Ph.D. Events during the A.Y. 2022–23." Following which, the awards and certificates for various Ph.D. events were distributed. Moving further, certificates were distributed for NET and GATE speakers. The programme was concluded by a vote of thanks delivered by Ms. Ekata Jain.



Final Year Program

The Department of Mathematics organized the final year program on 19th May, 2023. The program was organized to reminisce the journey of class of 2023. The program was started at 12:30 by Ms. Aaishwarya Bajaj. Dr. Jayesh M. Dhodiya, the Head of the Department, welcomed the students and faculty members. Prof. A.K. Shukla and Prof. V.H. Pradhan congratulated the students and gave some useful tips in their future endeavors. Dr. Urvashi Kaushal and Dr. Ranjan Kumar Jana addressed the students and talked regarding their journey in the institute and department, and gave some insights in their careers. Few final year students have shared their memories of the Department of Mathematics.

At 13:00, a buffet was arranged in the Ramanujan Foyer for the students, teaching and non-teaching staff. Then a photo session was arranged for the students and faculty members. At 14:00, games were arranged for the final year students organized by Dr. Twinkle R. Singh, Dr. Saroj R. Yadav, and Dr. Sudeep Singh Sanga. The program ended with a vote of thanks delivered by Dr. Jayesh M. Dhodiya followed by high tea.



Publications

Farhatbanu H. Patel , R. K. Jana , A. K. Shukla (2023): Note on Extended Generalized Bessel Function, Palestine Journal of Mathematics, 12(1), pp. 222–230.

Farhatbanu H. Patel , R. K. Jana , A. K. Shukla : Some Statistical properties of Extended Generalized Bessel function , Palestine Journal of Mathematics 12(1), pp. 600–607 (2023).

Yogesh M.Thakkar and A. K. Shukla; Generating functions for pRq Polynomials, 2021 Int.J App & Comp Math. 9:31, <https://doi.org/10.1007/s40819-023-01510-w> (2023)(Springer)

Ankit Pal, Vinod Kumar Jatav and A. K. Shukla: Matrix analogue of the four-parameter Mittag-Leffler function ,Mathematical Methods in Applied Science , 1–13. DOI 10.1002/mma.9363 (2023)

Mishra V., Adlakha N. Numerical simulation of calcium dynamics dependent ATP degradation, IP3 and NADH production due to obesity in a hepatocyte cell. J Biol Phys (2023). <https://doi.org/10.1007/s10867-023-09639-x>.

Ankit Kothiya and Neeru Adlakha, Simulation of biochemical dynamics of Ca²⁺ and PLC in fibroblast cell. Bioenergetics and Biomembranes (SCI Q2) (2023).

Bulsara H. P., & Trivedi, M. Exploring the role of availability and willingness to pay premium in influencing smart city customers' purchase intention for green food products. Ecology of Food and Nutrition, 1 – 23 (2023). (Scopus – Q2, SCI, I.F: 2.5)

Bagdi H., Bulsara H. P., Sankar D., & Sharma L. The transition from traditional to digital: factors that propel Generation Z's adoption of online learning. International Journal of Educational Management, 37(3), 695–717 (2023) (Scopus – Q2, ABDC – B, ESCI, I.F: 3.5)

Trivedi M., Bulsara H. P., & Shukla Y. Why millennials of smart city are willing to pay premium for toxic-free food products: social media perspective. British Food Journal. Scopus – Q1, ABDC – B, SCI (2023) (IF – 5.4)

Bulsara H. P., & Vaghela P. S. Trust and online purchase intention: a systematic literature review through meta-analysis. International Journal of Electronic Business, 18(2), 148–164 (2023). (SCOPUS indexed)

Rohit Verma, Sushil Kumar, Computational study on 2D three-phase lag bioheat model during cryosurgery using RBF meshfree method. Journal of Thermal Biology, 114 (2023) 103575 DOI: <https://doi.org/10.1016/j.jtherbio.2023.103575>

Yogeshwari F. Patel and Jayesh M. Dhodiya "A semi-analytic approach to study propagation and amplification of tsunami waves in mid-ocean and their run-up on shore" Non-linear dynamics Springer <https://doi.org/10.1007/s11071-023-08550-3>

V. J. Prajapati, R. Meher. "An Analytical Investigation of Time-Fractional Sharma-Tasso-Olevers Equation Arising in Physical Sciences", IEEE Xplore (2023). DOI:10.1109/ICFDA58234.2023.10153187

Verma L, Meher R. Analytical approach for time-fractional Sharma-Tasso-Olevers equation with non-singular kernel. In 2023 International Conference on Fractional Differentiation and Its Applications (ICFDA) 2023 Mar 14 (pp. 1-6). IEEE.

Sachin Devaiya, Shailesh Kumar Srivastava, "Degree of Approximation of Functions, Conjugates to the Functions Belonging to Lip $((\xi_1, \xi_2); p)$ -Class Through Double Matrix Means," National Academy Science Letters, DOI: <https://doi.org/10.1007/s40009-023-01272-5>

Conference Presentations

Mahajan, S., Shukla, A. K., Some generalizations of Laguerre polynomials presented in National Conference on Special Functions and Allied Areas organized by Sardar Patel University, Anand, Gujarat during 17th March to 18th March, 2023

Mansi S. Palav, Vikas H. Pradhan and Sanjay L. Gosiya, Numerical solutions to one dimensional advection-dispersion equation by a uniform hyperbolic polynomial B-spline finite element method presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organised by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Mansi S. Palav, Vikas H. Pradhan and Sanjay L. Gosiya, Numerical solution of Burgers' equation using fourth order uniform hyperbolic polynomial B-spline based Collocation method presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organised by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Sanjay L. Gosiya, Vikas H. Pradhan and Mansi S. Palav, A generalized Crank-Nicolson numerical scheme for generalized Burgers' equation for unsteady unsaturated flow in porous medium presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organized by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Sanjay L. Gosiya, Vikas H. Pradhan and Mansi S. Palav, Numerical solution of non-linear Boussinesq equation by Crank-Nicolson finite difference method presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organized by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Dhruvi Nakrani and Jayesh M. Dhodiya, "Solution of Multi-Objective Assignment Problem by Multi-Objective Quasi Oppositional Jaya Algorithm" presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organised by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Dhruvi Nakrani and Jayesh M. Dhodiya, "Multi-Objective Quasi Oppositional Jaya Algorithm to solve Multi-objective Vehicle Routing Problem with Carbon Emission" presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organised by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Ekata Jain, Jayesh M. Dhodiya, Solution of Fuzzy Multi-objective Solid Transportation Problem with Volume Discount by Jaya Algorithm presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organised by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Ekata Jain, Jayesh M. Dhodiya, Solution of Fuzzy Fixed Charged Multi-objective Solid Transportation Problem with Volume Discount by Jaya Algorithm presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organised by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Aaishwarya Bajaj, Jayesh Dhodiya, "Multi-Objective Solid Travelling Salesman Problem solved by Aspiration Level based Multi-Objective Quasi Oppositional Jaya algorithm" presented in P.C. Vaidya International Conference on Mathematical Science" organised by VNSU, Surat, on 4th March, 2023.

Aaishwarya Bajaj, Jayesh Dhodiya, "Aspiration Level based Multi-Objective Quasi Oppositional Jaya Algorithm to solve Multi-Objective Solid Travelling Salesman Problem with Carbon Emission" presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organised by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Aaishwarya Bajaj, Jayesh Dhodiya, "Solution of Multi-Objective Travelling Salesman Problem with Carbon Emission by Aspiration Level based Multi-Objective Quasi Oppositional Jaya Algorithm" presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organised by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Aniket Todkar, Jayesh Dhodiya, Solution of multi-objective shortest path problem using genetic algorithm variants presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organized by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Aniket Todkar, Jayesh Dhodiya, Genetic algorithm variants for solving multi-objective interval shortest path problem presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organized by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023.

Hardik S. Radadiya and Jayesh M. Dhodiya, Evolutionary approach to solve Multi-Objective Transportation problems presented in 4th P.C. Vaidya International Conference 2023 at Department of Mathematics at VNSGU Surat, during 4th March to 5th March, 2023.

Hardik S. Radadiya and Jayesh M. Dhodiya, Grid Algorithm Based Solution of Fuzzy Multi-objective Transportation problem with triangular fuzzy numbers presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organized by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023

Hardik S. Radadiya and Jayesh M. Dhodiya, Grid Algorithm Based Solution of Fuzzy Multi-Objective Transportation Problem with trapezoidal fuzzy numbers presented in 3rd International Conference on "Mathematical Modelling and Simulation in Physical Science (MMSPS-2023)" organized by SVNIT, Surat, Online Mode during 23rd June to 24th June, 2023

R.K. Meena and S. Kumar, Semi Analytical Solutions of the Multi-dimensional Time Fractional Korteweg-de Vries Equation using RPS Method, ICECP23, IIT Mandi-Himachal Pradesh during 15th June to 17th June, 2023.

Jyoti Yadav and Twinkle R. Singh, "Comparative study of two novel analytical methods to time-fractional coupled Boussinesq-Burger equation"; presented in "International conference on differential equations and control problems"; organized by IIT-Mandi, Himachal Pradesh during 15th June to 17th June, 2023.

Bhavin Rachhadiya and Twinkle Singh, Hermite-Hadamard inequality for harmonically convex function using $\mathcal{J}_{\eta, \rho}^{\gamma}$ -quantum integral, National Conference on Special Functions and Allied Areas, Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, Gujarat, India. during 17th March to 18th March, 2023.

V. J. Prajapati, R. Meher. "An Analytical Investigation of Time-Fractional Sharma-Tasso-Oleiver Equation Arising in Physical Sciences" presented in the International Conference on Fractional Differentiation and its Applications (ICFDA 2023), sponsored by Ajman University and IEEE Computer Society held at Ajman University, Ajman UAE, 14th March to 16th March, 2023.

Sachin Devaiya, Shailesh Kumar Srivastava, "Error of approximation (estimation) of signals (functions) belonging to class using ρ -means for hump matrices, presented in International Conference on Recent Trends in Engineering and Sciences (RTES -2023), organized by SVNIT Surat, during 02nd May to 03rd May, 2023.

Saubhagya Tripathi and Amit Sharma, "Some Results on Inverse Euler Phi Function" was presented at the conference "International Conference on Recent Trends in Engineering and Sciences (RTES'2023)" hosted at Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat during 02nd May to 03rd May, 2023.

Pavan Patel, Saroj R. Yadav, Artificial Intelligence in enhanced oil recovery (EOR) processing: A review, Presented in 3rd international conference on Mathematical Modeling and Simulation in Physical Science Organized by Department of mathematics and physics, Svnit Surat during 23rd June to 24th June, 2023.

Tapas Mal and Sourav Gupta, Analyzing the effect of different modes of vibrations of a thin submerged elastic disc on wave propagation, Mathematical Modelling and Simulation in Physical Sciences, SVNIT, Surat, during 23rd June to 24th June, 2023.

Harshad Sakariya, Numerical study of the 2-dimensional Benjamin-Bona-Mahony equation on Irregular domains using RBF presented in International Conference on Recent Advances in Mathematics and its Applications in Interdisciplinary Areas (RAMAIA-2023) organized by Sridev Suman Uttarakhand University, Uttarakhand on 13th May, 2023.

Harshad Sakariya, Study on the fractional Tsunami wave Propagation using RBF presented in International Conference on Differential Equations and Control Problems (ICDECP23) organized by IIT, Mandi, Himachal Pradesh during 15th to 17th June, 2023.

Sahu Nagesh, "Fluid flow through porous Medium including dynamic capillary pressure: a review with mathematical aspects ", presented in International Conference on Mathematical Modelling and Simulation in Physical Sciences (MMSPS-2023) ONLINE MODE, during 23rd June to 24th June, 2023.

L. Verma, Analytical approach for time-fractional Sharma-Tasso-Olver equation with non-singular kernel. THE INTERNATIONAL CONFERENCE ON FRACTIONAL DIFFERENTIATION AND ITS APPLICATIONS (ICFDA 2023), Ajman University, UAE.

Vijaykumar Panchal, Performance Modelling of M/M/1/K Retrial Queue Model under N-Policy presented at International Mathematics and Statistics Student Research Symposium (IMSSRS 2023), Online Mode, African Mathematical Union and the National Science Foundation on 15th April, 2023.

Khusbhu Antala, Admission control for machine repair problem with single unreliable repairman presented at International Mathematics and Statistics Student Research Symposium (IMSSRS 2023), Online Mode, African Mathematical Union and the National Science Foundation on 15th April, 2023.

Khusbhu Antala, Performance analysis and cost optimization for M/M/1/K unreliable server queueing model with balking and F-policy using GA presented at International Conference on Modeling, Simulation and Optimization of Energy Systems (MSOES-2023), Online Mode, Canadian University of Dubai, UAE in collaboration with AEU, Ai Ain, UAE and NIT- JALANDHAR during 17th June to 18th June, 2023.

Book Chapter -Publications

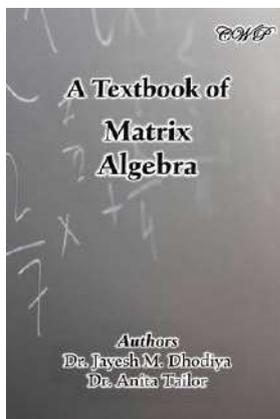
Bajaj A.S., Dhodiya J. M. "Solution of Fuzzy Multi-objective Traveling Salesman Problem by Multi-objective Quasi Oppositional Jaya Algorithm" In: Venkata Rao, R., Taler, J. (eds) Advanced Engineering Optimization Through Intelligent Techniques. Lecture Notes in Mechanical Engineering. Springer, Singapore, pp: 219-233. https://doi.org/10.1007/978-981-19-9285-8_22

Kakran V.Y., Dhodiya J. M. "A Belief-Degree-Based Environment for Multi-objective Capacitated Transportation Problem" In: Venkata Rao, R., Taler, J. (eds) Advanced Engineering Optimization Through Intelligent Techniques. Lecture Notes in Mechanical Engineering. Springer, Singapore, pp: 481-490. https://doi.org/10.1007/978-981-19-9285-8_46

V. J. Prajapati, R. Meher."Some invariant solutions of (3+1)-dimensional Zakharov-Kuznetsov-Burgers equation", Advanced Analytical and Numerical Methods with their Applications to Industrial Problems, Central West Publishing, Australia.

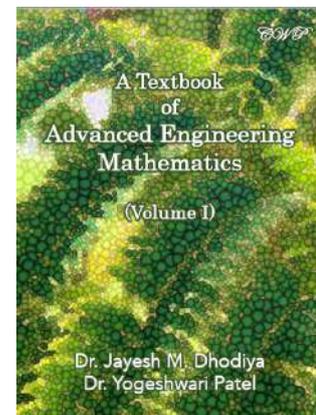
Haresh jani and Twinkle singh, Aboodh Transform Homotopy Perturbation Method for Solving Newell-Whitehead-Segel Equation, Computational and Analytic Methods in Biological Sciences.

Book



Dr. Jayesh M. Dhodiya, Dr. Anita Tailor published book "A Textbook on Matrix Algebra" which is published with leading international publisher "Central West Publishing" from Australia (ISBN: 781922617385).

Dr. Jayesh M Dhodiya, Dr. Yogeshwari Patel published book "A Text Book of Advanced Engineering Mathematics, Volume (I)" which is published with leading international publisher "Central West Publishing" from Australia (ISBN: 781922617507).



Newsletter Team



Dr. Jayesh M Dhodiya



Dr. Saroj R. Yadav



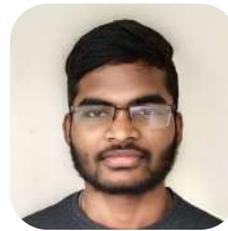
Dr. Syeda B. S. Mansur



Sai Charan
Gannamaneni



Mahesh
Rajarapu



Venkata Subbaiah
Yerrapati



Ekata Jain



Theophilus Gera



Ramesh
Vankudothu



Gadariya Priya



Vaghasiya Jansi
Sureshbhai



Panchal Vidhi
Vimalkumar



Pitaliya Bhavya
Rakeshkumar



Shrusti Gaurang
Upadhyay



Department of Mathematics

Sardar Vallabhbhai National Institute of Technology
Surat-7, Gujarat, India



Ph. No: +91 261 2201542

Email Id: hod@amhd.svnit.ac.in

https://www.svnit.ac.in/web/department/applied_math/applied_math_dept.php