

Smoky Mountains Computational Sciences and Engineering Conference

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Presentation Title:

“Big Data to Knowledge” in the Health Sciences: The Application and Value of Cancer Infodemiology

Abstract:

The Internet has revolutionized the ways knowledge is disseminated and information is exchanged and shared among people. Its impact is felt across all aspects of modern life (political, economical, and social). In healthcare, online patient communities have been expanding at an impressive rate with active participants from all age groups. Recent studies on researching and analyzing social media contents for health-related applications show that this uprising cyber-trend can lead to valuable information and knowledge that are traditionally acquired with time-consuming and labor-intensive clinical trials. I will demonstrate the application and discuss the value and promise of this new approach, known as “infodemiology”, for cancer epidemiological research.

Bio:

Dr. Georgia Tourassi is the Director of the Biomedical Science and Engineering Center and the Health Data Sciences Institute at ORNL. Before joining ORNL in 2011, Dr. Tourassi was Associate Professor of Radiology and the Medical Physics Graduate Program at Duke University Medical Center, where she currently holds an Adjunct Professor position. Her research interests include biomedical informatics, medical imaging, and computer-aided decision support. She has served as the Principal Investigator on 9 research grants and as a co-investigator in several grants funded by NIH, DOD, the Komen, and the Whitaker Foundations. Her research has been featured in several medical imaging publications and websites as well as *The Economist* ("The Bosom Buddy", published on August 11, 2006). She has authored over >150 peer-reviewed journal and conference proceedings papers and 5 book chapters.

Dr. Tourassi received her B.S. in Physics in 1987 at the University of Thessaloniki, Greece and her Ph.D. in Biomedical Engineering in 1993 at Duke University. She received the Young Investigator's Award from the National Institute of Health (1994) and the Whitaker Foundation (1997). Dr. Tourassi served as Associate Editor and Consultant-to-the editor for Radiology from 2000 to 2008, Neurocomputing from 2007 to 2012, and she is member of the Editorial Board of Intelligent Decision Technologies and Computational intelligence Studies. She is senior member of the Institute of Electrical and Electronics Engineers (IEEE), the International Neural Networks Society (INNS), and the International Society for Optical Engineering (SPIE). She is also member of the American Association of Physicists in Medicine (AAPM), Radiological Society of North America (RSNA), and the Society for Imaging Informatics in Medicine (SIIM). She serves regularly on NIH grant review study sections, including being charter member of the Biomedical Imaging Technology study section (2007-2011). She also serves on the FDA advisory committee on computer-aided diagnosis devices.