CURICCULUM VITAE

Sanjeev Gautam, Ph.D.
PANJAB UNIVERSITY, Chandigarh – 160 014, INDIA
Dr. S.S. Bhatnagar University Institute of Chemical Engineering & Technology,

Mobile phone: +91-97797 13212
E-mail: sgautam@pu.ac.in; sgautam71@gmail.com
ORCID ID: http://orcid.org/0000-0003-3123-9906

PhD in Physics (Major: Condensed Matter), specialist in X-ray Absorption Spectroscopy for 20+ years. The work experience includes the characterization of various inorganic compounds, study of electronic structure of advanced functional materials including carbon based nanomaterials, inorganic chalcogenides, etc. I worked out different experimental approach for analysis of experimental data including X-ray magnetic dichroism for data analysis in quantitative mode.

Research publications in International peer-reviewed/scopus indexed Journals: 163

137 international journal articles, 14 book chapter, 16 conf. proceed. and 11 reviews, 6 Ph.D. and 33 master thesis, 3407 citations by 1378 documents, i10 index=100, h-index=34

Professional Experience

- **June 2014 – at present:** Asst. Professor in Physics at PANJAB UNIVERSITY, Chandigarh India in Dr. S.S. Bhatnagar University Institute of Chemical Engineering & Technology.
- **Jan 2008 – June 2014:** Postdoc/Star postdoc/Research Associate in Advanced Analysis Center, KIST at KIST beamlines, Pohang Accelerator Lab, Pohang for the development and in-house research.
- **Jan 2001- Jan 2008:** Programmer/System Admin with India-CMS collaboration for physics simulations.
- **August 1995- Jan 2001**: Research Scholar, Department of Physics, Panjab Univ. Chandigarh

Administrative Experience

- Member of faculty of engineering (2022-23,2023-25)
- Editorial Board Member- Scientific Reports (2021--), Materials Letters (2021--), Materials Letters-X (2021 --). Guest Editor –Electronic structure…… in the journal Materials, MDPI.
- Environmental coordinator (2020-2021)-TEQIP-III program (SSB UICET)
- Hostel Warden (Sep 2015 – Sept 2020): Boys Hostel No 3 (Bhatnagar Hall).
- NSS Program Officer (Jan 2015 – Aug 2018): Panjab University Campus
- Inspection/installation committee convener (2016-18)- TEQIP-II program (SSBUICET)
- Member, Board of Studies (2015-2020)- Energy and Food Tech., Panjab Univ., Chandigarh
- Member, Board of Studies (2017-2022) – Nanosci. and Nanotech., Panjab Univ. Chandigarh
- Member, Research & Development Committee (2017-2018) – CIL/SAIF, P.U. Chandigarh,
- Member, Research &Development Committee (2017-2019) – UIEST, P.U. Chandigarh
- Coordinator for EOC -devyang/PwD (Dec 2017-June 2018) – Panjab University, Chandigarh.

- Grievance Redressal Office (Oct 2017 – Oct 2019) for PWD – Panjab University, Chandigarh.
- Member, Editorial board – Heliyon (Elsevier Publishing, 2015-2018,2018-2021)

Research Project / Industrial Sponsorship/Consultancies

- ***UGC-IUAC(2022-2026)****-Rs.12.0 lakhs****, GIAN Workshop(Dec 2022)****- Rs. 8.00 lakhs, **UGC-DAE(2020-23)**-Rs.13,39,560/-, **CSR-Ind(2022-24)**- Rs. 14.7 lakhs, **SERB-TARE(2022-2024)**- Rs. 18.30 Lakhs, **CSR-Ind(Elect. Pvt ltd, 2020-2025)**-Rs. 37.7 lakhs, **UGC-IUAC (2018-22)**- Rs. 12.0 lakhs, **UGC-DAE** (2015-2020)- Rs. 7, 39,800, **GIAN workshop (Oct 2017)** - Rs. 8, 00,000/-, **UGC startup** (2015-2018)-(No.F.30-94/2015 (BSR) – Rs. 6, 00, 000/-.*

Research students (Ph.D.: completed=6, perusing=6) - Anil Sharma *(CIL, Physics),* ***Ramesh Sharma*** *(CIL, Engg faculty),* ***Amardeep Bharti*** *(Physics, 2014-2018),* ***Richa*** *(Physics, 2014-2019),* ***Baljeet Kaur*** *(Physics, 2015-2020),* ***Mandeep Kaur****(Physics, 2016-2023),* ***Shaffy Garg****(Phys, 2018-24),* ***Vishal Thakur****(Ind.Chem., 2022-25),* ***Monika*** *(Phys, 2023-26),* ***Shruti Rialach****(2023-26),* ***Ritika Charak****(Phys, 2024-28),* ***Priyal****(2024-28).*

Master/PG. (32) - Raminder Kaur *(ME Food Tech, 2016),* ***Juhi Singhal*** *(MSc Ind Chem, 2017),* ***Manisha Thakur*** *(ME Chem. Engg 2017),* ***Palak Gupta*** *(ME Food Tech. 2018),* ***Gurdeep*** *(ME Chem Engg 2018),* ***Abhishek Katoch*** *(MSc Ind Chem, 2018),* ***Gitika Arora****(MSc Ind Chem 2019),* ***Harshita Agarwal****(ME Chem Engg 2019),* ***Avtar Singh Bedi****(MSc Ind Chem 2019),* ***Vishal Thakur****(MSc Ind Chem 2019),* ***Prakash Kumar*** *(UICET, FoodTech, 2019)****, Navdeep Kajal*** *(UICET, IndChem, 2021)****, Vishwajeet*** *(UICET, Chem, 2021)****, Urvashi Sood*** *(UICET, Food Tech, 2021)****, Nisha Rani*** *(UICET, Food Tech, 2022)****, Ishita Lakhanpal*** *(UICET, Ind. Chem, 2022)****, Chaman Dhiman*** *(UICET, Chem Engg, 2022)****, Simranpreet Kaur*** *(UICET, Ind. Chem, 2023)****, Mandeep Singh*** *(UICET, Chem Engg, 2023)****, Harsimran Kaur*** *(UICET, Food Tech, 2023)*

The major research themes

1. Advanced *functional materials*
2. *Energy Materials, hydrogen energy, fuel cells*
3. *Ion beam irradiations applications (Plasmonics, spintronics, photovoltaics)*
4. *Catalysis, Heavy Metal Adsorption, Water purification, Filter*
5. *Biomaterials- smart biomaterials and targeted drug delivery*
6. *Sensors (smart, Environmental, Biological)*
7. *Smart materials, smart food and food safety*

Education:

2007: Ph.D. in Physics (Major: Condensed Matter) from PANJAB UNIVERSITY, Chandigarh, INDIA.

Personal data

Birth date: April 16, 1971

Married

Professional interests and expertise

- Electronic structure of Advanced Functional Materials
- Expert in synthesis (wet chemical, gel-to-crystallite conversion, sol-gel, hydrothermal), thin film techniques (RF/DC magnetron sputtering, PLD, e-beam evaporation, spin coating and sol-gel) and basic characterization (SEM/EDAX/TEM, XRD/SAXS, Four-probe resistivity, UV-vis, XPS) of the materials.

State of Art (Synchrotron Techniques)

- Expertise in X-ray absorption and magnetic circular dichroism (XAS/XMCD), which includes in-situ e-beam evaporators and sample preparation facilities.
- FEFF9.1 and Multiplet calculations (Cowan code by DeGroot) to simulate XAS/XMCD spectra for data analysis.
- EXAFS spectroscopy analysis (FEFF9.x, IFEFFIT, ARTEMIS, Groot's multiplet calculations, PowderX, Reitveld's Analysis using FullProf, ImageJ, 1.42q).

List of recently published selected papers (International peer-reviewed/index Pubs = 148)

(2018-2023 = 50 peer reviewed international index publications)

2024

1. Enhanced electrochemical performance of Ce-MOF/h-CeO2 composites for high-capacitance energy storage applications, Ruhani Baweja, Monika Verma, Sanjeev Gautam, Shailesh Upreti and Navdeep Goyal, RSC Adv., 14 (2024) 17855-17865.
2. MOF/graphene oxide based composites in smart supercapacitors: a comprehensive review on the electrochemical evaluation and material development for advanced energy storage devices, Sanjeev Gautam, Shruti Rialach, Surinder Paul, and Navdeep Goyal, RSC Adv., 14 (2024) 14311-14339.
3. Probing temperature-dependent magnetism in cobalt and zinc ferrites: A study through bulk and atomic-level magnetic measurements for spintronics, Sanjeev Gautam, Ritika Charak, Shaffy Garg, Navdeep Goyal, Suvankar Chakraverty, Keun Hwa Chae, Younghak Kim, J. Magnetism and Magnetic Materials 593 (2024) 171867.
4. Revolutionizing biomedicine: Metal-organic frameworks combating multi-drug resistance, Sanjeev Gautam, Simranpreet Kaur, Materials Letters, 354 (2023) 135306.

2023

5. Photovoltaic efficiency enhancement via magnetism, Monika Verma, Sanjeev Gautam, Journal of Magnetism and Magnetic Materials, 588 (Dec 2023) 171436.
6. Starch-based antibacterial food packaging with ZnO nanoparticle, Prakash Kumar, Sanjeev Gautam, Deepika Bansal, Ravneet Kaur, Journal Journal of Food Science and Technology, xx (Sept 2023) 1-14.
7. Magnetism in carbon-based fiber materials, Varun Ranade, Sanjeev Gautam, Keun Hwa Chae, Journal of Magnetism and Magnetic Materials, XX (Sept 2023) 171210.

8. Recent advances in targeted drug delivery using metal-organic frameworks: toxicity and release kinetics, Sanjeev Gautam, Ishita Lakhanpal, Lidiya Sonowal, Navdeep Goyal, Next Nanotechnology 3 (Sept 2023) 100027.
9. Charge transfer and X-ray absorption investigations in aluminium and copper co-doped zinc oxide nanostructure for perovskite solar cell electrodes, Mandeep Kaur, **Sanjeev Gautam**, Keun Hwa Chae, Wantana Klysubun, Navdeep Goyal, **Scientific reports**, 13 (2023) 10769.
10. Dissolution of $Mg(OH)_2$ by swift heavy ion irradiation in $CoFe_2O_4/MgO/ZnFe_2O_4$ multilayer thin films, Shaffy Garg, **Sanjeev Gautam**, Jitendra Pal Singh, Mandeep Kaur, Anshu Gupta, Ramcharan Meena, Suvankar Chakraverty, Young Hwa Jung, Navdeep Goyal **Materials Letters** 349 (2023) 134738.
11. Enhancement of Fracture Toughness in carbonate doped Hydroxyapatite based nanocomposites: Rietveld analysis and Mechanical behavior, Dhruv Bhatnagar, **Sanjeev Gautam**, Hemant Batra, Navdeep Goyal, **J. Mech. Behavior Biomedical Materials,** 142 (2023) 105814.
12. Highly functionalized photo-activated metal–organic frameworks for dye degradation: Recent advancements, Vishavjeet Singh, **Sanjeev Gautam**, Simranpreet Kaur, Navdeep Kajal, Mandeep Kaur, Ritu Gupta, **Materials Today Comm**., 34 (2023) 105180.

2022

13. Property Modulation of Graphene Oxide Incorporated with TiO_2 for Dye-Sensitized Solar Cells, Amanpal Singh, Yogesh Kumar Saini, Anuj Kumar, **Sanjeev Gautam**, Dinesh Kumar, Viresh Dutta, Han-koo Lee, Jongsu Lee, Sanjay Kumar Swami, **ACS Omega**, 2022, 7, 48, 44170–44179
14. Efficient nitro-aromatics sensor via highly luminescent Zn-based metal-organic frameworks, Navdeep Kajal, **Sanjeev Gautam**, **Chem. Engg. J. Advances**, (2022) 100348.
15. Direct and real-time observation of hole transport dynamics in anatase TiO_2 using X-ray free-electron laser , Sang Han Park, Abhishek Katoch, Keun Hwa Chae, **Sanjeev Gautam**, Piter Miedema, Sang Wan Cho, Minseok Kim, Ru-Pan Wang, Masoud Lazemi, Frank de Groot, Soonnam Kwon, **Nature Communications** 13 (2022) 1-9.
16. Recent advancements in nanomaterials for biomedical implants, **Sanjeev Gautam**, Dhruv Bhatnagar, Deepika Bansal, Hemant Batra, Navdeep Goyal, **Biomedical Engineering Advances**, 3 (2022) 100029.
17. Drug delivery of paracetamol by metal-organic frameworks (HKUST-1): improvised synthesis and investigations, **Sanjeev Gautam**, J Singhal, HK Lee, KH Chae, **Materials Today Chemistry**, 23 (2022) 100647.
18. Metal organic frameworks for electrochemical sensor applications: A review, Navdeep Kajal, Vishavjeet Singh, Ritu Gupta, **Sanjeev Gautam**, **Environmental Research**, 204 (2022) 112320.
19. Ion-implantation and photovoltaics efficiency: A review, Mandeep Kaur, **Sanjeev Gautam,** Navdeep Goyal, **Materials Letters**, 309 (2022) 131356

2021

20. Characterizing the defects and ferromagnetism in metal oxides: The case of magnesium

oxide, Shaffy Garg, **Sanjeev Gautam**, Jitendra Pal Singh, K. Asokan and Navdeep Goyal, **Materials Characterization**, 179 (2021) 111366.

21. Robust ferromagnetism in Mn and Co doped 2D-MoS_2 nanosheets: Dopant and phase segregation effects, Rohini Sanikop, **Sanjeev Gautam**, Keun Hwa Chae, C. Sudakar, **J. Mag. Mag. Mater.**, 537 (2021) 168226.
22. Influence of Morphology and Compositional Mixing on Electrochemical Performance of Li-rich Layered Oxides Derived from Nano-platelet Shaped Transition Metal Oxide-hydroxide Precursors, Viji M, Budumuru Akshay Kumar, Hebbar Vidyashree, **Gautam Sanjeev**, Chae Keun Hwa, Sudakar, Chandran; **Energy & Fuels**, 35(5), (2021), 4533-4549.
23. Evidence of $ZnCO_3$ interstitial phase in Carbon implanted ZnO(002) thin films and room temperature ferromagnetism, **Sanjeev Gautam**, Pardeep K. Thakur, Shalendra Kumar, Ranber Singh, Di-Jing Huang, Younghak Kim and Keun Hwa Chae, **Vacuum,** 184 (2021) 109897.

2020

24. Robust Ferromagnetism in Li-Intercalated and -Deintercalated MoS_2 Nanosheets: Implications for 2D Spintronics, Rohini Sanikop, Akshay Kumar Budumuru, **Sanjeev Gautam**, Keun Hwa Chae, Chandran Sudakar, **ACS Applied Nano Materials**, 3(12) (2020) 11825-11837.
25. Nanomaterials in the Advancement of Hydrogen Energy Storage, Rasmeet Singh, Ali Altaee, **Sanjeev Gautam**, **Heliyon**, 6(7) (2020) e04487.
26. Morphology and interconnected microstructure driven high rate capability of Li-rich layered oxide cathodes, Vidyashree Hebbar, M Viji, Akshay Kumar Budumuru, **Sanjeev Gautam**, Keun Hwa Chae, Kalyanarangan Balaji, N. T. Kalyanasundaram, A. K. Subramani, and Chandran Sudakar, **ACS Appl. Mater. Interfaces** 12(29) 2020, 32566-32577.
27. Nanotechnology and its challenges in food sector: A review, Prakash Kumar, Palak Mahajan, Raminder Kaur, **Sanjeev Gautam**, **Materials Today Chemistry**, 17 (2020) 100332.
28. Investigating Phase Transition and Morphology of Bi-Te Thermoelectric System, Vishal Thakur, Kanika Upadhyay, Ramanpreet Kaur, Navdeep Goyal, **Sanjeev Gautam**, **Material Today Advances** 8 (2020), 100082
29. Maximizing short circuit current density and open circuit voltage in oxygen vacancy controlled $Bi_{1-x}Ca_xFe_{1-y}Ti_yO_{3-\delta}$ thin film solar cells, Subhajit Nandy, Kulwinder Kaur, **Sanjeev Gautam**, Keun Hwa Chae, Birabar Ranjit Kumar Nanda, Chandran Sudakar, **ACS Appl. Mater. Interfaces** 12 (2020), 14105-14118.
30. XANES spectroscopic studies at L_3 edge of $_{79}Au$ in its various chemical forms, Heena Duggal, Parasmani Rajput, Igor Alperovich, Tatyana Asanova, Shambu Nath Jha, Devinder Mehta, **Sanjeev Gautam**, **Vacuum**, 176 (2020) 109294
31. Metal oxides and Metal-Organic Frameworks for the photocatalytic degradation: A Review, **Sanjeev Gautam**, Harshita Agrawal, Manisha Thakur, Ali Akbari, Hemam Sharda, Rajwant Kaur, Mojtaba Amini, **J. Environ. Chem. Eng.** 8(3) (2020) 103726.
32. Novel thin film nanocomposite membranes incorporated with polyoxovanadate nanocluster

for high water flux and antibacterial properties, Mojtaba Amini, Zahra Shekari, Ali Akbari, Hadi Naslhajian, Ayda Sheykhi, Esmaeil Karimi, **Sanjeev Gautam**, Keun Hwa Chae, **Applied Organometallic Chemistry**, 34 (2020) e5494. 1099-0739

2019

33. Band engineering via grain boundary defect states for large scale tuning of photoconductivity in $Bi_{1-x}Ca_xFe_{1-y}Ti_yO_{3-\delta}$,Subhajit Nandy, Pavana S. V. Mocherla, Kulwinder Kaur, **Sanjeev Gautam**, B. R. K. Nanda, and C. Sudakar, **J. Appl. Phys.** 126, 235101 (2019).
34. Preparation and Investigation of Spinel-structured $FeCo_2O_4$ Nanoparticles as an Efficient Catalyst for Oxidation of Sulfides, M. Amini, S. Aghamohamadi, **S. Gautam** and K.H. Chae, **Inorg. Chem. Res.**, 2, (2), (2019).
35. Magnetically retrievable Ce-doped Fe_3O_4 nanoparticles as scaffolds for removal of azo dye Aashima, Shivani Uppal, Arushi Arora, **Sanjeev Gautam**, Suman Singh, R.J. Choudhary, S.K. Mehta, **RSC Advances**, 9 (2019) 23129-141.
36. A novel high-flux, thin-film composite desalincation membrane via co-deposition of multifunctional polyhedral oligomeric silsesquioxane and polyoxometalate, Mojtaba Amini, Hadi Naslhajian, Ali Akbari, S. Morteza F. Farnia, Esmaiel Jabbari, **Sanjeev Gautam**, and Keun Hwa Chae, **Polyhedron** 168 (2019) 138-145.
37. Applications and advances in coordination cages: Metal-Organic Frameworks Abhishek Katoch, Navdeep Goyal, **Sanjeev Gautam**, **Vacuum**, 167 (2019) 287-300.
38. Role of Low Energy Transition Metal Ions in Interface Formation in ZnO Thin films and their effect on Magnetic Properties for spintronics applications, Richa Bhardwaj, Baljeet Kaur, Jitendra Pal Singh, Manish Kumar, H.H. Lee, Parmod Kumar, R.C. Meena, K. Asokan, Keun Hwa Chae, Navdeep Goyal, **Sanjeev Gautam**, **Appl. Surf. Sci.**, 479 (2019) 1021-1028.
39. Magnetic metamorphosis of structurally enriched sol-gel derived SnO_2 nanoparticles, Monika Duhan, Harminder Kaur, Richa Bhardwaj, Naveen Kumar, Sanjeev Kumar, Anita Gupta, **Sanjeev Gautam**, **Vacuum**, 166 (2019) 385-392.
40. Solvothermal assisted synthesis of $CoSb_3$ phase evolution: Morphology and electrical study for thermoelectric applications, Kanika Upadhyay, Navdeep Goyal, **Sanjeev Gautam**, **Vacuum**, 163 (2019) 142-147.
41. Green synthesized (Ocimum sanctum and Allium sativum) Ag-doped cobalt ferrite nanoparticles for antibacterial application, Palak Mahajan, Aashima Sharma, Baljeet Kaur, Navdeep Goyal, **Sanjeev Gautam**, **Vacuum**, 161 (2019) 389-397.
42. Preparation and investigation of copper–manganese mixed oxides as a high-efficiency catalyst for the azide-alkyne 1, 3-dipolar cycloaddition reaction, Mojtaba Amini, Somaiyeh Salmani, **Sanjeev Gautam**, Keun Hwa Chae, **Polyhedron** 160 (2019) 58-62.
43. Investigation of local geometrical structure, electronic state and magnetic properties of PLD grown Ni doped SnO_2 thin films, Mayuri Sharma, Rezq Naji Aljawfi, Kavita Kumari, KH Chae, S Dalela, **S Gautam**, PA Alvi, Shalendra Kumar, **Journal of Electron Spectroscopy**

and Related Phenomena, 232 (2019) 21-28.

44. Investigation of local atomic structure of Ni doped SnO_2 thin films via X-ray absorption spectroscopy and their magnetic properties, Mayuri Sharma, Rezq Naji Aljawfi, Kavita Kumari, KH Chae, **S Gautam**, S Dalela, PA Alvi, Shalendra Kumar, **Journal of Materials Science: Materials in Electronics**, 30(1) (2019) 760-770.
45. Synthesis, characterization & study of Ni-doped CdS nanoparticle for high voltage application, Anil Kumar, R.K.Sharma, N. Goyal, **Sanjeev Gautam**, **Vacuum**, 160 (2019) 75-80.
46. Nickel cobaltite nanoparticles: preparation, Characterization, and catalytic activity, Mojtaba Amini, Fatemeh Bakhshi Ghameshloo, **Sanjeev Gautam**, Keun Hwa Chae, **IONICS**, 25 (2019) 2887-2889.

2018

47. Electronic and magnetic structure investigation of vanadium doped ZnO nanostructure, Richa Bhardwaj, J.P. Singh, K. H. Chae, Navdeep Goyal, **Sanjeev Gautam**, **Vacuum**, 158 (2018) 257-262.
48. Synthesis, structural and optical study of Ni-doped Metal-organic framework for adsorption based chemical sensor application, Abhishek Katoch, Richa Bhardwaj, Navdeep Goyal, **Sanjeev Gautam**, **Vacuum**, 158 (2018) 249-256.
49. Electronic structure of Ln_2O_2Te (Ln=La, Sm and Gd) by X-ray absorption spectroscopy, **Sanjeev Gautam**, K. H. Chae, J. Llanos, O. Peña, K Asokan, **Vacuum**, 158 (2018) 39-41.
50. Synthesis of copper nanoparticles supported on MoO_3 using Sun spurge leaf extract and their catalytic activity, Mohsen Janmohammadi, Mojtaba Amini, Naser Sabaghnia, Ali Akbari, **Sanjeev Gautam**, Keun Hwa Chae, **Appl. Organomet. Chem.** 32(11) (2018) e4531. 1099-0739.
51. Spinel copper ferrite nanoparticles: Preparation, Characterization and catalytic activity, Amini, M., Kafshdouzsani, M.H., Akbari, A., **Gautam, Sanjeev**, Shim, C.-H., Chae, K.H., **Appl. Organomet. Chem.**32(9) (2018) e4470.
52. Electronic excitation induced modifications in the ferroelectric polarization of $BiFeO_3$ thin films Ashish Ravalia, B. Kataria, Savan Katba, Sadaf Jethva, Megha Vagadia, K. Asokan, **Sanjeev Gautam**, Keun Hwa Chae, D.G. Kuberkar, **Vacuum**, 155 (2018) 572-577.
53. Self-stabilized carbon-L10 FePt nanoparticles for heated dot recording media, Rohit Medwal, **Sanjeev Gautam**, Surbhi Gupta, Keun Hwa Chae, Kandasami Asokan, Gulam Roshan Deen, Rawat Singh Rawat, Ram Singh Katiyar and Subramanian Annapoorni, **IEEE Magnetics Letters**, 9 (2018) 5504105.
54. Enhancement of third-order nonlinear optical properties of HMTA stabilized pure and doped ZnS nanoparticles and their electronic structures, K. Vijai Anand, G. Vinitha, **Sanjeev Gautam**, K. H. Chae, R. Mohan, K. Asokan, T. R. Ravindran, R. Jayavel, **J. Nonlinear Optic. Phys. Mat.** 27 (2) (2018) 1850016.

55. Simple preparation of cuprous oxide nanoparticles for catalysis of azide–alkyne cycloaddition, Mojtaba Amini, Sakine Ramezani, Alireza Pourvahabi Anbari, Abolghasem Beheshti, **Sanjeev Gautam**, Keun Hwa Chae, **J. Chem. Res.**, 42 (3) (2018) 166-169.
56. Preparation and Characterization of Magnetic Chitosan/Cu–Mg–Al Layered Double Hydroxide Nanocomposite for the One-Pot Three-Component (A3) Coupling of Aldehydes, Amines and Alkynes, Mohammad Nikkhoo, Mojtaba Amini, S Morteza F Farnia, Gholam Reza Mahdavinia, **Sanjeev Gautam**, Keun Hwa Chae, **J. Inorganic and Organometallic Polymers and Materials** 28(5) (2018) 2028-2035.
57. Structural and electronic investigation of ZnO nanostructures synthesized under different environments, Richa Bhardwaj, Amardeep Bharti, Jitendra P. Singh, Keun Hwa Chae, Navdeep Goyal, **Sanjeev Gautam**, **Heliyon**, 4(4) (2018) e00594.
58. Oxido-peroxido W(VI)-histidine–MgAl-layered double hydroxide composite as an efficient catalyst in sulfide oxidation, Mohammad Nikkhoo, Mojtaba Amini, S. Morteza, F. Farnia, Arshad Bayrami, Mojtaba Bagherzadeh, **Sanjeev Gautam,** Keun Hwa Chae, **Appl Organometal Chem.** 32 (2018) e4358.
59. Mechanistic insights of the interaction among the energetic oxygen ions with nanosized $ZnFe_2O_4$: XAS-XMCD investigations, Singh, Jitendra Pal, Kaur, Baljeet, Sharma, Aditya, Kim, So Hee, **Gautam, Sanjeev,** Srivastava, Ramesh C, Goyal, Navdeep, Lim, Weon Cheol, Lin, Hong-Ji, Chen, Jin-Ming, K, Asokan, Kanjilal, Dinakar, Won, Sung Ok, Lee, Ik Jae and Chae, Keun Hwa, **Phys.Chem. Chem. Phys**, 20 (2018) 12084-12096

Book Chapters

1. Doping in Chalcogenide Semiconductors: Impedance Spectroscopic Study, Sanjeev Gautam and Navdeep Goyal, Scholar's Press, Germany (March 2018), ISBN: 978-3-639-66450-8
2. Fabrication of Magnetic Tunnel Junctions, in "Advanced Applications in Manufacturing Engineering" Jitendra P Singh, Richa Bhardwaj, Aditya Sharma, Baljeet Kaur, Sung O Won, **Sanjeev Gautam**, Keun Hwa Chae, Elsevier, pages 53-77 (2019) (978-0-08-102414-0, online Nov 2018)
3. Misconceptions in nanotoxicity measurements: Exploring facts to strengthen eco-safe environmental remediation (Advanced Functional Nanoparticles "Boon or Bane" for Environment Remediation Applications - Combating Environmental Issues; Springer 978-3-031-24415-5)
4. Advanced Nanomaterials: From properties and perspective applications to their interlinked confronts (Advanced Functional Nanoparticles "Boon or Bane" for Environment Remediation Applications - Combating Environmental Issues; Springer 978-3-031-24415-5)
5. Design of ferrite-based magnetic tunnel junction for spintronic applications (Chapter 7 in **Applications of Nanostructured Ferrites**) Shaffy Garg, Sanjeev Gautam, Asokan Kandasami, Navdeep Goyal, *Elsevier, 2023.*
6. Nanoferrites as drug carriers in targeted drug delivery applications (Chapter 8 in

Applications of Nanostructured Ferrites) Sanjeev Gautam, Vishal Thakur and Navdeep Goyal, *Elsevier, 2023.*

7. Ferrite composites for wastewater treatment and dye removal (Chapter 9 in **Applications of Nanostructured Ferrites**) Sanjeev Gautam, Chitven Sharma, *Elsevier, 2023.*
8. Ferrite nanostructures in wastewater treatment and dye removal (Chapter 11 in **Applications of Nanostructured Ferrites**) Sanjeev Gautam, Chitven Sharma, Deepika Bansal, *Elsevier, 2023.*
9. Ferrite nanoparticles in food technology (Chapter 15 in **Applications of Nanostructured Ferrites**) Deepika Bansal, Dhruv Bhatnagar, Dishank Rana, Sanjeev Gautam, *Elsevier, 2023.*
10. Synthesis of iron-based nanoparticles by chemical methods and their biomedical applications p167-195, (Chapter 7 in **Oxide for medical applications**) Sanjeev Gautam, Deepika Bansal, Dhruv Bhatnagar, Chitven Sharma, Navdeep Goyal, A volume in Woodhead publishing series in Electronic & Optical Materials, ISBN: 978-0-323-90538-1 *Elsevier, 2023*