

# **Technical Program of**

# **IEEE/ACM ASONAM 2012**

FOSINT-SI 2012

**HI-BI-BI 2012** 

and collocated workshops

26 – 29 August 2012 Kadir Has University Istanbul, Turkey











#### **Events co-located with IEEE/ACM ASONAM 2012:**



International Symposium on Foundation of Open Source Intelligence and Security Informatics (FOSINT-SI 2012)

International Symposium on Network Enabled Health Informatics, Biomedicine and Bioinformatics (HI-BI-BI 2012)



## **In Conjunction with Workshops:**

The 2nd International Workshop on Social Network Analysis in Applications (SNAA 2012)

The 3rd International Workshop on Business Applications of Social Network Analysis (BASNA 2012) International Workshop on Complex Social Network Analysis (CSNA12)

The 4th International Workshop on Mining Social Networks for Decision Support (MSNDS 2012)

The 2012 International Workshop on Semantic Social Network Analysis and Design (SSNAD12)

The 1st International Workshop on Cybersecurity of Online Social Networks(CSOSN)

The 1st International Workshop on Multi-agent Systems and Social Networks (MASSN12)

Data Management in the Social Semantic Web (DMSW12)

The 1st International Workshop of Social Knowledge Discovery and Utilization (SKDU12)

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|                    | Program Overview for IEEE/ACM ASONAM 2012 FOSINT-SI 2012 – HI-BI-BI 2012 and collocated workshops |         |               |                      |        |             |               |
|--------------------|---|---------|---------------|----------------------|--------|-------------|---------------|
|                    | Sunday 26 August 2012   |         |               |                      |        |             |               |
| 8:30               |   |         | Openi         | ng ceremony for work | shops  |             |               |
| 9:00-<br>10:00 AM  |   |         | ASO           | NAM - Keynote Speal  | ker I  |             |               |
| 10:00-<br>10:30 AM |   |         |               | Break                |        |             |               |
| 10:30-<br>12:30 AM | CSOSN2012<br>S1   |         | DMSSW<br>2012 | MSNDS 2012           | ARNO R | euser Works | hop           |
| 12:30-<br>1:30 PM  |   |         |               | Lunch Break          | ·      |             |               |
| 1:30-2:10<br>PM    | BASNA2012<br>Keynote  | CSNA    | DMSSW         | MSNDS 2012           | SNAA   | SSNAD       | WMSSN         |
| 2:10-3:30<br>PM    | BASNA2012<br>S1   | 2012 S1 | 2012          | SKDU 2012 S1         | 2012   | 2012        | 2012          |
| 3:30-4:00<br>PM    | Break   |         |               |                      |        |             |               |
| 4:00-6:00<br>PM    | BASNA2012<br>S2   |         |               |                      |        |             | WMSSN<br>2012 |
| 7:00-9:00<br>PM    |   | •       | •             | Reception            | •      | •           |               |

| Sunday 26 August 2012 (Tutorials Schedule) |            |            |  |  |  |
|--|------------|------------|--|--|--|
| 10:30-<br>12:30 Tutorial 1                 |            |            |  |  |  |
| Lunch Break                                |            |            |  |  |  |
| 1:30-3:30                                  | Tutorial 2 | 2          |  |  |  |
|  | Break      |            |  |  |  |
| 4:00-6:00                                  | Tutorial 3 | Tutorial 4 |  |  |  |

|                   | Monday 27 August 2012           |   |                             |                        |                   |  |
|-------------------|---------------------------------|---|-----------------------------|------------------------|-------------------|--|
| 8:30              |                                 | Opening ceremony for ASONAM+FOSINT+HIBIHI |                             |                        |                   |  |
| 9:00-10:00<br>AM  | ASONAM - Keynote Speaker II     |   |                             | FOSINT-SI F            | Keynote Speaker I |  |
| 10:00-10:30<br>AM | Break                           |   |                             |                        |                   |  |
| 10:30-12:30<br>AM | ASONAM-S1                       | ASONAM –<br>S2                            | ASONAM –S3                  | FOSINT-SI-S1           | HIBIHI-S1         |  |
| 12:30-1:30<br>PM  | ASONAM                          | I Demo Session                            | Lunch Brea<br>ASONAM Poster | nk<br>Session FOSINT-S | I Poster Session  |  |
| 1:30pm-<br>2:30pm | ASONAM - Keynote Speaker III Fo |   |                             | FOSINT-SI K            | eynote Speaker II |  |
| 2:30-4:30 PM      | ASONAM -S4                      | ASONAM -S5                                | ASONAM -S6                  | FOSINT-SI-S2           | HIBIBI-S2         |  |
| 4:30-5:00 PM      | Break                           |   |                             |                        |                   |  |
| 5:00-7:00 PM      | Panel                           |   |                             |                        |                   |  |

|                  |                |  | Tu   | esday                              | 28 August 2 | 012            |              |                   |                                    |
|------------------|----------------|--|------|------------------------------------|-------------|----------------|--------------|-------------------|------------------------------------|
| 8:30-9:30<br>AM  | A              | ASONAM - Keynote Speaker IV  |      |                                    |             | F(             | OSINT-SI Key | ynote Speaker III |                                    |
| 9:30-10:00<br>AM |                | Break  |      |                                    |             |                |              |                   |                                    |
| 10:00-12:00      | ASONAM-S7      | ASONAM -   | -S8  | ASONAM –S9 FOSINT-SI- HIBIHI-S3 S3 |             |                | HIBIHI-S3    |                   |                                    |
| 12:00-1:00<br>PM | ASONA          | Lunch Break ASONAM Demo Session ASONAM Poster Session FOSINT-SI Poster Session |      |                                    |             | Poster Session |              |                   |                                    |
| 1:00-3:00 PM     | ASONAM-<br>S10 | ASONAM -   | -S11 | ASO                                | NAM –S12    | нівіні-я       | 54           | 1:00-2:00<br>PM   | FOSINT-SI<br>Keynote Speaker<br>IV |
|                  |                |  |      |                                    |             |                |              | 2:00-3:10<br>PM   | FOSINT-SI-S4                       |
| 3:00-3:30 PM     |                | Break  |      |                                    |             |                |              |                   |                                    |
| 3:30-5:30 PM     | ASONAM-S13     | ASON   | AM – | -S14 ASONAM -S15 FOSI              |             |                | SINT-SI-S5   |                   |                                    |
| 6:30-10:30 PM    |                | Banquet  |      |                                    |             |                |              |                   |                                    |

|                   | We                         | ednesday 29 August 2012 |             |  |
|-------------------|----------------------------|-------------------------|-------------|--|
| 9:00-10:00<br>AM  | ASONAM - Keynote Speaker V |                         |             |  |
| 10:00-<br>10:30AM | Break                      |                         |             |  |
| 10:30-12:30<br>AM | ASONAM-S16                 | ASONAM –S17             | ASONAM –S18 |  |
| 12:30-1:30<br>PM  | Lunch Break                |                         |             |  |
| 1:30-3:30 PM      | ASONAM –S19                | ASONAM –S20             | ASONAM –S21 |  |
| 3:30-4:00 PM      | Break                      |                         |             |  |
| 4:00 PM           | closing                    |                         |             |  |

| Thursday 30 August 2012 |                                  |  |
|-------------------------|----------------------------------|--|
| All day                 | Tour for interested participants |  |

#### **ASONAM 2012 Tutorials**

#### **Tutorial I:**

Title: Entity Resolution for Social Network Analysis and Mining

#### **Speakers**

Lise Getoor, University of Maryland, College Park.

Ashwin Machanavajjhala, Yahoo! Research.

#### **Tutorial II:**

**Title:** Models and Algorithms for Social Influence Analysis

#### **Speakers**

Dr. Jimeng Sun, IBM T. J. Watson lab.

Jie Tang, Tsinghua University.

#### **Tutorial III:**

Title: Advanced graph mining & community evaluation metrics for social networks and the Web

#### **Speaker**

Michalis Vazirgiannis, Dept of Informatics, AUEB (Greece) & LIX, Ecole Polytechnique (France).

#### **Tutorial IV**

**Title:** On the Power of Mining Heterogeneous Information Networks

#### **Speakers**

Yizhou Sun, University of Illinois at Urbana-Champaign.

Jiawei Han, University of Illinois at Urbana-Champaign. .

Xifeng Yan, University of California at Santa Barbara.

Philip S. Yu, University of Illinois at Chicago.

#### **ASONAM 2012 Panel**

Title: Current and future research trends in social network analysis and mining

Moderator: Erol Arkun, Bilkent University

**Panelists:** 

Barry Wellman, University of Toronto
Ulrik Brandes, University of Konstanz
Frans N. Stokman, University of Groningen
VS Subrahmanian University of Maryland
Katharina Zweig Technical University Kaiserslautern
Naim Kapucu, University of Central Florida

Jon Rokne, University of Calgary

Arno H.P Reuser, Open Source Intelligence

Bhavani Thuraisingham, University of Texas at Dallas

#### **ASONAM 2012 Keynote Talks**

#### **ASONAM Keynote Speaker I**

Chair: Tansel Ozyer

Arno H.P Reuser, Open Source Intelligence

Title: Social networks are not social, and it is not about networking either: current challenges in the

information world and recommendations on their solutions

## **ASONAM Keynote Speaker II**

Chair: Barry Wellman

Frans N. Stokman, University of Groningen

Title: Social Network Effects Of The Transition Towards Sustainable Energy Production. A Proposal for a Data

Mining Research Agenda

#### **ASONAM Keynote Speaker III**

Chair: Frans N. Stokman

Ulrik Brandes, University of Konstanz Title: A network science manifesto

#### **ASONAM Keynote Speaker IV**

Chair: Erol Arkun

Barry Wellman, University of Toronto Title: The New Social Operating System

#### **ASONAM Invited Speaker V**

Chair: Fazli Can

Fabio Crestani, University of Lugano (USI) Title: The Challenges of Opinion Retrieval

#### Tutorial I: Entity Resolution for Social Network Analysis and Mining

Entity resolution (ER), the problem of extracting, matching and resolving entity mentions in structured and unstructured data, is a long-standing challenge in artificial intelligence, database management, information retrieval and statistics. It has been approached using a variety of techniques, including constraint-based methods, statistical methods, and methods which perform probabilistic inference. Accurate and fast entity resolution has huge practical implications in a wide variety of commercial, scientific and security domains. Entity resolutions is especially important and challenging in the context of mining and analyzing social network and social media data.

Despite the long history of work on entity resolution (which goes under a variety of names, depending on the subdiscipline, including record linkage, deduplication, co-reference resolution, reference reconciliation, object consolidation and identity uncertainty), there is still a surprising diversity of approaches, and lack of guiding theory. Meanwhile, the need for high quality entity resolution is growing, as we are inundated with more and more data, all of which needs to be integrated, aligned and matched, before further utility can be extracted.

In this tutorial, we bring together perspectives on entity resolution from a variety of fields, including databases, information retrieval, natural language processing and machine learning, to provide, in one setting, a survey of a large body of work. We discuss both the practical aspects and theoretical under-pinnings of ER. We describe existing solutions, current challenges and open research problems. We give attendees hands-on experience with entity resolution using a variety of tools.

#### **Speakers**

Lise Getoor is an associate professor in the Computer Science Department at the University of Maryland, College Park. She received her PhD from Stanford University in 2001. Her current work includes research on link mining, statistical relational learning and representing uncertainty in structured and semi-structured data. She has also done work on social network analysis and visual analytics. She has published numerous articles in machine learning, data mining, database, and artificial intelligence forums. She was awarded an NSF Career Award, is an action editor for the Machine Learning Journal, is a JAIR associate editor, has been a member of AAAI Executive council, and has served on a variety of program committees including AAAI, ICML, IJCAI, ISWC, KDD, SIGMOD, and UAI. Lise teaches several courses at UMD, including the introductory artificial intelligence course, the graduate machine learning course, a data mining course, and seminars on statistical relational learning and dynamic network analysis. She has given numerous invited talks, distinguished lectures, and keynotes, including an invited talk at AAAI 2007.

Ashwin Machanavajjhala is a Senior Research Scientist in the Knowledge Management group at Yahoo! Research. His primary research interests lie in data privacy and security, big-data management and statistical methods for information integration. Ashwin graduated with a Ph.D. from the Department of Computer Science, Cornell University. His thesis work on defining and enforcing privacy was awarded the 2008 ACM SIGMOD Jim Gray Dissertation Award Honorable Mention. He has also received an M.S. from Cornell University and a B.Tech in Computer Science and Engineering from the Indian Institute of Technology, Madras. Ashwin is currently leading a project on building a Web-scale distributed unsupervised information extraction system for automatically creating structured databases of entities from semi-structured Web pages, and is involved in building a large-scale distributed entity resolution system at Yahoo! as part of the Web-Of-Concepts initiative. His research specialty is in developing highly scalable statistical methods for information extraction and ER on distributed systems. He has developed solutions for extracting structured entities from semi-structured web-pages, blocking, clustering in entity resolution, and integrating temporally changing data.

#### Tutorial II: Models and Algorithms for Social Influence Analysis

Social influence is the behavioral change of a person because of the perceived relationship with other people, organizations and society in general. Social influence has been a widely accepted phenomenon in social networks for decades. Many applications have been built based around the implicit notation of social influence between people, such as marketing, advertisement and recommendations.

With the exponential growth of online social network services such as Facebook and Twitter, social influence can for the first time be measured over a large population. In this chapter, we survey the research on social influence analysis with a focus on the computational aspects. First, we present statistical measurements related to social influence. Second, we describe the literature on social similarity and influences. Third, we present the research on social influence maximization which has many practical applications including marketing and advertisement.

#### **Speakers**

Dr. Jimeng Sun is a research staff member at Healthcare Transformation group, IBM T. J. Watson lab. He received a Bachelor and MPhil in Computer Science from Hong Kong University of Science and Technology in 2002 and 2003. After that, he obtained a MS and PhD degree in Computer Science from Carnegie Mellon University in 2006 and 2007. His research interests include data mining for streams and networks, databases and healthcare analytics. He has received the best research paper award in ICDM 2008, the best research paper award in SDM 2007. He has published over 40 refereed articles and two book chapters. He filed four patents and has given five tutorials. He has served as a program committee member of SIGKDD, ICDM, SDM and CIKM, senior committee member for SDM 2010 and SDM 2011, and a reviewer for TKDD, TKDE, VLDB, ICDE. For more details, one can refer to his personal homepage at http://www.dasfa.net/jimeng

Jie Tang is an associate professor at the Department of Computer Science and Technology, Tsinghua University. He serves as the director of Department Scientific Office. His main research interests include social network mining and fundamental learning theories. He has been visiting scholar at Cornell University, University of Illinois at Urbana-Champaign, Chinese University of Hong Kong, Hong Kong University of Science and Technology, and Leuven University. He has published over 100 research papers in major international journals and conferences including: KDD, IJCAI, SIGMOD, ACL, ISWC, Machine Learning Journal, TKDD, TKDE, JWS and JoDS. He serves as Local Chair of SIGKDD'12, Publications Co-Chairs of SIGKDD'11, Program Chair of ADMA'11, Program Chair of SocInfo'12, Poster Chair of WSDM'11, and also serves as the PC member of more than 50 international conferences. For more details, one can refer to his personal homepage at http://keg.cs.tsinghua.edu.cn/jietang

#### Tutorial III: Advanced graph mining & community evaluation metrics for social networks and the Web

Graphs constitute a dominant data structure and appear essentially in all forms of information. Examples are the Web graph, numerous social networks, protein interaction networks, terms dependency graphs, network topologies etc. The main features of these graphs are their huge volume and rate of change. Presumably there is important hidden knowledge in the macroscopic topology and features of these graphs. A cornerstone issue here is the detection and evaluation of communities – bearing multiple and diverse semantics. The tutorial will report the fundamental models of graph structures for undirected/directed and signed graphs and their properties. Next we offer a review of fundamental techniques of graph/community clustering algorithms putting emphasis on those that capitalize on the concept of degeneracy as a novel means of community detection. Next we will offer a survey of community measures evaluation including both the individual node based ones as well as those that take into account aggregate properties of communities. A special mention will be made to the k-cores approach to community evaluation. We will justify the above foundational framework with applications citation graphs, trust networks, protein graphs.

#### Speaker

Dr. Vazirgiannis is a Professor at AUEB (Greece) and holds a joint affiliation in LIX / Ecole Polytechnique. His current research interests are on Web Graph and Social Networks analysis & evolution monitoring. His industrial experience and expertise lie in the areas of data mining and machine learning for large scale data repositories (i.e. the Web graph, social networks, medical data etc). He has supervised ten completed PhD theses.

He has published two books and more than a 120 papers in international refereed journals and conferences. He is also co-author of three patents and a software license. He has received several research awards and distinctions (ERCIM -2001, Marie Curie EU - 2006 fellowships and the prestigious DIGITEO Chair grant in France. He participates in the editorial board of the "Intelligent Data Analysis" Journal and served as guest editor for "Machine Learning" and "Data Mining & Knowledge Discovery" journals. He was co-chaired of ECML/PKDD 2011, Data Mining Track chair of the IEEE - ICDE 2011 conference and has participated as a conference committee member for more than forty international conferences. Prof Vazirgiannis maintains strong ties with industrial partners internationally.

#### **Tutorial IV: On the Power of Mining Heterogeneous Information Networks**

In most of the existing network research, social and information networks are usually assumed to be homogenous, where nodes are objects from the same entity type (e.g., person) and links are relationships from the same relation type (e.g., friendship). However, in reality, objects that are of different entity types may link together via relationships of different relation types, forming heterogeneous information networks that are semi-structured. Such heterogeneous information networks are ubiquitous, and form powerful and expressive representations of very generic real-world systems in diverse domains.

In this tutorial, we will present an organized picture on scalable mining of heterogeneous information networks, with the inclusion of the following topics: (1) an introduction to information networks; (2) mining information networks: clustering, classification, and ranking; (3) meta-path-based similarity search and mining; (4) relation strength-aware mining; (5) construction of informative networks by data mining; and (6) research frontiers in information network analysis.

#### **Speakers**

**Yizhou Sun** is a fifth year Ph.D. candidate at the Department of Computer Science, University of Illinois at Urbana-Champaign. Her principal research interest is in mining information and social networks, and more generally in data mining, database systems, statistics, machine learning, information retrieval, and network science, with a focus on modeling novel problems and proposing scalable algorithms for large-scale, real-world applications. Yizhou has over 30 publications in book chapters, journals, and major conferences. Tutorials based on her thesis work on mining heterogeneous information networks have been given in several premier conferences, such as SIGMOD'10, SIGKDD'10 and ICDE'12.

**Jiawei Han**, Bliss Professor of Computer Science, University of Illinois at Urbana-Champaign. He has been researching into data mining, information network analysis, database systems, and data warehousing, with over 600 journal and conference publications. He has chaired or served on many program committees of international conferences, including PC co-chair for KDD, SDM, and ICDM conferences. He also served as the founding Editor-In-Chief of ACM Transactions on Knowledge Discovery from Data and is serving as the Director of Information Network Academic Research Center supported by U.S. Army Research Lab. He is a Fellow of ACM and IEEE, and received 2004 ACM SIGKDD Innovations Award, 2005 IEEE Computer Society Technical Achievement Award, 2009 IEEE Computer Society Wallace McDowell Award, and 2011 Daniel C. Drucker Eminent Faculty Award at UIUC.

**Xifeng Yan** is an associate professor at the University of California at Santa Barbara. He holds the Venkatesh Narayanamurti Chair in Computer Science. He received his Ph.D. degree in Computer Science from the University of Illinois at Urbana-Champaign in 2006. He has been working on modeling, managing, and mining graphs in bioinformatics, social networks, information networks, and computer systems. His works were extensively referenced, with over 5,000 citations per Google Scholar. He received NSF CAREER Award, IBM Invention Achievement Award, ACM-SIGMOD Dissertation Runner-Up Award, and IEEE ICDM 10-year Highest Impact Paper Award.

**Philip S. Yu** received his Ph.D. degree in E.E. from Stanford University. He is a Professor in Computer Science at the University of Illinois at Chicago and also holds the Wexler Chair in Information Technology. Dr. Yu spent most of his career at IBM, where he was manager of the Software Tools and Techniques group at the Watson Research Center. His research interests include data mining, database and privacy. He has published more than 680 papers in refereed journals and conferences. He holds or has applied for more than 300 US patents. Dr. Yu is a Fellow of the ACM and the IEEE. He is the Editor-in-Chief of ACM Transactions on Knowledge Discovery from Data.

## **ASONAM 2012 Technical Research Sessions**

| ASONAM-S1 |   | Contextual social network analysis and mining                                 |                    |                                     |  |  |
|-----------|---|---|--------------------|-------------------------------------|--|--|
| 10 :30-1  | 10 :30-12 :30   |   |                    | Aug 27                              |  |  |
| Full      | Large Sc  | ocial Networks can be Targeted for \  | Viral Marketing w  | ith Small Seed Sets                 |  |  |
|           | Paulo Sh  | nakarian*, D/EECS; Damon Paulo, D   | /EECS              |                                     |  |  |
| Short     | The trile   | emma of network analysis  |                    |                                     |  |  |
|           | Katharir  | na Zweig*, TU Kaiserslautern; Isador  | a Dorn, Heidelbei  | rg University; Andreas Lindenblatt, |  |  |
|           | Heidelb   | erg University  |                    |                                     |  |  |
| Short     | Link and  | Node Analysis of Gender Based Co  | llaborations in Tu | rkish Social Sciences               |  |  |
|           | Bulent C  | Ozel*, Istanbul Bilgi University  |                    |                                     |  |  |
| Short     | Semanti   | ic Expansion of Tweet Contents for  | Enhanced Event D   | etection in Twitter                 |  |  |
|           | Ozer Ozdikis*, Middle East Tech. University; Pinar Senkul, Middle East Tech. University; Halit Oguztuzun, |   |                    |                                     |  |  |
|           | Middle East Tech. University  |   |                    |                                     |  |  |
| Short     | Social-B  | Social-Based Conceptual Links: Conceptual Analysis Applied to Social Networks |                    |                                     |  |  |
|           | Erick Sta   | attner*, LAMIA Laboratory; Martine  | Collard, LAMIA La  | aboratory                           |  |  |

| ASONA   | AM –S2   | Application of social netwo         | Application of social network analysis and mining 1 |  |  |  |  |
|---------|--|-------------------------------------|---|--|--|--|--|
| 10:30-1 | 2:30   | Chair: Christine Largeron           | Room 2  | Aug 27                                   |  |  |  |
| Full    | Evolutio   | nary Community Detection for Ob     | serving Covert Poli                                 | tical Elite Cliques                      |  |  |  |
|         | Jyi-Shan   | e Liu*, National Chengchi Univers   | ity; Ke-Chih Ning, N                                | lational Chengchi University; Wan-Chun   |  |  |  |
|         | Chuang,  | National Chengchi University        |   |  |  |  |  |
| Full    | Measuri  | ing topological robustness of netw  | orks under sustain                                  | ed targeted attacks                      |  |  |  |
|         | Mahend   | Irarajah Piraveenan, The Universit  | y of Sydney; Shaha                                  | dat Uddin, The University of Sydney; Kon |  |  |  |
|         | Shing Ke   | enneth Chung*, The University of    | Sydney  |  |  |  |  |
| Short   | Analyzin   | ng User Retweet Behavior on Twit    | ter   |  |  |  |  |
|         | Zhiheng  | Xu*, Institute of automation; Qin   | g Yang, institute of                                | automation, chinese academy of sciences  |  |  |  |
| Short   | Applying   | g SNA for the characterization of t | he spatial organizat                                | tion of XiaoLin Village                  |  |  |  |
|         | Yun-Sha  | ng Chiou*, NTUST                    |   |  |  |  |  |
| Short   | Finding a Maximum Clique using Ant Colony Optimization and Particle Swarm Optimization in Social |                                     |   |  |  |  |  |
|         | Networks   |                                     |   |  |  |  |  |
|         | Mohammad Soleimani-Pouri, Islamic Azad University, Qazvin branch, Qazvin, Iran; Alire            |                                     |   |  |  |  |  |
|         | Amirkab  | oir Univ. Technology; Mohammad      | Reza Meybodi, Ami                                   | irkabir University of Technology         |  |  |  |

| ASONAM -S3 |  | Data models for social networks and social media |                      |  |  |  |
|------------|--|--|----------------------|--|--|--|
| 10:30-12   | 2:30   | Chair: Przemyslaw Kazienko                       | Room 3               | Aug 27                                 |  |  |
| Full       | A Bayes  | ian Hierarchical Approach for Explorate          | ory Analysis of Com  | nmunities and Roles in Social Networks |  |  |
|            | Gianni C   | Costa*, ICAR-CNR; Riccardo Ortale, ICAI          | R-CNR                |  |  |  |
|            |  |  |                      |  |  |  |
| Full       | User Fea   | atures and Social Networks for Topic M           | Nodeling in Online S | Social Media                           |  |  |
|            | Bo Hu*,  | ; Zhao Song, Simon Fraser University;            | Martin Ester, Simo   | n Fraser University                    |  |  |
| Short      | Collectiv  | ve Churn Prediction in Social Network            |                      |  |  |  |
|            | Richard  | Oentaryo*, Singapore Management U                | niversity; Ee-Peng   | Lim, ; David Lo, Singapore Management  |  |  |
|            | Universi   | ty; Feida Zhu, Singapore Management              | University; Philips  | Prasetyo, Singapore Management         |  |  |
|            | Universi   | ty   |                      |  |  |  |
| Short      | Knowing  | g A Good Show When You See One                   |                      |  |  |  |
|            | James Lanagan*, Technicolor R&I  |  |                      |  |  |  |
| Short      | Entrepreneurs' networks: Size, diversity and composition shaped by cultures of rationality and trust |  |                      |  |  |  |
|            | Thomas   | SchOtt*,; Maryam Cheraghi, Universit             | y of Tarbiat Modar   | res                                    |  |  |

| ASONAM -S4   Communities discovery and a |  | analysis in larg   | e scale social networks 1 |  |  |
|--|--|--|---------------------------|--|--|
| 2:30-4:                                  | 30   | Chair: Marco Pellegrini  | Room 1                    | Aug 27                                 |  |
| Full                                     | A Game   | Theoretic Framework for Commun   | nity Detection            |  |  |
|  | Kishan N   | Mehrotra*, Syracuse University; Jac                                    | e Oh, Syracuse Uni        | versity; Patrick McSweeney, Syracsue   |  |
|  | Univers  | ity  |                           |  |  |
| Full                                     | Commu  | nities and Balance in Signed Netwo                                     | orks: A Spectral Ap       | proach                                 |  |
|  | Pranay A   | Anchuri*, RPI; Malik Magdon Ismai                                      | l, Rensselaer Polyt       | echnic Institute                       |  |
| Short                                    | A Hybrid   | d Evolutionary Algorithm based on                                      | HSA and CLS for N         | Iulti-objective Community Detection in |  |
|  | Comple   | x Networks   |                           |  |  |
|  | Babak Amiri*, The University of Sydney; Liaquat Hossain, ; John Crawford,                        |  |                           |  |  |
| Short                                    | Optimal Spatial Resolution for the Analysis of Human Mobility                                    |  |                           |  |  |
|  | Salvatore Rinzivillo*, KDDLab - ISTI - CNR; Michele Coscia, ; Dino Pedreschi, ; Fosca Giannotti, |  |                           |  |  |
| Short                                    | A New A  | New Algorithm for Positive Influence Dominating Set in Social Networks |                           |  |  |
|  | Hassan Raei, Nasser Yazdani, Masoud Asadpour, University of Tehran                               |  |                           |  |  |

| ASONA    | M –S5  | Online Social Networks 1                  |                  |  |  |
|----------|--|---|------------------|--|--|
| 2:30-4:3 | 0  | Chair: Sibel Adalı                        | Room 2           | Aug 27                                       |  |
| Full     | Relevan  | ice of SIR model for real-world spread    | ing phenomena    | : experiments on a large-scale P2P system    |  |
|          | Daniel B   | ernardes*, LIP6 UPMC/CNRS; Matth          | nieu Latapy, LIP | 6 - CNRS - Université Pierre et Marie Curie; |  |
|          | Fabien T   | arissan, LIP6 UPMC/CNRS                   |                  |  |  |
| Full     | Predicti   | ng Personality with Social Behavior       |                  |  |  |
|          | Sibel Ad   | ali, Rensselaer Polytechnic Institute ; J | ennifer Golbecl  | k*, University of Maryland                   |  |
| Short    | Are all S  | ocial Networks Structurally Similar?      |                  |  |  |
|          | Aneeq Hashmi, Faraz Zaidi, Arnaud Sallaberry, Tariq Mehmood, KIET  |   |                  |  |  |
| Short    | AuthorRank+FOAF: Ranking for Co-Authorship Networks on the Web   |   |                  |  |  |
|          | Lule Ahmedi*, University of Prishtina  |   |                  |  |  |
| Short    | Extracting Celebrities from Online Discussions   |   |                  |  |  |
|          | Mathilde Forestier*, University of Lyon; Julien Velcin, ; Anna Stavrianou, Xerox Research Centre Europe; |   |                  |  |  |
|          | Djamel 2   | Zighed, University of Lyon                |                  |  |  |

| ASONAM –S6 |   | Application of social network analysis and mining 2 |                  |                                       |  |  |
|------------|---|---|------------------|---------------------------------------|--|--|
| 2:30-4:3   | 0   | Chair: Zeki Erdem                                   | Room 3           | Aug 27                                |  |  |
| Full       | Microblogging in the Enterprise: A few comments are in order  |   |                  |                                       |  |  |
|            | Charalaı  | mpos Chelmis*, University of Southerr               | n California; Vi | ktor Prasanna, University of Southern |  |  |
|            | Californ  | ia  |                  |                                       |  |  |
| Full       | Stock M   | arket Investment Advice: A Social Net               | work Approac     | ch                                    |  |  |
|            | Negar K   | oockakzadeh, Keivan Kianmehr, Atieh                 | Sarraf, Reda A   | lhajj                                 |  |  |
| Short      | Global S  | imilarity in Social Networks with Type              | d Edges          |                                       |  |  |
|            | David Skillicorn*, Quan Zheng, Queen's University   |   |                  |                                       |  |  |
| Short      | Measuring the Importance of Actors in a Social Network Based on Email Communication Patterns        |   |                  |                                       |  |  |
|            | Mikolaj Morzy*, ; Pawel Lubarski, Poznan University of Technology                                   |   |                  |                                       |  |  |
| Short      | Network of Practices: A case study of knowledge competitions of school technology coordinators      |   |                  |                                       |  |  |
|            | Fang-Ling Lin*, Lunghwa University of Science; Guey-Fa Chiou, Graduate Institute of Information and |   |                  |                                       |  |  |
|            | Computer Education  |   |                  |                                       |  |  |

| ASONAM-S7 |  | Privacy, security and civil liberty issues |                    |                                      |  |
|-----------|--|--|--------------------|--------------------------------------|--|
| 10:00-12  | 2:00   | Chair: Kishan Mehrotra                     | Room 1             | Aug 28                               |  |
| Full      | On Lear  | ning Cluster Coefficient of Private Netv   | vorks              |                                      |  |
|           | Yue Wai  | ng, UNC Charlotte; Xintao Wu*,  Jun Zh     | u, UNC Charlotte   |                                      |  |
|           | Network  | Anomaly Detection using Co-clusterir       | ng                 |                                      |  |
|           | Evangel  | os E. Papalexakis, Alex Beutel, Peter St   | eenkiste           |                                      |  |
| Short     | A Guide  | to Differential Privacy Theory in Social   | Network Analysis   |                                      |  |
|           | Christine  | e Task*, Purdue University; Chris Clifto   | n, Purdue Univers  | ity                                  |  |
| Short     | Anonym   | nizing Subsets of Social Networks with I   | Degree Constraine  | d Subgraphs                          |  |
|           | Sean Chester, Jared Gaertner, University of Victoria; Ulrike Stege, Srinivasan Venkatesh           |  |                    |                                      |  |
| Short     | Privacy I  | Preservation by k-Anonymization of W       | eighted Social Net | works                                |  |
|           | Maria Skarkala*, University of the Aegean; Hannu Toivonen, ; pirjo Moen, ; Manolis Maragoudakis, ; |  |                    | jo Moen, ; Manolis Maragoudakis, ;   |  |
|           | Stefanos Gritzalis, ; Lilian Mitrou  |  |                    |                                      |  |
| Short     | PROTOSS: A run time tool for detecting PRivacy viOlaT ions in Online S ocial networkS              |  |                    |                                      |  |
|           | Ozgur Ka   | afali, Bogazici University; Akin Gunay*,   | Bogazici Universit | ry; Pinar Yolum, Bogazici University |  |

| ASONAM-S8 |   | Mathematical and Statistical Network Models |                      |                                      |  |
|-----------|---|---|----------------------|--------------------------------------|--|
| 10:00-12  | 2:00  | Chair: Lule Ahmedi                          | Room 2               | Aug 28                               |  |
| Full      | Exploitir   | ng and Evaluating MapReduce for Larg        | ge-Scale Graph Mini  | ing                                  |  |
|           | Hung-Ch   | ne Lai, NTU CSIE; Cheng-Te Li, NTU CSI      | E; Yi-Chen Lo, NTU ( | CSIE; Shou-De Lin*,                  |  |
| Full      | Link Pre  | diction in a Modified Heterogeneous E       | Bibliographic Netwo  | rk                                   |  |
|           | John Bo   | az Lee*, University of the Philippines;     | Henry Adorna, Univ   | ersity of the Philippines            |  |
| Short     | Network   | of Practices: A case study of knowled       | ge competitions of   | school technology coordinators       |  |
|           | Fang-Lin  | ng Lin*, Lunghwa University of Science      | ; Guey-Fa Chiou, G   | raduate Institute of Information and |  |
|           | Computer Education  |   |                      |                                      |  |
| Short     | Fast exact computation of betweenness centrality in social networks                               |   |                      | rks                                  |  |
|           | Miriam Baglioni, Filippo Geraci, Marco Pellegrini ,CNR; Ernesto Lastres, Sistemi Territoriali Srl |   |                      | astres, Sistemi Territoriali Srl     |  |
| Short     | Using Pregel-like Large Scale Graph Processing Frameworks for Social Network Analysis             |   |                      |                                      |  |
|           | Louise Quick, Government Communications Headquarters; Paul Wilkinson, Government Communications   |   |                      |                                      |  |
|           | Headqu  | arters; David Hardcastle*, Governmen        | t Communications     | HQ                                   |  |

| ASONAM-S9   |   | Application of social network ar          | nalysis and mi     | ining 3                                |
|-------------|---|---|--------------------|--|
| 10:00-12:00 |   | Chair: Osmar Zaiane                       | Room 3             | Aug 28                                 |
| Full        | A Multi-  | Classifier System for Sentiment Analys    | is and Opinion N   | /lining                                |
|             | Luana B   | atista*, Ecole de Technologie Superieu    | r; Sylvie Ratte, E | cole de Technologie Superieure         |
| Short       | On Mea  | surement of Influence in Social Netwo     | rks                |  |
|             | Behnam  | Hajian*, Carleton University; Tony Wh     | nite, Carleton Ur  | niversity                              |
|             |   |   |                    |  |
| Short       | Ranking   | news articles based on popularity pre-    | diction            |  |
|             | Alexand   | ru Tatar, UPMC Sorbonne Universtités      | ; Panayotis Anto   | niadis, UPMC Sorbonne Universités;     |
|             | Marcelo Dias de Amorim, UPMC Sorbonne Universités ; Serge Fdida, UPMC Sorbonne Universités      |   |                    |  |
| Short       | @Phillie  | es Tweeting from Philly? Predicting Tw    | itter User Locati  | ons with Spatial Word Usage            |
|             | Hau-Wen Chang*, The Pennsylvania State Univers; Dongwon Lee, The Pennsylvania State University; |   |                    | ee, The Pennsylvania State University; |
|             | Mohammed Eltaher, University of Bridgeport; Jeongkyu Lee, University of Bridgeport              |   |                    |  |
| Short       | Analyzing Stock Market Movements Using Twitter Sentiment Analysis                               |   |                    |  |
|             | Tushar F  | Rao, NSIT Delhi; Saket Srivastava, IIIT I | Delhi              |  |

| ASONAM-S10 |  | Recommendations vs social networks     |                     |   |  |
|------------|--|--|---------------------|---|--|
| 1:00-3:00  |  | Chair: Wei Jiang                       | Room 1              | Aug 28                                    |  |
| Full       | Enhanci  | ng Academic Event Participation with ( | Context-aware and   | Social Recommendations                    |  |
|            | Manh C   | uong Pham*, RWTH Aachen; Yiwei Cac     | , RWTH Aachen; D    | ejan Kovachev, RWTH Aachen; Ralf          |  |
|            | Klamma   | , RWTH Aachen                          |                     |   |  |
| Full       | Learning   | Rating Patterns for Top-N Recommer     | dations             |   |  |
|            | Yongli R   | en*, Deakin University; Gang Li, ; Wan | lei Zhou, Deakin Ur | niversity                                 |  |
| Full       | Fast Rec   | commendation on Bibliographic Netwo    | rks                 |   |  |
|            | Onur Ku  | cuktunc*, The Ohio State University; k | Camer Kaya, The Oh  | io State University; Erik Saule, The Ohio |  |
|            | State University; Umit Catalyurek, The Ohio State University                                       |  |                     |   |  |
| Short      | Persona  | alization with Dynamic Group Profile   |                     |   |  |
|            | Kamal Taha*, Khalifa University; Ramez Elmasri, University of Texas at Arlington                   |  |                     | as at Arlington                           |  |
| Short      | Privacy Preservation by k-Anonymization of Weighted Social Networks                                |  |                     |   |  |
|            | Maria Skarkala*, University of the Aegean; Hannu Toivonen, ; pirjo Moen, ; Manolis Maragoudakis, ; |  |                     |   |  |
|            | Stefano  | s Gritzalis, ; Lilian Mitrou,          |                     |   |  |

| ASONAM-S11 |  | Dynamics and evolution patterns of social networks |                      |   |  |
|------------|--|--|----------------------|---|--|
| 1:00-3:0   | 00   | Chair: Boleslaw Szymanski                          | Room 2               | Aug 28                                      |  |
| Full       | Dealing  | with Disappearance of an Actor Se                  | et in Social Networ  | ·ks   |  |
|            | Idrissa S  | arr*, Université Cheikh Anta Diop;                 | Rokia Missaoui, Ur   | niversité du Québec en Outaouais, Canada;   |  |
|            | Romain   | Lalande,   |                      |   |  |
| Short      | OCTrack  | er: A Density-Based Framework fo                   | r Tracking the Evol  | ution of Overlapping Communities in OSNs    |  |
|            | Sajid Bh   | at, Jamia Millia Islamia; Muhamma                  | id Abulaish*, King S | Saud University                             |  |
| Short      | Crawling   | g Social Internetworking Systems                   |                      |   |  |
|            | Francesco Buccafurri, Gianluca Lax, Antonino Nocera, Domenico Ursino                         |  |                      |   |  |
| Short      | Dissemi  | nation Patterns and Associated Ne                  | etwork Effects of So | entiments in Social Networks                |  |
|            | Robert Hillmann*, Berlin Institute of Technology; Matthias Trier, Copenhagen Business School |  |                      |   |  |
| Short      | Prediction of Arrival of Nodes In A Scale Free Network                                       |  |                      |   |  |
|            | Vijay Mahantesh SM, Sudarshan Iyengar, Vijesh M, Shruthi Nayak, NIkitha Shenoy               |  |                      |   |  |
| Short      | Static and Dynamic Aspects of Scientific Collaboration Networks                              |  |                      |   |  |
|            | Christian  | n Staudt*, KIT; Andrea Schumm, KI                  | T; Henning Meyerh    | nenke, KIT; Robert Görke, ; Dorothea Wagner |  |

| ASONAM-S12 |   | Crime and Social Networks                 |                      |                                       |  |  |
|------------|---|---|----------------------|---------------------------------------|--|--|
| 1:00-3:00  |   | Chair: Xintao Wu                          | Room 3               | Aug 28                                |  |  |
| Full       | Outskew   | ver: Using Skewness to Spot Outliers in   | Samples and Time     | Series                                |  |  |
|            | Sébastie  | n Heymann*, LIP6 – CNRS – Université      | é Pierre et Marie Cu | rie; Matthieu Latapy, LIP6 - CNRS -   |  |  |
|            | Universi  | té Pierre et Marie Curie; Clémence Ma     | ignien, LIP6 - CNRS  | - Université Pierre et Marie Curie    |  |  |
| Full       | An Analy  | ysis of Query Forwarding Strategies for   | Secure and Privacy   | y-Preserving Social Networks          |  |  |
|            | Michael   | Dürr*, LMU Munich; Marco Maier, LM        | 1U Munich; Kevin W   | /iesner, LMU Munich                   |  |  |
| Full       | STUN: S   | patio-Temporal Uncertain (Social) Netv    | works                |                                       |  |  |
|            | Chanhyı   | un Kang, University of Maryland; Andre    | ea Pugliese*, Unive  | rsity of Calabria; John Grant, Towson |  |  |
|            | University; V.S. Subrahmanian, University of Maryland   |   |                      |                                       |  |  |
| Short      | Recurrent structural motifs reflect characteristics of distinct networks                                    |   |                      |                                       |  |  |
|            | Chen-Hsiang Yeang*, Academia Sinica; Liang-Cheng Huang, Academia Sinica; Wei-Chung Liu, Academia            |   |                      |                                       |  |  |
|            | Sinica  |   |                      |                                       |  |  |
| Short      | Diffusion Centrality in Social Networks   |   |                      |                                       |  |  |
|            | Chanhyun Kang, University of Maryland; Cristian Molinaro*, Università della Calabria; Sarit Kraus, Bar-llan |   |                      |                                       |  |  |
|            | Universi  | ty; Yuval Shavitt, Tel Aviv University; V | .S. Subrahmanian,    | University of Maryland                |  |  |

| ASONAM-S13 |  | Online Social Networks 2                 |                 |  |  |
|------------|--|--|-----------------|--|--|
| 3:30-5:3   | 30   | Chair: Uwe Glaesser                      | Room 1          | Aug 28   |  |
| Full       | A tunab  | le graph model for incorporating geog    | raphic spread   | d in social graph models                           |  |
|            | Rajesh S   | Sharma*, Nanyang Technological Univ      | ersity; Anwitaı | man Datta, Nanyang Technological University        |  |
| Full       | YOU SCI  | RATCH MY BACK, WE'LL SCRATCH YOU         | JRS: EXPLORIN   | NG THE ROLE OF ENTREPRENEURS IN A                  |  |
|            | PRIVATE  | E-COLLECTIVE COMMUNITY                   |                 |  |  |
|            | Robin Te   | eigland*, SSE; Paul Di Gangi, Loyola Ur  | niversity Mary  | rland; Zeynep Yetis, SSE; Christina Huitfeldt, SSE |  |
| Full       | Link pre   | diction: fair and effective evaluation   |                 |  |  |
|            | Ryan Lichtenwalter, ; Nitesh V. Chawla*,   |  |                 |  |  |
| Short      | Mining User's Real Social Circle in Microblog  |  |                 |  |  |
|            | Hailong Qin*, Harbin Institute of Technology; Ting Liu, Harbin Institute of Technology; Yanjun Ma, Baidu |  |                 |  |  |
| Short      | On a Triadic Approach to Connect Microstructural Properties to Social Macrostructural Patterns           |  |                 |  |  |
|            | Yuxi Hu'   | *, University of California, Davis; Mina | Doroud, ; S.Fe  | elix Wu, University of California, Davis           |  |

| ASONAM-S14 |   | Application of social network analysis and mining 4 |                         |  |  |
|------------|---|---|-------------------------|--|--|
| 3:30-5:30  |   | Chair: Andrea Pugliese                              | Room 2                  | Aug 28                                       |  |
| Full       | Predicti  | ng user-to-content links in Flickr G                | Groups                  |  |  |
|            | Sumit N   | egi*, IBM Research; Santanu Chai                    | udhury, IIT Delhi       |  |  |
| Full       | What's i  | n Twitter: I Know What Parties ar                   | e Popular and Who Y     | ou are Supporting Now!                       |  |
|            | Antoine   | Boutet*, INRIA Rennes; Hyoung H                     | Kim, University of Brit | tish Columbia; Eiko Yoneki, University of    |  |
|            | Cambrio   | lge   |                         |  |  |
| Short      | Analyzin  | ng Voting Behavior in Italian Parlia                | ment:Group Cohesio      | on and Evolution                             |  |
|            | Alessia A   | Amelio, Clara Pizzuti*, ICAR-CNR                    |                         |  |  |
| Short      | Co-auth   | orship network comparison acros                     | s research fields usin  | g motifs                                     |  |
|            | Sarvena   | z Choobdar*, University of Porto;                   | Pedro Ribeiro, Unive    | ersity of Porto; Sylwia Bulga, University of |  |
|            | Porto; F  | ernando Silva, University of Porto                  | 0                       |  |  |
| Short      | Link Pre  | diction for Bipartite Social Netwo                  | rks: The Role of Struc  | ctural Holes                                 |  |
|            | Shuang Xia, BingTian Dai, Ee-Peng Lim, Yong Zhang, Chunxiao Xing                              |   |                         |  |  |
| Short      | Where's the Money? The Social Behavior of Investors in Facebook's Small World                 |   |                         |  |  |
|            | Eugene Liang Yuxian*, National Cheng Chi University; Soe-Tsyr Daphne Yuan, National Cheng Chi |   |                         |  |  |
|            | Universi  | ty  |                         |  |  |

| ASONAM-S15 |  | Detection and Evolution of Com           | munities         |   |  |
|------------|--|--|------------------|---|--|
| 3:30-5:3   | 0  | Chair: Tansel Ozyer                      | Room 3           | Aug 28                                    |  |
| Full       | Detectir   | ng Probabilistic Community with Topic    | Modeling on Sa   | ampling SubGraphs                         |  |
|            | Zengfen  | g Zeng*, BUPT; Bin Wu                    |                  |   |  |
| Full       | On Findi   | ng Fine-Granularity User Communitie      | s by Profile Dec | composition                               |  |
|            | Seulki Le  | ee, ; Minsam Ko, ; Keejun Han, ; Jae-Gil | Lee*, KAIST      |   |  |
| Short      | Underst  | anding Group Dynamics in Health Foru     | ıms              |   |  |
|            | Steven (   | Crain*, Georgia Institute of Tech; Shuar | ng-Hong Yang,    | Georgia Institute of Technology; Hongyuan |  |
|            | Zha  |  |                  |   |  |
| Short      | Identifyi  | ng long lived social communities using   | structural prop  | perties                                   |  |
|            | James Thompson*, RPI; Malik Magdon Ismail, Rensselaer Polytechnic Institute; Mark Goldberg,          |  |                  |   |  |
| Short      | Six Degrees of Separation among US Researchers   |  |                  |   |  |
|            | Hakan Kardes*, University of Nevada Reno; Abdullah Sevincer, University of Nevada, Reno; Mehmet      |  |                  |   |  |
|            | Gunes, Computer Science Department of University of Nevada-Reno; Murat Yuksel, University of Nevada, |  |                  |   |  |
|            | Reno   |  |                  |   |  |

| ASONA    | M-S16   | Trust and Criminal Networks        |                         |   |  |  |
|----------|---|------------------------------------|-------------------------|---|--|--|
| 10:30-12 | 2:30  | Chair: Kamal Taha                  | Room 1                  | Aug 29                                  |  |  |
| Full     | Investig  | ating Organized Crime Groups:      | A Social Network Anal   | lysis Perspective                       |  |  |
|          | Moham   | mad Tayebi*, SFU; Uwe Glasse       | r,                      |   |  |  |
| Full     | A Semar   | ntic Triplet Based Story Classific | er                      |   |  |  |
|          | Betul Ce  | ran*, Arizona State University;    | Ravi Karad, Arizona St  | ate University; Ajay Mandvekar, Arizona |  |  |
|          | State Ur  | niversity; Steven Corman, Arizo    | na State University; Ha | asan Davulcu, Arizona State University  |  |  |
| Short    | Detectir  | ng Criminal Networks Using Soc     | cial Similarity         |   |  |  |
|          | Fatih OZGUL*, Turkish National Police; Zeki ERDEM, TUBITAK  |                                    |                         |   |  |  |
| Short    | The activation of core social networks in the wake of the 22 July Oslo bombing                      |                                    |                         |   |  |  |
|          | Pål Sundsøy *, Telenor Group; Rich Ling, IT University, Copenhagen; Johannes Bjelland, Telenor ASA; |                                    |                         |   |  |  |
|          | Geoffre   | y Canright, Telenor ASA; Kenth     | Monsen, Telenor ASA     | 1                                       |  |  |

| ASONA    | M-S17   | Communities discovery and analysis in large scale social networks 2 |                       |  |  |
|----------|---|---|-----------------------|--|--|
| 10:30-12 | 2:30  | Chair: Anwitaman Datta  | Room 2                | Aug 29                                       |  |
| Full     | Relative  | Validity Criteria for Community Minin                               | g Algorithms          |  |  |
|          | Reihane   | h Rabbany*, University of Alberta; Ma                               | nsoureh Takaffoli,    | , ; Justin Fagnan, ; Osmar zaiane, ; Ricardo |  |
|          | Campell   | 0   |                       |  |  |
| Full     | A comm  | unity based algorithm for deriving use                              | rs' profiles from e   | gocentrics networks                          |  |
|          | Dieudor   | nné Tchuente*, IRIT; Marie-Francoise C                              | Canut, IRIT; Nadine   | Baptiste-Jessel, IRIT; André Peninou, IRIT;  |  |
|          | Florence  | e Sèdes, IRIT   |                       |  |  |
| Short    | Percolat  | ion Computation in Complex Network                                  | S                     |  |  |
|          | Fergal Reid, Aaron McDaid, Neil Hurley, UCD   |   |                       |  |  |
| Short    | Churn p   | rediction in a real online social networ                            | k using local comr    | nunity analysis                              |  |
|          | Blaise N  | gonmang, L2TI - Université Paris Nord;                              | <b>Emmanuel VIENN</b> | IET*, L2TI - Université Paris Nord; Maurice  |  |
|          | Tchuente, UMI 209 UMMISCO, Université de Yaoundé                                      |   |                       |  |  |
| Short    | Using field of research codes to discover research groups from co-authorship networks |   |                       |  |  |
|          | Qinxue I  | Meng*, Paul J. Kennedy, UTS   |                       |  |  |

| ASONAM-S18 |   | Agent-Based Modeling and Multi-Actor Models |                     |  |  |
|------------|---|---|---------------------|--|--|
| 10:30-12   | 2:30  | Chair: David Skillicorn                     | Room 3              | Aug 29                                 |  |
| Full       | An Appr   | oach for the Blockmodeling in Multi-Ro      | elational Networks  |  |  |
|            | Andreas   | Harrer*, Catholic University Eichstätt;     | Alona Schmidt, Cat  | tholic University Eichstätt            |  |
| Full       | One-mo  | de projections of multiplex bipartite gr    | raphs               |  |  |
|            | Agnes H   | orvat*, IWR, University of Heidelberg;      | Katharina Zweig, T  | U Kaiserslautern                       |  |
| Short      | A Doma  | in Specific Language Approach for Age       | nt-Based Social Net | work Modeling                          |  |
|            | Enrico Franchi*, Università di Parma  |   |                     |  |  |
| Short      | Capability-Weighted Group Utility Maximizer for Network Coalitional Games under Uncertainty     |   |                     | onal Games under Uncertainty           |  |
|            | Usha Sridhar*, Ecometrix Research; Sridhar Mandyam, Ecometrix Research                          |   |                     |  |  |
| Short      | Sociability VS Network Dynamics: Impact of two Aspects of Human Behavior on Diffusion Phenomena |   |                     |  |  |
|            | Erick Sta   | ittner*, LAMIA Laboratory; Martine Co       | llard, LAMIA Labora | atory; Nicolas Vidot, LAMIA Laboratory |  |

| ASONAM –S19 |  | Mathematical and Statisti        | cal Network Model       | ls   |  |
|-------------|--|----------------------------------|-------------------------|--|--|
| 1:30-3:30   |  | Chair: Kamel Kaya                | Room 1                  | Aug 29                                       |  |
| Full        | Modelin  | g Social Network Interaction G   | raphs                   |  |  |
|             | Michael  | Dürr*, LMU Munich; Valentin I    | Protschky, LMU Munic    | ch; Claudia Linnhoff-Popien, LMU Munich      |  |
| Short       | Finding t  | the Mule in the Network          |                         |  |  |
|             | John Pfa   | lltz*, Univ. of Virginia         |                         |  |  |
| Short       | How We   | ell-Connected Individuals Help S | Spread Influences A     | nalyses Based on Preferential Voter Model    |  |
|             | Zhuo Qi  | Lee*, NTU; Wen-Jing Hsu, NTU     | ; Miao Lin, NTU         |  |  |
| Short       | Influenc   | e of the Dynamic Social Netwo    | rk Timeframe Type an    | d Size on the Group Evolution Discovery.     |  |
|             | Stanislav  | w Saganowski*, Wroclaw Unive     | ersity of Technolo; Pio | tr Brodka, Institute of Informatics, Wrocław |  |
|             | Universi   | ty of Technology; Przemyslaw I   | Kazienko                |  |  |
| Short       | Structur   | al and Message based Private F   | riend Recommendati      | on   |  |
|             | Bharath Samanthula*, Missouri S & T; Wei Jiang, Missouri S & T |                                  |                         |  |  |
| Short       | The Geographic Flow of Music                                   |                                  |                         |  |  |
|             | Conrad I   | Lee*, University College Dublin  | ; Pádraig Cunningham    | , University College Dublin                  |  |

| ASONA   | ASONAM –S20   Online Social Networks 3   |   |                      |                                    |  |
|---|--|---|----------------------|------------------------------------|--|
| 1:30-3:30 Chair: Keivan Kian-Mehr Room 2 Aug 29 |  |   | Aug 29               |                                    |  |
| Full  | Semi-Su  | pervised Policy Recommendation for      | Online Social Netw   | vorks                              |  |
|   | Mohame   | ed Shehab*, UNC Charlotte; Hakim To     | uati, UNCC           |                                    |  |
| Full  | Learning   | the Strength of the Factors Influenci   | ng User Behavior ir  | n Online Social Networks           |  |
|   | Bo Hu*,  | ; Mohsen Jamali, Simon Fraser Unive     | rsity; Martin Ester, | Simon Fraser University            |  |
| Short   | How do   | Facebookers use Friendlists             |                      |                                    |  |
|   | Yousra J   | aved*, UNCC; Mohamed Shehab, UN         | C Charlotte          |                                    |  |
| Short   | Predictir  | ng Friends and Foes in Signed Networ    | ks using Inductive I | nference and Social Balance Theory |  |
|   | Arti Patidar*, JNU, New Delhi; Vinti Agarwal, JNU; K.K. Bharadwaj, JNU                                 |   |                      |                                    |  |
| Short   | The Impact of Measurement Time on Subgroup Detection in Online Communities                             |   |                      |                                    |  |
|   | Sam Zeini*, University Duisburg-Essen; Tilman Göhnert, University Duisburg-Essen; Lothar Krempel, Max- |   |                      |                                    |  |
|   | Planck-I   | nstitute for the Study of Societies Col | ogne; H. Ulrich Ho   | ppe, University Duisburg-Essen     |  |

| ASONA     | Application of social network analysis and mining 5   |  |  |  |  |
|-----------|---|--|--|--|--|
| 1:30-3:30 | Chair: Hasan Davulcu Room 3 Aug 29  |  |  |  |  |
| Full      | Extraction for Trust Inference in Social Networks   |  |  |  |  |
|           | , Nanjing University; HangHang Tong, IBM T.J. Watson Research; Feng Xu, ; Jian Lu,                          |  |  |  |  |
| Full      | Maximising Cross-Community Information Diffusion  |  |  |  |  |
|           | ak*, DERI, NUI Galway; Samantha Lam, DERI; Conor Hayes,   |  |  |  |  |
| Short     | lysis of Dynamic Networks using Change Centrality   |  |  |  |  |
|           | erico, Jürgen Pfeffer, Wolfgang Aigner, Silvia Miksch, Lukas Zenk, Vienna University of                     |  |  |  |  |
|           | y   |  |  |  |  |
| Short     | Tag Ranking by Linear Relational Neighbourhood Propagation  |  |  |  |  |
|           | Boris Chidlovskii*, XRCE  |  |  |  |  |
| Short     | Examining Multi-factor Interactions in Microblogging Based on Log-linear Modeling                           |  |  |  |  |
|           | Zhilin Luo, Northwestern Polytechnic University; Xintao Wu*, ; Wandong Cai, Northwestern Polytechnic        |  |  |  |  |
|           | Dong Peng, Northwestern Polytechnic University  |  |  |  |  |
|           | Boris Chidlovskii*, XRCE  Examining Multi-factor Interactions in Microblogging Based on Log-linear Modeling |  |  |  |  |

#### ASONAM 2012 Poster / Demo Session

Poster / Demo Session Venue Aug 27-28

Interactively and Visually Exploring Tours of Marked Nodes in Large Graphs,

Duen Horng Chau Leman Akoglu Jilles Vreeken Hanghang Tong Christos Faloutsos

A Complex Network Analysis of the United States Air Transportation

Dorothy Cheung, University of Nevada, Reno; Mehmet Gunes\*, Computer Science Department of University of Nevada-Reno

ANALYSIS OF UNETHICAL BEHAVIOUR IN THE NEXUS OF SOCIAL RELATIONSHIPS: AN APPLICATION IN THE MEDICAL SECTOR

Duygu Türker \*, Yaşar University; Ceren Altuntaş, Yaşar University

Study of Influential Trends, Communities, and Websites on the Post-Election Events of Iranian Presidential Election in Twitter

Masoud Asadpour\*, University Of Tehran

Video Game Industry as a Complex Network

Tony Morelli, University of Nevada, Reno; Mehmet Gunes\*, Computer Science Department of University of Nevada-Reno

Building a Data Warehouse for Twitter Stream Exploration

Svetlana Mansmann, University of Konstanz, Germany; Andreas Weiler, University of Konstanz, Germany; Marc Scholl, University of Konstanz, Germany; Nafees Ur Rahman\*, University of Konstanz, Germany

Knowledge Based Link Prediction Across Multiple Social Networks

SANTHI THILAGAM\*, NITK SURATHKAL; Shubhangi PARDESHI,

Community Detection in Social Networks Using Information Diffusion

Alireza Hajibagheri\*, Shiraz University; Hamidreza Alvari, Shiraz University; Ali Hamzeh, Shiraz University; Sattar Hashemi, Shiraz University

Layout algorithm for clustered graphs to analyze community interactions in social networks

Juan David Cruz\*, Telecom-Bretagne; Cecile Bothorel, Telecom-Bretagne; François Poulet, University of Rennes I - IRISA

Personal User or Organizational User? Behavior on Microblog can Tell

Yuchu Zuo\*, Sun Yat-Sen University; Jianmin Wang, Sun Yat-sen University

User interests modeling in online forums

Na Ni\*, Institute of Automation, CAS; Yaodong Li, Institute of Automation, CAS

Getting clusters from structure data and attribute data

David Combe\*, Université de St-Etienne; Christine Largeron, ; Elöd Egyed-Zsigmond, INSA Lyon; Mathias Géry, Université de Saint-Etienne

Social Network Analysis in Organization Development Studies

Gözde Cüce\*, Ministry of Science, Industry

VANET Topology Based Routing Protocols & Performance of AODV, DSR Routing Protocols in Random Waypoint Scenarios

Bijan Paul\*, Shahjalal University; Md. Abu Naser Bikas, Shahjalal University; Md. Ibrahim, Shahjalal University

An Agglomerative Method to Construct Discrepant Cohesive Subgroups

Tobias Hecking, University Duisburg-Essen; Tilman Göhnert\*, University Duisburg-Essen; H. Ulrich Hoppe, University Duisburg-Essen

Naturality of Network Creation Games, Measurement and Analysis

MohammadAmin Fazli\*, Sharif University of Technolog; Jafar Habibi, Sharif University of Technology; Hedyeh Beyhaghi, Sharif Univ. of Technology; Zahra Fahmi, Sharif University of Technology; MohammadAli Safari, Sharif University of Technology

The limitations of BP algorithm for counting cycles in random networks

Ibrahim Sorkhoh, Kuwait University; Khaled Mahdi, Kuwait University; Maytham Safar\*, Kuwait University

Do-it-yourself justice. Ethics considerations of social media use in a crisis situation: the case of the 2011 Vancouver riots

Caroline Rizza\*, JRC, European Commission; Ângela Guimarães Pereira, JRC, European Commission; Michel Chiaramello, JRC, European Commission; Paula Curvelo, JRC, European Commission

**Towards Social Version Control** 

Ali Koc\*, City University of New York; Abdullah Tansel, Baruch College and Graduate Center; Mehmet Bicer, Graduate Center - City University of New York

Understanding Community Evolution and Engagement through Assortativity in Networks

Kon Shing Kenneth Chung\*, The University of Sydney; Mahendrarajah Piraveenan, The University of Sydney; Shahadat Uddin, The University of Sydney

A Navigation Algorithm Inspired by Human Navigation

Vijesh M\*, PES Institute of Technology; Vijay Mahantesh, PESIT; Amitash Ramesh, Dayananda Sagar Institute of Technology

A Probabilistic Inference Attack on Suppressed Social Networks

Barış Altop\*, Sabancı University; Mehmet Ercan Nergiz, Zirve Üniversitesi; Yucel Saygin, Sabanci University, Turkey

Analyzing Spammers of Social Networks using Honeypot- A Case Study of Microblogging of China

Yi Zhou, ; Kai Chen\*, Shanghai Jiaotong University; Li Song, ; Xiaokang Yang,

An Inspection Game to Provide Incentive for Cooperation with Corrupted Inspectors

Yalda Kolahdooz\*, Sharif University of Technolog; Mohammad Ali Safari, Sharif University of Technology

Graph Searching Algorithms For Semantic-Social Recommendation

Dalia Sulieman\*, CergyPontoise University/EISTI; Maria Malek, École internationale des sciences du traitement de l'information; Hubert Kadima, École internationale des sciences du traitement de l'information; Dominique Laurent, Université de Cergy-Pontoise

An Improved Method of Automatic Keyword Extraction Based on Enriched Concept Graph Zoleikha Jahanbakhsh\*, Islamic Azad University, nagad

## **HI-BI-BI 2012 Technical Research Sessions**

| HI-BI-E       | SI –S1  |                                     |                 |                                       |
|---------------|---|-------------------------------------|-----------------|---------------------------------------|
| 10 :30-12 :30 |   | Chair: Jon Rokne                    | Room 4          | Aug 27                                |
| Full          | A Web-  | based Medical Emergency Guiding     |                 |                                       |
|               | Jui-Hun   | ng Kao, Fei-Pei Lai, Wei-Zen Sun,   | Chia-Ping Shen, | Huei-Ming Ma, Jin-Ming Wu,Meng-Yu     |
|               | Chiu, H   | orng-Twu Liaw,Kai-Chieh Hsu, Yar    | -Yu, Lam,Shih-C | hing Cheng                            |
| Full          |   | ral Community Structure Patterns in |                 | Network (30)                          |
|               | Taridzo   | Chomutare, Eirik Årsand, Gunnar I   | Hartvigsen      |                                       |
| Full          | Recomi  | mendation in Online Health Commu    | ınities         |                                       |
|               | Steven P. Crain, Shuang-Hong Yang, Hongyuan Zha   |                                     |                 |                                       |
| Short         | Developing an Efficient Health Clinical Application: IIOP Distributed Objects Framework |                                     |                 |                                       |
|               | Ayman N. Murshed, Wadhah Almansoori, Konstantinos F. Xylogiannopoulos, Mohama           |                                     |                 |                                       |
|               | Elzohbi   | , Reda Alhajj, Jon Rokne            |                 | · · · · · · · · · · · · · · · · · · · |

| HI-BI-BI –S2 |   |  |                 |  |
|--------------|---|--|-----------------|--|
| 2:30-4:      | 30  | Chair: Flouris Triant  | Room 4          | Aug 27   |
| Full         |   | class Classification Tool Using Cloung Shen, Chia-Hung Liu, Feng-Sh  |                 | Architecture (30) Lin, Chi-Ying F. Huang, Cheng-Yan Kao, |
|              | Feipei L  | _ai, Jeng-Wei Lin  |                 |  |
| Full         | Accurate prediction of response to Interferon-based therapy in Egyptian patients with Chronic Hepatitis C using machine-learning approaches (30)  Mahmoud Elhefnawi |  |                 |  |
| Short        | Improving Tumor Identification by Using Tumor Markers Classification Strategy (20) Florije Ismaili, Luzana Bekiri   |  |                 |  |
| Short        | A Classifier to Detect Tumor Disease in MRI Brain Images (20)<br>Amer Al-Badarneh, Hassan Najadat, Ali M. Alraziqi  |  |                 | es (20)  |
| Short        |   | ring clustering techniques for real n<br>urutçuoğlu Gazi, Elif Kayış | nicroarray data | a (20)   |

| HI-BI-BI –S3 |   |   |        |        |  |
|--------------|---|---|--------|--------|--|
| 10:00-1      | 2:00  | Chair: Feipei Lai   | Room 4 | Aug 28 |  |
| Full         | Automatic drug adverse reaction discovery from parenting websites using disproportionality methods (30) Jelena Hadzi-Puric, Jeca Grmusa |   |        |        |  |
| Full         | Wei-Hs  | ewborn Screening for Phenylketonuria: Machine Learning vs Clinicians(30) ei-Hsin Chen, Han-Ping Chen, Yi-Ju Tseng, Kai-Ping Hsu, Sheau-Ling Hsieh, Yin-Hsiu Chien, uh-Liang Hwu, Feipei Lai |        |        |  |
| Full         |   | avelet-based Multiscale Filtering of Genomic Data (30)  bhamed Nounou, Hazem Nounou, Nader Meskin, Aniruddha Datta  |        |        |  |

| HI-BI-BI –S4 |   |   |                   |        |
|--------------|---|---|-------------------|--------|
| 1:00 - 3     | :00   | Chair: Markon Sandor                                  | Room 4            | Aug 28 |
| Full         | Robot-/   | Assisted Medical Visualization with                   | Floating Images ( | 30)    |
|              | Sandor  | Markon, Satoshi Maekawa, Ahmet                        | Onat              |        |
| Full         | Security  | Security Standards For Electronic Health Records (20) |                   |        |
|              | Oznur Esra Par, Ergin Soysal  |   |                   |        |
| Full         | Response Surface Modeling and optimization to elucidate the differential effects of demographic |   |                   |        |
|              | characteristics on HIV prevalence in South Africa.  |   |                   |        |
|              | Wilbert   | Sibanda, Philip Pretorius, Anne Gro                   | obler             |        |

## **FOSINT-SI 2012 Program**

#### **FOSINT-SI 2012 Keynote Speakers**

FOSINT-SI 2012 Keynote Speaker I

Chair: Zeki Erdem

Bhavani Thuraisingham, University of Texas at Dallas, Richardson, TX, USA

Title: Cloud-Centric Assured Information Sharing

FOSINT-SI 2012 Keynote Speaker II

**Chair: Phil Williams** 

Malgorzata Stecko, General Secretariat of the Council of the European Union

Brussels, Belgium

Title: News Content in Situation Monitoring

FOSINT-SI 2012 Keynote Speaker III

Chair: Naim Kapucu

Phil Williams, , University of Pittsburgh, PA, USA

Title: Attacking Criminal and Terrorist Networks: A Strategic Approach

FOSINT-SI 2012 Keynote Speaker IV

Chair: Bhavani Thuraisingham

Naim Kapucu, University of Central Florida, Orlando, FL, USA Title: Network Governance in Response to Acts of Terrorism

## **FOSINT-SI 2012 Technical Research Sessions**

| FOSIN1   | T-SI S1   |                   |        |        |
|----------|---|-------------------|--------|--------|
| 10:30-12 | 2:30  | Chair: Luca Rossi | Room 5 | Aug 27 |
| Full     | A Novel Framework For Spammer Detection In Social Bookmarking Systems Soghra M.Gargari Istanbul Technical University, Sule Guduz Oguducu Istanbul Technical University (30) |                   |        |        |
| Short    | Content Mining Of Microblogs Özgür Cingiz; Banu Diri, YıldızTechnical University (20)   |                   |        |        |
| Short    | An Application Based on Steganography Hamide Karaman, Gazi University; Seref Sagiroglu, Gazi University, Turkey   |                   |        |        |
| Short    | A Usable Model for Dynamic Integration of Data Sources Murat OBALI, Tübitak; Bunyamin DURSUN, Tübitak (20)  |                   |        |        |

| FOSINT-SI S2 |  |   |                     |   |  |
|--------------|--|---|---------------------|---|--|
| 2:30-4:3     | 60   | Chair: Podbregar Iztok  | Room 5              | Aug 27  |  |
| Full         | Combin   | ning Entity Matching Techniques for                                 | Detecting Extren    | nist Behavior on Discussion Boards                |  |
|              | Lisa Kaati, Swedish Defence Research Agency; Fredrik Johansson, FOI; Pontus Svenson, Swedish Defence Research Agency; Christian Mårtenson, FOI; Johan Dahlin, Linköpings university (30) |   |                     |   |  |
| Full         | Critical   | Infrastructure Anda Internal Contro                                 | I                   |   |  |
|              | Podbre   | gar Iztok, University of Maribor (30                                | )                   |   |  |
| Full         | Covertr  | tness Centrality in Networks  |                     |   |  |
|              | Michae   | chael Ovelgonne; Chanhyun Kang; Anshul Sawant; VS Subrahmanian (30) |                     |   |  |
| Short        | nort Combining Spatial Proximity and Temporal Continu  |   | l Continuity for Le | Continuity for Learning Invariant Representations |  |
|              | Olcay Kursun, Istanbul University, Turkey; Tevfik Aytekin, Bahcesehir University (20)  |   |                     |   |  |

| FOSIN    | T-SI S3  |                                       |                   |                         |
|----------|--|---------------------------------------|-------------------|-------------------------|
| 10:00 -1 | 2:00   | Chair: Fatih Ozgu                     | Room 5            | Aug 28                  |
| Short    | Lesson   | s from a Jihadi Corpus                |                   |                         |
|          | David Skillicorn, Queen's University (20)                                      |                                       |                   |                         |
| Full     | Mining   | Divergent Opinion Trust Networks      | through Latent Di | richlet Allocation      |
|          | Nima D   | Ookoohaki; Mihhail Matskin (30)       |                   |                         |
| Short    | Mining   | Hate Crimes to Figure out Reasons     | Behind (Bugün i   | upload edildi)          |
|          | Fatih Ozgul, Turkish National Police; Murat GOK, Turkish National Police;      |                                       |                   | lational Police;        |
|          | Ahmet CELIK, Turkish National Police; Yakup OZAL, Turkish National Police (20) |                                       |                   | sh National Police (20) |
| Full     | The Mental State of Influencers  |                                       |                   |                         |
|          | David S  | Skillicorn, Queen's University; Chris | tian Lauprecht, Q | ueen's University (30)  |

| FOSINT-SI S4 |   |                                      |                      |                             |  |
|--------------|---|--------------------------------------|----------------------|-----------------------------|--|
| 2:00-3:1     | lo PM   | Chair: Ugur Ayan                     | Room 5               | Aug 28                      |  |
| Full         | III Perspective Analysis for Online Debates   |                                      |                      |                             |  |
|              | Sukru Ti  | kves, Sedat Gokalp, Mhamed Temkit, S | Sujogya Banerjee, Ji | ieping Ye, Hasan Davulcu    |  |
| Short        | Processes View Modeling of Identity-related Privacy Business Interoperability Considering |                                      |                      |                             |  |
|              | User-Supremacy Federated Identity Technical Model and Identity Contract Negotiation       |                                      |                      | entity Contract Negotiation |  |
|              | Ghazi Ben Ayed, University of Lausanne  |                                      |                      |                             |  |
| Full         | Secret Sharing Scheme: Vector Space Secret Sharing and φ Function                         |                                      |                      |                             |  |
|              | Mustafa   | a Atici, Western Kentucky University | / (30)               |                             |  |

| FOSINT-SI S5 |   |                                     |                    |                                  |
|--------------|---|-------------------------------------|--------------------|----------------------------------|
| 3:30-5:3     | 0 PM  | Chair: Panagiotis Kotsopoulos       | Room 5             | Aug 28                           |
| Full         |   | ent Analysis on Social Media        |                    |                                  |
|              | Federic   | o Neri; Carlo Aliprandi; Federico C | apeci; Montserr    | at Cuadros; Tomas By (30)        |
| Full         | Uncove  | ring Mobile Phone Users' Malicious  | s Activities using | g Open Source Tools              |
|              | Yannis  | Stamatiou, University of Patras, Gr | eece; Panagiot     | is Kotsopoulos, University of    |
|              | Strathcl  | lyde (30)                           |                    |                                  |
| Short        | VANET   | Topology Based Routing Protocols    | s & Performanc     | e of AODV, DSR Routing Protocols |
|              | in Rand   | Iom Waypoint Scenarios              |                    | -                                |
|              | Bijan Paul, Md. Abu Naser Bikas, Md.Ibrahim (20)          |                                     |                    |                                  |
| Full         | Tag Based Recommender System for Social Bookmarking Sites |                                     |                    |                                  |
|              | Fateme  | h Ghiyafeh Davoodi, University of   | Tehran; Omid F     | atemi, (30)                      |

| Poster Session   |                         |                                    |  |  |  |  |
|--|-------------------------|------------------------------------|--|--|--|--|
|  | Venue                   | Aug 27-28                          |  |  |  |  |
| A Hybrid approach for biometric templa                   | te security             |                                    |  |  |  |  |
| Kareem A.Ghany, Cairo University; He                     | sham Hefny, Cairo Unive | rsity; Aboul Ella Hassanien, Cairo |  |  |  |  |
| University; Neveen Ghali, Cairo University               | sity                    | •                                  |  |  |  |  |
| Data Mining Applications in Clinical Practice Guidelines |                         |                                    |  |  |  |  |
| Abhijeet Nashte, MAE, Pune, India; Maye                  | ura Kinikar,            |                                    |  |  |  |  |
| Network Intelligence: An emerging disc                   | ipline                  |                                    |  |  |  |  |
| Newton Howard and David E.A. Johnson                     |                         |                                    |  |  |  |  |

**Workshop Title:** Business Applications of Social Network Analysis (BASNA 2012)

## **Workshop Chairs:**

- Mohan Saravanan, Ericsson R&D Chennai, India
- Roberto Dandi, Luiss Business School, Italy
- Avik Sarkar, IBM, India
- Irene Ntoutsi, Ludwig-Maximilians-University of Munich, Germany

| BASNA2012 S1   |         | Applications for Organizational Network Analysis |                             |              |
|--|---------|--|-----------------------------|--------------|
| 1:30-2:50  | Chair:  | James Danowski                                   | Room 1                      | Aug 26       |
| Gözde Cüce. So   | cial Ne | twork Analysis in Orga                           | anization Develop           | ment Studies |
| Lamia Ben Hiba and Mohammed Abdou Janati Idrissi. An SNA-based evaluation framework      |         |  | -based evaluation framework |              |
| for virtual teams  |         |  |                             |              |
| James Danowski. Analyzing An Organization with a Semantic Network Include List           |         |  |                             |              |
| Renuka Hodigere and Diana Bilimoria. Women on public-company boards: factors that affect |         |  |                             |              |
| their odds of board membership relative to those of men                                  |         |  |                             |              |

BASNA 2012 -- **Keynote speaker:** 2:50 -3 :30 Room 1 26 Aug 2012

<u>Maksim Tsvetovat</u> is the Chief Technology Officer of <u>DeepMile Networks</u>, and member of the faculty at George Mason University's <u>Center for Social Complexity</u>.

| BASNA2012 S2  |        | Applications for Community Network Analysis |                    |                       |
|---|--------|---|--------------------|-----------------------|
| 4:00-5:30   | Chair: | Geoffrey Canright                           | Room 1             | Aug 26                |
| Devipsita Bhatta  | charya | and Sudha Ram. Sharing No                   | ews Articles Using | g 140 Characters: A   |
| Diffusion Analysis on Twitter   |        |   |                    |                       |
| Claudia Lauschk   | e. Mor | nitoring User Evolution in T                | witter             |                       |
| Tushar Sharma and Tushar Sharma. Finding Communities in Weighted Signed Social Networks |        |   |                    |                       |
| Johannes Bjelland, Geoffrey Canright, Kenth Engø-Monsen, Pål Sundsøy and Rich Ling. A   |        |   |                    | lsøy and Rich Ling. A |
| Social Network Study of the Apple vs. Android Smartphone Battle                         |        |   |                    |                       |
| Shun Hattori. Spatio-Temporal Web Sensor by Social Network Analysis                     |        |   |                    |                       |

Workshop Title: Complex Social Network Analysis

## **Workshop Chairs:**

Przemyslaw Kazienko, Wrocław University of Technology, Poland Matteo Magnani, Aarhus University, Denmark

T-Recs: Time-aware Twitter-based Drug Recommender System

Luca Rossi, University of Urbino "Carlo Bo", Italy

| CSNA2012 S1 Dynamic social networks and applications                   |  |                          |                      |  |  |
|--|--|--------------------------|----------------------|--|--|
| 1:30-3:30  | Chair: Matteo Magnani                                | Room 2                   | Aug 26               |  |  |
| Krzysztof Juszcz   | zyszyn, Adam Gonczarek, Jal                          | kub Tomczak, Katarzy     | na Musiał and Marcin |  |  |
| Budka.   |  |                          |                      |  |  |
| A Probabilistic  | Approach to Structural Chang                         | ge Prediction in Evolvii | ng Social Networks   |  |  |
| Alexander Seme   | enov and Jari Veijalainen.                           |                          |                      |  |  |
| Storage of multi   | relational dynamic networks                          |                          |                      |  |  |
| Shahadat Uddin   | , Mahendrarajah Piraveenan,                          | and Kon Shing Kennet     | h Chung.             |  |  |
| Capturing Actor  | -level Dynamics of Longitud                          | linal Networks           |                      |  |  |
| Han-Chih Liu ar  | nd Jenq-Haur Wang.                                   |                          |                      |  |  |
| Social Influence   | Social Influence Estimation for Short Texts in Plurk |                          |                      |  |  |
| Sana Elouaer-Mrizak.   |  |                          |                      |  |  |
| A social network analysis of interlocking directorates in French firms |  |                          |                      |  |  |
| Ahmed Abdeen   | Hamed, Rebecca Roose, Alar                           | n Rubin and Marlon Br    | anicki.              |  |  |

| CSNA2012 S2 Data Mining and Complex Social Netw                    |         |                     | Social Netw | ork A         | nalysis |                         |
|--|---------|---------------------|-------------|---------------|---------|-------------------------|
| 4:00-5:30  | Chair:  | Artur Ziviani       |             | Room 2        |         | Aug 26                  |
| Marek Opuszko  | and Jol | nannes Ruhland.     |             |               |         |                         |
| Classification A   | nalysis | in Complex Online   | Social N    | etworks Usi   | ng Se   | mantic Web Technologies |
| Giulio Rossetti,   | Luca P  | appalardo and Dinc  | Pedrescl    | ni.           |         |                         |
| "How well do w   | e know  | each other?": detec | cting ties  | strength in n | nultid  | imensional social       |
| networks   |         |                     |             | _             |         |                         |
| Klaus Wehmuth  | and Ar  | tur Ziviani.        |             |               |         |                         |
| Distributed Asse   | ssment  | of Network Centra   | lities in C | Complex Soc   | ial No  | etworks                 |
| Ibrahim Sorkhol  | , Khale | ed Mahdi and Mayt   | ham Safa    | r.            |         |                         |
| Cyclic Entropy of Complex Networks                                 |         |                     |             |               |         |                         |
| Radosław Michalski, Przemyslaw Kazienko and Dawid Król.            |         |                     |             |               |         |                         |
| Predicting Social Network Measures using Machine Learning Approach |         |                     |             |               |         |                         |

Workshop Title: Cyber Security of Online Social Network

## **Workshop Chairs:**

Luiz F. Capretz, Western University, Canada Charles X. Ling, Western University, Canada Keivan Kianmehr, Western University, Canada

| GG G G N 12 0 1 2 G 1  |                          |                           |                 |               |                    |  |
|--|--------------------------|---------------------------|-----------------|---------------|--------------------|--|
| CSOSN2012 S1   |                          |                           |                 |               |                    |  |
| 10:30-12:30  | Chair:                   | Radha Poovendran          | Room 1          | Aug 26        | 5                  |  |
| Anna Leontjeva,  | Konsta                   | antin Tretjakov, Taavi Ta | amkivi and Jaak | Vilo. "Analy  | sis of Hypergraph  |  |
| Data with Applic   | cation t                 | o Fraud Detection"        |                 |               |                    |  |
| Anshu Malhotra   | , Luam                   | Totti, Wagner Meira Jr.,  | Ponnurangam l   | Kumaraguru a  | and Virglio        |  |
| Almeida. "Study  | ing Us                   | er Footprints in Differen | t Online Social | Networks"     |                    |  |
| Mauro Conti, Ra  | ıdha Po                  | ovendran and Marco Sec    | chiero. "FakeB  | ook: Detectin | g Fake Profiles in |  |
| On Line Social N   | On Line Social Networks" |                           |                 |               |                    |  |
| Ali Nazemian, Hoda Gholami and Fattaneh Taghiyareh. An Improved Model of Trust-aware |                          |                           |                 |               |                    |  |
| Recommender Systems using distrust metric  |                          |                           |                 |               |                    |  |
| Ahmad Abbasi, Sh   | okoofe                   | Habibi, On the T-graph of | a commutative r | ing           |                    |  |

**Workshop Title:** International Workshop on Mining Social Networks for Decision Support (MSNDS 2012)

## **Workshop Chairs:**

Yuan-Chu Hwang, National United University, TAIWAN I-Hsien Ting, National University of Kaohsiung, TAIWAN Chen-Shu Wang, National Taipei University of Technology, TAIWAN

| MSNDS2012 S1   |                     |                                       |                          |                            |  |
|--|---------------------|---------------------------------------|--------------------------|----------------------------|--|
| 10:30-12:30  | Chair:              | I-Hsien Ting                          | Room 4                   | Aug 26                     |  |
| Edgar Fuller, We   | nliang <sup>-</sup> | Гang, Yezhou Wu and Cun-Q             | uan Zhang. <u>Optim</u>  | al Clustering Selection on |  |
| Hierarchical Syst  | em Ne               | <u>twork</u>                          |                          |                            |  |
| Po-Yuan Chen ar  | nd I-Mir            | ng Jiang. <u>Financial Alliance S</u> | trategy under Und        | ertainty:A Model of        |  |
| <b>Decision Suppor</b>   | t for Su            | pply Chain Integration                |                          |                            |  |
| Lamiaa Mostafa.  | . <u>BidTer</u>     | m Suggestion for Advertising          | g webpages               |                            |  |
| Zeinab Saeidi Ma   | asine, E            | Bahman Damirchilo and Vahi            | d Shayestehnia. <u>A</u> | new model for              |  |
| probabilistic polling on social network  |                     |                                       |                          |                            |  |
| Ekrem Serin and Selim Balcisoy. Entropy Based Sensitivity Analysis and Visualization of Social |                     |                                       |                          |                            |  |
| <u>Networks</u>  |                     |                                       |                          |                            |  |
| Alton Y.K. Chua and Radhika Shenoy Balkunje. Interlocking directorates and profitability: a    |                     |                                       |                          |                            |  |
| social network analysis of Fortune 500 companies   |                     |                                       |                          |                            |  |

| MSNDS2012 S2   | 2   |                            |                          |                        |  |  |
|--|---|----------------------------|--------------------------|------------------------|--|--|
| 1:30-2:10  | Chair:  | Yuan-Chu Hwang             | Room 4                   | Aug 26                 |  |  |
| Hsiao-Hsuan Lu,  | I-Hsien   | า Ting and Shyue-Liang Wan | g. <u>A Novel Search</u> | Engine Based on Social |  |  |
| Relationships in   | Relationships in Online Social Networking Website |                            |                          |                        |  |  |
| Yuan-Chu Hwang and Wei-Cheng Shiau. Exploring Imagery-driven Service Framework on Social |   |                            |                          |                        |  |  |
| Network Service  | i   |                            |                          |                        |  |  |

#### Workshop Title: Data Management in the Social Semantic Web (Room 3)

#### **Workshop Chairs**:

Roberto De Virgilio, Università Roma Tre, Italy Andrea Pugliese, Università della Calabria, Italy

#### Invited talk (10:30-11:30):

V. S. Subrahmanian. Title TBD.

#### Session 1 (11:30-12:30): Data Management for Social Networks

Chair: Marco Brambilla

- Marco Brambilla, Alessandro Bozzon. Web Data Management through Crowdsourcing upon Social Networks.
- Jens Grabarske, Dominic Heutelbeck. An upper ontology for the social web

#### Invited talk (13:30-14:30):

Andrea Calì. An Architecture for the Semantic Social Web.

#### Session 2 (14:30-15:30): Engineering Social Networks

Chair: Michal Kozielski

- Mostafa Dehghani, Masoud Asadpour, Azadeh Shakery. An Evolutionary-Based Method for Reconstructing Conversation Threads in Email Corpora
- Cristian Vasquez. Blackboard Data Spaces for the Elicitation of Community-based Lightweight ontologies

#### Session 3 (16:00-17:00): Graph-shaped modeling of Social Networks

Chair: Alexander Nikolaev

- Sushant Khopkar, Rakesh Nagi, Alexander Nikolaev. An Efficient Map-Reduce Algorithm for the Incremental Computation of All-Pairs Shortest Paths in Social Networks
- Michal Kozielski, Wojciech Filipowski, Dominik Popowicz, Łukasz Warchał. Density-based community identification and visualisation

#### Concluding Remarks (17:00-17:30)

Workshop Title: The 1st Int'l Workshop on Social Knowledge Discovery and Utilization (SKDU 2012)

# **Workshop Chairs:**

Toshiyuki Amagasa, University of Tsukuba, Japan Guandong Xu, Victoria University, Australia Tieyun Qian, Wuhuan University, China Zeki Bozkus, Kadir Has University, Turkey

| SKDU2012 S1  | Recommendation and Social Bookmarks |                              |                   |                         |  |
|--|-------------------------------------|------------------------------|-------------------|-------------------------|--|
| 2:10-3:30  | Chair:                              | Toshiyuki Amagasa            | Room 4            | Aug 26                  |  |
| Ranganathan La   | tha and                             | R. Nadarajan, User Relevan   | ce for Item-based | Collaborative Filtering |  |
| Yuta Sakakura, T   | oshiyuk                             | ki Amagasa and Hiroyuki Kita | gawa, Detecting S | Social Bookmark Spams   |  |
| using Multiple User Accounts   |                                     |                              |                   |                         |  |
| Alberto Lumbreras and Ricard Gavalda, Applying Trust Metrics based on User Interactions to |                                     |                              |                   |                         |  |
| Recommendation in Social Networks  |                                     |                              |                   |                         |  |

| SKDU2012 S2  |  | Microblog and Community | 7      |                        |  |
|--|--|-------------------------|--------|------------------------|--|
| 4:00-5:30  | Chair:                                       | Bin Wu                  | Room 4 | Aug 26                 |  |
| Yasuhiro Yamada, Akira Hattori and Haruo Hayami, Method of Visualizing Relations between |  |                         |        | zing Relations between |  |
| Tweets to Facilit  | Tweets to Facilitate Discussions via Twitter |                         |        |                        |  |
| Tian Zhang and Bin Wu, A Method for Local Community Detection by Finding Core Node       |  |                         |        |                        |  |
| Mengjiao Wang, Donn Morrison and Conor Hayes, Early and Late Fusion Methods for the      |  |                         |        |                        |  |
| Automatic Creation of Twitter Lists  |  |                         |        |                        |  |

Workshop Title: Second Workshop on Social Network Analysis in Applications (SNAA 2012)

# **Workshop Chairs:**

Przemyslaw Kazienko (Wrocław University of Technology, Poland) Katarzyna Musial (King's College London, UK) Jason J. Jung (Yeungnam University, Korea)

| SNAA2012 S1  |                |                                  |                          |                               |  |
|--|----------------|----------------------------------|--------------------------|-------------------------------|--|
| 1:30-3:30  | Chair:         | Mehmet Gunes                     | Room 5                   | Aug 26                        |  |
| Mehmet Hadi G  | unes ar        | nd Tony Morelli, Video Gam       | e Industry as a Co       | omplex Network                |  |
| Vanessa Rocio E  | 3racam         | onte Lesma and <u>Hitoshi Ok</u> | ada, Influence of        | Feedback from SNS             |  |
| Members on Con   | nsumer         | Behavior in Electronic Com       | merce                    |                               |  |
| Juan M. Soler, F   | ernand         | do Cuartero and Manuel Rol       | olizo, Twitter as a      | Tool for Predicting           |  |
| Elections Result   | S              |                                  |                          |                               |  |
| Bogdan Gliwa, S  | Stanisła       | aw Saganowski, Anna Zygm         | iunt, <u>Piotr Bródk</u> | <u>a, Przemyslaw Kazienko</u> |  |
| and Jarosław Ko  | źlak, Id       | dentification of Group Chang     | ges in Blogospher        | re                            |  |
| Sarka Zehnalov   | a, Zdei        | nek Horak, Milos Kudelka ai      | nd Vaclav Snasel         | , Evolution of Author's       |  |
| Topic in Authorship Network (Short Paper)  |                |                                  |                          |                               |  |
| Jose Luis Lopez-Cuadrado, Israel Gonzalez-Carrasco, Ricardo Colomo-Palacios, Rodrigo |                |                                  |                          |                               |  |
| Gómez-Rodríguez and Angel García-Crespo, CoKIM Collaborative and Social Knowledge-   |                |                                  |                          |                               |  |
| Based Incident N   | <b>A</b> anage | r (Short Paper)                  |                          |                               |  |

| 1                 |  |                     |            |               |         |                           |
|-------------------|--|---------------------|------------|---------------|---------|---------------------------|
| SNAA2012 S2       |  |                     |            |               |         |                           |
| 4:00-6:00         | Chair:   | Paolo Boldi         |            | Room 5        |         | Aug 26                    |
| Tommy Nguyen      | and B  | oleslaw Szymansk    | i, Using L | ocation-Base  | ed So   | cial Networks to Validate |
| Human Mobility    | and R  | elationships Model  | S          |               |         |                           |
| Paolo Boldi and   | Sebas  | tiano Vigna, Four I | Degrees of | f Separation, | Reall   | y                         |
| Noora Alballosh   | Noora Alballoshi and Nikolaos Mavridis, A Survey on Social networks & Organization |                     |            |               |         |                           |
| Development       |  |                     |            |               |         |                           |
| Charalampos Ch    | <u>nelmis</u> ,  | Vikram Sorathia a   | and Vikto  | r Prasanna, Ì | Enterp  | orise Wisdom Captured     |
| Socially          |  |                     |            |               |         | -<br>-                    |
| Valerie Galluzzi, | Real 7   | Time Distributed Co | ommunity   | Structure D   | etectio | on in Dynamic Networks    |

# Workshop Title: SSNAD (The First International Workshop on Semantic Social Network Analyis and Design)

Workshop Chairs:

Johann Stan, Université de Lyon, France I-Hsien Ting, University of Kaohsiung, Taiwan Dominikus Heckmann, DFKI, Germany

| SSNAD2012 S1 Social N  |   | Social Network Analysis u | l Network Analysis using Text Mining and Statistical Methods |        |  |
|--|---|---------------------------|--|--------|--|
| 1:30-3:30  | Chair: Johann Stan  |                           | Room 6   | Aug 26 |  |
| Renuka Hodiger   | Renuka Hodigere, Diana Bilimoria: Constructing Professional Resource Networks From Career |                           |  |        |  |
| Biographical Database  |   |                           |  |        |  |
| David Combe, Christine Largeron, Előd Egyed-Zsigmond, Mathias Géry: Combining relations          |   |                           |  |        |  |
| and text in scientific network clustering  |   |                           |  |        |  |
| Hannaneh Mohammadi Kangarani, Sima Rafsanjani Nezhad, Sara Rafsanjani Nezhad, Javad              |   |                           |  |        |  |
| Bakhshi: Investigation of policy structure in legal authorities of institutions related to water |   |                           |  |        |  |
| policy making and management in Iran through network analysis of institutional relations         |   |                           |  |        |  |
| Anita Zbieg, Blazej Zak, Jaroslaw Jankowski, Radoslaw Michalski, Sylwia Ciuberek: Studying       |   |                           |  |        |  |
| Diffusion of Viral Content at Dyadic Level   |   |                           |  |        |  |
| Sara EL MANAR EL BOUANANI, Ismail KASSOU: "Using lexicometry and vocabulary                      |   |                           |  |        |  |
| analysis techniques to detect a signature for web profile "                                      |   |                           |  |        |  |

| <b>SSNAD</b> 2012 S2   |                    | Social Network Analysis and Recommendation |        |        |  |
|--|--------------------|--|--------|--------|--|
| 4:00-6:00  | Chair: John Pfaltz |  | Room 6 | Aug 26 |  |
| Keynote Speech : Larry Kerschberg (Social Network Analyis and Recommender                |                    |  |        |        |  |
| Systems: Mutual Benefits)  |                    |  |        |        |  |
| M Saravanan,, Gaigipati Prasad, M Jagadeesan, R Revathy, S Rekha: Group Recommender      |                    |  |        |        |  |
| Model for Boosting and Optimizing Customer Purchases                                     |                    |  |        |        |  |
| Akram Alkouz, Johannes Brijnesh: An Interests Discovery Approach in Social               |                    |  |        |        |  |
| Networks Based on Semantically Enriched Graphs   |                    |  |        |        |  |
| John McDowall, Larry Kerschberg: Leveraging Social Networks to Improve Service Selection |                    |  |        |        |  |
| in Workflow Composition  |                    |  |        |        |  |
| Sanjog Ray: Identifying Influential Taggers in Trust-Aware Recommender Systems           |                    |  |        |        |  |

**Workshop Title:** The 1st International Workshop on Multi-agent Systems and Social Networks (WMSSN 2012)

#### **Workshop Chairs:**

Brahim Chaib-draa, Laval University, Canada Mehmet Kaya, Firat University, Turkey Mohsen Afsharchi, University of Zanjan, Zanjan, Iran

| WMSSN2012 S   | 1  | Agent Based Modelii | ng and | d Analysis |  |        |
|---|--|---------------------|--------|------------|--|--------|
| 1:30-3:30   | Chair: Rokia Missaoui  |                     |        | Room 7     |  | Aug 26 |
| Seyyed Amin Ta  | Seyyed Amin Tabatabei and Masoud Asadpour (University of Tehran), Study of Influential |                     |        |            |  |        |
| Trends, Communities, and Websites on the Post-Election Events of Iranian Presidential Election in |  |                     |        |            |  |        |
| Twitter   |  |                     |        |            |  |        |
| Fatemeh Hendijani Fard and Behrouz H. Far (University of Calgary), Clustering Social Networks     |  |                     |        |            |  |        |
| to Remove Neutral Nodes   |  |                     |        |            |  |        |
| Amitash Ramesh, Soumya Ramesh, Sudarshan Iyengar, Vinod Sekhar and C. Pandu                       |  |                     |        |            |  |        |
| Rangan (Indian Statistical Institute), Obstacles Incentivize Human Learning: A Network Theoretic  |  |                     |        |            |  |        |
| Study   |  |                     |        |            |  |        |
| Usha Sridhar and Sridhar Mandyam (Ecometrix Research), Pareto Optimal Allocation in Multi-        |  |                     |        |            |  |        |
| agent Coalitional Games with Exponential Payoffs  |  |                     |        |            |  |        |
| Vijesh M. Sudarshan Ivengar, Vijav Mahantesh SM. Amitash Ramesh, C Pandurangan and                |  |                     |        |            |  |        |

Vijesh M, Sudarshan Iyengar, Vijay Mahantesh SM, Amitash Ramesh, C Pandurangan and Veni Madhavan (Indian Statistical Institute), A Navigation Algorithm Inspired by Human Navigation Fan Yang, Xiaohui Yu, Yang Liu and Min Yang (Shandong University), Automatic Detection of Rumor on Sina Weibo

| WMSSN2012 S2  |  | Community Discovery and Evolution in Social Networks |        |        |  |
|---|--|--|--------|--------|--|
| 4:00-6:00   | Chair  | : Michael Siegel                                     | Room 7 | Aug 26 |  |
| Andreas Kala  | Andreas Kalaitzakis, Harris Papadakis and Paraskevi Fragopoulou (Technological Educational |  |        |        |  |
| Institute of Crete), Evolution of User Activity and Community Formation in an Online Social Network |  |  |        |        |  |
| Daniel Goldsmith and Michael Siegel (MIT Sloan School of Management), Cyber Politics:               |  |  |        |        |  |
| Understanding the use of Social Media for Dissident Movements in an Integrated State Stability      |  |  |        |        |  |
| Framework   |  |  |        |        |  |
| Sridhar Mandyam and Usha Sridhar (Ecometrix Research), Community Learning from External             |  |  |        |        |  |
| Information Sources   |  |  |        |        |  |
| Suhas Venkatesh, Amitash Ramesh, Sudarshan Iyengar and Udaya Shyama (BNM Institute of               |  |  |        |        |  |
| Technology), Landmark Identification in Complex Networks  |  |  |        |        |  |
| Nafees Ur Rehman, Svetlana Mansmann, Andreas Weiler and Marc H. Scholl (University of               |  |  |        |        |  |
| Konstanz), Bui  | Konstanz), Building a Data Warehouse for Twitter Stream Exploration                        |  |        |        |  |

Poornalatha G and Prakash S Raghavendra (National Institute of Technology Karnataka), Web Page Prediction by Clustering and Integrated Distance Measure

Workshop title: Searching with the Pro's

Organizer: Arno Reuser

#### **Description:**

A methodology for effective searching public, free Internet search engines will be shared that will give participants the capability of getting results with low recall, high relevance and less noise. The method discussed will be independent from the choosen search engine, although the more famous ones will be used as an example during the tutorial. As a de-tour, the tutorial will show how to push Google and Bing to their limits.

The workshop will start with defining what a 'search' is and what a 'strategy' is, then discussing how to setup a 'search', explaining components, kinds of search engines and when to use which one, then to show how to use the most efficient search strategy (successive fractions) when searching using Bing and Google. During the tutorial, common pittfalls, misconceptions, and (un)reliability of Google (or the browser) will be demonstrated.

## **Required outcome:**

At the end of the workshop, participants will have a clear, structured and effective search methodology that is quick, leads to the best results in a short time, and is applicable in a wide range of search engines wether free or commercial. Also, participants will have an idea about the pitfalls and drawbacks of 'free' search engines.

#### Required background:

Participants are expected to be near fluent in English, have a basic understanding of searching in free, public Internet search engines, understand the basics of Boolean Logic, a browser and an editor.

#### **Intended audience:**

Scientists, students, teachers who search for information on a regular basis mainly using the Internet, having experience using the major search engines, and have a feeling they miss something out there, or that there search methods are worth re-considering.

#### **Technical requirements:**

Arno will use his own laptop Laptop needs to be connected to a beamer for presentations. A broadband Internet connection to show live searches and examples.