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### **Global Hubs Salon Series**

## Salon on "Big Data, AI, and New Media"

Wednesday, April 20, 2022 | 8:15am - 9:30am EST

#### **Facilitators**

Wendy W. Wolford, Cornell University

Rachel Beatty Riedl, Cornell University

### **Hosts**

Sarah Kreps, Cornell University

Tsuhan Chen, National University of Singapore

Jackson Phiri, University of Zambia

Shohini Sengupta, O.P. Jindal Global University

Benjamín Valdés-Aguirre, Tecnológico de Monterrey

Yves-Alexandre de Montjoye, Imperial College London

Juan Esteban Díaz, Universidad San Francisco de Quito

Lee H. Humphreys, Cornell University

**Qiaolei Jiang, Tsinghua University** 

Jamal-Deen Abdulai, University of Ghana

Natawut Nupairoj, Chulalongkorn University

Subramanian Ramamoorthy, University of Edinburgh

Xiaokang Yang, Shanghai Jiao Tong University

Mor Naaman, Cornell University

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### Jamal-Deen Abdulai

Senior Lecturer and Head, Department of Computer Science, University of Ghana

Jamal-Deen Abdulai is an ICT professional and an academic in computer science with over 10 years working experience in both industry and academia. He graduated with a PhD in Computer Science in 2009 and an MPhil in 2006 from the University of Glasgow (UK), and a BSc in Computer Science from the Kwame Nkrumah University of Science and Technology (KNUST) in 2002. Prior to his appointment at the University of Ghana, Abdulai worked as a lecturer at the School of Technology, GIMPA from 2009 to 2013, and as a senior research assistant at the University for Development Studies (UDS) from 2002 to 2004.

Abdulai has a broad background in computer science with specific training and expertise in wireless communications and intelligent systems. He has developed lightweight communication protocols for embedded systems suitable for IOTs platforms using stochastics methods and machine learning algorithms. Currently, he directs broad spectrum of research ranging from Smart Cities, Smart Agriculture to Smart Health using sensors, wireless communication protocols, and machine learning algorithms. His current active research is focused on early detection of cervical cancer using deep learning algorithms. He has been working as lead consultant for the Government of Ghana's E-Government projects. He led teams to develop and implement the Public Investment Management software system for the Ministry of Finance, and the Public Contract Management and Accounting system for the Ministry of Roads and Highways, and many others. A senior member of IEEE and ACM, Abdulai has a proven record in research, mentoring/training, and service focused on building computational models and software systems in different application areas.

#### **Tsuhan Chen**

Deputy President (Research and Technology) and Distinguished Professor, National University of Singapore; Chief Scientist, Artificial Intelligence Singapore

Tsuhan Chen is a renowned expert in pattern recognition, computer vision, machine learning and artificial intelligence. He was the David E. Burr Professor of Engineering at Cornell University from 2009 to 2018 and served as Director, School of Electrical and Computer Engineering from 2009 to 2013. He was a Professor at Carnegie Mellon University from 1997 to 2008. Chen was the Cheng Tsang Man Chair Professor and Dean of the College of Engineering at the Nanyang Technological University from 2015 to 2017.

Chen was appointed the Editor-in-Chief for IEEE Transactions on Multimedia in 2002-2004. He was elected to the Board of Governors, 2007-2009, and a Distinguished Lecturer, 2007-2008, both with the IEEE Signal Processing Society. Chen received the Charles Wilts Prize for outstanding independent research at the California Institute of Technology in 1993. He was a recipient of the US National Science Foundation CAREER Award from 2000 to 2003. He received the Benjamin Richard Teare Teaching Award

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in 2006, the Eta Kappa Nu Award for Outstanding Faculty Teaching in 2007, both at the Carnegie Mellon University, and the Michael Tien Teaching Award in 2014 at Cornell University.

Chen has published more than 300 technical papers and holds close to 30 US patents. He earned his PhD degree in electrical engineering from the California Institute of Technology (Pasadena, CA, USA) in 1993.

### **Yves-Alexandre de Montjoye**

Associate Professor, Data Science Institute and Department of Computing, Faculty of Engineering, **Imperial College London** 

Yves-Alexandre de Montjoye is currently is a Special Adviser on AI and Data Protection to EC Justice Commissioner Didier Reynders and a Parliament-appointed expert to the Belgian Data Protection Authority (APD-GBA). In 2018-2019, he was a Special Adviser to EC Competition Commissioner Margrethe Vestager co-authoring the Competition Policy for the Digital Era report. His research has been published in Science and Nature Communications and has enjoyed wide media coverage (BBC, CNN, New York Times, Wall Street Journal, Harvard Business Review, etc.). His work on the shortcomings of anonymization has appeared in reports of the World Economic Forum, FTC, European Commission, and the OECD. He worked for the Boston Consulting Group and acted as an expert for both the Bill and Melinda Gates Foundation and the United Nations. He received his PhD from MIT in 2015 and obtained, over a period of 6 years, an MSc from UCLouvain in Applied Mathematics, an MSc (Centralien) from École Centrale Paris, an MSc from KULeuven in Mathematical Engineering as well as his BSc in engineering from UCLouvain.

#### Juan Esteban Díaz

Professor, School of Business; Director, Data Science Institute; Director, Master's Program in Data and **Business Management, Universidad San Francisco de Quito** 

Juan Esteban Díaz is an expert in evolutionary computation. His research is mainly focused on addressing complex real-world multiobjective optimization problems under uncertainty, and on designing and configuring, in an automatic manner, optimization algorithms able to tackle such problems, while considering and incorporating the preferences of the decision maker. His research has been published by prestigious journals, and he has been awarded multiple grants. In 2021, he received the Editors' award from the European Journal of Operational Research for his article, "Incorporating decision-maker's preferences into the automatic configuration of bi-objective optimisation algorithms."

Prior to his academic post, Díaz worked for companies such as Nestlé, and he is still constantly involved in national and international consultancy projects across different industries. He holds a PhD in Business and Management granted by the University of Manchester, an MSc in Food and Resource Economics from the University of Bonn, and an engineering degree from Universidad San Francisco de Quito.

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### Lee H. Humphreys

Professor and Chair, Department of Communication, College of Agriculture and Life Sciences; Director, Qualitative and Interpretive Research Institute (QuIRI), Cornell Center for Social Sciences, Cornell University

Lee Humphreys studies the social uses and perceived effects of communication technology, specifically focusing on mobile and social media. Her previous research has explored mobile phone use in public spaces and emerging norms on mobile social networks both in the US and in Southeast Asia. Using qualitative field methods, she focuses on how people integrate communication technology into their everyday lives to facilitate identity management and social interaction. Her research has also explored questions of privacy and surveillance around mobile technologies and draws on historical media practices to reveal the ways people use "new" media for social problems. Most recently, she is working on an interdisciplinary project about IoT sensor networks and rural connectivity. She is the author of *The* Qualified Self: Social Media and the Accounting of Everyday Life (MIT Press, 2018) and the co-editor with Paul Messaris of *Digital media: Transformations in Human Communication* (Peter Lang, 2006/2017). She is also the Director of Qualitative and Interpretive Research Institute at the Cornell Center for Social Sciences.

## **Qiaolei Jiang**

Associate Professor, School of Journalism and Communication; Director, Tsinghua-USC (University of Southern California) Dual Degree Program in Communication Data Science; Vice Director, Center for **Intelligent Media Studies, Tsinghua University** 

Qiaolei Jiang's research focuses on the role of information and communication technologies in society across cultural, political, and economic dynamics. Specifically, she works in the area of human-media interactions, through which human behaviors are shaped and expressed at individual, group, and societal levels, especially at the intersection of digital innovation and the social transformation of the world. Jiang is associate editor of the journal <u>Technology in Society</u>. She has received several awards, including the International Association for Media and Communication Research (IAMCR) Herbert Schiller Award, Communication Policy Research South (CPRsouth) Young Scholar Award, International Telecommunication Society Bell Canada Best Paper Award, and two university-level teaching awards. She teaches courses on new media and society, psychology of new media, and frontiers in cognitive communication. Jiang is the author of the book, Internet Addiction Among Cyberkids in China: Risk Factors and Intervention Strategies (Springer, 2019), and her publications have appeared in a number of international journals, including Journal of Computer-Mediated Communication, Social Science Computer Review, Internet Research, Games and Culture, Mass Communication and Society, The Lancet Public Health, Globalization and Health, Health Communication, Cyberpsychology Behavior and Social Networking, and Journal of Behavioral Addictions.

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## Sarah Kreps

John L. Wetherill Professor, Department of Government, College of Arts and Sciences; Director, **Cornell Tech Policy Lab, Cornell University** 

Sarah Kreps has written five books, including, most recently, <u>Social Media and International Relations</u> (Cambridge University Press, 2020). Other books include Taxing Wars: The American Way of War Finance and the Decline of Democracy (2018), <u>Drones: What Everyone Needs to Know</u> (2016), <u>Drone</u> Warfare (2014) and Coalitions of Convenience: United States Military Interventions after the Cold War (Oxford 2011).

Beyond these books, Kreps's work has appeared in a number of academic journals such as the American Political Science Review, World Politics, Journal of Politics, and International Security, and policy outlets such as Foreign Affairs and Foreign Policy. Her opinions have been featured in a series of media outlets including The Washington Post, The New York Times, BBC, USA Today, CNBC, and CNN.

Kreps is a Non-Resident Senior Fellow at the Brookings Institution and has held fellowships at the Council on Foreign Relations (and is a life member), Harvard's Kennedy School of Government, West Point, and the University of Virginia's Miller Center for Public Affairs. She has a BA from Harvard, MSc from Oxford, and PhD from Georgetown. Between 1999-2003, she served as an active duty officer in the United States Air Force.

#### **Mor Naaman**

#### Professor of Information Science and Associate Dean for Technical Programs, Cornell Tech

Mor Naaman leads a research group focused on topics related to the intersection of technology, media and democracy. The group applies multidisciplinary techniques — from machine learning to qualitative social science — to study our information ecosystem and its challenges. Previously, Naaman was on the faculty at the Rutgers School of Communication and Information, led a research team at Yahoo! Research Berkeley, received a PhD in Computer Science from the Stanford University InfoLab, and played professional basketball for Hapoel Tel Aviv. He is also a former startup co-founder, and advises startup companies in social computing and related areas. His research is widely recognized, including with an NSF Early Faculty CAREER Award, research awards and grants from numerous corporations, and multiple best paper awards.

#### **Natawut Nupairoj**

Assistant Professor, Department of Computer Engineering; Director, AI Engineering Center, Faculty of **Engineering, Chulalongkorn University** 

Natawut Nupairoj's research focuses on applying Big Data and AI technology in multidisciplinary areas, especially in energy, transport, and healthcare. His current research include: MLOps, Big Data

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architecture, mobility analytics, healthcare process mining, and AI application in healthcare. Previously, Nupairoj was Director of Al and Data Science, University Technology Center, and served as Head of the Department of Computer Engineering and as an Associate Dean in the Faculty of Engineering at Chulalongkorn University. He received his PhD in Computer Science from Michigan State University. He is a member of the Board of Directors at Government Big Data Institute, Ministry of Digital Economy and Society, Government of Thailand.

#### Jackson Phiri

Senior Lecturer, Department of Computer Science, School of Natural Sciences, University of Zambia

Jackson Phiri's areas of research interest include applied artificial intelligence, digital identity management and systems, and ICT for Development and Information Systems. He obtained his Bachelor of Computer Science at the University of Zambia, a Master of Science in Computer Science at the University of the Western Cape in South Africa and a PhD in Computer Science at Harbin Institute of Technology in China. Currently Phiri is supervising five PhD students and more than ten master's students at the University of Zambia. Through his research team, the Department of Computer Science at the University of Zambia has received research funds from locally and internationally bodies, including a research grant from the International Development Research Centre (IDRC) and Swedish International Development Cooperation Agency (SIDA) through The African Centre for Technology Studies, Food and Agricultural Organisation (FAO) for FAW early warning system and Zambian National Science and Technological Council for the Farmer Support Input Programme for the Ministry of Agriculture in Zambia. Phiri has more than 100 peer reviewed publications. He has successfully supervised and graduated more than 50 postgraduate students.

#### **Subramanian Ramamoorthy**

Professor of Robot Learning and Autonomy, School of Informatics, College of Science and Engineering; Director, Institute of Perception, Action and Behaviour, University of Edinburgh

Subramanian Ramamoorthy is Principal Investigator for the UKRI Research Node on Trustworthy Autonomous Systems Governance and Regulation, Executive Committee Member for the Edinburgh Centre for Robotics, Turing Fellow at the Alan Turing Institute and Member of BCS/IET UK Computing Research Committee (UKCRC). He received his PhD in Electrical and Computer Engineering from The University of Texas at Austin in 2007. He has been an elected Member of the Young Academy of Scotland at the Royal Society of Edinburgh, and he has held Visiting Professor positions at the University of Rome "La Sapienza" and Stanford University.

His research focus is on robotics and machine learning, with particular emphasis on achieving safe and robust autonomy in human-centered environments. This work has attracted funding from a variety of sources including UKRI, EU, DARPA, DSTL and the Royal Academy of Engineering, and been recognized with best paper awards at international conferences including ICRA, IROS, CoRL, ICDL and EACL. Between 2017 - 2020, he served as Vice President - Prediction and Planning at Five AI, a UK-based

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startup company developing autonomous vehicles technology. He continues to be involved with the company as Scientific Advisor.

## **Rachel Beatty Riedl**

Director and John S. Knight Professor of International Studies, Mario Einaudi Center for International Studies; Professor, Department of Government, College of Arts and Sciences, Cornell University

Rachel Beatty Riedl's research interests include institutional development in new democracies, local governance and decentralization, and authoritarian regime legacies in Africa. Her latest book, coauthored with Gwyneth McClendon, is *From Pews to Politics: Religious Sermons and Political Participation in Africa* (Cambridge University Press, 2019). Her previous book, *Authoritarian Origins of Democratic Party Systems in Africa* (Cambridge University Press, 2014), won the African Politics Best Book award. Riedl also cohosts the <u>Ufahamu Africa</u> podcast about life and politics on the African continent. Most recently, she was a fellow at the Nantes Institute for Advanced Study and a Fulbright scholar. Previously, she was director of the Program of African Studies and an associate professor in the Department of Political Science at Northwestern University.

## **Shohini Sengupta**

Associate Professor of Research and Associate Dean (Student Welfare), Jindal School of Banking and Finance, O.P. Jindal Global University

Shohini Sengupta's research has focused on legal thinking associated with economic, financial, sociological, technological fields of study to effectively understand and develop policies around new technologies. In her previous work in India, she has assisted the Ministry of Finance, the Ministry of Corporate Affairs, Ministry of Petroleum, financial sector regulators, and the Fifteenth Finance Commission on a number of socio-economic and legal matters. She is interested in emerging and interdisciplinary issues of financial regulation, with a particular focus on financial stability, bank resolution, gender, and social security legislation.

## **Benjamín Valdés-Aguirre**

#### Tecnológico de Monterrey

Benjamín Valdés-Aguirre is a full-time computer science teacher at Tec de Monterrey campus Querétaro. He has a BS in Computer Science, an MA in Management of IT, and a PhD in Computer Science. Most of his professional life he has been involved in education and artificial intelligence often combining them. His first focus on research was the development of theoretical frameworks for the representation of <a href="https://www.numen.com/human-knowledge-in-formal-computer-standards">https://www.numen.com/human-knowledge-in-formal-computer-standards</a>. Part of his master's thesis was an implementation of one such conceptual framework in XML and Java. As part of his PhD work, he focused on how <a href="https://www.numen.com/student-models">student-representations (or student-models)</a> are built into intelligent software for education, such as Intelligent Tutoring Systems and Serious Games. Since then, he has been mostly working in

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serious games and collaborating with The Marshal Lab in the Center for Computational Biology at the University of California, Berkeley, making useful prototype tools for their lab.

In his courses he develops competencies in computer science students with a strong mindset of research and technical skills. He has designed research courses for undergraduate students to incentivize publication of their own original research. He leads the current design team for data science capstone projects and works closely with the student community setting up training bootcamps for coding, creating gamification related activities with board games and role-playing games.

### Wendy W. Wolford

Vice Provost for International Affairs; Robert A. and Ruth E. Polson Professor, Department of Global Development, College of Agriculture and Life Sciences, Cornell University

As vice provost, Wendy Wolford is responsible for strengthening the university's global connections and worldwide interdisciplinary initiatives. Her research focuses on international development, land use and distribution, social mobilization, and agrarian societies with a regional concentration in Latin America particularly Brazil. For 20 years, she has worked with one of the most important grassroots social movements in Latin American history: the Movimento dos Trabalhadores Rurais Sem Terra (MST), or the Movement of Rural Landless Workers. Part of Cornell's faculty since 2010, Wolford served as the faculty director of economic development at the Cornell Atkinson Center for Sustainability, where she co-led CARE-Cornell and Oxfam-Cornell collaborations.

### Xiaokang Yang

Distinguished Professor, Department of Electronic Engineering, School of Electronic Information and Electrical Engineering; Deputy Executive Dean, Artificial Intelligence Institute, Shanghai Jiao Tong University

Xiaokang Yang earned his BS from Xiamen University in 1994, MS from the Chinese Academy of Sciences, Shanghai, in 1997, and PhD from Shanghai Jiao Tong University in 2000. From September 2000 to March 2002, he worked as a Research Fellow in Centre for Signal Processing at Nanyang Technological University in Singapore. From April 2002 to October 2004, he was a Research Scientist at the Institute for Infocomm Research (I2R) in Singapore. From August 2007 to July 2008, he visited the Institute for Computer Science at the University of Freiburg (Germany) as an Alexander von Humboldt Research Fellow. His current research interest is computer vision and machine learning. He has published over 200 refereed papers, and has filed 60 patents. He received the 2018 Best Paper Award of IEEE Transactions on Multimedia. He is Associate Editor of IEEE Transactions on Multimedia and Senior Associate Editor of IEEE Signal Processing Letters. He is an IEEE Fellow.