

Dr. Mahesh Ravindra Shindikar

Designation:

Assistant Professor of Biology

Department:

Applied Science

Email:

smh.appsci@coep.ac.in

Mobile Number:

+91 9422518291

Phone Number:

+91 20 25507034

Website:

www.coep.org.in

Teaching Experience:

17

Research Experience:

17

Qualifications:

Ph.D. (Botany), M.Phil. (Botany), M.Sc. (Botany)

Teaching Responsibility:

COEP: Science of Living Systems, Environmental Studies

At the graduate and post graduate level in Botany & Environmental Science at Modern College of Arts, Science & Commerce, Pune (**MCASC**); Department of Botany, Environmental Sciences, Bioinformatics, SP Pune University (**SPPU**); Bharati Vidyapeeth Institute of Environment Education and Research (**BVIEER**), Pune, KRT Arts, BH Commerce & AM Science College (**KTHM**), Nashik and College of Engineering, Pune(**COEP**)

Lectures delivered at refresher courses, Guest faculty at various academic institutes and events

Additional Responsibility:

Academic & Research coordinator (University of Pune)

Student Welfare Officer (University of Pune)

Coordinator: Garden activities and non-governmental scholarship schemes

Faculty auditor: Gymkhana activities

Advisor: National Service Scheme

Publications:

International : 1 (Journal publication) 03 (Conference presentations) National : 10 (Journal publications) 10 (Conference presentations)

Memberships and Affiliations:

Assistant Editor – Maharashtra State Biodiversity Strategy & Action Plan. Member – Curriculum design & translation for the course on Environmental for state HSC level; Expert Member of Maharashtra Coastal Zone Management Authority (MCZMA), Government of Maharashtra; Expert Member of Wetland Redressal Committee, Konkan Division, Government of Maharashtra Consultancy: Consultant to various government and non government agencies working in the areas of Environmental Impact Assessment (EIA) or Environmental Management System (EMS) and study reports in court matters Past Affiliations: Bhaba Atomic Research Centre (BARC), Mumbai; Space Application Centre (SAC-NRSA), Ahmedabad; Agharkar Research Institute (ARI) Pune; Indian Institute of Geomagnetism (IIG), Mumbai; MS Swaminathan Research Foundation (MSSRF), Chennai; Naoroji Godrej Centre for Plant Research (NGCPR), Satara; Yashwantrao Chavan Academy of Development Administration (YASHADA), Pune; Department of Botany, , SP Pune University (SPPU).

Current Projects :

A Project entitled “Preliminary assessment of selected mangrove plant resources for sustainable utilization in Maharashtra” under the Minor Research Scheme of University Grants Commission, New Delhi (Sanctioned grant of Rs. 1,00,000/-). A Project entitled “Environmental Characterization of Fly Ash from the Thermal Power Plants of Maharashtra” under the Major Project Scheme of Board of College & University Development, University of Pune (Sanctioned grant of Rs. 2,72,000/-). A Project Proposal on Herbal Garden entitled “A Proposed Ex situ conservatory of Medicinal Herbs from Maharashtra State” is submitted to National Medicinal Plant Board, Department of Ayush, Ministry of Health & Family Welfare, Government of India, New Delhi and Managing Director, Maharashtra State Horticulture & Medicinal Plant Board, Sakhar Sankul, Pune on September 13, 2010. (Sanctioned grant of Rs. 2,10,000/-)

Dr. Ketaki Kamble

Department:

Applied Science

Email:

kamblek.appsci@coep.ac.in

Phone Number:

+91-9850646472

Website:

www.coep.org.in

Teaching Experience:

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Qualifications:

- Qualified the joint UGC-CSIR exam of National Eligibility Test (NET) for Lectureship (LS), with 53.2% and All India Rank **46**. (June 2016)
- Qualified Joint Admission Entrance exam for Integrated Ph. D at Indian Institute of Technology (IIT-JAM) with All India Rank **138**. (June 2011)
- Qualified all India entrance test for Jawaharlal Nehru University (JNU) with All India Rank **4**. (June 2011)
- **First** rank in first year, second year and third year in B. Sc. Biotech in BAMU.

Ph. D in Development and Genetics (2013-18) :

Muscle is a highly plastic tissue; that responds to neuromuscular activity, patho-physiological conditions, and exercise etc. predominantly by change of isoforms of sarcomeric as well as regulatory proteins. During my doctoral research, I addressed the question of how isoform transitions are regulated in response to development and/or environmental conditions. One of major strategies of isoform transition is by alternative splicing (AS). RNA binding proteins (RBPs) are key players of regulating AS. The objective of the study was to dissect the role of one such RBP, Ataxin 2 Binding Protein 1 (A2BP1) in isoform transitions, using muscles of *Drosophila melanogaster* as model system. *Drosophila* has two types of muscles- the tubular muscles (similar to vertebrate skeletal muscles) and the fibrillar muscles (similar to vertebrate cardiac muscles). We identified novel roles of A2BP1 in generation of muscle diversity during development. A2BP1 regulates muscle fiber-type specific isoform changes during development as a result of which structural protein stoichiometry is maintained in adult muscles. Rbfox1 mediates the specification of tubular muscle fibers by negatively regulating the determinants of fibrillar muscle fate, Extradenticle, Spalt (major) and Arrest, in tubular muscles. Conversely, negative regulation of Rbfox1 by Salm and/or Arrest is crucial to fibrillar muscle fate in the

DLMs. It is responsible for conferring muscle fiber specific isoform of structural protein, Troponin-I, failure of which leads to a muscle hypercontraction phenotype in the DLMs.

MS (2011-2013):

As part of Integrated PhD program in IISc, I completed 64 credits in 4 semesters with total grade point average (TGPA) score of **6.3/8**. The subjects studied as part of course work are- Biochemistry, Microbiology, Genetics, Laboratory techniques, Introduction to Biophysical Chemistry, Proteomics, Evolutionary Biology, Gene expression during Development, Protein structure, Folding and Design, Mathematics and statistics for biologists, RNA biology, Molecular and cellular biology, Current trends in Drug Discovery, Topics in Theoretical Biology, Quantitative Ecology, Science and Technology, Principles of Genetic Engineering

1. *Ropalidia marginanta* behaviour - Raghavendra Gadakar lab, Department of Ecological Science (CES), IISc.
2. *Arabidopsis thaliana* leaf growth - Utpal Nath lab, Department of Molecular and Cellular Biology (MCB), IISc

- Science of Living System (Credits 3:0)
- Environmental Studies (Mandatory audit course)

Additional Responsibility:

- Mentorship First Year Engineering students
- Organizing workshops/talks for students about health and lifestyle awareness.

Publications:

- Poster “Role of dA2BP1 in IFM development and function.” **Kamble K.**, and Nongthomba U. Biennial *Drosophila* Research Conference, December **2015**.
- Poster “Roles of the dA2BP1 in maintaining structural protein stoichiometry and fiber diversity of *Drosophila* muscle” **Kamble K.**, and Nongthomba U. 58th Annual *Drosophila* Research Conference, March-April **2017**

Areas of research, testing and consultancy:

- Developmental Biology
- Muscle Diversity
- Drosophila Genetics
- Insect Flight

