



BIOMEDICAL IMAGE ANALYSIS

OVERVIEW

Medical Image Analysis is an active area of research for the last two decades. There is a continuous impetus to improve the quality of images acquired from various imaging modalities. Development of CAD systems for various applications like detection of micro-calcifications in mammograms, focal/diffused lesions from sonography images, etc. are the needs of day. In this program, efforts will be made to introduce various tools used in medical image analysis. Lectures will be supported with discussion sessions.

It is expected that participants will attain sufficient basic knowledge in this area after attending this program.

OBJECTIVES

To Learn about the nature and characteristics of biomedical images. Understand concepts of two-dimensional signals, systems, transforms, and filters. Learn image processing techniques for filtering, noise removal, and enhancement of images. Design and implement techniques for the detection of regions of interest.

Explore techniques for the analysis of shape and texture of regions. Learn about spectral analysis of images using the two-dimensional Fourier transform. Investigate pattern classification and decision techniques for computer-aided diagnosis. Design, develop, implement, and analyze computer methods for the analysis of biomedical images.

COURSE CONTENTS

- The Nature of Biomedical Images
- Image Quality and Information Content
- Removal of Artifacts
- Image Enhancement
- Detection of Regions of Interest
- Analysis of Shape, texture and Oriented Patterns
- Case Studies

Dates	Jan 9-13, 2017 (Number of participants for the course will be limited to thirty).
Who Should Attend	<ul style="list-style-type: none"> ▪ Practicing engineers, computer scientists, information technologists, medical physicists, and data-processing specialists working in diverse areas such as telecommunications, seismic and geophysical applications, biomedical applications, and hospital information systems may find the course useful in their quest to learn advanced techniques for biomedical image analysis. They could draw inspiration from other applications of image processing or analysis, and satisfy their curiosity regarding computer applications in medicine and medical diagnosis. ▪ Students at all levels (BTech/MSc/MTech/PhD/medical) ▪ Faculty from reputed academic institutions, medical and technical institutions.
Fees	<p>The participation fees for taking the course are as follows:</p> <p>Participants from abroad : US \$500</p> <p>Industry/ Research Organizations: Rs.20000</p> <p>Academic Institutions: Rs 10000</p> <p>The above fees include all instructional materials, laboratory equipment usage charges, and internet facility. The participants will be provided with accommodation and food on a payment basis. The Course participants will be lodged in the Trainee Officer's Hostel of the Continuing Education Centre and Other Guest Houses of the Institute.</p>

THE FACULTY



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