



University of Pittsburgh

**Humanities at Work
in the Community, Health
and Tech Industry:
Linguistics Paving the Way**

March 27, 2019

9:00 AM to 4:30 PM

**The University Club,
University of Pittsburgh**

Organizing Committee:

Abdesalam Soudi, PhD
(Project Director)

Jeannette South-Paul, MD

Shelome Gooden, PhD

Judy Chang, MD, MPH

Audrey Murrell, PhD

Panos Chrysanthis, PhD

Co-Hosts:

Department of Linguistics

Department of Family Medicine

School of Computing and Information

David Berg Center for Ethics and Leadership

Department of Ob/Gyn & Reproductive Sciences



UPMC HEALTH PLAN

Welcome,

We are pleased to welcome you to this conference on Humanities at Work in the Community, Health, and Tech Industry. The conference draws on the Department of Linguistics' Internship Program and the Humanities in Health (HinH) Initiative, which are partially funded by a Pitt Seed Grant. Broadly speaking, the conference will highlight cross-disciplinary work between the humanities and other disciplines, both in and outside of academia. Using the Linguistic Internship and HinH as models, we will focus on the role of the humanities in training of students across various disciplines.

The purpose of this project is to create infrastructure to foster and sustain greater collaboration and cross-fertilization of ideas and perspectives between the University of Pittsburgh's many schools, the health industry, and community partners. Our intent is to broaden educational opportunities for students across campus, and facilitate the application of humanities skills, while enhancing opportunities in the marketplace. The conference will allow several opportunities for networking in addition to the scheduled talks, to allow for the organic generation of new partnerships.

This is the perfect time to launch these new alliances. As Chancellor Gallagher has indicated, Pitt is located in an increasingly diverse city that has transformed from a metropolis anchored in the steel and coal industries to one known for educational and technology incubator institutions and an internationally recognized health system. It is thus crucial to prepare students to profit from these opportunities in our region, and this conference hopes to help.

The University of Pittsburgh is known for its emphasis on the value of humanities and cross-disciplinary work; the administrations of the schools represented today have publicly supported such collaboration. Furthermore, the goals of this meeting align with the Strategic Plan for the University of Pittsburgh, especially with regards to the creation of an institutional environment and culture that celebrate interdisciplinary collaborations and team accomplishment, and foster relationships, events, policies, and work that strive for integrative successes.

To begin, we open this conference with remarks from The University of Pittsburgh Provost and Senior Vice Chancellor, Dr. Ann E. Cudd, followed by executive sponsor remarks by Mr. John Lovelace, the President of UPMC for You, Inc and the President of Government Programs & Individual Advantage. After lunch, President John C. Knapp, of Washington and Jefferson College, will provide the keynote, which will be livestreamed on W&J's social media accounts as well. Dr. Knapp will be followed by a panel featuring various industry partners that spotlight the interface between humanities, health and technology. We will hear today from the following industries: Amazon, M*Modal, Uber, and Voci-tech. After that, there will be sessions about the linguistics internship, the Humanities in Health initiative, linguistics curricular highlights, and other examples of integrative projects.

Representatives from the National Academies of Sciences (NAS), will discuss a recent report titled "The Integration of the Humanities and Arts with Sciences, Engineering, and Medicine in Higher Education", and finally, a panel on Working Across Disciplines will expand on the theme of the conference. The Panelists include Dr. Kathleen Blee, the Bettye J. and Ralph E. Bailey Dean of The Dietrich School of Arts and Sciences and Distinguished Professor of Sociology; Dr. David Vorp, the Associate Dean for Research of the Swanson School of Engineering; and Dr. Paul Cohen, the Founding Dean and Professor of the School of Computing and Information. This Panel will be moderated by Dr. Valerie Kinloch, Renée and Richard Goldman Dean of the School of Education.

Acknowledgments

I would like to take a moment to thank everyone who made this conference possible. Many people contributed time and effort into planning it from its conception to today's final product. The organizing committee worked very hard in the spirit of collegial partnership. I am grateful that my team has been awarded one of the first ever Pitt Seed Grants to grow this program and to directly and actively contribute to the strategic mission at Pitt.

Thanks to generous support from our executive sponsor, UPMC Health Plan, and other support from the Department of Linguistics, the Department of Family Medicine, the School of Computing and Information, the Department of Ob/Gyn and Reproductive Sciences, Semantic Compactions Systems, and the David Berg Center we were able to organize this conference and offer it at no cost to you. Additionally, I am thankful to all our speakers and contributors today who took time from their busy schedules to come share their experiences and insight. Some of our speakers and attendees have traveled from far away to be here. I am thankful to all my colleagues, students, and interns. I also appreciate the support to promote this event that I received from University Communications and the Pitt Commons.

The following people helped bring all the pieces together: Ken Hale (Hizwerks Productions, art and design), LaShanda T Lemmon (Conference Web Support), Allison Thompson (Linguistics Administrator and Business Manager), the Blue and Gold Society, Liam Doyle (David Berg Intern) and Adrienne Holmes (University Club Conference Manager). Finally, I must express my utmost gratitude to Olivia Hartle and Julia Spears, for their guidance and support throughout the project, and monthly insightful meetings for Pitt Seed Grantees. And to all of you, I would like to say thank you for your interest in this topic and for sharing your time with us today. I look forward to continuing to work with all of you. I look forward to your feedback and I appreciate you for being here to share your perspective on this very important topic.

Abdesalam Soudi, Ph.D., Project Director,
on behalf of the Conference Organizing Committee

Organizing Committee



Abdesalam Soudi, PhD



Shelome Gooden, PhD



Audrey Murrell, PhD



Judy Chang, MD, MPH



Panos Chrysanthis, PhD



Jeannette South-Paul, MD

***** Conference will be videotaped and photographed. Please speak with us if you have any concerns.**

Opening remarks:



Dr. Ann E. Cudd
Provost & Senior Vice Chancellor

As Provost and Senior Vice Chancellor at Pitt, Ann E. Cudd has primary responsibility for all aspects of the University of Pittsburgh's academic mission. Her duties include supporting scholarly excellence among more than 4,600 full-time faculty members and student success among the University's nearly 35,000 undergraduate, graduate, and professional students on all five Pitt campuses.

Dr. Cudd previously served as Boston University's Dean of the College and Graduate School of Arts and Sciences, which is the institution's largest college. In this role, she oversaw all strategic decisions related to the college's academic, financial, and administrative direction and growth. She also facilitated the success of more than 700 full-time faculty members and 17,800 students—including 1,800 graduate students.

Prior to joining Boston University (BU) in 2015, Dr. Cudd served for 25 years at the University of Kansas (KU), where she earned the title of University Distinguished Professor of Philosophy. At KU, she held various positions of increasing responsibility—from Director of Graduate Studies and Director of Women, Gender and Sexuality Studies to Associate Dean for Humanities in the College of Liberal Arts and Sciences. Her most recent position at KU—Vice Provost and Dean of Undergraduate Studies—was an inaugural role for the university and involved oversight of campus programs and offices that supported the institution's undergraduate body of nearly 19,000 students.

Dr. Cudd is an active faculty member in the philosophy department at Pitt, as she was at BU and KU. She is an accomplished teacher and scholar whose research explores themes of oppression, economic inequality, capitalism, and gender. Her philosophical interests—the focus of more than 50 books, articles, and chapters published under her name—span social and political philosophy, philosophy of economics, decision theory and feminist theory.

Dr. Cudd holds a Doctorate in Philosophy and two master's degrees—a Master of Arts in Philosophy and a Master of Arts in Economics—all earned from the University of Pittsburgh.

Keynote:



John C. Knapp, Ph.D.
President and Professor
Washington & Jefferson College

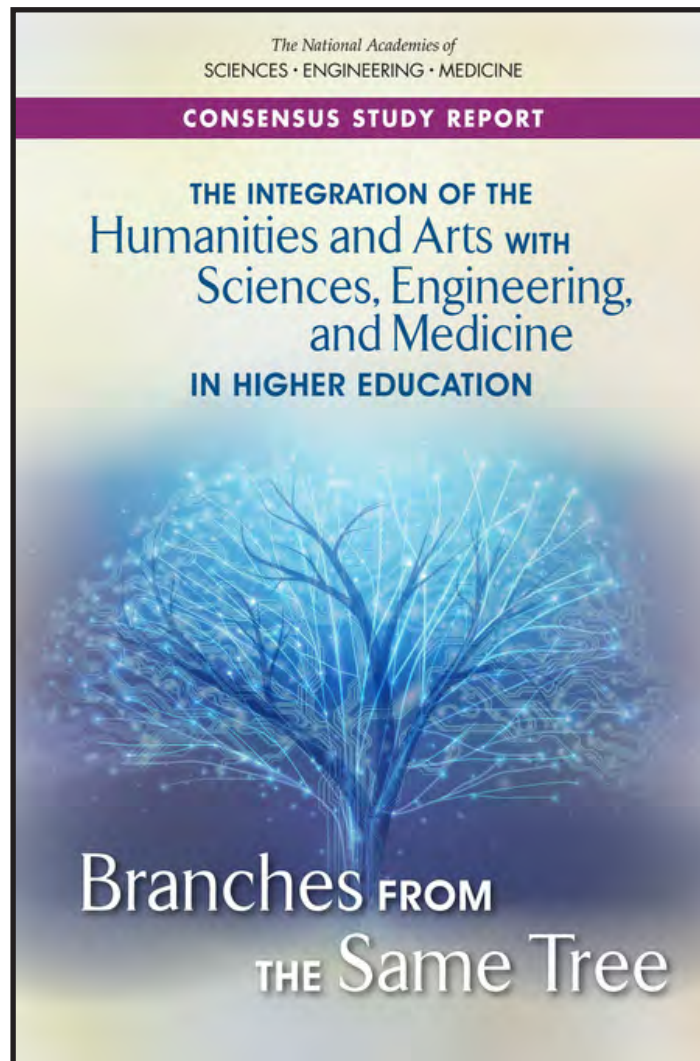
John C. Knapp, Ph.D., is the 13th president of Washington & Jefferson College, one of America's oldest and most distinguished liberal arts institutions, founded in 1781. He also serves as a professor of religion in the College's Department of Philosophy.

Dr. Knapp is an internationally known author and speaker with leadership experience spanning the education, non-profit, and business sectors. Prior to joining W&J in 2017, he was president of Hope College in Holland, MI. Earlier, he served as the founding director of Samford University's Frances Marlin Mann Center for Ethics and Leadership, and as professor and director of Georgia State University's Center for Ethics and Corporate Responsibility, originally established under his leadership as the independent Southern Institute for Business and Professional Ethics. He has served for more than a decade on the board of Clemson University's Rutland Institute for Ethics.

Dr. Knapp's scholarship includes numerous articles and five books. As a leader among his peers, he chairs The Oxford Conclave of Global Higher Education, a retreat for college and university presidents held annually at England's University of Oxford. He has chaired The New York Times Presidents Council, a representative group of private college presidents who meet with the newspaper's higher education reporters for background discussions of issues facing institutions and the industry.

Earlier in his career, he served for more than a decade as president of an Atlanta-based corporate communication firm. During this time, Atlanta Business Chronicle twice recognized him as the region's leading crisis management consultant. He earned a Doctor of Philosophy degree in theology and religious studies at Columbia Theological Seminary, and a Bachelor of Science degree in urban life with a concentration in communication at Georgia State University. He and his wife, Kelly, have five adult children and three grandchildren.

Report and Implementation by the National Academies of Sciences,
Engineering, and Medicine, 2018



Deans' Panel:

Working Across Disciplines

**Community and Tech
Industry Presentations:**

Amazon, M*Modal,
Uber, Voci Tech

Networking Reception

Humanities at Work in the Community, Health and Tech Industry: Linguistics Paving the Way

9:00	Registration Open Coffee/Breakfast (outside Ballroom B)
9:50	Conference overview & Layout Abdesalam Souidi, Ph.D., Project Leader
10:00	University of Pittsburgh Opening Remarks Dr. Ann E. Cudd Provost and Senior Vice Chancellor UPMC Health Plan: Executive Sponsor Remarks John Lovelace President, UPMC for You President, Government Programs & Individual Advantage Chief
	Introduction: Abdesalam Souidi, Ph.D.; Audrey Murrell, Ph.D.
10:15	Report and Implementation by National Academies of Sciences, Engineering, and Medicine. The Integration of the Humanities and Arts with Sciences, Engineering, and Medicine in Higher Education: Branches from the Same Tree (2018, Consensus report) Ashley Bear, Ph.D.; Maria Dahlberg, MS
11:00	Q&A/Discussion
11:10	Deans' Panel: Working Across Disciplines Moderator: Valerie Kinloch, Ph.D. Kathleen Blee, Ph.D., Bettye J. and Ralph E. Bailey Dean, <i>The Dietrich School of Arts & Sciences</i> David Vorp, Ph.D., Associate Dean for Research, <i>Swanson School of Engineering</i> Paul Cohen, Ph.D., Founding Dean and Professor, <i>School of Computing and Information</i>
11:50	Q&A/Discussion
12:00-12:50	Lunch in Ballroom B Recognition of Community & Industry Partners: Scott Kiesling, Ph.D.; Abdelsalam Souidi, Ph.D.
	Introduction: Audrey Murrell, Ph.D.
1:00	Keynote Address John C. Knapp, Ph.D. President and Professor Washington & Jefferson College
1:30	Q&A/Discussion

	<p>Panel: Community and Tech Industry presentations Moderators: Abdesalam Soudi, PhD; John Maier, PhD MD</p>
1:50	<p>Amazon: Just ask...a linguist: Using linguistics to build Alexa Skills Fawn Draucker, Ph.D., Research Manager Amazon: Linguists in E-Commerce Laura Walsh Dickey, Ph.D., R&D Manager for Machine Translation</p>
2:10	<p>M*Modal: Closing the Loop in Clinical Documentation Thomas Polzin, Ph.D., Director of Natural Language Processing Roberto Aranovich, Ph.D., Sr. Associate Development, Jennifer Lines, NLU Data Specialist Martin Taylor, NLU Data Specialist</p>
2:30	<p>Uber: Why Self Driving? Carol Smith, Sr. UX Researcher- Uber Advanced Technologies Group</p>
2:45	<p>Voci-technologies John Kominek, Ph.D., Voci co-founder, Chief Technology Officer Wayne Ramprasad, Chief Product Officer</p>
3:05	Q&A/Discussion
3:15	<p>Nuts and Bolts of Linguistic Internship Program & Humanities in Health Initiative Abdesalam Soudi, Ph.D. (Linguistics) Shelome Gooden, Ph.D. (Linguistics) Judy Chang, MD, MPH (ObGyn) Jeannette South-Paul, MD (Family Medicine)</p>
3:45	<p>Linguistics curricular highlights/Linguistic tools Na-Rae Han, Ph.D. (Linguistics)</p>
4:00	<p>Other cross-disciplinary models (A Pitt Seed Project) <i>Transformational Games- Interventions in Health through Engaging Narrative</i> Ravi Patel, Pharm D (Pharmacy) Dmitriy Babichenko, Ph.D. (School of Computing and Information) Tom Bair, MFA (English)</p>
4:15	Q&A/Discussion
	Closing Remarks
4:30	Networking reception

Community and Industry Partners

JOHN KOMINEK — Chief Technology Officer, Voci



John Kominek is a Voci co-founder and brings the company successful start-up experience along with extensive expertise in speech technologies. In his first start-up, Kominek was co-founder of the highly successful Quack.com, the first company to enter the voice portal business (and later acquired by AOL). At Quack, he led the engineering teams responsible for the fusion and structuring of voice-searchable data, and for the development of the text-to-speech architecture. Prior to Voci, John worked for Automated Speech Technologies, where he developed extremely low bitrate speech codecs based on vocabulary independent speech recognition. He has over 40 research publications and is the holder of seven U.S. patents. John earned his BS in Honours Physics and his MS in Mathematics and Computer Science at the University of Waterloo, and his PhD from the Language Technologies Institute at Carnegie Mellon.

WAYNE RAMPRASHAD — Chief Product Officer, Voci



Wayne joined Voci with 30 years of experience in the architecture, development, and operations of large-scale speech-driven data systems, having held senior positions at several Fortune 500 companies including NYSE Euronext, Comcast Cable, IBM, Lucent, and AOL Time Warner. As Executive Director of Call Management Technology and Architecture at Comcast, Wayne was responsible for helping formulate and execute on an enterprise-wide strategic vision for self-service solutions in support of Customer Service Operations, saving the company in excess of \$1.2B in operational expenses. Earlier in his career Wayne was Computer Telephony Architect for the successful startup Quack.com, acquired by AOL in 2000, where he became Chief Architect of Platform Services and Architecture. Wayne has cultivated high-performing growth-oriented teams in businesses of all sizes, from small startups to large multinationals, using proven team-based management methodologies such as Agile, Kaizen, and Services-Oriented Architecture to deliver highly reliable services. Wayne earned his Honours BS degree in Joint Applied Mathematics and Computer Science at the University of Waterloo, Canada.

FAWN DRAUCKER — Research Manager, Amazon



Fawn Draucker is a Research Manager with the Alexa Skills Kit team at Amazon. She manages the ASK International Data team, focused on measuring and improving Spoken Language Understanding performance for custom skills. Prior to joining Amazon, Fawn earned a PhD from Pitt in Sociolinguistics, focusing her research on computer-mediated communication and language technology. Her background in both qualitative and quantitative linguistics research has been critical to her role in evaluating language data to answer critical business questions, including evaluating the health of the speech and language systems used by Alexa.

LAURA WALSH DICKEY— R&D Manager for Machine Translation, Amazon



Laura Walsh Dickey is an R&D manager for Machine Translation at Amazon. She has a PhD in Linguistics from the University of Massachusetts, Amherst and 25 years of experience in academia, consulting, and industry. She joined Amazon in 2018 after 5 years at Google in Machine Learning and language technology. Her research at the Max Planck Institute for Psycholinguistics and Northwestern University focused on the phonology of liquid consonants, speech perception, and speech production. Her forays in consulting range from drug name confusability to building software for teaching foreign language pronunciation to understanding what people mean when they type in that Google search box.

CAROL SMITH – Sr. UX Researcher- Uber Advanced Technologies Group



Carol Smith has been conducting research to improve the human experience across industries for 18 years. She has been working with AI systems over the past 4 years and currently conducts UX research to improve the self-driving vehicle experience at Uber's Advanced Technologies Group in Pittsburgh, PA. Carol has presented over 120 talks and workshops in 37 cities around the world and has her M.S. in Human-Computer Interaction from DePaul University.

MARTY TAYLOR – NLU Data Specialist, M*Modal



Marty Taylor is a Data Specialist in Natural Language Understanding at M*Modal. He has a BA in Linguistics from the University of Pittsburgh. Originally interested in computer science, he studied linguistics while remaining interested in his original passion. Marty completed his linguistic internship at Pitt in 2018. He works on annotation of doctor-patient conversations with the goal of making data entry easier for physicians.

ROBERTO ARANOVICH – Sr. Associate Development, M*Modal



Roberto graduated from the University of Buenos Aires and later receiving his masters in Linguistics at the Universidad Nacional del Comahue, Escuela Superior de Idiomas in Argentina. He continued his studies in the United States, receiving a PhD in Linguistics at the University of Pittsburgh. His research interests include Computational Linguistics, Syntax, and Morphology. He contributed to the AVENUE Project team at the Carnegie Mellon University Language Technologies Institute, developing a Mapudungun/Spanish grammar transfer for the AVENUE machine translation system (2004-2006). He has given several guest lectures to applications of linguistics seminars at Pitt.

THOMAS POLZIN – Director of Natural Language Processing, M*Modal

Thomas earned his PhD from Carnegie Mellon's Language Technology Institute. Thomas has expertise in machine learning and computational linguistics. His career has centered around progress on machine translation, recognizing emotion, and detecting emotion in speech. Polzin has co-authored numerous articles published in the realm of speech emotion analysis and technological advancements in semi-automatic question answering systems.

JENNIFER LINES – NLU Data Specialist, M*Modal



Jennifer Lines is an NLU Data Specialist on the Natural Language Understanding team at M*Modal, where she did her Linguistic Internship while at Pitt. She earned her BA in Linguistics and Chinese from the University of Pittsburgh, with research focused on Chinese morphology and Chinese and English literature. Her current work focuses on linguistic mark-ups of doctor + patient conversations, as well as data collection for our Virtual Provider Assistant.

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