



**Centre/School/Special Centre:** Mathematics & Computational Science

**Department:** Mathematics

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**Personal Webpage Link:** NA

**Qualifications:** B. Sc., M. Sc. (Maths.), JRF-NET, GATE, Ph.D. (BHU)

**Area of Interest/Specialization:** Numerical Analysis, Numerical Functional Analysis

#### Experience:

- (1) Assistant Professor (Deptt. of Maths., MANIT, Bhopal) June 2010 to December 2018.
- (2) Assistant Professor Grade-I (Deptt. of Maths., MANIT, Bhopal) December 2018 to June 2020.
- (3) Guest Faculty, Indian Institute of Information Technology, Bhopal from July 2018 to June 2019.
- (4) Associate Professor (Deptt. of Maths., GGV, Bilaspur) June 2020 to till date.

#### Awards and Honors

- (1) UGC, Research Fellowship, 2007-2009.
- (2) UGC-J.R.F.(NET) Fellowship, 2009-2010.
- (3) DST- International Travel Support, 2012.
- (4) UGC-International Travel Grant, 2014.
- (5) DST- International Travel Support, 2015.
- (6) SERB-Young Scientist, 2016.

#### Research Projects

- (1) INR 1,55,316/- for attending international conference held in Poland supported by Science and Engineering Board, Department of Science and Technology, New Delhi, India in 2012.
- (2) INR 1,53,368/- for attending international conference held in Turkey supported by University Grant Commission, New Delhi, India in 2014.
- (3) INR 1,26,148/- for attending international conference held in Greece supported by Science and Engineering Board, Department of Science and Technology, New Delhi, India 2015.
- (4) INR 4,75,400/- for research project entitled “Investigation of necessary and sufficient condition for the Riemannian map to be harmonic map” supported by National Board for Higher Mathematics, Department of Atomic Energy, Mumbai, India in 2013-15 (completed).
- (5) INR 15,00,950/- for research project entitled “Semilocal Convergence Analysis of Iterative Methods in Banach Spaces and its generalized computational efficiency” by Science and Engineering Research Board, New Delhi, India 2016-19 (completed).

#### International Collaboration/Consultancy

1. Alicia Cordero, Instituto Universitario de Matemática Multidisciplinar, Universitat Politècnica de València, Cno. de Vera s/n, 46022 Valencia Spain.
2. Juan R. Torregrosa, Instituto Universitario de Matemática Multidisciplinar, Universitat Politècnica de València, Cno. de Vera s/n, 46022 Valencia Spain.
3. Zhang Yong, School of Mathematics and Physics, Changzhou University, Changzhou 213164, China.

4. Ioannis K. Argyros, Department of Mathematical Sciences, Cameron University, Lawton, OK 73505, USA.
5. Christopher Argyros, Department of Computer Science, University of Oklahoma, Norman, OK 73071, USA.
6. M. T. Darvishi, Department of Mathematics, Faculty of Science, Razi University, Kermanshah 67149, Iran.
7. R. H. AL-Obaidi, Medical Physics Department, Al-Mustaqbal University College, Babylon, Iraq.

#### Best Peer Reviewed Publication (up-to 10 latest)

- (1) M.T. Darvishi, R.H. Al-obaidi, Akanksha Saxena, **J. P. Jaiswal**, K. R. Pardasani: An extension on the local convergence for the multi-step seventh order method with  $\psi$ -continuity condition in Banach Spaces, *Fractal and Fractional*, 6, 713 (2022). (SCIE indexing & Impact factor 3.396)
- (2) Akanksha Saxena, **J. P. Jaiswal**, K. R. Pardasani, I. K. Argyros: Convergence Criteria of Three Step Scheme under generalized Lipschitz Condition in Banach Spaces, *Mathematics*, 10, 3946 (2022). (SCIE indexing & Impact factor 2.592)
- (3) Akanksha Saxena, **J. P. Jaiswal**, K. R. Pardasani: Broadening the convergence domain of Seventh-order method satisfying Lipschitz and Holder conditions, *Results in Nonlinear Analysis*, 5(4), 473-486 (2022). (Scopus indexing)
- (4) Neha Gupta, **J. P. Jaiswal**: Ball Convergence of modified Homeier method in Banach spaces under weak continuity condition, *The Journal of Indian Mathematical Society*, 89 (3-4), 305–316 (2022). (Scopus indexing)
- (5) Neha Choubey, **J. P. Jaiswal**, Abhishek Choubey: Family of multi-point with memory methods for solving nonlinear equations, *Int. J. Appl. Comput. Math.*, 8, 83-98 (2022). (Scopus indexing)
- (6) J. P. Jaiswal: Existence and Uniqueness theorems for a three-step Newton type method under  $L$ -average conditions, *Journal of Nonlinear Modeling and Analysis*, 4(4), 650-657 (2022). (Scopus indexing)
- (7) I. K. Argyros, **J. P. Jaiswal**, Akanksha Saxena, Michael Argyros: On the semi-local convergence of a Noor-Waseem-like method for nonlinear equations, *Foundations*, 2, 512-522 (2022).
- (8) Akanksha Saxena, I. K. Argyros, **J. P. Jaiswal**, Christopher Argyros, K. R. Pardasani: On the local convergence of two-step Newton type method in Banach spaces under generalized Lipschitz conditions, *Mathematics*, 9, 669-689 (2021). (SCIE indexing & Impact factor 2.258)
- (9) **J. P. Jaiswal**: Semilocal convergence and its computational efficiency of a seventh-order method in Banach spaces, *Proceedings of the National Academy of Sciences, India Section A: Physical Sciences*, 90(2), 271-279 (2020) (Springer) (SCIE & Impact factor 1.544)
- (10) I. K. Argyros, Neha Gupta, **J. P. Jaiswal**: Extending the applicability of two-step Chord-type method for non-differentiable operators, *Mathematics*, 7, 804-810 (2019). (SCIE indexing & Impact factor 2.258)

#### Recent Books/Book Chapters/Monographs etc.

- (1) **J. P. Jaiswal**, Anuradha Singh: Higher order without memory methods for solving nonlinear equations, *LAP Lambert Academic Publishing*, Germany, ISBN No. 978-3-659-84947-3 (2016).

#### Research Supervision

1. Postgraduate:24 (completed) [MCA(11), M. Tech (13)]

S.No.	Scholar Name	Area/Topic	Status
1	Abhishek Kumar Srivastava (MCA)	UE Test Simulator	Awarded in 2013
2	Asheesh Kumar (MCA)	Time Table Management	Awarded in 2013

3	Gopi Bind (MCA)	Time Table Management	Awarded in 2013
4	Neeraj Viswakarma (MCA)	Boot-Camp Training Portal	Awarded in 2013
5	Saurabh Chatterjee (MCA)	Training Portal	Awarded in 2013
6	Vinod Prajapati (MCA)	Time Table Management	Awarded in 2013
7	Yogiraj Banerjee (MCA)	Writing Android Device Drivers and Rampdump Extractor	Awarded in 2013
8	Surendra Kumar (M.Tech.)	Predicting DNA Binding Proteins using Support Vector Machine with Hybrid Fractal Features	Awarded in 2015
9	Amit Jagdish Umbarkar (M.Tech.)	Identification of Tuberculosis Species using Support Vector Machine and Codon Pair Relative Frequency	Awarded in 2015
10	Surendra Kumar Kharya (M.Tech.)	Identifying Oral Cancer related Genes using the Bellman-ford Shortest Path Algorithm and Protein-Protein Interaction Network	Awarded in 2015
11	Pratibha Shakya (M.Tech.)	Identification of highly Targetable Kinases Enzymes in Cancer using Computational Approach	Awarded in 2015
12	Saurabh Kumar (M.Tech.)	Identifying Pancreatic Cancer related Genes using the Bellman-ford Shortest Path Algorithm and Protein-Protein Interaction Network	Awarded in 2015
13	Kavita Aherwar (M.Tech.)	Prediction of MHC II Epitopes Using Artificial Neural Network	Awarded in 2016
14	Sefali Beeka (M.Tech.)	DNA Optimization Steps to solve ones assignment problem	Awarded in 2016
15	Rohit Saha (M.Tech.)	Detection of Clustered Microcalcification in Digital Mammogram Image using Matlab	Awarded in 2017
16	Hemant Apat (M.Tech.)	Prediction of Protein Function by Using Graph Theoretic Analysis	Awarded in 2018
17	Sultan Khan (M.Tech.)	QSAR and Pharmacophore Analysis of 2,4- Diamminoquinzoline Derivatives as a Potent Inhibitors of Type 2 Dengue Virus	Awarded in 2018
18	Kirti Kumari (M.Tech.)	Determining Nucleotides Features of DNA Sequence by using Various Methods of Computational-Aided Drug Discovery (CADD)	Awarded in 2019
19	Sanchita Sinha (M.Tech.)	Segmentation and Classification of Lung Nodule using Deep Learning	Awarded in 2019
20	Manglam Gupta (M.Tech.)	A Machine Learning Model for Prediction of Tourette Syndrome in Adults using Clinical Data	Awarded in 2020
21	Kaushik Nayak (MCA)	Deployment Automation Using Ansible Playbook	Awarded in 2020

22	Poorvi Gupta (MCA)	FICO Applications Workbench	Awarded in 2020
23	Rishabh Vatsa (MCA)	Online Insurance Quoting System (BLAZE ADVISOR)	Awarded in 2020
24	Abhishek Payasi (MCA)	FICO Applications Workbench	Awarded in 2020
25	Sunima Patel (M.Sc.)	Multi-Point With Memory Iterative Methods For Non-Linear Equations	Awarded in Sep. 2022
26	Vandana Kumari (M.Sc.)	Two-and Three-Point with Memory Methods for Solving Nonlinear Equations	Awarded in Sep. 2022

## 2. Project Fellows: 03(completed)

S.No.	Scholar Name	Area/Topic	Status
1	Avdhesh Pandey	Investigation of necessary and sufficient condition for the Riemannian map to be harmonic map	JRF(NBHM) 2013-14
2	Arjun Singh Yadav	Investigation of necessary and sufficient condition for the Riemannian map to be harmonic map	JRF(NBHM) 2015-16
3	Neha Gupta	Semilocal Convergence Analysis of the Iterative Methods for Solving Nonlinear Equations in Banach Spaces and its Generalized computational Efficiency	JRF(SERB) 2016-19

## 3. Doctoral: 05(awarded) + 00(submitted) + 02(ongoing)

S.No.	Scholar Name	Area/Topic	Present Status
1	Anuradha Singh	Development of multipoint iterative methods for solving nonlinear equations and their basins of attraction	Awarded in 2015
2	Neha Choubey	On approximating the roots of nonlinear equations using multipoint without and with memory schemes	Awarded in 2017
3	Bhavna Panday	Local and semilocal convergence analysis of iterative schemes for finding simple roots of nonlinear equations	Awarded in 2018
4	Neha Gupta	Convergence analysis of iterative methods in Banach spaces under various continuity condition	Awarded in 2021
5	Kailash Yadav	Numerical solution for solving differential and integral equations using wavelet techniques	Awarded in 2021
6	Akansha Saxena	The study of the convergence behaviour of higher order iterative methods under relaxed continuity conditions	Pre-thesis seminar completed
7	Nishant Kumar	Numerical Analysis	Registered in 2021

## Administrative Responsibilities

### Institute/University level Administrative Experience:

#### AT MANIT

- (1) Member of registration committee for 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup> convocation MANIT, Bhopal.
- (2) Member of Anti-Ranging committee-2011, 2012, 2013, 2014, 2015, 2016, MANIT, Bhopal.
- (3) Member of physical document verification of NIMCET-2011.

- (4) Member of committee of CCMT- 2013, 2016, 2017.
- (5) Member of committee of UG admission Committee- 2018.
- (6) Member of committee of Ph.D. admission, 2017.
- (7) Member of committee at NIMCET- 2011, 2013, 2016.
- (8) Member of Write-off committee-2012, 2014, 2016, MANIT Bhopal.
- (9) Member of Dhande committee 2013-14.
- (10) Member of Library stock verification committee-2015, MANIT Bhopal.
- (11) Member of discipline committee for 13<sup>th</sup> convocation 2016 MANIT, Bhopal.
- (12) Asst. Warden/Wardenat MANIT Bhopal. w.e.f. 22<sup>nd</sup> January 2016 to 18<sup>th</sup> May 2017.
- (13) Asst. Proctor at MANIT Bhopal. w.e.f. 7<sup>th</sup> November 2015 to 23<sup>rd</sup> April 2019.

**AT GGV**

- (1) Coordinator, IT (All Matters), AY 2020-2022.
- (2) Coordinator, M. Sc. & Ph.D. admissions, AY 2020-2022.
- (3) Member, Admission Committee, AY 2020-2022.
- (4) Coordinator, Resource Allocation Committee, AY 2020-2021.
- (5) Member, Departmental Research Committee, AY 2021-2023.
- (6) Chairman, Board of Studies, Maths., since March 2022.
- (7) Chairman, Department Research Committee, Maths., since March 2022.

**Department level Administrative Experience:****AT MANIT**

- (1) Member of Scrutiny committee of Ph.D. Application forms 2010, 2014, Deptt. Of Maths, MANIT Bhopal.
- (2) Member of Scrutiny committee of contract faculty forms 2011, 2012, 2014 Deptt. Of Maths, MANIT Bhopal.
- (3) Member of physical document verification of contract faculty forms 2011, Deptt. Of Maths, MANIT Bhopal.
- (4) Member of departmental write-off committee 2011, Deptt. Of Maths, MANIT Bhopal.
- (5) Member of physical document verification of contract faculty application 2017, (MCA) Deptt. Of Maths.
- (6) Departmental Library I/c (B.Tech/ M.Tech/ Applied Maths), August 2015 to till date.
- (7) Departmental SRPC & Seminar Committee I/c (Applied Maths), August 2015 to till date.
- (8) Departmental Examination & Valuation Committee I/c (B.Tech, Applied Maths), August 2015 to till date.
- (9) Departmental Teaching & Learning Committee I/c (BI & CSB), August 2015 to till date.
- (10) Departmental Web Updating Committee, Convener, August 2015 to till date.
- (11) Departmental NIRF data, Coordinator, 2015-16, 2016-17.
- (12) Departmental Annual Report, Coordinator, 2016-17.
- (13) Departmental M. Tech. (BI & CSB), Time Table Coordinator, 2017-18, 2018-19, 2019-20.
- (14) Departmental M. Tech. (BI & CSB), Exam Coordinator, 2017-18, 2018-19, 2019-20.
- (15) Member of Board of Study, Deptt. of Maths., MANIT, Bhopal 2010-2020.

**AT GGV**

- (16) Coordinator, IT (All Matters), AY 2020-2021.
- (17) Coordinator, M. Sc. & Ph.D. admissions, AY 2020-2021.
- (18) Member, Admission Committee, AY 2020-2021.
- (19) Coordinator, Resource Allocation Committee, AY 2020-2021.
- (20) Member, Departmental Research Committee, AY 2021-2023.
- (21) Member, School Board, MCS, 2022-2025.

## Additional Information

### Attended Conferences:

- (1) National conference on “Analysis and its Application” held on 19-21 march 2009, organized by Department of Mathematics Faculty of Science B.H.U. Varanasi.
- (2) Session Chaired in the “International conference on Computer Science and Information Technology” held at Bhopal on 3<sup>rd</sup> march 2012.
- (3) Technical Session Chaired in the National conference on “Emerging Trends on Computational Science” held at Maulana Azad National Institute of Technology, Bhopal, India during 8-9 March 2013.
- (4) Technical Session Chaired in the International conference of “Gwalior Academy of Mathematical Sciences” held at Maulana Azad National Institute of Technology, Bhopal, India during 22-26 March 2013.
- (5) Entitled “A Class of Iterative Methods for Solving non- Linear Equation with Fourth Order Convergence” in the “National Conference on Engineering Mathematics in Present Scenario” held during 17<sup>th</sup> August 2013 organized by, Lakshmi Narain College of Technology, Bhopal, India.
- (6) Technical Session Chaired “18<sup>th</sup> Annual cum 1<sup>st</sup> International conference of Vijnana Parishad of India” held during 11-14, December 2015 held at Maulana Azad National Institute of Technology, Bhopal, India.

### Paper Presented in the Conferences:

- (1) Entitled “Certain structure theorems for quasi-conformal curvature tensor on a class of K-contact and Sasakian manifolds” in “International Conference on Recent Advances in Mathematics and Application” held during 13-15 January, 2010 organized by Department of Mathematics, University of Burdwan, West Bengal, India.
- (2) Entitled “Ricci semi-symmetric and Ricci pseudo-symmetric mixed super quasi-Einstein manifolds” in “International Congress of Mathematicians” held during 19-27 August, 2010 Hyderabad, India.
- (3) Entitled “The existence theorem of weakly symmetric and weakly Ricci-symmetric Sasakian manifolds admitting a quarter symmetric connection” in the “International Conference on Recent Development in Mathematical Sciences and their Applications” held during 9-11 December, 2010 organized by Calcutta Mathematical Society, Kolkata, India.
- (4) Entitled “Harmonic maps on Sasakian manifolds” in “4<sup>th</sup> Annual conference of the Tensor Society on Application of Tensors and Differential Geometry in Engineering and Physical Sciences” held during 8-9 October 2011 at SRMGPC in collaboration with The Tensor Society of India, Lucknow, India.
- (5) Entitled “Harmonic maps on Sasakian manifolds” in the “Conference on Differential Geometry” held during 2-9 June 2012 at Banach Conference Centre, Bedlewo, **Poland**.
- (6) Entitled “Some properties of  $K$ -contact Riemannian manifolds admitting a semi-symmetric non-metric connection” in the “International Conference on Differential Geometry, Functional Analysis and Applications” held during 8-10 September 2012 organized by Department of Mathematics, Jamia Millia Islamia, New Delhi, India.
- (7) Entitled “Harmonic Maps on Nearly Kaehler Manifold” in the “International conference of Gwalior Academy of Mathematical Sciences” held at Maulana Azad National Institute of Technology, Bhopal, India during 22-26 March 2013.
- (8) Entitled “Integrability of Distributions in GCR-Light like Submanifolds of Indefinite Sasakian Manifolds” in the “International conference of Gwalior Academy of Mathematical Sciences” during 22-26 March 2013 held at Maulana Azad National Institute of Technology, Bhopal, India.

- (9) Entitled “An improved  $\mathcal{R}$ -order convergence for solving nonlinear equations” in the “International conference of Recent advances in Pure and Applied Mathematics” held during 6-9 November 2014 held at Club Hotel Sera, Antalya, **Turkey**.
- (10) Entitled “Improving  $\mathcal{R}$ -order convergence of derivative free with memory method by two self-accelerator parameters” in the “International conference of Recent Trends in Mathematical Analysis and its Applications” during 21-23 December 2014 held at IIT Roorkee, Roorkee India.
- (11) Entitled “Semilocal convergence of a sixth-order method in Banach Spaces and its Computational Efficiency” in the “13<sup>th</sup> International conference of Numerical Analysis and its Applications” held during 23-29 September 2015 held at Rodos Palace Hotel, Rhodes, **Greece**.
- (12) Entitled “An efficient with memory iterative method for solving nonlinear equations” in the “18<sup>th</sup> Annual Cum 1<sup>st</sup> International conference of Vijnana Parishad of India ” held during 11-14 December 2015 held at Maulana Azad National Institute of Technology, Bhopal, India.
- (13) Entitled “Semilocal convergence of a computationally efficient iterative method in Banach spaces under weak condition” in the “International Conference on Mathematical Analysis and its Applications” held during November 28-December 2, 2016 at Indian Institute of Technology, Roorkee, India.
- (14) Entitled “Semilocal convergence of an iterative method in Banach spaces under relaxed condition” in the “International Conference of Indian Mathematics Consortium in co-operation with American Mathematical Society” held during December 14-17, 2016 organized by DST-CIMS, Banaras Hindu University, Varanasi, India.
- (15) Entitled “Semilocal convergence of a computationally efficient eighth-order method in Banach spaces under  $w$ -continuity condition” in the “83<sup>rd</sup> Annual Conference The Indian Mathematical Society: An International Meet” held during December 12-15, 2017 at Department of Mathematics, Sri Venkateswara University, Tirupati, India.

#### **Attended Training Programme/Workshop:**

- (1) Training Programme on “Latex and other Open Source Software” held on 10-17 February, 2009 organized by D.S.T. Centre for Interdisciplinary Mathematical Sciences, Banaras Hindu University, Varanasi, India.
- (2) Advanced Training School for Mathematics Lecturer topic “Measure Theory and Differential Geometry” held on 8-27 June, 2009 organized by IIT Bombay, Mumbai, India.
- (3) Workshop on “Patient Drafting” held on 11-12 February, 2011 organized by IPR Cell, Maulana Azad National Institute of Technology, Bhopal, India.
- (4) Workshop on “Soft Computing and Knowledge Mining” held on 29-30 March, 2011 organized by Department of Computer Applications and Mathematics, Maulana Azad National Institute of Technology, Bhopal, India.
- (5) Workshop on “Differential Geometry” held on 02-11 May, 2011 organized by D.S.T. Centre for Interdisciplinary Mathematical Sciences, Banaras Hindu University, Varanasi, India.
- (6) Discussion Meeting on “Analysis and Geometry” held on 12-16 March 2012 organized by Harish-Chandra Research Institute (HRI), Jhansi, Allahabad, India.
- (7) Short Term Course on “Numerical Methods in Science and Engineering” held on 25-26 August 2012 organized by Department of Mathematics, Motilal Nehru National Institute of Technology, Allahabad, India.
- (8) Workshop on “Time and Stress Management” held on 5-6 November 2012 organized by Department of Humanities, Maulana Azad National Institute of Technology, Bhopal, India.
- (9) Two days ISTE workshop on “Akash for Education”, 10-11<sup>th</sup> November 2012, conducted by IIT Bombay, Mumbai, India.
- (10) National Seminar on “Development and Collaboration of SPSS Reports & Models” held on 15 December 2012 organized by Department of management Studies, Maulana Azad National Institute of Technology, Bhopal, India.

- (11) Short Term Training Programme on “Fundamentals of Numerical Computing” held on 10-14 December 2012 organized by Department of Mathematics, Visvesvaraya National Institute of Technology, Nagpur, India.
- (12) Short Term Faculty Development Programme on “Numerical and Computational Techniques in Engineering” held on 7-12 December 2012 organized by Department of Mathematics, Malaviya National Institute of Technology, Jaipur, India.
- (13) Short Term Course on “MATLAB” held on 7-11 January 2013 organized by Department of Electrical Engineering, Maulana Azad National Institute of Technology, Bhopal, India.
- (14) Short Term Course on “Intelligent Computing Techniques in Data Mining” held on 14-18 January 2013 organized by Department of Mathematics and Computer Applications, Maulana Azad National Institute of Technology, Bhopal, India.
- (15) Instructional Workshop on “Applied Mathematics” held on 6-10 May 2013 organized by Department Mathematics, South Asian University, New Delhi, India.
- (16) Short Term Course on “Theory & Practice in Natural Language Processing” held on 3-4 May 2013 organized by Department of Mathematics and Computer Applications, Maulana Azad National Institute of Technology, Bhopal, India.
- (17) Short Term Quality Improvement Programme on “Numerical Computations using Mathematical tools” held on 1-5 July 2013 organized by Department of Mathematics, Indian Institute of Technology, Roorkee, India.
- (18) Academic workshop on “Design and Management of Change” held on 24 August 2013 organized by Maulana Azad National Institute of Technology, Bhopal, India.
- (19) 2<sup>nd</sup> National workshop on “Soft Computing: Scientific Tools for Modeling Paradigms” held on 28-29 September 2013 organized by The National Academy of Sciences, Allahabad, India.
- (20) Advanced level workshop on “Stabilization Methods for Singularly Perturbed Differential Equations” held on 3-5 October 2013 organized by Super Computer Education and Research Centre, Indian Institute of Science, Bangalore, India.
- (21) Advanced workshop on “Computational Methods for Integral Equations & Applications” held during 13-17 January 2014 organized by Department of Mathematics, Indian Institute of Technology, Kanpur, India.
- (22) Instructional school for lecturers on “Numerical Analysis” held during 9-28 June 2014 organized by Department of Mathematics, Punjab University, Chandigarh, India.
- (23) Workshop on “Computational Techniques for Differential Equations using MATLAB” held on 2-6 July 2015 organized by Department of Mathematics, Indian Institute of Technology, Roorkee, India.
- (24) Workshop on “Big Data Analytics with Hadoop and Ecosystems” held during October 6-10, 2016 organized by Department of Mathematics, Computer Applications and Physics, Maulana Azad National Institute of Technology, Bhopal, India.
- (25) IWM Regional workshop on “Research and Opportunities” held during October 7-8, 2017 organized by Department of Mathematics, IISER, Bhopal, India.
- (26) Science Academies Lecture workshop on “Geometry and Topology” held during January 20-21, 2018 organized by Department of Mathematics, IISER, Bhopal, India.
- (27) Workshop on “Analytics of Things and Big Data” held during September 23-27, 2019 organized by Department of Mathematics, Bioinformatics & Computer Applications, Maulana Azad National Institute of Technology, Bhopal, India.
- (28) Short Term Course on “Significance, Securing and Sustainability (S<sup>3</sup>) of Externally Funded Research Projects in Higher Education Institutes (HEIs)” held during December 16-21, 2019 organized by IIT, Indore, India.

**Country Visited:**

- (1) Poland, during June 2012.
- (2) Turkey, during November 2014.



- (3) Greece, during September 2015.

### **Workshop/Conference Organized:**

#### **A. Workshop: 06**

- (1) Two days short term course on “Numerical Methods for Science & Engineering” during March 21-22, 2013 organized by Department of Mathematics, MANIT Bhopal, M. P. India.
- (2) One week short term course on “Ordinary & Partial Differential Equations: Analysis & Applications” held during May 27-31, 2014 organized by Department of Mathematics, MANIT Bhopal, M. P. India.
- (3) One week short term course on “Computational Techniques for Scientific & Engineering Problems” held during May 18-22, 2015 organized by Department of Mechanical Engineering, MANIT Bhopal, M. P. India.
- (4) One week short term course on “Modelling and Simulation” held during June 24-28, 2016 organized by Department of Mathematics, MANIT Bhopal, M. P. India.
- (5) Refresher course on “Non-linear Analysis for the Development of Neural Network Systems” held during September 13-25, 2021 organized by Department of Mathematics, GGV Bilaspur, C. G. India.
- (6) One day seminar on “National Mathematics Day” held on December 22, 2021 organized by Department of Mathematics, GGV Bilaspur, C. G. India.

#### **B. Conference: 02**

- (1) 18<sup>th</sup> Annual cum 3<sup>rd</sup> International Conference of Gwalior Academy of Mathematical Sciences, on “Mathematical, Computational and Integrative Sciences” held during 22-26 September 2013, organized by Department of Mathematics, MANIT Bhopal, M.P. India.
- (2) 18<sup>th</sup> Annual cum 1<sup>st</sup> International Conference of Vijnana Parishad of India on “Computational and Integrative Sciences” held during 11-14 December 2015 organized by Department of Mathematics, MANIT Bhopal, M.P. India.

### **Delivered Talk/Lectures:**

- (1) On the topic “How to Prepare-NET” in the Department of Mathematics, Institute for Excellence in Higher Education, Bhopal held on dated 29.12.2010.
- (2) On the topic “Improvement of Order of Convergence and Efficiency Index of the methods for solving nonlinear equations” in two days workshop on Numerical Methods for Science & Engineering”, held during March 21-22, 2013, organized by Department of Mathematics, MANIT Bhopal, M.P. India.
- (3) On the topic “A family of third- and fourth-order iterative methods for solving nonlinear equations” in one week short term course on “A Glimpse on Differential Equations in Science & Engineering”, held during 10-14 March 2014, organized by Department of Mathematics, NIT Raipur, C.G., India.
- (4) On the topic “Third-and fourth-order iterative methods for solving nonlinear systems” in one week short term course on “Ordinary & Partial Differential Equations: Analysis & Applications”, held during May 27-31, 2014, organized by Department of Mathematics, MANIT Bhopal, M. P. India.
- (5) On the topic “Solution of BVP by initial value problem methods: shooting method” in one week short term course on “Computational Techniques for Scientific and Engineering Problems”, held during May 18-22, 2015 organized by Department of Mech. Engg., MANIT Bhopal, M. P. India.
- (6) On the topic “Local and semilocal convergence of iterative methods for solving nonlinear equations” in one week short term course on “Modelling and Simulation” held during June 24-28, 2016 organized by Department of Mathematics, MANIT Bhopal, M. P. India.
- (7) On the topic “Teaching of Mathematical Concept through Pedagogy: Probability Theory ” in the five days training programme on “Training of teachers working in tribal dominated area on

- innovative pedagogy of Mathematics ” held during November 7-11, 2016 organized by Regional Institute of Education, Bhopal, M. P. India.
- (8) On the topic “Basic Concept of Local and Semilocal Convergence Analysis of Iterative Methods for Finding Solution of Nonlinear Equations” in the National workshop on “Recent Trends of Applied Mathematics in Engineering, Management and Scientific Computing ” held during September 6-7, 2019 organized by VIT, Bhopal, M. P. India.
  - (9) On the topic “Local Convergence of Family Iterative Methods for Finding Solution of Nonlinear Equations” in the Faculty Development Programme on “Application of Numerical and Statistical Techniques in Engineering Computing ” held during September 23-27, 2019 organized by LNCT, Bhopal, M. P. India.
  - (10) On the topic “Analysis of Semilocal convergence in Banach spaces under relaxed continuity condition and computational efficiency” in the International Conference on “Recent Trends in Mathematical, Physical & Computational Sciences ” held during December 12-14, 2019 organized by Department of Mathematics & Statistics, Dr. Harisingh Gour Vishwavidyalaya, Sagar, India.
  - (11) On the topic “Introduction to Calculus” held on January 30, 2020 organized by Department of Science (Mathematics), The Bhopal School of Social Sciences, Bhopal, India.
  - (12) On the topic “Basic Concept of Higher Order Without Memory Iterative Methods for Solving Nonlinear Equations” in the National Level E-workshop on “Challenges and Opportunities for Mathematics in the present Global Scenario” held during August 30-31, 2020 jointly organized by Department of Mathematics of Govt. Shyama Prasad Mukharjee College Sitapur, Surguja, Chhattisgarh, India and Saraswati Mahavidyalaya Ambikapur, Surguja, Chhattisgarh, India.
  - (13) On the topic “On the semilocal convergence of a computationally efficient fifth-order method in Banach spaces under relaxed condition” in the mini-symposia on ‘Recent Advances In The Analysis and Development of Numerical Methods For Nonlinear Problems’ in an “International Conference on Advances in Differential Equations and Numerical Analysis (ADENA 2020)” held during October 12-14, 2020 in online mode organized by Department of Mathematics, Indian Institute of Technology Guwahati, India.
  - (14) On the topic “On the semilocal convergence of a fifth-order scheme in Banach spaces under weak continuity condition & its computational efficiency” in an “International Conference on Recent Trends in Analysis and Optimization (ICRTAO-2020)” held during November 9-11, 2020 in online mode organized by National Institute of Technical Teachers’ Training and Research (NITTTR), Bhopal, Madhya Pradesh, India.
  - (15) On the topic “Semilocal convergence of a fifth-order scheme in Banach spaces under weak continuity condition & Its complexity analysis” in “National e-seminar on Recent Developments and Applications of Mathematics” held on 12<sup>th</sup> January, 2021 in online mode organized by University Department of Mathematics, Lalit Narayan Mithila University, Darbhanga, Bihar, India.
  - (16) On the topic “Semilocal convergence of efficient fifth order IM & it's complexity analysis” in “ATAL FDP on “Applied Mathematics (Computational Techniques)” held during February 1-5, 2021 in online mode organized by Department of Basic Sciences, IIT Nagpur, India.
  - (17) On the topic “Optimal and Non-Optimal Iterative Methods for Solving Nonlinear Equations” as invited talk on February 17, 2021 organized by Department of Applied Science & Humanities, Lok Nayak Jai Prakash Institute of Technology, Chapra, India.
  - (18) On the topic “Semilocal convergence and it’s complexity analysis of Iterative Methods in Banach Spaces” in the “National Conference on Pure and Applied Mathematics (NCPAM-2021)”, held during 6-7 March, 2021 organized by Department of Mathematics, National Institute of Technology, Manipur, India.
  - (19) On the topic “Semilocal Convergence and Complexity Analysis of Higher Order Iterative Methods” in “ATAL FDP on “Computational Oriented Numerical Analysis” held during

August 23-27, 2021 in online mode organized by Department of Applied Mathematics & Computer Applications, SATI Vidisha, India.

- (20) On the topic “Without and with Memory Multipoint Iterative Methods for Solving Nonlinear Equations” in the Refresher Course on "Mathematical tools for Physical and Computational Sciences" from September 24 to October 08, 2021 organized by Department of Applied Mathematics & HRDC, Dr. Harisingh Gour Vishwavidyalaya Sagar (M.P.) .

#### **Member of Editorial Boards:**

- (1) International Journal of Mathematics and Research (IJMR), India.
- (2) Journal of Mathematics and Research (JMR), India.
- (3) Journal of Progressive Science, India.
- (4) [International Journal of Classical and Modern Geometries](#), India.
- (5) Universal Journal of Computational Mathematics, USA.
- (6) International Association of Scientific Innovation and Research, USA.
- (7) SOP Transactions on Applied Mathematics. USA.
- (8) International Journal Computational Science and Mathematics, India.
- (9) International Journal of Software and Open Sciences, USA.
- (10) American Open Numerical Advanced Methods Journal
- (11) American Open Computational and Applied Mathematics Journal
- (12) American Open Applied Mathematics Journal
- (13) Pure and Applied Mathematics Journal, USA.
- (14) Applied and Computational, Mathematics, USA.
- (15) American Journal of Applied Mathematics, USA.

#### **Reviewer of the Journals:**

- (1) Tamsui Oxford Journal of Information and Mathematical Science, Taiwan.
- (2) Universal Journal of Applied Mathematics, USA.
- (3) International Journal of Mathematics and Mathematical Sciences, USA.
- (4) Novi Sad Journal of Mathematics, Serbia.
- (5) Applied Mathematics and Computations, USA.
- (6) SOP Transactions on Applied Mathematics. USA.
- (7) British Journal of Mathematics & Computer Science, UK.
- (8) Proceedings of the National Academy of Sciences, India Section A: Physical Sciences, India.
- (9) Discrete Dynamics in Nature and Society, USA.
- (10) Iranian Journal of Fuzzy Systems, Iran.
- (11) Modeling and Simulation in Engineering, USA.
- (12) Algorithm, Germany.
- (13) Applied Mathematics, China.
- (14) Novi Sad Journal of Mathematics, Serbia.
- (15) International Journal of Computer Mathematics, USA.
- (16) Cambridge University Press, Book.
- (17) TWMS Journal of Pure & Applied Mathematics.
- (18) Mathematical Sciences, Springer.
- (19) *Mathematical Review, American Mathematical Society, USA.*

#### **Member of Professional Bodies:**

- (1) Differential Geometry Research Group, ICSRS, Irbid.
- (2) Calcutta Mathematical Society (Lifemember), Kolkata, India.
- (3) The Tensor Society (Lifemember), India.
- (4) Jasper Mathematical Society (Lifemember), India.
- (5) International Academy of Physical Sciences, (Lifemember, No. N11174), India.

- (6) Indian Mathematical Society (Lifemember No. J-12-067), India.
- (7) Computer Society of India, (Lifemember No. 01153650), India.
- (8) Indian Society for Technical Education, (Lifemember No. LM81520), India.
- (9) Indian Society of Industrial and Applied Mathematics, (Lifemember No. J-14), India.
- (10) Gwalior Academy of Mathematical Sciences, (Lifemember), India.
- (11) The Indian Science Congress Association, (Lifemember No. L23202), India.
- (12) Ramanujan Mathematical Society, (Lifemember, RMS1410), India.
- (13) Mathematics Teacher Association, (Lifemember, MTA00125), India, 2019.
- (14) Allahabad Mathematical Society, (Annual member No. AM/19/01), India, 2019.

**Languages Known:** Hindi, English.

**Software Skills:** Basic Knowledge of Computer, Latex, Matlab, Mathematica etc.

**Others:**

- (1) Member of committee of NIMCET- 2012.
- (2) Centre Observer for IIT-JEE (Main), 2013, 2014, 2016, 2017, 2018.
- (3) Centre Observer for CBSE-UGC-NET 2014, 2015, 2016, 2017, 2018.
- (4) Centre Observer for NEET (UG) 2017, 2018, 2019, 2020, 2021.
- (5) CBT Observer for CMAT/GPAT, 2019.
- (6) Presiding Officer in Assembly Election of M.P. 2013.
- (7) Micro Observer in Assembly Election of M.P. 2018.
- (8) Micro Observer in General Election of M.P. 2019.
- (9) Paper setter of Integral University, Lucknow.
- (10) Paper setter of Dr. H. S. Gour University, Sagar.
- (11) Paper setter of Barkatullah University, Bhopal.
- (12) Paper setter of GGU University, Bilaspur.
- (13) Examiner of the M. Phil. thesis of Banasthali University, Rajasthan.
- (14) Subject Expert of Maths. Nominated by VC of RS University, Raipur C.G.
- (15) Judge for NCSC Regional level, KV-2, Bhopal, 2019.
- (16) Member of committee of Rajya Siksha Kendra, Bhopal for checking specification and quality of Science & Maths. Kit during 6-10, Jan 2020.
- (17) Subject expert in the interview committee of Polytechnic lecturer held by UPPSC July 21.
- (18) Question Setter & Reviewer for the exam of Polytechnic lecturer held by UPPSC Nov. 21.
- (19) Moderator of Question paper for the exam of Polytechnic lecturer held by UPPSC Feb. 22.
- (20) Ph.D. thesis evaluated of CVRMU, Bilaspur, Feb 2021
- (21) Ph.D. thesis evaluated of GKV, Haridwar, July 2021
- (22) Ph.D. thesis evaluated of GKV, Haridwar, Dec. 2021

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Bilaspur (CG)

**Dr. J. P. Jaiswal**