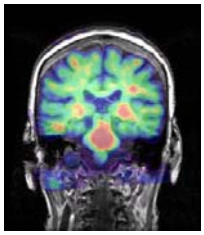
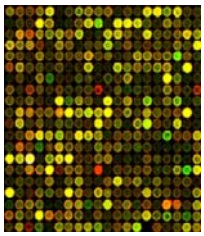


Call for Chapters to the *Handbook of Research on Advanced Techniques in Diagnostic Imaging and Biomedical Applications* To be Published by IDEA Group Inc. Global



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Biomedical and diagnostic imaging refers to the techniques and processes used to create images of the human body for clinical purposes or medical science. Biomedical imaging may be clinical, seeking to diagnose and examine disease in specific human patients. Alternatively, it may be research-motivated, attempting to understand processes in humans. Many of the techniques developed for biomedical imaging also have scientific and industrial applications.

Biomedical applications and diagnostic technologies are two of the most important research fields in biomedical engineering. Most of the efforts made, focus on diagnosis, prognosis, therapy and follow-up recommendations, based on simple and easily acquired features. The latest breakthroughs made by imaging technologies in medical and biomolecular sciences are a direct cause of the introduction of new types of medical data as well as the explosive growth of image data available to the scientific community. The integration of biomedical image data into biomedical diagnostic systems, maximizes the information regarding the patient's health status and the efficiency of the computer aided diagnosis.

The Handbook of Research on Advanced Techniques in Diagnostic Imaging and Biomedical Applications will include most recent state of the art methodologies in the area of biomedical imaging in Diagnostic and Decision Support Systems and their applications in clinical practice. Its main task is the integration of several types of biomedical images from simple to fused forms in diagnostic and biomedical applications. The handbook of research will provide methods and techniques concerning the integration of medical and biological images into diagnostic and decision support systems towards more reliable diagnostic, prognostic and therapeutic procedures. The integration of biomedical images and intelligent up-to-day methodologies will provide advanced diagnostic tools with high interpretation efficiency. The handbook of research will provide the state of the art, as well as, the latest developments and results from researchers in the field. The handbook will also include extensive references within each article which an interested reader may wish to pursue.

Topics include but are not limited to:

- Diagnostic and Decision support systems and biomedical applications based on medical images
  - Conventional X-ray imaging
  - Computed tomography imaging
  - IVUS imaging
  - Angiographic imaging
  - Magnetic resonance imaging

    - Cardiac imaging
    - Neuroimaging
    - Single Photon Emission Computed Tomography imaging
    - Positron Emission Tomography
    - Mammography imaging
- Interpretation and decision support of biological images
    - Microarray imaging
    - Chromosome imaging
    - Cell imaging
    - Molecular imaging
- Theoretical and technical aspects of biomedical image analysis/processing
    - Image segmentation
    - Image registration
    - Image feature extraction
    - Image reconstruction
    - Image fusion
- Decision support systems and applications of biomedical imaging
    - Classification methodologies
    - Knowledge based methods
    - Black box approaches
    - Data mining

Invited Submissions: Individuals interested in submitting chapters (4,000 - 6,000 words) on the above-suggested topics or other related topics in their area of interest should submit via e-mail a 1-2 page manuscript proposal clearly explaining the mission and concerns of the proposed chapter by September 21, 2007. We strongly encourage other topics that have not been listed in our suggested list, particularly if the topic is related to the research area in which you have expertise. Upon acceptance of your proposal, you will have until February 29, 2008, to prepare your chapter of 4,000-6,000 words and 7-10 related terms and their appropriate definitions. Guidelines for preparing your paper and terms and definitions will be sent to you upon acceptance of your proposal.

Please forward your e-mail of interest including your name, affiliation and a list of topics on which you are interested in writing a chapter to Themis Exarchos, editor, at exarchos@cc.uoi.gr no later than September 21, 2007. You will be notified about the status of your proposed topics by October 22, 2007. This book is tentatively scheduled for publishing by Information Science Reference (formerly Idea Group Reference) (an imprint of IGI Global), www.info-sci-ref.com in 2008.

All chapter proposals and full chapters should be forwarded to:
Themis Exarchos at exarchos@cc.uoi.gr
For more information visit: medlab.cs.uoi.gr/handbook

Important Dates:
September 21, 2007: Deadline for submission of short chapter proposals.
October 22, 2007: Notifications to Authors of Accepted short Chapter Proposals.
February 29, 2008: Deadline for Full chapter submission (4000-6000 words).
May 7, 2008: Notifications to Authors for revisions.
June 5, 2008: Deadline for revised full chapters submission.
July 15, 2008: Notification of full chapter acceptance.
July 30, 2008: Deadline for submission final accepted chapters and disks from authors.