## Personal Profile

**Dr. Jagdish Prasad Maurya**
**Assistant Professor, Department of Mathematics**
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## Educational Profile

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| Ph.D. | Indian Institute of Technology (Banaras Hindu University), Varanasi, Uttar Pradesh; 2018. |
| | Topic: *Exploration of Characteristics Governing Dynamics of Whirlwinds: Applications to Atmospheric Vortices.* |
| | Supervisor: Prof. Sanjay Kumar Pandey |
| M.Sc. | University of Lucknow, Lucknow, Uttar Pradesh; 2010. |
| | Subject: Mathematics |
| | Specialization: Mathematics |
| B.Sc. | University of Lucknow, Lucknow, Uttar Pradesh; 2008. |
| | Subject: Physics, Chemistry, Mathematics |

## Professional Experience

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| **Assistant Professor**, Department of Mathematics, Rajiv Gandhi University, Arunachal Pradesh, India. | October, 2021-till date |
| **Assistant Professor**, Department of Mathematics, Jorhat Engineering College, Jorhat, Assam, India. | October, 2018-September, 2021. |
| **Lecturer**, Department of Mathematics, Isabella Thoburn College, Uttar Pradesh, India. | August, 2010-February, 2012 |

## Administrative Experience

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| **Faculty Advisor: ISTE Student Chapter**, Jorhat Engineering College, Jorhat, Assam. | July, 2019-June, 2020 |

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| Member, Website Development Committee, Rajiv Gandhi University, Arunachal Pradesh, India. | January, 2022 till date |
| Member, Media and Publicity Committee, Rajiv Gandhi University, Arunachal Pradesh, India. | January, 2022 till date |
| Member, Purchase and Tender opening Committee (Scientific Equipment Limited/Global Tender), Rajiv Gandhi University, Arunachal Pradesh, India. | January, 2022 till date |
| Member, Contract and Contingency Employees' Welfare Committee, Rajiv Gandhi University, Arunachal Pradesh, India. | January, 2022 till date |
| Member, International Cell, Rajiv Gandhi University, Arunachal Pradesh, India. | January, 2022 till date |

## Awards & Honours

1. Financial support from DST-SERB, New Delhi under ITS scheme to attend and present a research paper in 9th ICIAM, July 15-19, 2019 held at University of Valencia, Valencia, Spain.

2. Student Travel Grant Support from IIT (BHU), Varanasi to attend and present a research paper in International Conference on Mathematical Modeling in Physical Sciences, during August 27-31, 2018 held at Russian Academy of Sciences and the Lomonosov Moscow State University, Moscow, Russia.

3. SIAM (Society for Industrial and Applied Mathematics Travel Grant Award for presenting a research paper in SIAM Conference "2018 SIAM Annual Meeting" held at Portland, Oregon, USA.

4. CSIR (Council of Scientific and Industrial Research) Travel Grant Award for presenting a research paper in SIAM Conference "2018 SIAM Annual Meeting" held in Portland, Oregon, USA.

5. Student Travel Grant Support, IIT (BHU), Varanasi to attend and present a research paper in International Conference on Differential Equations and Application, September 04-07, 2017, held at Brno University of Technology, Czech Republic

6. Qualified CSIR-UGC-JRF (Mathematical Sciences), December, 2015.

7. Qualified GATE (Mathematics) in-2010, 2011, 2012 & 2014.

8. Awarded Teaching Assistantship during Ph.D. as JRF, September 20, 2012 to September 20, 2014 and as SRF, September 21, 2014 to September 20, 2017.

9. Selected for the post of Assistant Professor (Rs. 6000/- AGP) in the Department of Mathematics, Manipal University, Jaipur.

10. Selected for the post of Assistant Professor (Temporary), Department of Mathematics, Central University of Jharkhand.

11. Selected for the post of Lecturer Mathematics (Gazetted Post) (Rs. 6000/- AGP), UPPSC, Uttar Pradesh Technical Education Department.

## Membership of Professional Bodies

1. Member of the Mathematical Society (BHU), India (2019-2020).

## Research Interests

- Mathematical Modelling
- Fluid Dynamics
- Atmospheric Vortex Dynamics
- Theoretical and Computational Fluid Dynamics
- Differential Equations

## Research Publications

1. *Exploration of characteristics governing dynamics of whirlwinds: Application to dust-devils*: Sanjay Kumar Pandey & **Jagdish Prasad Maurya**; *Zeitschrift fr Naturforschung A-A Journal of Physical Sciences, **2017**, 72(8),* 763-778.

2. *A mathematical model governing tornado dynamics: An exact solution of a generalized model*: Sanjay Kumar Pandey & **Jagdish Prasad Maurya**; *Zeitschrift fr Naturforschung A-A Journal of Physical Sciences, **2018**, 73(8),* 763-778.

3. *Exact solutions for unsteady axisymmetric vortex motions governing atmospheric vortices*: Sanjay Kumar Pandey & **Jagdish Prasad Maurya**; *Dynamics of Atmospheric and Oceans, **2018**, 83(NA),* 111-121.

4. *A general viscous model for some aspects of tropical cyclonic winds*: Pandey, S Sanjay Kumar Pandey & **Jagdish Prasad Maurya**; *Zeitschrift fr Naturforschung A-A Journal of Physical Sciences*, **2020**, *75(4),* 301-315.

5. *Extended gravitationally decoupled Finch-Skea anisotropic model using embedding class I spacetime*: Baiju Dayanandan, S. K. Maurya, Smitha Thakadiyil & **Jagdish Prasad Maurya**; Chinese Journal of Physics, **2023**, 82, 155-170.

6. *Mathematical Modelling of transportation of Newtonian Fluid through curved tube under the impact of hiatus hernia* (Under review). Shailendra Kumar Tiwari, **Jagdish Prasad Maurya** and Devendra Kumar.

7. *An analytical model of the tornado-like stationary atmospheric vortices* (Under review), **Jagdish Prasad Maurya**.

8. *An exact model for steady-state whirlwinds* (Under review), **Jagdish Prasad Maurya**, Kriti Ydav & S. K. Pandey.

9. *A mathematical model of whirlwinds: Exploration of the genesis of dust devils*, (under review), **Jagdish Prasad Maurya** S. K. Pandey.

## Patent

1. Nil

## Book/Book Chapter published

1. NIL

## Research guidance

**Nil**

## Course/Conference/Workshop organized

1. RGU Sponsored National Webinar on "Mathematical Modeling of Atmospheric Vortices" held at Department of Mathematics, Rajiv Gandhi University, Itanagar, AP, India; on 17th April, 2022; **Role: Convenor**.

2. RGU Sponsored National Webinar on "Celebrating National Mathematics Day" held at Department of Mathematics, Rajiv Gandhi University, Itanagar, AP, India; 22nd December, 2021; **Role: Organizing member**.

## Course/Conference/Workshop etc. attended

**Courses Attended:**

1. Completed 'online 4-week faculty induction/orientation Programme' during 21 December, 2022-19 January, 2023 organized by Teaching Learning Centre, Ramanujan College, University of Delhi. **Title of the Programme: Faculty induction/orientation Programme for Faculty in Universities/Colleges/Institutes of Higher Education.**

2. Participated in 'online one week International FDP' during August 22-27, 2022 organized by Department of Mathematics and Computer Sciences, Mizoram University. **Title of the course: Mathematical Modelling of Biosystems with Special Focus on Epidemiology.**

3. Participated in 'online three day Workshop' during March 12-14, 2022 organized by IIT Kanpur. **Title of the course: AI/ML techniques for the Weather and Climate applications**

4. Participated in 'online three day FDP' during February 09-11, 2022 organized by College of Agriculture Engineering and Technology, Sher-e-Kashmir University in association with Entuple. **Title of the course: Faculty development Programme on computational fluid dynamics.**

5. Participated in 'TEQIP-III Sponsored Workshop, a National workshop' held at IIT Hyderabad, India during 14 December-18 December, 2020. **Title of the course: Advanced Pedagogies, Active Learning and Digital Tools.**

6. Participated in 'TEQIP-III Sponsored Short term Course, an National workshop' held at Department of Mechanical Engineering, Malaviya National Institute of Technology, Jaipur, Rajasthan, India during 07 August-11 August, 2020. **Title of the course: Computational Fluid Dynamics for Solving Engineering Problems.**

7. Participated in 'AICTE Sponsored QIP-Short term Course, an National workshop' held at Department of Mathematical Sciences, IIT (BHU), Varanasi, India during 10 December-16 December, 2018. **Title of the course: Computational Methods for Integral and Differential Equations.**

8. Participated in 'GIAN course, an International workshop' held at Department of Physics, IIT (BHU), Varanasi, India during September 12-22, 2016. **Title of the workshop: Advanced Fluid Dynamics and Applications.**

9. Participated in 'GIAN course, an International workshop' held at Department of Mechanical Engineering, IIT(BHU), Varanasi, India during 05 January-16 January,

2016. **Title of the workshop: Volume Averaging Methods for Upscaling in Porous Media.**

10. Participated in 'National Symposium, an National symposium' held at Teaching-Learning Cell, IIT(BHU), Varanasi, India during 22 March-22 January, 2015. **Title of the symposium: Research Methodology for Future Researchers.**

11. Participated in 'Workshop, an National workshop' held at DST-Center for Interdisciplinary Mathematical Sciences (CIMS), Faculty of Science (BHU), Varanasi, India during 10 November-16 November, 2014. **Title of the workshop: Hands on Training Program on MATLAB.**

12. Participated in 'Author Workshop, an National workshop' jointly organized by Springer and IIT (BHU), held at IIT (BHU), Varanasi, India during 10 Feburary-10 February, 2014.

13. Participated in 'National Symposium on "Application of Various Techniques in Fluid Dynamics" (UGC Sponsored), National Symposium' Organized by Department of mathematics, held at B.S.N.V.P.G. College, Lucknow, India during 10 Feburary-12 February, 2011.

**Paper Presentations:**

1. Delivered an oral presentation in '67th Congress of the Indian Society of Theoretical and Applied Mechanics (An International conference)' IIT Mandi, Himachal Pradesh, India during December 14-16, 2022. **Title of the presentation: An analytical model of stationary atmospheric vortices.**

2. Delivered an oral presentation in '6th International conference on Mathematics and Computing, an International Conference' held at Sikkim University, Sikkim, India during 23 September-25 September, 2020. **Title of the presentation: A Mathematical Model Governing Tornado-like Vortex from a Fluid Dynamics Perspective.**

3. Delivered an oral presentation in '35th Annual Conference of the Mathematical Society BHU on Advancements in Mathematical Analysis and their Applications (AMATA-2019), an National Conference' held at Department of Mathematics, Institute of Science (BHU), Varanasi, UP, India during 11 November-12 November, 2019. **Title of the presentation: Mathematical Investigation of Tropical Cyclonic Winds.**

4. Delivered an oral presentation in '9th International Congress on Industrial and Applied Mathematics, an International Conference' held at University of Valencia, Valencia, Spain during 15 July-19 July, 2019. **Title of the presentation: Mathematical modeling of intensification of cyclonic wind.**

5. Delivered an oral presentation in 'International Conference on Mathematical Modeling in Physical Sciences, an International Conference' held at Russian Academy of Sciences and the Lomonosov Moscow State University, Moscow, Russia during 27 August-31 August, 2018. **Title of the presentation: Mathematical modeling of dynamics of tornado like stationary vortex: An exact solution.**

6. Delivered an poster presentation in 'Institute Day, an National Conference' held at Department of Mathematical Sciences, IIT(BHU), Varanasi, India during 16 February-

18 February, 2018. **Title of the presentation: Unsteady exact solution exploring dynamics of tornadoes.**

7.  Delivered an oral presentation in 'International conference on Differential Equations and Applications, an International Conference' held at Brno University of Technology, Brno, Czech Republic, during 04 September-07 September, 2017. **Title of the presentation: Exact solutions for unsteady axisymmetric vortex motions governing atmospheric vortices.**

8.  Delivered an oral presentation in 'International conference on Applications of Fluid Dynamics, an International Conference' held at IIT(ISM), Dhanbad, Jharkhand, India during 19 December-21 December, 2016. **Title of the presentation: An analytical model of Tornado.**

9.  Delivered an oral presentation in 'International conference on Indian Mathematics Consortium, an International Conference' held at Banaras Hindu University, Varanasi, Uttar Pradesh, India during 14 Deember-17 December, 2016. **Title of the presentation: Exploration of Characteristics Governing Dynamics of Whirlwinds.**

10. Delivered an oral presentation in 'International conference on Recent Advances in Theoretical and Computational Partial Differential Equations with Applications, an International Conference' held at University Institute of Engineering and Technology, Panjab University, Chandigarh, India during 05 Deember-09 December, 2016. **Title of the presentation: A generalized analytical steady model of tornado.**

11. Delivered an oral presentation in 'International conference on Mathematical modeling and Simulation, an International Conference' held at Department of Mathematics, Institute of Sciences (Banaras Hindu University), Varanasi, India during 29 August-31 August, 2016. **Title of the presentation: An analytical model of hurricane.**

12. Delivered an oral presentation in 'International conference on Frontiers in Mathematics-2015, an International Conference' held at Department of Mathematics, Guwahati University, Assam, India during 26 March-28 March, 2015. **Title of the presentation: A mathematical model discovering tornado dynamics.**

**Invited Talks / Key Note Speakers etc.**

| Sl. No. | Invited Talks / Key Note Speakers /Resource person etc. | Dept./ Seminar / Conferences etc. | Genre | Organized by | Date |
|---|---|---|---|---|---|
| 1 | Resource person | 4-Days Training Programme for Teachers Teaching Mathematics at the Secondary Stage, $31^{st}$ Jan – $3^{rd}$ Feb, 2022. | State Level | SCERT, Itanagar, Arunachal Pradesh. | $3^{rd}$ February, 2023. |

| 2 | Chaired a Technical Session | 9th International Congress on Industrial and Applied Mathematics, Valencia, Spain during. | | University of Valencia, Spain. | 15 July-19 July, 2019 |
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## Sponsored Project

| Title of the project | Funding agency | Year of sanction | Role |
|---|---|---|---|
| Mathematical Investigation of Tropical cyclones structure and analysis of their stability. | TEQIP-III (NPIU-MHRD) Collaborative Research Scheme | **2019** | **Principal Investigator** |