BHI 2016 Workshop Proposal

Type: Half day

Georgia Tourassi, PhD - IEEE Member
Georgia Tourassi is the Director of the Health Data Sciences Institute at the Oak Ridge National Laboratory and Adjunct Professor of Radiology at Duke University Medical Center and the University of Tennessee at Knoxville. She holds a Ph.D. in Biomedical Engineering from Duke University. She is a senior member of IEEE, INNS, and SPIE, Fellow of the American Institute of Medical and Biological Engineering (AIMBE) and the American Association of Physicists in Medicine (AAPM).

Bradford Hesse, PhD
Bradford W. Hesse (Brad) is Chief of the Health Communication and Informatics Research Branch at the National Cancer Institute (NCI). Dr. Hesse has spent most of his career working to improve the ways in which mediated communication environments can be used to improve decision making, enhance the user experience, influence group outcomes, and to support adaptive and healthy behaviors. He has authored or co-authored over 160 publications including peer-reviewed journal articles, technical reports, books, and book chapters. His latest edited book, titled “Oncology Informatics,” is scheduled for release by Elsevier Publishing in the spring of 2016.

TITLE: Web-Based Public Health Informatics

Theme: Behavior and Health Informatics

Keywords (Max 5): web mining, population health, outcomes research, knowledge discovery

Abstract— The World Wide Web has been transforming radically the landscape of medical research and healthcare delivery. Online sources including digital social networks have facilitated a wide range of novel applications in the public health domain, including disease surveillance, early-warning, and rapid response, monitoring of population health-related interests, sentiment, and behaviors, drug performance monitoring and others. As the digital divide among different population groups declines, the research opportunities for web-based public health informatics are unprecedented. However, the sheer volume, low quality, and heterogeneity of the collected data require cutting-edge data mining algorithms, methods, and infrastructure to make most of these new data sources. The workshop will discuss successes, challenges, and next frontiers with respect to the collection, extraction, analysis, and validation of online data sources for public health studies.

LIST of Speakers

1. Bradford Hesse, PhD – NIH/NCI, hesseb@mail.nih.gov
   Advancing methods of “infodemiology” in cancer research: A funder’s perspective
   Bradford W. Hesse (Brad) is Chief of the Health Communication and Informatics Research Branch at the National Cancer Institute (NCI). Dr. Hesse has spent most of his career working to improve the ways in which mediated communication environments can be used to improve decision making, enhance the user experience, influence group outcomes, and to support adaptive and healthy behaviors. He has authored or co-authored over 160 publications including peer-reviewed journal articles, technical reports, books, and book chapters. His latest edited book, titled “Oncology Informatics,” is scheduled for release by Elsevier Publishing in the spring of 2016.

2. Georgia Tourassi, PhD - Oak Ridge National Laboratory, tourassig@ornl.gov
   Cyber-informatics methods for cancer surveillance
   Georgia Tourassi is the Director of the Health Data Sciences Institute at the Oak Ridge National Laboratory and Adjunct Professor of Radiology at Duke University Medical Center and the University of Tennessee at Knoxville. She holds a Ph.D. in Biomedical Engineering from Duke University. She is a senior member of IEEE, INNS, and SPIE, Fellow of the American Institute of Medical and Biological Engineering (AIMBE) and the American Association of Physicists in Medicine (AAPM).
3. **Rumi Chunara, PhD – New York University, rumi.chunara@nyu.edu**

**Methods for integrating online data sources in public health**

Rumi Chunara is an Assistant Professor at NYU, in Computer Science & Engineering and the College of Global Public Health. Her research focuses on how we can use data from outside healthcare systems to better understand how and why infectious and non-communicable diseases spread in populations. Dr. Chunara received her B.S. in Electrical Engineering at Caltech, S.M. in Electrical Engineering and Computer Science at MIT and Ph.D. in Electrical and Medical Engineering at the Harvard-MIT Division of Health Sciences and Technology.

4. **Graciela Gonzalez, PhD – Arizona State University, graciela1971@gmail.com**

**Pharmacovigilance from user generated content: challenges of social media mining at the frontier of natural language processing**

Dr. Gonzalez is Associate Professor of Biomedical Informatics at Arizona State University and Data Core Director for one of the largest NIH/NIA supported Alzheimer’s Disease Centers. She leads the DIEGO (Discovery through Integration and Extraction of Genomic knowledge) lab, in the area of Knowledge Discovery, focusing her research on translational applications of information extraction using Natural Language Processing techniques. She holds a PhD in Computer Science from the University of Texas at El Paso.

5. **Shannon Quinn, PhD – University of Georgia, squinn@cs.uga.edu**

**Dr. Twitter: The Logistics of Practical Disease Surveillance with Social Media**

Dr. Quinn is an Assistant Professor at the University of Georgia, with joint appointments in Computer Science and Cellular Biology. His research is interdisciplinary, and emphasizes large-scale and distributed analytics to answer questions pertaining to public health, biomedical imaging, and neuroscience. He is active in the open source community, contributing to several Apache projects while developing new and scalable methods for analyzing large, heterogeneous datasets of images, unstructured text, and videos.

6. **Arvind Ramanathan, PhD – Oak Ridge National Laboratory, ramanthanra@ornl.gov**

**Tracking alcohol and marijuana usage and behaviors from social media**

Arvind Ramanathan is a staff scientist at ORNL in the Health Data Sciences Institute and Computational Science and Engineering Division. His research interests are in the areas of computational biology, machine learning and high performance computing. Prior to his appointment at ORNL, he obtained his Ph.D. in computational biology from Carnegie Mellon University and M.S. in computer science from Stony Brook University.