



Assistant Professor

Dr. Monisha Kottayi

Division of Biomedical Science, School of Science

Qualifications

BSc, MSc, PhD

- PhD Botany (2007), RTM Nagpur University, Nagpur
- MSc Botany, RTM Nagpur University, Nagpur
- BSc Botany-Chemistry-Microbiology, RTM Nagpur University, Nagpur

Contact Details

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Areas of Expertise

Plant Defense, Plant Tissue Culture, Genetics and Plant Breeding

Profile

Thesis Background

- Thesis Title - 'Defense gene expression in *Arachis hypogaea* and its exploitation for selection of resistance to leaf spot disease'
- Thesis Summary - The investigation was aimed at developing a method for selection of disease resistance of *Arachis hypogaea* to *Cercosporidium personatum*. This method was based on eliciting the defense response in excised cotyledon using the fungal derived biotic and abiotic elicitors. Defense related biochemical markers such as resveratrol (phytoalexin), salicylic acid (signal molecule), -1, 3 glucanase and chitinases (PR proteins) were quantified. Variability was induced in the susceptible cultivars of *A. hypogaea* (developed by BARC) using ethylmethanesulphonate and gamma rays and the mutagenized population was screened for selection of resistance to late leaf spot disease. Another approach was transferring the resistant character by crossing the susceptible cultivars with the resistant mutants, developed in an earlier programme on groundnut.

Past Experience

- July 2015 - April 2017: Assistant Professor (FDP) for Plant Biology and Plant Biotechnology at JBAS College for Women, Teynampet, Chennai.
- November 2014 - June 2015: Technical Executive Grade - I with National Biodiversity Authority, Chennai (Temporary post).
- June 2011 - May 2013: Assistant Professor (Biotechnology) in Anand Mercantile College of Science and Computer Technology, Anand, Gujarat.
- August 2006 - June 2009: Assistant Professor (ad hoc) in Department of Biotechnology at Ramabai Barlingay School of Biotechnology, L.A.D. & Smt. R.P. College for Women, Shankarnagar, Nagpur.
- July 2002 - Feb 2006: Assistant Professor in Botany (ad hoc) in Post Graduate Teaching Department of Botany, RTM Nagpur University. poster presentation (Second Place) at the ICRED-SRBCE conference, January 2019.

Mentoring Activities

- 2019-2020: Mentored two students of Environmental Science for a six-month dissertation on 1) Soil analysis and impact of soil on crop productivity of a village in Dwarka region and 2) Levels of noise pollution in selected areas of Vadodara.
- 2017-2018: Mentored students for poster presentation at the International Conference for Angiosperm Taxonomy (IAAT) held at M.S. University, Vadodara.
- 2011-2013: Guided six M.Sc. students for a 4-month dissertation in Biotechnology at Anand Mercantile College of Science, Management and Computer Technology.
- 2004-2005: Supervised eight MSc students for a short-term project work on mutation, tissue culture and defense gene studies in *Vigna radiata*, *Linum ussitatissimum*, *Daucus carota* and *Arachis hypogaea* under the guidance of the Principal Investigator.

Awards and Recognition

- Chandrabhagabai Chate Gold Medal for securing first position in order of merit in Nagpur University in MSc (Botany) examination (2001)
- Late Smt. Aruna Limsay Memorial Gold Medal for securing first position among girl students in MSc (Botany) examination (2001)
- Dr. A. S. Khalatkar Memorial Gold Medal for securing highest marks in Cytogenetics specialization theory paper in MSc II examination (2001)

Fellowships

- Junior Research Fellowship in project titled, 'Defense gene expression in *Vigna radiata* and its exploitation for resistance to leaf spot in vitro and in vivo,' sponsored by BRNS-DAE (Board of Research in Nuclear Sciences- Dept of Atomic Energy) in collaboration with B.A.R.C.