



IEEE



The 2nd IEEE Conference on Healthcare Informatics, Imaging, and Systems Biology (HISB): Analyzing Big Data for Healthcare and Biomedical Sciences

UCSD, La Jolla, California, September 27-28, 2012

<http://www.ittc.ku.edu/HISB12>

Personalizing medicine and improving healthcare relies on new biologic discoveries, algorithms, information systems, and technologies from multiple fields. The goal of this conference is to bring together researchers in healthcare informatics, medical imaging, and human systems biology to not only present the state-of-the-art research in their fields, but also create synergies among the community to close the loop in the biological analysis of health and disease, detect patterns through advanced imaging and monitoring devices, and analyze their relationships with wellness and clinical outcomes.

We solicit original, high-quality submissions that address innovative research and applications along the tracks of (1) healthcare informatics and mobile health, (2) imaging informatics, and (3) bioinformatics and human-based systems biology. Authors of accepted paper can opt towards publication of their paper in IEEE Explorer (EI indexed), or to publish only the abstract in the HISB Proceedings (so that the paper can be submitted to a journal). The goal is to feature the best work in the conference and get feedback from the audience. **Selected papers will be invited for submission to the Journal of the American Medical Informatics Association (JAMIA).** Below is a non-exhaustive list of topics.

Track 1: Healthcare Informatics

- Clinical data mining, statistical and machine learning
- Clinical decision support
- Privacy technology, policy, and algorithms
- Architectures and systems for data and knowledge sharing, including cloud computing
- Data integration, standards, ontologies, and knowledge representation
- Biomedical text mining and natural language processing
- Mobile health technologies and applications
- Patient-oriented health informatics tools and applications
- Social network technology in clinical care and health promotion
- Applications of clinical genomics

Track 2: Imaging

- Data indexing and retrieval from multimodal imaging databases
- Machine learning of disease from mining multimodal
- Image/Curve/Surface/Volume registration
- Biomedical image motion analysis
- Multidimensional data visualization
- Molecular and cellular image analysis
- Disease model-building and clinical decision support systems based on multimodal analysis
- Combining diagnostic imaging with systems biology

Track 3: Systems Biology & Bioinformatics

- Bioinformatics algorithms and applications related to human health
- Regulatory gene networks, visualization of networks
- Algorithms and tools for proteomics
- Machine learning for computational biology
- Linking the genotype to phenotype, personalized medicine
- Gene expression analysis
- Computational approaches to pharmacogenomics
- Algorithms and tools for whole genome analysis
- High throughput imaging (e.g. RNAi)-derived data analysis

Key Dates:

- **Paper and abstract submission: July 4, 2012**
- **Notification of acceptance: August 22, 2012**
- **Camera-ready version: August 31, 2011**

- **Tutorials proposals due: July 30, 2012**
- **Demo proposals due: July 30, 2012**

- **Conference Dates: September 27-28, 2012**

Conference Chair: Dr. Lucila Ohno-Machado, UC San Diego

Scientific Program Co-Chairs:

- **Health Informatics:** Dr. Christopher Chute, Mayo Clinic; Dr. Michael Matheny, Vanderbilt University
- **Imaging:** Dr. Sameer Antani, NLM/NIH; Dr. Daniel Rubin, Stanford University
- **Systems Biology:** Dr. Phil Bourne, UC San Diego; Dr. Hsei-Wei Wang, National Yang Ming University

Steering Committee Chairs:

Dr. Xue-wen Chen, University of Kansas;
Dr. Tanveer Syeda-Mahmood, IBM Almaden Research Center