



# Ajeenkya D Y Patil University

D Y Patil Knowledge City, Charholi Bk. Via Lohegaon, Pune – 412 105 (MH) INDIA

## FACULTY PROFILE



**NAME:** Dr. Mohammed Shabab

**DESIGNATION:** Associate Professor

**E-MAIL:** shabab.mohammed@adypu.edu.in

**QUALIFICATION:** PhD

### BIOGRAPHY:

Dr Mohammed Shabab holds a Ph.D. from a joint program at the National Chemical Laboratory, Pune, India, and the Max Planck Institute for Plant Breeding Research, Cologne, Germany. With fifteen years of combined teaching and research experience as a staff scientist and faculty member at various institutes, he is deeply engrossed in exploring the biotic interactions of living systems. Following his postdoctoral tenure, he joined the Massachusetts Institute of Technology (MIT), USA, as a staff scientist, delving into signaling and bactericidal cysteine-rich peptides. He continues his research on signaling in *S.meliloti*-*Medicago* Interactions and Antimicrobial Peptides. Beyond research, he passionately teaches undergraduate courses, including Analytical Techniques, Foundation in Biology and Biotechnology, and Genetic Engineering.

Students Project Guided: BE/PhD

**CORE COMPETENCY AREAS:** Biotechnology, Host-microbe interactions, Antimicrobial peptides, Nitrogen Fixation

### PUBLICATIONS:

1. Chatterjee, N.; D'Souza, S.; **Shabab, M.**; Hilinski, G. Verdine, G.; Walker, G. A Stapled POL  $\kappa$  Peptide Targets REV1 to Inhibit Mutagenic Translesion Synthesis." **Environ Mol Mutagen**, 2020 Oct;61(8):830836
2. Arnold, M.; Penterman, **Shabab, M.**; Chen, E. and Walker, GC. Important late stage symbiotic role of the *Sinorhizobium meliloti* exopolysaccharide succinoglycan **J. Bacteriol.** 2018 JB.00665-17, doi:10.1128/JB.00665-17
3. Arnold, M.; **Shabab, M.**; Penterman, J.; Griffiths, J.; VanYperen, R.; Walker, GC. Effect of *Sinorhizobium meliloti* cell envelope components on fitness during the legume symbiosis. **mBio** 2017, 8:e01060-17.
- 4 Shindo, T.; Kaschani, F.; Kovács J.; Tian F.; Hong N.; Colby T.; **Shabab, M.**; Chawla, R.; Kumari, S.; Ilyas, M.; Hörger, A.; van der Hoorn, R. Screen of non-annotated small secreted proteins of *Pseudomonas syringae* reveals a virulence factor that inhibits tomato immune proteases. **PLoS Pathogen**, 12(9):e1005874. doi:10.1371/journal.ppat.1005874
- 5 **Shabab, M.**; Arnold, M.; Penterman, J.; Wommack, A.; Nolan, E.; Walker, G. Disulfide crosslinking influences symbiotic activities of nodule peptide NCR247. **PNAS** 2016, 113:10157-10162.

6. Price, P.; Houston, T.; **Shabab, M.**; Walker, G.; Griffith, J. Rhizobial peptidase that cleaves host-encoded signaling peptides and mediates compatibility. **PNAS**, **2015**, 112:15244-15249.
7. **Shabab, M.**; Khan, S.; Vogel, H.; Boland, W. OPDA Isomerase GST16 is involved in phytohormone detoxification and insect development. **FEBS Journal** **2014**, 281, 2769–2783.
8. **Shabab, M.**; Shindo, T.; Gu, C.; Kaschani, F.; Pansuriya, T.; van der Hoorn, R.A. Fungal Effector Protein AVR2 Targets Diversifying Defense-Related Cys Proteases of Tomato. **The Plant Cell**, **2008**, 20: 11691183.
9. **Shabab, M.**; Kulkarni, M.J.; Khan, M.I. Determination of binding constant of cystatin for papain by Intensity Fading MALDI-TOF. **The Protein Journal**, **2008**, 27: 7–12.
10. **Shabab, M.**; Kaschani, F.; Bozkurt, T.; Shindo, T.; Gu, C.; Schornack, S.; Ilyas M.; Kamoun, S.; van der Hoorn, R.A. L. An effector-targeted protease contributes to defense against *Phytophthora infestans* and is under diversifying selection in natural hosts. **Plant Physiology**, **2010**, 154: 1794 - 1804.

### **ACHIEVEMENTS/AWARDS/RECOGNITIONS:**

- 1. Human Frontier Science Program postdoctoral award**
- 2. Alexander von Humboldt Research Fellowship**
- 3. CSIR-JRF and GATE qualified**

### **SEMINARS / WORKSHOPS / CONFERENCES ATTENDED:**

<b>Sr. No</b>	<b>Workshop/Seminar/ FDP Name</b>	<b>Organization</b>	<b>Duration</b>
1.	AGRICULTURAL BIOTECHNOLOGY	MICROBIOLOGISTS SOCIETY, INDIA	1 day
2.	NATIONAL INTELLECTUAL PROPERTY AWARENESS MISSION	Intellectual Property Office, India	1 day
3	“University Leadership Development”	School of Engineering, ADYPU	2 day
4.,	Unlock Your Human Potential : A Journey From Campus to Professional success	CSC Council	1 day

### **PROFESSIONAL BODY MEMBERSHIP**

- 1. Microbial Society of India**