

Atendra Kumar

Curriculum Vitae

Nationality: Indian
Date of Birth: 14–06–1989

Academic Position

March 2021 – Present: **Assistant Professor (Grade-II, Level-10)**, *Department of Mathematics*, *National Institute of Technology Srinagar (NIT Srinagar)*, *J&K, India*.

November 2019 – March 2021: **Postdoctoral Fellow**, *Department of Computational and Data Sciences*, *Indian Institute of Science Bangalore (IISc Bangalore)*, *Karnataka, India*.

June 2019 – November 2019: **Assistant Professor**, *School of Advanced Science and Languages*, *VIT Bhopal*, *Madhya Pradesh, India*.

Education

2015–2018: **PhD (Mathematics)**, *School of Basic Sciences*, *Indian Institute of Technology Mandi (IIT Mandi)*, *Himachal Pradesh, India*.

2014–2015: **Project Fellow**, *Department of Mathematics*, *Indian Institute of Technology Mandi (IIT Mandi)*, *Himachal Pradesh, India*.

2011–2013: **Master of Technology**, *Department of Mathematics, Indian Institute of Technology Delhi (IIT Delhi)*, *Delhi, India*, *(Specialized in Computer Applications)*.

2008–2010: **Master of Science**, *Banaras Hindu University (BHU) Varanasi*, *Uttar Pradesh, India*, *(Specialized in Mathematics)*.

2005–2008: **Bachelor of Science**, *Mahatma Jyotiba Phule Rohilkhand University Bareilly*, *Uttar Pradesh, India*, *(Non-Medical)*.

Research Interests

- Numerical Methods for Partial Differential Equations
- Computational Fluid Dynamics
- Shear Flow problems

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List of Peer reviewed Journal Articles

- Ray, R.K. and **Kumar, A.**, 2017. Numerical study of shear rate effect on unsteady flow separation from the surface of the square cylinder using structural bifurcation analysis. Physics of Fluids, 29(8), p.083604.
- **Kumar, A.** and Ray, R.K., 2019. Structural bifurcation analysis of vortex shedding from shear flow past circular cylinder. Computational and Applied Mathematics, 38(3), p.121.
- **Kumar, A.** and Ray, R.K., 2019. Theoretical understanding of unsteady flow separation for shear flow past three square cylinders in vee shape using structural bifurcation analysis. Computational and Applied Mathematics, 39, p.177.
- **Kumar, A.** and Ray, R.K., 2020. A Structural Bifurcation Analysis of Flow Phenomenon for Shear Flow Past an Inclined Square Cylinder: Application to 2D Unsteady Separation. Fluid Dynamics, 55, p.391-406.
- **Kumar, A.** and Ray, R.K., 2018. Structural Bifurcation Analysis of Unsteady Flow Separation for Shear Flow Past an Array of Three Square Cylinders in Series, Mathematical Sciences International Research Journal, 7, pp.15-22.
- **Kumar, A.** and Ray, R.K., 2015. Numerical study of shear flow past a square cylinder at reynolds numbers 100, 200. Procedia Engineering, 127, pp.102-109.
- **Kumar, A.** and Ray, R.K., 2017, July. A numerical simulation of shear flow past two equal sized square cylinders arranged in parallel at Re= 500. In AIP Conference Proceedings (Vol. 1863, No. 1, p. 490003). AIP Publishing.

List of Peer reviewed Conference Articles

- **Kumar, A.** and Ray, R.K., 2018. Numerical Simulation of Flow Around Square Cylinder with an Inlet Shear in a Closed Channel. In Applications of Fluid Dynamics (pp. 297-304). Springer, Singapore.
- **Kumar A.** and Ray R.K., 2018. The control of vortex shedding behind square cylinder for shear flows at Re=100. CMCGS pp 22-30.
- **Kumar, A.** and Ray, R.K., 2016. Higher order compact numerical simulation of shear flow past inclined square cylinder. In Advanced computing and communication technologies (pp. 305-313). Springer, Singapore.
- **Kumar, A.** and Ray, R.K., 2017, November. Unsteady flow separation from the surface of two square cylinders arranged in series in shear flow using structural bifurcation analysis. In APS Meeting Abstracts.

Conferences/Workshops/Invited Talks

2018 **Oral presentation** at International Conference on Advances in Pure & Applied Mathematics, September 06–08, School of Mathematics, Madurai Kamaraj University Madurai, Tamilnadu, India.

2018 **Attended** Instructional School for Teachers (IST) on Field and Algebraic Number Theory, June 04–16, Indian Institute of Technology Mandi, Himachal Pradesh, India.

2018 **Attended** Workshop on Effective Teaching and Learning, April 28, Indian Institute of Technology Mandi, Himachal Pradesh, India.

2017 **Oral presentation** at 70^{th} Annual Meeting of the American Physical Society Division of Fluid Dynamics, November 19–21, Denver Colorado, USA.

2017 **Attended** The Research Fair Anusandhan, March 04, Indian Institute of Technology Mandi, Himachal Pradesh, India.

2016 **Oral presentation** at International Conference on Applications of Fluid Dynamics (ICAFD-2016), December 19–21, Indian School of Mines Dhanbad, Jharkhand, India.

2016 **Attended** The Research Fair Anusandhan, February 16, Indian Institute of Technology Mandi, Himachal Pradesh, India.

2016 **Oral presentation** at International Conference of Numerical Analysis and Applied Mathematics (ICNAAM-2016), September 19–25, Rodos Palace Hotel Rhodes, Greece.

2015 **Oral presentation** at International Conference On Advanced Computing And Communication Technologies (ICACCT-2015), November 27–29, Asia Pacific Institute of Information Technology SD India Panipat, Haryana, India.

2015 **Oral presentation** at International Conference on Computational Heat and Mass Transfer (ICCHMT-2015), November 30–Decmeber 02, National Institute of Technology Warangal, Telangana, India.

2015 **Attended** National Program on Differential Equations: Theory, Computation & Applications (NPDE-TCA), November 16–20, Indian Institute of Technology Mandi, Himachal Pradesh, India.

2011 **Attended** Winter School on Statistical Estimation and Modeling: Topics on least Square Methods and Ill-Conditioned Inverse Problems in Imaging, Natural Language Processing and Information Retrieval, and Speech Processing, February 02–15, Banaras Hindu University Varanasi, Uttar Pradesh, India.

2010 **Attended** Advanced Training Programme in Functional Analysis, June 21–July 3, Banaras Hindu University Varanasi, Uttar Pradesh, India.

Awards and Distinctions

2018 **Best Paper Award** in the 7th International Conference on Computational Mathematics, Computational Geometry & Statistics (CMCGS 2018), held in Singapore.

2017 **Best Poster Award** in Research Fair Anusandhan, March 04, Indian Institute of Technology Mandi, Himachal Pradesh, India.

2017 **CSIR Foreign Travel Grant** to attend 70^{th} Annual Meeting of the American Physical Society Division of Fluid Dynamics, November 19–21, Denver Colorado, USA.

2016 **International Travel Support SERB-DST** to attend 14^{th} International Conference of Numerical Analysis and Applied Mathematics (ICNAAM-2016), September 19–25, Rodos Palace Hotel Rhodes, Greece.

2015 Eligibility for lectureship **(CSIR–NET)** awarded by the University Grants Commission, India (June–2015) on the basis of an all India Examination.

2014 Eligibility for lectureship **(CSIR–NET)** awarded by the University Grants Commission, India (December–2015) on the basis of an all India Examination.

2011 Graduate Aptitude Test in Engineering **(GATE–2011)** Secured AIR 27, conducted by MHRD, Government of India.

2010 Graduate Aptitude Test in Engineering **(GATE–2010)** Secured AIR 363, conducted by MHRD, Government of India.

Computer skills

- C, Tecplot, LaTeX, Linux, Matlab, Microsoft Windows.

References

- **(a)** Dr. Rajendra K. Ray
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- **(d)** Dr. Syed Abbas
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  `https://sites.google.com/site/abbaskanpur/Home`