

PERSONAL INFORMATION



PEER ABDUL HASEEB SHAH

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Sex:Male| Date of birth:23/03/1984| Nationality:Indian

PRESENT POSITION

Presently, I serve as Assistant Professor at the University of Kashmir, Srinagar. I completed my Ph.D. on the topic entitled “Structural and Functional studies of Multidrug Resistance Proteins of Pathogenic *Candida*.” After my thesis submission, I worked as a Post-doctoral research fellow at the School of Life Sciences, Jawaharlal Nehru University, New Delhi. Concurrently, I was sanctioned the DST-INSPIRE Faculty award under which I started working at the University of Kashmir. Subsequently, I started my independent research with a few people in my group working under a couple of national-level research projects. My research interests are focused mainly on understanding the basic biology, drug resistance, and regulation of membrane protein levels by various post-translational events in human pathogenic fungi, mostly belonging to the genus *Candida*. We also try to understand the drug resistance mechanisms adopted by different local clinical isolates of human pathogenic fungi. Besides research, I regularly teach various courses to Master’s level students at the University of Kashmir, Srinagar. In addition to research and teaching at university, I also serve as the American Society for Microbiology (ASM) Young Ambassador to India, wherein we try to advance the knowledge about microbial sciences locally.

ACADEMIC DETAILS

2020-present	Assistant Professor University of Kashmir, Srinagar-190006, India
2015-2020	DST-INSPIRE Faculty (28-10-2015 to 27-10-2020) University of Kashmir, Srinagar-190006, India
2014-2015	Postdoctoral Research Fellow Jawaharlal Nehru University, New Delhi-110067
2008-2014	Ph. D. Life Sciences Jawaharlal Nehru University, New Delhi-110067
2006-2008	M. Sc. Biotechnology University of Kashmir
2003-2005	B. Sc. with Biochemistry ICSC Srinagar, University of Kashmir

ACADEMIC ACHIEVEMENTS AND FELLOWSHIPS

- Received DBT-MSc. Scholarship for two years of my MSc. Programme
- **Gold Medallist** MSc. Biotechnology, Kashmir University, J&K, 2008
- Qualified **DBT-JRF** Examination, the year 2008 and 2009
- Qualified **CSIR-NET-JRF**, Life Sciences, Dec. 2008
- Qualified **Ph.D. Life Sciences, Jawaharlal Nehru University**, New Delhi, 2008
- Received **Registration Waiver Grant from 4thFEBS special meeting ABC2012 organizers** to attend and present a poster in ABC Meeting held at Innsbruck, Austria, from 03 Mar 2012 to 09 Mar 2012.
 - Received **CSIR-Foreign Travel Grant** to attend and present a poster in ABC Meeting held at Innsbruck, Austria, from 03 Mar 2012 to 09 Mar 2012
- Received **International Travel Support (ITS) from DST-India** to attend and present a poster in 5thFEBS Advanced Lecture Course Human Fungal Pathogens held at Nice, France, during May 25-31, 2013
- My work was selected for oral presentation in **12thASM Conference on Candida and Candidiasis** held in New Orleans, Louisiana, USA, March 26 – 30, 2014, and received the following fellowships/assistance to attend the same:
 - Received **Foreign Travel Grant from ICMR-India** to deliver an oral talk and present a poster in 12thASM Conference on Candida and Candidiasis held in New Orleans, Louisiana, USA, March 26 – 30, 2014
 - Received **JNU Corpus Fund from Jawaharlal Nehru University (JNU)**, New Delhi, for participation in 12thASM Conference on Candida and Candidiasis held in New Orleans, Louisiana, USA, March 26 – 30, 2014
 - Received **partial assistance from Indian National Science Academy (INSA)**, New Delhi, for participation in 12thASM Conference on Candida and Candidiasis held in New Orleans, Louisiana, USA, March 26 – 30, 2014
- Received **ASM travel expenses for young scientists** to deliver an oral talk and present a poster in 12th ASM Conference on Candida and Candidiasis held in New Orleans, Louisiana, USA, March 26 – 30, 2014
- Was appointed as **Senior Research Fellow** from July 2014 to January 2015 in DBT funded project “Mutational analysis of multidrug ABC transporter to dissect the mechanism of drug efflux” at School of Life Sciences, Jawaharlal Nehru University, New Delhi
- My work was selected for oral presentation in “**9th Congress of the International Society for Human and Animal Mycology (ISHAM)**”, Australia, May 4–8, 2015, and received **CSIR-Foreign Travel Grant** to attend the same.
- Was awarded **CSIR Research Associateship** vide file number No.212232/2K14/1, June 2015.
- Was appointed as **Young Ambassador to India by the American Society for Microbiology** for the year 2020-2021
- Received **Bill & Melinda Gates Foundation Travel Award for Scientists from Low and Low-Middle Income Countries** covering registration expenses to attend **World Microbe Forum, June 20-24, 2021**, a joint digital between **ASM Microbe 2021 and FEMS Congress 2021**.

→Received **CSIR-Senior Research Associate Award** (CSIR-Scientists Pool Scheme) vide file No. B-12797 in Life Sciences, June 2021

→Received DBT travel grant to attend the **ASM Microbe 2022**” meeting as an **ASM Young Ambassador to India** held at Washington D.C, USA from June 9-13, 2022

→Was awarded **CSIR-Foreign Travel Grant** to attend the **ASM Microbe 2022**” meeting as an **ASM Young Ambassador to India** held at Washington D.C, USA from June 9-13, 2022

→Was awarded **European Molecular Biology Organization (EMBO) Travel and registration fee waivers grants** to attend the EMBO Workshop “Membrane transporters as essential elements of cellular function and homeostasis” 23 – 27 August 2022 at Chania, Greece

RESEARCH PROJECTS

SANCTIONED:

S. No/ No.	Title	Funding Agency	Cost
1.F.4-2/2006(BSR)/BL/1415/0126	Novel insights into.... multidrug ABC transporter Cdr1p	University Grants Commission	20 lakh (approx.)
2. DST/INSPIRE/04/2015/001575	Drug resistance in fungi... PTM of membrane proteins	Department of Science and Technology (DST-INDIA)	35 lakh + Salary grant
3. ECR/2016/000463	Clinical drug-resistant strains drug resistance and drug tolerance	Science & Engineering Res. Board (SERB-INDIA)	42 lakh (approx.)
4. B-12797	Mechanistic studies of drug resistance and human fungal pathogen <i>C. auris</i>	Council of Scientific and Industrial Research (CSIR-INDIA)-	30 lakh (approx.)

PUBLICATIONS

Research Articles:

- Novel Role of a Family of Major Facilitator Transporters in Biofilm Development and Virulence of *Candida albicans*. **Shah AH**, et al. *Biochem. J.* (2014) 460: 223–235. (IF-3.76)
- Mutational Analysis of Intracellular Loops Identify Cross Talk with Nucleotide Binding Domains of the Yeast ABC Transporter Cdr1p. **Shah AH**, et al. *Sci Rep.* (2015) 5:11211. (IF-4.99)
- ABC transporter Cdr1p harbors charged residues in the intracellular loop and nucleotide-binding domain critical for protein trafficking and drug resistance. **Shah AH**, et al. *FEMS Yeast Res* (2015) 15, fov036. (IF-2.92)
- In Vitro Effect of Malachite Green on *Candida albicans* Involves Multiple Pathways and Transcriptional Regulators *UPC2* and *STP2*. Dhamgaye S, Devaux F, Manoharlal R, Vandeputte P, **Shah AH**, et al. *Antimicrob Agents Chemother.* (2012) 56:495-506. (IF-5.93)

- Alanine scanning of all cysteines and construction of a functional cysteine-less Cdr1p, a multidrug ABC transporter of *Candida albicans*. Prasad R, **Shah AH**, et al. *Biochem Biophys Res Commun.* (2012) 417:508–513. (IF-3.32)
- Newly identified motifs in *Candida albicans* Cdr1 protein NBDs are PDR subfamily-specific and functionally asymmetric. Rawal MK, Banerjee A, **Shah AH**, et al. *Sci Rep* (2016) 6: 27132. (IF-4.99)
- W1038 near D-loop of NBD2 is a focal point for inter-domain communication in multidrug transporter Cdr1 of *Candida albicans*. Banerjee A, **Shah AH**, et al. *Biochem Biophys Acta-Biomembranes* (2018) 1860:965-972. (IF-4.01)
- Molecular Basis of Substrate Polyspecificity of the *Candida albicans* Mdr1p Multidrug/H+ Antiporter. Redhu AK, Banerjee A, **Shah AH**, et al. *J Mol Biol.* (2018) 430:682-694. (IF-6.15)
- Bioactivities and chemoprofiling comparisons of *Chenopodium Ambrosioides L.* and *Chenopodium Botrys L* growing in Kashmir, India. Shameem SA, Khan KZ, Waza AA, **Shah AH**, et al. *Asian J Pharm Clin Res.* (2019) 12:124-9.
- Chemical Profile and Biological Activities of Essential Oil from Flowers of *Artemisia dubia Wall. ex Bess.* Growing Wild in Western Himalaya, India Shameem SA, Khan KZ, Waza AA, Banday AH, Ramzan A, **Shah AH**, et. al. *Asian Journal of Chemistry* (2019) 31:1762-1766
- Identification of Genome Wide Alternative Splicing Events in Sequential, Isogenic Clinical Isolates of *Candida albicans* Reveals a Novel Mechanism of Drug Resistance and Tolerance to Cellular Stresses. Muzafar S, Sharma RD, **Shah AH**, et. al. *mSphere* (2020);5:e00608-20 (IF-5.02)
- Quinidine Drug Resistance transporter Knockout *Candida* cells modulate glucose transporter expression and accumulate metabolites leading to enhanced azole drug resistance. Qadri, H., **Shah, A. H.**, et. al. *Fungal Genet Biol.*(2022);161:103713 (IF-3.88)
- β -Nitrostyrene derivatives as broad range potential antifungal agents targeting fungal cell wall. Ramzan A., Padder S.A., Masoodi K.Z., Shafi S., Tahir I., Rehman R., Prasad R., **Shah A.H.** *Eur J Med Chem.* (2022);240:114609 (IF-7.088)

Review Articles:

- Antifungals: Mechanism of Action and Drug Resistance. Prasad R, **Shah AH**, Rawal MK. *Membrane Transport in Yeast. In: Advances in Experimental Medicine and Biology*, (2016) 892: 327-349. Springer International Publishing Switzerland. Ed. José Ramos, Hana Sychrova and Maik Kschischo (IF 3.65)
- *Candida* Efflux ATPases and Antiporters in Clinical Drug Resistance. Prasad R, Rawal MK, **Shah AH**. *Membrane Transport in Yeast. In: Advances in Experimental Medicine and Biology*, (2016) 892: 351-376. Springer International Publishing Switzerland. Ed. José Ramos, Hana Sychrova and Maik Kschischo (IF 3.65)

- MFS transporters of *Candida* species and their role in clinical drug resistance. Redhu AK, **Shah AH** and Prasad R. *FEMS Yeast Res.* (2016) 16. pii: fow043 (IF-2.92)
- Resistance to antifungal therapies. Prasad R, Banerjee A, **Shah AH**. *Essays in Biochemistry* (2017) 61:157-166 (IF-7.25)
- Quorum sensing: A less known mode of communication among fungi. Padder SA, Prasad R, **Shah AH***. *Microbiol Res.* (2018) 210:51-58 (IF-5.07)
- Novel strategies to combat the emerging drug resistance in human pathogenic microbes. Qadri H, **Shah AH***, Mir MA. *Current Drug Targets* (2021) 22, 1-13 (IF-2.93)
- Glucose-The X-factor for the survival of human fungal pathogens and disease progression in host. Qadri H, Qureshi MF, Mir MA*, **Shah AH*** *Microbio. Res* (2021) 247, 126725. (IF-5.07)
- Metabolic flexibility and extensive adaptability governing multiple drug resistance and enhanced virulence in *Candida albicans*. Padder SA, Ramzan A, Tahir I, R Reiaz ul, **Shah AH***. *Crit Rev Microbiol.* (2022);48:1-20 (IF-7.39)
- Natural Products And Their Semi-synthetic Derivatives Against Antimicrobial-resistant Human Pathogenic Bacteria and Fungi. Qadri H., **Shah A.H.**, Andrabi S.M., Alshehri B., Almilaibary A., Mir M.A. *Saudi J Biol Sci.* (2022);29:103376. (IF-4.05)

Book Chapters:

- Mechanism of drug resistance in fungi and their significance in biofilms. Prasad R, **Shah AH**, Dhamgaye S. In: *Antibiofilm Agents: From Diagnosis to Treatment and Prevention, Part I* (2014) 8: 45-65. Springer Berlin Heidelberg 2014. Ed. K.P. Rumbaugh and I. Ahmad.
- Tools and Techniques to study Multidrug Transporters of Yeasts. **Shah AH**, et al. In: *Modern Tools and Techniques to Understand Microbes.* (2017) doi: 10.1007/978-3-319-49197-4_12 pp183-207. Springer International Publishing AG. Ed. A. Varma, A.K. Sharma.
- Combating human fungal infections. Mir, M. A., Qadri, H., Aisha, S., & **Shah, A. H.** (2022). *Human Pathogenic Microbes*, 103-128.
- Role of immunogenetics polymorphisms in infectious diseases. Qadri, H., **Shah, A. H.**, & Mir, M. A. (2022). In *A Molecular Approach to Immunogenetics* (pp. 169-191). Academic Press.

CONFERENCES

ATTENDED

- Participated in “International Symposium on Genomic Instability and Cancer”, Organized jointly by the DBT, Kashmir University, Department of Medical Oncology, SKIMS Srinagar,z and The Ohio State University, USA held at Srinagar Kashmir, India from July 22-26, 2007.
- Participated in international conference; “28th Small Meeting on Yeast Transporters and Energetics (SMYTE)”, New Delhi India, 2010.

- Presented a **poster** in “The Indian Proteomics conference” held at Jawaharlal Nehru University, New Delhi from 3rd to 5th April 2011.
- Presented a **poster** in 81st Society of Biological chemist’s conference organized by SBCI India Nov. 2011.
- Presented a **poster** in 4th FEBS Special meeting on ATP Binding Cassette (ABC) proteins: From Multidrug resistance to Genetic Diseases, held at Innsbruck, Austria from 3rd to 9th March 2012.
- Presented a **poster** in “The 5th FEBS Advanced Lecture Course, Human Fungal Pathogens: Molecular Mechanisms of Host-Pathogen Interactions and Virulence”, held at La Colle sur Loup, Nice, France from May 25-31, 2013.
- Presented a **poster** in an international meeting “20 years of CDR1 Research” organized by School of Life Sciences, Jawaharlal Nehru University, held at Hotel Crowne Plaza, Rohini, New Delhi from 4-7 Jan 2014
- Delivered an **oral talk** in Biosparks 2014 meeting held in School of Life Sciences, JNU, New Delhi, March 21st – 22nd, 2014
- Delivered an **oral talk** and presented a poster in 12th ASM Conference on Candida and Candidiasis, organised by ASM held in New Orleans, Louisiana, USA, March 26 – 30, 2014
- Participated in 3-day lecture programme on Mathematical Modelling of Biological Systems organised by Dept. of Mathematics, University of Kashmir, Srinagar, India April 2-4, 2015
- Delivered an **oral talk** in the “9th Congress of ISHAM, held in Melbourne, Australia, May 4–8, 2015.
- Presented a **poster** in “9th Young Investigators Meeting (YIM-2017)” held in Goa, India, March 6-10, 2017
- Presented a **poster** in “35th SMYTE meeting”, held at Amity University, Gurgaon, India, Sep 17-21, 2017
- Participated in “10th Conference on Yeast Biology” held at JNU, New Delhi, India, February 8-11, 2018
- Presented a **poster** in “1st DBT/DST Joint Conclave meeting” held at Jaipur, India, June 8-10, 2018
- Participated in First Annual Research Meet: Recent Trends in Cell & Molecular Biology held at University of Kashmir, Jammu and Kashmir, India, March 19-20, 2019.
- Delivered an **oral talk** in the “60th Annual Conference of AMI” held at CUH, India, November 15-18, 2019.
- Presented a **poster** in “World Microbiome Forum meeting 2021” held online worldwide and organized jointly by ASM and FEMS from June 20-24, 2021.
- Participated in the “**ASM Microbe 2022**” meeting as an **ASM Young Ambassador to India** held at Washington D.C, USA from June 9-13, 2022.
- Presented a **poster** in the EMBO Workshop “Membrane transporters as essential elements of cellular function and homeostasis held in Chania, Greece from August 23 – 27, 2022.

MEMBERSHIPS TO THE SCIENTIFIC SOCIETIES

- The lifetime member of the Society of biological chemists, India (SBCI). Membership no. 2951
- Post-doctoral member of the American Society for Microbiology (ASM), USA. Membership no. 41786450
- Student member of International Society for Human and Animal Mycology (ISHAM). Membership no. 3005
- Lifetime member of Association of Microbiologists of India, (Membership No. 4839-2019)
- Lifetime member of Microbiologists Society, India, (Membership No. MS/LM/655)

MASTERS PROJECTS GUIDED

Have guided the following students for their MSc. dissertation programme

- “Site directed mutagenesis of Cdr1p an ABC transporter of *Candida albicans*” by Vikash Kumar Gupta
- “Mutational analysis of ICL2 of Cdr1p, an ABC multidrug transporter of *Candida albicans*” by Rashmi Pathak
- “Characterization of some mutants of ICL3 in Cdr1p, an ABC multidrug transporter of *Candida albicans*” by Shivangee Bansal
- “Alanine scanning mutagenesis of amino acid residues of Cdr1p, an ABC multidrug transporter of *Candida albicans*” by Mahima Jaiswal
- “Role of interdomain communication in the transport function/localization of multidrug ABC transporter Cdr1p of *Candida albicans*” by Preeti
- “Effect of novel compounds on the growth of drug-resistant human pathogenic fungi” by Muteeba Mushtaq Dedmari, Subrina Gulzar, and Gousia Amin
- “Activity of some novel Beta-Nitostyrenes against the growth of human pathogenic fungi” by Arfa, Ulfat Rashid, and Insha Hasaan
- “Generation of reactive oxygen species and its scavenging in living systems” by Mehrajul Nisa, Shikha Pandita, Shaista Manzoor, and Farhat Sharief
- “*Candida* and pathogenesis in human hosts, a systematic analysis” by Saleeka Yaseen, Ulfat Jan, and Mohammad Usman

REFERENCES

- Prof. Rajendra Prasad
Dean, Faculty of Science, Engineering and Technology; Director, Amity Institute of Integrative Sciences and Health and Amity Institute of Biotechnology; Amity University Haryana, Gurgaon, India

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- Prof. Mohd. Ayub Qadri

National Institute of Immunology, New Delhi, India
ayub@nii.ac.in

- Prof. Shyamal K. Goswami

School of Life Sciences, Jawaharlal Nehru University, New Delhi
skgoswami@mail.jnu.ac.in

- Prof. Inayatullah Tahir

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