

List of Publications

Book Chapters

2. I. Ulfat, J. Adell, **P. Pal**, J. Sadowski, L. Ilver, and J. Kanski " Chapter 1: Materials Engineering, "Post-Growth Annealing of (Ga, Mn)As under Sb Capping", Vols. 229-231, pp. 243-246, 2012, Trans Tech Publications Ltd, DOI: www.scientific.net/AMM.229-231.243, **Book Chapter: Mechanical and Electrical Technology IV, 2012.**

I. Ulfat, J. Adell, **P. Pal**, J. Sadowski, L. Ilver, and J. Kanski " Chapter 5:, "Electron Spectroscopic Studies of Homogenous (GaMn)As Layers", Vols. 463-464, pp. 380-384, 2012, Trans Tech Publications Ltd, DOI:www.scientific.net/AMR.463-464.380, **Book Chapter: Coatings and Surface Engineering, Advanced Materials Research II, 2012.**

Publications (Peer Reviewed Journal)

90. Insights into the Li-ion storage mechanisms in sulfur-deficient 2D VS_{2-x} and self-intercalated V_{1+x}S₂ cathodes, S. Pal, K. Ghosh, K. Chatterjee, A. Tyagi, S. Puravankara, M. Raja, **P. Pal***, **Journal of Power Sources**, **688**, 240663 (2026) **(Impact factor 8.4).**

89. Unconventional Gas Sensing Mechanism in Phase-Separated n-Type Mixed Tungsten Oxide 2D-Nanosheets Compared against Tungsten (VI) Oxide, M. Hossain, K. Chatterjee, K. Mohanty, K. Tarafder, S. Sen, S. Kundu, E. Varrla, B. Satpati, **P. Pal***, **Small** **22**, e13074 (2026), <https://doi.org/10.1002/sml.202513074> **(Impact factor 12.1).**

88. Reactive Glass–Metal Interaction under Ambient Conditions Enables Surface Modification of Gold Nano-Islands, S. Haque, S. Keshri, G. Gadudhula, K. Chatterjee, S. Majumdar, K. Biswas, S. Ganiseti, I. Mandal, D. Basha, **P. Pal**, P. Chowdhury, N. Joshi, S. Sappati, N. Gosvami, P. Nukala, E. Varrla, N. Krishnan, A. Allu, **Adv. Funct. Mater.** **36**, e27669, (2026), <https://doi.org/10.1002/adfm.202527669> **(Impact factor 19.0).**

87. Enhancement of structural phase transition temperature of methylammonium lead iodide perovskite by Cesium (Cs) incorporation: Impact on optoelectronic property, M. Halder, S. Mal, S. Kalimuddin, S. Balti, H. Acharya, K. Chatterjee, **P. Pal**, M. Mondal, S. Das, **Materials Research Bulletin** **196**, 113890, (2026) **(Impact factor 5.7).**

86. Mn-Intercalation-Induced Burstein–Moss Shift and Broadband Emission in MoSe₂, S. Raha, P. Boyal, S. Masanta, C. Nayak, A. Roy, **P. Pal**, P. Mahadevan, and A. Singha, **Nano Lett.**, **25**, 14333 (2025) **(Impact factor 10.8).**

85. Water-In-Glass: A Self-Supporting Inorganic Aqueous Electrolyte, S. Haque, I. Mandal, K. Jayanthi, P. Pal, P. Sen, B. Pradhan, K. Dey, M. Ghosh, N. Goswami, N. M. A. Krishnan, M. Raja, and A. R. Allu, **J. Phys. Chem. B**, **129**, 9240–9248 (2025) **(Impact factor 3.466).**

84. r-GO/MoS₂ heterostructures ultrasensitive self-powered photodetector operating in both narrowband and broadband regimes, A. Barvat, **P. Pal**, N. Prakash, G. Kumar, M. Singh, A. Dogra, **Microsystem Technologies** 31, 2851 (2025) (Impact factor 1.8).
83. Particle shape and size dependence of surface multiferroicity in nanoscale Y₂NiMnO₆, K. De, S. Choudhury, K. Chatterjee, G. S Kumar, P. Majhi, **P. Pal**, J. Basu, D. Bhattacharya, **Journal of Alloys and Compounds**, 1040, 183212 (2025) (Impact factor 6.3).
82. Immobilized Gold Nanoparticles on a Glass Based Scaffold for Direct Solar-Driven H₂ from Water Vapor, R. Haldar, N. Jacob, G. Ganesh, K. Chatterjee, I. Mandal, A. Chakraborty, K. Haldar, **P. Pal**, G. K. Gupta, N. M. A. Krishnan, M. Chirumamilla, M. R. Motapothula, E. Varrla, and A. R. Allu, **ACS Materials Lett.** 7, 1228 (2025) (Impact factor 9.9).
81. Synthesis and characterization of phase pure barium zirconate nanoceramics by citrate acetate using the sol-gel process grown at reduced temperatures, K. Chatterjee, **P. Pal***, **Ceramics International** 51, 8955 (2025) (Impact factor 5.1).
80. Exploring the molarity of Lithium Fluoride in minimally intensive layer delamination (MILD) method for efficient room temperature synthesis of high quality Ti₃C₂T_x free-standing film, P. Sarkar, K. Chatterjee, **P. Pal**, K. Das, **Materials Science in Semiconductor Processing** 185 (2025) 108881 (Impact factor 4.2).
79. Long-term stability of Ag NPs in a room temperature cured SiO₂–ZrO₂ crosslinking hybrid robust coating towards enhanced weather resistance properties and its antibacterial applications, S. Manna, M. K. Naskar, D. Saha, **P. Pal** and S. K. Medda, **New J. Chem.**, 49, 6914 (2025) (Impact factor 3.3).
78. Effect of charge-discharge with higher capacitance performance of Ni-substituted CoFe₂O₄ magnetic nanoparticles for energy storage, Kuldeep, M. A. Khan, Neha, K. Chatterjee, P. Saini, **P. Pal**, G.A. Basheed, **Journal of Energy Storage** 101 (2024) 113632 (Impact factor 8.9).
77. Field-induced magnetorheological study towards the active magneto-viscoelastic behavior of stable MnFe₂O₄ magnetic nanofluid, Kuldeep, M. A. Khan, K. Chatterjee, **P. Pal**, G.A. Basheed, **Inorganic Chemistry Communications** 164 (2024) 112434 (Impact factor 4.4).
76. Charge density wave transition and unusual resistance hysteresis in vanadium disulfide (1T-VS₂) microflakes, S. Pal, P. Majhi, J. Sau, S. Masanta, **P. Pal***, M. Kumar, A. Singha, P. D. Babu, B. Ghosh, A. K. Raychaudhuri, **Phys. Scr.** 99 (2024) 095957 (Impact factor 2.6).
75. High-sensitive and fast-responsive In₂O₃ thin film sensors for dual detection of NO₂ and H₂S gases at room temperature, Roopa, B. Pradhan, A. Mauraya, K. Chatterjee, P. Pal, S. K. Muthusamy, **Applied Surface Science** 678 (2024) 161111 (Impact factor 6.3).
74. Role of Surface Chemistry of Ta Metal Foil on the Growth of GaN Nanorods by Laser Molecular Beam Epitaxy and Their Field Emission Characteristics, B. Pradhan, P. Tyagi, S. Pal, A. K. Mauraya, Roopa, V. Aggarwal, **P. Pal**, S. S. Kushvaha, and S. K. Muthusamy, **ACS Applied Materials & Interfaces** 16, 13178, (2024) (Impact factor 9.5).

73. Room temperature cured silver nanoparticle embedded hybrid nanocomposite coatings: processing and property evaluation, S. Manna, **P. Pal**, M. K. Naskar, and S. K. Medda, **New J. Chem.**, **48**, 2371 (2024) (Impact factor 3.3).
72. Correlation of defects and crystallite size of ZnO nanoparticles synthesized by mechanical milling, S. Das, S. Pramanik, M. Hossain, S. Mukherjee, C. Rajak, P. Pal, Probodh K Kuiri, **Indian Journal of Physics** **97**, 4263 (2023) (Impact factor 2.0).
71. Charge-transfer-driven enhanced room-temperature ferromagnetism in BiFeO₃/Ag nano composite, T. Chatterjee, S. Mishra, A. Mukherjee, **P. Pal**, B. Satpati and D. Bhattacharya, **Nanotechnology** **34**, 495705 (2023) (Impact factor 3.5).
70. NO₂ gas sensing performance of Ag–WO₃–x thin films prepared by reactive magnetron sputtering process, M. Hossain, K. Sarkar, A. Mondal, A. Bag, P. K. Kuiri, Roopa, M. Senthil Kumar, S. Bysakh, and **P. Pal ***, **Applied Physics A**, **129**, 866 (2023) (Impact factor 2.983).
69. Viscoelastic and microwave resonant absorption studies of Ni_xFe_{3–x}O₄ (0 ≤ x ≤ 0.7) mixed ferrite nanoparticle based magnetic fluid, M. A. Khan, **P. Pal**, and GA Basheed, **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, **673**, 131734, (2023) (Impact factor 5.2).
68. Hybrid Reduced Graphene Oxide/GaN Nanocolumns on Flexible Niobium Foils for Efficient Photoelectrochemical Water Splitting, C. Ramesh, P. Tyagi, V. Aggarwal, S. Pal, S. Dhua, M. Singh, **P. Pal**, S. Roy, S. P. Singh, S. K. Muthusamy, and S. S. Kushvaha, **ACS Applied Nano Materials** **6**, 1898 (2023) (Impact factor 5.9).
67. Engineering Multifunctionality in MoSe₂ Nanostructures Via Strategic Mn Doping for Electrochemical Energy Storage and Photosensing, S. Masanta, C. Nayak, S. Maitra, S. Rudra, D. Chowdhury, S. Raha, M. Pradhan, B. Satpati, **P. Pal**, and A. Singha, **ACS Applied Nano Materials** **6**, 5497 (2023) (Impact factor 5.9).
66. Large area planar UV–Visible photodetectors using wide bandgap WO_{3–δ} films, M. Hossain, S. Pal, S. Masanta, K. Dasgupta, T. Maity, K. Sarkar, P. Kumar, S. Bysakh, and **P. Pal***, **Optical Materials**, **135**, 113322 (2023) (Impact factor 3.754).
65. Room-temperature multiferroicity in GaFeO₃ thin film grown on (100)Si substrate, S. Goswami, S. Mishra, K. Dana, A. Mandal, N. Dey, **P. Pal**, B. Satpati, M. Mukhopadhyay, C. Ghosh, and D. Bhattacharya, **Journal of Applied Physics** **132**, 214101 (2022) (Impact factor 2.877).
64. Influence of Van der Waals bonds on crystallographic and physical properties of reduced-graphene-oxide/BiFeO₃ nanocomposites, T. Chatterjee, A. Mukherjee, **P. Pal** and D. Bhattacharya, **Journal of Alloys and Compounds** **944**, 169210 (2023) (Impact factor 6.371).
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S. Chakravarty, A. Mohan, and S. Chatterjee, **J. Phys. D: Appl. Phys.** **55**, 3650004 (2022) (Impact factor 3.207).

61. Nonmonotonic Magnetic Field Dependence of Remnant Ferroelectric Polarization in Reduced Graphene Oxide–BiFeO₃ Nanocomposite, T. Chatterjee, A. Mukherjee, **P. Pal**, S. Kaushik, V. Siruguri, S. Mandal, S. Hazra, S. Bhattacharjee, C. Ghosh, and D. Bhattacharya, **Phys. Status Solidi RRL** **16**, 2200077 (2022) (Impact factor 2.821).

60. Room temperature sputtered nanocrystalline SnO₂ thin films sensitized with Pd nanoparticles for high performance CO gas sensing application, A. Gangwar, S. Srivastava, R. Godiwal, J. Jaiswal, P. Vashishtha, S. Pal, **P. Pal**, G. Gupta, and P. Singh, **Optical Materials**, **128**, 112362 (2022). (Impact factor 3.754).

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58. Ultrasensitive Boron–Nitrogen-Codoped CVD Graphene-Derived NO₂ Gas Sensor, S. Srivastava, **P. Pal**, D. Sharma, S. Kumar, T. D. Senguttuvan, and B. Gupta, **ACS Materials Au**, **2**, 356 (2022). (Impact factor 9.1).

57. Sequential growth of self-organized epitaxial FeSi₂ and CoSi₂ nanostructures on Si (111)-7 × 7 surfaces, J. C. Mahato, D. Das, A. Pal, **P. Pal**, and B. N. Dev, **Applied Surface Science** **572**, 151397 (2022). (Impact factor 7.392)

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55. New insight into the growth of monolayer MoS₂ flakes using an indigenously developed CVD setup: a study on shape evolution and spectroscopy, G. Papanai, S. Pal, **P. Pal**, B. Yadav, P. Garg, S. Gupta, S. Ansari, and B. Gupta, **Materials Chemistry Frontiers** **5**, 5452 (2021). (Impact factor 6.059)

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53. Influence of magnetron configurations on the structure and properties of room temperature sputtered ZnO thin films, R. Godiwal, A. K. Gangwar, J. Jaiswal, P. Vashishtha, M. Hossain, **P. Pal**, G. Gupta and P. Singh, **Physica Scripta**, **96**, 015811 (2021). (Impact factor 1.985)

52. Influence of chemical aging on physico-chemical properties of mineral dust particles: A case study of 2016 dust storms over Delhi, V. Goel, S. Mishra, **P. Pal**, A. Ahlawat, N. Vijayan, S. Jain, and C. Sharma, **Environmental Pollution**, **267**, 115338 (2020). (Impact factor 8.071)

51. Effect of bulk and surface modification of SnO₂ thin films with PdO catalyst on CO gas sensing characteristics prepared by vacuum evaporation process, A. Mauraya, D. Mahana, **P. Pal**, S. Muthiah, P. Singh, and S. Muthusamy, **Journal of Alloys and Compounds** **843**, 155979 (2020). (Impact factor 5.316)
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47. Edge-contact large area hetero-structure fast photodetector utilizing two-dimensional r-GO on three-dimensional GaN material interface, N. Prakash, G. Kumar, M. Singh, S. P. Singh, **P. Pal**, and S. P. Khanna, **Sensors and Actuators A** **303**, 111720, (2020). (Impact factor 2.739)
46. Wide spectral photoresponse of template assisted out of plane grown ZnO/NiO composite nanowire photodetector, M. Maurya, V. Toutam, S. Bathula, **P. Pal**, and B. K. Gupta, **Nanotechnology** **31**, 025705 (2020). (Impact factor 3.874)
45. Creation of uniformly dispersed nitrogen-vacancy centers in Nano-diamonds by low energy ion-irradiation, R. Kumar, T. Cong, K. Lee, **P. Pal**, S. Dhakate, R. Kumar, D. K. Avasthi and D. K. Singh, **Materials Research Express** **6**, 115097 (2019). (Impact factor 1.941)
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42. Long-Term, High-Voltage, and High-Temperature Stable Dual-Mode, Low Dark Current Broadband Ultraviolet Photodetector Based on Solution-Cast r-GO on MBE-Grown Highly Resistive GaN, N. Prakash, G. Kumar, M. Singh, S. P. Singh, B. Satpati, S. P. Khanna, and **P. Pal***, **Advanced Optical Materials** **7**, 1900340, (2019). (Impact factor 10.05)
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39. Engineering Bright Fluorescent Nitrogen-vacancy (NV) Nano-diamonds: Role of Low-energy Ion-irradiation Parameters, R. Kumar, P. Pandit, **P. Pal**, S. R. Dhakate, R. P. Pant, R. Kumar, D. K. Avasthi and D. K. Singh, **AIP ADVANCES** **8**, 085023 (2018). (Impact factor 1.579)
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15. Mn-induced modifications of Ga 3d photoemission from (Ga,Mn)As: evidence for long range effects, J. Kanski, I. Ulfat, L. Ilver, M. Leandersson, J. Sadowski, K. Karlsson, and **P. Pal; J. Phys. Condens. Matter 24, (2012) 435802. (Impact factor 2.745)**
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