

# Cebrowski Institute Brown Bag

**Thursday  
15 January**

**Ingersoll  
278  
12:00 – 13:00**

**NPS Faculty  
Contact:  
Sue Higgins  
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## **MODELING CULTURE: INVESTIGATING CONTEXT-BASED DATA WITH DIGITAL HUMANITIES**

Digital Humanities approaches, it will be argued, provide uniquely situated data-driven methods for making implicit concepts, like organizational culture, explicit. DH provides ways for local and organizational culture to be modeled in order to demonstrate how behavior manifests in organizations.

Organizational culture and the effectiveness of strategic decisions within an organization are becoming increasingly important as an object to be analyzed and measured at scale. While many text-mining approaches are efficient for analyzing data, they do not provide a complete picture with regard to analyzing a person's experience working as part of an organization: a complex system of people and their behaviors in day-to-day tasks.

Using a language-based model sampled from documents in the Nuclear Regulatory Commission's ADAMS database, investigations of key operational words in different contexts—text from regulatory official, licensee, or from a member of the public—demonstrates differences in culture, perspective, and behavior of those different groups and organizations. Furthermore, we use network models of communication transactions as well as concept-agent networks to study the integration of concepts and behavior in communicative and cultural systems.

In addition to discussing the above use case, we will also cover how these same methods are now being tested "in the field" through an investigation and assessment of nuclear safety culture for Columbia Nuclear Generating Station.



**Michael Simeone, PhD**  
Director, Nexus Lab for  
Digital Humanities  
Arizona State University



**Jacqueline Hettel, PhD**  
Assistant Director, Nexus  
Lab for Digital Humanities  
Arizona State University



**Bill Brandt**  
Director, Strategic  
Development for Lightworks  
Arizona State University

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**Bill Brandt**  
Director, Strategic  
Development for Lightworks  
Arizona State University

### **Bill Brandt, Arizona State University**

Bill Brandt joined ASU in 2010 as the Director of Strategic Development for LightWorks, an Arizona State University initiative that capitalizes on ASU's strengths in solar energy and other light-inspired research.

In his role as Director of Strategic Development, he is responsible for developing LightWorks strategy and long term planning with the senior team focusing on use-inspired research. This is being accomplished through leadership development, frameworks and building organizational capability to compete for transdisciplinary and multi-institution projects and grants. The process includes developing and facilitating a collaborative culture, building capability around test beds to accelerate commercialization and developing education and knowledge engagement models. Bill is actively engaged in the Department of Energy's national algae testbed, ATP<sup>3</sup>, and is a development supporter for multiple university centers focused on renewable energy and control technologies including microgrids.

Bill Brandt is a long-term entrepreneur and mentor for leaders and teams who now builds strategic partnerships in the field of renewable energy. Bill's interests include team building and capability development. He also lectures on negotiations with teams in complex environments, joint ventures and financial valuations. Bill worked in the energy industry for 30 years for BP.

Bill received his MBA Finance, Business Law and Accounting from The Wharton Graduate School, and B.Sc. Chemistry & Environmental Studies from Principia College.

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Jacqueline Hettel, PhD  
Assistant Director, Nexus  
Lab for Digital Humanities  
Arizona State University

### Jacqueline Hettel, Arizona State University

Jacqueline Hettel is the Assistant Director of the IHR Nexus Lab. She also works closely with the Linguistic Atlas Projects in a service capacity as their Technical Manager. A linguist by training, her research primarily focuses on investigating language as a social construct that can provide insights into differences in behavior, language use, and meaning construction between different groups. She primarily investigates this in corporate communications within the energy sector. She has done consulting work within the nuclear power industry to help corporations analyze internal communications to understand and assess how they are communicating about safety and then use that information to improve organizational culture and effectiveness.

Her current projects also include investigating rhetorical and communicative strategies employed by both the industry (e.g. the Nuclear Regulatory Commission and licensed corporations) and the public regarding nuclear power to better understand the dynamics surrounding nuclear energy activism. She is also heavily involved in the creation of best practices and strategies for leveraging computational research methods for qualitative data and the development of professional development initiatives for digital and computational methods in higher education. She received her PhD in English Language Studies from the University of Georgia.

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**Michael Simeone, PhD  
Director, Nexus Lab for  
Digital Humanities  
Arizona State University**

### **Michael Simeone, Arizona State University**

Michael Simeone is the Director of the Nexus Lab for Digital Humanities at Arizona State University. He is also affiliated with the Image and Spatial Data Analysis Division at the National Center for Supercomputing Applications.

His research includes cultural studies of science and technology, network analysis, the use of computer vision in the digital humanities, and data-driven collaborations that bridge environmental sciences and humanities. Currently, he serves as a Domain Champion for Humanities for the Extreme Science and Engineering Discovery Environment. He received his PhD in English from the University of Illinois at Urbana-Champaign.