

Muhammad Ajaz Hussain, Dr



Professor of Organic Chemistry (TTS)
School of Chemistry
University of the Punjab, Lahore 54590, Pakistan

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Citations 5477

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Web of Science Researcher ID: 4556-2018



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Key Research Interests

Organic synthesis; Polysaccharides; Polysaccharides-based hydrogel for stimuli-responsive applications; Medicinal Chemistry; Macromolecular prodrug design; Nanomedicines; Sustained/controlled release of drugs; Targeted drug delivery and bioequivalence studies of medicines; Polysaccharide-mediated silver nanoparticle synthesis; Polysaccharides for water purification

Personal

Father's Name	Noor Muhammad Khan
Date of Birth	Dec 25, 1974
Nationality	Pakistani
CNIC	37405-2479636-5
NTN	2647912-5
Marital Status	Married

ACADEMICS

Degree	Duration	Subjects	Institute	Country
Postdoc	Aug 6, 2008- Feb 5, 2009	Organic Chemistry	Monash University, Melbourne on Endeavour Research Fellowship	Australia
PhD	2001-2004	Organic Chemistry	Centre of Excellence for Polysaccharide Research, Friedrich-Schiller University, Jena HEC Degree Equivalence No.8- 50/HEC/A&A/2017/3943, dated 18.12.17	Germany
MPhil	1998-2000	Organic Chemistry	Quaid-I-Azam University, Islamabad	Pakistan
MSc	1995-1997	Organic Chemistry	University of The Punjab, Lahore	Pakistan
BSc	1992-1994	Bot, Zool, Chem	University of The Punjab, Lahore	Pakistan
FSc	1989-1991	Pre-Medical	Govt. Degree College, Jhang	Pakistan
Matric	1987-1989	Science	Govt. High School, Chak No. 172, Jhang	Pakistan

DISSERTATIONS/THESES

Name	Title	Supervisor	Institute/Country
Postdoc	Synthesis and Properties of a Nanoscaled Well for Biomolecule Recognition	Prof Steven Langford	School of Chemistry, Monash University, Australia
PhD	Alternative Routes of Polysaccharide Acylation: Synthesis, Structural Analysis, Properties	Prof Thomas Heinze	Centre of Excellence for Polysaccharide Research, Friedrich- Schiller University, Jena, Germany

MPhil Phytochemical Study of Flavonoids
 & Saponins from Leaves of *Berginia*
 himalaica

Prof Aurangzeb Hasan

Department of Chemistry, Quaid-i-
Azam University, Islamabad,
Pakistan

PROFESSIONAL EXPERIENCE

No.	Position	Organization	Date
1	Assistant Professor (Chemistry), BPS	University of Sargodha, Pakistan	10.07.2004
2	Assistant Professor (Chemistry), TTS	University of Sargodha, Pakistan	10.07.2006
3	Associate Professor (Organic Chemistry)	University of Sargodha, Pakistan	01.07.2014
4	Professor (Organic Chemistry), TTS	University of the Punjab, Lahore	11.05.2022 to date

SPECIALIZED TRAINING

1. Technology Transfer Policy and Industrial Level Prospectives, Organized by COMSTECH, Pakistan, Jul 12-18, 2006

AWARDS & HONORS

No.	Award	Agency/Institutes
1	Research Publications Incentive 2020 (RPI; RS. 0.27M)	University of Sargodha, Pakistan
2	Research Publications Incentive 2019 (RPI)	University of Sargodha, Pakistan
3	Research Publications Incentive 2018 (RPI; RS. 0.179M)	
4	Best University Teacher Award, 2016, (RPI; Rs. 0.1M)	Higher Education Commission (HEC), Pakistan
5	Research and Productivity Award, 2017, (D category: 2 nd in UoS)	Pakistan Council for Sci. & Tech. (PCST)
6	Research Publications Incentive 2016 (RPI; RS. 0.253,333M; 2 nd in UoS)	University of Sargodha, Pakistan
7	Research and Productivity Award, 2016-17 (D category)	PCST
8	Research and Productivity Award, 2012	PCST
9	Research and Productivity Award, 2011	PCST
10	Research and Productivity Award, 2010	PCST
11	Productive Scientist of Pakistan for 2007, 2010, 2011, 2016, 2017	PCST
12	Endeavour Research Fellowship (Postdoc Aug 06, 2008-Feb 05, 2009)	Endeavour Awards, Australia
13	Star Laureates, 2004 & 2006	South Asia Publications (SAP), Pakistan
14	Certificates of Excellence (2004 & 2006)	South Asia Publications, Pakistan
15	Best Teacher Award 2004 (Department)	UoS, Pakistan
16	University Best Teacher Award 2005 (Faculty of Science)	UoS, Pakistan
17	Approved Supervisor for PhDs in Chemistry (ID HEC/HRD/ASA/2019/30948)	HEC, Pakistan
18	HEC Focal Person, University of Sargodha (Jan, 2006-Nov, 2006)	UoS & HEC, Pakistan

BOOKS/MONOGRAPHS/BOOK CHAPTERS

1. **Book Monograph:** *Alternative Routes of Polysaccharide Acylation*. VDM Verlag, Saarbrücken, Germany, ISBN 9783639292121, Year **2010**, Published.
2. **Book:** ROC Chemistry, For First Year FSC, ROC Publishers, Pakistan. Published. Non-ISBN.
3. **Book:** ROC Chemistry, For Second Year FSC, ROC Publishers, Pakistan. Published. Non-ISBN.
4. **Book:** GETS Chemistry, For MDCAT, ROC Publishers, Pakistan. Published. Non-ISBN.
5. **Book Chapter:** **Hussain, M.A.**, Muhammad, G., Haseeb, M. T., Tahir, M. N. (**2019**) Quince seed mucilage: A stimuli-responsive/smart biopolymer. In: Eds. Mazumder, M. A., Sheardown, H., Al-Ahmed, A. (eds) Functional

Biopolymers. Polymers and Polymeric Composites: A Reference Series. Springer, Cham. https://doi.org/10.1007/978-3-319-92066-5_19-1, ISBN 978-3-319-92066-5, (Published online 10.12.2018).

6. **Book Chapter:** Hussain, M.A., Haseeb, M. T., Muhammad, G., Tahir, M. N. (2019) Inulin type fructan: A versatile functional material for food and healthcare. In: Jafar Mazumder M., Sheardown H., Al-Ahmed A. (eds) Functional Biopolymers. Polymers and Polymeric Composites: A Reference Series. Springer, Cham. https://doi.org/10.1007/978-3-319-92066-5_20-1, ISBN 978-3-319-92066-5. Published online 04.01.2019.

7. **Book Chapter:** Muhammad, G., Mehmood, A., Shahid, M., Ashraf, R. S., Altaf, M., Hussain, M.A., Raza, M. A. (2020) Biochemical Methods for Water Purification. In: Inamuddin, Ahamed M.I., Lichtfouse E., Asiri A.M. (eds) Methods for Bioremediation of Water and Wastewater Pollution. Environmental Chemistry for a Sustainable World, vol 51. Pp. 181-212. Springer, Cham. https://doi.org/10.1007/978-3-030-48985-4_8

8. **Book Chapter:** Saleem, S., Muhammad, G., Iqbal, M. M., Hussain, M.A., Raza, M. A., Shafiq, Z., Razzaq, H. (2021) Polysaccharide-based liquid crystals. In: Inamuddin, Ahamed M.I., Boddula, R., Altalhi, T. (eds) Polysaccharides: Properties and Applications, Pp. 573-590. John Wiley & Sons, Inc (Scrivener Publishing LLC). Print ISBN:9781119711384, <https://doi.org/10.1002/9781119711414.ch27>

9. **Book Chapter:** Iqbal, M. M., Muhammad, G., Aslam, M. S., Hussain, M. A., Shafiq, Z., Razzaq, H. (2021) Algal Biofertilizer. In: Inamuddin, Ahamed M.I., Boddula, R., Rezakazemi, M. (eds) Biofertilizers: Study and Impact. Pp. 607-635. John Wiley & Sons, Inc (Scrivener Publishing LLC). Print ISBN:9781119724674, Online ISBN:9781119724995, <https://doi.org/10.1002/9781119724995.ch22>.

10. **Book Chapter:** Saif, S., Saif, T., Raza, M. A., Muhammad, G., Iqbal, M. M., Rehman, N., Hussain, M. A., (2022) An Introduction to Membrane-Based Systems for Dye Removal. In: Muthu S. S., Khadir A. (eds) Membrane Based Methods for Dye Containing Wastewater. Sustainable Textiles: Production, Processing, Manufacturing & Chemistry. Pp. 1-22. Springer Nature, Singapore, Print ISBN: 978-981-16-4822-9, Online ISBN: 978-981-16-4823-6, DOI:https://doi.org/10.1007/978-981-16-4823-6_1

11. **Book Chapter:** Iqbal, M. M., Muhammad, G., Raza, M. A., Aslam, M. S., Hussain, M. A., Shafiq, Z. (2022) Fibrous Membranes for Water Purification: Focusing on Dye Removal. In: Muthu S. S., Khadir A. (eds) Membrane Based Methods for Dye Containing Wastewater. Sustainable Textiles: Production, Processing, Manufacturing & Chemistry. Pp. 79-120. Springer, Singapore Nature, Print ISBN: 978-981-16-4822-9, Online ISBN: 978-981-16-4823-6, DOI: https://doi.org/10.1007/978-981-16-4823-6_5

12. **Book Chapter:** Iqbal, M. M., Muhammad, G., Saif, T., Aslam, M. S., Raza, M. A., Hussain, M. A., Haseeb, M. T. (2022) Nanogenerators as a Sustainable Power Source. In: Inamuddin, Ahamed, M. I., Boddula, R., Altalhi, T. (eds) Nanogenerators: Basic Concepts, Design Strategies, and Applications. Pp. 301-322. CRC Press, Taylor & Francis Group, Online ISBN: 9781003187615, DOI: <https://doi.org/10.1201/9781003187615>

13. **Book Chapter:** Khan, A., Hussain, M.A., Nawaz, H., Muhammad, G., Lang, I., Ashraf, U. (2023). Physiological Interventions of Antioxidants in Crop Plants Under Multiple Abiotic Stresses. In: Prakash, C.S., Fiaz, S., Nadeem, M.A., Baloch, F.S., Qayyum, A. (eds) Sustainable Agriculture in the Era of the OMICs Revolution. Pp. 431-471. Springer, Cham. (Springer Nature, Switzerland), Online ISBN: 978-3-031-15568-0, DOI: https://doi.org/10.1007/978-3-031-15568-0_20

14. **Book Chapter:** Gulzar Muhammad, Muhammad Mudassir Iqbal, Munazza Shahid, Raja Shahid Ashraf, Muhammad Altaf, Muhammad Ajaz Hussain, Muhammad Arshad Raza. (2023). Purification of water by use of hydrogels; In: Inamuddin, Tariq Altalhi, Mohammad Abu Jafar Mazumder (eds) Green Sustainable Process for Chemical and Environmental Engineering and Science. Pp. 69-112. Elsevier, UK, Online ISBN: 9780443187469, DOI: <https://doi.org/10.1016/B978-0-443-18746-9.00004-2>

15. **Book Chapter:** Noreen Sajjad, Ayesha Sultan, Gulzar Muhammad, Aiza Azam, Muhammad Arshad Raza, Muhammad Ajaz Hussain, Liaqt Ali. (2024). Applications of genetically modified microorganisms for remediation of petrol discharge and related polluted sites; In: Inamuddin, Charles Oluwaseun Adetunji, Mohd Imran Ahamed, Tariq Altalhi (eds) Genetically Engineered Organisms in Bioremediation. 1st Edition. Pp. 86-105. CRC Press, Routledge Taylor & Francis Group. Online ISBN: 9781003188568, DOI: <https://doi.org/10.1201/9781003188568>

16. **Book Chapter:** Fatima, Z., Zulfiqar, Z., Javed, S., Hussain, M. A., Muhammad, G. (2025). Alkaloids from the Genus *Tylophora*; Isolation, Characterization, and Biological Applications; In: Kishan Gopal Ramawat, Jean-Michel Mérillon (eds) Natural Products: Phytochemistry, Botany and Metabolism of Alkaloids, Phenolics and Terpenes. 2nd Edition, Pp. 1-45, Springer, Berlin, Heidelberg, [ISBN 978-3-642-36202-6](https://doi.org/10.1007/978-3-642-36202-6_238-1), [DOI: https://doi.org/10.1007/978-3-642-36202-6_238-1](https://doi.org/10.1007/978-3-642-36202-6_238-1)

FUNDED PROJECTS/SUBMITTED PROJECTS

#	Project Title	PI/Co-PI	Funding agency	Amount (PKR)	Status
1	Modification, Characterization and Pharmaceutical Applications of Naturally Occurring Biomaterials. <i>Granted: Dec 06, 2007 (3 years).</i>	Co-PI	HEC, Pakistan	4.912 M	Completed 2010
2	Cellulose Ethers as Drug Carriers for NSAIDs and Fluoroquinolone Antibiotics: Macromolecular Prodrug Design, Characterization, Thermal Stability and Kinetics, Nano-Assemblies and Pharmaceutical Applications. <i>Granted: Jul, 15, 2015 (2 years).</i>	PI	HEC, Pakistan	3.340787 M	Completed Mar 01, 2021
3	Solubility enhancement of poorly water soluble drugs by preparing amorphous solid dispersion using natural and synthetic polymers by spray drying technique <i>Granted: Sep 17, 2015 (3 years).</i>	Co-PI	HEC, Pakistan	6.9286 M	Completed Jan 03, 2022
4	Removal of heavy metal ions from aqueous solution using chemically modified polysaccharides <i>Granted: Jul 16, 2018 (1 year).</i>	PI	ORIC-UOS, Pakistan	0.765 M	Completed 18.04.2021
5	Discovery of Biologically and pharmaceutically active compounds. <i>Granted: 2020 (1 year).</i>	Member	Jouf University, Ministry of Education KSA	SR 70,000/-	Completed 2022
6	Multifunctional Multitarget Therapeutics (MMT) Group <i>Granted: 20.06.2022 (1.5 years).</i>	Co-PI	Jouf University, Ministry of Education KSA	SR 150,000/-	Completed 2024
7	Polysaccharides mediated green synthesis of antimicrobial silver nanoparticles for wound healing applications (1 year)	PI	University of the Punjab, Lahore, Pakistan	Rs 0.3 M	Completed 16.01.24
8	Silver nanoparticles-decorated jute fibres for wound healing (1 year)	PI	University of the Punjab, Lahore, Pakistan	Rs 0.3 M	Completed 13.11.25
9	Chemical cross linking of natural polysaccharides for pharmaceutical and biological applications (1 year)	PI	University of the Punjab, Lahore, Pakistan	Rs 0.3 M	Submitted 18.11.25

Editorial Services

- | | |
|---------------------------|--|
| 1. Review Editor | Frontiers in Pharmacology, Switzerland |
| 2. Section Editor | Drug Science and Pharmacy, Malaysia |
| 3. Editorial Board Member | Carbohydrate Polymers, Elsevier, Netherlands |

REVIEWER/REFEREE

- | | |
|--|---|
| 1. Biomacromolecules | American Chemical Society, USA |
| 2. African Journal of Biotechnology | Academic Journals, Nairobi |
| 3. Macromolecular Research | Korean Polymer Society & Springer, Germany |
| 4. Acta Pharmacologica Sinica | Journal of Chinese Pharmacological Society, China |
| 5. Carbohydrate Polymers | Elsevier, Ltd. Germany |
| 6. International Journal of Molecular Sciences | MDPI Publishing, Basel, Switzerland |
| 7. International J Biological Macromolecules | Elsevier, Ltd. Germany |
| 8. Journal of the Chemical Society of Pakistan | Chemical Society of Pakistan |
| 9. Cellulose | Springer, Germany, USA |
| 10. Drug Delivery | Informa Health Care, England |
| 11. Molecular Pharmaceutics | American Chemical Society, USA |
| 12. Arabian Journal of Chemistry | Elsevier B. V. Germany |
| 13. International Wound Journal | John Wiley & Sons Ltd. USA |
| 14. Current Pharmaceutical analysis | Bentham Science |
| 15. Nano World Journal | Nano World Journal, USA |
| 16. Journal of Analytical Science and Technology | Springer, Germany, USA |
| 17. IET Nanobiotechnology | National Center for Biotechnology Information, USA |
| 18. Bioorganic Chemistry | Elsevier, Ltd. Germany |
| 19. Analytical Chemistry Insights | SAGE Publications, India |
| 20. Phytomedicine | Elsevier, Ltd. Germany |
| 21. Frontiers in Pharmacology | Frontiers, Switzerland |
| 22. J. Drug Deliv. Sci. Technol. | Elsevier, Ltd. Germany |
| 23. Drug Development Research | John Wiley & Sons Ltd. USA |
| 24. Material Research Express | IOP Science, UK |
| 25. Colloids and Surfaces A: | Elsevier, Ltd. Germany |
| 26. Desalination and Water Treatment | Balaban Publishers – Desalination Publications, Europe |
| 27. Chemical Papers | Springer, Germany, USA |
| 28. International Journal of Nanomedicine | Dove Press, New Zealand |
| 29. Polymer-Plastics Technology and Engineering | Taylor & Francis, UK |
| 30. ACS Omega | American Chemical Society, USA |
| 31. Cellulose Chemistry and Technology | Institutu de Chimie Macromoleculara, Petru Poni România |
| 32. RSC Advances | Royal Society of Chemistry, UK |
| 33. Journal of Chromatographic Sciences | Oxford Press, UK |
| 34. Carbohydr Polym Technol & Appl | Elsevier, Ltd. Germany |
| 35. Drug Development and Industrial Pharmacy | Taylor & Francis, UK |
| 36. Composite Communications | Elsevier, Ltd. Germany |
| 37. J Saudi Soc Agr Sci | Elsevier, Ltd. Germany |
| 38. Material Science and Engineering C | Elsevier, Ltd. Germany |
| 39. Soft Matters | Royal Society of Chemistry, UK |
| 40. J Function. Food. | Elsevier, Ltd. Germany |

MEMBERSHIPS OF PROFESSIONAL BODIES

1. Life Member, The Chemical Society of Pakistan, Membership ID: **P-0888**
2. Member American Nano Society <http://members.nanosociety.us/majaz172> (Full member) #: 113670, Duration: 12.06.2011-12.06.2013

OTHER SERVICES/MEMBERSHIPS

1. Member BOS, Institute of Chemistry, University of Sargodha (UOS), since 07.04.2025
2. Member BOS, PUSC
3. Member QEC Team, PUSC (2022)
4. Member Senate, PU Lahore
5. Member Academic Council, PU Lahore
6. Member Departmental Doctoral Programme Committee (DDPC), PUSC
7. Member Purchase Committee, PUSC
8. Focal Person QEC, PUSC (2023 onward)
9. Member Grievance Committee, PUSC (2023 onward)
10. Member RAC (Relevance Assessment Committee) for HEC-GEP, Faculty of Science, UOS, Since 19.03.2024.
11. Member Board of Faculty, Science, PU Lahore
12. Library Incharge, A. Q Khan Library, PUSC since 17.04.2024
13. Member, Ethical Committee of PUSC, since 26.06.2024
14. Member NTS (National Testing Service) Content Development Team, Subject Tests.
15. Remained Head of the organic chemistry section (Institute of Chemistry, UOS)
16. Remained the Chairman of the Food Price and Quality Control Committee, UOS, for Cafeteria/cabins/hostel canteen/shops, etc
17. Member Central Purchase Committee (CPC) UOS 2017-2019
18. Chairman Technical Committee of CPC, UOS, 2019-2021
19. Remained a member of the Faculty Board, UOS
20. Remained a member of Studies (BOS), Institute of Chemistry, UOS
21. Remained a member of the Purchase/Inspection Committee ORIC Projects, Institute of Chemistry, UOS
22. Remained a member of several purchase committees for different academic projects (HEC funded) of faculty members in the Institute of Chemistry, UOS.
23. Member Purchase Committee, Institute of Chemistry, UOS.
24. Member Departmental Purchase Committee, Institute of Chemistry, UOS
25. Coordinator Student Affairs (CSA), Institute of Chemistry, 2008-2020, UOS
26. Coordinator M.Phil/PhD Programs, Institute of Chemistry, UOS 2017
27. Member Postgraduate Programs Committee, Institute of Chemistry, UOS
28. Member, Departmental Tenure Review Committee (DTRC), Institute of Chemistry, UOS

COUNTRIES VISITED & LANGUAGE SKILLS

Countries: Germany, Several Schengen countries, Australia, Turkey

Languages: English, Urdu, Punjabi, French (certificate, basic)

LIST OF PUBLICATIONS WITH IMPACT FACTOR

Scopus Author ID 59071590200, I-10 Index 116; H Index=38; Citations 5477

No.	Publication detail	IF	Publisher, Country & ISSN
1	Heinze T., Liebert T. F., Pfeiffer K. S., Hussain M. A. Unconventional Cellulose Esters: Synthesis, Characterization and Structure–Property Relations. <i>Cellulose</i> , 10 (3) 283-296, 2003 . https://doi.org/10.1023/A:1025117327970	4.9	Springer Nature, Germany ISSN: 0969-0239

- 2 **Hussain M. A.**, Liebert T. F., Heinze T. First Report on a New esterification method for cellulose. *Polym. News*, 29 (1) 14-17, **2004**
<https://doi.org/10.1080/00323910490980561> **0** Taylor& Francis, UK
ISSN 00323918
- 3 **Hussain M. A.**, Liebert T. F., Heinze T. Acylation of Cellulose with *N,N'*-Carbonyldiimidazole-Activated Acids in the Novel Solvent Dimethyl Sulfoxide/Tetrabutylammonium Fluoride. *Macromol. Rapid Commun.*, **25**, 916-920, **2004**
<https://doi.org/10.1002/marc.200300308> **4.3** Wiley, Germany
ISSN 1022-1336
- 4 Liebert T. F., **Hussain M. A.**, Heinze T. Structure Determination of Cellulose Esters via Subsequent Functionalization and NMR Spectroscopy. *Macromol. Symp.*, **223**, 79-91, **2005**.
<https://doi.org/10.1002/masy.200550506> **0** Wiley, Germany
ISSN:1521-3900
- 5 Hasan A., **Hussain M. A.**, Ajab M. Flavonol Glycosides from Leaves of *Bergenia himalaica*. *Asian J. Chem.*, 17 (2), 822-828, **2005**.
https://www.asianjournalofchemistry.co.in/User/ViewFreeArticle.aspx?ArticleID=17_2_26 **0** Asian Publication Corporation, India
ISSN 9707077
- 6 Liebert T. F., **Hussain M. A.**, Tahir, M. N., Heinze T. Synthesis and Characterization of Cellulose α -Lipoates: A Novel Material for Adsorption onto Gold. *Polym. Bull.*, 57, 857-863, **2006**.-
<https://doi.org/10.1007/s00289-006-0660-x> **4** Springer Nature, Germany
ISSN, 14362449
- 7 **Hussain M. A.** Unconventional Synthesis and Characterization of Novel Abietic Acid Esters of Hydroxypropylcellulose as Potential Macromolecular Prodrugs. *J. Polym. Sci. A: Polym Chem.*, 46 (2), 747-752, **2008**.
<https://doi.org/10.1002/pola.22461> **3.6** Wiley, Germany
ISSN: 0887624X
- 8 **Hussain M. A.** Heinze T. Unconventional Synthesis of Pullulan Abietates. *Polym. Bull.*, 60 (6), 775-783, **2008**
<https://doi.org/10.1007/s00289-008-0918-6> **4** Springer Nature, Germany
ISSN, 14362449
- 9 Saghir S., Iqbal M.S., **Hussain M.A.**, Koschella A., Heinze T. Structure characterization and carboxymethylation of arabinoxylan isolated from Ispaghula (*Plantago ovata*) seed husk. *Carbohydr. Polym.*, 74 (2), 309-317, **2008**
<https://doi.org/10.1016/j.carbpol.2008.02.019> **12.5** Elsevier, Germany
ISSN. 0144-8617
- 10 **Hussain M. A.**, Badshah, M., Iqbal, M. S., Tahir, M. N., Tremel, W., Bhosale, S. V., Sher, M., Haseeb, M. T. HPMC-Salicylate Conjugates as Macromolecular Prodrugs: Design, Characterization and Nano-Rods Formation. *J. Polym. Sci. A: Polym. Chem.*, 47 (16), 4202-4208, **2009**
<https://doi.org/10.1002/pola.23463> **3.6** Wiley, Germany
ISSN: 0887624X
- 11 **Hussain, M. A.**, Shawar, D., Hassan, M. N., Tahir, M. N., Iqbal, M. S., Sher, M. An Efficient Esterification of Pullulan Using Activated Carboxylic Acid Anhydrides with Iodine. *Collect. Czech. Chem. Commun.*, 75 (1), 133-143, **2010**. Presently ChemPlusChem.
<https://doi.org/10.1135/cccc2009095> **2.8** Wiley, Germany
ISSN 0010-0765
- 12 **Hussain, M. A.**, Shawar, D., Tahir, M. N., Sher, M., Hassan, M. N. Afzal, Z. An efficient acetylation of dextran using *in situ* activated acetic anhydride with iodine. *J. Serb. Chem. Soc.*, 75 (2), 165-173, **2010**
<https://doi.org/10.2298/JSC1002165H> **0.7** Serbian Chemical Society, Serbia
ISSN 0352-5139
- 13 Sher, M., **Hussain, M. A.**, Mehmood, M. H., Hassan, M. N., Bashir, S. Bioequivalence of norfloxacin by HPLC-UV method. *J. Chil. Chem. Soc.*, 55 (2), 203-205, **2010**
<http://dx.doi.org/10.4067/S0717-97072010000200012> **2.1** Chilean Chemical Society, Chillie
ISSN 07179324
- 14 Sher, M., Perveen, N., Batool, N., **Hussain, M. A.**, Ali, M., Shaheen, M. A., Bashir, S. Sorption Potential of Copper Ions from Aqueous Solutions onto *Cicer Arietinum* Husk. *Pak. J. Sci.*, 62 (2), 75-78, **2010**
<http://paas-pk.com/SubPages/Journal/ResearchPaper.aspx?fcso=2&menuid=1006&manid=5057> **0** PAAS, Pakistan
ISSN 2411-0930

- 15 Sher, M., **Hussain, M. A.**, Jahan, S., Mufti, A. R., Shaheen, M. A., Hassan, M. N., Bashir, S. Bioequivalence of Two Oral Formulations of Moxifloxacin and its Analytical Study by HPLC-UV Method. *Pak. J. Sci.*, 62 (2), 84-88, **2010**.
<http://paas-pk.com/SubPages/Journal/ResearchPaper.aspx?fcso=2&menuid=1006&manid=5059>
- 16 Iqbal, M. S., Akbar, J., **Hussain, M. A.**, Saghir, S., Sher, M. Evaluation of hot-water extracted arabinoxylans from ispaghula seeds as drug carriers. *Carbohydr. Polym.*, 83 (3), 1218-1225, **2011**.
<https://doi.org/10.1016/j.carbpol.2010.09.024>
- 17 **Hussain, M. A.**, Hassan, Z., Haseeb, M. T., Iqbal, M. S., Sher, M., Tahir, M. N., Tremel, W., Bashir, S., Ahmed, R. Fabrication of Potential Macromolecular Prodrugs of Aspirin and Diclofenac with Dextran. *Pak. J. Pharm. Sci.*, 24 (4), 575-581, **2011**
<https://www.pjps.pk/wp-content/uploads/pdfs/CD-PJPS-24-4-11/Paper-26.pdf>
- 18 **Hussain M. A.**, Abbas, K., Sher, M., Tahir, M. N., Tremel, W., Iqbal, M. S., Amin, M., Badshah, M. Macromolecular prodrugs of aspirin with HPMC: A nanoparticulate drug design, characterization, pharmacokinetic studies. *Macromol. Res.*, 19 (12), 1296-1302, **2011**
<https://doi.org/10.1007/s13233-011-1212-2>
- 19 Bukhari, S. N. A., Ahmad, W., Butt, A. M., Ahmad, N., Amjad, M. W. B., **Hussain, M. A.**, Shah, V. H., Trivedi, A. R. Synthesis and evaluation of chalcone analogues and pyrimidines as cyclooxygenase (COX) inhibitors. *Afr. J. Pharm. Pharmacol.*, 6(14), 1064-1068, **2012**.
<https://doi.org/10.5897/AJPP12.022>
- 20 Sher, M., Hussain, G., **Hussain, M. A.**, Akhtar, T., Akram, M. R., Paracha, R. N., Murtaza, G. Development and validation of HPLC-UV method for the bioequivalence study of Atorvastatin, *Afr. J. Pharm. Pharmacol.*, 6(32), 2424-2428, **2012**.
<https://doi.org/10.5897/AJPP12.700>
- 21 **Hussain, M. A.**, Zarish, A., Abbas, K., Sher, M., Tahir, M. N., Tremel, W., Amin, M., Ghafoor, A., Lodhi, B. A. Hydroxypropylcellulose-aceclofenac conjugates: high covalent loading design, structure characterization, nano-assemblies and thermal kinetics. *Cellulose*, 20(2), 717-725, **2013**
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 ISSN 2213-3437
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Total Impact factor (according to Thomson Reuters JCR 2023).

656.2

CONFERENCES/SYMPOSIA/SEMINARS ATTENDED

1. Expo “CHEMSMART 2025” organized by B2B and Pakistan Chemical Council, Pakistan in International Expo Centre, Lahore on Apr 24-26, 2025.
2. 35th National and 23rd International Chemistry Conference on “Role of chemistry for sustainable development” organized by GC University, Faisalabad, University of Agriculture, Faisalabad and GC Women University, Faisalabad, Pakistan on Oct 21-23, 2025.

3. 1st International Conference on “Sciences for Future Trends” (ICSFT 2024) organized by The University of Lahore Sargodha Campus, Sargodha, Punjab, Pakistan on Dec 7-8, 2024.
4. Virtual Organic & Medicinal Chemistry Symposium. Organized by LUMS, Lahore, Pakistan on Dec 09, 2022.
5. Elsevier Webinars titled “Enabling a perfect research ecosystem with Science Direct”. Organized by Higher Education Commission of Pakistan on Nov 28, 2022. Presented by Dr. Vinita Saroha, Customer Consultant, Elsevier.
6. Elsevier Webinars titled “Navigating the pathways of publishing in High-quality journals by using Scopus”. Organized by Higher Education Commission of Pakistan on Nov 15, 2022. Presented by Dr. Vinita Saroha, Customer Consultant, Elsevier.
7. International symposium on “Green Chemistry and Sustainable Development”. Organized by the Institute of Chemistry, University of Sargodha, Sargodha 40100, Pakistan on April 01, 2022.
8. Workshop on “Technical Writing and Use of Referencing Software” Organized by the Institute of Chemistry, University of Sargodha on Nov 4-5, 2021.
9. International conference on “Research Advancement in Chemistry”, organized by and held at Department of Chemistry, School of Natural Sciences, NUST, Islamabad on March 10-11, 2021, organized by College of Pharmacy, University of Sargodha, Pakistan. (attended online).
10. One-day workshop on “Technical Writing” Organized by the Department of Chemistry, University of Sargodha on Nov 21, 2019.
11. National symposium on “Green chemistry: Recent trends and opportunities”. Organized by the Department of Chemistry, University of Sargodha on Apr 30, 2019.
12. 2nd National conference on “Pharmaceutical Innovations and Future Prospects”, held at University of Sargodha on April 26-27, 2019, organized by the College of Pharmacy, University of Sargodha, Pakistan.
13. One-Day Seminar on “Academia-Industry Linkages: A way forward for promoting innovative and need-based research”. Organized by the Office of Research, Innovation and Commercialization (ORIC), University of Sargodha on Nov 29, 2018.
14. One-Day Workshop on “Technical and Patent Writing”. Jointly Organized by the Office of Research, Innovation and Commercialization (ORIC) & Department of Chemistry, University of Sargodha on Jun 25, 2018.
15. National conference on “Plants: from food to phytochemistry”, held at the University of Malakand, Pakistan on 3-4 May 2018, jointly organized by the Department of Pharmacy, University of Malakand and Department of Chemistry, University of Sargodha.
16. 1st GRIP’s International Conference on Pharmaceutical and Biochemical Sciences (PBS), 7th Pak Pharma & Healthcare Expo 2018, held at Expo Centre Lahore-Pakistan on Jan 23-24, 2008, organized by GRIP & MAPPS.
17. A Day Long International Conference “Recent Challenges and Chemical Sciences”. Organized by the Institute of Chemical Sciences, Bahauddin Zakariya University, Multan, Pakistan and Royal Society of Chemistry, Pakistan Local Section on Dec 22, 2017.
18. “1st International Conference in Emerging Trends in Zoology”. Organized by the Department of Zoology, University of Sargodha, Sargodha 40100, Pakistan on Dec 8-9, 2017.
19. “National symposium on extraction of plant bioactives”. Organized by the Department of Chemistry, University of Sargodha, Sargodha 40100, Pakistan on Nov 1-2, 2017.
20. One day symposium on “Green Chemistry: An Innovative Route to Sustainable Scientific Development”. Organized by the Department of Chemistry, University of Sargodha, Sargodha 40100, Pakistan on April 30, 2014.
21. Symposium on “Drug Development Natural and Synthetic” Fifth International Conference on Environmentally Sustainable Development (ESDev-2013); held at COMSATS, Abbottabad, Pakistan on Aug 25-27, 2013.
22. One-day seminar on Functional Food and Nutraceuticals: Chemistry, Recent, Development and Future Prospects. Organized by the Department of Chemistry, University of Sargodha, Sargodha 40100, Pakistan on March 20, 2013.
23. Workshop on Biodiesel Technology: Processing, Potential Feedstock, Future Prospects and Challenges. Organized by the Department of Chemistry, University of Sargodha, Sargodha 40100, Pakistan on Nov 5-6, 2012.
24. 25th National Chemistry Congress, organized by the Department of Chemistry, Faculty of Science, Ataturk University, Turkey and Turkish Chemical Society held at Erzurum, Turkey on June 27-July 02, 2011.

25. 23rd Royal Australian Chemical Institute, INC, Organic Division Conference (RACI Organic 08) held at Wrest Point Hobart, Tasmania on Dec 07-12, 2008.
26. Royal Australian Chemical Institute, INC, December Synthesis Symposium, held at Bio 21 Institute, Melbourne University, Australia, on Dec 05, 2008.
27. 18th National Chemistry Conference, held in the Institute of Chemistry, University of the Punjab, Lahore, Pakistan on Feb 25-27, 2008.
28. *Workshop on Chemicals and Pharmaceutical for Development* held in the Department of Chemistry, University of Sargodha, 40100 Sargodha, Pakistan on Nov 20-21, 2007.
29. *Lahore Bio-Forum 2006*, held in the Centre of Excellence in Molecular Biology (CEMB), University of The Punjab, Lahore, Pakistan on Mar 13-15, 2006.
30. 2nd National Symposium on Frontiers in Chemistry, held in the Department of Chemistry, Government College University, Lahore, Pakistan on Mar 05, 2005.
31. 5th International & 16th National Chemistry Conference held in the Department of Chemistry, Quaid-e-Azam University, Islamabad, Pakistan on Nov 24-27, 2004.
32. 7th Eurasia conference on Chemical Sciences (EuAsC₂S-7) held in the HEJ Research Institute of Chemistry, International Center of Chemical Sciences, Karachi University, Karachi, Pakistan on Mar 8-12, 2002.
33. 1st International & 11th National Chemistry Conference (ChemCon 2000) held in the Department of Chemistry, University of Peshawar, Pakistan on Apr 10-14, 2001.
34. 10th National Chemistry Conference held in the Department of Chemistry, Quaid-e-Azam University, Islamabad, Pakistan on Oct 28-30, 1999.

ORAL PRESENTATIONS IN CONFERENCES

1. **Hussain, M. A.,** Amin, M. . Cellulose ether derivatives: A unique scaffold for macromolecular prodrugs. 1st International Conference on “Sciences for Future Trends” (ICSFT 2024) on Dec 7-8, 2024, Organized by The University of Lahore Sargodha Campus, Sargodha, Punjab, Pakistan.
2. Ashraf, M. U., **Hussain, M. A.,** Muhammad, G., Haseeb, M. T., Bashir, S., Hussain, S. Z., Hussain, I. A superporous and superabsorbent glucuronoxylan hydrogel from Quince (*Cydonia oblonga*): stimuli-responsive swelling, on-off switching and drug release. 2nd National Conference on “Pharmaceutical Innovations and Future Prospects”, held at University of Sargodha on April 26-27, 2019, organized by the College of Pharmacy, University of Sargodha, Pakistan.
3. Ashraf, M. U., **Hussain, M. A.,** Bashir, S., Haseeb, M. T. Evaluation of superporous, superabsorbent and stimuli-responsive glucuronoxylan for controlled release drug delivery system. 3rd International Health Trigon Summit, Organized by The University of Lahore, Lahore, Pakistan on April 17-18, 2018.
4. Haseeb, M. T., Bashir, S., **Hussain, M. A.,** Yuk, S. H. Linseed polysaccharides based nanoparticulate drug delivery system for controlled delivery of docetaxel. 1st National Conference on Recent Advancements in Pharmaceutical Sciences, Organized by the College of Pharmacy, University of Sargodha, Sargodha, Pakistan on March 7-8, 2018.
5. Ashraf, M. U., **Hussain M. A.,** Bashir, S., Haseeb, M. T. *Quince seed hydrogel: A superporous, superabsorbent and stimuli-responsive biomaterial for controlled release drug delivery system.* 1st GRIP's International Conference on Pharmaceutical and Biochemical Sciences (PBS), 7th Pak Pharma & Healthcare Expo 2018, held at Expo Centre Lahore-Pakistan on Jan 23-24, 2018, organized by GRIP & MAPPS.
6. **Hussain M. A.,** Lodhi, B. A., Iqbal, S., Abbas, K., Ali, M., Tahir, M. N., Tremel, W., Sher, M. *Fabrication, Characterization, Nanoassemblies and pharmacological Analysis of Novel Prodrugs of Aspirin onto Hydrophilic Biopolymers.* 25th National Chemistry Congress, organized by the Department of Chemistry, Faculty of Science, Ataturk University, Turkey and Turkish Chemical Society held at Erzurum, Turkey on June 27-July 02, 2011.
7. **Hussain M. A.** *Fabrication of novel amphiphilic esters of hydroxypropylcellulose as potential macromolecular prodrugs.* 18th National Chemistry Conference, held in the Institute of Chemistry, University of the Punjab, Lahore, Pakistan on Feb 25-27, 2008.
8. **Hussain M. A.** *New analytical tools for structural elucidation of cellulose esters,* 2nd National symposium on Frontiers in Chemistry, held in the Department of Chemistry, Government College University, Lahore, Pakistan on Mar 05, 2005.

9. **Hussain M. A.** *Alternative routes of polysaccharides acylation*, 5th International & 16th National Chemistry Conference held in the Department of Chemistry, Quaid-e-Azam University, Islamabad, Pakistan on Nov 24-27, 2004.

Session Chair

1. 1st International Conference on “Sciences for Future Trends” (ICSFT 2024) on Dec 7-8, 2024, Organized by The University of Lahore Sargodha Campus, Sargodha, Punjab, Pakistan.

INVITED LECTURES

Sr. #	Invited by/place	Topic	Date
1	Prof. Steven Langford, Monash University, Melbourne, Australia	<i>Alternative routes of polysaccharide acylation</i>	08.10.2008
2	Governament Ambala Muslim College, Sargodha	<i>Prodrugs of aspirin onto hydrophilic biopolymers: Fabrication, characterization, nanoassemblies and Pharmacokinetic analysis</i>	12.05.2016
3	Governament Degree College (Women), Sargodha	<i>Silver nanoparticles: Green synthesis and applications</i>	18.04.2016
4	Governament Ambala Muslim College, Sargodha	<i>“Green”: Silver nanoparticles; Synthesis and applications in life</i>	05.04.2017
5	Governament Degree College (Women), Sargodha	<i>Concept of macromolecular prodrug design and applications</i>	13.04.2017

POSTERS PRESENTATIONS

1. **Hussain, M. A.**, Khan, M. N., Batool, M., Muhammad, G., Ali, A., *Chemically modified, pH-responsive, Superabsorbent, and biocompatible polysaccharide-based hydrogels: Smart materials for drug delivery*. Expo “CHEMSMART 2025” organized by B2B and Pakistan Chemical Council, Pakistan in International Expo Centre, Lahore on Apr 24-26, 2025.
2. Amin, M., Abbas, K., **Hussain, M. A.**, Iqbal, S., Sher, M. *Investigation of Thermal Stability and Kinetics of HPC-Based Macromolecular Prodrugs of Salicylic Acid and Acetyl Salicylic Acid*. 1st International Conference on “Sciences for Future Trends” (ICSFT 2024) on Dec 7-8, 2024, The University of Lahore Sargodha Campus, Sargodha, Punjab, Pakistan.
3. Abbas, A., Hassan, M. N., **Hussain, M. A.**, Nauman, M. (2024, December 7-8). *Salicylic acid Crosslinked Cellulose Ether Derivatives for sustained Release Delivery*. 1st International Conference on “Sciences for Future Trends” (ICSFT 2024) on Dec 7-8, 2024, The University of Lahore Sargodha Campus, Sargodha, Punjab, Pakistan.
4. Abbas, K., **Hussain, M. A.**, Amin, M., Badshah, M. (2024, December 7-8). *Nanoparticulate Macromolecular Prodrugs of Aspirin based on a Hydrophilic Cellulose Ether Derivative*. 1st International Conference on “Sciences for Future Trends” (ICSFT 2024) on Dec 7-8, 2024, The University of Lahore Sargodha Campus, Sargodha, Punjab, Pakistan.
5. Nauman, M., Haseeb, M. T., **Hussain, M. A.**, (2024, December 7-8). *Flax seed Mucilage Extraction Optimization, Swelling Properties and Kinetic Studies*. 1st International Conference on “Sciences for Future Trends” (ICSFT 2024) on Dec 7-8, 2024, The University of Lahore Sargodha Campus, Sargodha, Punjab, Pakistan.
6. Assad, N., Naeem-ul-Hassan, M., **Hussain, M. A.**, Sher, M., Ghaffar, S. *Diffused sunlight-assisted green synthesis of silver nanoparticles using Sherawa (Cotoneaster nummularia) leaves extract* “International symposium on Green Chemistry and Sustainable Development”. Organized by Institute of Chemistry, University of Sargodha, Sargodha 40100, Pakistan on April 01, 2022. [poster got 1st prize]
7. Muhammad, G., **Hussain, M. A.**, Ali, A., Haseeb, M. T. *A novel, stimuli-responsive, biocompatible, and non-toxic hydrogel from Mimosa pudica* “International Symposium on Green Chemistry and Sustainable Development”. Organized by the Institute of Chemistry, University of Sargodha, Sargodha 40100, Pakistan on April 01, 2022. [poster got 2nd prize]

8. Ali, A., **Hussain, M. A.**, Haseeb, M. T., Farid-ul-Haq, M., Irfan, J. *Diffused sunlight-assisted green synthesis of silver nanoparticles using Sherawa (Cotoneaster nummularia) leaves extract* “International Symposium on Green Chemistry and Sustainable Development”. Organized by the Institute of Chemistry, University of Sargodha, Sargodha 40100, Pakistan on April 01, 2022.
9. Farid-ul-Haq, M., Haseeb, M. T., **Hussain, M. A.**, Irfan, J., Ali, A., Malik, I., Shaad, I. *Stimuli Responsive On-Off Switching of Water Swellable Polysaccharides*. National conference on plants: From Food to phytomedicine, held at the University of Malakand, Pakistan on 3-4 May 2018, jointly organized by the Department of Pharmacy, University of Malakand, and Department of Chemistry, University of Sargodha. **[poster got 2nd prize]**
10. Muhammad, G., **Hussain M. A.** Haseeb, M. T., Ashraf, M. U. *Glucuronoxylan polysaccharide mediated green synthesis of silver nanoparticles for antimicrobial and wound healing applications*. 1st GRIP's International Conference on Pharmaceutical and Biochemical Sciences (PBS), 7th Pak Pharma & Healthcare Expo 2018, held at Expo Centre Lahore-Pakistan on Jan 23-24, 2018, organized by GRIP & MAPPS.
11. Muhammad Tahir Haseeb, **Muhammad Ajaz Hussain**. Title: *Polysaccharides based smart hydrogel from Linseed: stimuli responsive on-off switching and design of anticancer drug delivery system*. A Day Long International Conference “Recent Challenges and Chemical Sciences”. Organized by Institute of Chemical Sciences, Bahauddin Zakariya University, Multan, Pakistan and Royal Society of Chemistry, Pakistan Local Section on Dec 22, 2017.
12. Muhammad Tahir Haseeb, Muhammad Umer Ashraf, Gulzar Muhammad, **Muhammad Ajaz Hussain**. *Acute toxicity study of Rhamnogalacturonan and glucuronoxylan polysaccharides*, “1st International Conference in Emerging Trends in Zoology”. Organized by the Department of Zoology, University of Sargodha, Sargodha 40100, Pakistan on Dec 8-9, 2017.
13. Muhammad Farid ul Haq, Muhammad Tahir Haseeb, **Muhammad Ajaz Hussain**, *Stimuli-Responsive Swelling Behavior (on-off Switching) of Inulin-Type Fructan Hydrogel* “National symposium on extraction of plant bioactives”. Organized by the Department of Chemistry, University of Sargodha, Sargodha 40100, Pakistan on Nov 1-2, 2017. **[poster got third prize]**
14. Muhammad Waqas Sana, Azhar Abbas, Muhammad Amin, **Muhammad Ajaz Hussain**, Muhammad Nauman. Crosslinking of HPC-Succinic Anhydride Salicylates. Symposium on “Drug Development Natural and Synthetic” Fifth International Conference on Environmentally Sustainable Development (ESDev-2013); held at COMSATS, Abbottabad, Pakistan on Aug 25-27, 2013.
15. Muhammad Amin, Khawar Abbas, **Muhammad Ajaz Hussain**, Saima Iqbal, Muhammad Sher. Thermal Analysis and Kinetic Studies of Novel Macromolecular Prodrugs of Some NSAIDs Based on HPC. Symposium on “Drug Development Natural and Synthetic” Fifth International Conference on Environmentally Sustainable Development (ESDev-2013); held at COMSATS, Abbottabad, Pakistan on Aug 25-27, 2013.
16. Muhammad Nauman, Muhammad Tahir Haseeb, **Muhammad Ajaz Hussain**, Sajid Bashir. Swelling Properties and Kinetic Studies of Flax Seed Gel. Symposium on “Drug Development Natural and Synthetic” Fifth International Conference on Environmentally Sustainable Development (ESDev-2013); held at COMSATS, Abbottabad, Pakistan on Aug 25-27, 2013.
17. Khawar Abbas, **Muhammad Ajaz Hussain**, Munair Badshah, Muhammad Amin. Nano Particulate Macromolecular Prodrugs of Aspirin based on a Hydrophilic Cellulose Ether Derivative. Symposium on “Drug Development Natural and Synthetic” Fifth International Conference on Environmentally Sustainable Development (ESDev-2013); held at COMSATS, Abbottabad, Pakistan on Aug 25-27, 2013.
18. **Hussain M. A.**, Bhosale S. V., Langford S. Porphyrin-Based Yoctowells with Aromatic Rigid Walls, 23rd Royal Australian Chemical Institute, INC, Organic Division Conference (RACI Organic 08) held at Wrest Point Hobart, Tasmania on Dec 07-12, 2008.
19. Shahwar D., **Hussain M. A.** A novel, efficient, solvent free and energy effective method for esterification of pullulan, 18th National Chemistry Conference, held in the Institute of Chemistry, University of the Punjab, Lahore, Pakistan on Feb 25-27, 2008.
20. Afzal Z., **Hussain M. A.** Synthesis, characterization and applications of novel pullulan esters, 18th National Chemistry Conference, held in the Institute of Chemistry, University of the Punjab, Lahore, Pakistan on Feb 25-27, 2008.

21. **Hussain M. A.**, Koschella A., Heinze Th. Esterification of Cellulose with different Carboxylic acids, 7th Eurasia Conference on Chemical Sciences, Karachi, Pakistan, March 8-12, 2002.
22. **Hussain M. A.**, Shahid S., Hasan, A. Isolation of Flavonoids from *Debregeesia*, 1st International & 11th National Chemistry Conference (ChemCon 2000) held in the Department of Chemistry, University of Peshawar, Pakistan on Apr 10-14, 2001.
23. **Hussain M. A.**, Farman M., Hussain Z., Hasan, A. Isolation of Flavonoids from leaves of *Neem* Plant, 10th National Chemistry Conference held in the Department of Chemistry Quaid-i- Azam University, Islamabad, Pakistan on Oct 28-30, 1999.
24. **Hussain M. A.**, Farman M., Hasan, A. Isolation of Polyphenolic Compounds from *Bergenia himalaica*, 10th National Chemistry Conference held in the Department of Chemistry Quaid-i- Azam University, Islamabad, Pakistan on Oct 28-30, 1999.

RESEARCH STUDENTS

PHD STUDENTS PRODUCED			
No.	Name	Thesis title	Status
1	Shazia Saghir HEC scholar	Isolation, Modification, Characterization and Pharmacological Evaluation of Gelable Material from Ispaghula Husk	2010
2	Nazia S. Abbas HEC scholar	Macromolecular prodrugs of some antibiotics onto polyglucans: fabrication, characterization, applications and studies of nano-assemblies in solution	Mar 14, 2016
3	Azhar Abbas HEC scholar	Applications of succinate linked polysaccharides in macromolecular prodrug design and metal sorption	May 06, 2016
4	M. Amin	Pharmaceutical and pharmacological analysis of macromolecular prodrugs of some antibiotics	Jun 17, 2016
5	Khawar Abbas HEC scholar	Pharmaceutical and pharmacological analysis of macromolecular prodrugs of some non-steroidal anti-inflammatory drugs	Jan 13, 2017
6	M. Tahir Haseeb* HEC scholar	Hydrogel from <i>Linum usitatissimum</i> L.: Isolation, modification, characterization and pharmaceutical applications	Jun 21, 2018
7	Gulzar Muhammad HEC scholar	Hydrogel from seeds of <i>Mimosa pudica</i> L.: Isolation, modification, characterization and applications	Jul 09, 2018
8	Muhammad Umer Ashraf* HEC scholar	Isolation, modification, characterization, pharmaceutical applications of hydrogel from seeds of <i>Cydonia Oblonga</i>	Mar 08, 2019
9	Bilal A. Lodhi	Hydrogel from Seeds of Basil (<i>Ocimum basilicum</i> L.): Modification, Physico-Organic Attributes and Pharmaceutical Applications	Dec 20, 2019
10	Muhammad Farid-ul-Haq	Polysaccharide based Superabsorbent Hydrogel from Seeds of Mugwort (<i>Artemisia vulgaris</i> L.): Stimuli Responsive Swelling Behaviour and Pharmaceutical Applications	Jun 14, 2021
11	Saadia Pervaiz Lali*	Solubility enhancement of some poorly soluble drugs using solid dispersion method based on hydrophilic polysaccharides	May 23, 2022
12	Faiza Hassan*	Pharmaceutical and biochemical analyses of some therapeutic agents after solubility enhancement using spray drying technique	Oct 21, 2022
13	Arshad Ali	Stimuli responsiveness, modification and pharmaceutical applications of hydrogel from <i>Salvia spinosa</i> L. (Kanocha)	Jan 13, 2023
14	Jaffar Irfan	Modification, stimuli responsive properties and pharmaceutical applications of <i>Plantago ovata</i> (psyllium) and <i>Aloe barbadensis</i> (Aloe vera) mucilage	Dec 26, 2024
15	Fouzia Feroze Khan*	Gastroretentive preparation of some therapeutic agents based on natural polysaccharides	Jan 23, 2025

16	Maria Khatoon	Stimuli responsiveness, modification, pharmaceutical and biochemical analysis of a hydrogel from Chia (<i>Salvia hispanica</i> L.) seeds	Thesis submitted Aug 2025
17	Fasiha Amjad	Copolymerization and crosslinking of <i>Ocimum basilicum</i> L. (sweet basil) hydrogel: stimuli-responsiveness and pharmaceutical applications	Thesis submitted Sep 2025

MPHIL STUDENTS PRODUCED			
No.	Name	Thesis title	Status
1	Munair Badshah	Synthesis, characterization and pharmaceutical applications of novel hydroxypropylmethylcellulose ester conjugates of NSAIDs	Jan, 2009
2	Zahid Hassan	Synthesis, characterization and pharmaceutical applications of novel dextran ester conjugates of NSAIDs	Jan, 2009
3	Dur-e-Shahwar	A novel method for esterification of pullulan	Sep, 2009
4	M. Tahir Haseeb*	Synthesis and evaluation of dextran aspirin complex as a prodrug	Apr, 2010
5	Zakia Afzal	Synthesis and characterization of novel pullulan esters	Jul, 2010
6	Samreen Syed	Thioesterification of some medicinally important thiols and carboxylic acids	Dec, 2010
7	Bilal A. Lodhi	Macromolecular prodrugs onto hydrophilic biopolymers: design and physico-organic aspects of applications	Jun, 2011
8	M. Ashfaq Ahmad	Thermal stability and degradation kinetics of some macromolecular prodrugs of NSAIDs onto hydroxypropylmethylcellulose	Jun, 2011
9	Anqa Zarish	Synthesis and characterization of macromolecular prodrugs of aceclofenac with hydroxypropylcellulose	Jun, 2011
10	Hafsa Anjum	Synthesis and characterization of macromolecular prodrugs of mefenamic acid with hydroxypropylmethylcellulose	Dec, 2011
11	Rukhsana Kausar	Synthesis and characterization of macromolecular prodrugs of mefenamic acid with hydroxypropylcellulose	Dec, 2011
12	M. Farid-ul-Haq	Thermal stability and degradation kinetics of some macromolecular prodrugs of NSAIDs onto dextran	Mar, 2012
13	Shahid Iqbal	Synthesis and characterization of macromolecular prodrugs of levofloxacin onto hydroxypropylcellulose	Mar, 2012
14	Shahzad Hassan Khan	Pharmacological studies of copper (II) acetylsalicylate at extended dose level in animal model	Mar, 2012
15	Fatima Akbar Sheikh*	Evaluation of hot water extracted gel from seeds of <i>Linum usitatissimum</i> L. as a drug release retardant	Jul, 2012
16	Sadia Pervaiz Lali	Synthesis, characterization and pharmacokinetic studies of Zn (II)-acetylsalicylate	Dec, 2012
17	M. Naveed Akhtar	An extended release formulation of pefloxacin using a hydrogellable biomaterial	Dec, 2013
18	Asad Amman Ullah*	Synthesis and characterization of some derivatives of naproxen	Dec, 2013
19	Muhammad Abdullah	Glycopolymers as Template Nanoreactors for the Synthesis of Silver Nanoparticles	Jan, 2014
20	M. Waqas Sana	Synthesis and characterization of some novel prodrugs onto a hydrophilic biopolymer	Jan, 2014
21	Saima Iqbal	Synthesis and characterization of salicylic acid conjugates based on dextran	Jan, 2014
22	Asma Niaz	Pharmacokinetics studies of a novel macromolecular prodrug of a 2-phenyl propionic acid derivative	Jan, 2014
23	Humaira Skindar	Synthesis and characterization of macromolecular prodrug of 2-phenylpropionic acid derivative	Jan, 2014

24	M. Ameer Afzal*	Synthesis, characterization and thermal studies of some starch esters	Jan, 2014
25	Madeha Ashraf	Synthesis of silver nanoparticles using Jute hemp fibers as a template	Feb, 2015
26	Ume Rubab	Cross linking and characterization of hydrogel isolated from <i>Linum usitatisimum</i> L. (Flax)	Feb, 2015
27	Bushra Zahra	Synthesis, characterization and long term storage of silver nanoparticles using a glycopolymer	Mar, 2015
28	Syeda Aqsa	Green synthesis, thermal degradation and kinetics of HPMC acetates	Dec, 2015
	Batool Bukhari		
29	Sadaf fatima	Removal of Cr ⁶⁺ and Ni ²⁺ from aqueous solution using a mixed cellulose ether-ester	Dec, 2015
30	Shahana Zaman	Removal of Cd ²⁺ and Pb ²⁺ from aqueous solution using chemically modified cellulose	Dec, 2015
31	Ahmad Sher	Fabrication and thermal analyses of mixed cellulose-ether-esters	Dec, 2015
32	Khurram	Isoconversional thermal analysis of flurbiprofen	Dec, 2015
	Rehman		
33	M. Adaf Arsalan	Tosylation of carboxylic acid containing non-steroidal anti-inflammatory agents and their antimicrobial activity	Mar, 2016
34	Majid Basharat	Cellulose ethers as drug carriers for some NSAIDs	Feb, 2017
35	Erum Yamin	Chemical modification of naturally occurring polysaccharides for heavy metal ions uptake	Feb, 2017
36	Rehana	Pullulan succinate: A regenerable and supersorbent for the adsorption of methyl orange and methyl red from aqueous solution	Feb, 2017
	Nasreen**		
37	Nida Rafique**	Adsorption of methyl orange and methyl red from aqueous solution using Na-cellulose succinate	Feb, 2017
38	Muhammad	Study of interaction of some metal complexes of Schiff's bases with serum proteins.	Apr, 2017
	Zubair**		
39	Muhammad	Bioequivalence study of diacerein by HPLC-UV method in tablet brands available in Pakistan	Apr 2017
	Hasnain*		
40	Abdul Wahid	A study on smart hydrogel formation of some naturally occurring polysaccharides based on metal complexation	Sep 28,2017
41	Muhammad	Dynamic swelling, stimuli responsive properties and on-off switching of arabinoxylans	Dec 22, 2017
	Nauman		
42	Laraib Kiran	Dynamic swelling and on-off switching of cross-linked glucuronoxylan-based hydrogel from Quince (<i>Cydonia oblonga</i> M.)	Jan 15, 2018
43	Anam Irshad	Cross-linked hydrogel from <i>Mimosa pudica</i> : Swelling-deswelling and stimuli responsive properties	Jan 15, 2018
44	Awais-ur-Rahman	Cellulose ethers-based prodrugs of different therapeutic agents	Jan 15, 2018
45	Summia Gul	Role of a chemically modified polysaccharide for Cd(II) and Pb(II) uptake from aqueous solution	Feb 02, 2018
46	Urooj Afzal*	Sorption of Cd(II) from distilled and ground water solution using chemically modified starch	May, 2018
47	Ayesha	Removal of Ni(II), Cu(II) and Cr(VI) from galvanic waste water using a succinylated polysaccharide	Aug, 2018
	Jahangir*		
48	Khadija Arshad*	Evaluation of anticoagulant activities of some new isocoumarin derivatives using invitro and invivo techniques	May 11, 2018
49	Saba Ahmed*	Pharmacological and pharmacokinetic study of hydroxyethylcellulose based NSAID pro-drug and its invitro invivo corelation	Feb 22, 2018
50	Irum Malik	Hydroxypropylcellulose based prodrugs formation of some carboxylic acids containing therapeutic agents	Aug 30, 2019
51	Iqra Shad	Cellulose ether based prodrugs of some non-steroidal anti-inflammatory drugs	Aug 30, 2019
52	Mah Gul Habib	Evaluation of inulin-type fructan hydrogel as a supersorbent for heavy metal ions uptake from aqueous solution	Feb, 2019

53	Arooj Fatima*	Chemical modification of rice husk and its use as sorbent for heavy metal ions from aqueous solution	Jan 16, 2019
54	Tehreem Kauser*	Pharmacological and Pharmacokinetic studies of a HPC-Flurbiprofen conjugate and evaluation of its In Vitro-In Vivo correlation.	Feb, 2019
55	Fatima Afzal*	<i>In vitro in vivo</i> investigation of anticoagulant and antithrombotic potential of some novel Coumarin/ isocoumarin derivatives	Aug 24, 2019
56	Tahir Mehmood Khan Niazi	Green synthesis of silver nanoparticles using polar extracts of <i>Fagonia arabica</i> L. under diffused sunlight	Mar 06, 2020
57	Syeda Shahera Bano Rizvi	Synthesis, characterization and isoconversional thermal analysis of psyllium (<i>Plantago ovata</i>) arabinoxylan acetate	Jan 17, 2020
58	Mahnoor Shafaq	Synthesis, characterization and isoconversional thermal analysis of Aloe Vera (<i>Aloe barbadensis</i> Miller) mucilage acetate	Jan 31, 2020
59	Nasir Assad*	Synthesis and antimicrobial properties of silver nanoparticles using polar extracts of Sherawa (<i>Cotoneaster nummularia</i>)	Feb 06, 2020
60	Abdullah Shaheen	Carboxy-functionalized polysaccharides template for synthesis, capping and long-term storage of silver nanoparticles	Dec 11, 2020
61	Pulwasha Shahzadi	Glycopolymer-Succinate-NSAID Conjugate: Prodrug Design and Pharmaceutical Applications	Dec 21, 2020
62	Aiman Ikram	Synthesis and Application of a Multiple Cross-Linked Hydroxyethylcellulose-Succinate-NSAID Conjugate	Dec 23, 2020
63	Mashal Andleeb	Synthesis and pharmaceutical applications of a dextran-citric acid cross-linked hydrophilic polysaccharide	Dec 06, 21
64	Taskin Aman Khan	Isoconversional Thermal Analysis and Degradation Kinetics of Ester Derivatives of Some Glycopolymers	Jun 25, 2021
65	Rida Sabir	Synthesis of pH responsive <i>Aloe barbadensis</i> (Aloe vera) based biocomposite of hydroxypropylcellulose	Nov 17, 2021
66	Tazeem Taj	Crosslinking of hydroxypropylcellulose with <i>Linum usitatissimum</i> (Flax) seed hydrogel using citric acid	Dec 06, 2021
67	Khurram Shahzad	Synthesis, characterization and stimuli-responsive behavior of biocomposite of dextran with <i>Salvia hispanica</i> (Chia) seed hydrogel	Dec 06, 2021
68	Umm e Farwah	A biocomposite of <i>Ocimum basilicum</i> (Basil) seed hydrogel with hydroxypropylcellulose for stimuli-responsive applications	Dec 06, 2021
69	Ahmad Farooq	Diffused Sunlight-Assisted Green Synthesis of Silver Nanoparticles using a succinylated polyglucan template	Feb 02, 2023
70	Suleman Maqsood	Microwave-Assisted Green Synthesis of Silver Nanoparticles Using a Polysaccharide	Feb 02, 2023
71	Manzar Abbas	Microwave-Assisted Green Synthesis of Silver Nanoparticles Using a Chemically Modified Polysaccharide	Feb 02, 2023
72	Nadia Khan	Isolation-Optimization of Mucilage from Mugwort (<i>Artemisia vulgaris</i> L.) using Response Surface Methodology	Oct 21, 2022
73	Najma Raees	Isolation-Optimization of Mucilage from Flaxseeds (<i>Linum usitatissimum</i> L.) using Response Surface Methodology	Oct 21, 2022
74	Umer Zulfikar	Isoconversional thermal analysis of a paracetamol	Feb 02, 2023
75	Bakhtawar	Synthesis and photocatalytic study of cerium, cobalt and copper oxides nanocomposites	Sep 01, 2023
76	Bushra Mir	Synthesis and photocatalytic degradation studies on a gadolinium, Zn and cobalt oxides nanoparticles	Sep 01, 2023
77	Momina Mahmood	Sunlight-assisted synthesis of silver nanoparticles using <i>Salvia spinosa</i> hydrogel and antimicrobial applications	Sep 01, 2023
78	Muhammad Arslan	Eco-friendly synthesis of ZnO nanoparticles using basil (<i>Ocimum basilicum</i> L.) Seeds mucilage for photocatalytic degradation of some organic dyes	Aug 9, 2024
79	Rabia Zahoor	Eco-friendly synthesis of ZnO nanoparticles using <i>Salvia spinosa</i> seeds mucilage for photocatalytic degradation of some organic dyes	Aug 9, 2024
80	Mashal Fatima	Green synthesis of CuO nanoparticles using basil (<i>Ocimum basilicum</i> L.) Seeds mucilage for photocatalytic studies	Aug 9, 2024

81	Muhammad Abdullah	Silver nanoparticles-impregnated jute fibers: Fabrication and biological applications	Jun 27, 2025
82	Mahnoor	Synthesis of Ionic Liquid Based Iron Oxide Containing Biocomposite for pH Sensitive Release of Doxycycline	Jun 27, 2025
83	Shahreen Afzal*	Synthesis of iron oxide nanoparticles embedded biocompatible ionogel for controlled drug delivery	Jun 27, 2025

BS/MSC STUDENTS PRODUCED

No.	Name	Thesis title	Status
1	Tanzeela Noreen	Macromolecular prodrug of abietic acid with dextran	Dec, 2008
2	Sidra Shoukat	New routes for dextran acetylation	Dec, 2008
3	Saima Iqbal	Synthesis and characterization of hydroxypropylcellulose aspirin conjugate	Aug, 2010
4	Saba S. Hussain	Synthesis and characterization of novel pullulan-metronidazole conjugates	Sep, 2012
5	Shahana Zaman*	Synthesis and characterization of novel hydroxypropylcellulose-salicylic acid conjugates using succinic anhydride as a linker	Sep, 2012
6	Abdul Ghafoor	Thermal analysis and degradation kinetics of HPC-aceclofenac conjugates	Sep, 2012
7	M. Adaf Arslan*	Thermal analysis and degradation kinetics of HPC-Ibuprofen conjugates	Sep, 2012
8	Aisha Hameed*	Slow release formulation design for levofloxacin based on Psyllium husk gel	Sep, 2012
9	Aqdas Yaqoob*	Slow release formulation design for ofloxacin based on a swellable biomaterial	Sep, 2012
10	Shumaila Hameed	Crosslinking of cotton using malic anhydride and sodium hypophosphite	Nov, 2013
11	Muqaddas Naz	Microwave-assisted synthesis of silver nanoparticles using <i>Artemisia vulgaris</i> L., hydrogel	Sep 01, 2023
12	Ayesha	Sunlight-mediated green synthesis of silver nanoparticles using <i>Artemisia vulgaris</i> L., hydrogel	Sep 01, 2023
13	Rimsha Bashir	Microwave-assisted synthesis of silver nanoparticles using Jute fibers	Sep 01, 2023
14	Muhammad Abdullah	Preparation of silver nanoparticles impregnated jute fibers for antibacterial applications	Sep 01, 2023
15	Kainat Shabir	Green synthesis of copper oxide nanoparticles using <i>Artemisia vulgaris</i> L., hydrogel by combustion method	Sep 01, 2023
16	Rubab Rana	Green synthesis of NiO nanoparticles using <i>Artemisia vulgaris</i> L., hydrogel by combustion method	Sep 01, 2023
17	Areesha Tehseen	Green synthesis of MnO ₂ nanoparticles using <i>Artemisia vulgaris</i> L., hydrogel by combustion method	Sep 01, 2023
18	Arooba	Synthesis of NiO nanoparticles using <i>Mimosa pudica</i> seed hydrogel for dye degradation	Aug 9, 2024
19	Aleesha Safdar	Synthesis of CuO nanoparticles using <i>Mimosa pudica</i> seed hydrogel for dye degradation	Aug 9, 2024
20	Areeba Maryam Sadiq Ameen	Eco-friendly synthesis of ZnO nanoparticles using jatropha leaf extract for dye degradation	Aug 9, 2024
21	Rimsha Yousaf	Green synthesis of ZnO nanoparticles using jatropha (<i>Jatropha integerrima</i> Jacq.) Leaf extract and their applications in metal sensing	Aug 9, 2024
22	Manaza Hafeez	Green synthesis of CuO nanoparticles using <i>Plantago ovata</i> hydrogel for dye degradation	Aug 9, 2024
23	Maryam Fazal	Green synthesis of ZnO nanoparticles using <i>Plantago ovata</i> mucilage for dye degradation	Aug 9, 2024
24	Maryam Fatima	Self-Crosslinking of Psyllium Husk Gel Using Citric Acid	Jul 04, 2025
25	Tehreem Fatima	Chemical Crosslinking of Psyllium Husk Gel with Pullulan using Citric Acid	Jul 04, 2025
26	Fatima Safdar	Green Synthesis of Silver Nanoparticles, using Leaves Extract of <i>Millettia ovalifolia</i> Kurz	Jul 03, 2025

27	Mariam Tahir	Crosslinking of Aloe vera Hydrogel with Pullulan using Citric Acid	Jul 04, 2025
28	Pamla Sohail	Green Synthesis of Cadmium Nanoparticles using Leaf Extract of <i>Millettia ovalfolia</i> Kurz	Jul 03, 2025

* where I am second supervisor, ** where I am Co-supervisor, RIP: Research in progress

REFERENCES

1. Prof Dr Mohammad Saeed Iqbal, Department of Chemistry, FC College University, Lahore, Ex. Dean, Faculty of Science & Technology, University of Sargodha, Pakistan.
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 2. Prof. Dr Muhammad Sher, Director, Institute of Chemistry, University of Sargodha, Pakistan.
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