

**Technical Program of  
IEEE/ACM ASONAM 2015**

**FOSINT-SI 2015**

**HI-BI-BI 2015**

**FAB 2015**

**and collocated workshops**

**25 – 28 August 2015  
ParisTech  
Paris, France**

<b>Program Overview for IEEE/ACM ASONAM 2015 -- FOSINT-SI 2015 – HI-BI-BI 2015 – FAB 2015 and collocated workshops</b>				
<b>7:45 AM</b>	<b>Registration</b>			
<b>Tuesday 25 August 2015</b>				
<b>8:30 10:00 AM</b>	SOMERIS 2015 B551	MANEM 2015 B559	SNAА 2015 F502	
<b>10:00- 10:30 AM</b>	<b>Break B300 and E200</b>			
<b>10:30- 12:30 AM</b>	SOMERIS 2015 B551	MANEM 2015 B559	SNAА 2015 F502	PhD Forum full papers session F503
<b>12:30- 1:30 PM</b>	<b>Lunch Break B300 and E200</b>			
<b>1:30- -3:30 PM</b>	DYNO 2015 B551	MSNDS 2015 B559	PhD Forum posters discussion and feedback to students F503	
<b>3:30-4:00 PM</b>	<b>Break B300 and E200</b>			
<b>4:00-6:00 PM</b>	DYNO 2015 B551	MSNDS 2015 B559	Posters/Demos madness session B312	
<b>7:00-9:30 PM</b>	<b>Reception /Posters B300 and E200</b>			

<b>Tuesday 25 August 2015</b>		
<b>10:30- 12:30</b>	<b>Tutorial 1 B310</b>	<b>Tutorial 2 B312</b>
	<b>Lunch Break</b>	
<b>1:30-3:30</b>	<b>Tutorial 2 B310</b>	<b>Tutorial 3 B312</b>
	<b>Break</b>	
<b>4:00-6:00</b>	<b>Tutorial 5 B310</b>	

<b>Wednesday 26 August 2015</b>						
<b>7:45 AM</b>	<b>Registration</b>					
<b>8:30</b>	<b>Opening ceremony: Amphi Thévenin</b>					
<b>9:00-10:00 AM</b>	<b>ASONAM - Keynote Speaker I Amphi Thévenin</b>			<b>FOSINT-SI Keynote Speaker I F502</b>		
<b>10:00-10:30 AM</b>	<b>Break B300 and E200</b>					
<b>10:30-12:30 AM</b>	<b>ASONAM-S1: B310</b>	<b>ASONAM-S2: B312</b>	<b>ASONAM-S3: B551</b>	<b>FOSINT-SI-S1: F502</b>	<b>HIBIHI-S1: B559</b>	<b>Multidisciplinary S1: F503</b>
<b>12:30-1:30 PM</b>	<b>Lunch Break B300 and E200 ASONAM -- Demo Session -- ASONAM Poster Session -- FOSINT-SI Poster Session</b>					
<b>1:30pm-2:30pm</b>	<b>ASONAM - Keynote Speaker II</b>					
<b>2:30-4:30 PM</b>	<b>ASONAM - S4: B310</b>	<b>ASONAM -S5: B312</b>	<b>ASONAM -S6: B551</b>	<b>FOSINT-SI-S2: F502</b>	<b>HIBIBI-S2: B559</b>	<b>Multidisciplinary S2: F503</b>
<b>4:30-5:00 PM</b>	<b>Break B300 and E200</b>					
<b>5:00-6:30 PM</b>	<b>Panel: Amphi Thévenin</b>					

<b>Thursday 27 August 2015</b>						
<b>8:00 AM</b>	<b>Registration B300 and E200</b>					
<b>9:00-10:00 AM</b>	<b>ASONAM - Keynote Speaker III</b>			<b>FOSINT-SI Keynote Speaker II F502</b>		
<b>10:00-10:30 AM</b>	<b>Break B300 and E200</b>					
<b>10:30-12:00</b>	<b>ASONAM--S7: B310</b>	<b>ASONAM -S8: B312</b>	<b>ASONAM -S9: B551</b>	<b>FOSINT-SI-S3: F502</b>	<b>FAB-S1 B559</b>	<b>Multidisciplinary S3: F503</b>
<b>12:00-1:00 PM</b>	<b>Lunch Break B300 and E200 ASONAM -- Demo Session -- ASONAM Poster Session -- FOSINT-SI Poster Session</b>					
<b>1:00-2:00 PM</b>	<b>ASONAM - Keynote Speaker IV</b>					
<b>2:00-2:30 PM</b>	<b>Break B300 and E200</b>					
<b>2:30-4:00 PM</b>	<b>ASONAM - S10: B310</b>	<b>ASONAM -S11: B312</b>	<b>ASONAM -S12: B551</b>	<b>FOSINT-SI-S4: F502</b>	<b>FAB-S2 B559</b>	<b>Multidisciplinary S4: F503</b>
<b>7:00-11:00 PM</b>	<b>Banquet</b>					

<b>Friday 28 August 2015</b>					
<b>8:00 AM</b>	<b>Registration B300 and E200</b>				
<b>9:00-10:00 AM</b>	<b>ASONAM - Keynote Speaker V</b>				
<b>10:00-10:30AM</b>	<b>Break B300 and E200</b>				
<b>10:30-12:30</b>	<b>ASONAM-S13 B310</b>	<b>ASONAM – S14 B312</b>	<b>ASONAM –S15 B551</b>	<b>FAB– S3: B559</b>	<b>Industrial –S1 F503</b>
<b>12:30-1:30 PM</b>	<b>Lunch Break B300 and E200</b>				
<b>1:30-3:30 PM</b>	<b>ASONAM-S16: B310</b>	<b>ASONAM – S17 B312</b>	<b>ASONAM –S18 B551</b>	<b>FAB S4: B559</b>	<b>Industrial – S2 F503</b>
<b>3:30-4:00 PM</b>	<b>Break B300 and E200</b>				
<b>4:00-5:30 PM</b>	<b>ASONAM –S19: B310</b>		<b>ASONAM –S20: B312</b>		<b>ASONAM –S21 B551</b>
<b>5:30 PM</b>	<b>Closing: Amphi Thévenin</b>				

## ASONAM 2015 Tutorials

### **Tutorial #1: Core Decomposition: Algorithms and Applications**

Fragkiskos D. Malliaros, Michalis Vazirgiannis, and Apostolos N. Papadopoulos

### **Tutorial #2: Analysis and mining of multiple social networks**

Matteo Magnani

### **Tutorial #3: Principles, models, and methods for the characterization and analysis of lurkers in online social networks**

Roberto Interdonato and Andrea Tagarelli

### **Tutorial #4: Bot Detection in Social Media: Networks, Behavior, and Evaluation**

Fred Morstatter, Kathleen M. Carley, and Huan Liu

### **Tutorial #5: Subgroup Discovery and Community Detection on Attributed Graphs**

Martin Atzmueller

## **ASONAM 2015 Panel**

**Title: Global Influence of Social Media**

**Moderator: Huan Liu**, Arizona State University, USA

**Panelists:**

**Sinan Aral** MIT Sloan School of Management, USA

**Jaideep Srivastava** University of Minnesota, USA and Qatar Foundation, Qatar

**Noshir Contractor** Northwestern University, USA

**Ricardo Baeza-Yates** Yahoo Labs, USA

**Fabrizio Silvestri**, Yahoo Labs, Barcelona

**Jie Tang** Tsinghua University, China

## ASONAM 2015 Keynote Talks

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### The Dynamics of Social Influence and Reputation Online

- [Sinan Aral](#) MIT Sloan School of Management, USA

**Abstract:** Identity and reputation drive some of the most important relational decisions we make online: Who to follow or link to, whose information to trust, whose opinion to rely on when choosing a product or service, and whose content to consume and share. Yet, we know very little about the dynamics of social influence and relational reputation and how they affect our decision making. Sinan will describe a series of large scale experiments that explore the behavioral dynamics catalyzed by social influence, identity and reputation online. He will explore some of the implications for bias in online ratings, social advertising and the ability to generate cascades of behavior through peer to peer influence in networks. Sinan will argue that new research on social influence and relational reputation could help guide our platform design and social policy decisions in light of the rising importance of peer effects and reputation online.



**Short Bio:** Sinan is the David Austin Professor of Management at MIT, where he holds joint Professorships in the IT and Marketing groups and leads the “Social Analytics and Experimentation” Pillar of MIT’s Initiative on the Digital Economy. He is also the Chief Scientist at Humin, a social platform developing what the Wall Street Journal called the first “Social Operating System.” Sinan was the Scholar-in-Residence at the New York Times R&D Lab in 2013 and has worked closely with Facebook, Yahoo, Microsoft, Nike, IBM, Intel, Cisco, Oracle, SAP and many other leading Fortune 500 firms on realizing business value from big data analytics, social media and IT investments. His research on social influence and information diffusion in social networks has won numerous awards including the Microsoft Faculty Fellowship, the PopTech Science Fellowship, an NSF CAREER Award, a Fulbright Scholarship and seven “Best Paper” awards. He was also recently named one of the “World’s Top 40 Business School Professors Under 40” by Poets & Quants. In his spare time, he cooks, skis and tell jokes about his own cooking and skiing. His most recent hobby is learning from his one year old son. You can find Sinan on Twitter @sinanaral.

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### Communities and privacy in mobile phone social networks

- [Vincent Blondel](#) Université catholique de Louvain, Belgium

#### Abstract

We describe several recent results on large network analysis with a special emphasis on community detection and on the analysis of mobile phone datasets. In particular, we describe the Louvain method that can be routinely used for analyzing networks with billions of nodes or links. We analyze communities obtained on a nationwide dataset of criminal records, as well as on a social network constructed from mobile phone communications that span periods covering several months. We also describe applications of mobile phone dataset analysis for a range of applications such as urban planning, traffic optimization, monitoring of development policy, crisis management, and control of epidemics. With these applications in mind we overview results obtained in the "Data for Development" (D4D) challenge on the analysis of mobile phone datasets. We analyze the privacy threats of anonymized mobile phone dataset and show that human behavior puts fundamental natural constraints to the privacy of individuals.



**Short Bio:** Vincent D. Blondel is professor of applied mathematics and president of the University of Louvain (Belgium). He is affiliated with the Massachusetts Institute of Technology (Cambridge, USA) where he was a visiting professor and Fulbright scholar. He has held various appointments, including at Oxford University, at the Royal Institute of Technology (Stockholm, Sweden), at INRIA (Paris), and at the University of California (Santa Barbara). Vincent has directed more than thirty PhD and Master thesis. He is an IEEE Fellow and is the recipient of several international prizes, including the IEEE Ruberti prize and the SIAM prize on control and systems theory. He is a pioneer in the analysis of mobile phone datasets and the organizer of several international challenges on mobile phone datasets analysis. His recent work has been widely featured, including in Wired, Technology Review, Le Monde, La Recherche, BBC, CNN, Der Spiegel, The Wall Street Journal and The New York Times.

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## Interpersonal Trust Dynamics in Online Systems – Models and Applications

- **Jaideep Srivastava** University of Minnesota, USA and Qatar Foundation, Qatar

### Abstract

Understanding the nature of online interpersonal trust continues to gain importance, especially as we increasingly perform activities and form relationships online. Trust forms a critical substrate on which activities with economic consequence, e.g. e-commerce transactions, or relationships with emotional consequence, e.g. friendships and romances, are built. There is a vast literature on interpersonal trust in the social sciences. However, with the mass adoption of the Internet in our daily lives, and the ability to capture high resolution data on its use, we are at the threshold of a deeper understanding of the dynamics behind interpersonal trust. It is now becoming possible to study the phenomenon of trust dynamics at a much finer granularity than ever before. Online social systems such as Multiplayer Online Games (MOGs) and Virtual Worlds (VWs) have become increasingly popular and have communities comprising tens of millions. They serve as unprecedented tools to theorize and empirically model the trust dynamics of individuals, groups, and networks within large communities. This talk consists of four parts. First, we describe findings from the Virtual World Exploratorium; a multi-institutional, multi-disciplinary project which uses data from commercial MMOGs and VWs to study many fields of social science, including sociology, social psychology, organization theory, group dynamics, macro-economics, etc. Second, describe a model for a multi-relational, multi-activity environment, where 'low familiarity threshold' activities like chatting, grouping, and transactions form the scaffolding for the formation of 'high familiarity threshold' relationships like trust formation. Third, using this model, we describe our studies on the dynamics of online interpersonal trust, including like trust formation, trust reciprocation, trust revocation, and the nature of trust transitivity and trust cascading. Finally, we describe some applications of this model for tasks like understanding the vulnerabilities of a social network to rumor spreading, and inoculation against it.



**Short Bio:** Jaideep Srivastava is the Director of the Social Computing division at QCRI. He is on leave from the University of Minnesota, where he directs a laboratory focusing on research in Web Mining, Social Analytics, and Health Analytics. He is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), has been an IEEE Distinguished Visitor, and is a Distinguished Fellow of Allina's Center for Healthcare Innovation. He has been awarded the Distinguished Research Contributions Award of the PAKDD, for his lifetime contributions to the field of data mining. Six of his papers have won best paper awards.

Dr. Srivastava is currently co-leading a multi-institutional, multi-disciplinary project in the rapidly emerging area of social computing (<http://vwobservatory.com/>). He has significant experience in the industry, in both consulting and executive roles. He was the data mining architect at Amazon.com ([www.amazon.com](http://www.amazon.com)), built a data analytics department at Yodlee ([www.yodlee.com](http://www.yodlee.com)), and served as the Chief Technology Officer for Persistent Systems ([www.persistentsys.com](http://www.persistentsys.com)). He is the Co-Founder and Chief Scientific Officer of Ninja Metrics ([www.ninjametrics.com](http://www.ninjametrics.com)), which brings his research in social analytics to the commercial world. He is an adviser to CogCubed ([www.cogcubed.com](http://www.cogcubed.com)), an innovative company whose goal is to revolutionize the diagnosis and therapy of cognitive disorders through the use of online games, to LeadId ([www.leadid.com](http://www.leadid.com)), the market leader in cross-industry lead management, and to Kipsu (<http://kipsu.com/>), which is providing an innovative approach to improving service quality in the hospitality industry. Dr. Srivastava has held distinguished professorships at Heilongjiang University and Wuhan University, China. He has held advisory positions with the State of Minnesota, and the State of Maharashtra, India. He is a technology advisor to the Unique ID (UID) project of the Government of India, whose goal is to provide biometrics-based social security numbers to the 1.2 Billion citizens of India. Dr. Srivastava has delivered invited talks in over 30 countries, including more than a dozen keynote addresses at major international conferences. He has a Bachelors of Technology from the Indian Institute of Technology (IIT), Kanpur, India, and MS and PhD from the University of California, Berkeley.



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## Leveraging Computational Social Science to address Grand Societal Challenges

- [Noshir Contractor](#) Northwestern University, Dept. of Industrial Engineering & Management Sciences, USA

### Abstract

The increased access to big data about social phenomena in general, and network data in particular, has been a windfall for social scientists. But these exciting opportunities must be accompanied with careful reflection on how big data can motivate new theories and methods. Using examples of his research in the area of networks, Contractor will argue that Computational Social Science serves as the foundation to unleash the intellectual insights locked in big data. More importantly, he will illustrate how these insights offer social scientists in general, and social network scholars in particular, an unprecedented opportunity to engage more actively in monitoring, anticipating and designing interventions to address grand societal challenges.



**Short Bio:** Noshir Contractor is the Jane S. & William J. White Professor of Behavioral Sciences in the McCormick School of Engineering & Applied Science, the School of Communication and the Kellogg School of Management at Northwestern University, USA. He is the Director of the Science of Networks in Communities (SONIC) Research Group at Northwestern University and a board member of the Web Science Trust. He is investigating factors that lead to the formation, maintenance, and dissolution of dynamically linked social and knowledge networks in a wide variety of contexts.

His research program has been funded continuously for almost two decades by major grants from the U.S. National Science Foundation with additional funding from the U.S. National Institutes of Health (NIH), Army Research Laboratory, Air Force Research Laboratory, Army Research Institute, NASA, Rockefeller Foundation, Gates Foundation, and the MacArthur Foundation. His book titled Theories of Communication Networks (co-authored with Professor Peter Monge and published by Oxford University Press), received the 2003 Book of the Year award from the Organizational Communication Division of the National Communication Association. He was a recipient of the 2014 National Communication Association's Distinguished Scholar Award and in 2015 he was elected a Fellow of the International Communication Association. He is also the co-founder and Chairman of Syndio, which offers organizations products and services based on network analytics. Professor Contractor has a Bachelor's degree in Electrical Engineering from the Indian Institute of Technology, Madras and a Ph.D. from the Annenberg School of Communication at the University of Southern California.

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## Wisdom of Crowds or Wisdom of a Few?

- [Ricardo Baeza-Yates](#) Yahoo Labs, USA

### Abstract

In this keynote we give an introduction to wisdom of crowds in the Web, the long tail of web content, and the bias involved in the generation of user generated content (UGC). This bias creates the wisdom of ad hoc crowds or the wisdom of a few. Although it is well known that user activity in most settings follows a power law, that is, few people do a lot, while most do nothing, there are few studies that characterize well this activity. In a recent analysis of social network data we corroborated that a small percentage of the active users (passive users are the majority) represent at least the 50% of the UGC. As a sub-product, we also found a lower bound for the digital desert, the content in the Web that nobody reads. These results implies that most of the wisdom comes from a few users, which is not that surprising, as the Web is a reflection of our own society, where economical or political power also is in the hands of minorities.



**Short Bio:** Ricardo Baeza-Yates is VP of Research for Yahoo Labs leading teams in United States, Europe and Latin America since 2006 and based in Sunnyvale, California, since August 2014. During this time he has lead the labs in Barcelona and Santiago de Chile. Between 2008 and 2012 he also oversaw the Haifa lab. He is also part time Professor at the Dept. of Information and Communication Technologies of the Universitat Pompeu Fabra, in Barcelona, Spain. During 2005

he was an ICREA research professor at the same university. Until 2004 he was Professor and before founder and Director of the Center for Web Research at the Dept. of Computing Science of the University of Chile (in leave of absence until today). He obtained a Ph.D. in CS from the University of Waterloo, Canada, in 1989. Before he obtained two masters (M.Sc. CS & M.Eng. EE) and the electronics engineer degree from the University of Chile in Santiago. He is co-author of the best-seller Modern Information Retrieval textbook, published in 1999 by Addison-Wesley with a second enlarged edition in 2011, that won the ASIST 2012 Book of the Year award. He is also co-author of the 2nd edition of the Handbook of Algorithms and Data Structures, Addison-Wesley, 1991; and co-editor of Information Retrieval: Algorithms and Data Structures, Prentice-Hall, 1992, among more than 500 other publications. From 2002 to 2004 he was elected to the board of governors of the IEEE Computer Society and in 2012 he was elected for the ACM Council. He has received the Organization of American States award for young researchers in exact sciences (1993), the Graham Medal for innovation in computing given by the University of Waterloo to distinguished ex-alumni (2007), the CLEI Latin American distinction for contributions to CS in the region (2009), and the National Award of the Chilean Association of Engineers (2010), among other distinctions. In 2003 he was the first computer scientist to be elected to the Chilean Academy of Sciences and since 2010 is a founding member of the Chilean Academy of Engineering. In 2009 he was named ACM Fellow and in 2011 IEEE Fellow.

**Wednesday****26-Aug-15**

Time	Session	Papers
8:30-9:00 am	Opening ceremony	
9:00-10:00 am	Keynote	Sinan Aral
10:00-10:30 am	Break	
10:30-12:30	S1: Influence S2: Communities: detection and applications S3: Events and activities	
12:30-1:30 pm	Lunch	
1:30-2:30 pm	Keynote	Vincent Blondel
2:30-4:30 pm	S4: Tweets S5: Users S6: Structures	
4:30-5:00 pm	Break	
5:00 -6:30 pm	Panel	

**Thursday****27-Aug-15**

Time	Session	Papers
9:00-10:00 am	Keynote	Jaideep Srivastava
10:00-10:30 am	Break	
10:30-12:00	S7: Ties and links	
	S8: Locations and relations	
	S9: Applications	
12:00-1:00	Lunch	
1:00-2:00 pm	Keynote	Noshir Contractor
2:00-2:30 pm	Break	
2:30-4:00 pm	S10: Influence and applications	
	S11: Applications	
	S12: Sentiment and recommendation	

**Friday****28-Aug-15**

Time	Session	Papers
9-10 am	Keynote	Ricardo Baeza-Yates
10-10:30 am	Break	
10:30-12:30	S13: Analysis methods S14: Anomalies, identities, and threats S15: Prediction	
12:30-1:30 pm	Lunch	
1:30-3:30 pm	S16: Twitter S17: Wikipedia and collaboration S18: Communities	
3:30-4:00 pm	Break	
4:00-5:30 pm	S19: Time, locations S20: Privacy and trust S21: Information in Social Networks	

<b>Session #</b>	<b>Title</b>	<b>Authors</b>
<b>S1: Influence</b>	Influence modelling using bounded rationality in social networks	Dharshana Kasthurirathne, Michael Harre and Mahendra Piraveenan
	Social Influence Computation and Maximization in Signed Networks with Competing Cascades	Ajitesh Srivastava, Charalampos Chelmis and Viktor Prasanna
	Combining Propensity and Influence Models for Product Adoption Prediction	Ilya Verenich, Riivo Kikas, Marlon Dumas and Dmitri Melnikov
	Modeling and Utilizing Dynamic Influence Strength for Personalized Promotion	Ya-Wen Teng, Chih-Hua Tai, Philip Yu and Ming-Syan Chen
<b>S2: Communities: detection and applications</b>	Near Linear-Time Community Detection in Networks with Hardly Detectable Community Structure	Aria Rezaei, Saeed Mahloujifar and Mahdieh Soleymani Baghshah
	Community-Based Prediction of Activity Change in Skype	Irene Teinemaa, Anna Leontjeva, Marlon Dumas and Riivo Kikas
	Local Community Detection via Flow Propagation	Costas Panagiotakis, Harris Papadakis and Paraskevi Fragopoulou
	CS-ComDet: A Compressive Sensing Approach for Inter-Community Detection in Social Networks	Hamidreza Mahyar, Hamid R. Rabiee, Ali Movaghar, Elaheh Ghalebi and Ali Nazemian
<b>S3: Events and activities</b>	Finding Non-Redundant Multi-Word Events on Twitter	Nikou Guennemann and Juergen Pfeffer
	Exploring a Scalable Solution to Identifying Events in Noisy Twitter Streams	Shamanth Kumar, Sameep Mehta, L. Venkata Subramaniam and Huan Liu
	Prominent Users Detection during Specific Events by Learning On- and Off-topic Features of User Activities	Imen Bizid, Nibal Nayef and Patrice Boursier
	Forecasting High Tide: Predicting Times of Elevated Activity in Online Social Media	Jimpei Harada, David Darmon, Michelle Girvan and William Rand
	Event Detection: Exploiting Socio-Physical Interactions in Physical Spaces	Kasthuri Jayarajah, Archan Misra, Xiao-Wen Ruan and Ee-Peng Lim

Influence of the Null-Model on Motif Detection

Wolfgang Eugen Schlauch and Katharina Anna Zweig

Social Event Extraction: Task, Challenges and Techniques

Hao Li, Lin Zhao and Heng Ji

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**S4: Tweets**

Tweet Sentiment: From Classification to Quantification

Wei Gao and Fabrizio Sebastiani

Fine-Grained Geolocalisation of Non-Geotagged Tweets

Pavlos Paraskevopoulos and Themis Palpanas

#mytweet via Instagram: Exploring User Behaviour across Multiple Social Networks

Bang Hui Lim, Dongyuan Lu, Tao Chen and Min-Yen Kan

Weibo, and a Tale of Two Worlds

Wentao Han, Xiaowei Zhu, Ziyang Zhu, Wenguang Chen, Weimin Zheng and Jianguo Lu

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**S5: Users**

Utilizing Non-QA Data to Improve Questions Routing for Users with Low QA Activity in CQA

Ivan Srba, Marek Grzmar and Maria Bielikova

Pairwise structural role mining for user categorization in information cascades

Sarvenaz Choobdar, Pedro Ribeiro and Fernando Silva

On Mining User Lifestyles from Trip Data

Meng-Fen Chiang, Ee-Peng Lim and Jia-Wei Low

Public Information Exposure Detection: Helping Users Understand Their Web Footprints

Lisa Singh, Grace Hui Yang, Micah Sherr, Andrew Hian-Cheong, Kevin Tian, Janet Zhu and Sicong Zhang

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**S6: Structures**

On the Skewed Degree Distribution of Hierarchical Networks

Bijan Ranjbar-Sahraei, Haitham Bou Ammar, Karl Tuyls and Gerhard Weiss

Network Completion with Node Similarity: A Matrix Completion Approach with Provable Guarantees

Farzan Masrour, Iman Barjasteh, Rana Forsati, Abdol-Hossein Esfahanian and Hayder Radha

Exploiting Phase Transitions for the Efficient Sampling of the Fixed Degree Sequence Model

Christian Brugger, André Lucas Chinazzo, Alexandre Flores John, Christian De Schryver, Norbert Wehn, Andreas Spitz and Katharina Anna Zweig

"Got to have faith!": The DEVOTION algorithm for delurking in social networks

Roberto Interdonato, Chiara Pulice and Andrea Tagarelli

Role and position detection in networks: reloaded

Davide Vega, Matteo Magnani, Roc Meseguer and Felix Freitag

Node Embeddings in Social Network Analysis

Thuy Vu and D. Stott Parker

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**S7: Ties and links**

Social ties and checkin sites: Connections and latent structures in Location Based Social Networks

Sudhir Kylasa, Giorgos Kollias and Ananth Grama

Hierarchies, Ties and Power in Organisational Networks: Model and Analysis

Jiamou Liu and Anastasia Moskvina

Significant Edge Detection in Target Network by Exploring Multiple Auxiliary Networks

Nan Du, Jing Gao, Liang Ge, Vishrawas Gopalakrishnan, Xiaowei Jia, Kang Li and Aidong Zhang

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**S8: Locations and relations**

Identification of Key Locations based on Online Social Network Activity

Hariton Efstathiades, Demetris Antoniadis, George Pallis and Marios Dikaiakos

Network vs Market Relations: The Effect of Strategic Friendships in Crowdfunding

Emőke-Ágnes Horvát, Jayaram Uparna and Brian Uzzi

Reciprocal Recommendation System for Online Dating

Peng Xia, Benyuan Liu, Yizhou Sun and Cindy Chen

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**S9: Applications**

A Longitudinal Study of the Google App Market

Bogdan Carbunar and Rahul Pottharaju

Topological Resilience Analysis of Supply Networks under Random Disruptions and Targeted Attacks

Wenjun Wang, Nick Street and Renato Dematta

Combining Heterogeneous Data Sources for Civil-Unrest Forecasting

Gizem Korkmaz, Jose Cadena, Chris Kuhlman, Achla Marathe, Anil Kumar Vullikanti and Naren Ramakrishnan

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**S10: Influence and applications**

Influence of Status on Consensus Building in Collaboration Networks

Ilire Hasani-Mavriqi, Florian Geigl, Subhash Chandra Pujari, Elisabeth Lex and Denis Helic

Multi-state Open Opinion Model based on Positive and Negative Social Influences

Yuan-Chang Chen, Hao-Shang Ma and Jen-Wei Huang

Extracting Diffusion Channels from Real-World Social Data: a Delay-Agnostic Learning of Transmission Probabilities

Sylvain Lamprier, Simon Bourigault and Patrick Gallinari



Rumor Spreading Maximization and Source Identification in a Social Network

Wuqiong Luo, Wee Peng Tay and Mei Leng

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**S11: Applications**

Toward Understanding the Mobile Social Properties: An Analysis on Instagram Photo-Sharing Network

Shan Yun Teng, Mi-Yen Yeh and Kun-Ta Chuang

Human behaviour in different social medias : A case study of Twitter and Disqus

Hasan Al Maruf, Nagib Meshkat, Mohammed Eunos Ali and Jalal Mahmud

Breaking the News: Extracting the Sparse Citation Network Backbone of Online News Articles

Andreas Spitz and Michael Gertz

Identification and characterization of cyberbullying dynamics in an online social network

Anna Squicciarini, Sarah Rajtmajer, Yuxuan Liu and Christopher Griffin

Presence of an Ecosystem: a catalyst in the Knowledge Building Process in Crowdsourced Annotation Environments

Anamika Chhabra, Sudarshan Iyengar, Poonam Saini and Rajesh Shreedhar Bhat

Actions are louder than words in social media

Rostyslav Korolov, Justin Peabody, Allen Lavoie, Sanmay Das, Malik Magdon-Ismael and William Wallace

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**S12: Sentiment and recommendation**

Mining Complaints for Traffic-Jam Estimation: A Social Sensor Application

Theodore Georgiou, Amr El Abbadi, Xifeng Yan and Jemin George

Unsupervised Graph-Based Patterns Extraction for Emotion Classification

Carlos Argueta, Yi-Shin Chen and Elvis Saravia

Little Bad Concerns: Using Sentiment Analysis to Assess Structural Balance in Communication Networks

Jana Diesner and Craig Evans

Targeted Dot Product Representation for Friend Recommendation in Online Social Networks

Minh Dao, Akshay Rangamani, Sang Peter Chin, Nam Nguyen and Trac Tran

HyperCubeMap: Optimal Social Network Ad Allocation Using Hyperbolic Embedding

Hui Miao, Peixin Gao, Mohammadtaghi Hajiaghayi and John Baras

Towards Topic Following in Heterogeneous Information Networks

Deqing Yang, Yanghua Xiao, Hanghang Tong, Wanyun Cui and Wei Wang

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**S13+A16: Analysis methods**

Spectral Embedding of Directed Networks

Quan Zheng and David Skillicorn

I/O Efficient Algorithms for Exact Distance Queries on Disk-Resident Dynamic Graphs

Yishi Lin, Xiaowei Chen and John C.S. Lui

Structure-Preserving Sparsification of Social Networks

Gerd Lindner, Christian Staudt, Michael Hamann, Henning Meyerhenke and Dorothea Wagner

Multiplex networks: a Generative Model and Algorithmic Complexity

Matthew Dippel, Ravi Sundaram and Prithwish Basu

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**S14: Anomalies, identities, and threats**

If walls could talk: Patterns and anomalies in Facebook wallposts

Pravallika Devineni, Danai Koutra, Michalis Faloutsos and Christos Faloutsos

Leak Sinks: The Threat of Targeted Social Eavesdropping

Yasmin Bokobza, Abigail Paradise, Guy Rapaport, Rami Puzis, Bracha Shapira and Asaf Shabtai

DIVa: Decentralized Identity Validation for Social Networks

Amira Soliman, Leila Bahri, Barbara Carminati, Elena Ferrari and Sarunas Girdzijauskas

Investigating the types and effects of missing data in multilayer networks

Rajesh Sharma, Matteo Magnani and Danilo Montesi

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**S15: Prediction**

Networking in Child Exploitation – Assessing disruption strategies using registrant information

Russell Allsup, Evan Thomas, Bryan Monk, Richard Frank and Martin Bouchard

Predicting Small Group Accretion in Social Networks: A topology based incremental approach

Ankit Sharma, Rui Kuang and Jaideep Srivastava

Recurrent Subgraph Prediction

Saurabh Nagrecha, Nitesh Chawla and Horst Bunke

Social Restricted Boltzmann Machine: Human Behavior Prediction in Health Social Networks

Nhathai Phan, Dejing Dou, Brigitte Piniewski and David Kil

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**S16: Twitter**

Uncovering News-Twitter Reciprocity via Interaction Patterns

Yue Ning, Sathappan Muthiah, Ravi Tandon and Naren Ramakrishnan

The Fragility of Twitter Social Networks Against Suspended Users

Wei Wei, Kenneth Joseph, Huan Liu and Kathleen Carley

A Tempest in a Teacup? Analyzing Firestorms on Twitter

Hemank Lamba, Jürgen Pfeffer and Momin Malik

Reverse Engineering Socialbot Infiltration Strategies in Twitter Carlos Freitas, Fabricio Benevenuto, Saptarshi Ghosh and Adriano Veloso

Prominent Users Detection during Specific Events by Learning On- and Off-topic Features of User Activities Imen Bizid, Nibal Nayef and Patrice Boursier

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**S17: Wikipedia and collaboration**

Measuring Article Quality in Wikipedia using the Collaboration Network Baptiste De La Robertie, Yoann Pitarch and Olivier Teste

Beyond Friendships and Followers: The Wikipedia Social Network Johanna Geiß, Andreas Spitz and Michael Gertz

Collaboration Signatures Reveal Scientific Impact Yuxiao Dong, Reid Johnson, Yang Yang and Nitesh Chawla

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Social Network Analysis of Program Committees and Paper Acceptance Fairness Chen Avin, Zvi Lotker, David Peleg and Itzik Turkel

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**S18: Communities**

Using weak ties to understand resource usage behaviors in an online community of educators Ogheneovo Dibia and Tamara Sumner

Hunting Organization-Targeted Socialbots Abigail Paradise, Asaf Shabtai and Rami Puzis

Community Detection in Social Network with Pairwisely Constrained Symmetric Non-Negative Matrix Factorization Shi Xiaohua, Lu Hongtao, He Yangcheng and Shan He

Community-centric analysis of user engagement in Skype social network Giulio Rossetti, Luca Pappalardo, Riivo Kikas, Dino Pedreschi, Fosca Giannotti and Marlon Dumas

Interaction Prediction in Dynamic Networks exploiting Community Discovery Giulio Rossetti, Riccardo Guidotti, Diego Pennacchioli, Dino Pedreschi and Fosca Giannotti

A Dynamic Algorithm for Local Community Detection in Graphs Anita Zakrzewska and David Bader

An approach from statistical mechanics for collaborative business social network reconstruction Angelo Corallo, Cristian Bisconti, Laura Fortunato, Antonio Andrea Gentile and Piergiuseppe Pellè

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**S19: Time and locations**

Time-aware Egocentric network-based User Profiling Marie-Françoise Canut, Sirinya On-At, André Péninou and Florence Sedes

Analysis of Spatially Oriented Topic Versatility over Time on Social Media Gwan Jang and Sung-Hyon Myaeng

Multi-Level Anomaly Detection on Time-Varying Graph Data Robert Bridges, John Collins, Erik Ferragut, Jason Laska and Blair D. Sullivan

Modeling Social Network Topology with Variable Social Vector Clocks Ta-Yuan Hsu and Ajay D. Kshemkalyani

Discovering Obscure Sightseeing Spots by Analysis of Geo-tagged Social Images  
Chenyi Zhuang, Qiang Ma, Xuefeng Liang and Masatoshi Yoshikawa

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**S20: Privacy and trust**

Differentially Private Publication of Social Graphs at Linear Cost  
Huu-Hiep Nguyen, Abdessamad Imine and Michael Rusinowitch

Trust Inference in Online Social Networks  
Athanasios Papaiconomou, Magdalini Kardara and Theodora Varvarigou

Who is More Positive in Private? Analyzing Sentiment Differences across Privacy Levels and Demographic Factors in Facebook Chats and Posts  
Bo Gao, Bettina Berendt and Joaquin Vanschoren

Believe it or Not? Analyzing Information Credibility in Microblogs  
Byungkyu Kang, Tobias Hollerer and John O'Donovan

Careful what you share in six seconds: Detecting cyberbullying instances in Vine  
Rahat Rafiq, Homa Hosseinmardi, Sabrina Mattson, Richard Han, Qin Lv and Shivakant Mishra

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**S21: Information in Social Networks**

Leveraging Rating Behavior to Predict Negative Social Ties  
Luc-Aurélien Gauthier, Benjamin Piwowarski and Patrick Gallinari

Information Spread in Social Networks through Scheduling Seeding Methods  
Alon Sela, Irad Ben-Gal, Alex Pentland and Erez Shmueli

From Coincidence to Purposeful Flow? Properties of Transcendental Information Cascades  
Markus Luczak-Roesch, Ramine Tinati, Max Van Kleek and Nigel Shadbolt

Finding the Right Social Media Site for Questions  
震 杨, Isaac Jones, Xia Hu and Huan Liu

Characterization of cross-posting activity for professional users across Facebook, Twitter and Google+  
Reza Farahbakhsh, Ángel Cuevas and Noel Crespi

# FOSINT-SI 2015 Program

Paris, France, 26-27 August 2015

Wednesday, August 26	
08:00	Registration
08:30	Welcome and Opening (ASONAM 2015)
09:00	<b>Invited Keynote (ASONAM 2015)</b>
10:00	<i>Coffee Break</i>
10:20	Welcome and Opening (FOSINT-SI 2015)
10:30	<b>Session 1</b>
	<i>Chair: TBA</i>
	Identifying Digital Threats in a Hacker Web Forum <i>Mich Macdonald, Richard Frank, Joseph Mei and Bryan Monk</i>
	Identifying Disruptive Events from Social Media to Enhance Situational Awareness <i>Nasser Alsaedi, Pete Burnap and Omer Rana</i>
	Story Detection Using Generalized Concepts and Relations <i>Betul Ceran, Nitesh Kedia, Steven Corman and Hasan Davulcu</i>
Short paper	Information Extraction of Regulatory Enforcement Actions: From Anti Money Laundering Compliance to Countering Terrorism Finance <i>Vassilis Plachouras and Jochen Leidner</i>
12:30	<i>Lunch Break</i>
13:30	<b>Session 2</b>
	<i>Chair:</i>
	Detectability of Low-Rate HTTP Server DoS Attacks using Spectral Analysis <i>Joel Brynielsson and Rishie Sharma</i>
Short paper	Cyber-Deception and Attribution in Capture-the-Flag Exercises <i>Eric Nunes, Nimish Kulkarni, Paulo Shakarian, Andrew Ruef and Jay Little</i>
Short paper	Real-time monitoring applied of Twitter traffic by using semantic networks <i>Federica Bisio, Claudia Meda, Rodolfo Zunino, Roberto Surlinelli, Eugenio Scillia and Augusto Vincenzo Ottaviano</i>
15:30	Break
16:00	<b>Invited Keynote</b>
	<i>Chair: Uwe Glässer</i>
	Maura Conway, Dublin City University, Ireland Crowd-sourced Jihad: IS' Social Media Strategy and the Foreign Fighter Phenomenon
Thursday, August 27	
08:00	Registration
08:30	<b>Invited Keynote</b>
	<i>Chair: Uwe Glässer</i>
	Cor Veenman, Netherlands Forensic Institute (NFI) Data Science in Forensic Intelligence
09:30	<i>Coffee Break</i>
10:00	<b>Session 3</b>
	<i>Chair: TBA</i>
	Towards Real-time Classification of Malicious URLs on Twitter using Machine Activity Data <i>Peter Burnap, Amir Javed, Omer Rana and Malik Shahzad Arwan</i>
	Malware Task Identification: A Data Driven Approach <i>Eric Nunes, Casey Buto, Paulo Shakarian, Christian Lebiere, Stefano Bennati, Robert Thomson and Holger Jaenisch</i>
	Birds of a Feather Flock Together: The Accidental Communities of Spammers <i>Yehonatan Cohen and Danny Hendler</i>
	Bipartite Network Model for Inferring Hidden Ties in Crime Data <i>Haruna Isah, Daniel Neagu and Paul Trundle.</i>
12:30	<i>Lunch</i>
13:30	<b>Session 4</b>
	<i>Chair: TBA</i>
	An Approach to Designing a Network Security-based Application for Communications Safety

	<i>Ndibanje Bruce, Young Jin Kang and Hoon Jae Lee</i>
	Tactics, weapons, targets and rationale behind the actions of the mostly operational terrorist groups across Europe <i>Ioanna Lekea, Panagiotis Karamelas, Konstantinos Xylogiannopoulos and Reda Alhajj</i>
	A System for Analyzing Criminal Social Networks <i>Kamal Taha and Paul Yoo</i>
15:30	<i>Coffee Break</i>
16:00	<b>Session 5</b>
	<i>Chair: TBA</i>
Short paper	Sentiment Crawling: Extremist Content Collection through a Sentiment Analysis Guided Web-Crawler <i>Joseph Mei and Richard Frank</i>
Short paper	Evaluating Criminal Networks with PEVNET <i>Amer Rasheed and Uffe Kock Wiil</i>
Short paper	Authentication Models for IoT Clouds <i>Luciano Barreto, Antonio Celesti, Massimo Villari, Maria Fazio and Antonio Puliafito</i>
17:00	<i>Closing</i>

# **Detailed Program of HI-BI-BI 2015**

**26 August 2015 -- HI-BI-BI 2015 -- S1**

**10: 30-12: 30 AM (Analysis Methods)**

**A Graph-Based Method for Analyzing Electronic Medical Records**

Rose Yesha: University of Maryland Baltimore County (UMBC); Aryya Gangopadhyay: UMBC;  
Eliot Siegel: University of Maryland School of Medicine

**An Evaluation of Self-training Styles for Domain Adaptation on the Task of Splice Site Prediction**

Nic Herndon: Kansas State University; Doina Caragea: Kansas State University

**Decision Making and Support in Healthcare Online Social Networks**

Valeria Sadovykh: University of Auckland; David Sundaram: University of Auckland

**Demonstrating Social Support from Autism Bloggers Community on Twitter**

Amit Saha: University Of Arkansas Medical Science; Nitin Agarwal: University Of Arkansas Little Rock

**Importance of Data Mining in Healthcare: A Survey**

Mohammad Hossein Tekieh: University of Ottawa; Bijan Raahemi: University of Ottawa

**26 August 2015 -- HI-BI-BI 2015 -- S2**

**2: 30-4: 30 PM -- Prediction**

**Preclinical Tests for Cerebral Stroke**

Maria Francesca Zini: University of Pisa; Silvano Bonaretti: Galileo Research S.r.l.; Nadia Pisanti: Dipartimento di Informatica, Universita di Pisa, Italy & Erable Team, INRIA; E. Biasci: Galileo Research S.r.l.; A. Podda: Galileo Research S.r.l.; V. Mey: Galileo Research S.r.l.; F. Piras: Galileo Research S.r.l.; G.L. L'Abbate: Galileo Research S.r.l.; S. Marini: Galileo Research S.r.l.; D. Fratta: Galileo Research S.r.l.; Silvia Trasciatti: Galileo Research S.r.l.

**Regularizing predicted complexes by mutually exclusive protein-protein interactions**

Osamu Maruyama: Kyushu University; Limsoon Wong: National University of Singapore

**Epitope mapping and antigenic evaluation of Helicobacter pylori Urease subunit beta fragment**

Ehsan Raoufi: Arak University of Medical Sciences; Hassan Akrami: Department of Biology, School of Science Razi University, Kermanshah; Behzad Khansarinejad: Department of Microbiology and Immunology, Arak University of Medical Sciences; Hamid Abtahi: Department of Microbiology, Molecular and Medical Research Center, Arak University of Medical Sciences

**Predicting candidate epitopes on Ebolaviruse for possible vaccine development**

Ehsan Raoufi: Arak University of Medical Sciences; Maryam Hemmati: Department of Medical Biotechnology, School of Allied medicine, Iran University of Medical Sciences; Hossein Einabadi: Department of biology, Faculty of science Razi University; Hossein Fallahi: Department of biology, Faculty of science Razi University

**Inside Chronic Autoimmune Disease Communities: A Social Networks Perspective to Crohn's Patient Behavior and Medical Information**

Marco Rocchetti: University of Bologna; Alice Casari: University of Bologna; Gustavo Marfia: University of Bologna

**Finding Relations between Diseases by Age-Series Based Supervised Link Prediction**

Buket Kaya: Firat University; Mustafa Poyraz: Firat University

## **Detailed Program of FAB 2015**

**27 August --- FAB 2015 -- S1**

**(10: 30-12: 00 AM) Big Data**

**Management of duplicate members on websites**

Kee-Young Kwahk: Kookmin University; Eun-Young Kang: Kookmin University

**BDSP: A Big Data Start Platform**

Jose Juan Martinez-Pelez: CINVESTAV-IPN; Jorge Buenabad-Chevez: CINVESTAV-IPN; Jose Rangel-Garcea: Edusistemas; Rafael Ramirez-Melendez: Universitat Pompeu

**Sequential All Frequent Itemsets Detection A Method to Detect All Frequent Sequential Itemsets Using LERP-Reduced Suffix Array Data Structure and ARPaD Algorithm**

Konstantinos Xylogiannopoulos: University of Calgary; Panagiotis Karampelas: Hellenic Air Force Academy; Reda Alhajj: University of Calgary

**Big Data and the Regulation of Financial Markets**

Sharyn O'Halloran: Columbia University; Sameer Maskey: IBM; Geraldine McAllister: Columbia University; David Park: columbia University; Kaiping Chen: Stanford

**Energy Efficiency in Data Stream Mining**

Eva Garcea Martin: Blekinge Institute of Technology; Niklas Lavesson: Blekinge Institute of Technology; Hakan Grahn: Blekinge Institute of Technology

**27 August --- FAB 2015 -- S2**

**(2: 30-4: 00 PM) Prediction**

**Development and Evaluation of Multi-Agent Models Predicting Twitter Trends in Multiple Domains**

Thomas Attema: TNO; Peter-Paul van Maanen: TNO Human Factors; Erik Meeuwissen: TNO

**Modeling Individuals and Making Recommendations Using Multiple Social Networks**

Makbule Gulcin Ozsoy: Middle East Technical University; Faruk Polat: Middle East Technical University; Reda Alhajj: University of Calgary

**The Impact of Students and TAs' Participation on Students' Academic Performance in MOOC**

Yunping Feng: Shanghai Jiaotong University; Di Chen: Shanghai Jiaotong University; Zihao Zhao: Shanghai Jiaotong University; Haopeng Chen: School of Software, Shanghai Jiao Tong University, China; Puzhao Xi: Able-elec.Co.Ltd

**Enhancing Link Prediction in Twitter using Semantic User Attributes**

Cherry Ahmed: Cairo University; Abeer Elkorany: Cairo University

**Time Frame based Link Prediction in Directed Citation Networks**

Mujtaba Jawed: Firat University; Mehmet Kaya: Firat University; Reda Alhajj: University of Calgary



**28 August --- FAB 2015 -- S3**

**(10: 30-12: 30 AM) Network Analysis**

**Complex Network Analysis on Distributed Systems – An Empirical Comparison**

Jannis Koch: Karlsruhe Institute of Technology (KIT); Christian Staudt: Karlsruhe Institute of Technology; Maximilian Vogel: Karlsruhe Institute of Technology; Henning Meyerhenke: Karlsruhe Institute of Technology (KIT)

**A Dynamic Modularity Based Community Detection Algorithm for Large-scale Networks: DSLM**

Riza Aktunc: Middle East Technical University; Ismail Hakki Toroslu: Middle East Technical University; Mert Ozer: Arizona State University; Hasan Davulcu: Arizona State University

**The Full Story: Automatic detection of unique news content in Microblogs**

Byungkyu Kang: University of California Santa Barbara; Tobias Hollerer: University of California Santa Barbara; John O'Donovan: University of California Santa Barbara

**Time Evolution of the Importance of Nodes in dynamic Networks**

Clément Magnien: LIP6 (CNRS - UPMC); Fabien Tarissan: LIP6 (CNRS - UPMC)

**A Case Study for the Churn Prediction in Turksat Internet Service Subscription**

Mehmet Gok: TOBB University; Tansel Ozyer: TOBB University; Jamal Jida: Lebanese University

**28 August**

**(1: 30-3: 30 PM) Applications --- FAB 2015 -- S4**

**Using Arabic Microblogs Features in Determining Credibility**

Amal Abdullah AlMansour: King's College London; Costas Iliopoulos: King's College London

**Implementation of Chaotic Analysis on Retweet Time Series**

Yuanyuan Bao: Tsinghua University; Chengqi Yi: Harbin University of Science and Technology; Jingchi Jiang: Harbin University of Science and Technology; Yibo Xue: Tsinghua University; Yingfei Dong: University of Hawaii

**The Good, the Bad and their Kins: Identifying Questions with Negative Scores in StackOverflow**

Piyush Arora: Dublin City University; Debasis Ganguly: Dublin City University; Gareth Jones: Dublin City University

**Mining Open and Crowdsourced Data to Improve Situational Awareness for Railway**

Syed Sadiqur Rahman: School of Electronic, Electrical and Systems Engineering, University of Birmingham; John M. Easton: School of Electronic, Electrical and Systems Engineering, University of Birmingham; Clive Roberts: University of Birmingham

**Streaming Linear Regression on Spark MLlib and MOA**

Baris Akgun: Istanbul Technical University; Sule Gunduz: Istanbul Technical University

**Demo Papers @ ASONAM 2015 (Each paper will have 3 minutes presentation during the posters/Demos session on 25 August 2015 4:00-6:00 PM) (Posters should be 120 x90 CM)**

**3D DynNetVis - A 3D Visualization Technique for Dynamic Networks**

Tilman G?hnert: University Duisburg-Essen; Sabrina Ziebarth: University of Duisburg-Essen; Henrik Detjen: University of Duisburg-Essen; Tobias Hecking: University of Duisburg-Essen; H. Ulrich Hoppe: University of Duisburg-Essen

**A reliable and evolutive web application to detect social capitalists**

Nicolas Dugu?: LIFO - University d'Orleans; Anthony Perez: LIFO - University d'Orleans; Maximilien Danisch: Laboratoire d'Informatique Paris 6; Florian Bridoux: University d'Orleans; Am?lie Daviau: University d'Orleans; Tennessy Kolubako: University d'Orleans; Simon Munier: University d'Orleans; Hugo Durbano: University d'Orleans

**A Test-Bed for Generating Social Graphs and Recommending Named Groups from Email**

Andrew Ghobrial: UNC Chapel Hill; Jacob W. Bartel: UNC Chapel Hill; Andrew Vitkus: UNC Chapel Hill; Prasun Dewan: UNC Chapel Hill

**Analyzing Event Opinion Transition through Summarized Emotion Visualization**

Fernando Calderon: National Tsing Hua University; Chun-Hao Chang: National Tsing Hua University; Carlos Argueta: National Tsing Hua University; Elvis Saravia: National Tsing Hua University; Yi-Shin Chen: National Tsing Hua University

**EmoViz: Mining the World's Interest through Emotion Analysis**

Elvis Saravia: National Tsing Hua University; Carlos Argueta: National Tsing Hua University; Yi-Shin Chen: National Tsing Hua University

**Muna: a Multiplex Network Analysis Library**

Issam Falih: LIPN CNRS UMR 7030; Rushed Kanawati: University Paris 13

**Predicting Email Recipients**

Zvi Sofershtein: The Hebrew University of Jerusalem; Sara Cohen: The Hebrew University of Jerusalem

**GraphExploiter: Creation, Visualization and Algorithms on graphs**

Victor Lequay: University Claude Bernard Lyon 1; Alexis Ringot: University Claude Bernard Lyon 1; Mohammed Haddad: University Claude Bernard Lyon-1; Brice Effantin: University Claude Bernard Lyon 1; Hamamache Kheddouci: University Claude Bernard Lyon 1

**PhD Forum -- Posters – ASONAM 2015 (Each paper will have 3 minutes presentation during the posters/Demos session on 25 August 2015 4:00-6:00 PM) (Posters should be 120 x90 CM)**

**Classification of Trading Networks with Combinatorial Optimization**

Stefan Wiesberg: Institut fuer Informatik, Universitaet Heidelberg

**Leveraging Pittsburgh's Energy Efficiency Social Network to Predict Next Adopters**

Nichole Hanus: Carnegie Mellon University; Mitchell Small: Carnegie Mellon University; Gabrielle Wong-Parodi: Carnegie Mellon University; Iris Grossmann: Carnegie Mellon University

**Linear Threshold Model in Temporal Networks - Seed Selection for Social Influence**

Radoslaw Michalski: Wroclaw University of Technology

**Predicting Community Evolution in Social Networks**

Stanislaw Saganowski: Wroclaw University of Technology

**Research Track – Posters @ ASONAM 2015 (Each paper will have 3 minutes presentation during the posters/Demos session on 25 August 2015 4:00-6:00 PM) (Posters should be 120 x90 CM)**

**A Hybrid Epidemic Model for Antinormative Behavior in Online Social Networks**

Cong Liao: The Pennsylvania State University; Anna Squicciarini: The Pennsylvania State University; Christopher Griffin: United States Naval Academy; Sarah Rajtmajer: The Pennsylvania State University

**Analyzing the activity of a person in a chat by combining network analysis and fuzzy logic**

Sude Tavassoli: Technical University of Kaiserslautern; Katharina Anna Zweig: Technische University Kaiserslautern

**AttitudeBuzz: Using Social Media Data to Localize Complex Attitudes**

Jason Cohn: Northwestern University; Alex Kuntz: Northwestern University; Larry Birnbaum: Northwestern University

**Dynamics of Multi-Campaign Propagation in Online Social Networks**

Thejaswi M: NITK Surathkal; Sriniketh Vijayaraghavan: New York University; Avinash Das: NITK Surathkal; P. Santhi Thilagam: NITK Surathkal

**Enriching Arabic Tweets Representation based on Web Search Engine and the Rough Set Theory**

Mohammed Bekkali: E.N.S.A, University Sidi Mohamed Ben Abdellah (USMBA), Fez, Morocco; Issam Sahmoudi: E.N.S.A, University Sidi Mohamed Ben Abdellah (USMBA), Fez, Morocco; Abdelmonaime Lachkar: E.N.S.A, University Sidi Mohamed Ben Abdellah (USMBA), Fez, Morocco

**EnTwine: Feature Analysis and Candidate Selection for Social User Identity Aggregation**

Niyati Chhaya: Adobe Research; Dhwanit Agarwal: Indian Institute of Technology, Kanpur; Nikaash Puri: Adobe Systems; Paridhi Jain: IIIT-Delhi; Deepak Pai: Adobe Systems

**Exploring Visual Stability in Dynamic Graph Drawings: A Case Study**

Alfredo Ramos Lezama: University of Duisburg-Essen; Irene-Angelica Chounta: University of Duisburg-Essen; Tilman G?hnert: University Duisburg-Essen; H. Ulrich Hoppe: University of Duisburg-Essen

**Features for mood prediction in social media**

Mahnaz Roshanaei: cu boulder; Richard Han: University of Colorado Boulder; Shivakant Mishra: University of Colorado Boulder

**Finding Posts in Digital Libraries of Authors with Garbled Names**

Adam Ondrejka: VSB - Technical University of Ostrava; Petr Saloun: VSB-TU Ostrava; Jakub Stonawski: VSB-Technical University of Ostrava; Ivan Zelinka: FEI VSB-Technical University of Ostrava

**Is Normalized Mutual Information a Fair Measure for Comparing Community Detection Methods?**

Alessia Amelio: CNR-ICAR; Clara Pizzuti: CNR-ICAR

**Mining Streaming Tweets for Real-Time Event Credibility Prediction in Twitter**

Jun Zou: Georgia Tech; Faramarz Fekri: Georgia Tech; Steven W. McLaughlin: Georgia Tech

**Modelling time evolving interactions in networks through a non stationary extension of stochastic block models**

Marco Corneli: University Paris 1 Panth?on-Sorbonne; Pierre Latouche: Paris 1 University; Fabrice Rossi: Paris 1 University

**On Influence Maximization to Target Users in the Presence of Multiple Acceptances**

Chien-Wei Chang: National Cheng Kung University; Mi-Yen Yeh: Academia Sinica; Kun-Ta Chuang: National Cheng Kung University

**Opinion Mining in Twitter: How to Make Use of Sarcasm to Enhance Sentiment Analysis**

Mondher Bouazizi: Keio University; Tomoaki Ohtsuki: Keio University

**Overlapping Communities via k-Connected Ego Centered Groups**

G?nce Keziban Orman: galatasaray university; Onur Karadeli: Vodafone Teknoloji Hizmetleri A.?. (OKSIJEN); Emre ?al???r: Vodafone Teknoloji Hizmetleri A.?. (OKSIJEN)

**Phonetic Normalization of Microtext**

Richard Houry: Lakehead University

**Privacy Preservation in Social networks through alpha – anonymization techniques**

Saptarshi Chakraborty: VIT University; Bala Krushna Tripathy: VIT University

**Reconstructing Dynamic Social Network by Choosing Local Maximum Degree Substitute**

Shiou-Chi Li: Dept. of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan; Yu Hao Ke: Dept. of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan; Fa-Yuan Liu: Dept. of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan; Jen-Wei Huang: Dept. of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan

**Reformulations of the Map Equation for Community Finding and Block modelling**

Neil Hurley: Insight Centre for Data Analytics; Erika Duriakova: Insight Centre for Data Analytics

**Signed Social Networks: Link Prediction and Overlapping Community Detection**

Mohsen Shahriari: RWTH Aachen University; Ralf Klamma: RWTH Aachen University

**Toward Order-of-Magnitude Cascade Prediction**

Ruocheng Guo: Arizona State University; Elham Shaabani: Arizona State University; Abhinav Bhatnagar: Arizona State University; Paulo Shakarian: Arizona State University

**Uncovering the Structure of Knowledge Exchange in a MOOC Discussion Forum**

Tobias Hecking: University of Duisburg-Essen; Andreas Harrer: Technical University of Clausthal; H. Ulrich Hoppe: University of Duisburg-Essen

**Understanding Spreading Patterns on Social Networks Based on Network Topology**

Yayati Gupta: INDIAN INSTITUTE OF TECHNOLOGY, ROPAR; Sudarshan Iyengar: Indian Institute of Technology; Akрати Saxena: INDIAN INSTITUTE OF TECHNOLOGY, ROPAR, INDIA

## Detailed Program of the Multidisciplinary Track @ ASONM 2015

Political and organizational networks      Multidisciplinary S1 2h 5 papers  
(20 minutes per presentation + 20 discussion)

Methods and algorithms for network data analysis      Multidisciplinary S2 2h 5 papers  
(20 minutes per presentation + 20 discussion)

Advances in Social Network Analysis for cultural networks      Multidisciplinary S3 1.5h 4 papers  
(20 minutes per presentation + 10 discussion)

Understanding Behaviours and Dynamics in Social Networks      Multidisciplinary S4 1.5h 5 papers  
(20 minutes per presentation + 20 discussion)

<b>Multidisciplinary S1</b> <b>Political and organizational networks</b>	
Assessing the Translational Capacity of Three CTSA Institutions	Charisse Madlock-Brown and David Eichmann
Policy Oriented Exchange Networks: Was a Copenhagen Climate Treaty Possible? Scientific Analysis Providing New Insights for Agreement and a Better Treaty for the Planet.	Frans N. Stokman
Generating Social Network Data – Lessons Learned from Field Research in Ghana’s Petroleum Sector	Johanna Rapp
Is the corporate elite disintegrating? Interlock boards and the Mizruchi hypothesis	Kevin Mentzer, Francois-Xavier Dudouet, Dominique Haughton, Pierre Latouche and Fabrice Rossi
How Do Online Social Networks Support Decision Making? A Pluralistic Research Agenda	Valeria Sadovykh and David Sundaram
<b>Multidisciplinary S2</b> <b>Methods and algorithms for network data analysis</b>	
Hackers Topology matter geography. Mapping the Dynamics of Repeated System Trespassing Events Networks	Amit Rechavi, Tamar Berenblum, David Maimon and Ido Sivan Sevilla
Semantics-Based Cross-domain Collaboration Recommendation in the Life Sciences: Preliminary Results	Dimitar Hristovski, Andrej Kastrin and Thomas C. Rindflesch
Archetypal Networks	Giancarlo Ragozini and Marai Rosaria D’Esposito
Mining Social Media Streams to Improve Public Health Allergy Surveillance	Kathy Lee, Ankit Agrawal and Alok Choudhary
Fast community structure local uncovering by independent node-centered process	Mael Canu, Marcin Detyniecki, Marie-Jeanne Lesot and Adrien Revault d’Allonnes

**Multidisciplinary S3****Advances in Social Network Analysis for cultural networks**

Social Network Analysis of TV Drama Characters via Deep Concept Hierarchies	Chang-Jun Nan, Kyung-Min Kim, and Byoung-Tak Zhang
Exploring the Italian Erasmus Agreements by a Network Analysis Perspective	Kristijan Breizink and Giacarlo Ragozini
The invisible cultural heritage in spatial organization	Yun-Shang Chiou and Yohana Natalia Cahyono
Voting algorithm in the play Julius Caesar	Zvi Lotker

**Multidisciplinary S4****Understanding Behaviours and Dynamics in Social Networks**

Optimal Influence Strategies in Social Networks	Christos Bilanakos, Ifigeneia Georgoula, Dionisios N. Sotiropoulos and George M. Giaglis
Weak Signals as Predictors of Real-World Phenomena in Social Media	Christos Charitonidis, Awais Rashid and Paul J. Taylor
A Time-Variant and Non-Linear Model of Opinion Formation in Social Networks	Dionisios N. Sotiropoulos, Christos Bilanakos and George M. Giaglis
Social Circle Discovery in Ego-Networks by Mining the Latent Structure of User Connections and Profile Attributes	Georgios Petkos, Symeon Papadopoulos and Yiannis Kompatsiaris
Social Interactions vs Revisions, What Is Important for Promotion in Wikipedia?	Romain Picot-Clément, Cécile Bothorel, Nicolas Jullien

## **Detailed Program of the Industrial Track @ ASONAM 2015**

### **Session 1 (chair Jiabin Zhao) - Friday 28 August 2015, 10:30-12:30**

. Is Web Content a Good Proxy for Real-Life Interaction? A Case Study Considering Online and Offline Interactions of Computer Scientists

Mark Kibanov, Martin Atzmueller, Jens Illig, Christoph Scholz, Alain Barrat, Ciro Cattuto and Gerd Stumme

. Combining Local and Social Network Classifiers to Improve Churn Prediction

Aimee Backiel, Yannick Verbinnen, Bart Baesens and Gerda Claeskens

. AFRAID: Fraud Detection via Active Inference in Time-Evolving Social Networks

Veronique Van Vlasselaer, Tina Eliassi-Rad, Leman Akoglu, Monique Snoeck and Bart Baesens

. Star Search: Effective Subgroups in Collaborative Social Networks

Ben Baumer, George Rabanca, Amotz Bar-Noy and Prithwish Basu

. Revealing Censored Information through Comments and Commenters in Online Social Networks

Giuseppe Cascavilla, Mauro Conti, David Schwartz and Inbal Yahav

. Privacy Concerns versus User Behavior in Community Question Answering

Imrul Kayes, Nicolas Kourtellis and Adriana Iamnitchi

### **Session 2: (chair Zbigniew Smoreda) - Friday 28 August 2015, 1:30-3:30 PM**

. A Comparative Evaluation of Urban Fabric Detection Techniques Based on Mobile Traffic Data

Angelo Furno, Razvan Stanica and Marco Fiore

. Query-based Graph Cuboid Outlier Detection

Ayushi Dalmia, Manish Gupta and Vasudeva Varma

. A Visual Framework for Clustering Memes in Social Media

Anh Dang, Abidalrahman Moh'd, Anatoliy Gruzd, Evangelos Milios and Rosane Minghim

. Identifying Influential Users in On-line Support Forums using Topical Expertise and Social Network Analysis

Tyler Munger and Jiabin Zhao

. Overcoming Data Scarcity of Twitter: Using Tweets as Bootstrap with Application to Autism-Related Topical Content Analysis

Adham Beykikhoshk, Ognjen Arandjelovic, Dinh Phung and Svetha Venkatesh

. Stay Awhile and Listen: User Interactions in a Crowdsourced Platform Offering Emotional Support

Derek Doran, Luisa Massari, Maria-Carla Calzarossa, Latrelle Jackson, Glen Moriarty and Samir Yelne



## 25 August Workshops Program

SNAА 8 papers  
MANEM 7 papers+1Talk  
MSNDS 10 papers  
SOMERIS 7 papers +Talk  
Dyno 10 papers+1 Talk

8:30-10:00 (4 papers)	SOMERIS	MANEM	DYNO
10:30-12:30 (6 papers)	SOMERIS	MANEM	DYNO
13:30-15:30 (6 papers)	SNAА	MSNDS	
16:00-18:00 (6 papers)	SNAА	MSNDS	

### **Program of SOMERIS 2015**

- GUSDORF Raphael (AXA) 8:30 - 9:15
- 9:15 - 9:35 - Privacy Tips: Would it be ever possible to empower on-line social network users to control the confidentiality of their data?, Vladimir Estivill-Castro and David F. Nettleton
- 9:35 - 9:55 Finding compact communities in large graphs, Jean Creusefond, Thomas Largillier and Sylvain Peyronnet
- 9:55 -10:15 Community-Preserving Generalization of Social Networks, Jordi Casas-Roma and François Rousseau

coffee - break

- Françoise Soulié (AXA) 11:00 - 11:45
- 11:45 - 12:05 - Graph-Based Term Weighting for Text Categorization, Fragkiskos D. Malliaros and Konstantinos Skianis
- 12:05 - 12:25 - Multi-layered graph-based model for social engineering vulnerability assessment, Omar Jaafor and Babiga Birregah
- 12:25 - 12:45 - TipMe: Personalized advertising and aspect-based opinion mining for users and businesses Dimitris Proios, Magdalini Eirinaki and Iraklis Varlamis
- 12:45 - 13:05 - Feature Extraction and Analysis for Identifying Disruptive Events from Social Media, Nasser Alsaedi and Pete Burnap

### **Program of MANEM 2015**

8:30-8:40 AM: Introduction to the Workshop

8:40 – 10:00 AM : Multiplex Network session  
20 mns per paper including 5 mns for questions

#### **Community Detection in Multiplex Networks using Locally Adaptive Random Walks**

Zhana Kuncheva and Giovanni Montana

#### **MuNeG - The Framework for Multilayer Network Generator**

Adrian Popiel, Przemysław Kazienko and Tomasz Kajdanowicz

#### **Generating Multidimensional Social Network to Simulate the Dissemination of Information**

Mathilde Forestier, Jean-Yves Bergier, Youssef Bouanan, Judicael Ribault, Gregory Zacharewicz, Bruno Vallespir and Colette Faucher

#### **A multiplex-network based approach for clustering ensemble selection**

Parisa Rastin and Rushed Kanawati

**10:30-11:30 Invited Talk Osmar Zaiane**

11:30- 12:30 Attributed Network session  
20 mns per paper including 5 mns for questions

**Local rules associated to k-communities in an attributed graph**

Henry Soldano, Guillaume Santini and Dominique Bouthinon

**Centrality for graphs with numerical attributes**

Oualid Benyahia and Christine Largeron

**Overcoming Data Scarcity of Twitter: Using Tweets as Bootstrap with Application to Autism-Related Topic Content Analysis**

Adham Beykikhoshk, Ognjen Arandjelovic, Dinh Phung and Svetha Venkatesh

## **Program of Dyno 2015**

08:30-09:00 Invited Speaker: Remy Cazabet (title to be decided)

09:00-09:20 Paolo Barucca and Fabrizio Lillo. Disentangling bipartite and core-periphery structure in networks

09:20-09:40 Rajesh Sharma, Matteo Magnani and Danilo Montesi. Understanding community patterns in large attributed social networks

09:40-10:00 Nagehan Ilhan and Şule Gündüz Öğüdücü. Predicting Community Evolution based on Time Series Modeling

10:30-10:50 Jordan Viard, Matthieu Latapy and Clemence Magnien. Revealing contact patterns among high-school students using maximal cliques in link streams

10:50-11:10 Amir Afrasiabi Rad, Paola Flocchini and Joanne Gaudet. Tempus Fugit: The Impact of Time in Knowledge Mobilization Networks

11:10-11:30 Gennaro Cordasco, Luisa Gargano and Adele Anna Rescigno. Influence Propagation over Large Scale Social Networks

11:30-11:50 Shodai Mihara, Sho Tsugawa and Hiroyuki Ohsaki. Influence Maximization Problem for Unknown Social Networks

11:50-12:10 Martine Collard, Philippe Collard, Laurent Brisson and Erick Stattner. Rumor Spreading Modeling: Profusion versus Scarcity

12:10-12:30 Alexandre Reiffers-Masson, Eitan Altman and Yezekael Hayel. Posting behavior in Social Networks and Content Active Filtering

## **Program of SNAA 2015**

Session 1

· SNAA opening

· Christoph Fuchs and Georg Groh. Appropriateness of Search Engines, Social Networks and Directly Approaching Friends to Satisfy Information Needs

· Renato Miranda Filho, Jussara Almeida and Gisele Pappa. Twitter Population Sample Bias and its impact on predictive outcomes: a case study on elections

· Sarka Zehnalova, Milos Kudelka and Zdenek Horak. Email Conversation Network Analysis: Work Groups and Teams in Organizations

· Nima Dokoochaki, Filippia Zikou, Daniel Gillblad and Mihhail Matskin. Predicting Swedish Elections with Twitter: A Case for Stochastic Link Structure Analysis

Session 2

· Anna Kowalska-Pyzalska, Katarzyna Maciejowska, Rafał Weron and Katarzyna Sznajd-Weron. Diffusion and adoption of dynamic electricity tariffs: An agent-based modeling approach

· Ran Cheng, Jun Pang and Yang Zhang. Inferring Friendship from Check-in Data of Location-Based Social Networks

· Jean-Philippe Attal and Maria Malek. A New Label Propagation With Dams

· Juliana S. Silva and Antonio Mauro Saraiva. A Methodology for Applying Social Network Analysis Metrics to Biological Interaction Networks

· Closing and Best Paper Award

## **Program of MSNDS 2015**

13:30-13:50 Arijit Chatterjee and Dr. William Perrizo

Classifying Stocks using P-Trees and Investor Sentiment

13:50-14:10 Fatih Ozgul and Zeki Erdem

Deciding Resilient Criminal Networks

14:10-14:30 Santosh Kumar Bharti, Korra Sathya Babu and Sanjay Kumar Jena

Parsing-based Sarcasm Sentiment Recognition in Twitter Data

14:30-14:50 Hoang Nguyen, Rachel Richards, Chien-Chung Chan and Kathy J. Liszka

RedTweet: Recommendation Engine for Reddit

14:50-15:10 Ibrahima Gaye, Gervais Mendy, Samuel Ouya and Diaraf Seck

Spanning graph for maximizing the influence spread in Social Networks

15:10-15:30 Julio Cesar; Louzada Pinto and Eitan Altman

Trend detection in social networks using Hawkes processes

16:00-16:20 Arun Pandey, Roshni Chakraborty, Soumya Sarkar and Joydeep Chandra

Analyzing Link Dynamics in Scientific Collaboration Networks --- A Social Yield Based Perspective

16:20-16:40 Souhila Benmakrelouf, Neila Mezghani and Nadjia Kara

Towards the Identification of Players' Profiles Using Game's Data Analysis Based on Regression

Model and Clustering

16:40-17:00 Chyi-In Wu

The Impact of Co-evolution of Dynamic Networks Upon Adolescent Deviant Behaviors

17:00-17:20 Chung-Hong Lee, Hsin-Chang Yang and Shih-Jan Lin

Incorporating Big Data and Social Sensors in a Novel Early Warning System of Dengue Outbreaks

17:20-17:40 Majed Alrubaian, Muhammad Al-Qurishi, Mabrook Al-Rakhami, Sk. Md. Mizanur Rahman and Atif Alamri

A Multistage Credibility Analysis Model for Microblogs