IEEE GHTC 2021
Virtual -- October 19-23, 2021

PANELS

- Social Media Disinformation and its Impact on Public Health During the COVID-19 Pandemic

- Tech Innovations for Healthy Aging

- Advancing IEEE Leadership Through New Initiatives on Sustainable Development and Energy Transformation

- Think Global, Act Local: Fostering Engineering Knowledge and Capacity for Impact

Social Media Disinformation and its Impact on Public Health During the COVID-19 Pandemic
Wednesday October 20, 2021 | 1-2 PM (PT)

Moderator: Yuhong Liu, Associate Professor of Computer Science and Engineering, Santa Clara University

Panelists:
- **Laura Robinson:** Affiliated faculty at the Harvard Berkman Klein Center, and an associate professor in the Department of Sociology at Santa Clara University.
- Étienne Brown: Assistant Professor in the Department of Philosophy at San Jose State University
- **Subramaniam Vincent:** Director, Journalism and Media Ethics, Markkula Center for Applied Ethics, Santa Clara University
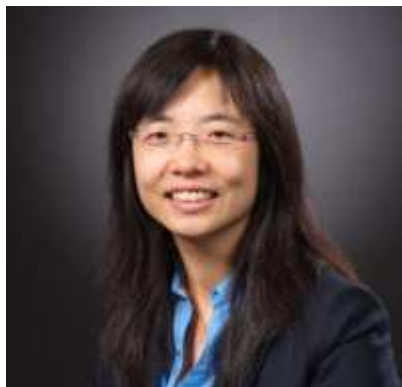
Attempts to influence people's beliefs through misinformation have a long history. Recently, the pervasiveness of social media makes the massive propagation of misinformation much cheaper and influential, raising great concerns from the public. During the COVID-19 pandemic, however, the circulation of false or misleading claims is more dangerous than ever. Beyond the possibility of physical harm, what is its impact on people's political opinions, emotions, physical safety and personal autonomy? What factors may influence people's resistance against misinformation? Is it possible and desirable to control misinformation spread by regulating it? More specifically, before the COVID-19 pandemic, the election of Donald Trump (2016) and Jair Bolsonaro (2018) have witnessed a dramatic historical period animated by the rise of misinformation, right-wing populism, and ever-widening ideological divides in the U.S. and Brazil. Add to this the COVID-19 global pandemic with the U.S. and Brazil leading in global cases and mortalities. When these phenomena converge, can we provide parallel interpretation of information and misinformation as

it is co-constructed in real time by Brazilian and American participants in the digital commons during the COVID-19 pandemic?

Laura Robinson is affiliated faculty at the Harvard Berkman Klein Center and an associate professor in the Department of Sociology at Santa Clara University. She earned her PhD from UCLA, where she held a Mellon Fellowship in Latin American Studies and received a Bourse d'Accueil at the École Normale Supérieure. In addition to holding a postdoctoral fellowship on a John D. and Catherine T. MacArthur Foundation funded project at the USC Annenberg Center, Robinson has served as Visiting Assistant Professor at Cornell University and the Chair of CITAMS (formerly CITASA) for 2014-2015. Her research has earned awards from CITASA, AOIR, and NCA IICD. Robinson's current multi-year study examines digital and informational inequalities. Her other leadership positions include Series Co-Editor of Emerald Studies in Media & Communications; Editorial Board Member of Sociological Methodology, Revue Française de Sociologie, Interpretive Lenses in Sociology, and the Journal of Information, Communication & Ethics in Society; North American Coordinator of the Brazil-U.S. Colloquium on Communication Research; Latin American Organizer of the Partnership for Progress on the Digital Divide International Conference; Section Chair 2014-2015 of the Communication, Information Technologies, and Media Sociology Section of the ASA; Steering Committee Member Digital Sociology Thematic Group of the ISA; and Organizing Committee Member of the Media Sociology Symposium.

Étienne Brown is an Assistant Professor in the Department of Philosophy at San Jose State University since August 2019. Previously, he was a postdoctoral fellow at the University of Oxford and the Université de Montréal. He has also taught philosophy at the Sorbonne (Paris-IV), where he completed his Ph.D. in 2016. Broadly His research interests are within the philosophy of technology, political philosophy and ethics, with a current focus on political epistemology and the ethics of online interaction.

Yuhong Liu, Associate Professor at Department of Computer Engineering Santa Clara University, received her B.S. and M.S. degree from Beijing University of Posts and Telecommunications in 2004 and 2007 respectively, and the Ph.D. degree from University of Rhode Island in 2012. She is the recipient of the 2019 Researcher of the Year Award at School of Engineering, Santa Clara University, and the 2013 University of Rhode Island Graduate School Excellence in Doctoral Research Award. Her research interests include trustworthy computing and cyber security of emerging applications, including online social media and Internet-of-things. She has

published over 60 papers on prestigious journals and peer reviewed conferences. Her papers have been selected as the best paper at the IEEE International Conference on Social Computing 2010 (acceptance rate = 13%) and the 9th International Conference on Ubi-Media Computing (UMEDIA 2016).

Subramaniam (Subbu) Vincent is director for the Journalism and Media Ethics program at the Markkula Center for Applied Ethics, at Santa Clara University. Subbu's focus is on developing tools and frameworks to help advance new norms in journalism practice, ethical news product design and new vocabulary and signals to help the public process and demand ethical media. During 2017-18, Subbu was Tech Lead for The Trust Project at the Markkula Center. Prior to working for the Center, he was a 2016 John S Knight Journalism fellow at Stanford University. In his media career, he was publisher and editor-in-chief for two news magazines in Bangalore, India. Prior to that, he was a software engineer in Silicon Valley.

Tech Innovations for Healthy Aging
Thursday October 21, 2021 | 1-2 PM (PT)

Moderator: Joseph Wei, Managing Director, Technology Ventures Group; Past-sponsorship Chair, GHTC, Advisor/Past-chair of IEEE SCV Section

Panelists:
- **Steve Ewell:** Executive Director, Consumer Technology Association Foundation
- **Michael Philips**: Technology Strategy and Relationships Director, AARP

The United Nations General Assembly declared 2021-2030 the Decade of Healthy Aging that brings together governments, civil society, international agencies, professionals, academia, the media, and the private sector to improve the lives of older people, their families. Both AARP and CTA Foundations have common goals of linking older adults with technologies that enhance their lives. In this panel discussion, the speakers will share past and on-going programs they have been working on that bring innovative solutions to the older adults.

Michael Philips, Director of Technology and Partnerships, AARP

Michael Philips is the Director of Technology and Partnerships at AARP and is dedicated to supporting AARP's important social mission through technology inclusion. Michael has led internal and external technology initiatives at AARP for over 18 years, including tech industry partnerships, community education programs, strategic planning, and AARP's innovation prototyping lab. He is passionate about addressing the growing societal issue of digital equity and empowering adults with the

skills and information needed to take full advantage of these amazing times and advocating for all generations within the technology industry.

Steve Ewell, Executive Director, Consumer Technology Association Foundation

Steve Ewell is the executive director of the Consumer Technology Association (CTA) Foundation, a charitable foundation with the mission of linking seniors and people with disabilities with technology that enhances their lives. They support programs providing independence, purpose and vital connections for people across the country. Steve graduated from Drew University with a Bachelor of Arts and earned his MBA and Master of Science in information and telecommunications systems from Johns Hopkins University's Carey Business School. He serves as co-chair of the Forum on Aging, Disability and Independence at the National Academies of Sciences, Engineering and Medicine, the Advisory Council for the Center for Inclusive Design and Engineering (CIDE) at the University of Colorado and the External Advisory Board of the Enhance Center RERC, a consortium between Weill Cornell Medicine, Florida State University and the University of Illinois at Urbana-Champaign.

Joseph Wei, Managing Director, Technology Ventures Group, LLC

Joseph Wei is the Managing Director at Technology Ventures Group (TVG) which advises startups and corporations on business strategy and product innovations. Previously, he led enterprise businesses at Inventec Corp., NEC, Silicon Graphics Inc., and DEC (acquired by HP). He is a IEEE Senior Member, a HKN member, an advisor/past-chair for the Santa Clara Valley Section, the past-chair for Central Area and SFBA Consumer Technology Society. He is a planning committee member of the Vision Innovation Challenge Summit and Award Ceremony, served as the past-sponsorship chair for GHTC and past-advisor to WIE-ILC. Most recently, he focuses on partnerships with startups, VCs, corporations, non-profit and NGOs in developing innovative solutions for the older adults market. Joseph graduated from Tufts University with a BS in Electrical Engineering and completed professional courses in startup entrepreneurship from Stanford University.

Advancing IEEE Leadership Through New Initiatives on Sustainable Development and Energy Transformation
Thursday October 21, 2021 | 2-3 PM (PT)

Moderator: Rudi Schubert, Director, New Initiatives for the IEEE Standards Association

Panelists:

- **Maike Luiken, IEEE Vice President – Member & Geographic Activities**
- **Juan Carlos Montero, Part-Time Lecturer Professor at the University of Costa Rica**
- **Sampath Veeraraghavan,** Global Chair, IEEE Humanitarian Activities Committee

Sustainability has a global focus at the United Nations, national and local levels, along with multiple facets that are highly interrelated. While Affordable and Clean Energy is a UN SDG itself, it also provides the infrastructure supporting goals for health, education, clean water and many more elements of international focus. This session will provide an overview of IEEE initiatives and leadership in sustainable development. IEEE has a wide breadth of programs ranging from global perspectives to local level projects and communities working towards a more sustainable world. Recently, IEEE has embarked on amplifying its visibility in sustainability through cross-organizational efforts, as well as external engagement in key global alliances on renewable energy. As IEEE communities of interest continue to grow and accelerate, this session will highlight key programs and opportunities for greater participant engagement in support of sustainability.

Rudi Schubert is the Director, New Initiatives for the IEEE Standards Association, and lead for its Energy Practice. He leads the IEEE Industry Connections program, operating consensus building interest groups across a portfolio of emerging issues and topics including sustainability, renewable energy, and many others. Before joining the IEEE, Rudi was a principal engineer for EnerNex, providing technical expertise on technology standards and testing programs to the National Institute of Standards and Technology (NIST). He also spent twenty years in progressively expanding leadership roles with Telcordia Technologies (formerly Bellcore) establishing technical criteria and implementation methodologies that become a mandated compliance and certification standard used by US telecom carriers for technology deployment. He holds bachelors and masters degrees in mechanical engineering from Stevens Institute of Technology, Hoboken, New Jersey.

Maike Luiken, PhD, SMIEEE, IEEE-HKN, FEIC, is 2021 IEEE Vice President – Member & Geographic Activities. She served as President of IEEE Canada in 2018 – 2019 and, in 2018, as Chair, Policy Track, IEEE Internet Initiative. Currently Adjunct Research Professor at Western University, she was the founding Director of the Bluewater Technology Access Centre (now Lambton Manufacturing Innovation Centre) following eight years as Dean at Lambton College with a number of portfolios: School of Technology and Applied Sciences, Business Development, Sustainable

Development and Applied Research. Her strategic leadership in the development of the applied research & innovation capacity and portfolio led to Lambton College becoming one of the three top Research Colleges in Canada.

Her areas of interest and expertise span diverse technical areas from ICT, energy and water to advanced manufacturing and nanotechnologies as well as technology design principles, ethics in design and policy associated with their implementation. She has particular interest in how progress in one area, e.g., in ICT, enables advances in other disciplines and in how deployment of various technologies contributes – or not – to achieving sustainable development.

Maike Luiken has experience in the public and private sectors in Canada and has worked in the USA and Germany. She owns a small technology consulting practice and is a co-owner and a managing director at a start-up company.

Juan Carlos Montero is the Former IEEE Power & Energy Society Vice President of Membership & Image. He has previously held several other volunteer leadership roles within the IEEE Power & Energy Society at the local and international levels. Mr. Montero received the Bachelor and Licentiate degree on Electrical Engineering from the University of Costa Rica. He is the Electrical Operational Planning Coordinator in the Costa Rican National Power Control Center (CENCE). He is also Part-Time Lecturer Professor at the University of Costa Rica. Mr. Montero is a Senior Member of the IEEE.

Sampathkumar Veeraraghavan is a globally renowned technologist best known for his technological innovations in addressing global humanitarian and sustainable development challenges. He is a seasoned technology and business leader with over 16 years of experience in Top 500 Fortune companies. Throughout his career, he has led business critical strategic programs and successfully delivered cutting-edge technologies in areas of conversational Artificial Intelligence (AI), Natural Language Understanding, cloud computing, enterprise systems, infrastructure technologies, assistive and sustainable technologies. Sampath served as an expert in the 2020 Broadband Commission working group on school connectivity co-chaired by UNESCO, UNICEF and ITU to drive "GIGA," a Global School Connectivity Initiative. He is the founder and president of "The Brahmam," a humanitarian program delivering next-generation social innovations to achieve sustainable development goals and benefit marginalized communities globally. Over a decade, he has launched large-scale transformational global initiatives that brought together academic institutions, industry leaders and Government agencies to address pressing global challenges faced by children with disabilities, impoverished women and students from marginalized communities in developing nations.

Sampath serves as the Global Chair of the 2021 IEEE Humanitarian Activities Committee (IEEE HAC) of the world's largest technical professional organization "The Institute of Electrical and Electronics Engineers (IEEE), USA. In this role, he spearheads the global strategy and portfolio

of sustainable development and humanitarian engineering programs to deliver impactful programs to engage and benefit 400K+ IEEE members at grass root-level in 160 countries. He is credited with launching several novel global programs in humanitarian engineering which successfully inspired and engaged students and young professionals in sustainable development activities globally. Sampath was the Global Chair (2019-2020) of IEEE Special Interest Group on Humanitarian technologies (SIGHT), leading the program to record-breaking growth through high-impact, technology-driven sustainable programs benefiting members in 119+ countries. He is the founding chair for the IEEE SIGHT day (2020) and SIGHT week (2019), a global program that showcases the impactful IEEE technology-based humanitarian programs. He currently leads the IEEE Standard's 2021 corporate sustainability working group. As an active IEEE and IEEE-HKN member, Sampath has spearheaded more than 20+ global committees and has made significant contributions in advancing technology for the benefit of humanity.

Sampath is accredited with numerous global awards and media mentions for his leadership excellence and technological innovations in addressing global sustainable development challenges. He was recently honored with one of the top global awards "2020 IEEE Theodore W. Hissey Professional Award". He has delivered 250+ invited talks in International forums, premier technology conferences and industry panels organized by UN, IEEE, ITU, World IoT forum and Top universities around the globe.

He has authored and published 30+ research publications and thought leadership articles in leading global conferences, journals and magazines. His technological innovations and leadership excellence were featured in cover stories of global media such as IEEE TV, IEEE spectrum, USA today, E-week, AI-news and IEEE transmitter, The Bridge and ACM-News. He received an M.S. degree in Electrical Engineering from Tufts University, Massachusetts, USA (2010) and B.E. degree in Computer Science and Engineering from Anna University, India (2005). He currently works as a senior technology and program management leader in the conversational Artificial Intelligence industry where he spearheads a portfolio of science and engineering programs to advance spoken language innovations.

Think Global, Act Local: Fostering Engineering Knowledge and Capacity for Impact

Friday October 22, 2021 | 1-2 PM (PT)

Moderator: Iana Aranda, Director, Engineering Global Development, ASME and President, Engineering for Change

Panelists:
- **Nishant Agarwal**, Founder & CEO, Life and Limb (P) Ltd., (India)
- **Abdul Rashid Mussah**, Graduate Assistant at the University of Missouri-Columbia (USA)
- **Valentina Ospira**, Architect (Colombia)
- **Brandon Simons**, Graduate Assistant at Villanova University (USA)

Iana Aranda (Moderator) is the Director of the Engineering Global Development Department at the American Society of Mechanical Engineers (ASME) where she sets the business strategy of a portfolio of programs and platforms that advance knowledge, workforce and hardware-led social innovation to improve the quality of life of underserved communities. Iana also serves as the President of Engineering for Change, LLC (E4C) – a knowledge organization and global community of over 1 million individuals dedicated to design and delivery of essential technologies advancing sustainable development. In both roles, Iana is driving an agenda for a multidisciplinary and human-centered approach to international development enabled by a prepared engineering workforce, sustainable technology, cross-sector partnerships and robust innovation ecosystems. Iana has 15 years of experience in academic, research and nonprofit sectors focusing on the intersection of engineering design, business strategy and social impact.

Nishant Agarwal concluded his MS with a specialization in Manufacturing Sciences at the Indian Institute of Technology [IIT] Kanpur in 2018. He has been associated with ASME Engineering for Change since 2019. During the fellowship, Nishant was a part of the research around engineering response to COVID-19 where the team curated a reference list of resources to mitigate negative health outcomes worldwide. He founded Life and Limb in the year 2020 – to develop cost-effective myoelectric upper limb prostheses considering the socio-economic sphere of the amputees in the low-resource settings. The startup was amongst the top three winners at the ASME ISHOW India 2021.
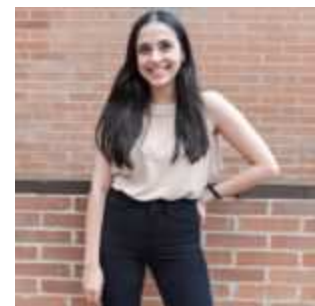

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Abdul Rashid Mussah is a PhD student specializing in big data, machine learning and artificial intelligence for transportation engineering applications. He is originally from Ghana, West Africa where he earned his BSc. in Civil and Environmetal Engieering, before moving to the USA to earn his MSc. in Transportation Engineering at the University of Tennesse in Knoxville. His work and research experience spans many fields from engineering design, to human factors analysis, and currently spatio-temporal network systems optimization. As an E4C Research Fellow in 2021, Abdul worked with Bridges to Prosperity to evaluate the data and start understanding the impact of trail bridges on the built environment in rural communities in Africa and beyond.

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Valentina Ospina is an architect recently graduated from the Javeriana University of Colombia. Passionate about her career, in search of knowledge that allows her to create tools that can help transform the world so that we can all inhabit the planet in the best conditions. In the future she seeks to have a master's degree in sustainable design and architectural heritage intervention. As

an E4C Research Fellow in 2021, her research focused on developing improved automation of BIM workflows for Retrofitting Projects for Build Change.

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Brandon Simons graduated from Illinois Tech with a Bachelor's in Electrical Engineering. Post-graduation, he served in the US Peace Corps in Southern Zambia, focusing in agriculture, youth development, HIV education, appropriate technology, and rural solar electrification. Currently, he is a graduate assistant at Villanova University pursuing a Master's in Sustainable Engineering with a focus in International Development and Renewable Energy. His academic projects look at the recovery of Toyota Prius NiMH batteries for solar home systems in Fiji and solar WiFi hotspots for educational resource availability in rural Cambodian schools. . As an E4C Research Fellow in 2021, he worked with SolarBuddy to design and engineer FamilyBuddy, a cost-effective, modular and easy-to-assemble solution for lighting, charging devices, cooking and cooling through solar energy.

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