



Preface

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We are pleased to present this special issue of the best of the 11th Annual Social Computing, Behavioral Modeling and Prediction/Behavior Representation in Modeling Simulation (SBP-BRIMS) Conference in the Journal of Computational and Mathematical Organization Theory. The goal of the SBP-BRIMS Society is to build a community of computational social science scholars by fostering interaction between members of the academic, corporate, government, and military communities that are interested in understanding, forecasting, and impacting human socio-cultural behavior. In 2018, our conference featured two challenge problems: one on opioid epidemic and another on disinformation campaigns. In addition, we brought in a plenary panel to discuss the burgeoning field of social cyber security. This panel took a step towards defining this new science, its theories, its methods, and its scientific culture in a way that does not give priority to either social science or computer science, but instead understand how each field is dependent on the other. Despite decades of work in this area, this new scientific field is still in its infancy. To meet this charge and to move this science to the next level, this community must meet the following three challenges: deep understanding, socio-cognitive reasoning, and reusable computational technology. Fortunately, as the papers in this volume illustrate, this community is poised to answer these challenges.

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A total of 85 papers were submitted to the conference as regular track submissions. Of these, 18 were accepted as full papers for an acceptance rate of 21.2% and 27 were accepted as short papers for an acceptance rate of 52.9%. In this special issue, we recognize the best conference papers, as well as the best challenge problem submissions.

The papers in this special issue report work that spans computational models of behavior, studying disinformation and fake news under different contexts, and the dark web as a way to track accidental overdose. Orr et al. (this issue) develop a paradigm for multiscale computational models to simulate behavior, from individuals to society. The winner of the challenge problem on opioid epidemic (Bates et al. this issue) use synthetic data and geospatial methods to better forecast the opioid epidemic, while runner-up (Lokala et al. this issue) use the dark web to track trends in supply of opioids. To examine disinformation (Babcock et al. this issue) focus on a particular community, while (Hussain et al. this issue) focus on the integration of several platforms. Shu et al. (this issue) create discuss their *FakeNewsTracker* that allows the collection, detection, and visualization of fake news. Finally, our best student paper winner (Beskow et al. this issue) reports work on detecting bots on social media by discovering a common lexical feature in their usernames/handles. The papers in this special issue represent a wide-range of topics.

These seven papers represent some of the breadth of work presented at the 11th Annual SBP-BRIMS Conference (2018). In the future, SBP-BRIMS will continue to build communities that foster research in computational social science and encourage interaction between academic, corporate, military, and government communities.

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Robert Thomson serves as the Cyber and Cognitive Science Fellow at the Army Cyber Institute and is an Assistant Professor in the Department of Behavioral Sciences and Leadership. Dr. Thomson has over 6 years of post-graduate experience and over 30 invited and refereed academic publications in the domains of computational modeling, intelligence analysis, cybersecurity, and artificial intelligence. He has received funding from IARPA, DARPA, ONR, and ARL. Dr. Thomson has taught 8 different courses across five academic departments at Carleton University and the United States Military Academy. He is also a faculty representative for the Men's Basketball Program at West Point.

Christopher L. Dancy received the Ph.D. degree in Information Sciences and Technology, with a focus on artificial intelligence and cognitive science, from The Pennsylvania State University in University Park in 2014. He is an assistant professor of computer science at Bucknell University. His research involves the computational modeling and simulation of physiological, affective, and cognitive systems in humans. He studies how these systems interact and what these interactions mean for human-like intelligent behavior.

Dr. Ayaz Hyder is an Assistant Professor in the Division of Environmental Health Sciences, College of Public Health and Affiliated Faculty in Translational Data Analytics at The Ohio State University. Dr. Hyder received his Ph.D. in Biology at McGill University where he developed and validated agent-based models for the spatial spread of influenza. He went on to complete a two-year postdoctoral training in environmental epidemiology with cross-appointments in School of Forestry and Environmental Studies

and School of Public Health, Yale University. He also completed a two-year research associate position in Health Services Research at the Dalla Lana School of Public Health, University of Toronto. Dr. Hyder's research focuses on understanding the role of multiple determinants of human health (social, economic, demographic, environment) operating at multiple levels of organization (individual, neighborhood, regional). Dr. Hyder uses mathematical and computational approaches (e.g. predictive analytics and systems science methods) to bring together theory, data and methods from multiple disciplines. His currently funded projects are in the areas of birth outcomes, food insecurity, environmental health, opioid epidemic, and citizen science.

Halil Bisgin is an Assistant Professor of Computer Science at the University of Michigan-Flint (UM-Flint). Dr. Bisgin received his Ph.D. in Integrated Computing-Computer Science from the University of Arkansas at Little Rock where he also taught and served as a graduate faculty member. Prior to his service at UM-Flint, he was actively involved in FDA-funded projects at the National Center for Toxicological Research (NCTR) where he took part in data mining projects such as topic extraction on tobacco documents and patient narratives in the FDA repository. His work there has been recognized with FDA Group Recognition Award. Through his interdisciplinary research collaborations, Dr. Bisgin has published several papers in eminent journals and proceedings in the fields of Bioinformatics, Information Retrieval, and Social Computing. Dr. Bisgin has also a book chapter on homophily on online social media.