

# SBP + BRiMS 2014 Program

| Tuesday, April 1           |  |  |  | TUTORIALS |
|----------------------------|--|--|--|-----------|
| Registration               | Tue 7:30 AM  |  |  |           |
| <b>Morning Tutorials</b>   | Tue 9:00 AM- 12:00 PM<br>Room AB                     | <i>Introduction to Social Data Analysis Combining R and Python</i>   | Dr. Jose Manuel Magallanes, George Mason University  |           |
|                            | (break at the discretion of the tutorial presenters) |  |  |           |
|                            | Tue 9:00 AM- 12:00 PM<br>Room C                      | <i>Modeling a Mobile World</i>   | Dr. Wendy J. Nilsen; Dr. Stephen Intille, Northeastern University; Dr. Donna Spruijt-Metz, University of Southern California; Dr. Misha Pavel, Northeastern University |           |
| Lunch                      | Tue 12:00 PM - 1:30 PM                               | <i>(no conference lunch served)</i>  |  |           |
| <b>Afternoon Tutorials</b> | Tue 1:30 PM - 4:30 PM<br>Room AB                     | <i>Charting Collections of Connections in Social Media: Creating Maps and Measures with NodeXL</i>   | Dr. Marc A. Smith, Chief Social Scientist, Connected Action Consulting Group   |           |
|                            | (break at the discretion of the tutorial presenters) |  |  |           |
|                            | Tue 1:30 PM - 4:30 PM<br>Room C                      | <i>Multiscale Strategic Interaction with vmStrat Models</i>  | Dr. David Sallach, University of Chicago, ANL  |           |
| Wednesday, April 2         |  |  |  |           |
| Registration               | 7:30 AM  |  |  |           |
| Welcome & Admin            | 8:00 AM  | <b>Claudio Cioffi-Revilla (SBP) &amp; Bill Kennedy (BRiMS)</b>   |  |           |
| <b>Session 1 (BRiMS)</b>   | 8:30 AM  | <b>Session Chair: Bill Kennedy</b>   |  |           |
| Talk 1                     |  | Decisions from Experience: Could Models of Aggregate Choice Explain Individual Choices from Information Search?                                | Neha Sharma and Varun Dutt   |           |
| Talk 2                     |  | The Effect of Heterogeneous Agents in Socio-Cognitive Networks   | Changkun Zhao, Jui-Te Tseng, and Frank Ritter  |           |
| Talk 3                     |  | A General Instance-Based Model of Sensemaking in a Functional Architecture   | Robert Thomson, Christian Lebiere, and Stefano Bennati   |           |
| Break                      | 9:30 AM  | <i>Refreshments: muffins, yogurt, fruit, beverages</i>   |  |           |
| <b>Keynote</b>             | 10:00 AM   | <b>Keynote by David W. Lightfoot entitled "The Complexity of Language: How It Is Acquired and How It Changes"</b>                              |  |           |
| Short break                | 11:00 AM   |  |  |           |
| <b>Challenge Session</b>   | 11:15 AM   | <b>Data Challenge Chairs: Kevin S. Xu, Wen Dong, Fred Morstatter, Katherine Chuang</b>   |  |           |
|                            |  | Challenge Problem Description 2014<br>Winning Challenge Problem talk1<br>Winning Challenge Problem talk2<br>Challenge Problem Description 2015 |  |           |
| Lunch                      | 12:30 PM - 1:45 PM                                   | <i>Catered lunch: sandwiches, salad, fruit, sweet, beverages</i>   |  |           |
| <b>Keynote</b>             | 1:45 PM  | <b>Keynote by Patty Mabry entitled "Systems Science for Behavioral and Social Science Research: A Look at the Future"</b>                      |  |           |
| Best Paper Awards          | 2:55 PM  | Terry Lyons Memorial Best Papers (Regular and Student) presented by the Program Chairs: William G. Kennedy, Nitin Agarwal, Shanchieh Jay Yang  |  |           |
| Break                      | 3:10 PM  | <i>Refreshments: cupcakes, snacks, fruit, beverages</i>  |  |           |
| <b>Session 2</b>           | 3:40 PM  | <b>Session Chair: Edward Ip</b>  |  |           |
| Talk 1                     |  | Cover Your Cough! Quantifying the Benefits of a Localized Healthy Behavior Intervention on Flu Epidemics in Washington DC                      | Nidhi Parikh, Mina Youssef, Samarth Swarup, Stephen Eubank, and Youngyun Chungbaek   |           |
| Talk 2                     |  | Sample Size Determination to Detect Cusp Catastrophe in Stochastic Cusp Catastrophe Model: A Monte-Carlo Simulation-Based Approach             | Din-Geng (Din) Chen, Xinguang (Jim) Chen, Wan Tang, and Feng Lin   |           |
| Talk 3                     |  | Mobility Patterns and User Dynamics in Racially Segregated Geographies of US Cities  | Nibir Bora, Yu-Han Chang, and Rajiv Maheswaran   |           |
| Talk 4                     |  | Quantifying Political Legitimacy from Twitter  | Haibin Liu and Dongwon Lee   |           |
| End of day                 | 5:00 PM  |  |  |           |

| Thursday, April 3  |                     |  |
|--|---------------------|--|
| Welcome & Admin<br>Session 3 (BRiMS)                               | 8:00 AM<br>8:30 AM  | <b>Claudio Cloffi-Revilla (SBP) &amp; Bill Kennedy (BRIMS)</b><br><b>Session Chair: Din Chen</b>   |
| Talk 1   |                     | Mathematical Capture of Human Data for Computer Model Building and Validation<br>Gladstone Reid, Gordon Cooke, Robert Demarco, Caitlin Weaver, John Riedener, and Elizabeth Mezzacappa   |
| Talk 2   |                     | Design Patterns for Balancing Behavior Responsiveness<br>Randolph Jones and Robert Wray  |
| Talk 3   |                     | Enhanced Behavioural Realism for Live Fire Targets<br>Rick Evertsz, Andrew Lucas, Cameron Smith, Matteo Pedrotti, Frank Ritter, Robin Baker and Paul Burns   |
| Break  | 9:30 AM             | Refreshments: muffins, bagels, hardcooked eggs, fruit, beverages   |
| Keynote  | 10:00 AM            | Keynote by Jacquelyn Morie entitled "The Ultimate Selfie"  |
| Session 4  | 11:10 AM            | Session Chair: Amy Sliva   |
| Talk 1   |                     | Segmenting Large-Scale Cyber Attacks for Online Behavior Model Generation<br>Steven Strapp and Shanchieh Jay Yang  |
| Talk 2   |                     | Deriving Population Assessments through Opinion Polls, Text Analytics, and Agent-Based Modeling<br>Ian Yohai, Bruce Skarin, Robert McCormack, and Jasmine Hsu  |
| Talk 3   |                     | Incorporating Interpretation into Risky Decision-Making: A Computational Model<br>David A. Broniatowski and Valerie F. Reyna   |
| Talk 4   |                     | Emergent Consequences: Complex Behaviors in a Simple Model to Support Innovation Adoption, Planning, and Evaluation<br>H. Van Dyke Parunak and Jonathan A. Morell  |
| Lunch  | 12:30 PM - 12:45 PM | (no conference lunch served)   |
| Session 5  | 1:45 PM             | Session Chair: Nitin Agarwal   |
| Talk 1   |                     | Winning by Following the Winners: Mining the Behaviour of Stock Market Experts in Social Media<br>Wenhui Liao, Sameena Shah and Masoud Makrehchi   |
| Talk 2   |                     | Predicting Social Ties in Massively Multiplayer Online Games<br>Jina Lee and Kiran Lakkaraju   |
| Talk 3   |                     | Path Following in Social Web Search<br>Jared Lorince, Debora Donato, and Peter M. Todd   |
| Talk 4   |                     | Estimating Social Network Structure and Propagation Dynamics for an Infectious Disease<br>Louis Kim, Mark Abramson, Kimon Drakopoulos, Stephan Koltitz, and Asu Ozdaglar   |
| Short break  | 3:05 PM             |  |
| Poster Introductions   | 3:15 PM             | Poster Introduction Chairs: Sun-Ki Chai and David Reitter  |
| Break (re-arrange room)  | 4:10 PM             |  |
| Thursday Poster Session and Reception<br>4:40 - 6:30PM             |                     |  |
| Reception: assorted hot and cold hors d'oeuvres, sweets, beverages |                     |  |
| SBP Poster   |                     | The Needs of Metaphor<br>David Bracewell   |
| SBP Poster   |                     | Predicting Guild Membership in Massively Multiplayer Online Games<br>Hamidreza Alvani, Kiran Lakkaraju, Gita Suktharankar and Jonathan Whetzel   |
| SBP Poster   |                     | Frogs in a Pot: An Agent-Based Model of Well-Being Versus Prosperity<br>Chris Thron  |
| SBP Poster   |                     | A New Paradigm for the Study of Corruption across Cultures<br>Kobi Gal, Avi Rosenfeld, Sarit Kraus, Michele Gelfand and Bo An  |
| SBP Poster   |                     | Simulating International Energy Security<br>David Masad  |
| SBP Poster   |                     | Emergent Behavior in Informal Text Communication: Emoticon Use in First and Second Languages<br>Cecilia Aragon, Nan-Chen Chen, Judith Kroll and Laurie Feldman   |
| SBP Poster   |                     | Social Maintenance and Psychological Support using Virtual Worlds<br>Peggy Wu, Jacquelyn Morie, J. Benton, Kip Haynes, Eric Chance, Tammy Ott and Sonja Schmer-Galunder  |
| SBP Poster   |                     | Temporal Dynamics of Scale-Free Networks<br>Erez Shmueli, Yaniv Altshuler and Alex Pentland  |
| SBP Poster   |                     | Contexts of Diffusion: Adoption of Research Synthesis in Social Work and Women's Studies<br>Laura Sheble and Annie Chen  |
| SBP Poster   |                     | Big Data-Driven Marketing: How Machine Learning Outperforms Marketers' Gut-Feeling<br>Pål Sundsøy, Johannes Bjelland, Asif M. Iqbal, Alex "Sandy" Pentland, and Yves-Alexandre de Montjoye   |
| SBP Poster   |                     | Modeling Impact of Social Stratification on the Basis of Time Allocation Heuristics in a Social Network<br>Michal Kakol, Radoslaw Nielek and Adam Wierzbicki   |
| SBP Poster   |                     | Dyadic Attribution: A Theoretical Model for Interpreting Online Words and Actions<br>Shuyuan Mary Ho, Shashanka Ss Timmaraju, Mike Burmester and Xiuwen Liu  |
| SBP Poster   |                     | Cholera and Water Treatment Behavior: Modeling the '08-'09 Cholera Epidemic in Zimbabwe<br>Anne Carpenter  |
| SBP Poster   |                     | Team PsychoSocial State Assessment through Discourse Analysis: Power and Comfort/Routine<br>Christopher Miller, Jeffrey Rye, Peggy Wu, Sonja Schmer-Galunder and Tammy Ott   |
| SBP Poster   |                     | Using Trust Model for Detecting Malicious Activities in Twitter<br>Mohini Agarwal and Bin Zhou   |
| SBP Poster   |                     | Emerging Dynamics in Crowdfunding Campaigns<br>Huaming Rao, Anbang Xu, Xiao Yang and Wai-Tat Fu  |
| SBP Poster   |                     | A Study of Mobile Information Exploration with Multi-Touch Interactions<br>Shuguang Han, I-Han Hsiao and Denis Parra   |
| SBP Poster   |                     | Frabjous: A Declarative, Domain-Specific Language for Agent-Based Modelling<br>Ivan Vendrov, Christopher Dutchyn and Nathaniel Osgood  |
| SBP Poster   |                     | Incorporating Social Theories in Computational Behavioral Models<br>Eunice E. Santos, Eugene Santos Jr., John Korah, Riya M. George, Qi Gu, Jacob Jurmain, Keumjoo Kim, Deqing Li, Jacob Russell, Suresh Subramanian, Jeremy Thompson and Fei Yu |
| SBP Poster   |                     | Studying the Evolution of Online Collective Action: Saudi Arabian Women's Driving Campaign on Twitter<br>Serpil Yuca, Nitin Agarwal, Rolf Wigand, Merlyna Lim and Rebecca Robinson.  |
| SBP Poster   |                     | Civil Unrest Prediction: A Tumblr-based Exploration<br>Jiejun Xu, Tsai-Ching Lu, Ryan Compton and David Allen  |
| SBP Poster   |                     | Mutual Information Technique in Assessing Crosstalk Through a Random-Pairing Bootstrap Method<br>Xinguang Chen and Din Chen  |
| SBP Poster   |                     | Social TV and the Social Soundtrack: Significance of Second Screen Interaction during Television Viewing<br>Partha Mukherjee   |
| SBP Poster   |                     | A Comparative Study of Smoking Cessation Programs on Web Forum and Facebook<br>Mi Zhang, Christopher Yang and Katherine Chuang   |
| SBP Poster   |                     | The Social Aspect of Voting for Useful Reviews<br>Asher Levi and Osnat Mokryn  |
| SBP Poster   |                     | The Data Absorption Technique: Coevolution to Automate the Accurate Representation of Social Structure<br>Deborah Duong  |
| SBP Poster   |                     | New Methods of Mapping: The Application of Social Network Analysis to the Study of the Illegal Trade in Antiquities<br>Michelle D'ippolito   |
| SBP Poster   |                     | Social Network Structures of Primary Health Care Teams Associated with Health Outcomes in Alcohol Drinkers with Diabetes<br>Marlon Mundt and Larissa Zakletskaia   |
| BRiMS Poster   |                     | Support for ACT-R Modeling of Elliptical Endpoint Error Distributions in Mobile Touchscreen 2-D Fitts' Law Tasks<br>Kristen Greene, Melissa Gallagher and Frank Tamborello   |
| BRiMS Poster   |                     | Quantifying and Enhancing Robustness of Cognitive and Behavioral Systems<br>Matthew Walsh and Kevin Gluck  |
| BRiMS Poster   |                     | Modeling Psychological Theories of Emotion and Social Identity for Helping the Conception of Psychological Messages: The System PSYMEV<br>Colette Faucher and Malika Machtoune   |
| BRiMS Poster   |                     | Preparing Leaders at the United States Military Academy: A Socio-structural View<br>Kathryn Coronges, Yulia Tyshchuk and William Wallace   |
| BRiMS Poster   |                     | Combining Visual Cognition Systems Using the Combinatorial Fusion Model<br>Darius A. Mulia, Randy Clinton, Charles R. Skelsey, Lihan Yao and D. Frank Hsu  |
| BRiMS Poster   |                     | Exposing AI Configuration to Operator Control<br>Kevin Dill and Phe Meas   |
| BRiMS Poster   |                     | The Virtual Employment Test Bed: An Immersive Synthetic Environment Allows Engineers to Test and Evaluate Material Solutions<br>Robert Demarco, Gordon Cooke, John Riedener and Elizabeth Mezzacappa   |
| BRiMS Poster   |                     | An Improved Genetics-based Model of Emotion Diffusion on Facebook based on Similarity, Interactivity and Connectivity Principles<br>Roche Lee Razonable and Kurt Junshean Espinosa   |
| End of day   | 6:30 PM             |  |

**Friday, April 4**

|                                  |                    |  |   |
|----------------------------------|--------------------|--|---|
| Welcome & Admin                  | 8:00 AM            | <b>Claudio Cloffi-Revilla (SBP) &amp; Bill Kennedy (BRIMS)</b>   |   |
| Session 6                        | 8:30 AM            | <b>Session Chair: S. Jay Yang</b>  |   |
| Talk 1                           |                    | A New Approach for Item Ranking Based on Review Scores Reflecting Temporal Trust Factor  | Kazumi Saito, Masahiro Kimura, Kouzou Ohara, and Hiroshi Motoda                     |
| Talk 2                           |                    | mFingerprint: Privacy-Preserving User Modeling with Multimodal Mobile Device Footprints  | Haipeng Zhang, Zhixian Yan, Jun Yang, Emmanuel Munguia Tapia, and David J. Crandall |
| Talk 3                           |                    | How Individuals Weigh Their Previous Estimates to Make a New Estimate in the Presence or Absence of Social Influence   | Mohammad S. Jalali  |
| Talk 4                           |                    | Multi-objective Optimization for Multi-level Networks  | Brandon Oselio, Alex Kulesza and Alfred Hero  |
| Break                            | 9:50 AM            | <i>Refreshments: Muffins, rice cakes, fresh fruit, beverages</i>   |   |
| Session 7                        | 10:20 AM           | <b>Session Chair: Kevin Xu</b>   |   |
| Talk 1                           |                    | Labeling Actors in Social Networks using a Heterogeneous Graph Kernel  | Ngot Bui and Vasant Honavar   |
| Talk 2                           |                    | Who Will Follow a New Topic Tomorrow?  | Biru Cui and Shanchieh Jay Yang   |
| Talk 3                           |                    | Identifying Users with Opposing Opinions in Twitter Debates  | Ashwin Rajadesingan and Huan Liu  |
| Talk 4                           |                    | Two 1% Don't Make a Whole: Comparing Simultaneous Samples from Twitter's Streaming API   | Kenneth Joseph, Peter M. Landwehr, and Kathleen M. Carley                           |
| Lunch pickup/<br>re-arrange room | 11:40 AM - 1:30 PM | <i>Lunch: assorted wraps, fruit, dessert, beverages</i> -- pick up lunch in foyer, return to sponsors' panel & roundtable discussions with sponsors                    |   |
| Lunch & Funding panel            | 12:10 PM           | <b>Funding Panel Session Chairs: Fahmida Chowdhury, Tisha Wiley</b>  |   |
|                                  |                    | Fahmida Chowdhury, NSF/SBE<br>Chris Clifton, NSF/CISE<br>Bethany Deeds, NIH/NIDA<br>Jason Matheny, IARPA<br>Stephen Marcus, NIH/ NIGMS<br>Erin Fitzgerald, DoD/Minerva |   |
| Short break                      | 1:30 PM            |  |   |
| Session 8                        | 1:40 PM            | <b>Session Chair: Bill Kennedy</b>   |   |
| Talk 1                           |                    | System-subsystem Dependency Network for Integrating Multicomponent Data and Application to Health Sciences   | Edward Ip, Shyh-Huei Chen, and Jack Rejeski   |
| Talk 2                           |                    | Integrating Epidemiological Modeling and Surveillance Data Feeds: A Kalman Filter-based Approach   | Weicheng Qian, Nathaniel D. Osgood, and Kevin G. Stanley                            |
| Talk 3                           |                    | Identifying Emergent Thought Leaders   | Andrew Duchon and Emily S. Patterson  |
| Talk 4                           |                    | Human Development Dynamics: An Agent Based Simulation of Adaptive Heterogeneous Games and Social Systems   | Mark Abdollahian, Zining Yang, and Patrick Neal                                     |
| Break                            | 3:00 PM            | <i>Refreshments: sweets, snacks, fruit, beverages</i>  |   |
| Session 9 (BRiMS)                | 3:30 PM            | <b>Session Chair: David Reitter</b>  |   |
| Talk 1                           |                    | Simulating Network Behavioral Dynamics by Using a Multi-agent Approach Driven by ACT-R Cognitive Architecture  | Oscar Javier Romero López   |
| Talk 2                           |                    | Modeling Proficiency in a Tailored, Situated Training Environment  | Jeremiah T. Folsom-Kovarik, Charles Newton, Joshua Haley, and Robert E. Wray        |
| Talk 3                           |                    | Threat Density Map Modeling for Combat Simulations   | Francisco Baez and Christian Darken   |
| Talk 4                           |                    | Rapid Adaptive Realistic Behavior Modeling Is Viable in Training   | Margery Doyle and Antoinette Portrey  |
| Conference Wrap-up               | 4:50 PM            | <b>SBP 2015 preview Jeff Johnson</b>   |   |
| End of day                       | 5:00 PM            |  |   |