Unnati Sonawala

Contact Information

us275@cam.ac.uk

Education

Virginia Tech, Virginia, USA
PhD, Plant Pathology and Physiology 2014-2019

University of Warwick, Coventry, England
M.Sc.(dual degree with B. Tech) Food Security (Distinction) 2012-2013

SRM University, Chennai, India
B.Tech Biotechnology (Distinction) 2009-2013

Research and Teaching Experience

University of Cambridge
Postdoctoral Researcher 2023-
Project: Identiying and characterizing immune receptor networks in Sweet Potato.
Supervisor: Dr. Lida Derevnina

Postdoctoral Researcher 2019-2023
Project: The juxtaposition of variability and stability in the HYP effectors of potato cyst nematodes.
Supervisor: Dr. Sebastian Eves-van den Akker

Undergraduate Supervisor Spring 2022
Supervised small-group sessions for the Plant and Microbial Sciences course.

Virginia Tech
Research Assistant 2015-2019
Project: Understanding the role of host amino acid transporters in nutrient acquisition by oomycete pathogens
Supervisors: Dr. John M. McDowell and Dr. Guillaume Pilot

Teaching Assistant Fall 2017
Assisted in organizing a plant science project for high school students

Teaching Assistant Fall 2016
Assisted in teaching plant pathology lab

Undergraduate mentor 2016-17, 2018
Supervised two undergraduate researchers

University of Warwick
Graduate Researcher 2013
Project: Innate immunity in *Arabidopsis thaliana* for future control of black rot resistance in vegetable brassicas
Supervisor: Dr. Eric Holub

Honors and Awards

Postdoctoral Affiliate, Trinity College, Cambridge, UK
Arthur J. Weber graduate student of the year award (2018), Department of Plant Pathology, Physiology and Weed Science, Virginia Tech
Bruce W. Perry tuition scholarship (2015), Department of Plant Pathology, Physiology and Weed Science, Virginia Tech

Leadership and Memberships

Ambassador to The British Society for Plant Pathology (April 2023 -)

Co-organizer of Young Nematologists' Network (May 2022 -)

- Established in May 2022 with other early career researchers and PhD students in Nematology across Europe to connect and enable early career researchers in the field around the world. The network has been organizing a monthly seminar and workshop series since August 2022.

Member of Virtual Nematology Conference organization committee (May 2021), European Society of Nematology

- Helped organize a three day virtual symposium for PhD students and postdoctoral researchers in Nematology.

Student recruitment chair of graduate student organization (2017-18), Translational Plant Science, Virginia Tech

- Helped organize recruitment weekend for incoming graduate students

President of graduate student organization (2017), Department of Plant Pathology, Physiology and Weed Science, Virginia Tech

- Organized departmental mini-symposium
- Arranged student activities and gatherings

Vice-president of graduate student organization (2016), Department of Plant Pathology,Physiology and Weed Science, Virginia Tech Physiology and Weed Science, Virginia Tech

Grants And Competitions

BBSRC Flexibility Talent Mobility Account Award (2023)

Travel Award, International Congress of Nematology, Antibes, France (2022)

Best Elevator Talk, Translational Plant Science Symposium, Virginia Tech (2018)

Travel Award, North American Mass Spectrometry Summer School, University of Wisconsin, Madison (2018)

Best Basic Science Poster Award, Plant Pathology, Physiology and Weed Science mini-symposium (2017)

Research Grant, Translational Plant Science Grant Competition, Virginia Tech (2017)

Research Grant, Translational Plant Science Grant Competition, Virginia Tech (2016)

Travel Grant, Translational Plant Science Grant Competition, Virginia Tech (2015)

Life Science Scholarship for MSc taught courses, School of Life Sciences, University of Warwick (2012)

Publications

Sonawala, U.; Beasley, H., Thorpe, P.J.; Varypatakis, K.; Senatori, B.; Jones, J.T.; Derevnina, L. and Eves-van den Akker, S. A gene with a thousand alleles: the HYPer-variable effectors of plant-parasitic nematodes. *bioRxiv* (2023), 2023-10.

de Souza, V. H. M.; Philadelphi, S. M.; Galbieri, R.; **Sonawala, U.**; Eves-van den Akker, S. An Emergent Plant-Parasitic Nematode in Brazil: Aphelenchoides Besseyi. Current Status and Research Perspectives. Plant Pathology (2023).

Garcia, K.; Cloghessy, K.; Cooney, D. R.; Shelley, B.; Chakraborty, S.; Kafle, A.; Busidan, A.; **Sonawala, U.**; Collier, R.; Jayaraman, D.; Ané, J.-M.; Pilot, G. The Putative Transporter MtUMAMIT14 Participates in Nodule Formation in *Medicago Truncatula*. *Scientific Reports* (2023), 13 (1), 804.

Siddique, S.; Radakovic, Z. S.; Hiltl, C.; Pellegrin, C.; Baum, T. J.; Beasley, H.; Bent, A. F.; Chitambo, O.; Chopra, D.; Danchin, E. G. J.; Grenier, E.;

Habash, S. S.; Hasan, M. S.; Helder, J.; Hewezi, T.; Holbein, J.; Holterman, M.; Janakowski, S.; Koutsovoulos, G. D.; Kranse, O. P.; Lozano-Torres, J. L.; Maier, T. R.; Masonbrink, R. E.; Mendy, B.; Riemer, E.; Sobczak, M.; **Sonawala, U.**; Sterken, M. G.; Thorpe, P.; van Steenbrugge, J. J. M.; Zahid, N.; Grundler, F. and Eves-van den Akker, S. The genome and lifestage-specific transcriptomes of a plant-parasitic nematode and its host reveal susceptibility genes involved in trans-kingdom synthesis of vitamin B5. *Nature Communications* (2022), 13 (1), 6190.

Kranse, O. P.; Ko, I.; Healey, R.; **Sonawala, U.**; Wei, S.; Senatori, B.; De Batté, F.; Zhou, J. and Eves-van den Akker, S. A Low-Cost and Open-Source Solution to Automate Imaging and Analysis of Cyst Nematode Infection Assays for Arabidopsis Thaliana. *Plant Methods* (2022), 18 (1), 134.

Besnard, J., **Sonawala, U.**; Maharjan, B.; Collakova, E.; Finlayson, S. A.; Pilot, G. and Okumoto, S. Increased expression of UMAMIT amino acid transporters results in activation of salicylic acid dependent stress response. *Frontiers in Plant Science* (2021), 11.

Sonawala, U.; Dinkeloo, K.; Danna, C. H.; McDowell, J. M.; Pilot, G. Functional linkages between amino acid transporters and plant responses to pathogens. *Plant Science* (2018), 277, 7988.

Besnard, J.; Pratelli, R.; Zhao, C.; **Sonawala, U.**; Collakova, E. and Pilot, G.; Okumoto, S. UMAMIT14 is an amino acid exporter involved in phloem unloading in Arabidopsis roots. *Journal of Experimental Botany* (2016), 67 (22), 6385-6397.

Presentations and Talks

Talks (selected)

Juxtaposition of extreme genomic variability and stability in HYP effectors of potato cyst nematodes

2023 · Parasitic Helminths: New Perspectives in Biology and Infection, Hydra, Greece

2022 · Advances in Nematology, AAB, London, UK.

2022 · International Conference of Nematology, Antibes, France (presented via zoom).

2022 · Crop Science Centre/ NIAB seminar series, Cambridge, UK.

2021 · Virtual Nematology Conference, European Society of Nematologists (online).

Engineering a yeast strain used to characterize plant amino acid transporters

2019 · Plant Pathology, Physiology and Weed Science (PPWS) Seminar Series, Virginia Tech, Blacksburg, USA

What role do host amino acid transporters play in nutrient acquisition by biotrophic pathogens?

2018 · Translational Plant Science Symposium, Virginia Tech, blacksburg, USA.

2016 · Plant Pathology, Physiology and Weed Science (PPWS) Seminar Series, Virginia Tech, Blacksburg, USA.

Posters (selected)

Juxtaposition of extreme genomic variability and stability in HYP effectors of potato cyst nematodes

2023 · International Society for Molecular Plant-Microbe Interactions, Providence, Rhode Island, USA.

2023 · International Congress of Plant Pathology, Lyon, France.

Toward understanding how biotrophic pathogens manipulate plant amino acid transporters to acquire nutrients.

2018 · North American Mass Spectrometry Summer School, University of Wisconsin, Madison, USA.

2018 · Oomycete Molecular Genetics Network (OMGN) Annual Meeting, Tai'an, China.

2017 · Plant Pathology, Physiology and Weed Science mini-symposium, Virginia Tech,

Blacksburg, USA.
2017 · Oomycete Molecular Genetics Network (OMGN) Annual Meeting, Asilomar, USA.
2016 · International Workshop on Plant Membrane Biology (2016), Annapolis, USA.
2016 · Oomycete Molecular Genetics Network (OMGN) Annual Meeting, Malmö, Sweden