CURRICULUM VITAE

Dr. Aman Mahajan
Department of Physics
Guru Nanak Dev University, Amritsar 143005.

Email: aman.phy@gndu.ac.in

Telephone Nos. : (O) 91-183-2258802 (Ext.3470)
(R) 91-183-2421002
(Mobile) 91-9417932547
Fax: 91-183-2258820

DOB: 3-10-1974
Nationality: Indian

Academics:

1997-2003 Ph. D. Physics: Guru Nanak Dev University Amritsar, India.
1995-1997 M. Sc. Physics: Guru Nanak Dev University Amritsar, India.

Professional:

S.No	Position held	Name of the Institute	From	To
1.	Professor	Guru Nanak Dev University, Amritsar	Feb 26, 2024	Till date
2.	Associate Professor	Guru Nanak Dev University, Amritsar	Feb 26, 2021	Feb 25, 2024
3.	Assistant Professor (Stage-III)	Guru Nanak Dev University, Amritsar	Feb 26, 2018	Feb 25, 2021
4.	Assistant Professor (Stage-II)	Guru Nanak Dev University, Amritsar	Feb 26, 2013	Feb 25, 2018
5.	Assistant Professor (Stage-I)	Guru Nanak Dev University, Amritsar	Feb 26, 2009	Feb. 25, 2013
6.	Senior Lecturer	DAV College, Amritsar	July 1, 2006	Feb. 25, 2009
7.	Lecturer	DAV College, Amritsar	July 1, 2002	June 30, 2006

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Specialization/Thrust Area:

Materials Science specializing in:

(a) Controlled growth of molecular & metal oxide thin films, two-dimensional materials, nanostructured materials
(b) Device-oriented research leading to improved third generation solar cells and room temperature ppb level gas sensors.

Theses Supervised:

Ph.D.
Degrees awarded: 14
Under progress: 6
M.Phil
Degrees Awarded: 2

List of sponsored research projects

S. No	Title	Sponsoring Agency	Period	Amount
1.	Investigations on structural-photophysical properties correlation of transition metal doped MXene for energy conversion applications.	UGC-DAE CSR	2022-2025	Rs. 13 lacs
2.	Transitional metal implanted Mxenes for developing highly stable perovskite solar cells under ambient condition	IUAC	2021-2024	Rs. 10.12 Lacs
3.	Two Dimensional Functionalized MXenes for Highly Stable and Efficient Perovskite Solar Cells	SERB	2020-2023	Rs. 39.7 Lacs
4.	Detection and Decontamination of toxic gases and volatile organic compounds	RUSA	2020-2022	Rs. 10 Lacs
5.	Energy Harvesting Under Direct/Diffuse Sunlight and Indoor Conditions for Sustainable Habitat	RUSA	2019-2021	Rs. 15 Lacs
6.	Development of the method for determination of soil quality by the system "e-nose"	DST, New Delhi	2019-2021	Rs. 14 Lacs
7.	Electrospun photoanodes with enhanced light harvesting capability properties for fabrication of plasmonic dye sensitized solar cells	DST-SERB	2017-2020	Rs. 30.59 Lacs
8.	Fabrication of plasmonic dye sensitized solar cell using ion beam engineered photoanodes	IUAC	2016-2019	Rs. 6.75 Lacs
9.	Transitional metal sulfides based counter electrode for dye sensitized solar cells	DAE-BRNS, Mumbai	2013-2016	Rs. 24.96 Lacs
10.	Molecular Probes for nitroaromatic explosives	DAE-BRNS, Mumbai	2012-2015	Rs. 36.47 Lacs
11.	Anthracene based blue emitter for organic light emitting devices	CSIR, New Delhi	2011-2015	Rs. 22.3 Lacs
12.	Design and synthesis of substituted triazoles for light emitting applications	DST, New Delhi	2011-2014	Rs. 22.38 Lacs
13.	Design and development of functionalized phthalocayanine materials for light emitting and gas sensing applications	DAE-BRNS, Mumbai	2010-2013	Rs. 19.96 lacs
14.	Development of metal oxide based nanostructured materials for device applicatoins	DAE-BRNS, Mumbai	2009-2013	23.02 Lacs
15.	Design, synthesis and evaluation of photo responsive polyaromatics films for solar cell applications	DST, New Delhi	2010-2012	24.93 Lacs
16.	Swift heavy ion irradiation induced modification in structural, electrical and optical properties of SnO_2 films	IUAC-UGC, New Delhi	2008-2011	3.6 Lacs
17.	Phthalocyanines based materials for molecular electronic devices	CSIR, New Delhi	2006-2010	11.5 Lacs

Books published - 2
Chapter in books – 7

1. Single-Atom Catalysts for Hydrogen Evolution Reaction
   Sharma V., **Mahajan A.**
   Atomically Precise Electrocatalysts for Electrochemical Energy Applications, Springer Nature Switzerland, ISBN: 978-3-031-54621-1

2. Recent Developments in MXenes for Advanced Flexible Sensors
   Sardana S., **Mahajan A.**
   Flexible and Wearable Sensors, Taylor & Francis group, ISSN: 978-100-329-9455.

3. Potential applications of chemiresistive gas sensors
   Sharma A.K., **Mahajan A.**
   Carbon Nanomaterials and Their Nanocomposite-Based Chemiresistive Gas Sensors Applications, Fabrication, and Commercialization, Elsevier, ISBN: 978-0-12-822837-1.

4. Reduced Graphene-Metal Phthalocyanine-Based Nanohybrids for Gas-Sensing Applications
   Mahajan A., Sohal M.K.
   Sub-Micron Semiconductor Devices, Taylor & Francis group, ISSN: 978-100-312-6393.

5. Graphene - based sensors
   Sharma A.K., Sardana S., **Mahajan A.**
   Recent advances in Graphene and Graphene based Technologies, IOP, ISSN: 978-075-033-999.

6. Two Dimensional MXenes for highly stable and efficient perovskite solar cells
   Gasso S., Sohal M.K., Kaur N., **Mahajan A.**
   Nanotechnology in automotive industry, Elsevier, ISSN: 978-032-390-5244.

7. Substituted Phthalocyanine-Based Nanostructured Materials for Room-Temperature Gas Sensing Applications
   Mahajan A., Saini R., Bedi R.K.
   Recent Advances in Thin Films, Springer (Publisher), ISSN: 978-981-15-115-3.

List of Publications

A. Research papers published in international journals

1. Ternary MXene/PANI/ZnO-based composite with a built-in p–n heterojunction for high-performance supercapacitor applications
   Mahajan P., Sardana S., **Mahajan A.**
   Journal of Physics D: Applied Physics, Vol. 58, 2025, 045501 (**I.F.** 3.08)

2. Flexible, Multifunctional, and Durable MXene/CeO2/Cellulose Nanofibers for Efficient Energy Conversion-Storage Capacity Toward Self-Powered Monitoring of Ammonia
   Sardana S., Mahajan P., Mishra A., Chawla A K., **Mahajan A.**
   Advanced Materials Technologies, Vol. 202400829 (**I.F.** 6.4)

3. Enhanced efficiency of dye-sensitized solar cells via controlled thickness of the WO3 Langmuir–Blodgett blocking layer in the Debye length regime
   Sahu N K., Choudhary S., **Mahajan A.**, Saxena V.
   Materials Advances, Vol. 5, 2024, 7659-7670 (**I.F.** 5.2)

4. The effect of transition metal ion implantation on the structural and optical properties of few-layered borophene
   Singla A., Singh I., **Mahajan A.**
   Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, Vol. 553, 2024, 165417 **(I.F.** 1.3)

5. Controlling electrospun nanofibers surface morphology using relative humidity for enhancing triboelectric nanogenerator performance
   Sardana S., **Mahajan A.**
   Chemical Physics Letters, Vol. 844, 2024, 141289 **(I.F.** 2.8)

6. Simulation of multijunction solar cell interfaces for enhancement of the power conversion efficiency
   Beepat K G., Sharma D P., **Mahajan A.**, Pathak D., Kumar V.
   Discover Applied Sciences, Vol. 6, 2024, 1-19 (**I.F.** 2.6)

7. Modification of the Properties of Titanium Carbide MXene by Ag Doping via Ion Implantation for Quantum Dot-Sensitized Solar Cell Applications
   Singh I., Devi D., Singh F., Chopra S., **Mahajan A.**
   Journal of Electronic Materials, 2024, 1-11 **(I.F.** 2.1)

8. A Bimetallic-Doped Boron Nanosheet Electrocatalyst for Efficient Hydrogen Evolution Reaction
   Singla A., Dhiman R., **Mahajan A.**
   Journal of Electronic Materials, 2024, 1-9 **(I.F.** 2.1)

9. Highly Flexible, Selective and Sensitive Ammonia Sensor Based on MXene/Cellulose Nanofibers
   Sardana S., **Mahajan A.**
   Journal of Electronic Materials, 2024, 1-8 **(I.F.** 2.1)
10. 1D graphene nanoribbons-mediated defect engineering in 2D MXene for high-performance supercapacitors
    Mahajan P., Sardana S., **Mahajan A.**
    Applied Physics Letters, Vol. 124, 2024, 111602, **(I.F.** 4.0)

11. Modulation of oxygen vacancies in boron nanosheets via nickel cobalt layered double hydroxides for boosting hydrogen-and oxygen-evolution reaction kinetics
    Sharma V., **Mahajan A.**
    Electrochimica Acta, Vol. 479, 2024, 143876 **(I.F.** 6.6)

12. Interfacial engineering of FTO/TiO2 interface via Au nanoparticles for quantum dot sensitized solar cells and photoelectrochemical H2 generation applications
    Bhullar V., Singh I., Sharma V., **Mahajan A.**
    Solar Energy, Vol. 267, 2024, 112248 **(I.F.** 7.188)

13. Triboelectric nanogenerator-integrated symmetric supercapacitor based on TiO2 encrusted MXene nanosheets for energy harvesting and storage applications
    Sardana S., Mahajan P., Mishra A., **Mahajan A.**
    Journal of Physics D: Applied Physics, Vol. 57, 2023, 125502 **(I.F.** 3.4)

14. WS2 nanosheets decorated multi-layered MXene based chemiresistive sensor for efficient detection and discrimination of NH3 and NO2
    Sardana S., Debnath AK., Aswal DK., **Mahajan A.**
    Sensors and Actuators B: Chemical, Vol. 394, 2023, 134352 **(I.F.**8.4)

15. Interfacial Engineering of a TiO_2 Photoanode via Graphene Nanoribbons for Efficient Quantum-Dot-Sensitized Solar Cells and Photoelectrochemical Water Splitting
    Singh I., Bhullar V., **Mahajan A.**
    Energy & Fuels, Vol. 37, 2024, 15054 **(I.F.** 5.3)

16. Fabrication of solution processable perovskite solar cells under high humid conditions via optimization of TiO_2 compact layer
    Bhagat N., Saxena V., Singh A., **Mahajan A.**
    International Journal of Modern Physics B, Vol. 38, 2023, 2450250 **(I.F.** 1.404)

17. Surface engineered MXene with multi-electroactive sites for developing durable and efficient water-splitting electrolyzer

Sharma V., Sardana S., Dhiman R., **Mahajan A.**
Applied Physics Letters, Vol. 1222023, 191601 **(I.F.** 4.0)

18. MXene-functionalized KNN dielectric nanofillers incorporated in PVA nanofibers for high-performance triboelectric nanogenerator
Sardana S., Saddi R., **Mahajan A.**
Applied Physics Letters, Vol. 122, 2023, 162902 **(I.F.** 4.0)

19. Self-Powered Wearable Gas Sensors Based on L-Ascorbate-Treated MXene Nanosheets and SnO_2 Nanofibers
Gasso S., **Mahajan A.**
ACS Applied Nano Materials, Vol. 6, 2023, 6678 **(I.F.** 5.9)

20. Cu implanted TiO_2 based dye sensitized solar cells: Unraveling the effect of doping mechanism and type of metal ion on the photovoltaic properties
Bhullar V., **Mahajan A.**
Solar Energy, Vol. 254, 2023, 8-14 **(I.F.** 7.188)

21. MXene Supported Nickel-Cobalt Layered Doubled Hydroxide as Efficient Bifunctional Electrocatalyst for Hydrogen and Oxygen Evolution Reactions
Navjyoti, Sharma A.K., Sharma V., Saxena V., Debnath A.K., **Mahajan A.**
Journal of Alloys and Compounds, Vol. 939, 2023, 168779 **(I.F.** 6.371)

22. Modulation of Surface Ti-O Species in 2D-$Ti_3C_2T_X$ MXene for Developing a Highly Efficient Electrocatalyst for Hydrogen Evolution and Methanol Oxidation Reactions
Navjyoti, Sharma V., Bhullar V., Saxena V., Debnath A.K., **Mahajan A.**
Langmuir, Vol.39, 2023, 2995-3005 **(I.F.** 4.331)

23. Au ion beam engineered MXene incorporated TiO_2 photoanodes for quantum dot sensitized solar cells
Singh I, Bhullar V., Devarani D., Singh F., Chopra S., Debnath A.K., Aswal D.K., **Mahajan A.**
Materials Science and Engineering B, Vol. 290, 2023, 116342 **(I.F.** 3.407)

24. Electrospun Polymer Nanofibers for Technology Applications: A Short Review
Sharma A., Kumar R., Nunzi J.M., **Mahajan A.,** Sharma D., Pathak D.
Current Material Science, 2023 **(I.F.** 0.77)

25. MXene decorated tungsten trioxide nanocomposite-based sensor capable of detecting NO_2 gas down to ppb-level at room temperature
Gasso S., **Mahajan A.**
Materials Science in Semiconductor Processing, Vol. 152, 2022, 107048 **(I.F.** 4.644)

26. COMSOL Multiphysics-based modeling approach to solar cell development
Bipit K., Sharma D., **Mahajan A.,** Pathak D.
International Journal of Modern Physics B, 2022 **(I.F.** 1.404)

27. Ti^{2+} and Ti^{4+} Species Enriched MXene Electrocatalyst for Highly Efficient Hydrogen Evolution and Oxygen Evolution Reaction Kinetics
Sharma V., Dhiman R., **Mahajan A.**
Applied Surface Science, Vol. 612, 2022, 155883 **(I.F.** 7.392)

28. MXene based 2D-2D heterostructures for Counter Electrode in third generation Dye Sensitized Solar Cells
Gasso S., **Mahajan A.**

Chemical Physics Letters, vol. 808, 2022, 140144 **(I.F.** 2.719)

29. Near-IR intracellular ratiometric 'turn-on' discrimination of H_2S/Cys and low-cost test kits for ppm level detection of H_2S gas
    Kaur N., Kaur R., Gasso S., Marok S.S., Kaur S., **Mahajan A.,** Singh P.
    Journal of Photochemistry and Photobiology A: Chemistry, Vol. 435, 2022, 114345 **(I.F.** 5.141)

30. Influence of gamma radiation on optical, structural and surface morphological properties of WO3 thin films grown by RF sputtering
    Deepika, Gupta D., Chauhan V., **Mahajan A.,** Gupta R., Asad Ali S., Kumar R.
    Radiation Physics and Chemistry, Vol. 202, 2022, 110554 **(I.F.** 2.776)

31. Self-Powered Biocompatible Humidity Sensor Based on an Electrospun Anisotropic Triboelectric Nanogenerator for Non-Invasive Diagnostic Applications
    Sardana S., Singh Z., Sharma A.K., Kaur N., Pati P., **Mahajan A.**
    Sensors and Actuators B Chemical, Vol.371, 2022, 132507 **(I.F.** 9.221)

32. MXene decorated tungsten trioxide nanocomposite-based sensor capable of detecting NO_2 gas down to ppb-level at room temperature
    Gasso S., **Mahajan A.**
    Materials in semiconductor processing, Vol. 152, 2022, 107048 (**I.F.** 4.644)

33. Development of Highly Sensitive and Humidity Independent Room Temeprature NO_2 Gas Sensor Using Two Dimensional $Ti_3C_2T_x$ Nanosheets and One Dimensional WO_3 Nanorods Nanocomposite
    Gasso S., **Mahajan A.**
    ACS sensor, Vol. 7, 2022, 2454-2464 (**I.F.** 9.618)

34. Ion implanted substitutionally dispersed Au in TiO_2 nanostructures for efficient and stable dye sensitized solar cells
    Bhullar V., Devi D., Singh F., Chopra S., Debnath A.K., Aswal D.K., **Mahajan A.**
    Optical Materials, Vol.132, 2022, 112800 (**I.F.** 3.754)

35. Ag implanted TiO_2 nanoparticle/nanofibers composites for dye sensitized solar cells applications
    Bhullar V., Devi D., Singh F., Chopra S., Debnath A.K., Aswal D.K., **Mahajan A.**
    Solar Energy, Vol. 241, 2022, 109-119 (**I.F.** 7.188)

36. Plasmonic Engineering of TiO_2 Photoanodes for Dye-Sensitized Solar Cells: A Review
    Kaur N., Singh D.P., **Mahajan A.**
    Journal of electronic materials, 2022 (**I.F.** 2.047).

37. Phase Variation of Ultra-thin WO_3 Electron Transport Layer Prepared by Scalable Langmuir-Blodgett Technique to Boost Efficiency of Dye Sensitized Solar Cells
    Saxena V., Navjyoti, Choudhary S., **Mahajan A.**, Singh A.
    Solar RRL, 2022 (**I.F. 9.173**).

38. Nickel Sulfide (Ni_3S_2)/Multi-Walled Carbon Nanotubes (MWCNTs) Nanohybrids for Enhanced Electrocatalytic Activity Towards Methanol Oxidation
    Bhullar V., Navjyoti, Singh R., Bedi R.K., **Mahajan A.**
    ECS Transactions, Vol. 107, 2022, 15281-15289. (**I.F**. 0.64).

39. Influence of high dose gamma radiation on optical, physico-chemical and surface morphology properties of nanocrystalline ZrO_2 thin films

Chauhan V., Gupta D., Upadhyay S., **Mahajan A.**, Gaur A., Kumar S., Kumar R.
Optical Materials, Vol. 126, 2022, 112125 **(I.F. 3.754).**

40. MXene Modulated SnO_2 Gas Sensor for Ultra-responsive Room-Temperature Detection of NO_2
Gasso S., Sohal M.K., **Mahajan A.**
Sensors and Actuators B Chemical, 2022, 131427 **(I.F. 9.221).**

41. Self-Powered Monitoring of Ammonia Using an MXene/TiO_2/Cellulose Nanofiber Heterojunction-Based Sensor Driven by an Electrospun Triboelectric Nanogenerator
Sardana S., **Mahajan A.**, Kaur H., Arora B., Aswal D.K.
ACS sensors, 2022, Vol. 7, 1, 312-321. **(I.F. 9.618).**

42. Defects engineering and enhancement in optical and structural properties of 2D-MoS_2 thin films by high energy ion beam irradiation
Gupta D., Chauhan V, Upadhyay S., Koratkar N., Singh F., Kumar S., **Mahajan A.**, Chandra R., Kumar R.
Materials chemistry and physics, Vol. 276, 2021, 125422 **(I.F. 4.778).**

43. Electrospun PVP/TiO_2 Nanofibers for Filtration and Possible Protection from Various Viruses Like COVID-19
Sharma A., Pathak D., Patil D., Dhiman N., Bhullar V., **Mahajan A.**
Technologies, Vol. 9, 2021, 89.

44. Room temperature ppb level detection of chlorine using peripherally alkoxy substituted phthalocyanine/SWCNTs based chemiresistive sensors
Sharma A.K., Debnath A.K., Aswal D.K., **Mahajan A.**
Sensors and Actuators B Chemical, Vol. 350, 2021, 130870 **(I.F. 9.221).**

45. Size modeling of TiO_2 nanofibers for efficient TiO_2 sensitized mesoscopic solar cells
Bhullar V., Sardana S., **Mahajan A.**
Solar Energy, Vol. 230, 2021, 177-185 **(I.F. 7.188).**

46. TiO_2 nanofibers fabricated by electrospinning technique and degradation of MO dye under UV light
Thakur N., Thakur N., Bhullar V., Sharma S., **Mahajan A.**, Kumar K., Sharma D.P., Pathak D.
Zeitschrift für Kristallographie - Crystalline Materials, 1-14 **(I.F. 1.616).**

47. Ni^{2+} enriched carbon nanotubes nanohybrids based non-platinum counter electrodes for dye sensitized solar cells
Singh R., Kaur N., Navjyoti, **Mahajan A.**
Solar Energy, Vol. 226, 2021, 31-39 **(I.F. 7.188)**

48. Solution processable transition metal oxide ultra-thin films as alternative electron transport and hole blocking layers in dye sensitized solar cells
Prakash O., Saxena V., Bedi R.K., Debnath A.K., **Mahajan A.**
Journal of Photochemistry and Photobiology A Chemistry, Vol.418, 2021, 113385. **(I.F. 7.5)**

49. Physicochemical properties of Tin (IV) oxide synthesized by different methods and from different precursors
Dontsova T.A., Nahirniak S., Linyucheva O., Tereshkov M., **Mahajan A.,** Singh R.C.
Applied Nanoscience, 2021. DOI: 10.1007/s13204-021-01775-X. **(I.F. 3.869)**

50. "Painted CNT"@Au nanoparticles: a nanohybrid electrocatalyst of direct methanol oxidation

Asma Bensaghaier, Bhullar V., Kaur N., Momath lo, Myrian Bdiri, **Mahajan A.,** Chehimi M.M.
Emergent Materials, Vol.4, 2021, 515-524.

51. Ultrasensitive yttrium modified tin oxide thin film based sub-ppb level NO_2 detector
Sohal M.K., **Mahajan A.**, Gasso S., Bedi R.K., Singh R.C., Debnath A.K., Aswal D.K.
Sensors and Actuators B Chemical, Vol.329, 2021, 129169. **(I.F. 9.221)**

52. MoS_2 nanorods anchored reduced graphene oxide nanohybrids for electrochemical energy conversion applications
Kumar S., Kaur N., Bhullar V., **Mahajan A.**
Physica E: Low-dimensional Systems and Nanostructures, Vol. 128, 2021, 114589. **(I.F. 3.25)**

53. Room temperature highly sensitive chlorine sensor based on reduced graphene oxide anchored with substituted copper phthalocyanine
Kumar S., Sharma A.K., Sohal M.K., Sharma D.P., Debnath A.K., Aswal D.K., **Mahajan A.**
Sensors and Actuators B Chemical, Vol.327, 2020, 128925. **(I.F. 9.221)**

54. Modification of SnO_2 surface oxygen vacancies through Er doping for ultralow NO_2 detection
Sohal M.K., Gasso S., **Mahajan A.**, Nahirniak S.V.,Dontsova T.A., Singh R.C.
Materials Research Bulletin, Vol. 133, 2020, 111051. **(I.F. 9.8)**

55. Van der Waals coefficients of the multi-layered MoS 2 with alkali metals
Dutt S., Singh S., **Mahajan A.**, Arora B., Sahoo B.K.
Physica Scripta, Vol. 95, 2020, 9. **(I.F. 3.081)**

56. Bimetallic Implanted Plasmonic Photoanodes for TiO_2 Sensitized Third Generation Solar Cells
Kaur, N., Bhullar, V., Singh, D.P., **Mahajan A.**
Scientific Reports, Vol.10**,** 2020, 7657. **(I.F. 4.996)**

57. Rare earth-tuned oxygen vacancies in gadolinium-doped tin oxide for selective detection of volatile organic compounds
Sohal M.K., **Mahajan A., Gasso S.,** Svitlana N., **Dontsova** T.A., Singh R.C.
J Mater Sci: Mater Electron, Vol. 31, 2020, 8446-8455. **(I.F. 2.779)**

58. Ag ion implanted TiO_2 photoanodes for fabrication of highly efficient and economical plasmonic Dye Sensitized Solar Cells
Kaur N., **Mahajan A.**, Bhullar V., Singh D.P., Saxena V., Debnath A.K., Aswal D.K., Devi D., Singh F., Chopra S.
Chemical Physics Letters, Vol. 740, 2020, 137070. **(I.F. 2.719)**

59. Paper strips coated with polypyrrole-wrapped carbon nanotube composites for chemi-resistive gas sensing.
Hamouma. O., Kaur N.,Oukil D., **Mahajan A.**, Mohamed M.Chehimi
Synthetic Metals, Vol. 258, 2019, 116223. **(I.F. 4)**

60. Low temperature processable ultra-thin WO_3 Langmuir-Blodgett film as excellent hole blocking layer for enhanced performance in dye sensitized solar cell.
Prakash O., Saxena V., Choudhury S., Tanvi, Singh A., Debnath A.K., **Mahajan A.**, Muthe K.P., Aswal D.K.
*Electrochimica Acta,*Vol. 318, 2019, 405-412. **(I.F. 7.336)**

61. Fabrication of plasmonic dye-sensitized solar cells using ion-implanted photoanodes.

Kaur N., **Mahajan A.**, Bhullar V., Singh D.P., Saxena V., Debnath A.K., Aswal D.K., Devi D., Singh F., Chopra S.
RSC Advances, Vol. 9, 2019, 20375-20384. **(I.F. 4.036)**

62. Tailoring of the chlorine sensing properties of substituted metal phthalocyanines non-covalently anchored on single-walled carbon nanotubes.
Sharma A.K., **Mahajan A.**, Kumar S., Debnath A.K., Aswal D.K.
RSC Advances, Vol. 8, 2018, 32719-32730. **(I.F. 4.036)**

63. Optimization of Ni^{2+}/Ni^{3+} ratio in reduced graphene oxide/nickel oxide nanohybrids for platinum free dye sensitized.
Singh R., Kumar S., Bedi R.K., Saxena V., Aswal D.K., **Mahajan A.**
Journal of Physics and Chemistry of Solids, Vol. 123, 2018, 191-197. **(I.F. 4383)**

64. Diazonium chemistry for making highly selective and sensitive CNT-Neutral Red hybrid-based chemiresistive acetone sensors.
Bensghaïer A., Kaur N., Fourati N., Zerrouki C., Lamouri A., Beji M., **Mahajan A.**, Mohamed M. Chehimi,
Vacuum, Vol. 155, 2018, 656–661. **(I.F. 4.11)**

65. Effect of dilute concentrations of Sm on the temperature dependent electrical and dielectric properties of ZnO.
Arora D., Asokan K., Kumar S., Kaur S., Kaur P., Singh G.P., **Mahajan A.**, Kalia S., Kalia N., Kriti, Kaur P., Singh D.P.
Journal of American Ceramic Society, Vol. 101, 2018, 4023-4037. **(I.F. 4.186)**

66. Optimized reduction of graphite oxide for highly exfoliated silver nanoparticles anchored graphene sheets for dye sensitized solar cell applications.
Kumar S., Singh R., **Mahajan A.**, Bedi R.K., Saxena V., Aswal D.K.
ElectrochimicaActa, Vol. 265, 2018, 131-139. **(I.F. 7.336)**

67. Silver nanoparticles anchored reduced graphene oxide for enhanced electrocatalytic activity towards methanol oxidation.
Kumar S., Mahajan M., Singh R., **Mahajan A.**
Chemical Physics Letters, Vol. 693, 2018, 23-27. **(I.F. 2.719)**

68. Morpho-structural and Opto-electrical Properties of Chemically Tuned Nanostructured TiO_2.
Kaur G., Negi P., Kaur M., Sharma R., Konwar R.J., **Mahajan A.**
*Ceramics International,*Vol. 44(15), 2018,18484-18490. **(I.F. 5.532)**

69. CNTs based improved chlorine sensor from noncovalently anchored multi-walled carbon nanotubes with hexa-decafluorinated cobalt phthalocyanines.
Sharma A.K., **Mahajan A.**, Bedi R.K., Kumar S., Debnath A.K., Aswal D.K.
RSC Advances, Vol. 7, 2017, 49675-49683. **(I.F. 4.036)**

70. Improved performance of dye sensitized solar cell via fine tuning of ultra thin compact TiO_2 layer.
Tanvi, Saxena V., Singh A., Prakash O., **Mahajan A.**, Debnath A.K., Muthe K.P., Gadkari S.C.
Solar Energy Materials and Solar cells, Vol.170, 2017, 127-136. **(I.F. 7.305)**

71. Reversible and fast responding ppb level Cl_2 sensor based on noncovalent modified carbon nanotubes with hexadecafluorinated copper phthalocyanine.
Sharma A.K., **Mahajan A.**, Saini R.,Bedi R.K., Kumar S., Debnath A. K., Aswal D.K.

Sensors and Actuators B: Chemical, Vol. 252, 2017, 87-99. **(I.F. 9.221)**

72. Non-covalently anchored multi-walled carbon nanotubes with hexa-decafluorinated zinc phthalocyanine as ppb level chemiresistive chlorine sensor.
Sharma A.K., **Mahajan A.**, Saini R., Bedi R.K., Kumar S.,Debnath A.K., Aswal D.K.
Applied Surface Science, Vol. 427, 2017, 202-209. **(I.F. 7.392)**

73. Mobility modulation in low carrier concentration organic semiconducting thin film by varying disorder parameters.
Kalia S., **Mahajan A.**, Ghansyam C., Bedi R.K.
Journal of Applied Physics, Vol.121, 2017, 225501-225507. **(I.F. 2.877)**

74. Improved Cl_2 sensing characteristics of reduced graphene oxide when decorated with copper phthalocyaninenanoflowers.
Kumar S, Kaur N., Sharma A. K., **Mahajan A.**, Bedi R. K.
RSC Advances, Vol. 7, 2017, 25229-25236. **(I.F. 4.036)**

75. Anisotropic charge transport properties in boron sub phthalocyanine chloride thin films.
Kalia S., **Mahajan A.**, Ghansyam C.G., Debnath A.K., Saxsena V., Aswal D.K., Bedi R.K.
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