




Faculty Details



Title	Prof.	First Name	Udaibir	Last Name	Singh	Photograph
Designation						
Address	Department of Electronics Acharya Narendra Dev College University of Delhi Govindpuri, Kalkaji New Delhi-110019					
Phone No Office	26412547 ext 225					
Email/ Web-Page	udaibirsingh@andc.du.ac.in					
Educational Qualifications						
Degree	Institution					Year
Ph.D.	Department of Electronic Science, University of Delhi South Campus, New Delhi-110021					2009
M.Sc (Electronics)	Department of Electronic Science, University of Delhi South Campus, New Delhi-110021					2000
B.Sc (H) Electronics	Rajdhani College, University of Delhi, New Delhi-110015					1998
Career Profile						
Professor, Department of Electronics Working at Acharya Narendra Dev College, University of Delhi: 2007 – Till Date Worked at Maharaja Agrasen College, University of Delhi: 2001-2006						
Administrative Assignments						
<div><div>1.</div><div>Member, Photo Committee (Picfie), 2022-Till Date</div></div> <div><div>2.</div><div>Member, Internal Quality Assurance Cell (IQAC), 2019-21</div></div> <div><div>3.</div><div>Member, Examination Committee, 2020-Till Date</div></div> <div><div>4.</div><div>Member, Proctorial Committee, 2020-Till Date</div></div> <div><div>5.</div><div>Member, SC/ST Cell, 2019-21</div></div> <div><div>6.</div><div>Member, Dhvani Committee, 2019-Till Date</div></div> <div><div>7.</div><div>Member, Finance Committee, 2014-16, 2016-18, 2018-20</div></div> <div><div>8.</div><div>Member, Canteen Committee, 2008-10, 2010-12, 2018-20</div></div> <div><div>9.</div><div>Member, Alumni Committee, 2018-20</div></div> <div><div>10.</div><div>Convener, College Development Committee, 2016-18</div></div> <div><div>11.</div><div>Member, IT Committee, 2016-2018</div></div> <div><div>12.</div><div>Teacher-in-Charge, Department of Electronics, 2010-12, 2014-16.</div></div> <div><div>13.</div><div>Convener, Sports Committee, 2014-2016</div></div> <div><div>14.</div><div>Co-Convener, Time Table and Workload Committee, 2014-16</div></div> <div><div>15.</div><div>Member, Internal Assessment Monitoring Committee, 2014-16</div></div> <div><div>16.</div><div>Member, Admission Committee, 2010- 20</div></div> <div><div>17.</div><div>Member, Sports Committee, 2012-14.</div></div> <div><div>18.</div><div>Member, Environment Society, 2012-14.</div></div>						

19. Member, Purchase Committee, Department of Electronics, 2010-12, 2012-14 20. Member, Library Committee, 2010-12, 2014-2016. 21. Member, Time Table and Workload Committee, 2010-12. 22. Co-Opted member, IT Committee, 2010-11 23. Member, Social Outreach Programs Committee (NSS), 2008-10 24. Member, Annual Events Management Committee, 2007-08 25. Member, Electronic Club, 2007-08
Areas of Interest / Specialization
<ul style="list-style-type: none"> ➤ Analog Electronics ➤ Photonics/Optics ➤ Material Science
Subjects Taught
B.Sc. (Hons) Electronics Practical Lab <ul style="list-style-type: none"> ➤ Photonics ➤ Electronic Circuits /Analog Electronics - I ➤ Basic Electronics and Network Analysis ➤ Semiconductor Physics ➤ Applied Physics B.Sc. (Hons) Electronics Theory Classes <ul style="list-style-type: none"> ➤ Electronic Circuits/Analog Electronics - I ➤ Photonics/Optics and Optical Electronics/ Modern Optics and Opto-electronics ➤ Power Electronics ➤ Network Analysis and Linear Active Circuits
Research Guidance
<p>Recognized as registered guide to supervise Ph.D. students by University of Delhi.</p> <p>PhD Students status as on June 20, 2023</p> <ul style="list-style-type: none"> ➤ Ph.D. students completed their doctoral research – 01 ➤ Ph.D. student registered for doctoral research – 03 <ul style="list-style-type: none"> • Ph.D. student submitted thesis - 01
Publications Profile
<p>[1] Ajay Kumar, Abid Hussain, Abhilash J. Joseph, Sahil Goel, Naorem Santakrus Singh, <u>Udaibir Singh</u>, "Influence of Mn-doping on di-/piezo-/ferro-electric properties of 0.49BiFeO₃–0.20Pb(Mg_{1/3}Nb_{2/3})O₃–0.31PbTiO₃ ceramic at morphotropic phase boundary" Journal of Materials Science: Materials in Electronics, https://doi.org/10.1007/s10854-023-10795-y, ISSN: 0957-4522 (print); 1573-482X (web), 18th June 2023.</p> <p>[2] Ajay Kumar, Abid Hussain, Abhilash J. Joseph, Sahil Goel, Rashmi Gupta, Naorem Santakrus Singh, <u>Udaibir Singh</u>, "Synthesis of ternary 0.49BF-0.20PMN-0.31PT ceramic at morphotropic phase boundary for excellent die-/piezo-/ferro-/pyro-electric response", Applied Physics A, https://doi.org/10.1007/s00339-022-05800-w, e-ISSN:1432-0630, 9th July 2022.</p> <p>[3] Jyoti Kashyap, Manju Rani, <u>Udaibir Singh</u> and Avinashi Kapoor, "Surface texturization for</p>

reduction of light reflection in ZnO/Si heterojunction", International Journal of Sustainable Energy, <https://doi.org/10.1080/14786451.2022.2052292>, Published online 20th March 2022.

- [4] Manju Rani, **Udaibir Singh**, Jyoti Kashyap and Avinashi Kapoor, "*Broadband light trapping in a-Si:H based plasmonic solar cells using Au core-Al₂O₃ shell composite nanospheres using FDTD method*", Materials Technology, <https://doi.org/10.1080/10667857.2022.2051938>, Published online 17th March 2022.
- [5] Manju Rani, Jyoti Kashyap, **Udaibir Singh** and Avinashi Kapoor, "*Investigation of variable sized silver nanospheres deposited on ITO/c-Si structure as FDTD simulation model for plasmonic solar cells*", Natural Volatiles & Essent. Oils, 2021; 8(4):16052-16067.
- [6] Manju Rani, Jyoti Kashyap, **Udaibir Singh** and Avinashi Kapoor, "*Optimisation of dielectric spacer layer thickness in Ag nanospheres/ITO/c-Si structure for plasmonic solar cells using FDTD simulation*", Materials Technology, <https://doi.org/10.1080/10667857.2021.1940046>, Published online 15th June 2021.
- [7] Manju Rani, Jyoti Kashyap, **Udaibir Singh** and Avinashi Kapoor, "*Impact of fabrication of pyramidal structure on silicon wafer surface in ZnO/Si heterojunction*", AIP Conference Proceedings Vol-2220, Issue-1, 020179 (2020); <https://doi.org/10.1063/5.0001996>, Pages-020179-(1-6).
- [8] Jyoti Kashyap, Manju Rani, Poonam Shokeen, **Udaibir Singh** and Avinashi Kapoor, "*Absorption enhancement by surface texturing in ZnO/Si heterojunction*", AIP Conference Proceedings 2220, 020181 (2020); <https://doi.org/10.1063/5.0001997>, Pages-020181-(1-4). 0094-243X (print) 1551-7616 (web).
- [9] Swati Sharma, Poonam Shokeen, Basant Saini, Sugandha, Sharma, Chetna, Jyoti Kashyap, Renu Guliani, Sandeep Sharma, **Udaibir Singh**, Manoj Khanna, Amit Jain and A. Kapoor, "*Exact analytical solutions of the parameters of different generation real solar cells using Lambert W-function*", A Review Article in INVERTIS JOURNAL OF RENEWABLE ENERGY, October-December 2014.
- [10] Nisha Jha, **Udaibir Singh**, T.K. Saxena and Avinashi Kapoor, "*Online Adaptive Control for Non Linear Processes under influence of External Disturbance*", International Journal of Artificial Intelligence and Expert System (IJAE), Volume (2), Issue (2), 2011, 36 - 46.
- [11] Nisha Jha, **Udaibir Singh**, T.K. Saxena and Avinashi Kapoor, "*Optimal Design of Neural Fuzzy Inference Network for Temperature Controller*", Journal of Applied Sciences, 11 (15), 2011, 2754-2763.
- [12] Nisha Jha, **Udaibir Singh**, T.K. Saxena and Avinashi Kapoor, "*Designing & Development of Static System for Controlling Temperature using NNPID*", SAJOSPS, 11 (2010) 127-131.
- [13] **Udaibir Singh**, Nisha Jha and Avinashi Kapoor "*Characterization of Palladium thin film deposited by pulsed laser deposition*", SPIE Proc. Vol. AOP11-AOP101-21 International Conference on Applications of Optics and Photonics (AOP'2011) University of Minho, Braga, Portugal 3 - 7 May 2011. Paper No. 8001-21.

- [14] **Udaibir Singh**, Nisha Jha, Tikendra Prakash Singh, Avinashi Kapoor and Alessio Perrone, *"Investigation of transmittance property of Palladium thin film fabricated by pulsed laser deposition with polarization using single layer model"*, Optics and Laser Technology, 42 (2010)1128-1133.
- [15] **Udaibir Singh** and Avinashi Kapoor, *"Single layer Homogeneous model for surface roughness by polarized light scattering"*, Optics and Laser Technology, 40 (2008) 315-324.
- [16] **Udaibir Singh** and Avinashi Kapoor *"Effect of S and P polarization on single layer homogeneous model"* in Laser-Induced Damage in Optical Materials: 2007, SPIE Proc. Vol. 6720 (SPIE, Bellingham, WA 2007) 67201R. **24-26 September, 2007, Boulder, Colorado, Date: 17 January 2008**
- [17] **Udaibir Singh**, Amit Pratap Singh, and Avinashi Kapoor, *"Homogeneous model for surface roughness in the Identical Double Layer System"*, Optics and Laser Technology, 39 (2007) 247-255.
- [18] **Udaibir Singh**, Amit Pratap Singh, and Avinashi Kapoor, *"Homogeneous layer model for scattering from nonabsorbing multilayer surfaces"*, SPIE Proc., Vol. 5273, P 165-169, BOULDER DAMAGE XXXV SYMPOSIUM-2004, BOULDER, U.S.A. Date: 10 June 2004

Conference / Presentations /Workshops

[A] International Conferences

- [1] Ajay Kumar, N.Santakrus Singh and **Udaibir Singh**, *"Synthesis of Perovskite Based Material for Using Solar Cell Applications"*, International Web Conference on Recent Advances in Nanoscience & Nanotechnology for High-end Applications (IWCRANHA-2020), organized by Department of Applied Science and Humanities, Assam University, Silchar in association with The Society for Technologically Advanced Materials of India (STAMI) held on 25th–26th July 2020.
- [2] Dinesh Kumar, **Udaibir Singh**, Vinay Gupta, Siddhartha, *"Physico-chemical modifications induced by 70 MeV carbon ions in alpha phased Polyvinylidene fluoride (alpha PVDF) –Ag(NPs) Composites"*, Vol 2, page 32, 2019, International Conference on Advances in Polymeric Materials & Human Healthcare (APA-STERMI 2019) Goa from 16-18 October 2019.
- [3] Attended International Conference on Issues and Challenges in Doctoral Research" (ICICDR-2014) held at India International Center, New Delhi, India on 25th August 2014.

[B] Workshops and National Seminars attended

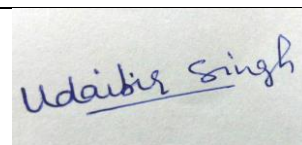
- [1] Participated in one day National Webinar on Road Map of National Education Policy, 2020: Mother Tongue, Technology and Quality Universities and Colleges" held at Manyavar Kanshiram Government Degree College, Saddeeq Nagar, Nandgram, Ghaziabad on September 11, 2020.

- [2] Attended Workshop on *"VLSI Current Trends Using Mentor Graphics & Xilinx"*, organized by Department of Electronic Science, University of Delhi South Campus along with CoreEL Technologies held on March 21-22, 2018.
- [3] Participated in One Day International Seminar on *"Gender Sensitization, Equality and Women Empowerment; Continuity & Change"*, organized by Rajiv Gandhi Study Circle (Delhi Unit) held at Kirori Mal College, University of Delhi on 29th January, 2018
- [4] Participated in the *"MATLAB and Simulink Academic Tour of Math Works"*, at Cluster Innovation Centre, University of Delhi on 23th September, 2013
- [5] Attended National Workshop on *"Scilab and its Applications"*, organized by Acharya Narendra Dev College, University of Delhi with support from NME-ICT, MHRD through IIT Bombay during 10-11th March 2011.
- [6] Attended Workshop on *"Digital Holography"* organized by Acharya Narendra Dev College under University of Delhi SPIE Student Chapter at ANDC with support from IIT-D during 15-16th February 2011.
- [7] Attended National Workshop on *"Quality Assurance through Blended Learning"*, organized by Maitreyi College, University of Delhi with support from University Grants Commission during 19-21st January 2010.
- [8] Attended Indo-Russian International Workshop on *"Nanotechnology and Laser Induced Plasma"*, IRNANO-2009 held at University of Delhi, Delhi, India during 24-26th November 2009.
- [9] Member of organizing committee in the National Seminar and Workshop on *"Integrating Multiple Technologies to Support Teaching and Learning "* jointly Organized by Department of Electronics, Maharaja Agrasen College, University of Delhi and Institute of Informatics and Communication, University of Delhi South Campus with support from University Grants Commission during 24-26th September 2009.
- [10] Member of organizing committee in the Workshop on *"Emerging Trends in Electronics"*
 - i. *Workshop 1: Optical Fiber Communication*
 - ii. *Workshop 2: Embedded Systems and Robotics*
 - iii. *Workshop 3: Data Acquisition and Signal Processing using LabVIEW*

Organized by Department of Electronics, Acharya Narendra Dev College, University of Delhi during 1-12th June 2009.
- [11] Attended Workshop on *"Easy Now-1: A Workshop on Multimedia Content Development"*, jointly organized by Acharya Narendra Dev College, University of Delhi and Commonwealth Educational Media Centre for Asia during 20-25th April 2009.
- [12] Attended Workshop on *"WikiEd09-Workshop on Open Educational Resources"*, organized by Acharya Narendra Dev College, University of Delhi with support from the Commonwealth of Learning, Vancouver, Canada during 9-13th January 2009.
- [13] Attended Workshop on *"Linux FOSS and Clustering"*, organized by Acharya Narendra Dev College, University of Delhi during 5-7th January 2009.

<p>[14] Participated as Resource Person in the Workshop on “<i>Data Acquisition using LabVIEW and Printed Circuit Board (PCB)- Designing and Fabrication</i>” organized by Department of Electronics, Acharya Narendra Dev College, University of Delhi during 10-20th June 2008.</p> <p>[15] Attended Workshop on “<i>Linux and Open System Software</i>”, organized by Open L_x Linux held at Acharya Narendra Dev College, University of Delhi during 6-7th December 2007.</p> <p>[16] Attended Workshop on “<i>e-learning and content design</i>” organized by Institute of Life Long Learning (ILLL) held at University of Delhi during 26-27th October 2007.</p>
Research Projects (Major Grants/Research Collaboration)
Awards and Distinctions
<ol style="list-style-type: none"> 1. Awarded Rajiv Gandhi National Fellowship (RGNF) from UGC in 2005. 2. OUTSTANDING SCIENTIST AWARD for the Contribution and Honourable Achievement in Innovative Research given by International Research Awards on Science, Health and Engineering SHEN 2021 Awards on 26th July 2021
Association With Professional Bodies
Other Activities
<p><u>Professional Accomplishment</u></p> <p>[1] One Week Online National Faculty Development Programme on “<i>Essentials of Entrepreneurship</i>”, jointly organized by Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of Ministry of Education and Deen Dayal Upadhyaya College, University of Delhi during 30th March –3rd April, 2021</p> <p>[2] Two Week Interdisciplinary Faculty Development Programme on “<i>Data Analysis using Software Packages</i>”, held organized by Department of Statistics & IQAC, Hindu College, University of Delhi in collaboration with Teaching learning Centre, Ramanujan College, University of Delhi under the scheme PMMMNMTT during 12th –24th December, 2018.</p> <p>[3] 6th three week Refresher Course in Basic Science (Interdisciplinary) organized by The UGC-HRDC, Jamia Millia Islamia, New Delhi from 26th September to 17th October, 2018</p> <p>[4] Faculty Development Programme on “<i>Applied Physics and Embedded Systems Design</i>”, organized by the Department of Physics and Electronics, Rajdhani College, University of Delhi during 14th – 15th December, 2017.</p> <p>[5] Three week Refresher Course in E-Learning and Digital Learning (ID) organized by the UGC-HRDC, CPDHE, University of Delhi, Delhi during 5th – 25th September, 2017.</p>

- [6] One Week Faculty Development Programme on “*Advances in Microelectronics and Plasma Diagnostics*”, (AMPD-2016) held at Delhi Technical University (DTU) during 29th August – 2nd September 2016.
- [7] Participated in the Jury Process of INSPIRE (INNOVATION IN SCIENCE PURSUIT FOR INSPIRED RESEARCH) AWARD National Level Exhibition and Project Competition (NLEPC)-2011-2016 organized by the Department of Science and Technology (DST), New Delhi.
- [8] 77th Orientation Course, Academic Staff, Jawaharlal Nehru University College, New Delhi during 8th November – 2nd December 2011.
- [9] Participated as Resource Person in the Workshop on “*Data Acquisition using LabVIEW and Printed Circuit Board (PCB)-Designing and Fabrication*” held at Department of Electronics, Acharya Narendra Dev College, University of Delhi during 10-20th June 2008.
- [10] Contributed a Chapter on “*Diode Circuits*” for Delhi University Handbook for 1st year B.Sc.(Programme) Electronics Laboratory Course developed by Department of Electronics, University of Delhi South Campus.



Prof. (Dr.) Udaibir Singh