

Curriculum-Vitae

Name: Alok Kumar Verma

Designation : Professor and Head

Department : Mathematical Sciences and Computer Applications,
Bundelkhand University, Jhansi -284128, Uttar Pradesh (U.P)

Date of Birth : First July Sixty Nine(01-07-69)

E-Mail: alokverma@bujhansi.ac.in
alokverma.bu@gmail.com

Academic Career : M Sc (Mathematics), M.Tech, Ph.D.

Awarded Ph.D in Mathematics by the Kumaun University Nainital, December 7, 2006

Title: “ Two- Fluid Tilted Friedmann-Robertson-Walker Cosmological Models”.

Graduate Aptitude Test in Engineering (GATE –96) Qualified, All India Rank 142, Percentile 80.70, Score Code No: D-00813 and Discipline Mathematics

Teaching Career: Twenty Three Years

Designation	University	Department	Period	Teaching subjects in undergraduate classes BCA/B.Sc(CS) B.Sc(IT)	Teaching subjects in graduate classes M.Sc(Maths) /MCA	Teaching subjects in M.Phil(Maths)
Assistant Professor/Lecturer(From 15/11/1999 to 15/11/2005) Assistant Professor/Senior Lecturer (From 15/11/2005 to 15/11/2008) Reader (From 15/11/2008 to 15/11/2011) Associate Professor (From 15/11/2011 to 15/11/2014) Professor (From 15/11/2014 to till date)	Bundelkhand University Jhansi, (U.P)	Mathematical Sciences and Computer Applications	Six years Three years Three years Eleven years Eight years	Calculus, Discrete Mathematics, Operation Research	Classical Mechanics, Discrete Mathematics, Computer Oriented Numerical Analysis, Ordinary Differential Equations, Partial Differential Equations, Functional Analysis, Fluid Dynamics	Dynamical Systems Neural Networks. Research Methodology

Research Experience: Sixteen Years

Research Interest: Cosmology, Neural Networks, Dynamical Systems

Referee / Reviewer of

IEEE Transaction on Neural Networks: Actively engaged with this international journal on neural networks in reviewing of manuscript as asked by the editor from time to time.

Indian Journal of Physics: Helps in reviewing the manuscript of this journal as asked by the editor.

Ph.D Supervision:

As Guide: Three

Status: Thesis submitted, 9 September, 2015

Title of research:

“Study of some attractors for Hopfield networks under dynamical thresholds”.

Status: Awarded December, 2016

Title of research:

“Mathematical analysis of equilibria of a group of recurrent neural networks”

Status: Pursuing

Title of research: “Security model for resource provisioning in cloud computing”

Status: Pursuing

Title of research: “New generalized proximal point method for convex and non-convex optimization problems in Banach spaces”.

M.Phil Supervision: Twenty Three

As guide Twenty Three M.Phil students were supervised in their research work.

Academic Session 2013-2014: Result was declared on 11/06/2015

Title of research:

- “Stability analysis of delay differential equation by the method of steps and inverse Laplace transforms”(2015).
- “Boundary value problem for nonlinear elliptic equation with two parameters”(2015).
- “Stability of discrete dynamical systems”(2015).

Academic Session 2012-2013: Result was declared on 01/02/2014

- “Global stability of Hopfield neural network under dynamical thresholds”(2014).

- “Discretization process of discrete and continuous dynamical system”(2014).
- “Algebraic condition for decomposition of large-scale linear dynamic system”(2014).
- “Bounded motions of the dynamical systems described by differential inclusion”(2014).

Academic Session 2011-2012: Result was declared on 12/06/2013

- “The multiple symmetric positive solutions of higher order differential equations with Lidstone boundary conditions”(2013).
- “New iterative method for convergence theorem about two fixed points”(2013).
- “Random attractor for stochastic retarded lattice dynamical system”(2013).
- “Hopfield neural networks under Impulses”(2003).

Academic Session 2010-2011: Result was declared on 06/07/2012

- “Attractors for discrete single species population models with dynamical systems”(2012).
- “ Study of synchronization of discrete time dynamical systems”(2012).
- “ Study of functions for training new hidden units in constructive neural networks”(2012).
- “Study of dynamical behaviour of a class of cellular neural network system with distributed delays under dynamical thresholds”(2012).
- “Concept of global stability and boundedness in nonlinear second order differential equation”(2012).

Academic Session 2009-2010: Result was declared on 20/05/2011

- “Effect of soil and atmospheric pollution on the existence of the three interacting species system”(2011).
- “Impulsive stabilization of high order Hopfield- type neural networks with time varying delays”(2011).

Academic Session 2008-2009: Result was declared on 23//3/2009

- “Neuron dynamics under external stimulus” (2009).
- “Rainfall Intensity-Duration-Frequency (IDF) model using artificial neural networks for Bundelkhand region”(2009).

Academic Session 2007-2008: Result was declared on 06/09/2008

- “ Study of open and closed recurrent neural networks”(2008).

- “Stock forecasting using neurogenetic methods”(2008).
- “Columnar competitive model for solving traveling salesman problem”(2008).

Research Publications:

Research papers in International /National Journals: Twelve Publications

- Surendra Kumar Pathak and Alok Kumar Verma(2019). “ A simple secure direct key Access scheme for hierarchical structure in cloud computing”, International Journal of Applied Engineering Research ISSN 0973-4562 Vol 14, Number 10,pp 103-106. <http://www.ripublication.com>
- Mukesh Kushwaha and **A.K Verma**(2016). “A new iterative method for convergence theorem about two fixed points”.International Journal of Professional Development .Vol,5,No 1,Jan-June.pp.-73-86:ISSN:2277-517X,22790-0659.
- Vineeta Yadav, Rizwana Zamal and **A.K.Verma** (2014). “Simulation of objective function for training of new hidden units in constructive Neural Networks.”. International Journal of Mathematics And Its Applications.Vol 2 No.2,pp.23-28.ISSN:2347-1557.
- Vineeta Yadav, Rizwana Zamal and **Alok Kumar Verma**(2014). “Brain machine interfaces: a ray of hope”. International Journal of scientific research and management(IJSRM), Vol 2,Issue 3,pp. 684-687, March 2014.ISSN(e):2321-3418.
- Neeraj Sahu, Poonam Sinha and **A.K. Verma**(2013). “Global λ , μ stability of delayed recurrent neural network”. International journal of Application or Innovation in Engineering and Management(IJAIEM),Vol 2,Issue 9, Sept 2013, ISSN 2319-4847.
- Neeraj Sahu and **A.K Verma** (2012).” Analysis of Equilibria of a recurrent Neural Network involving Transcendental Function”. International Journal of Applied Information Systems(IJAIS)-ISSN: 2249-0868.Foundation of Computer Science FCS, New York, USA Volume 4- No.5, October 2012-www.ijais.org
- Neeraj Sahu, Poonam Sinha and **A.K. Verma**(2012). “Closed Recurrent Neural Network For Four Neurons”. International Journal of Advanced Research in Computer Science and Software Engineering(ISSN:2277 128X),Vol2,Issue 6, pp.75-78,June 2012.
- Neeraj Sahu, Poonam Sinha and **A.K. Verma**(2012). “Group of Continuous Time Recurrent Neural Networks”.International Journal of Advanced Research in Computer Science(ISSN: 0976-5697),Vol 3,No.3,pp.622-625,May-June 2012.
- **A.K. Verma** and Khan, Ruby (2011). “Hopfield model of a neuron action under dynamical thresholds”. International Journal of Computer Applications (0975-8887) Vol 19-No 6, April 2011.

- **A.K.Verma**“Qualitative analysis of two-fluid FRW cosmological models”. Astrophysics and space science May 2009, Volume 321,Issue 1,pp 73-77.Springer- Verlag Kluwer Academics Publications.
- Neeraj Sahu and **A.K.Verma** (2009) “Open Recurrent Neural Networks For Four Neurons”. International Journal of Mathematics Vol I Issue I pp 47-50.
- D.N. Pant and **A.K.Verma**(2006). “Galactic motion relative to CMBR in two-fluid FRW models”. Journal of International Academy of Physical Sciences, vol. 10, pp 135-144.

Book Publication:

- Provide expertise in writing a book entitled “ Glossary of Operations Research, English- Hindi, Computerized Database(2013). Published by Commission for Scientific and Technical Terminology, Ministry of Human Resource Development(Department of Higher Education) Government of India.ISBN-978-81-928330-1-9.
- Alok Kumar Verma(2014) “ Introduction To Two-Fluid Cosmological Models” Published by Kala Evam Dharma SodhSansthan, Varanasi.ISBN-987-93-81721-73-5

Paper Presented in Conferences:

- A.K. Verma (2021) “Model of a Complex-valued Recurrent Neural Networks” online in the 23rd Annual Conference of Vijnana Parishad of India September 6-10,2021
- A.K. Verma(2018) “Stability Analysis of Complex-valued Recurrent Neural Networks with Time-delays” in the 2nd International Conference of Vijnana Parishad of India on Recent Trends of Computing in Mathematics, Statistics & Information Technologies (RTCMSIT-2018) held at Department of Mathematical Sciences and Computer Applications, Bundelkhand University, Jhansi from March 9 to 11, 2018.
- A.K. Verma(2016) “ Open and Closed Models of a Recurrent Neural Networks” in the National Seminar on Next Generation and Challenges of Education, Health and Environment held at Government Maharaja Autonomous P.G college Chhatarpur (M.P) during 4-5 March 2016.
- **A.K. Verma** (2010) “ Neuron dynamics under internal stimulus” in the 11th International Conference of the International Academy of Physical Sciences (CONIAPS XI) held at **University of Allahabad** during February 20-22, 2010.

- **A.K. Verma** (2007)“A Dynamical Systems approach to two-fluid tilted, FRW Cosmological models” in the Ninth Conference of International Academy of Physical Sciences (CONIAPS) held at **Dr B.R. Ambedkar University Agra** during February 3-5, 2007.
- **A.K. Verma** (2002). “Radiating Fluid Sphere in General Relativity” in the Fifth Conference of International Academy of Physical Sciences (CONIAPS) held at **Bundelkhand University, Jhansi** during April 7- 9, 2002.

Participation in the Conferences:

- Attended Conference on Information Technology and Operation Research organized by the Department of Mathematical Sciences and Computer Applications, **Bundelkhand University Jhansi U.P.** on January 10, 2000.

Participation in Refresher Course:

- Attended Seven days Refresher Course 17 -23 March 2021, “Implementation of National Education Policy 2020 in Higher Education”, Organized online by the Bundelkhand University Jhansi.
- Attended UGC sponsored Refresher Course in mathematics and statistics conducted by **HimachalPradeshUniversity, Shimla** during July18- August 6, 2011.
- Attended UGC sponsored Refresher Course in physics conducted by **Jawarharlal Nehru University (JNU)** New Delhi during January 31 - February 25, 2011.
- Attended UGC sponsored Refresher Course in mathematics conducted by **Aligarh Muslim University(AMU)**, Aligarh during September 1 – 22, 2004.

Participation in Summer School:

- Participated in the Summer School on “Mathematics Education through Instructional Workshop”(NBHM sponsored) organized by the Department of Mathematics D.S.B Campus, **KumaunUniversity, Nainital** from June 7- 16, 2006.

Participation in the Workshop/Symposium:

- Participated in the workshop on Bioinformatics: Databases and Sequence Analysis from **15-17 March 2016**. Organized by Department of Microbiology and Department of Mathematical Sciences and Computer Applications **Bundelkhand University Jhansi**.
- Chaired a Session in International Conferences on Communication Networks(**ICCN**) November 19-21, 2015, at **ITM University Gwalior, M.P.**
- Attended the training workshop organized by iGroup Infotech India Pvt. Ltd at **Bundelkhand University Jhansi on 6 December, 2014**.
- Attended the seven day Faculty Development Programme held at **Bundelkhand University Jhansi from September, 1-7, 2014**
- Participated in the International Workshop on Modeling of Materials(Crystal Program) from March 7-12, 2014. Organized by the Department of Physics **Bundelkhand University Jhansi** in collaboration with **Michigan Technological University, Houghton, USA** and **Universita di Torino, Torino Italy**.
- Participated in the seven days workshop on “Research Methodology” organized by the **Bundelkhand University Jhansi** from February 20-26, 2014.
- Participated in the Science Camp under **INSPIRE Internship Program of DST New Delhi** from January 20-24, 2014 held at **Bundelkhand University Jhansi**.
- Participated in the Science Camp under **INSPIRE Internship Program of DST New Delhi** from July 05-09, 2013 held at **Bundelkhand University Jhansi**.
- Invited Speaker of the 3rd Doctoral Conference on “Current Trends in Management and Information Technology” held at **Hindustan Institute of Management and Computer Studies**, dated 19 May, 2012.
- Participated in the workshop on Mathematical and Computational Sciences held on March 30, 2011 at Department of Mathematical Sciences and Computer Applications **Bundelkhand University Jhansi**.
- Participated in the Science Camp under **INSPIRE Internship Program of DST New Delhi** from December 13-18, 2010 held at **Bundelkhand University Jhansi**.
- Participated in the Faculty development program on MATLAB at Institute of Computer and Information Science, **Dr B.R. Ambedkar University Agra** held on April 23-24, 2009.

- Participated in the Workshop (**Indo –French Govt 4th Thematic Program**) on Integrable Systems fields (Classical & Quantum) organized by the Department of Mathematics, **Indian Institute of Science Bangalore** from February 18-29, 2008.
- Participated in the Workshop on Modeling organized by Department of Mathematical Sciences & Computer Applications, **Bundelkhand University Jhansi**, January 29, 2006.
- Participated in the National Symposium on “Scientific Computing with Application to Partial Differential Equations” Organised by the Department of Mathematics and Statistics, **Indian Institute of Technology, Kanpur** during November 19- 21, 2005.
- Participated in the Workshop on Patent Awareness organized by Institute of Information Technology, Department of Mathematical Sciences & Computer Applications, **Bundelkhand University, Jhansi** on July 28, 2003.
- Participated in the Workshop of Hindi Shabdawali Aayog, Ministry of HRD regarding the publication of Technical books in Hindi, organized by Department of Mathematical Sciences and Computer Applications, **Bundelkhand University, Jhansi** on November 9-10, 2000.

Other Academic Activity:

- ❖ Member of the grants committee Raja Ram Mohan Roy Library Foundation Kolkatta.
- ❖ Member Executive Council Bundelkhand University Jhansi from March 2010-February 2011, 2017-2018, 2021-2022
- ❖ Member Bundelkhand Academy of Sciences, Jhansi.
- ❖ Member Academic Council Bundelkhand University Jhansi from February 2014.-2015

Other Professional Activities :

Post Held	Name of the Organization/University	Total Experience
Result Coordinator	Department of Mathematical Sciences and Computer Applications, Bundelkhand University Jhansi	14 years
Assistant Superintendence Semester Exam	do	17 years
Counsellor Open Learning Program	Bundelkhand University Jhansi	2 years
Member Board of Studies in Information Technology	do	1 year
Member Selection Committee as Subject Expert for Lab Technicians/Data Entry Operators	do	1 year
External Observer B.Ed Exam, Entrance Exam, 2010, 2011, 2012, 2013, 2014, 2015, 2016.	do	7 years
UP-CPMT Examination (2002, 2010)		2 years
UP-CEE Exam 2006, 07, 08		3 years
BA II and III 2009-10, Evaluation-in Charge	do	2 years
B.Com, M.Com 2013, MA-2013-14, Evaluation-in Charge		2 year
B.A III-2015, 2016, Evaluation in Charge		2 year
Coordinator for Posting of BA, B.Sc, M.A Marks for completion of results 2014-2015		1 year
Coordinator for posting of M.Sc (Mathematics) Semester Exam		16 years
Scrutiny Committee Member	do	6 months
Executive Committee Member	do	3 year
Coding in-charge, 2022, 2023		1 year

I hereby declare that the above-mentioned information is true to my knowledge

Place: Jhansi

Date : (Alok Kumar Verma)

