

ICME 2003 Special Session on  
**Multimedia Technology in Bioinformatics**

Session Organizer: *Chang Wen Chen*, University of Missouri-Columbia, USA  
*Jesse Jin*, University of Sydney, Australia  
*Joseph Y. Wang*, Virginia Tech, USA

**Motivation:**

Bioinformatics is truly a multidisciplinary research field in which a wealth of biological information in various forms needs to be analyzed and interpreted. Multimedia technology has been and will continue to be effective tools for various bioinformatics research tasks, ranging from uncovering genetic code with color DNA spectrogram, to analyzing microarray images using image processing and pattern recognition techniques, and to visualizing RNA folding data using interactive visualization algorithms. We intend to bring together leading researchers in the area of bioinformatics to share their expert views and experiences in the application of multimedia technology to bioinformatics.

**Research Topics:**

1. Signal/image processing for genetic code analysis
2. Elastic registration of 2D gel images
3. DNA data analysis and recognition
4. Multi-modal gel analysis and protein homologies
5. Multimedia index and retrieval in bioinformatics
6. Multi-modal similarity measurement in bioinformatics
7. Computer supported cooperative bioinformatics
8. Multimedia bioinformatics databases
9. Visualization for RNA structural analysis
10. Interactive visual tools for gene finding and gene characterization

**Speakers (By Invitation Only):**

The following list of well-known researchers in bioinformatics will be invited to present their research in this special session:

- Alex Lash, M.D., Group Leader and Staff Scientist  
National Center for Biotechnology Information (NCBI), National Institutes of Health
- Dimitris Anastassiou, Ph.D., Professor and Director  
Genomic Information Systems Laboratory, Columbia University
- Ben Shneiderman, Ph.D., Professor of Computer Science  
University of Maryland
- Lee Kozar, Associate Director,  
Stanford University Bioinformatics Facility
- Geoff Kornfeld, School of Biotechnology and Biomolecular Sciences and  
the Clive and Vera Ramaciotti Centre for Gene Function Analysis
- Michael R Barnes, Head, Genetic Characterisation and Analysis  
Bioinformatics (Europe), GlaxoSmithKline Pharmaceuticals