



Krishnanand Vishwakarma

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OVERVIEW:

- I am working as an Assistant Professor at the Veermata Jijabai Technological Institute (VJTI), Mumbai, Maharashtra, India. Prior to join VJTI Mumbai, I worked as an Assistant Professor at IIIT Naya Raipur, Chhattisgarh and Patna University, Patna. The main objective of my career is to look for a competitive position in a reputed institute with a view to use my knowledge for the benefit of the organization and also to solve new challenging research problems in the area of my interest.
- **Research Areas:** Mathematical Modeling and Computation, Mathematical Ecology & Epidemiology, Bifurcation Analysis, Nonlinear Dynamics, Ordinary Differential equation (ODEs) Delay Differential Equations (DDEs).

RECEIVED: AWARDS/ACHIEVEMENTS/FELLOWSHIP:

- **BEST FACULTY AWARD** on 19 May, 2024 from Institute of Technology and Scientific Research (ITSR) and the Institute of Engineers (India), Rajasthan State Centre, Jaipur.
- **GOLD MEDALIST** in M.Sc (Mathematics) from V.B.S. Purvanchal University, Jaunpur in 2014 with Inspire Fellow.
- **CSIR- NET/JRF** in June-2016 with All India Rank 59.
- **GATE** with all India score 332 in 2015 Conduct by IIT Kanpur.
- **SRF** in November, 2018 under MHRD Fellowship, Government of India [F.No.17-2/2014 TS-1].

EDUCATIONAL SUMMARY:

National Institute of Technology Patna, INDIA:

- **Ph.D (Applied Mathematics)** Received on 21st, June 2022.
- **Thesis Title:** "Bifurcation analysis of some interacting population models: Impact of the Allee effect and hunting cooperation in predator".

VBS Purvanchal University Jaunpur(Uttar Pradesh), INDIA:

- **Master of Science (Mathematics)** Received in 2013 with First Division (81.33%).

- **Bachelor of Science (Mathematics)** Received in 2011 with First Division **(68.50%)**.

U.P. Board Allahabad, INDIA:

- **Intermediate (Math Stream):** Passed in 2008 with First Division **(65.40%)**.
- **High School (Science Stream):** Passed in 2006 with First Division **(72.67%)**.

Computer programming/language:

- Basic knowledge in computer programming/language such as **Latex, Maple, Matlab, Mathematica, C++, Python, Tech-plot and Matcont.**

Future Research areas:

- Epidemiological modelling and Stochastic Differential equation.

PUBLICATIONS/JOURNALS/SCI/SCIE/SCOPUS:

1. K. Vishwakarma and M. Sen, **Role of Allee effect in prey and hunting cooperation in a generalist predator**, “**Mathematics and Computers in Simulation (2021)**”.
Link: <https://doi.org/10.1016/j.matcom.2021.05.023> (IF: 4.4)(SCI)
2. Vishwakarma, K., Sen, M. **Influence of Allee effect in prey and hunting cooperation in predator with Holling type-III functional response**. “**Journal of Applied Mathematics and Computing (2022)**”.
Link: <https://doi.org/10.1007/s12190-021-01520-1> (IF: 3.0)(SCI)
3. K. Vishwakarma, R. Yadav, **Dynamics of a prey-predator model with a strong Allee effect and Holling type-III ratio-dependent functional response**, “**The Journal of Analysis (2024)**”.
Link: <https://doi.org/10.1007/s41478-024-00877-3> (IF: 1.7)(Scopus)
4. K. Vishwakarma, **Dynamics of a predator-prey model with maturation delay and hunting cooperation in predator**, “**International Journal of Applied and Computational Mathematics (2025)**”.
Link: <https://doi.org/10.1007/s40819-025-01879-w> (IF=1.1) (Scopus)
5. Vishwakarma, K., **Impact of Delay on Prey–Predator Model with Logistic Growth and Hunting Cooperation**, “**Conference Proceeding(2025)**”, Lecture Notes in Networks and Systems, vol 1192. Springer, Singapore.
Link: <https://doi.org/10.1007/978-981-96-1449-3-6> (Scopus)
6. Anikat, K. Vishwakarma, KB Yadav, **Influence of urbanization and climate change on the human population through a mathematical modeling**, ”**Conference Proceeding (2025)**”.
Link: <https://doi.org/10.1515/9783111724638-010>, (Scopus)
7. K. Vishwakarma, M.K. Chaube, **Impact of Maturation Delay on Prey-Predator Model with Hunting Cooperation**, “**International Journal of Applied Nonlinear Science (2025)**”, “Accepted”.
Link: <https://doi.org/10.1504/IJANS.2025.10072424>, (IF: 0.4)(Scopus/ESCI)

8. K. Vishwakarma and D. Mondal, **Qualitative analysis of a prey-predator model with hunting cooperation and density-dependent death rate**, “**Journal of Biological Systems**”(2025).
Link: <https://doi.org/10.1142/S0218339026500075>, (IF: 1.5)(SCI)
9. K. Vishwakarma, K. Garain, Xiaoxia Guo, **The Analysis of Prey-Predator Interactions in Deterministic and Stochastic Environments with Parameter Sensitivity**, “**International Journal of Biomathematics**”(2025).
Link: <https://doi.org/10.1142/S179352452550161X>, (IF: 2.0)(SCI)
10. K. Vishwakarma, Ch. T.Kumar, B.K. Rajak, M. Dewangan, **Integrating Multimodal Neural TTS for Interactive LMS**, “**Conference Proceeding**”(2026), Lecture Notes in Networks and System, Springer.
Link: <https://doi.org/10.1007/978-3-032-32753-6-16>, (Scopus)
11. K. Vishwakarma and M. Sen, **Dynamics of prey-Predator model with using Beddington-DeAngelis type functional response and Allee effect in predators**, “Communicated”.
12. K. Vishwakarma and M. Sen, **Complex dynamics of a two-patch prey-predator model with Allee effect in prey and hunting cooperation in predator**, “Communicated”.
13. K. Vishwakarma, **Exploring a prey-predator fish population model with the Allee effect and harvesting in the presence of hunting cooperation**, “Communicated”.

ORGANIZED CONFERENCES/WORKSHOPS/FDP AS A CONVENER:

1. Organized “3rd International Workshop on Advanced Topics in Mathematics (IWATM-2024)” at Department of Science and Mathematics, Dr SPM IIIT Naya Raipur, Chhattisgarh, India, during December 16th – 20th, 2024.
2. Served as Co-convenor of the 5th International conference on “Mathematical Modeling, Computational Intelligence Techniques and Renewable Energy (MMCITRE-2025)” Organised by the Centre for applied Mathematics, Department of Science and Mathematics, IIIT Naya Raipur, Chhattisgarh, India during 10th-12th December, 2025.

INVITED TALK/LECTURES/TUTORIALS CLASS/LAB:

1. Delivered a Tutorial Lectures on MATLAB in Instructional School for Teachers(IST) on “Mathematical Foundation for Data Science and Machine Learning using MATLAB(MFDSMLM) under the aegis of National Centre for Mathematics (A Joint Centre of TIFR and IIT Bombay)”, organized by Dep. of Science and Mathematics, IIIT Naya Raipur, Chhattisgarh, India, during June 02-14, 2025.
2. Delivered an invited talk on entitled “Complex dynamics of a fish population model with Allee effect” in 2nd “International Conference on Nonlinear Analysis and Computational Techniques (ICNACT-2025)” Organized by The School of Advanced Sciences and Languages (SASL), VIT Bhopal University, India, during 7th-08th August, 2025.

3. Delivered an invited talk on entitled “**Dynamical Complexity of a prey-predator model with hunting cooperation and density-dependent death rate**” in 91st “**Annual Conference of the Indian Mathematical Society (IMS-2025)**” Organized by **Department of Mathematics and Astronomy, University of Lucknow, Lucknow, India**, during 26th-29th December, 2025.

INTERNATIONAL CONFERENCES:

1. Paper presented in 3rd International conference on “**Mathematical Modelling, Applied Analysis and Computation-2020 (ICMMAAC-2020)**” Organised by **Department of Mathematics, Faculty of Science JECRC University, Jaipur(Raj.)**, India during August 07th-09th 2020.
2. Paper presented in 4th International conference on “**Mathematical Modeling, Computational Intelligence Techniques and Renewable Energy (MMCITRE2024)**” Organised by **Department of Mathematics, Manipal University Jaipur, Jaipur(Raj.)**, India during 29th-31th May 2024.
3. Paper presented in 2nd International conference on “**Recent Advances in Applied Mathematics (RAAM 2024)**” Organised by **Department of Mathematical Science, IIT (BHU), Varanasi, India** during 03th-05th July 2024.
4. Paper presented in the “**International Conference on Nonlinear Analysis and Computational Techniques (ICNACT-2024)**” Organised by **The School of Advanced Sciences and Languages (SASL), VIT Bhopal University, India**, in collaboration with **Institute of Physics and Mathematics, Technological University of Mixteca, Oaxaca, Mexico** during 08th-10th August, 2024.

NATIONAL CONFERENCES:

1. Participated in National Conference on “**Recent Developments in Numerical Techniques and its Applications**” held at **NIT Patna** during from 7th – 8th April, 2016.
2. Participated in National Conference on “**Differential Analysis**” held on 19th – 20th Nov, 2016, organised by **Bharata Ganita Parisad and Department of Mathematics and Astronomy University of Lucknow, Lucknow**.
3. Paper presented in national conference on “**New Concept & Trends in Mathematics (NCTM-2019)**” Organised by **Department of Mathematics, B.N. College Patna, Patna University, Patna-800004, Bihar, India** During March 15th – 16th, 2019.
4. Paper presented in national conference on “**Modeling, Analysis and Simulation (MAS2019)**” Organised by **Department of Mathematics and Computing, Indian Institute of Technology (ISM) Dhanbad** under the aegis of **IAMMS(IIT Kanpur) & SAM, IIT(ISM) Dhanbad, India** during 16th – 18th December 2019.
5. Paper presented in DST Sponsored national conference on “**Mathematics and its Application for the Advancement of Computer Science and Technology**” Organised by **Department of Mathematics, TDPG College, Jaunpur (UP) India & Ramanujan Society of Mathematics and Mathematical Science** during March 02-04, 2024.

6. Paper presented in the “21st Chhattisgarh Young Scientist Congress -2026 (Department of Science and Technology, Government of Chhattisgarh)” Jointly Organised by IIIT Naya Raipur & Chhattisgarh Council of Science and Technology, C.G., India during 17th-18th March, 2026.

ATM SCHOOLS/GYAN COURSES/WORKSHOPS/SEMINAR/FDP:

- Participated in Course on “**Mathematical Modelling in Biological and Biomedical Applications**” held on 20th – 24th November, 2017, organised by **NIT Patna, India**.
- Participated in (AIS) the Advanced Instructional school on “**Mathematical Biology**” held at **IMSc, Chennai** during December 03-15, 2018.
- Participated in TEQIP-III Sponsored Workshop on “**Mathematical Logic and its Applications**” held at NIT Patna during from 11th – 16th February, 2019.
- Participated in **Teachers Enrichment Workshop (TEW)** on “**Analytical and Numerical Solutions of Ordinary and Partial Differential Equations**” held at **IIIT Naya Raipur, Chhattisgarh, India** during December 05-10, 2023.
- Participated as an **Expert** on “**Real-World Problems in Mathematical Science & Mathematical Technical Terminology for Hindi and Gujarati Medium Technical Education**” Organised by Commission for Scientific and Technical Terminology held at **Pandit Deendayal Energy University, Gandhinagar, Gujarat, India** during September 25-26, 2024.
- Participated in Wipro Certified Faculty (WCF) training Program on “**Data Science with Python**” held on 11th – 29th November, 2024, conducted by **TalentNext**.
- Participated in Manak Pravardhak Workshop on “**Engagement of young Professionals in Standardization**” held on 05th – 06th December, 2024, organised by **Bureau of Indian Standards (BIS)** at National Institute of Training for Standardization, Noida, UP.
- Participated in the workshop on “**Theoretical and Computational Dynamics of Biological Systems**” organized by **Department of Engineering Science, ABV-Indian Institute of Information Technology and Management Gwalior, Gwalior, M.P., India** during April 09-11, 2025.
- Participated in the “**Nurturing Future Leadership Programme (NFLP)**” under the aegis of Malviya Mission Teacher Training Programme (MMTTP) of University Grants Commission (UGC) from 09th – 13th June, 2025, organized by **Bhavan’s S.P. Jain Institute of Management and Research, Mumbai**.
- Participated in the “**Faculty Development Program (FDP)**” on “**Digital Transformation with Process Mining**” from 22th – 26th October, 2025, organized by **IIIT Naya Raipur, Chhattisgarh, India**.

EXPERIENCES:

- Working as a Assistant professor(on Tenure basis/Contract) in Mathematics discipline at Veermata Jijabai Technological Institute (VJTI), Mumbai, Maharashtra, India from 04 Aug,

2026 to Till date.

- Worked as a Assistant professor in Mathematics discipline (on contract grade-II) at Dr. SPM International Institute of Information Technology (IIIT), Naya Raipur, Chhattisgarh, India from 03 July, 2023 to 03 July, 2026.

Here, I taught following courses at UG & PG level: **Differential equations & Vector Analysis(MA202C), Graph Theory(MA203C), Statistical Learning Theory(DA201C), Optimization Techniques(MA104C), Statistical Data Analysis(DA204C), Descrete Mathematics (MAL04C), Linear Algebra, Calculus and Probability and Statistics.**

- Worked as a Assistant professor in Mathematics discipline on contract basis at Patna University, Patna from 01 Nov, 2022 to 31 may, 2023.

Here, I taught following courses at UG & PG level: **Complex Analysis, Real Analysis, Linear Algebra, Abstract Algebra, Vector Calculus, Numerical Analysis & Differential equations.**

Remarks: Depending on the requirement of the Department, I can also teach other topics of Mathematics

OTHER RESPONSIBILITIES/ADMINISTRATIVE JOB:

- Working as a “**NSS and Sports incharge officer**” at Dr. SPM IIIT Naya Raipur, Chhattisgarh, India, from August 07, 2024 to continue.
- Worked as a **Session chair** at 2nd IEEE International Conference on Block chain & Distributed Systems Security 2023(**IEEE ICBDS 2023**) held during 6th – 8th October, 2023 Jointly Organized by IEEE Computer Society, IEEE Pune Section, IEEE Madhya Pradesh Section in association with IIIT Naya Raipur, Chhattisgarh, India.

REVIWERS:

- **Discrete and Continuous Dynamical System (DCDS)** (American Institute of Mathematical Society).
- **The Journal of Contemporary Mathematics** (Universal Wiser Publisher).
- **International Journal of Mathematics and Mathematical Sciences (IJMM)** (Wiley).
- **Journal of Applied Mathematics and Computing (JAMC)** (Springier).

INTERNSHIP STUDENTS:

1. Title: **The SEIR model of infectious disease**, Students Name: **Upendra Dutt Uniyal**, Qualification: **PG**, Affiliation: **South Asian University, New Delhi**, Students Type: **External**, Duration: **29/05/2024-12/07/2024**.
2. Title: **Analysis of SIR model of infectious disease**, Students Name: **Mansi Bramta**, Qualification: **PG**, Affiliation: **Babasaheb Bhimrao Ambedkar University, Lucknow**, Students Type: **External**, Duration: **03/06/2024-12/07/2024**.

PROJECT SUPERVISIONS:

1. In **2023-2024**: No. of UG(B.Tech) students (Branch: CSE, DSAI, ECE) : 21
2. In **2024-2025**, No. of UG(B.Tech) students (Branch: CSE, DSAI, ECE): 18
3. In **2025-2026**, No. of UG(B.Tech) students (Branch: CSE, DSAI, ECE): 10

PHD SUPERVISION:

1. In **2025**, as a **Co-supervisor**: students name: Ms. Bhavika Gupta (Department: Science & Mathematics)

MEMBERSHIP:

- Life member of the **Indian Mathematical Society** from **Aug, 2025** with membership ID is L/2025/169.
- Bharat Ganita Parisad (Lucknow University, Lucknow)

GOOGLE SCHOLAR/RESEARCH GATE/ORCID/VIDWAN LINK :

1. Google Scholar Link: <https://scholar.google.com/citations?user=W3z9NLcAAAAJ&hl=en>
2. Research Gate Link: <https://www.researchgate.net/profile/Krishnanand-Vishwakarma-2>
3. ORCID Link: <https://orcid.org/my-orcid?orcid=0009-0001-3575-0528>
4. VIDWAN ID Link: <https://vidwan.inflibnet.ac.in/profile/592448>
5. Scopus ID Link: <https://www.scopus.com/authid/detail.uri?authorId=57222540001>

[Citations - 101, h-index-03, i10 index-03, Source- As per Google Scholar]

REFERENCES:

- **Ph. D Supervisor & Collaborator:** Dr. Moitri Sen (Assistant professor Dept. of Mathematics & Computing, NIT Patna, India), [Email- moitri@nitp.ac.in](mailto:moitri@nitp.ac.in)
- **Collaborator:** Dr. Partha Sarthi Mondal (Associate professor Dept. of Mathematics & Computing, NIT Patna, India), [Email- parthas@nitp.ac.in](mailto:parthas@nitp.ac.in)
- **Collaborator:** Dr. Prashant Kumar Shrivastava (Associate professor Dept. of Mathematics & Statistics, IIT Patna, India), [Email- pksri@iitp.ac.in](mailto:pkrsri@iitp.ac.in)
- Prof. KG Srinivasa (Dean Academics), Dr SPM International Institute of Information Technology (IIIT) Naya Raipur, Chhattisgarh, India, [Email- srinivasa@iiitnr.edu.in](mailto:srinivasa@iiitnr.edu.in)
- Prof. Archana Sharma (Ex. Scientist and Former Director, BTDG, BARC), Mumbai [Email- arsharma.barc@gmail.com](mailto:arsharma.barc@gmail.com)

Declaration: I hereby certify that the information given above is correct to the best of my knowledge.

Dr Krishnanand Vishwakarma