

Jamia Millia Islamia (A Central University)

MOHD. MOHSIN, PhD

Name Dr. Mohd. Mohsin
Designation Assistant Professor
Office Address Srinivasa Ramanujan Block
Department of Biosciences
Jamia Millia Islamia
(A Central University)
New Delhi-110025

Telephone - 011-26981717, Extn 74302

Mobile +91-9990736521

Email- mmohsin1@jmi.ac.in E-mail: mohsin4biotech@gmail.com

Field(s) of Specialization

Nano-Biotechnology, Molecular Biology & Metabolic Engineering

Key Words

Molecular Biology, Nanobiotechnology, FRET, Fluorescent Proteins, Exosomes

Research Interest

My research interest focuses on trying to understand and unraveling the molecular events in the cells and developing Genetically Encoded Fluorescence Resonance Energy Transfer (FRET)-based nanosensors. We are trying to use one of the FRET technique to resolve the various biological process and studying the flux of biomolecules. FRET-based nanosensors are now on the horizon that will allow us to quantify local changes of ions, signaling intermediates, and metabolites in real time.

We have developed protein-based, fluorescent sensors that allow us to track amino acids, heavy metals in live cells non-invasively. We are discovering the molecular nature of FRET nanosensors in yeast, animals and plants, and their mode of action. We are also interested in methods for detection and Isolation of extracellular nanovesicles (Exosomes) and their quantification.

Jamia Millia Islamia (A Central University)

Employment Profile

Job Title	Employer	From	To
Guest Faculty (F/o Medicine)	Hamdard University	2013-	2014
Assistant Professor	JMI	July, 2014	To date

Academic Qualifications

Examination	Board /University	Year	Division/Grade	Subjects
AISCE (10 th)	CBSE	2000	1 ST with Distinction
AISSE (12 th)	CBSE	2002	1 ST
B.Sc.	JMI	2006	1 ST	BIOTECHNOLOGY
M.Sc.	JMI	2008	1 ST	BIOSCIENCES
Ph.D.	HAMDARD UNIVERSITY	2014	AWARDED
DS Kothari Postdoctoral Fellowship	JMI	2014	---	---

Academic/Administrative Responsibilities within the University (JMI)

Asstt. Proctor, JMI, (2022- Till date)

Asstt. Dean, Students Welfare, JMI (2019-till date)

Asstt. Director IQAC, JMI (2019-2021)

Member (Elected), Academic Council of JMI (2018--- 2021)

Member, Board of Studies, Department of Biosciences, JMI (2014--- till date)

NAAC-Academic Auditor of University, JMI (2019-2021)

Advisor (CBCS), Department of Biosciences, JMI (2015-2019)

IQAC-Nodal Officer, Department of Biosciences, JMI (2016-2019)

Member, Purchase Committee, Department of Biosciences, JMI (2016-2019)

Warden, School hostels, JMI (2015-2019)

Team Manager of Badminton, Faculty of Natural Sciences in 2017, 2018, 2019.

Tabulator of UG, PG, PhD examination of 2014, Department of Biosciences, JMI.

Member, Standing Committee for Syllabus revision and restructuring, Department of Biosciences, JMI

Academic/Administrative Responsibilities outside the University

Member, Students Research Advisory Committee (SRAC) of Hamdard University,

Jamia Millia Islamia (A Central University)

New Delhi.

Member, Institutional Ethical Committee for Human Research, Satyawati College, Delhi University, New Delhi.

Awards, Associateships

- **JNV Scholarship** from MHRD, Govt. of India in 1995.
- **Qualified joint UGC-CSIR-NET (NATIONAL ELIGIBILITY TEST)** exam under life Sciences scheme in 2008.
- **ICMR-Junior Research fellowship** award in 2009.
- **DST-Travel grant** award to attend the conference in Singapore, in 2012.
- **High Impact Factor** publication award from Hamdard University in 2013.
- **Dr. DS Kothari Post-Doctoral Award** from UGC in 2014.
- **Innovative Research award 2017.**

Fellowships

- **JNV Scholarship from MHRD**, Govt. of India in 1995-2002.
- **ICMR-Junior/Senior Research fellowship** from 2009-2014.
- **Dr. DS Kothari Post-Doctoral Fellowship**, UGC from April-June, 2014.

Details of the Projects as PI

1. **Using FRET-based Nanosensor for *In vivo* Monitoring of the Leucine in Animal Cells**+ Under start up Research Grant scheme from UGC, Govt. of India. (*Completed*)
2. **Construction of Genetically Encoded FRET- based Nanosensor for Monitoring of the Flux of Vitamin B1 and Vitamin B12 in Living Cell**+under Start Up Research Grant (Young Scientist) Scheme of DST-SERB, Govt. of India. (*Completed*)
3. **Designing and construction of genetically encoded FRET-based nanosensors for in vivo monitoring of metal ions in living cells**+of DBT, Govt of India. (*Completed*)
4. **Visualization and monitoring Biotin and Folic Acid using Genetically Encoded FRET- based Nanosensor in Living Cells**+of ICMR, Govt of India. (*Ongoing*)

PhD. Supervised

Ovais Manzoor	Non NET Fellowship (Awarded)
Neha Soleja	UGC-CSIR SRF (Awarded)
Neha Agrawal	DBT-SRF (Awarded)
Reshma Bano	UGC-CSIR JRF (<i>Awarded</i>)
Irfan	CSIR-JRF (<i>Thesis Submitted</i>)
Sana Masroor	Non NET Fellowship (<i>Ongoing</i>)

Jamia Millia Islamia (A Central University)

Zainab Ahmed DST INSPIRE JRF (*Ongoing*)
Anam Wajid UGC-CSIR JRF (*Ongoing*)

PhD. Co-Supervised

Rahila Nazeer (*Thesis Submitted*)
Aman Jyoti (*Ongoing*)
Romana Naz (*Ongoing*)

Postdoctoral Fellow

Dr Neha Soleja, ICMR Research Associate (*Ongoing*)
Dr Preeti Nandal, National PDF from DST-SERB, Govt of India (*Completed*)

M.Sc Project Supervised (Completed) - 25

Details of Academic Work

Courses taught at Postgraduate and Undergraduate levels

BSM-32 M.Sc.-III Sem

BSM-42 M.Sc.-IV Sem

BSB-32 BSc.-III Sem

BSB-65 BSc.-VI Sem

PhD Biosciences Course Work- Bioscience III

Teaching

What I value the most in my teaching experiences comes from direct interactions with the students. To become independent scientists, rather than answer given questions, one has to learn how to find relevant questions based on the fact sets we have in our hands. One of the most important missions of faculties, I believe, is to provide help for students while they undergo such a transition.

Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars

- Poster presentation on *in vivo* metabolite flux measurement using FRET based metabolite sensors in Interdisciplinary science conference- International conference on Interphase between physics and biology, on Dec 2-5, 2010 organized by Jamia Millia University, New Delhi.
- Attended Workshop on Manuscript Writing organized by the faculty of science Hamdard University, New Delhi on October 30, 2010.
- Poster presentation on *In vivo* measurement of leucine using genetically encoded FRET-based biosensor in Focus on Microscopy-2012, conference organized by Focus on Microscopy Society, on April 1-4, 2012 held in Singapore.

Jamia Millia Islamia (A Central University)

- Participated in Workshop on Biomedical Communication on 28th April, 2012 organized by ICMR, New Delhi.
- Oral presentation on FRET-based nanosensor: A new tool to study the processes of life in International conference on environment and human health organized by National Environmental Science Academy on Nov 28-29, 2012 in New Delhi.
- Poster presentation on Genetically encoded FRET-based nanosensor for real time monitoring of methionine in living cell National conference on Recent Trends in Protein Structural Biology from Dec 16-18, 2013 organized by Jamia Millia Islamia, New Delhi.
- Participated and deliver oral talk on Genetically encoded FRET-based nanosensor for *in vivo* monitoring of zinc concentration in physiological environment of living cell National seminar on metal toxicity and oxidative stress from 23rd to 24th Sept, 2014, organized by Department of Biosciences, Jamia Millia Islamia, new Delhi.
- Manzoor O, Bhadauria R, **Mohsin M**, Optimum environmental conditions facilitate the secretion of potent carcinogen-Aflatoxin B₁ by *Aspergillus flavus*, National Seminar on Environmental Toxicology, Department of Biosciences, Jamia Millia Islamia, New Delhi, February 13-14, 2017
- Soleja N, Manzoor O, **Mohsin M**, FRET-based nanosensors for detection of metal ions, National Seminar on Environmental Toxicology, Department of Biosciences, Jamia Millia Islamia, New Delhi, February 13-14, 2017
- Manzoor O, Bhadauria R, **Mohsin M**, *Aspergillus flavus* secretes the most potent carcinogen-aflatoxin B₁ in wheat flours under optimal moisture and temperature conditions, National Seminar on Biophysics (Biophysika), Centre for Interdisciplinary Research in Basic Sciences, New Delhi, March 16, 2017
- Soleja N, Manzoor O, **Mohsin M**, FRET-based nanosensors for detection of Nickel ions, National Seminar on Biophysics (Biophysika), Centre for Interdisciplinary Research in Basic Sciences, New Delhi, March 16, 2017
- Manzoor O, Soleja N, **Mohsin M**, *In vivo* measurement of vitamin B1 levels through genetically encoded FRET based nanosensor, National Seminar on Biotechnology in Healthcare: Challenges and Opportunities, Department of Biotechnology, Hamdard University, New Delhi, March 18-19, 2017
- Soleja N, Manzoor O, **Mohsin M**, Construction of FRET-based nanosensors for *in vivo* measurements of metal ions, National Seminar on Biotechnology in Healthcare: Challenges and Opportunities, Department of Biotechnology, Hamdard University, New Delhi, March 18-19, 2017
- Manzoor O, Soleja N, **Mohsin M**, *In vivo* measurement of vitamin levels through FRET based nanosensor, National Conference on Biotechnology and Environment, Department of Biotechnology, Jamia Millia Islamia, New Delhi, April 10-11, 2017
- Soleja N, Manzoor O, **Mohsin M**, Construction of genetically encoded FRET-based nanosensors for *in vivo* quantification of cobalt ions, National Conference on Biotechnology and Environment, Department of Biotechnology, Jamia Millia Islamia, New Delhi, April 10-11, 2017.

Jamia Millia Islamia (A Central University)

- Nanobioteck 2017, 2nd Annual conference of Indian Society of Nanomedicine from 6-8th Dec, 2017 at IISER, Trivandrum, Kerala. Participated in poster presentation.
- Workshop NanoMed 2018 organized by IIT Delhi in partner with DBT, Govt of India on 16th April, 2018.
- Oral Talk in Focus on Microcopy 2018 held in Singapore from 25 to 28 March, 2018.
- Nanobioteck 2018, 2nd Annual conference of Indian Society of Nanomedicine from 24-28th Oct, 2018 at AIIMS, New Delhi acted as a panelist in panel discussion with Govt of India representatives.
- Oral talk in International Conference on Emerging Areas in Biosciences and Biomedical Technologies (eBBT2) from February 7-9, 2020 organized by IIT Indore.

Invited Talk

- A talk on Engineered genetically encoded FRET-based nanosensors to monitor metabolites in living cells, International Conference on Nanobiotechnology organized by CIRBs, Jamia Millia Islamia, New Delhi, February 5-6, 2018.
- A talk on Genetically encoded FRET-based nanosensors to monitor nutrients. Presented at Department of Food Science & Technology, Chaudhary Devi Lal University, Sirsa, Haryana, 28th March, 2019.

Workshops/ Symposia/ Conferences/ Colloquia /Seminars Organized

1. Treasurer, National Conference on Protein Structure and Dynamics in Health and Agriculture, December 03-04, 2017 organized by Department of Biosciences and Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi.
2. Treasurer, National Conference on RECENT ADVANCES IN BIOLOGICAL SCIENCES (NCRABS-2020) on March 05, 2020 organized by Department of Biosciences Jamia Millia Islamia, New Delhi.

Academic Foreign Visits

1. Singapore to attend the conference Focus on Microscopy-2012. It incorporates:
 - 25th International Conference on 3D Image Processing in Microscopy
 - 24th International Conference on Confocal Microscopy
2. Singapore to attend the conference Focus on Microscopy-2018. It incorporates:
 - 31st International Conference on 3D Image Processing in Microscopy
 - 30th International Conference on Confocal Microscopy

Training/ Orientation / Refresher Programmes

1. 115th four-week Orientation Programme by UGC-HRD Center, Jamia Millia Islamia, New Delhi from April 27th to 25th May, 2016.

Jamia Millia Islamia (A Central University)

2. One Week Induction Programme by UGC-HRD Center, AMU, Aligarh at Jamia Millia Islamia, New Delhi from 16th December to 22nd December 2016.
3. Three Week Refresher course in Life Science by UGC-HRD Center at Centre for Professional Development in Higher Education, University of Delhi, New Delhi, from 17th July to 06th August 2018.
4. Two Week Refresher course in Basic Science by UGC-HRD Center, Jamia Millia Islamia, New Delhi from 5th October to 21st October, 2021.
5. Two Week Refresher course in Natural Science by Teaching Learning Centre, Ramnujan College, Delhi University, New Delhi from 20th September to 4th October, 2021.

Membership of National and International Professional Bodies

Life member, Indian Society of Nanomedicine (ISNM), AIIMS, New Delhi.

Life member, National Academy of Environmental Science (NESA), New Delhi.

Reviewer of the Journals

Current Pharmaceutical Biotechnology

Plos One

Editorial Board Member

EC Proteomics and Bioinformatics

Current Biotechnology

Professional Activity

1. Served as external examiner for Under Graduate practical examination at Department of Botany, AMU Aligarh.
2. Served as external examiner for UG & PG practical examination at Department of Biochemistry, MMA Jauhar University, Rampur.
3. Served as subject panel expert (Judge) for the evaluation of posters presented in International Conference on Nanobiotechnology organized by CIRBSc, JMI, New Delhi.
4. Served as external examiner for UG & PG practical examination at Department of Biochemistry and Department of Biochemistry, Jamia Hamdard, New Delhi.

PATENTS (Published)

1. FRET-based Sensor to Monitor the Arsenic (As³⁺) Dynamics in Single Cells. Filed on 29-12-2018 to Intellectual Property, India. (Published on 03.07.2020)
Patent Application No.: 201811049786
2. A genetically encoded FRET based tool for dynamic sensing of Hg²⁺ in living cells. Filed on 02-11-2018 to Intellectual Property, India. (Published on 08/05/2020)
Patent Application No.: 201811041602
3. A method of development of genetically encoded FRET-based sensor for real time monitoring of exosomes. Filed on 02-12-2022 to intellectual property, India. patent application no.: 202211069663

SELECTED PUBLICATIONS

1. Irfan, Neha Soleja, **Mohd Mohsin**. FRET-based probe for ratiometric detection and imaging of folic acid in real-time. *Analytical Biochemistry*, 2023, 679, 115285. (**Impact Factor: 2.9**)
2. Bano R, Soleja N, **Mohsin M**. Genetically Encoded FRET-Based Nanosensor for Real-Time Monitoring of A549 Exosomes: Early Diagnosis of Cancer. *ACS Analytical Chemistry*. 2023, 95, 5738-46. (**Impact Factor: 7.4**)
3. Irfan, N Soleja, **M Mohsin**. Designing of nanosensor and its applications for spatiotemporal visualization and real time quantification of biotin in biological samples. *Biochemical Engineering Journal*, 2023, 195, 108899. (**Impact Factor: 3.9**)
4. Bano R, **Mohsin M**, Zeyauallah M, Khan MS. Real-Time Monitoring of Selenium in Living Cells by Fluorescence Resonance Energy Transfer-Based Genetically Encoded Ratiometric Nanosensors. *ACS omega*. 2023, 8, 8625-33. (**Impact Factor: 4.1**)
5. Hemmadi V, Biswas M, Mohsin M & Bano R. Biochemical and biophysical analysis of the interaction of a recombinant form of *Staphylococcus aureus* enolase with plasminogen. *Future Microbiology*, 2022, 17, 1455-1473. (**Impact Factor: 3.1**)
6. Nazir R, Mohsin M, Siddiqi TO. Real time optical detection of gold in living cells through genetically-encoded probe. *RSC Advances*, 2022, 12, 23193-23203. (**Impact Factor: 3.4**)
7. Nazir R, Soleja N, Agrawal N, Siddiqi TO and Mohsin M. A Ratiometric Fluorescent Probe Based on FRET for Selective Monitoring of Tungsten in Living Cells. *J of Molecular Structure*, 2022, 1263, 133182. (**Impact Factor: 3.1**)
8. Ali A, Hasan P, Irfan M, Uddin A, Khan A, Saraswat J, Maguire R, Kavanagh K, Patel R, Joshi MC, Azam A, Mohsin M, Haque QMR, Abid M. Development of Oxadiazole-Sulfonamide-Based Compounds as Potential Antibacterial Agents. *ACS Omega*. 2021 6, 27798-27813. (**Impact Factor: 3.5**)
9. Agrawal N, Soleja N, Bano R, Nazir R, Siddiqi TO and **Mohsin M**. FRET-Based Genetically Encoded Sensor to Monitor Silver Ions. *ACS Omega*. 2021, 6, 14164-14173. (**Impact Factor: 3.5**)
10. Singh A, Nenavathu BP, Irfan, **Mohsin M**. Facile synthesis of Te-doped ZnO nanoparticles and their morphology-dependent antibacterial studies. *Chemical Papers*. 2021; 75, 431764326. (**Impact Factor: 2.1**)

11. Bano R, Ahmad F and **Mohsin M**. A perspective on the isolation and characterization of extracellular vesicles from different biofluids. RSC Advances. 2021; 11, 19598. (*Impact Factor: 3.4*)
12. Naz R, Okla MK, Fatima U, **Mohsin, M.**, Soufan, W. H., Alaraidh, I. A., Abdel-Maksoud, M. A., & Ahmad, A. Designing and Development of FRET-Based Nanosensor for Real Time Analysis of N-Acetyl-5-Neuraminic Acid in Living Cells. Frontiers in Nutrition. 2021; 8:621273. (*Impact Factor: 6.6*)
13. Abdulla NK, Siddiqui SI, Fatima B, Sultana R, Tara N, Hashmi AA, Ahmad R, **Mohsin M**, Nirala RK, Linh NT, Bach Q, Chaudhry SA. Silver based hybrid nanocomposite for dye removal: A novel antibacterial material for water cleansing. Journal of Cleaner Production 2020, 124746. (*Impact Factor: 9.3*)
14. Fatima, U.; Okla, M.K.; **Mohsin, M.**; Naz, R.; Soufan, W.; Al-Ghamdi, A.A.; Ahmad, A. A Non-Invasive Tool for Real-Time Measurement of Sulfate in Living Cells. Int. J. Mol. Sci. 2020, 21, 2572. (*Impact Factor: 5.9*)
15. Aneja B, Queen A, Khan P, Shamsi F, Hussain A, Hasan P, Rizvi MA, Alajmi MA, Mohsin M, Hassan MI, Abid M., Design, synthesis & biological evaluation of ferulic acid-based small molecule inhibitors against tumor-associated carbonic anhydrase IX. Bioorganic & Medicinal Chemistry, 2020, 115424. (*Impact Factor: 3.6*)
16. Soleja N, Irfan, **Mohsin, M**. Ratiometric imaging of flux dynamics of cobalt with an optical sensor. Journal of Photochemistry and Photobiology A: Chemistry, 2020, 400, 112699. (*Impact Factor: 4.3*)
17. Soleja N, Agrawal N, Nazir R. Ahmad M, **Mohsin M**. Enhanced sensitivity and detection range of FRET-based vitamin B₁₂ nanosensor. 3 Biotech, 2020, 10, 87. (*Impact Factor: 2.4*)
18. Soleja N, Jairajpuri MA, Queen A, **Mohsin M**. Genetically encoded FRET-based optical sensor for Hg²⁺ detection and intracellular imaging in living cells. Journal of Industrial Microbiology & Biotechnology, 2019, 46, 166961683 (*Impact Factor: 3.4*)
19. Soleja N; Manzoor O; Khan P and **Mohsin M**. Engineering genetically encoded FRET-based nanosensors for real time display of arsenic (As³⁺) dynamics in living cells. Scientific Reports, 2019, 9, 11240. (*Impact Factor: 4.4*)
20. Soleja N and **Mohsin M**. Real time quantification of intracellular nickel using genetically encoded FRET-based nanosensor. International Journal of Biological Macromolecules, 2019, 138, 6486657. (*Impact Factor: 6.9*)

21. Manzoor O, Soleja N, Khan P, Hassan MI and **Mohsin M**. Visualization of thiamine in living cells using genetically encoded fluorescent nanosensor. *Biochemical Engineering Journal*, 2019, 146, 170-178. (*Impact Factor: 3.9*)
22. Soleja N; Manzoor O; Nandal P and **Mohsin M**. FRET-based nanosensors for monitoring and quantification of alcohols in living cells. *RSC Organic & Biomolecular Chemistry*, 2019 17, 2413-2422. (*Impact Factor: 3.9*)
23. Sharf Ilahi Siddiqui, Ovais Manzoor, **Mohd Mohsin**, Saif Ali Chaudhry. Nigella sativa seed based nanocomposite-MnO₂/BC:An antibacterial material for photocatalytic degradation, and adsorptive removal of dye from water. *Environmental Research*, 2018, 171:328-340. (*Impact Factor: 6.5*)
24. Neha Soleja, Ovais Manzoor, Imran Khan, Altaf Ahmad, **Mohd Mohsin**. Role of green fluorescent proteins and their variants in development of FRET-based sensors. *Journal of Biosciences*, 2018, 1-22. (*Impact Factor: 1.8*)
25. Manzoor O; Soleja N; **Mohsin M**. Nanoscale gizmos ó the novel fluorescent probes for monitoring protein activity. *Biochemical Engineering Journal* 2018, 133:83695. (*Impact Factor: 3.9*)
26. Ahmad A; **Mohsin M**; Iqrar S; Manzoor O; Siddiqi TO; Ahmad A. Live cell imaging of vitamin B12 dynamics by genetically encoded fluorescent nanosensor. *Sensors and Actuators B: Chemical*. 2018, 257:8666874. (*Impact Factor: 7.5*)
27. Rayees A. Bhat, D. Kumar, Manzoor A. Malla, Sami U. Bhat, Md Shahzad Khan, O. Manzoor, A. Srivastava, Rawoof A. Naikoo, **Mohd Mohsin**, Muzzaffar A. Mir Synthesis, characterization, computational studies and biological evaluation of S-benzyl-b-N-[3-(4-hydroxy-3 methoxyphenyl)allylidene]] dithiocarbazate. *Journal of Molecular Structure*. 2018, 1156: 280e289. (*Impact Factor: 3.2*)
28. Alam MS, Garg A, Pottoo FH, Saifullah MK, Tareq AI, Manzoor O, **Mohsin M**, Javed MN. Gum ghatti mediated, one pot green synthesis of optimized Gold nanoparticles: Investigation of process-variables impact using Box-Behnken based statistical design. *International Journal of Biological Macromolecules*. 2017,104, 7586 767. (*Impact Factor = 6.9*)
29. Manzoor O, Bhadauria R, **Mohsin M**. Colossal contagion of wheat flours with aflatoxigenic fungus aspergillus flavus. Feb 2017 National Conference on Clean and Green Energy, NCGE-2017.
30. Ameen, S; Ahmad, M; **Mohsin, M**; Qureshi, M. I.; Ibrahim, M. M; Abdin, M. Z; Ahmad, A. Designing, construction and characterization of genetically encoded FRET-based nanosensor for real time monitoring of lysine flux in living cells. *BMC Journal of Nanobiotechnology*. 2016, 14, 49. (*Impact Factor = 10.4*)

31. **Mohsin, M.**, Ahmad, A., Iqbal, M. FRET-based genetically-encoded sensors for quantitative monitoring of metabolites. *Biotechnology letters*. 2015. 37, 1919-1928. (*Impact Factor = 2.5*)
32. **Mohsin, M.**, Diwan, H., Khan, I., & Ahmad, A. Genetically encoded FRET-based nanosensor for *in vivo* monitoring of zinc concentration in physiological environment of living cell. *Biochemical Engineering Journal*. 2015, 102, 62-68. (*Impact Factor = 3.9*)
33. Ahmad, R; **Mohsin, M**; Ahmad, T; Sardar, M. Alpha amylase assisted synthesis of TiO₂ nanoparticles: Structural characterization and application as antibacterial agents. *J. Hazard. Mater.* 2015, 283, 1716177. (*Impact Factor = 10.6*)
34. **Mohsin, M**; Ahmad A. Genetically-encoded nanosensor for quantitative monitoring of methionine in bacterial and yeast Cells. *Biosensors and Bioelectronics*. 2014, 59, 358-364. (*Impact Factor =10.6*)
35. **Mohsin, M**; Abdin, MZ; Nischal, L; Kardam, H; Ahmad, A. Genetically encoded FRET-based nanosensor for *in vivo* measurement of leucine. *Biosensors and Bioelectronics*. 2013, 50, 72-77. (*Impact Factor =10.6*)
36. Nischal, L; **Mohsin, M**; Khan, I; Kardam, H; Wadhwa, A; Abrol, YP; Iqbal, M; Ahmad, A. Identification and Comparative Analysis of MicroRNAs Associated with Low-N Tolerance in Rice Genotypes. *PLoS ONE*. 2012, 7, e50261. (*Impact Factor = 3.5*)
37. Chaudhary, AA; Hemant, **Mohsin, M**; Ahmad, A. Application of loop mediated isothermal amplification (LAMP)-based technology for authentication of *Catharanthus roseus* (L.) G. Don. *Protoplasma*. 2011, 249:417-22. (*Impact Factor = 3.4*)

Books Published

Nanobiosensors for Agricultural, Medical and Environmental Applications. Springer, Singapore. 2020; ISBN 978-981-15-8346-9
Editors: Mohsin, Mohd., Naz, Ruphi, Ahmad, Altaf

Book Chapters

1. **Mohd. Mohsin**, Altaf Ahmad, Mohamad Aman Jairajpuri, Razi Ahmad (2015) FRET Based Genetically-Encoded Nanosensor: A Tool for *in vivo* Monitoring of the Amino

Acid Dynamics. Bhupendra Singh (ed) Nanotechnology: Novel Perspectives and Prospects, pp. 370-377, Tata McGraw Hill, ISBN: 93-392-2109-5.

2. Soleja N, **Mohsin M** (2020). Opportunities for Real-Time Monitoring of Biomolecules Using FRET-Based Nanosensors. In: Nanobiosensors for Agricultural, Medical and Environmental Applications, (Eds Mohsin, M., Naz, R, Ahmad, A). Springer, Singapore, DOI: 10.1007/978-981-15-8346-9.
3. Nazir R, **Mohsin M**, Nehra M, Siddiqi TO (2020). Genetically Encoded Nanobiosensors for Nutrients and Their Applications. In: Nanobiosensors for Agricultural, Medical and Environmental Applications, (Eds Mohsin, M., Naz, R, Ahmad, A). Springer, Singapore, DOI: 10.1007/978-981-15-8346-9.
4. Agrawal N, Mohsin M (2020). Probes for Detection of Free Radicals. In: Nanobiosensors for Agricultural, Medical and Environmental Applications, (Eds Mohsin, M., Naz, R, Ahmad, A). Springer, Singapore, DOI: 10.1007/978-981-15-8346-9.

Conflict of interest. I declare no conflict of interest.

Mohd. Mohsin
24/09/2022