



PROF. MANOJ KUMAR KHANNA

ABOUT ME

DOB: 21st March 1968

Father's Name: N.W. Khanna



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B-6/18 Model Town Phase 1, New
Delhi - 110009

LANGUAGE

- English
- Hindi

EXPERTISE

- Teaching
- Research And Development
- Management Skills
- Administration
- Critical Thinking
- Leadership

EDUCATION

University Of Delhi
Ph.D.

University Of Delhi
M.Sc. (Electronics)

EXPERIENCE

Department of Electronic Science
University of Delhi South Campus
October 2023 - Present
Professor

Ramjas College, University of Delhi
March 2018 – October 2023
Principal

Bhaskaracharya College of Applied
Sciences (BCAS), University of Delhi
1997 - 2018

Officiating Principal - 18.03.2014 - 22.04.2015

Vice Principal - 18.03.2013 - 18.03.2014

Convener Admission Committee, DU
2017-18, 2018-19

Member Academic Council, DU
2004-06, 2006-08

Keshav Mahavidyalaya, University of Delhi
1994 - 1995

Sri Venkateswara College, University of Delhi
1991 - 1994

ACHIEVEMENTS IN RESEARCH

- **33 Research Publications** in Reviewed International and National Journals.
- **Published 21 Papers** in various National and International Conferences.
- **Co-PI in a research project** entitled “Large area, patterned growth and engineering the electronic structure of MoS₂ thin films under ion irradiation for high-performance Gas Sensor and TFTs device applications” funded by Science and Engineering Research Board (SERB), 2023.
- Presently guiding **03 students for Ph.D.** degrees as Supervisor.
- Acted as Supervisor of three Ph.D. students (**03 degrees awarded**)
- Principal Investigator in Delhi University funded Innovation Project titled “**Study of Rise in Consumption of the Mobiles Phones/Electronics Gadgets in delhi region and Material Analysis Projecting Potential Electronic Waste & their Impact on Environment (BCAS-101)**”.
- Principal Investigator in Delhi University funded Innovation Project titled “**Assessment of brominated flame retardants in mobile phones/ electronic gadgets, their consumption pattern in North India region and carbon foot prints from electronic waste (BCAS-206)**”.

ACADEMIC ACHIEVEMENTS

- Member of UGC expert committee to fine-tune the draft regulations 2023 of NEP.
- Vice-Chairman of NATIONAL WORKSHOP ON VLSI DESIGNING USING VERILOG CODING on 16-18 July 2013 at Bhaskaracharya College of Applied Sciences.
- Co-Coordinator of E-WASTE SUSTAINABILITY: NEEDS AND SOLUTIONS FOR ITS MANAGEMENT held on 7-8 March 2013. The conference was organized in joint collaboration with GIZ-IGEP (Indo-German Environment Partnership).
- Attended a five-day workshop on “SPSS Software & Its Applications” from 17 to 21 December 2012 at the Computer Centre, University of Delhi.
- Attended a one-day workshop on “Training on Expeyes Design Kit” on January 28,2012, held at Bhaskaracharya College of Applied Sciences.

- Co-Coordinator of the workshop on “Experiments and Research Applications” with National Instrument LabVIEW” held during February 2-3, 2012 at Bhaskaracharya College of Applied Sciences.
- Attended an "Indo-European Conference on Quality Assurance in Higher Education" held at the Conference Centre, University of Delhi on 6th and 7th May, 2010 Attended a workshop on “Quality Matters” under UK India Education and Research Initiative (UKERI) at Delhi University from 8th to 12th March 2010.
- Organized National Conference on Sustainable Management of E-Waste on Dec 14-15, 2010 at Bhaskaracharya College of Applied Sciences as co-coordinator.
- Organized a National Seminar on “Management of waste from Electronic and other Renewable Energies” on January 29-30 2010, at Bhaskaracharya College of Applied Sciences as co-coordinator.
- Attended “The International Roundtable on Environmentally Sound Management of Electronic Waste” Organized by GTZ-ASEM during December 15-16, 2009 at ThePark Hotel, New Delhi.
- Attended the short course on “Spice Models for Advanced VLSI Circuit Simulation(SMAVCS)” from Dec. 11-12, 2005, organized by the Department of Electronic Science, University of Delhi, South Campus, New Delhi, INDIA.
- A seminar on Environmental Pollution and public health from Feb 21-23, 2002 at DeenDayal Upadhyaya College, DU.
- One-day Orientation program for academic counselors of IGNOU at BCAS, on Oct 11, 2001.
- Member Organizing Committee of Asia-Pacific Microwave Conference (APMC 96) held in Hotel Ashok, New Delhi in December 1996.
- Member, Organizing Committee of International Symposium of Recent Advances in Microwave Technology, held in New Delhi, Agra, December 1993.

AWARDS/HONOURS

- Awarded with “4th Dr. A.P.J. Abdul Kalam National Dedication Award 2023” in Administrator Category, Lakshmibai College, University of Delhi.
- Awarded with “Vishwa Hindi Sahitya Parishad Vishwa Vageshwari Sammaan” India International Center Delhi, 21 January 2023.
- Member of “Anti-Ragging committee for monitoring measures to prevent ragging in Higher educational institutions”, Ministry of Education, Dept. of Higher Education, Govt. of India.
- Appointed as Chairperson of the Physical Inspection Committee for Swacchta ranking of HEIs 2019 by UGC.
- Appointed as Member Academic Council, Sikkim University for the period of two years by Vice Chancellor, S.U. in 2019.
- UGC Nominee on the Governing body of Narayana Engineering College (Affiliated to JNTU Anantapur), Andhra Pradesh.
- Appointed as Chairperson of the Physical Inspection Committee for Swacchta ranking of HEIs 2019 by UGC.
- Member of Foreign Students Committee for facilitating online admissions during 2017-18 University of Delhi.
- Member of the committee approved by Academic Council to examine the issues of Ad-hoc appointments in Depts/Colleges of the University of Delhi during 2007.
- Life Time Achievement Shikshak Samman, Vidhyarthi Vikas Manch Samiti, Ujjain, M.P., 2018
- Akhil Bhartiya Swatantra Patrakar Evam Lekhak Sangha, 35th Dr. S. Radha Krishnan Memorial National Teacher and National Media Network Award-2019
- Awarded with CSIR Senior research fellowship in January 1995 for research. Awarded with BEST Project Display certificate in the innovation plaza of the University of Delhi in 2015.
- Nominated as a member of Sadharan Parishad (CNET of Atal Bihari Vajpayee Hindi Vishvavidyalaya) by the Governor of Madhya Pradesh.

BOOKS/CHAPTERS PUBLISHED

- 'MATLAB Essentials for Problem Solving', Manoj Khanna, Geeta Bhatt, Pawan Kumar ISBN No. 978-81-203-5175-2, PHI 2015
- 'Digital Circuits And Systems Using VHDL', Er Deepak Gupta, Dr. Manoj Khanna ISBN No. 978938399213, BET Publications 2014
- 'Computer Architecture and Organisation' Er. Deepak Gupta, Dr. Manoj Khanna ISBN No. 9788192794617, BET Publications 2014
- Book Chapter "General Methods for Fabrication of Sensing Devices", D. Gupta, V. Chauhan, S. Upadhyay, M. K. Khanna, and R. Kumar, Smart Nanostructure Materials and Sensor Technology, Springer Nature Singapore, 2022, pp. 51–75.

PAPERS IN REVIEWED JOURNALS

1. "Prospects for lead free perovskite for photovoltaic applications and biological impacts: Challenges and opportunities," Inorg. Chem. Commun., vol. 157, pp. 111421, Nov. 2023.
2. "Indian Solar Panel initiatives in reducing carbon dioxide emissions", Energy and Power Eng., Vol. 15, pp. 191-203, April 2023.
3. "Stability of carbon quantum dots: a critical review," RSC Adv., vol. 13, no. 20, pp. 13845–13861, 2023.
4. "Interacting with Futuristic Topological Quantum Materials: A Potential Candidate for Spintronics Devices," Magnetochemistry, vol. 9, no. 3, pp. 73, 2023.
5. "An investigation of dielectric properties of ultrathin $\text{TiO}_x\text{-SiO}_x$ nanocomposite layers on Si substrate," J. Mater. Sci. Mater. Electron., vol. 34, no. 6, pp. 490, Feb. 2023,
6. "Analysis of graphene coated optical fiber for visible range refractive index sensing," Opt. Commun., vol. 529, pp. 129097, Apr. 2023.
7. "Studies on Carbon Footprint of an Educational Institution from Transportation, Int. J. of Science, Mathematics and Technology Learning, Vol. 30 No.2, pp. 393-400, Nov 2022
8. "One-Pot Facile Synthesis of CuO-CdWO_4 Nanocomposite for Photocatalytic Hydrogen Production," Nanomaterials, vol. 12, no. 24, pp. 4472, 2022.

9. "Biodegradable acid based nanocomposite-CuO-ZnO-Ni (OH) 2/PA: A novel material for water cleansing," *J. Clean. Prod.*, vol. 341, p p. 130860, 2022.
10. "Facile synthesis of cu-zn binary oxide coupled cadmium tungstate (Cu-znbo-cp-ct) with enhanced performance of dye adsorption," *Water*, vol. 13, no. 22, pp. 3287, 2021.
11. "Effect of high index buffer layer in PbSe clad waveguide to design a visible range polarizer," *Optik*, vol. 228, no. August 2020, pp. 166001, 2021.
12. "Effects of Interfacial Layers on Magnetization Dynamics of $[\text{Fe}_{75} \text{Co}_{20} \text{Cu}_5/\text{Cu}_{(x)}]^{30}$ Multilayer Nanowires," *IEEE Trans. Magn.*, vol. 56, no. 4, pp. 1–6, 2020.
13. "Concentration gradient Co–Fe nanowire arrays: Microstructure to magnetic characterizations," *J. Alloys Compd.*, vol. 838, pp. 155566, 2020
14. "Spectral interrogation of ZnO thin film for lossy mode resonance sensors," *Adv. Sci. Lett.*, vol. 24, no. 2, pp. 796–801, 2018.
15. "Fabrication of CoFe₂O₄/reduced graphene oxide nanocomposite as a microwave absorber," *Adv. Sci. Lett.*, vol. 24, no. 2, pp. 903–906, 2018.
16. "Microwave monolithic filter and phase shifter using magnetic nanostructures," *AIP Adv.*, vol. 8, no. 5, pp. 056624, 2018.
17. "One dimensional $\text{Fe}_x\text{Co}_{1-x}$ nanowires; ferromagnetic resonance and magnetization dynamics," *AIP Adv.*, vol. 7, no. 5, pp. 056027, 2017.
18. "Analysis of Silicon Clad Optical Waveguide for High Extinction Ratio TE/TM Pass Polarizers using Resonant Coupling between Guided Modes and Lossy Modes," *IOSR J. Electr. Electron. Eng.*, vol. 12, no. 03, pp. 59–64, 2017.
19. "Consumption pattern, behaviour and awareness towards e-waste among mobile users in New Delhi," *Int. J. Environ. Policy Decis. Mak.*, vol. 2, no. 1, pp. 28–40, Jan. 2016.
20. "An approach towards approximation of the Design of Quantum Gate," *Int. J. Adv. Technol. Eng. Explor.*, vol. 2, no. 8, pp. 117, 2015.
21. "Heuristic Rule Based Fuzzy Inference System for Decision Support and Quality Assurance in Higher Education", *Int. J. of Enhanced Research in Management & Computer Applications*, vol. 4, no. 6, pp. 20-30, 2015.
22. "Development and characterization of real time metal transfer recording facility for submerged arc welding," *Int. J. Res. Mech. Eng. Technol.*, vol. 5, no. 1, pp. 60-62, 2014.
23. "Exact analytical solutions of the parameters of different generation real solar cells using Lambert W-function: A Review Article," *Invertis J. Renew. Energy*, vol. 4, no. 4, pp. 155–194, 2014.

24. "Cut off frequency and transit time analysis of lightly doped drain (LDD) MOSFETs," *Microelectron. Reliab.*, vol. 38, no. 12, pp. 1955–1961, 1998
25. "An analytical model for anomalous threshold voltage behavior of short channel MOSFETs," *Solid-State Electron.*, vol. 41, no. 9, pp. 1386–1388, 1997.
26. "An empirical fringing capacitance dependent threshold voltage model for non-uniformly doped submicron MOSFETs," *Solid-State Electron.*, vol. 39, no. 11, pp. 1687–1691, 1996.
27. "Analytical theory of two-dimensional charge sheet model for short channel MOSFETs under non linear charge control," *Solid-State Electron.*, vol. 38, no. 1, pp. 197–202, 1995.
28. "Temperature-dependent threshold voltage model for a non-uniformly doped short channel MOSFET," *Int. J. Electron.*, vol. 77, no. 3, pp. 283–290, Sep. 1994.
29. "Narrow gate effect on depletion mode insulated gate field effect transistor," *Solid-State Electron.*, vol. 37, no. 10, pp. 1717–1721, 1994.
30. "A device model for an ion-implanted MESFET with Half-Pearson and Half-Gaussian distribution under post-anneal conditions," *IEEE Trans. Electron Devices*, vol. 41, no. 9, pp. 1674–1677, 1994.
31. "Threshold voltage shift in depletion mode insulated gate field effect transistors," *Solid-State Electron.*, vol. 37, no. 2, pp. 377–379, 1994.
32. "Analytical two-dimensional modeling for potential distribution and threshold voltage of the short-channel fully depleted SOI (silicon-on-insulator) MOSFET," *Solid-State Electron.*, vol. 37, no. 8, pp. 1537–1542, Aug. 1994.
33. "Substrate-bias-dependent threshold-voltage model of short-channel MOSFET," *Solid-State Electron.*, vol. 36, no. 4, pp. 661–664, Apr. 1993.

PAPERS IN INTERNATIONAL CONFERENCE

1. "Synthesis of Curcumin Loaded Mesoporous Silica Nanoparticles for Anti-cancer Drug Delivery", International Conference on Nanotechnology: Opportunities and Challenges, ICNOC 2022, Jamia Millia Islamia, New Delhi. Published in Recent Advances in Nanomaterials, Nov 2023, Vol. 1, Page 485-490, ISBN 978-981-99-4880-2,
2. "An efficient certificateless signature scheme for internet of things", International conference on advances in smart materials and emerging technologies, Indira Gandhi Delhi Technical University for Women, New Delhi.
3. "Certificateless signature scheme as teaching case of cryptography", Two days international multi-disciplinary seminar on research methodology, Maharishi Dayanand University, Rohtak.
4. "Analysis of ZnO thin film based refractive index sensor", ICANN, JMI-2016, New Delhi.
5. "Interrogation of ZnO thin film for sensing and waveguiding applications", ICRANN-2016, Presented at JNU, New Delhi.
6. "A new capacitance model for narrow channel depletion mode MOSFETs", International Conference on Computer and Devices for Communication (CODEC), Calcutta, January 14-17, 1998. ISBN B1-7023-767-X.
7. "Analytical modeling of device conductance of lightly doped drain (LDD) MOSFETs", 21st International Conference on Microelectronics, 15 - 17 Sept. 1997. Published in Proceeding of Microelectronics, 1997, Vol.1, Page 347-350, ISBN 0-7803-3664-X. Publisher: IEEE
8. "Quasi two-dimensional analytical model for threshold voltage of a modulation doped field effect transistor", Asia Pacific Microwave Conference Proceedings, APMC, Vol. 2, 1997, Pages 705-708, Publisher: IEEE., ISBN: 962-442-117-X.
9. "Optimisation of high performance fully overlapped LDD (FOLD) MOSFETs", International Workshop on Physics of Semiconductor Devices, New Delhi, India, 1997. Published in Proc. SPIE Vol. 3316(2), PP.1071-1075(1998). ISBN 0-8194-2756-X.
10. "A new analytical MOSFET model for VLSI", semiconductor devices, SPIE, Vol. 2733, Published: 1/1996, Publisher: Narosa Publishing House.
11. "Lightly doped drain (LDD) MOSFETs: An optimized model for very high cut off frequencies", APMC'96, New Delhi, December 17-20, 1996.
12. "Threshold voltage shift in depletion model IGFET", Third International Conference on Solid State and Integrated Circuit Technology, Beijing, China, October, 1992.

PAPERS IN NATIONAL CONFERENCE

1. "PID tuning of temperature controller with soft computing technique of ACO", National Symposium on Instrumentation (NSI-39), October 15-17, 2014.
2. "Awareness of environmental hazards among mobile user in Delhi region and the potential heavy metal concentration", National Conference on E-Waste Sustainability, Bhaskaracharya College of Applied Sciences, New Delhi, 7-8 March, 2013.
3. "Mobile Phones: An analysis of the Potential E-waste, National Conference on Sustainable Management of E-Waste", Bhaskaracharya College of Applied Sciences, New Delhi, December 14-15, 2010, Pages 77-83.
4. "A new analytical model for non-uniformly doped short channel MOSFET from 2D Potential Distribution", National Symposium on Physics of Solid - State Devices, JNV University, Jodhpur, Nov. 1996.
5. "Above threshold and substrate current modeling of lightly doped drain MOSFET (LDD)", National Symposium on Physics of Solid State Devices, JNV University, Jodhpur, November 1996.
6. "An improved model for anomalous threshold voltage of short channel MOSFETs", National Symposium on Physics of Solids and Solid State Devices, Jodhpur, November 1996.
7. "Modeling and analysis of small geometry depletion mode MOSFETs", National Symposium on Physics of Solids and Solid State Devices, Jodhpur, November 1996.
8. "New analytical expression for the threshold voltage of short channel IGFET", National Seminar workshop on system Design & Simulation, Agra April 30 to May 2, 1992.
9. "Two dimensional charge sheet model of short channel MOSFET under Non-Linear Charge Control", National Seminar Workshop on System Design & Simulation, Agra, April 30 to May 2, 1992.
10. "Analytical modeling of an ion-implanted MOSFET", National Seminar Workshop on System Design & Simulation, Agra April 30 to May 2, 1992.



