पुणे विद्यापीठ

UNIVERSITY OF PUNE

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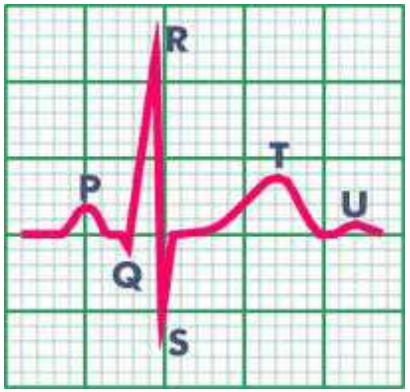
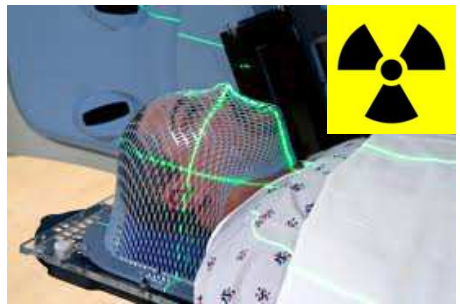
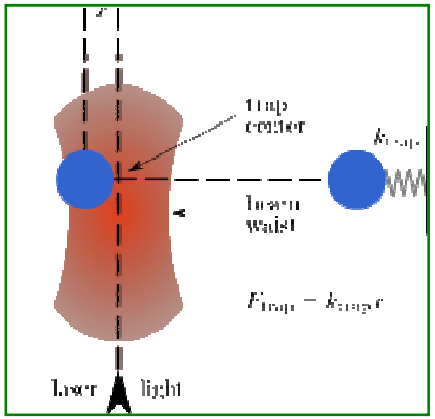
SCHOOL OF BASIC MEDICAL SCIENCES



Office:

Dr. Gauri R Kulkarni (Director)
Biophysics Laboratory
Department of Physics
University of Pune
Ganeshkhind, Pune 411007
INDIA
Tel: +91-20-25692678 (403)
Email: grk@physics.unipune.ac.in





ABOUT

The School of Basic Medical Sciences is an interdisciplinary school of study (under the University of Pune) which encourages teaching and research in Medical Physics, Biophysics, Biophotonics, Medical Instrumentation, Nanobiotechnology, Nanomedicine, Chronobiology, Neurophysics and related topics of interdisciplinary nature in Biomedical research.

The aim is to generate qualified professionals capable of tackling problems of interdisciplinary nature and health-care. Twenty students have completed PhD and many others in M.Phil from this school. The school was established in 1980 and has conducted B.Sc applied Course in Optometry and biomedical techniques. The activities of the school are conducted by contributory faculty, that is, members of other departments who conduct research in interdisciplinary areas. Various laboratories across different university departments are part of this School. The School is presently headquartered at the Department of Physics, University of Pune and gets its benefits and facilities.

Research activities are funded by DST, BRNS and DST-Purse, Government of India. Instrumental facilities include Evoked Potential recordings, electrophysiological signal record system, seed germinator, clinostat, gel electrophoresis, optical tweezers, etc. recent achievements include research in nanomedicine and nano-biophysics and effects of altered gravity on plants and gravitational physiology.

COURSES OFFERED

M.Phil (Basic Medical Science)

Ph.D Basic Medical Science

Course Structure- M.Phil

Course work includes-

1. **SBMS 102: Biomedical Techniques (5 Credits)**
2. **SBMS 104: Guide Course (the course content should be relevant to the field of research project. This course should be designed and conducted by the guide(s) for the concerned students and approved by the Director, School of Basic Medical Sciences. (5Credits)**
3. **Any other 5Credit course at/above Post-graduate level conducted by any faculty member of the University of Pune campus with content relevant to the research project of the student.**
4. **Project Work: Research Project to be carried out by the student.**

Course Structure- Ph.D

Course work includes:

1. **SBMS 101: Research Methodology (5Credit)**
2. **SBMS 102: Biomedical Techniques (5 Credits)**
3. **SBMS 103: Special Course (5Credits)**
4. **Research Project: Student have to do a research project.**

LIST OF RECOGNISED GUIDES AND FACULTY

The following faculty members are involved in conducting research and teaching in this school :

Prof. P. B. Vidyasagar **(Splz: Physics/Biophysics)**	**VC, SRTM University , Nanded.** **Formerly Professor, Department of Physics, University of Pune**	**pbv@physics.unipune.ac.in**
Dr. G. R. Kulkarni **(Splz: Physics/Biophysics/ Instrumentation)**	**Department of Physics, University of Pune**	**grk@physics.unipune.ac.in**
Dr. V. S. Ghole **(Splz: Biochemistry)**	**National Institute of Virology, Pune.** **Formerly Prof. University of Pune**	**gholevs@gmail.com**
Dr. Sanjay Dhole **(Splz: Physics/ Nuclear Sciences)**	**Department of Physics,** **University of Pune**	**sanjay@physics.unipune.ac.in**
Dr. S. W. Gosavi **(Splz: Nano-biotechnology)**	**Department of Physics,** **University of Pune**	**swg@physics.unipune.ac.in**
Dr. D. S. Joshi **(Splz: Chronobiology and Medicine)**	**Centre for Biological Rhythm Research, Ahmednagar College, Ahmednagar**	**drdsjoshi@gmail.com**
Dr. S. S. Cherian **(Splz: Bioinformatics)**	**National Institute of Virology, Pune**	**sarahcherian@icmr.org.in**
Dr. P. Shil **(Splz: Biophysics/Bioinformatics)**	**National Institute of Virology, Pune**	**pshil@icmr.org.in**
Dr. A. G. Banpurkar **(Splz: Soft Condensed Matter)**	**Department of Physics,** **University of Pune**	**agb@physics.unipune.ac.in**

ACHIEVEMENT HIGHLIGHTS (2007 onwards)

➢Optical Tweezer

Optical trapping of magnetotatic bacteria.

➢Studies on effects of altered gravity:

1.Gravitation Physiology: Design and development of Tilt table to study effect on human health.

2. Design and development of clinostats for plant studies on altered gravity.

➢Nanobiotechnology

Nanoparticles as antibacterial agents

Nanoparticles as Biosensors

➢Radiation effects on biological systems

Radiation dosimetry

Radiation isotopes studies

➢Theoretical Biophysics

Physics of cell electroporation

Biological Rhythm Research

Gradian Rhythm studies on Drosophila

COLLABORATIONS

Collaborations and cooperation at various levels exist with the following institutes:

BHABHA ATOMIC RESEARCH CENTRE, MUMBAI

NATIONAL CENTRE FOR CELL SCIENCES, PUNE

NATIONAL INSTITUTE OF VIROLOGY, PUNE

COMMAND HOSPITAL, SOUTHERN COMMAND (ITA), PUNE

KEM HOSPITAL & RESEARCH CENTRE, PUNE

NEHRU GRAM BHARTI UNIVERSITY, ALLAHABAD

CENTRE FOR BIOLOGICAL RHYTHM RESEARCH, AHMEDNAGAR COLLEGE