



**National Workshop
On
“Teaching and Learning Biology: Problem Solving Approach”
(4th August – 11th August 2014)**

**Sponsored by
Board of Research in Nuclear Sciences,
Department of Atomic Energy, Government of India**

**At
Department of Microbiology, University of Pune, Pune**

The Department of Microbiology was established in 1977 and functioned as part of Botany Department till 1984 and moved to its independent premises in 1993. On further expansion Department moved to its present multi-storeyed building in the year 2012. Department offers the M.Sc. Microbiology course and continues to attract students from many other national and foreign universities.

The backbone of the department is the intellectual atmosphere provided by a dedicated faculty and bright students selected through rigorous entrance procedures. The department has its main focus on Genetics, Molecular Biology, Industrial Microbiology, Immunology and other areas allied to Microbiology and Biotechnology. Basic training is given in Microbiology, Biochemistry, Genetics, Genetic Engineering, Environmental Microbiology and important aspects of Biophysics, Biostatistics, Computational Biology. We train forty graduate students and twenty Doctoral students at any given time. Department takes pride in sending the students for Doctoral Degree to IISc Bangalore, National Institute of Immunology, Delhi. CCMB Hyderabad, TIFR Bombay, IITs, ACTREC, NCCS, IISER, NARI, NIV, NCL Pune.

The faculty of the Department of Microbiology carry out research in Microbial Genetics, Microbial Biochemistry and Physiology, Applied and Environmental Microbiology. The Department has received funds for research projects from DBT, CSIR, DAE and UGC. The department had produced a large number of Ph.D, M.Phil students; research papers are regularly published in journals of international repute. We take pride in launching our trainees into successful and productive careers.

The alumni of the department now occupy positions of great responsibility in different institutions in India such as Institute of Microbial Technology, Chandigarh, National Institute of Virology Pune, National Chemical Laboratory Pune, Serum Institute of India Pune, Reliance Life Sciences etc. and in institutes abroad like Harvard Medical School USA, Max Planck Institute

Germany, Roche Pharmaceuticals in Palo Alto, USA. Department has strong liaison with some of the industries around. Praj Industries Ltd, Serum Institute of India Ltd, Reliance Life Sciences, Haffkine Biopharmaceuticals Ltd., Pimpri, Pune are a few to be mentioned.

In addition to teaching and research Departmental faculty is actively involved in disseminating the scientific knowledge to the community at large. It has strong affiliation to *Marathi Vidnyan Parishad* Pune, *Marathi Vidnyan Mahasangh*, Exploratory (*Bharati Vidya Bhavan*, Pune), *Rashtriya Bal Vidnyan Parishad* (DST, Govt. of India).

Preamble

The approach to Biology is fast changing. It is much more than the acquisition of factual descriptive knowledge to be retained only until after the examination. End product of teaching course in Biology should necessarily be the student with thorough critical appreciation of the experimental evidences that form firm foundation of knowledge of biological processes. It is becoming increasingly necessary that Biology teachers should drastically reorient themselves to better means and methods of training students. The most reasonable approach for such training of Biology students is ***Problem Solving Approach***, in place of present approach that is largely 'Read and Listen' approach.

In ***Problem Solving Approach***, student is presented with brief experimental design, experimental observations, and the numerical data as obtained by researcher and is asked to interpret and reason out. The ***Problem Solving Approach*** to learning is very effective in training students to do scientific logical thinking. It is extremely important and essential that students learn to apply what they Read and Listen: the ***Problem Solving Approach*** would train them in this direction.

Department of Microbiology, University of Pune has successfully organised two such workshops under the titles ***Problem Solving Approach (January 2008)*** and ***Analytical Biology (March 2009)***. ***Department of Microbiology University of Pune is organizing once again the similar workshop for undergraduate and postgraduate teachers and active researchers in Life Sciences.*** The present workshop is the third workshop in the same series.

The workshop includes extensive problem solving sessions leading to interactive discussions on different fundamental concepts in various topics in biological sciences.

Major Activity in the Workshop

- Eminent scientists from institutes such as IISC Bangalore, BARC Mumbai, NCL Pune, NCCS Pune, NIV Pune and Agharkar Research Institute Pune, IISER, Pune, IIT, Mumbai etc. would deliver lectures in the frontier areas in Life Sciences. These lectures would be conducted every day in the morning sessions (not more than two lectures a day) and would be more of the interactive type.
- Post-lunch session would be dry-lab session. During this session various problems, based upon experimental data, would be discussed and solved.
- Feed-back from the participants at the end of each day.
- Seminars from teacher participants.

- Following areas would be covered for the dry-lab sessions
 - (a) The Structure of Macromolecule
 - (b) Growth and Metabolism
 - (c) Enzymes
 - (d) Genetics and Molecular biology
 - (e) Immunology and Medical Microbiology
 - (f) Microbial Diversity
 - (g) Mathematics for Biologists

Last Date of Application: 31st July 2014

Selected candidates will be intimated by email only.

Who would attend the Workshop?

Teachers preferably teaching at post-graduate levels and research students working in various areas in Life-Sciences will be the beneficiaries of the workshop. The participants are expected to have basic knowledge in the areas of microbiology, biochemistry and mathematics.

Registration Fee: Rs. 3000/--

Demand draft of nationalized bank in favor of “Registrar, University of Pune, Pune” payable at Pune for Microbiology Workshop August, 2014 should accompany the registration form.

(This will include course material, breakfasts, lunches, and tea during the entire workshop)

Number of Participants: 50 (25 Local and 25 Out-station)

Accommodation:

Limited accommodation is available at University of Pune guest house and at few other local institutes **if requested earlier. Candidates would separately pay for the accommodation.**

Email: hodmicro@unipune.ac.in

writetodeopurkar@gmail.com

E-mail registration is encouraged and must be followed by postal enrollment. Your E-mail registration must clearly give the details of the Demand Draft of nationalized bank. ONLINE registration can be done at

http://www.unipune.ac.in/microbiologyevent/registration_form.aspx

Coordinator:

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Vice Chancellor

University of Pune

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For Office Use Only

Form No:

Date:

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REGISTRATION FORM

(Please take the print of this form and send it along with the demand draft.)

Online registration is possible: http://www.unipune.ac.in/microbiologyevent/registration_form.aspx

Name : _____
(Surname) (First name) (Middle name)

Designation : _____

Organization : _____

Address : _____

Educational Qualification : _____

Contact Numbers

(Off) :

(Resi) :

(Fax) :

(E-mail) :

I am enclosing Demand Draft of Rs. 3000/-- in favour of “Registrar, University of Pune” payable at Pune for Microbiology workshop August 2014

DD Details:

Demand Draft Number: _____ **Date:** _____

Name of the Bank: _____

Signature of the Candidate

Signature of Principal of the College/ Head of the Institute