

Report

With the support of the Gender Institute we were able to host an ongoing series of seminars by inspiring female speakers within STEM, hosted under the auspices of the CECS Dean's Colloquium.

CECS regularly hosts a Dean's Colloquium, inviting some of the most exciting speakers from around the world in engineering and computer science to visit ANU, meet with our staff and students (both undergraduate and postgraduate) and deliver a public seminar of broad interest. Since its inception in 2014 we have hosted a wide variety of talks covering fields as varied as *The Internet of Things*, *Personalised Medicine & Nano-optics* with world leading speakers being drawn from Australia, the United States and Japan.

However, we had yet to host a female speaker in the series. Historically, STEM fields have suffered from an underrepresentation of women. CECS is no different in this regard and it is something that we are actively attempting to address both within our staff and student cohorts. As part of a holistic approach to this issue we would like to use our Colloquia series to more regularly host female speakers, world leading in their fields, highlighting their achievements and providing them as inspiring role models to our students, staff and the general public.

Changing landscape of a digitised world: Are you ready?



ANU College of Engineering and Computer Science
Dean's Colloquium *presents*
Monique Morrow, Chief Technology Officer - Evangelist for
New Frontiers Development and Engineering at Cisco

We are living in a society where change is rapid - perhaps it has always been.

What types of technologies will be essential to our business?

The disruption of Blockchain to data and databases parallels the disruption of the Internet to communications and networks. From Wall Street to Fintech Accelerators, incredible investments at Blockchain have led to incredible speed of innovation.

This disruption is now ready to penetrate enterprise IT.

Against a backdrop of difficult-to-solve staffing and employment issues, companies are increasingly turning to technology.

More than half of companies have devised a strategy to address workforce, but less than one-quarter have deployed it.

Robotics technology is being used to free highly skilled physical workers to focus their talents on where they are needed and Artificial Intelligence has the potential to displace mid-ranking clerical workers.

In this talk Monique Morrow, CTO of New Frontiers Engineering at Cisco, will examine the implications of these emerging technologies to digital transformation and workforce skills.

About the speaker

Monique Morrow has a track record of co-innovating with customers from North America, Europe and Asia.

Her current focus is on the intersection between economics and technology research to portfolio execution. Defining mechanisms and marketplace scenarios for cloud federation constructs to include security are areas she has also been working on.

Monique is passionate about the humanitarian use of technology, in addition to exploring the use of AI/VR to create a people neutral system that is both experiential and ethical without losing the beauty of randomness in our human behavior.

She is currently co-leading the new Institute of Electrical and Electronics Engineers (IEEE) Ethical Considerations in Autonomous Systems Mixed Reality Committee.

Monique believes developing the use of blockchain to create identity as a service is a truly exciting field. Applying humanistic, and purposeful values in an organization is Monique's modus operandi. Privacy that is understood by all members of our ecosystem is foundational to Monique's work. The possibilities to transform our society are so ever vast and why not try?

Dean's Colloquium: What is Natural Language Processing



What is Natural Language Processing? If you want to transform healthcare, you need to know.

The majority of clinical information useful for patient care and research is locked in clinical notes and only accessible with great pain and effort. Natural Language Processing (NLP) has the potential to unlock the information in the notes to support phenotyping for precision medicine, quality improvement, and health services research.

This talk will illustrate the potential of NLP through existing applications, will describe the challenges of making NLP a real and scalable solution, and will provide concrete suggestions for how the audience can help NLP reach its potential in health care and discovery.

Biography

Dr. Chapman earned her Bachelor's degree in Linguistics and her PhD in Medical Informatics from the University of Utah in 2000.

From 2000-2010 she was a National Library of Medicine postdoctoral fellow and then a faculty member at the University of Pittsburgh. She joined the Division of Biomedical Informatics at the University of California, San Diego in 2010.

In 2013, Dr. Chapman became the chair of the University of Utah, Department of Biomedical Informatics where she continues her research on natural language processing in the context of informatics solutions to problems that vex health care.

Bayesian networks for decision making under uncertainty



Many areas of human endeavour require decision making about complex systems, where there is: uncertainty about the causal process driving the system; limited and possibly inaccurate information about the current state of the system; and uncertainty about the effects of actions or interventions.

Bayesian networks have become a state-of-the-art technology to support decision-making under uncertainty. These models can combine data, evidence, opinion and guesstimates to help decisions makers combine probabilities and take into account costs and benefits.

In this public lecture Professor Ann Nicholson, Deputy Dean of the Faculty of Information Technology at Monash University, will demonstrate Bayesian networks broad applicability across a range of examples, and describe some of the challenges in building these models and having them adopted by decision makers.

Networking, drinks and nibbles from 6pm, with Professor Ann Nicholson's presentation to begin at 7pm.

Biography

Professor Ann Nicholson is the Deputy Dean in the Faculty of Information Technology at Monash University.

After completing her BSc (Hons) and MSc in Computer Science at the University of Melbourne, she was awarded a Rhodes scholarship to Oxford, where she did her doctorate in the Robotics Research Group.

After completing a post-doc at Brown University, she returned to Australia to take up a lecturing position at Monash.

Professor Nicholson researches in the broad areas of Artificial Intelligence and machine learning. She is a leading international researcher in Bayesian networks, now the dominant technology for probabilistic causal modelling in intelligent systems. She has applied Bayesian Network technology to problem-solving in many domains including meteorology, epidemiology, medicine, education and environmental science. Examples include the use of BNs in biosecurity risk assessment, predicting the impact of conservation actions on threats