Faculty Details Proforma

Title	Dr	First Name	Onkar	Last Name	Mangla	Photograph
Designation		**Assistant Professor**				
Address		**Daulat Ram College, 4 Patel Marg , Delhi-110007**				
Email– ID		**onkarmangla@dr.du.ac.in**				
Web Page		**NA**				

Educational Qualification

Degree	Institution	Year
B.Sc. (H) Physics	Dyal Singh College, University of Delhi	2006
M.Sc. (Physics)	Kirori Mal College, University of Delhi	2009
Ph.D. (Physics)	University of Delhi	2015

Career Profile

To grow both academically and professionally, and achieve the goals of sustainable life.

Administrative Assignments

• Teacher-in-Charge, Physics Department, Daulat Ram College, University of Delhi from May 2018 to April 2019.
• Member, Admission committee 2018-19;2022-23; 2023-24, Daulat Ram College, University of Delhi.
• Member, Purchase committee 2018-19;2022-23; 2023-24, Daulat Ram College, University of Delhi.
•Member, Discipline committee 2018-19;2019-20;2020-21, Daulat Ram College, University of Delhi.
•Member, In-House Skill Development committee 2018-19, Daulat Ram College, University of Delhi.
•Member, Prospectus committee (Information Bulletin) 2019-20; 2020-21, Daulat Ram College, Delhi University.

Areas of Interest/Specialization

Condensed Matter Physics and Plasma Physics

Subjects Taught

Elements of Mechanics, Mathematical Physics, Communication Electronics, Quantum Mechanics and Applications, Electronics, Digital Electronics, Microprocessors and Microcontrollers, Digital Systems and Applications, Analog Systems and Applications, Astronomy and Astrophysics, Elements of Modern Physics, Solid State Physics, Statistical Mechanics, Electrical Circuit Analysis, Statistical Analysis in Physics.

Research Guidance

NA

Publications Profile

Papers published in International Refereed Journals:

1. **O. Mangla** and M. P. Srivastava, "GaN nanostructures by hot dense and extremely non-equilibrium plasma and their characterizations", Journal of Materials Science **48**, 304-310 (2013), ISSN: 0022-2461 (print version), ISSN: 1573-4803 (electronic version), Impact Factor: 4.220.
2. **O. Mangla**, A. Srivastava, Y. Malhotra, and K. Ostrikov, "Lanthanum oxide nanostructured films synthesized using hot dense and extremely non-equilibrium plasma for nanoelectronic device applications", Journal of Materials Science **49**, 1594-1605 (2014), ISSN: 0022-2461 (print version), ISSN: 1573-4803 (electronic version), Impact Factor: 4.220.
3. **OnkarMangla**, Asutosh Srivastava, Yashi Malhotra, and Kostya (Ken) Ostrikov, "Metal-insulator-metal capacitors based on lanthanum oxide high-κ dielectric nanolayers fabricated using dense plasma focus device", Journal of Vacuum Science and Technology B **32**, 03D107 (2014), ISSN: 2166-2746, E-ISSN: 2166-2754, Impact Factor: 1.416.
4. A. Srivastava, **O. Mangla**, R. K. Nahar, V. Gupta, and C. K. Sarkar, "Study of electrical and micro-structural properties of high-κ gate dielectric stacks deposited using pulse laser deposition for MOS capacitor applications", Journal of Materials Science: Materials in Electronics **25**, 3257-3263 (2014), ISSN: 0957-4522 (print version), ISSN: 1573-482X (electronic version), Impact Factor: 2.478.
5. **O. Mangla**, S. Roy, and M. P. Srivastava, "Synthesis and Characterization of Gallium Arsenide Nanostructured Film for Optoelectronic Applications", Advanced Science, Engineering and Medicine **6**, 1200-1204 (2014), ISSN: 2164-6627 (print); EISSN: 2164-6635 (online).
6. **OnkarMangla** and Savita Roy, "A study on aberrations in energy band gap of quantum confined gallium arsenide spherical nanoparticles", Materials Letters **143**, 48-50 (2015), ISSN: 0167-577X, Impact Factor: 3.423.
7. A. Srivastava, **O. Mangla**, and V. Gupta, "Study of La-incorporated HfO_2 MIM Structure Fabricated using PLD System for Analog/Mixed Signal Applications", IEEE Transactions on Nanotechnology **14**, 612-618 (2015), ISSN: 1536-125X, Impact Factor: 2.57.
8. **OnkarMangla**, Savita Roy, and Kostya (Ken) Ostrikov, "Dense Plasma Focus-Based Nanofabrication of III-V Semiconductors: Unique Features and Recent Advances", Nanomaterials **6**, 4 (2016), ISSN: 2079-4991, Impact Factor: 5.076.
9. **O. Mangla** and V. Gupta, "Study of electrical properties of hafnium oxide thin film based metal-insulator-metal capacitors: pre and post metallic annealing", Journal of Materials Science: Materials in Electronics **27**, 12527-12532 (2016), ISSN: 0957-4522 (print version), ISSN: 1573-482X (electronic version), Impact Factor: 2.478.
10. **OnkarMangla,** Savita Roy, S. Annapoorni, and K. Asokan, "Annealing of deep level defects in GaAs nanostructures by ion beam irradiation", Materials Letters **217**, 231-234 (2018), ISSN: 0167-577X, Impact Factor: 3.423.
11. **OnkarMangla**and Savita Roy, "Zinc Oxide Nanostructures Fabricated under Extremely Non-Equilibrium

Plasma Conditions", Solid State Phenomena **287**, 75-79 (2019), ISSN: 1662-9779, Impact Factor: 0.468.

12. **OnkarMangla**and Savita Roy, "Monoclinic Zirconium Oxide Nanostructures Having Tunable Band Gap Synthesized under Extremely Non-Equilibrium Plasma Conditions", Proceedings **3**, 10 (2019), ISSN: 2504-3900.
13. **OnkarMangla** and Savita Roy, "Metal-Oxide-Semiconductor Capacitors Fabricated on Zirconium Oxide High-K Gate Dielectric Nano-Layers", International Journal of Recent Technology and Engineering (IJRTE) **7 (6S)**, 868-870 (2019), ISSN:2277-3878(Online), Impact Factor: 6.04.
14. **OnkarMangla**and Savita Roy, "Study of Morphological, Structural, Optical and Transport Properties of Gallium Nitride Nanodots Fabricated under Extreme Plasma Conditions", International Journal of Advances in Science Engineering and Technology (IJASEAT) **7 (1-S-2)**, 4-8 (2019), ISSN(p): 2321 –8991, ISSN(e): 2321 –9009, Impact Factor: 3.15 (0.41).
15. **OnkarMangla,** Savita Roy, S. Annapoorni, and K. Asokan, "A study on defect annealing in GaAs nanostructures by ion beam irradiation", Bulletin of MaterialsScience**43**, 78 (2020), ISSN: 0250-4707 (Print) 0973-7669 (Online), Impact Factor: 1.783.
16. **OnkarMangla**and Savita Roy, "Synthesis of gallium arsenide nanostructures for solar cell applications", Materials Letters **274**, 128036 (2020), ISSN: 0167-577X, Impact Factor: 3.423.
17. **OnkarMangla**and Savita Roy, "Bilayer of zirconium oxide/lanthanum oxide high-k dielectric fabricated for metal-oxide-semiconductor nano-electronic device applications", Materials Letters **301**, 130242 (2021), ISSN: 0167-577X, Impact Factor: 3.423.
18. **OnkarMangla,**and Savita Roy, "Synthesis of nano-diamond-like carbon for protective optical window coating applications", Bulletin of MaterialsScience**44**, 273 (2021), ISSN: 0250-4707 (Print) 0973-7669 (Online), Impact Factor: 1.783.

Papers published in Conference Proceedings:

1. **O. Mangla**, S. Roy, and M. P. Srivastava, "Optical absorption study of GaAs nanostructures synthesized using hot and dense plasma", Proceedings of 27th PSSI National Symposium on Plasma Science & Technology (PLASMA-2012) on Challenges of Power Generation & Lighting 21st Century, Pondicherry University, Chennai, 206-211 (2013), ISBN: 978-93-82062-82-0.
2. **O. Mangla**, S. Roy, and S. Annapoorni, "Gallium arsenide/gold nanostructures deposited using plasma method", AIP Conference Proceedings **1731**, 050006 (2016), ISSN: 0094-243X (print); EISSN: 1551-7616 (online).
3. **O. Mangla** and S. Roy, "Gallium nitride nanoneedles grown in extremely non-equilibrium nitrogen plasma", AIP Conference Proceedings **1731**, 050007 (2016),ISSN: 0094-243X (print); EISSN: 1551-7616 (online).
4. D. Jain, **O. Mangla**, and S. Roy, "Wide band gap gallium arsenide nanoparticles fabricated using plasma method", AIP Conference Proceedings **1731**, 050143 (2016),ISSN: 0094-243X (print); EISSN: 1551-7616 (online).

Conference Organization/Presentation

- Attended 25th National Symposium on Plasma Science and Technology (PLASMA-2010) held at IASST, Guwahati, during 8-11 December, 2010 and presented a paper as poster entitled "Fabrication of Gallium Arsenide Nanostructures Using Extremely Non-Equilibrium Hot and Dense Plasma and their Characterizations".
- Attended National Conference on Recent Trends in Synthesis and Applications of Advanced Materials (RTSAAM-2011) held at Maharaja Agrasen Institute of Technology, Rohini, Delhi, during 5-6 December, 2011.
- Attended International Conference and Workshop on Nanostructured Ceramics and other Nanomaterials (ICWNCN-2012) held at University of Delhi, Delhi, during 13-16 March, 2012 and presented a paper as poster entitled "Fabrication of Lanthanum Oxide Nanostructures using Extremely Non-Equilibrium Plasma and their Characterizations".
- Attended 27th National Symposium on Plasma Science and Technology (PLASMA-2012) held at Pondicherry University, Chennai, during 10-13 December, 2012 and presented a paper as poster entitled "Hot and Dense Plasma Used for Synthesis of Zirconium Oxide Nanostructures".
- Attended 1st International Conference on Opto-Electronics and Photonic Materials (ICOPMA-2015) held at SASTRA University, Thanjavur, Tamilnadu, during 27-28 February, 2015 and presented a paper as poster entitled "Gallium Arsenide/Gold Nanostructures Deposited Using Plasma Method".
- Attended Low Energy Ion Beam Facility (LEIBF) Workshop held at IUAC, Delhi, during 3-4 November, 2015 and presented a paper as poster entitled "Low energy ion beam irradiation of GaAs nanostructures and study of their transport properties".
- Attended 60th DAE Solid State Physics Symposium held at Amity University UP, Noida, during 21-25 December, 2015 and presented a paper as poster entitled "Gallium Nitride Nanoneedles Grown in Extremely Non-Equilibrium Nitrogen Plasma".
- Participated in International Symposium on Nonlinear Waves in Fluids and Plasmas held at IIT Delhi during 1-2 March, 2017 and presented a paper as poster entitled "Zinc Oxide Nanostructures Formed Under Extremely Non-Equilibrium Plasma Conditions".
- Attended 9th International Conference on Manufacturing Science and Technology (ICMST 2018) held at University of Malaya, Kuala Lumpur, Malaysia during 11-13 August, 2018 and presented a paper as oral talk entitled "Zinc Oxide Nanostructures Fabricated Under Extremely Non-Equilibrium Plasma Conditions".
- Participated in 1st International Online Conference on Nanomaterials (IOCN 2018) held during 1-15 September, 2018 and presented a paper entitled "Monoclinic zirconium oxide nanostructures having tunable band gap synthesized under extremely non-equilibrium plasma conditions".
- Attended 4th International conference on Nanotechnology and Nanomaterial's (Nanotek Summit 2k18) held at Flora Creek Deluxe Hotel Apartments, Dubai, U.A.E. during 21-22 September, 2018 and presented a paper as oral talk entitled "Metal-Oxide-Semiconductor Capacitors Based on Zirconium Oxide High-κ Gate Dielectric Nanolayers".

- Attended 108th International Conference on Nanoscience, Nanotechnology and Advanced Materials (IC2NM 2018) held at Village Hotel Changi, Singapore during 2-3 December, 2018 and presented a paper as oral talk entitled "Study of Morphological, Structural, Optical and Transport Properties of Gallium Nitride Nanodots Fabricated under Extreme Plasma Conditions".
- Attended 33rd National Symposium on Plasma Science & Technology (PLASMA 2018) held at Department of Physics and Astrophysics, University of Delhi, Delhi-110007, India during 4-7 December, 2018 and presented a paper as oral talk entitled "Plasma-Assisted Deposition of Zinc Oxide Nanostructures in Nitrogen Ambient".
- Attended International Conference on Advance in Smart Materials & Emerging Technologies (ASMET 2020) held at Department of Applied Sciences and Humanities, Indira Gandhi Delhi Technical University for Women (IGDTUW), Delhi, India during 23-24 January, 2020 and presented a paper as oral talk entitled "Metal-Oxide-Semiconductor Capacitors Fabricated on Nanolayers of Zirconium Oxide as High-κ Gate Dielectric".

Research Projects (Major Grants/Research Collaboration)

NA

Awards and Distinctions

- Excellent Paper Award for paper entitled "Study of Morphological, Structural, Optical and Transport Properties of Gallium Nitride Nanodots Fabricated under Extreme Plasma Conditions" presented during Academics World 108thInternational Conference on Nanoscience, Nanotechnology and Advanced Materials (IC2NM 2018) held at Village Hotel Changi, Singapore from December 2-3 December, 2018.
- Best Poster Award for paper entitled "Optical absorption study of GaAs nanostructures synthesized using hot and dense plasma" presented during 27th PSSI National Symposium on Plasma Science & Technology (PLASMA-2012) held at Pondicherry University from December 10-13, 2012.
- Dr. N. Subrahamanyam award for securing First position in M.Sc. Physics Final year in Kirori Mal College, University of Delhi (2009).
- Dr. Ashok Kumar Memorial award for securing First position in B.Sc. (H) Physics 2nd year in Dyal Singh College, University of Delhi (2005).

Association with Professional Bodies

Life Member of Plasma Science Society of India.

Other Activities

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