

# Ayaz Mahmood Dar Ph.D

Aligarh Muslim University, India | ayazchem09@gmail.com | +91 9906959835  
Date of Birth 17-07-1985

Currently involved in the laboratory synthesis of different organic heterocycles and their biological screening like DNA binding studies, anticancer screening. Also involve in teaching graduation and post graduation classes



## Teaching Experience: 10 Years

- Seven years *research/teaching* experience at graduate level (**April 2014-Till now**)
- Working as **Assistant Professor** in Higher Education Department (University of Kashmir) J&K, India

## Educational Qualifications:

- **Post Doctorate fellow** 2014-2015 Department of Drug Discovery ArQule Greater Boston USA
- **Ph.D 2014: (Organic Chemistry)** AMU Aligarh  
**Thesis title:** Synthesis, spectroscopic analysis, DNA binding and anticancer studies of Heterosteroids
- **NET/JRF:** Junior Research Fellowship/ National Eligibility Test 2013
- **M. Sc. (73%) 2009: Chemistry** (Organic Chemistry) AMU Aligarh
- **B. Sc. (Hons) (71%) 2007: Chemistry** AMU Aligarh

## Research Publications (71)

- 71.** Green and Efficient Synthesis of Dihydropyrimidinone analogues via HPA-Clay Catalyzed Multi-component Bignelli Reaction  
N. Rehman, **Ayaz Mahmood Dar**, R.F.A Haji, S. Khan, D. Pareek, S. Farooq, Bashir A. Dar  
*Chemistry Journal of Moldova* (2024) <http://doi.org/10.19261/cjm.2024.1135>
- 70.** Chelation Therapy: Types of Chelating Agents, Limitations and Utility  
Shamim Ahmad Dar, Sabia Iqbal, **Ayaz Mahmood Dar**  
*International Journal of Pharmacy and Biological Sciences* (2023) 13 (4): 109-115
- 69.** Genomics in plant sciences: understanding & development of stress-tolerant plants  
**Ayaz Mahmood Dar**, Hussain Touseef, Kashif Nawaz, Yusuf Khan, Pranav P. Sahu  
*Frontiers in Plant Sciences* 14:1222818. <http://doi:10.3389/fpls.2023.1222818>
- 68.** Total/diversity oriented synthesis & biological evaluation of natural products: A review  
Faisal A. Lone, Shamin A. Dar, **Ayaz Mahmood Dar**  
*European J. Pharm. Medical Res.* 2023, 10(4), 135-146
- 67.** Nanoparticle uptake, toxicity and treatment in human body: A Review  
Shamim Ahmad Dar, **Ayaz Mahmood Dar**, Faisal A. Lone  
*International J. Pharm. Res & Appl.* 2023, 8(2), 164-175

66. Synthesis of heterosteroids and their biological evaluation: A Review  
Ayaz Mahmood Dar  
*Indian J. Advances in Chem. Sci.* 2022; 189-205, 9(4), 2022
65. Genetic and molecular basis of Primary Open eye Glaucoma pathogenesis: A Review  
Faisal Ahmad Lone, **Ayaz Mahmood Dar**, Musharaf Rehman, Mukesh Kumar  
*European J. Pharm. Medical Res.* 2022, 9(12), 197-202
64. Synthesis, Characterization and Antifungal Activity of 3-Phenyl-2H-benzo [1, 4] thiazines  
Shafia Mir, Priyanka Yadav, Ajita Yadav, **Ayaz Mahmood Dar**  
*International J. Pharm. Res & Appl.* 2022, 7(3), 921-926
63. A concise review on synthesis of Pyran Heterocycles  
**Ayaz Mahmood Dar**  
*European J. Pharm. Medical Res.* 2022, 9(1), 533-540
62. Synthesis, characterization and in vitro antifungal activity of new naphthyl thiazolidinones  
Ajita Yadav, Shafia Mir, **Ayaz Mahmood Dar**, Praveen Kumar  
*Indian J. Advances in Chem. Sci.* 2022; 9(1), 43-46
61. Microwave-assisted Synthesis of Naphthyl Pyrimidinones and their Antioxidant Activity  
Ajita Yadav, Shafia Mir, Praveen Kumar, **Ayaz Mahmood Dar**  
*Indian J. Advances in Chem. Sci.* 2021; 9(3): 214-217
60. New sulfonyl pyrimidines induce apoptosis through DNA cleavage pathway  
Priyanka Yadav, Shafia Mir, Praveen Kumar, **Ayaz Mahmood Dar**  
*European J. Pharm. Medical Res.* 2021, 8(8), 587-596
59. Spectroscopic investigation of steroidal benzothiazoles as DNA binding agents and their role in cytotoxicity  
**Ayaz Mahmood Dar**, Shafia Mir, M. A. Gatoo, Shamsuzzaman  
*Indian J. Advances in Chem. Sci.* 2021; 9(3): 98-104
58. Sulfonyl thiosemicarbazones: synthesis, characterization and antibacterial activity  
Priyanka Yadav, Praveen Kumar, **Ayaz Mahmood Dar**  
*Appl. Biol. Chem.* 2(2): 2021, 22-26. <https://doi.org/10.52679/abcj.2021.0005>
57. Combined theoretical and experimental studies reveal the newly synthesized pyrimidinones as potential apoptotic agents  
**Ayaz Mahmood Dar**, Shafia Mir, Masrat Jan, Rizwan Nabi, M. A. Gatoo, Shamsuzzaman  
*Computational Toxicology* 17 (2021) 100145
56. The expeditious oxidation of arylboronic acids to phenols by *t*-butyl hydroperoxide in green aqueous ethanol  
**Ayaz Mahmood Dar**, Nisar A Dangroo, Shafia Mir, B. A. Dar  
*European Chemical Bulletin* 2020, 9(8), 193-195 ISSN 2063-5346
55. Synthetic strategies of Benzothiazines: A mini review  
Shafia Mir, **Ayaz Mahmood Dar**, Bashir Ahmad Dar  
*Mini-Reviews in Organic Chemistry*, 2020, 17(12), 148-157
54. Benzimidazole derivatives as potential antimicrobial and antiulcer agents: A Mini review  
Ali M Ganie, **Ayaz Mahmood Dar**, Fairoz A Khan, Bashir A Dar  
*Mini-Reviews in Medicinal Chemistry* 19(16), 1292-1297, 2019  
<https://doi.org/10.2174/1381612824666181017102930>

53. Photodynamic Therapy in the Treatment of Cancer: A REVIEW  
Hena Khanam, **Ayaz Mahmood Dar**, Bashir Ahmad Dar, Shamsuzzaman  
*Journal of Integrative Medicine* 8 (1), 2019 ISSN 2315-4616
52. Biosynthesis of silver nanoparticles as a platform for biomedical application  
Ashraf mashrai, **Ayaz Mahmood Dar**, M. Asif sherwani, Brij R. singh, Shamsuzzaman  
*Journal of Nanoscience and Nanomedicine* 2018, 2(1), 25-33, ISSN 2368-6820
51. Synthesis, characterization and cytotoxic studies new thiazolidinones  
Shafia Mir, Praveen Kumar, **Ayaz Mahmood Dar**  
**Organic & Medicinal Chemistry** 8(1), 2018, ISSN 2474-7610  
<https://doi.org/10.19080/OMCIJ.2018.08.555730>
50. Cyclin D1 expression of different histological grades in Oral Squamous Cell Carcinoma patients from northern India  
Manzoor Ahmad Gato, **Ayaz Mahmood Dar**  
*Archives of Oncology* 616.31-006(540), 2018, <https://doi.org/10.2298/AOO180312001G>
49. Correlation of P53 Expression with Different Histological Grades in Oral Squamous Cell Carcinoma Patients from Northern India  
Manzoor Ahmad Gato, **Ayaz Mahmood Dar**, Mashiatullah Siddiqui  
*Journal of Cancer and Oncology* 2018, 2(3): 000125 ISSN 2578-4625
48. Synthesis of steroidal imidazolidinones as potential apoptotic agents: Investigation by Theoretical and experimental studies  
**Ayaz Mahmood Dar**, Rizwan Nabi, Shafia Mir, M. A Gato, Shamsuzzaman, S. H. Lone  
*Bioorganic Chemistry*, 79 (2018) 190-200 ISSN 0045-2068
47. Synthesis, characterization and antimicrobial studies of new thiazolidinones  
Masrat Jan, Shafia Mir, **Ayaz Mahmood Dar**, Praveen Kumar  
*European J. Pharm. Med. Res.*, 2018, 5(10), 321-326 ISSN 2394-3211
46. Heavy metals induced toxicity in biological systems: A concise review  
**Ayaz Mahmood Dar**, M. Suliman Dar, Muzaffar Hussain Najar  
*International J. Advance Res. Sci. & Eng.* 7(4), 1598-1609, 2018 ISSN 2319-8354
45. *Calotropis procera* (A Giant Milkweed) and its pharmacological aspects: A Review  
Hilal Ul Zaman, S. Akther, Shafia Mir, **Ayaz Mahmood Dar**, R. M. Shrivastava, J. A. Lone  
*Scientific Journal of Chemical Research* 1(1), 1-9, 2018, ISSN 2231-2417
44. Synthesis, characterization and cytotoxic studies of new thiazolidinones  
Shafia Mir, Masrat Jan, **Ayaz Mahmood Dar**, Praveen Kumar  
*European J. Pharm. Med. Res.*, 2018, 5(10), 333-339 ISSN 2394-3211
43. Correlation of p53 Expression with Different Histological Grades in Oral Squamous Cell Carcinoma Patients from Northern India  
Manzoor Ahmad Gato, **Ayaz Mahmood Dar**, Mashiatullah Siddiqui  
*American Journal of Cancer Science* 2018, 6:1-14 ISSN 2572-5750
42. Strategies or the preparation of pyrrole entities: A concise review  
**Ayaz Mahmood Dar**, Muzaffar Hussain Najar  
*JK Knowledge initiative* 2(1): 22-30, 2018, ISSN 2457-0974
41. DNA Binding, artificial nuclease activity and cytotoxic studies of new steroidal pyrimidines  
**Ayaz Mahmood Dar**, B. Rah, S. Mir, R. Nabi, S. Zzaman, M.A. Gato, A. Mashrai, Y. Khan  
*International Journal of Biological Macromolecules* 111 (2018) 52-61 ISSN 0141-8130

40. *Calotropis procera* (Sodon Apple) and Its Pharmacological Activities: A Review  
Hilal Ul Zaman, S. Akther, Shafia Mir, **Ayaz Mahmood Dar**, R.M. Shrivastava, J.A. Lone  
*Journal of Natural Product and Plant Resources*, 2017, 7 (4): 71-76 ISSN 2231-3184
39. Simple and Multi-Component Synthesis of Pyrrole Heterocycles  
**Ayaz Mahmood Dar**, Shafia Mir, Hilal Ul Zaman, Javid Ahmad Lone, Hena Khanam,  
Muzaffar Hussain Najar, Kouncer Hassan  
*Synthesis and Catalysis* 2017, 2, 3:13 ISSN 2574-0431
38. Synthesis of Schiff base metal complexes: A concise review  
Saima Akhter, Hilal Ul Zaman, Shafia Mir, **Ayaz Mahmood Dar**, Sarita Shrivastava  
*European Chemical Bulletin* 2017, 6(10), 475-483 ISSN 2063-5346
37. Photoinactivation of multidrug resistant bacteria by monomeric methylene blue conjugated gold nanoparticles  
Shakir Khan, Ramovatar Meena, **Ayaz Mahmood Dar**, Ruchita Pal, Asad U. Khan  
*Journal of Photochemistry & Photobiology, B: Biology* 174 (2017) 150-161 ISSN 1011-1344
36. Steroidal imidazoles: Synthesis, Characterization, Molecular docking studies with DNA and *in vitro* Cytotoxicity  
**Ayaz Mahmood Dar**, Shamsuzzaman, Mir Shabeer Ahmad, Yusuf Khan  
*Medicinal Chemistry Research (Springer)* (2017) 26:372-383 ISSN 1054-2523
35. Spectroscopic studies of newly synthesized steroidal dihydropyrroles  
**Ayaz Mahmood Dar**, Shafia Mir, Masrat Jan, Shamsuzzaman  
*European Chemical Bulletin* 2017, 6(7), 321-324 ISSN 2063-5346
34. Cytotoxic Evaluation & DNA Binding of Catalytically Synthesized New Steroidal Lactones  
Ashraf Mashrai, **Ayaz Mahmood Dar**, Shafia Mir, Himanshu Gupta, Shamsuzzaman  
*Natural Products Chemistry & Research* (2017) 5: 251, ISSN 2329-6836
33. Structural, Electrical and Optical studies of newly synthesized steroidal imidazole based Nickel molybdate composite  
**Ayaz Mahmood Dar**, Shafia Mir, Urfi Ishrat, Shamsuzzaman  
*European Chemical Bulletin* 2017, 6(1), 13-20 ISSN 2063-5346
32. Molecular Docking: Approaches, Types, Applications and Basic Challenges  
**Ayaz Mahmood Dar**, Shafia Mir  
*Journal of Analytical and Bioanalytical Techniques* 2017, 8: 2 ISSN 2155-9872
31. Fabrication and Characterization of Polyaniline Based NanoComposite with Their Physico-Chemical and Environmental Applications  
Meraj Alam Khan, **Ayaz Mahmood Dar**, Mohd Arsalan  
*Journal of Polymers and the Environment (Springer)* 2(3), 2017, 717-727 ISSN 1566-2543
30. A concise review on biological activity of *Tridax procumbens* Linn.  
Shahnawaz Ahmad Mir, Zubair Jan, Shafia Mir, **Ayaz Mahmood Dar**, Gouri Chitale  
*Organic Chemistry: Current Research* (2017) 6:1 ISSN 2161-0401
29. Spectroscopic, viscositic, DNA Binding and cytotoxic Studies of Newly Synthesized Steroidal Imidazolidines  
**Ayaz Mahmood Dar**, Shamsuzzaman, Shakir Khan  
*Journal of Fluorescence (Springer)* (2016) 26: 639-649 ISSN 1053-0509
28. Synthesis of new steroidal imidazo [1, 2-a] pyridines: DNA binding studies, cleavage activity and *in vitro* cytotoxicity  
**Ayaz Mahmood Dar**, Shamsuzzaman, Manzoor Ahmad Gattoo  
*Steroids* 104 (2015) 163-175 ISSN 0039-128X

27. DNA Interaction studies & *in vitro* cytotoxicity of newly synthesized steroidal imidazolidinones  
**Ayaz Mahmood Dar**, Manzoor A. Gatoo, S. A. Mir, M. H. Najar, A. Ahmad, Shamsuzzaman  
*Journal of Fluorescence (Springer)* (2015) 25: 1377-1387 ISSN 1053-0509
26. Heavy Metal Separation from Industrial Effluent and Synthetic Mixtures using newly Synthesized Composite Material  
Mir Shabeer Ahmad, **Ayaz Mahmood Dar**, Shafia Mir, Shahnawaz Mir, Noor Mohd Bhat  
*Journal of Membrane Science & Technology* 6: 162 (2016) ISSN 2155-9589
25. *In vitro* cytotoxicity and interaction of new steroidal oxadiazinanones with calf thymus DNA using molecular docking, gel electrophoresis and spectroscopic techniques  
**Ayaz Mahmood Dar**, Urfi Ishrat, Zahid Yaseen, Shamsuzzaman, Manzoor Ahmad Gatoo  
*Journal of Photochemistry and Photobiology B: Biology* 148 (2015) 340-350
24. Steroidal pyrimidines: Synthesis, characterization, molecular docking studies with DNA and *in vitro* cytotoxicity.  
Shamsuzzaman, **Ayaz Mahmood Dar**, Zahid Yaseen, Khursheed Alam, Altaf Hussain  
*Journal of Molecular Structure* 1045, 62-71, 2013 ISSN 0022-2860
23. Synthesis, biological evaluation and docking studies on steroidal pyrazolones as anticancer and antimicrobial agents  
Shamsuzzaman, Ashraf Mashrai, Anis Ahmad, **Ayaz Mahmood Dar**, Hena Khanam, Mohd Danishuddin, Asad U Khan  
*Medicinal Chemistry Research* 2014, 23, 348-362 ISSN 1054-2523
22. Anticancer and Antimicrobial Evaluation of Newly Synthesized Steroidal 5, 6 fused Benzothiazines  
Shamsuzzaman, **Ayaz Mahmood Dar**, Hena Khanam, Manzoor Ahmad Gatoo  
*Arabian Journal of Chemistry* 2014, 7, 461-468 ISSN 1878-5352
21. Structural, electrical, optical and analytical applications off newly synthesized polyaniline based nickel molybdate composite.  
Meraj Alam Khan, Urfi Ishrat, **Ayaz Mahmood Dar**, Anees Ahmad  
*Journal of Alloys and Compounds* 636, 124-130, 2015 ISSN 0925-8388
20. Synthesis, molecular docking and biological evaluation of new steroidal 4*H*-pyrans.  
Shamsuzzaman, **Ayaz Mahmood Dar**, Aamir Sohail, Sheraz Bhat, Mir Faisal mustafa,  
*Spectrochimica Acta Part A: Mol and Biomol Spectroscopy* 117, 2014, 493-501  
ISSN 1386-1425
19. DNA Binding, Docking Studies, Artificial Nuclease Activity and *in vitro* Cytotoxicity of Newly Synthesized Steroidal 1*H*-Pyrimidines  
Shamsuzzaman, **Ayaz Mahmood Dar**, M. Zaki, Y. Khan, A. Sohail, M. A. Gatoo  
*Comptes Rendus Chimie* 17, 2014, 359-369 ISSN 1631-0748
18. Synthesis and biological studies of steroidal pyran based derivatives.  
Shamsuzzaman, **Ayaz Mahmood Dar**, Yusuf Khan, Aamir Sohail  
*Journal of Photochemistry and Photobiology B: Biology*, 129, 2013, 36-47 ISSN 1011-1344
17. Vilsmeier-Haack synthesis of new steroidal pyrazoles  
**Ayaz Mahmood Dar**, Shamsuzzaman.  
*European Chemical Bulletin* 3(12), 1104-1106, 2014 ISSN 2063-5346
16. Analysis of Phytochemistry and Antimicrobial activity of *Tridax procumbens* Linn  
Shahnawaz Ahmad Mir, **Ayaz Mahmood Dar**, Shafia Mir, S. Ahmad, Gouri Chitale  
*Chemical Sciences Journal* 7:2 (2016) ISSN 2150-3494

15. DNA Binding, Cleavage Activity, Molecular Docking, Cytotoxicity and Genotoxicity Studies of Newly Synthesized Copper Based Metal Complexes  
**Ayaz Mahmood Dar**, Meraj Alam Khan, Shafia Mir, Manzoor Ahmad Gatoo  
*Pharmaceutica Analytica Acta* 7: 464. doi:10.4172/21532435.1000464 ISSN 2153-2435
14. Synthesis, characterization, antimicrobial and anticancer studies of new steroidal pyrazolines  
 Shamsuzzaman, Hena Khanam, **Ayaz Mahmood Dar**, Nazish Siddiqui, Sumbul Rehman.  
*Journal of Saudi Chemical Society* 2016, 20, 7-12 ISSN 1319-6103
13. A Concise Review on the Synthesis of Pyrazole Heterocycles  
**Ayaz Mahmood Dar**, Shamsuzzaman  
*Nuclear Medicine & Radiation Therapy* 2015, 6:5 ISSN 2155-9619
12. Physicochemical properties of nanomaterials: implication in associated toxic manifestations  
 Manzoor Ahmad Gatoo, Sufia Naseem, Mir Yasir Arafat, **Ayaz Mahmood Dar**,  
 Khusro Qasim, Swaleha Zubair.  
*BioMed Research International* <http://dx.doi.org/10.1155/2014/498420> ISSN 2314-6141
11. Steroidal dihydrocarbothioic acid amido pyrazoles: Synthesis, characterization, cytotoxicity and genotoxicity studies  
**Ayaz Mahmood Dar**, Manzoor Ahmad Gatoo, Shamsuzzaman.  
*Journal of Chemical Biology* 8 (2015) 107-118 ISSN 1864-6158
10. Pathways for the Synthesis of Pyrimidine and Pyran based Heterocyclic Derivatives: A Concise Review  
**Ayaz Mahmood Dar**, Shamsuzzaman  
*European Chemical Bulletin* 2015, 4(5), 249-259 ISSN 2063-5346
9. *In vitro* cytotoxicity and genotoxicity evaluation of newly synthesized steroidal thiazoles  
 Shamsuzzaman, **Ayaz Mahmood Dar**, Manzoor Ahmad Gatoo  
*European Chemical Bulletin* 3(8), 770-775, 2014 ISSN 2063-5346
8. Strategies for the Synthesis of Thiazolidinone Heterocycles  
 Ashraf Mashrai, **Ayaz Mahmood Dar**, Shafia Mir, Shamsuzzaman  
*Medicinal chemistry* 6: 280-291. doi:10.4172/2161-0444.1000358 ISSN 2161-0444
7. *In vitro* DNA-binding, Cleavage Activity with pBR322, Molecular Docking and Antiproliferative studies of Newly Synthesized Steroidal Imidazolidine Hybrids  
**Ayaz Mahmood Dar**, Mir Shabeer Ahmad, Manzoor Ahmad Gatoo, Shamsuzzaman  
*Journal of Biomolecular Research & Therapeutics*  
<http://dx.doi.org/10.4172/2167-7956.1000131>, 2015 ISSN 2167-7956
6. *In vivo* toxicity of nanoparticles: modalities and treatment.  
 Sufia Naseem, Manzoor Ahmad Gatoo, **Ayaz Mahmood Dar**, Khusro Qasim  
*European Chemical Bulletin* 2014, 3(10), 992-1000 ISSN 2063-5346
5. Structural, optical and antimicrobial studies of newly synthesized steroidal pyrazolones  
 Shamsuzzaman, **Ayaz Mahmood Dar**, Suboohi Shervani, Irshad Bhat, Manzoor A Gatoo  
*Journal of Taibah University for Science* 8, 39-53 (2014) ISSN 1658-3655
4. Synthesis, Characterization, and *In Vitro* Anticancer Activity of Newly Synthesized Steroidal 6, 7-Fused Thiazoles  
 Shamsuzzaman, **Ayaz Mahmood Dar**, Hena Khanam, Manzoor Ahmad Gatoo  
*Journal of Chemistry* <http://dx.doi.org/10.1155/2013/436352>
3. Synthesis, characterization and electrochemical properties of cation selective ion exchange strontium phosphate membrane

Urfi Ishrat, **Ayaz Mahmood Dar**, Rafiuddin  
*Arabian Journal of Chemistry* (2019) 12, 580-587 ISSN 1878-5352

2. Synthesis, evaluation and docking studies of Cholecalciferol derivative  
Sultanat, **Ayaz Mahmood Dar**, Asim Rizvi, Imrana Naseem.  
*Oriental Journal of Chemistry* 30, 1111-1118, 2014 ISSN 2231-5039
1. Synthesis, characterization & anticancer studies of new steroidal oxadiazole, pyrrole & pyrazole  
Shamsuzzaman, Tabassum Siddiqui, Mohd Gulfam Alam, **Ayaz Mahmood Dar**  
*Journal of Saudi Chemical Society* (2015) 19, 387-391 ISSN 1319-6103

### **Books Published: (6)**

1. *Cosmetic Chemistry: An Instant Approach*, Educreation Publishing, New Delhi (2018)  
By **Ayaz Mahmood Dar** ISBN: 978-1-5457-1363-1
2. *Study of electrochemical properties of composite membranes*,  
Lambert Publications **Germany**, (2013) By Urfi Ishrat and **Ayaz Mahmood Dar**  
ISBN-13: 978-3-659-49638-7
3. *Chemistry of cosmetics and perfumes*, Kilyani publishers, New Delhi (2018)  
By **Ayaz Mahmood Dar** and Bashir Ahmad Dar  
ISBN 978-93-272-9633-4
4. *Polymer Chemistry*, Kilyani publishers, New Delhi (2018)  
Bashir Ahmad Dar and **Ayaz Mahmood Dar**
5. *Basic Analytical chemistry*, Kilyani publishers, New Delhi (2019)  
**Ayaz Mahmood Dar** and Bashir Ahmad Dar
6. *Instrumental methods of chemical analysis*, Kilyani publishers, New Delhi (2019)  
**Ayaz Mahmood Dar** and Bashir Ahmad Dar

### **Book Chapters Published: (2)**

1. *Heterocyclic Derivatives of Pyrimidines*, Chapter Published in Book entitled '**Advances trends in Chemical sciences (Vol. 1)**' Bright Sky Publications, Rohini, New Delhi (2022)  
By Ayaz Mahmood Dar, Shafia Mir  
ISBN: 978-93-92804-05-2
2. **Heterocyclic Pyrimidinones as potential anticancer agents: Investigation by theoretical and experimental studies** Chapter Published in Book entitled '**Advanced Research in Chemistry (Vol. 4)**' Bright Sky Publications, Rohini, New Delhi (2022)  
By Ayaz Mahmood Dar, Faisal Ahmad Lone  
ISBN: 978-93-5570-297-5

### **General Orientation Programme/ Refresher Course: (07)**

1. Attended *81th General Orientation Course* organised by UGC-HRDC University of Kashmir Srinagar (12 November to 13 December, 2018)
2. Attended **Faculty Development Programme (FDP)** organised by Ramanujan College University of Delhi & Janki Devi Memorial College University of Delhi on *ICT enabled teaching Learning* (07 September to 13 September, 2020)

3. Attended **Faculty Development Programme (FDP)** organised by Islamic University of Science & Technology, Awantipora Kashmir on **Recent Trends in Information Technology** (12 September to 18 September, 2020)
4. Attended **Faculty Development Programme (FDP)** organised by Ramanujan College, University of Delhi & Hindu College, University of Delhi on **E-Learning and developing MOOCs for teaching process in higher education** (14 December to 20 December, 2020)
5. Attended **Refresher Course (RC)** in **General Science** organised by HRDC University of Kashmir From (02 January to 15 January 2021)
6. Attended **inter-disciplinary Refresher Course (RC)** in **MOOCs 11.0** organised by Ramanujan College, University of Delhi From (07 to 22 February 2022)
7. Attended **Refresher Course (RC)** in **Chemistry** organised by Ramanujan College, University of Delhi & Hindu College, University of Delhi From (15 December to 29 December 2023)

### **Ph. D Co-supervision**

1. Masarat Jan (Awarded in 2018)
2. Priyanka Yadav (Awarded in 2019)
3. Ajita Yadav (Submitted)

### **Conferences and Meetings**

#### **Oral presentations: (14)**

14. **Toxicity due to chemicals present in the food items** (2-3 April 2022) International Conference on “Multidisciplinary Innovations and Research” organized by DPG Degree College, Gurugram in association with IQAC & RCCV Girls College Ghazibad, India
13. **Combined Theoretical and experimental studies reveal pyrimidinones as potential apoptotic agents** (9-10 December 2020) International Interdisciplinary Virtual Conference on “DRUG DISEASE AND DEVELOPMENT” organized by Department of Chemistry Mungsjai Maharaj Mahaviyalaya, Darwha Maharashtra, India
12. **Synthesis, characterization and biological studies of thiazolidinones** (8-9 October 2018) National conference on climatic change and human health: issues, concerns and opportunities organized by Department of Zoology and environmental sciences **GDC Bijbehara**, J&K
11. **Heavy metals induced toxicity in biological systems: A concise review** (17-18 April). International Conference on Recent Developments in Science, humanities & management-2018 (ICRDSHM-18) **Amar Singh College, Cluster University Srinagar JK** (India)
10. **DFT, viscosity, DNA binding and cytotoxic studies of newly synthesized steroidal imidazolidines** (4-5 November 2017). A national symposium on frontiers in Chemical sciences 2017 Department of Chemistry **Govt. Degree College Sopore J&K** (India)
9. **Heavy metal separation from industrial effluent and synthetic mixtures using newly synthesized composite material** (4-5 June, 2016). National seminar on Environmental Pollution at Department of Environmental Science, **University of Kashmir** (India)
8. **Synthesis of steroidal Thiosemicarbazone/silver nanoparticle nanocomposite as a**



**platform for biomedical application.** (8-10 March, 2014) International conference on Nanoscience and Nanotechnology at Department of Applied Physics, faculty of engineering and technology, *AMU*, Aligarh (India)

7. **Structural, Optical and Biological Studies of Nano Cholestane Derivatives** (15-16 March, 2013) National conference on Nanoscience and Nanotechnology at Department of Applied Physics, faculty of engineering and technology, *AMU*, Aligarh (India)
6. **Synthesis, Thermal Properties and Optical Properties of 3 $\beta$ -Chloro-5,6 $\alpha$ -epoxy cholestane Single Crystals** (2-3 March, 2013) International Conference on CHEMISTRY: Frontiers & Challenges at Department of Chemistry *AMU*, Aligarh (India)
5. **Synthesis and Characterization of novel Steroidal Isoxazolidinone Derivatives** (2-3 March, 2013) International Conference on CHEMISTRY: Frontiers & Challenges at Department of Chemistry *AMU*, Aligarh (India)
4. **Molecular Docking, in vitro DNA Binding, Antimicrobial and Cytotoxicity of newly Synthesized Steroidal Pyrimidines** (23-24 Feb., 2013) (National Seminar on Plant Sciences: New Technologies, Conservation and Environment” organized by Department of Botany *AMU*, Aligarh (India)
3. **Synthesis, Characterization and Cytotoxic Studies of Novel Steroidal oxadiazinanones** (13-14 October, 2011) National Conference on Chemistry: Education and Research Frontiers, *IGNOU*, Delhi (India).
2. **Synthesis, Characterization, Anticancer and Antioxidant Studies of New Steroidal 4H-Pyrans** (28-30 Dec. 2011) Annual Conference of INDIAN COUNCIL OF CHEMISTS” (ICC) organized by Department of Chemistry *Osmania University*, Hyderabad (India)
1. **Pyrroles as Antioxidants** A Seminar Presentation (April 2009) Department of Chemistry Aligarh Muslim University, Aligarh (India)

### **Workshop Attended: (5)**

1. **‘Nanoscience-Opportunities and Challenges’** The Two-day national workshop jointly organized by the Department of Physics and Chemistry, Islamic University of Science and Technology, (*IUST*) Awantipora, J&K on 4<sup>th</sup> and 5<sup>th</sup> September, 2018
2. **‘ICT based teaching learning’** two days long workshop on 10, 11 March, 2020) organized by *GDC Kulgam*
3. **Learning Outcomes Based Curriculum Framework (LOCF) cum** Career Counseling one day seminar on 18 March 2021 organized by *GDC Sogam* (Organizer)
3. **Global science for Well being** in commemoration of National Science Day-2023 one day seminar on 28 February 2023 organized by *GDC Sogam* in association with Indian Science Congress Association-Kashmir Chapter (Organizer)
4. **Emerging trends in Sciences: Teaching-Learning Process** one day seminar on 22 June 2022 organized by *GDC Sogam* (Organizer)

### **Poster presentations: (26)**

- 1. Synthesis and Characterization of Steroidal Diazolidinthione, Diazolidinone and Aminodiazoles** (5-6 March, 2011) International Conference on Chemistry: Frontiers and Challenges, A.M.U. Aligarh, (India).
- 2. Antimicrobial and Anticancer studies of Newly Synthesized Steroidal Pyrazoles using Vilsmeier-Haack Reaction** (8-10 Dec. 2011) International conference on synthetic and structural chemistry (ICSSC) Mangalore (India).
- 3. Synthesis, Characterization and Antimicrobial Study of Steroidal Pyrazolines** (8-10 Dec. 2011) International conference on synthetic and structural chemistry (ICSSC) Mangalore (India)
- 4. Synthesis, Characterization and Anticancer Screening of Steroidal oxadiazole, Pyrrole and Pyrazole derivatives** (16-18 Feb. 2012). National conference in Chemistry-Challenges and Opportunities. (NCCCO 2012), St. Joseph's College, Bangalore (India)
- 5. Anticancer and antimicrobial studies of newly synthesized steroidal pyrimidines** (2-3 March, 2012). National Conference on "New Vistas in Chemistry. Department of Chemistry, A.M.U., Aligarh (India)
- 6. Anticancer and antimicrobial studies of newly synthesized steroidal pyrazolones** (2-3 March, 2012). National Conference on "New Vistas in Chemistry" Department of Chemistry, A.M.U., Aligarh (India)
- 7. A novel route for the synthesis of steroidal pyrrole derivatives** (2-3 March, 2012). National Conference on "New Vistas in Chemistry" Department of Chemistry, A.M.U., Aligarh (India)
- 8. Novel steroidal based pyrimidines as anticancer and antimicrobial agents** (Emerging Trends in Biochemical and toxicological Sciences (6 March, 2012) Silver Jubilee Symposium, Biochemistry Department, A.M.U., Aligarh (India)
- 9. Novel steroidal Prazolones as potential Anticancer and Antimicrobial agents** (Emerging Trends in Biochemical and toxicological Sciences (6 March, 2012) Silver Jubilee Symposium, Biochemistry Department A.M.U., Aligarh (India)
- 10. Synthesis, Characterization, Electrical and Optical properties of some steroids** (10-12 March 2012) (National conference on Nanoscience and Nanotechnology Department of Applied Physics, faculty of engineering and technology, A.M.U., Aligarh (India)
- 11. Synthesis and Nano characterization of 3 $\beta$ -Chlorocholestane** (National conference on Nanoscience and Nanotechnology (10-12 March 2012) Department of Applied Physics, faculty of engineering and technology, A.M.U., Aligarh (India)
- 12. Novel Steroidal Benzothiazines as Anticancer as well as Antimicrobial agents** (National conference on Plant cell, Tissue and Organ Culture: Emerging Trends (10-11 March, 2012) Department of Botany A.M.U. Aligarh (India)
- 13. Synthesis and biological evaluation of novel pyranone steroid as anti-cancer agents** (International conference on chemistry for sustainable development and innovations Chemical Constellation Cheminar-2012 "CCC-2012" (10-12 September, 2012) Department of chemistry A.M.U. Aligarh (India)

- 14. Computational and Biological Studies of steroidal Pyrazolones**, (National Seminar on Plant Sciences: New Technologies, Conservation and Environment 23-24 Feb., 2013) Department of Botany A.M.U. Aligarh (India)
- 15. Synthesis, Characterization and Anticancer Studies of New Steroidal Pyrazolines** (National Seminar on Plant Sciences: New Technologies, Conservation and Environment” 23-24 Feb., 2013) Department of Botany A.M.U. Aligarh (India)
- 16. Synthesis, Molecular Docking, In vitro DNA Binding and Anticancer Activity of new Steroidal 1H-Pyrimidines** (26<sup>th</sup> to 28<sup>th</sup> Feb., 2013) 5<sup>th</sup> International Symposium on drug Development for Orphan/Neglected diseases at CSIR-Central drug research Institute, Lucknow (India)
- 17. Synthesis and Anticancer Activity of novel Steroidal Isoxazolidinone Derivatives** (26<sup>th</sup> to 28<sup>th</sup> Feb., 2013) 5<sup>th</sup> International Symposium on drug Development for Orphan/Neglected diseases) at CSIR-Central drug research Institute, Lucknow (India)
- 18. Molecular Docking, *in vitro* DNA Binding and Cytotoxicity of newly Synthesized Steroidal 1H-Pyrimidines** (2-3 March, 2013) International Conference on CHEMISTRY: Frontiers & Challenges at Department of Chemistry Aligarh Muslim University, Aligarh (India)
- 19. Synthesis, Characterization and biological studies of steroidal pyrazolones** (8-10 march 2014) International conference on Nano science and nanotechnology (Aligarh Nano-IV) at Department of Applied Physics Aligarh Muslim University, Aligarh (India)
- 20. Physico-chemical properties and biological studies of polyaniline based Zr(IV) molybdophosphate nano-composite** (8-10 march 2014) International conference on Nano science and nanotechnology (Aligarh Nano-IV) at Department of Applied Physics Aligarh Muslim University, Aligarh (India)
- 21. Synthesis and anticancer activity of 2'-amino-3'-carboethoxycholest-6-eno [5, 7- d e] 4H-pyrans and 2'-amino-3'-cyanocholest-6-eno [5, 7- d e] 4H-pyrans.** (22 March) National Symposium on Chemistry, Department of Chemistry Aligarh Muslim University, Aligarh (India)
- 22. Synthesis, molecular docking and in vitro DNA binding studies of cholestadiene derivatives** (ID: 129) International conference on Recent Advances in Chemical Sciences (29-39 March, 2016) Department of Chemistry Aligarh Muslim University, Aligarh (India)
- 23. Kinetics of xanthine-xanthine oxidase reaction in presence of surfactants.** (4-5 November 2017). A national symposium on frontiers in Chemical sciences 2017. Department of Chemistry Govt. Degree College Sopore J&K (India)
- 24. Biosynthesis of silver nanoparticles as a platform for biomedical application.** (4-5 Nov. 2017). A national symposium on frontiers in Chemical sciences 2017. Department of Chemistry Govt. Degree College Sopore J&K (India)
- 25. Green chemistry and its application in industries.** (4-5 November 2017). A national symposium on frontiers in Chemical sciences 2017. Department of Chemistry Govt. Degree College Sopore J&K (India)

**26. Biosynthesis of silver nanoparticles as a platform for biomedical application** (4-5 September 2018) Workshop on Nanoscience-Opportunities and Challenges organized by Islamic University of Science and Technology Awantipora Kashmir

### **CHEMISTRY SOFTWARES:**

- worked with molecular optimization and docking softwares
- (Hex 6.12, Guassian, pyMol, Discovery studio, Chem. Draw, Crystallite, Powder XRD)

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