

Dr. Mukesh Kr. Madhukar

M.Sc. (First Class First), Ph.D.

**ASSOC. PROFESSOR, DEPT. OF MATHEMATIC
COLLEGE OF COMMERCE, ARTS & SCIENCE
PATNA, PIN CODE - 800020**

**Email: mkmadhukar2011@gmail.com
Mobile: 9430426080**

JOB EXPERIENCE:

- Had been worked as Lecturer in the Dept. of Mathematics, M.M. College, Bikram, Patna from 11th Aug.2003 to 10th Aug. 2009.
- Had been worked as Assistant Professor (Senior Scale) from 11th Aug. 2009 to 10th Aug. 2014.
- Had been worked as Reader from 11th Aug. 2014 to 10th Aug. 2017.
- Had been worked as a Associate Professor from 11th Aug. 2017 to 1st Sep. 2020.
- Presently, working as a Associate Professor in the Dept. of Mathematics, College of Commerce, Art & Science, Patna (Patliputra University, Patna) from 2nd September, 2020 to till now.

TEACHING EXPERIENCE

- Post Graduate : 3 years 8months
- Under Graduate : 20 years 8 months

Paper Setting & Evaluation Experience

- Paper Setting : Graduation & Post Graduation of Diff. Universities
- Copy Evaluation : Post Graduation / Graduation of Diff. Universities

Academic Experience

- Worked as **Subject Expert in Mathematics** for equivalency and scrutiny of application forms related to appointment of **Assistant Professor** from 18.12.2023 to 22.12.2023 and 26.12.2023 to 30.12.2023 as per Bihar State University Service Commission, Patna Memo no. BSUSC/Adv.-45/2023 (Sec.-6)-563 dated 14.12.2023, BSUSC/Adv.-45/2023 (Sec.-6)-572 dated 22.12.2023 & BSUSC/Adv.-45/2023 (Sec.-6)-581 dated 29.12.2023.

Administrative Experience in M. M. College, Bikram

- Served as **Head of the Department of Mathematics** in M.M. College, Bikram (Patna) Since 11th Aug. 2003 to 1st September, 2020.

- Served as **Care Taker Officer**, NCC Unit of M.M. College, Bikram (Patna) from 01.09.2011 to 31.08.2014.
- **Organizing Secretary**, UGC Sponsored National Seminar on “Mathematical Modelling and its Application for Social Development” held on 10th & 11th February, 2012.
- Served as **Deputy Proctor** in M.M. College, Bikram (Patna) from 20.04.2012 to 19.04.2014.
- Served as **Bursar** in M.M. College, Bikram (Patna) from 17th June, 2015 to 16th June, 2018.
- **Coordinator of BCA** in M.M. College, Bikram (Patna) **since** 1st July, 2017 to 1st September, 2020.
- **Routine-in-charge (Sc. Faculty)** since 10th July, 2006 to 1st September, 2020.
- **Admission-in-charge (Sc. Faculty)** since 10th July, 2006 to 1st September, 2020.
- **RTI Officer in the College** since 12th February, 2019 to 1st September, 2020.

Administrative Experience in College of Commerce, Arts & Science, Patna

- **Member of Planning & Development Committee** of College as per memo no Gen/90/2021 dated 05.03.2021.
- **Member of Internal Complain Committee (ICC)** of college from 27.03.2021.
- **Member of SC/ST Committee** of College as per memo no Gen./200/2022 dated 25.04.2022.
- **Member of the Proctorial Board** of the College as per memo no Gen./244/2021 dated 21.10.2021 from 21.10.2021 to 09.11.2022.
- **Bursar (Expenditure) of College of Commerce, Arts & Science, Patna** with reference to Patliputra University, Patna Memo no. R/PPU/501/24 05.03.2024 and as per COCAS memo no. Gen/98/24 dated 06.03.2024.

Members of the Different Committee in Patliputra University, Patna

- **Member of a five men Committee** constituted to look in to the matter of the applicants of Compassionate ground for flawless appointment as per memo no. R/PPU/1245/2021 dated 18.02.2021.
- **Member of an Internal Screening Committee** to check verifies, facilitate & streamline the process of confirmation of the services of Teaching as well as non-teaching staffs as per memo no. R/PPU/1808/21 dated 16.06.2021.
- **Member of an Internal Screening Committee** to check verifies, facilitate & streamline the process of Promotion work under CAS, MPS, and Time Bond etc. of Teachers as per memo no. R/PPU/1870/21 dated 23.06.2021.
- **Member of a Committee is constituted to expedite the work of promotion of Minority College under Patliputra University, Patna** as per memo no. R/PPU/2120/21 Dated 23.07.2021.

- **Member of a Committee is constituted to expedite the work of Service Confirmation of Non-Teaching Staffs** of all the constituted colleges under Patliputra University, Patna as per memo no. R/PPU/2408/21 Dated 11.09.2021.
- **Co-Ordinator of a five members Student Grievance Redressal Cell** to accept and redress the grievances online regarding Admission, Examination and Result publication as per PPUP memo no. R/PPU/089/22 dated 17.01.2022.
- **Member of three men committee** for appointment of Guest Faculty/ Part time teachers to facilitate, streamline and execute the whole process in a legitimate manner as per PPUP memo no. R/PPU/424/22 Dated 02.03.2022.
- **Member of a five men Committee** constituted to look in to the matter of the applicants of Compassionate ground for flawless appointment as per memo no. R/PPU/1879/2022 dated 22.08.2022.
- **Member of a Committee is constituted to check, verify, facilitate & streamline the process of teacher's promotion, who's file for promotion has been received from Magadh University, Bodh-Gaya** as per memo no. R/PPU/911/23 dated 22.05.2023.
- **Member of a Committee is constituted to expedite the work of Service Confirmation of Non-Teaching Staffs** of all the constituted colleges under Patliputra University, Patna as per memo no. R/PPU/2277/23 Dated 19.10.2023.
- **Member of three men committee** for appointment of Guest Faculty/ Part time teachers to facilitate, streamline and execute the whole process in a legitimate manner as per PPU, Patna memo no. R/PPU/144/24 Dated 11.01.2024.

RESEARCH WORK GUIDED

SI No.	Name of the Research Scholar	Research Topic	Name of the University	Awarded/ Submitted
1.	Ajay Kumar Sonkar	Studies in Hydrodynamic and Magnetohydrodynamic Turbulence	Magadh University, Bodh-Gaya	Awarded 16.08.2016
2.	Md. Zafir Alam	Some Studies in Mathematical Biosciences	Magadh university, Bodh-Gaya	Awarded 20.12.2016
3.	Ashwini Kumar	Some Investigation in Mathematical Modeling	Magadh University, Bodh-Gaya	Awarded 29.05.2017
4.	Ashish Kumar	Certain Investigation on Applications of differential Equations in Mathematical Modeling	Magadh University, Bodh-Gaya	Awarded 08.08.2022

CONFERENCE / SEMINARS ATTENDED & PAPERS PRESENTED

1. **“Life is a Statistical Game”** presented in 9th Conference of Bihar Mathematical Society on **“Mathematical Modeling for Social Science”** on 12th& 13th March, 2005 organized by P.G. Dept. of Mathematics, T.M.B.U., Bhagalpur.
2. **“Contribution of Aryabhatta in Math”** presented in U.G.C. Sponsored Seminar on 22nd March, 2006 organized by Dept. of History, M.M. College Bikram, Patna.
3. **“Some Static Spherically Symmetric, Static Solution for Anisotropic Ferro Fluid”** presented in **“Golden Jubilee Conference”** of B.M.S. on 29th& 30th March 2008, organized by P.G. Dept. of Mathematics, B.R.A. B.U., Muzaffarpur.
4. **“Transmission Dynamics of the Human Immunodeficiency Virus (HIV)”** poster presentation in **1st Bihar Science Conference** on 7th – 9th May, 2008 organized by B. Brains Development Society, at Science College, Patna University.
5. **Continuous Growth Models for Non-Age-Structured Single Species Population** presented in **2nd Bihar Science Conference** on 30th Jan. – 1st Feb. 2009, organized by B. Brains Development Society at College of Commerce, Patna.
6. **“An Extension of Solution of Logistic Growth Model for Single Species Population”** presented in **3rd Bihar Sciences Conference** on 11th – 13th Feb. 2010 organized by B. Brains Development Society at Gaya College, Gaya.
7. **“Mathematical Modeling on Absorption of Drugs by Organs or Cell”** Presented in **UGC Sponsored National Seminar on Effective Learning and Teaching in Mathematics and its Application** on 20th -21st February, 2010 at Kishan College, Sohsarai (Nalanda).
8. **Participated in National Symposium on “Impact of Environmental Pollutants on Health and Fertility”** on 13th – 14th March, 2010 at Mahavir Cancer Sansthan, Patna.
9. **“Mathematical Modeling on Concentration of drugs in Two & Multi Compartments System”** poster presentation in **3rd Bihar Vigyan Congress 2010** Organized by Govt. of Bihar BCST, Patna on 2-4 April, 2010 at IGSC Planetarium, Patna.
10. **“General Epidemic Model and its Control”** presented in **4th Bihar Vigyan Congress 2011** Organized by Govt. of Bihar BCST, Patna on 9-11 June, 2011 at IGSC, Planetarium, Patna.
11. **“Basic Concept to Biological Fluid Dynamics”** presented in **UGC Sponsored National Seminar on Anxiety and Phobia of Mathematics** in Present Educational System on 5th & 6th August, 2011 at S.G.A.J. College, Rambagh, Bihta, Patna.
12. **“Some Basic Concepts of Modeling the Spread of Infectious Diseases”** Presented in **UGC Sponsored National Seminar on Role of Science & Technology in Developing Society”** on 23rd & 24th September, 2011 at Sri Arvind Mahila College, Patna.
13. **“Mathematical Models in Microbial Kinetics and its Importance”** presented in **UGC Sponsored National Seminar on Mathematical Modeling and its Application for Social Development** on 10th & 11th Feb. 2012 at M.M. College, Bikram, Patna.

14. **“Certain Investigation on Microscopic Traffic Models for Highway”** presented in **UGC sponsored National Seminar on Challenges and Problems of Teaching Mathematics and its Application** in other Subjects on 14th& 15th April, 2012 of R.P.S. College, Chakeyaj, Vaishali, Bihar.
15. **“Role of Mathematical Modeling in Science & Technology”** presented in **11th Conference of Bihar Mathematical Society** on 7th& 8th July, 2012 at College of Commerce, Patna,
16. **Participated in “Application of Technical Terms in Higher Education”** Ministry of H.R.D. Department of Higher Education, New Delhi **Sponsored by Govt. of India** on 6th& 7th Nov.2012 at Department of Mathematics, M.U. Bodh- Gaya.
17. **“Some Mathematical Models in Genetics”** presented in **Recent Trends in Mathematics and Computational Methods** Ministry of H.R.D. Department of Higher Education, New Delhi Sponsored by Govt. of India on 6th& 7th November, 2012 at Dept. of Mathematics, M. U., Bodh-Gaya.
18. **“Mathematical Modeling on Microscopic Traffic Flow”** presented in **5th Bihar Vigyan Congress, 2012** Organized by Govt. of Bihar BCST, Patna on 27th – 29th Nov. 2012 at IGSC- Planetarium, Patna.
19. **“Mathematical Modeling: Recent Trend for Mathematics Education in Different Level”** presented in **28th Annual Conference of the Mathematical Society Banaras Hindu University** on 03rd & 04th Dec.2012 at Dept. of Applied Mathematics, BIT Patna Campus, Patna.
20. **“Application of Fuzzy Control System Model”** presented in **UGC Sponsored National Seminar on Application of fuzzy Mathematics in other Relevant Fields** on 11th &12th April,2013 at J. R. S. College, Jamalpur, Munger.
21. **“Some Mathematical Modeling on Agricultural Economics”** presented in **UGC Sponsored National Seminar on Application of Science & Technology for Rural Development** on 25th&26th October, 2013 at M. M. College, Bikram, Patna.
22. **“The Environment of Hydrodynamic and Magnetohydrodynamic Turbulence”** presented in **National Conference on Vistas of Environmental Awareness Sponsored by Dept. of Higher Education U. P., Lucknow** on March 30-31, 2014 at K. N. Govt. P. G. College, Gyanpur, Bhadohi.
23. **“Origin of Mathematics”** presented in **UGC Sponsored National Seminar on Mathematics and its Application in other subjects** on 5th&6th September, 2015 at M. S.K.B. College, Muzaffarpur.
24. **“The source of energy and environment”** presented in **National Conference on Vistas of Scientific Approach for Welfare of Society** Sponsored by Dept. of Higher Education U. P., Lucknow on March 30-31, 2016 at K.N. Govt. P. G. College, Gyanpur, Bhadohi.
25. **“Predator-prey model: A problem in ecology”** presented in **7th Bihar Vigyan Congress, 2017 Organized by Govt. of Bihar BCST, Patna** on 17th – 19th Feb., 2017 at IGSC- Planetarium, Patna.
26. **“Mathematical Modeling in Prey-Predator Interaction”** presented in **33rd Annual National conference of the Mathematical Society-BHU** on 16th&17th February, 2018 at Dept. of Mathematics, Institute of Sciences, BHU, Varanasi.

27. **“Role of Mathematics in Everyday Life”** presented in seminar on **Modern perspective in Mathematics** organized by BMS on 30th May, 2018 at College of Commerce, Arts & Science, Patna.
28. **“Some Basic Population Growth Models using by Differential Equation”** presented in **UGC&SCRC sponsored International Conference on Recent Advances in Mathematics and Scientific Computing** on 18th & 19th September, 2018 at P. G. Dept. of Mathematics, M. U., Bodh-Gaya.
29. **“An Analytical solution for Different system of Differential equations by using the Differential Transformation Method”** presented in **UGC sponsored National Conference on New Concepts and Trends in Mathematics(NCTM-2019)** organized by Dept. of Mathematics, B. N. College, Patna held on 15th -16th March,2019.
30. **Participated in RUSA sponsored online International Conference-ICETMR2023** jointly organized by Faculty of Science, Patna Women’s College, Autonomous, Patna and Mount Carmel College, Autonomous, Bengaluru from 24th-25th March, 2023.
31. **Participated in IP Awareness/Training Program** under National Intellectual Property Awareness Mission organized by intellectual Property Office, India on 19th July, 2023.
32. **“Core and Primaries of rough automata”** presented in International Conference on Exploring Excellence in Mathematical Sciences2023 organized by Nalanda Open University, Nalanda held on 04th -06th November,2023.

ONLINE FDP AND WEBINAR

1. **One Week Faculty Development Program** (11th to 17th May,2020) successfully completed on LaTeX & Xfig organized by IQAC, A.N. College, Patna in association with IIT- Bombay through Spoken Tutorial, Remote Learning. (An initiative of National Mission on Education through ICT, MHRD, Govt. of India)
2. **Twelve Day Faculty Development Program** (22nd May to 02nd June,2020) on SCILAB(Scientific Laboratories) organized by IQAC, A.N. College, Patna in association with IIT- Bombay through Spoken Tutorial, Remote Learning.(An initiative of National Mission on Education through ICT, MHRD, Govt. of India)
3. Participated in the FDP National Webinar entitled **“ Women in Higher Education ISSUES AND Challenges in Corona Pandemic”** organized by Guru Angad Dev Teaching Learning Centre SGTB Khalsa College, University of Delhi under PMMMNMTT of HRD held on 27th May, 2020.
4. Participated in the Web Lecture Series-6 on the topic” **Internet of Sound: How sending data using sound waves can transform IOT industry”** organized by A.N. College, Patna held on 01st Jun, 2020.
5. Lecture Series-7on the topic **“Learning from the past epidemics: A historical Overview”** organized by A.N. College, Patna held on 04th Jun, 2020.

6. Participated in the National Webinar on “**Environmental Issues at the Time of Pandemic**” organized by Department of Botany& Department of Chemistry, J.D. Women’s, College, Patna on 05th June, 2020.
7. Participated in the Webinar on “**Natural Resource Management in India post Covid-19 Scenario**” organized by Dept. of Zoology, College of Commerce, Arts & Science, Patna held on 07.06.2020.
8. Successfully Completed “**E-QUIZ ON MATHEMATICS**” Conducted by Dept. of Mathematics, KANDASWAMI KANDAR’S COLLEGE, P.Velur on 26.06.2020 and have *secured a Passing Score of 70%*.
9. Successfully Completed One Day National Online Workshop entitled “**Effective Online Teaching-Learning Using Google Forms**” organized by under the aegis of IQAC of M.M. College, Bikram, Patna held on 05th August, 2020.
10. Participated in the online Quiz Competition on the occasion of the “**Indian Independence Day, 2020**” organized jointly by Dept. of Geography and Dept. of Philosophy under the aegis of IQAC, S.U. College, Hilsa (Nalanda), PPU, Patna.

RESEARCH PAPER PUBLISHED IN JOURNAL

1. “**Transmission Dynamics of the Human Immunodeficiency Virus (HIV)**” Published in ANUSANDHAN, Vol. X, No.-16, 151-157, **Dec. 2008, Bihar, India, ISSN 0973-0923.**
2. “**Modeling of Venereal Diseases Such as Gonorrhoea and its Control**” Published in ANUSANDHAN, Vol. X, No.-16, 249-255, **Dec. 2008, Bihar, India, ISSN 0973-093.**
3. “**Continuous Growth Models for Non-Age Structured Single Species Population**” Published in PAS, Vol. 15 (Math. Sc.) 437-445, **Dec. 2009, Jaunpur (U.P.), India, ISSN-0972-3498.**
4. “**Mathematical Modeling on Blood Flow through an Artery with Mild Stenosis**” Published in the Math Mentor A Research Journal of Math. Sc., Vol. 1, No. 1, 28-32, **Jan.-June 2014, NCP, Delhi, ISSN 2349-1116.**
5. “**Mathematical Modeling: Recent Trends for Mathematics Education in Different Level**” Published in the Math Mentor A Research Journal of Math. Sc. Vol.1, No. 1, 40-47, **Jan.-June, 2014, NCP, Delhi, ISSN 2349-1116.**
6. “**Concentration of Drugs in a Two and Multi-Compartment System**” Published in the Math Mentor A Research Journal of Math. Sc. Vol.2, No. 2, 56-60, **July-Dec, 2014, NCP, Delhi, ISSN 2349-1116.**
7. “**Distribution functions in the Statistical Theory of MHD Turbulence**” Published in Periodic Research Multi-Disciplinary International Research Journal, RNI No. UPBIL/2012/55438 Vol.-III, ISSUE-II, 59-63, **November, 2014, ISSN 2231-0045, Impact Factor-3.474.**
8. “**Mathematical Modeling on Macroscopic Traffic Flow**” published in ANUSANDHAN, Vol. XVII, No.42, 41-48, **June, 2015, Bihar, India, ISSN 0973-0923.**

9. **“Rate of Change of Vorticity Covariance of MHD Turbulence in a Rotating System”** Published in Journal of Progressive Sciences, Vol.-06, No.01.pp56-60, 2015, ISSN 0976-4933.
10. **“Mathematical Modeling on Growth of Population with Harvesting: Some Aspect”** Published in International Journal of Emerging Technologies and Innovative Research (JETIR), Vol.-05, Issue-6, pp 753-760, June, 2018, ISSN-2349-5162, Impact Factor-7.95.
11. **“Static Charged Fluid Spheres with Conformal Flatness in Einstein-Maxwell Theory”** *Published in Vol.-4, Issue-03, Peer reviewed UGC Approved Research Review International Journal of Multidisciplinary, March-2019, e-ISSN: 2455-3085, Impact Factor - 5.214.*
12. **“Age Structured Population Model and its Application for Perion Expansion in the Presence of Chaperone”** *Published in Vol.-4, Issue-05, Peer reviewed UGC Approved Research Review International Journal of Multidisciplinary, May-2019, e-ISSN: 2455-3085, Impact Factor -5.164.*
13. **“Mathematical Modeling on Prey-Predator Interaction”** *Published in Studies in Indian Place Names Vol.-40-issue-71, UGC care Approved International indexed and referred Journal, March-2020, ISSN: 2394-3114 Impact Factor - 6.3.*
14. **“Some Charged Fluid Spheres in General Relativity”** Published in **Journal of Advances and Scholarly Researches in Allied Education** an *Internationally Indexed Peer Reviewed & Referred Journal, Vol.-17, Issue-1, April, 2020, ISSN: 2230-7540, Impact Factor -3.46.*
15. **“Some Spherically Symmetric Non-Static Models in General Relativity”** Published in **JETER** (Journal of Emerging Technologies and Innovative Research) an International Scholarly Indexed *UGC Approved Journal VOL. - 7, Issue-8, August, 2020, Impact Factor -7.95.*
16. **“Cylindrically Symmetric Universe in Presence of Electromagnetic Field”** Published in **JETER** (Journal of Emerging Technologies and Innovative Research) an International Scholarly Indexed *UGC Approved Journal VOL. - 8, Issue-3, March, 2021, Impact Factor -7.95.*
17. **“Logistic Growth Model and its Extension with Verification in aspect of India’s Population”** Published in **JETER** (Journal of Emerging Technologies and Innovative Research) an International Scholarly Indexed *UGC Approved Journal VOL. - 9, Issue-1, Jan.2022, Impact Factor - 7.95.*

CHAPTER PUBLISHED

Chapter Entitled **“STATIC CHARGED FLUID SPHERES WITH SPIN”** Published in Edited Book Titled **“Some Studies in General Relativity, Einstein-Cartan Theory and Cosmology”** Published by: IXORA RESEARCH ASSOCIATION, September, 2020, ISBN NO: 978-81-946827-4-5.

BOOK PUBLISHED

“MATHEMATICAL MODELLING IN LIFE SCIENCES”

Published Jointly with Dr R.B.S Yadav, ex H.O.D, Dept. of Mathematics, MU Bodh Gaya.

Publisher: - Sahitya Bharti Publishing House, Patna, Basant Panchami, 2016, ISBN NO: 978-93-83703-50-0.

- **Life Member, Ramanujan Society of Mathematics and Mathematical Sciences, Jaunpur, RSMAMS/13/12**
- **Life Member, The Mathematical Society, Banaras Hindu University, 2018.**
- **Life Member, The Indian Mathematical Society, 2021, L/2021/85**

PERSONAL DETAILS:

Date of Birth : **6th July 1971**
Nationality : **Indian**
Religion : **Hindu**
Languages Known : **Hindi & English,**
Marital Status : **Married**

ADDRESS & CONTACT DETAILS

Permanent Address : **Vill & PO – Gerua, P.S –Belhar, District – Banka, Pin - 813212**
Address for Correspondence : **Flat No. 203, Kaushik Residency, Road no. 2A, Magistrate Colony, Ashiana Nagar, Patna - 800025**
Contact No's : **Mob +91- 9430426080**
E-mail id : **mkmadhukar2011@gmail.com**

(Mukesh Kumar Madhukar)