WWW2016
MONTRÉAL • CANADA

25TH INTERNATIONAL WORLD WIDE WEB CONFERENCE

PROGRAM BOOK
APRIL 11 TO 15, 2016

UQÀM | Université du Québec à Montréal

INTERNATIONAL WWW CONFERENCE COMMITTEE

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WELCOME TO WWW2016

We welcome you to this OUVERT (open in English) WWW2016 conference, the 25th of the series, being held at the Palais des congress in Montreal. OUVERT is our motto, to show our support and encouragement of the Web's ethos of open data, government, health, education and more.

The annual World Wide Web Conference is the premier international forum to present and discuss progress in research, development, standards, and applications related to the Web and to Web science. WWW is organized under the aegis of the International World Wide Web Conference Committee (IW3C2) in collaboration with local conference organizers of the host country, in this case the Université du Québec à Montréal (UQAM). WWW 2016 offers a unique opportunity for sharing the latest insights of academic and industrial research, as well as to experience Montreal, a vibrant city sharing features form both Europe and North America.

WWW 2016 offers you an opportunity to participate in high quality technical activities, including research sessions, poster sessions, workshops, tutorials, demonstrations, an industry track, a W3C track, panels, and a Ph.D. symposium. Co-located events include the 3rd edition of the Big Data Innovators Gathering (BIG 2016), the Digital Health Conference (DH), the Web for All conference (W4A), and a meeting and exhibition by l'Académie québécoise de 'Pataphysique (AQ'P).

A special event on Wednesday night includes a talk, open to the public, by the Baroness Martha Lane Fox entitled "Dot everyone – Power, the Internet and You." We will also have three other keynote speeches by world-class experts: Tim Berners-Lee, Mary-Ellen Zurko, and Peter Norvig. We will also feature a plenary panel on the Web and Creativity chaired by digital musician Andrew Hugill and a Friday panel on "The Web and social action" featuring speakers talking about how the Web can be used to change the world for the better.

The Research track presents 118 high quality papers, 72 posters and 30 demos. The Ph.D. Symposium track has 7 presentations by doctoral students, the Industry track consists of 8 speeches from prominent industrial researchers, and the W3C track is composed of sessions on the latest Web standards and emerging technologies. In addition to the tracks and special programs, workshops and tutorials have been organized to report on-going work and to provide in-depth knowledge on important subjects; this includes 21 workshops and 7 tutorials on a wide range of cutting-edge topics.

Many individuals and institutions contributed by their hard work to the success of this conference. We would especially like to thank the PC chairs, Ian Horrocks and Ben Zhao who put a huge amount of time into making sure the technical tracks were at the high academic level expected of this leading Web Conference. We also thank the track, demo, workshop and tutorial chairs, and the many workshop organisers for selecting the best possible technical content for the conference. We also thank the members of the Local Organizing Committee and the numerous chairs who have devoted significant time to making the conference a success. In shaping the 2016 program, the chairs of the tracks and special programs worked with a large network of program committee members and external reviewers. This conference is also made possible thanks to the generous contribution of the volunteers, and the good organising work of the volunteers' chairs. We would also like to thank our sponsors for their financial contributions, also the members of the IW3C2 Committee, whose guidelines and support proved to be a valuable resource in preparing the conference, and as well OPC, our professional conference organizer team for the highly professional work done on all aspects of the local organization of WWW 2016.

We hope that this conference will be a memorable experience, and that you will have a stimulating and pleasant time during your stay in Montreal.

The WWW 2016 General Chairs

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JACQUELINE BOURDEAU
Tele-university (TELUQ),
Montreal, QC, Canada

JIM HENDLER
Rensselaer Polytechnic Institute,
Troy, NY, USA

ROGER NKAMBOU
Université du Québec à Montréal,
Montreal, QC, Canada

MESSAGE FROM THE IW3C2 CHAIR

On behalf of the International World Wide Web Conference Committee (IW3C2), the steering committee for this conference series, I welcome you to the 25th conference of our series. As you probably know, Tim Berners-Lee first conceived the World Wide Web at CERN in Geneva, Switzerland in 1989. The first conference of the series, WWW1, was held at CERN in 1994 and organized by Robert Cailliau. The IW3C2 was founded by Joseph Hardin and Robert Cailliau later in 1994 and has been responsible for the conference series ever since. After 1994 and 1995 (when two conferences were held each year), WWWn became an annual event held in late April or early May.

The location of the conference generally rotates among the Americas, Europe, and Asia/Pacific. In 2001 we changed the conference designator from the number in the series to the year it is held; i.e., WWW11 became known as WWW2002. You may browse our website http://www.iw3c2.org/ for information on past and future conferences. WWW2020 will shortly be open for bids, preferably from a host in Asia/Pacific. We encourage you to point interested parties to the "Host a Conference" section of the IW3C2's web site.

The International WWW Conference series provides the world with a premier forum about the development of the Web, the standardization of its associated technologies, and the Web's impact on business, society and culture. These conferences bring together researchers, students, developers, users, and vendors – indeed all of you who are passionate about the Web and what it has to offer, now and in the future. Part of what is exciting about this series is the cross boundary and eclectic nature of the topics covered, and the opportunity it provides for exploration of new directions, both technological and social.

I was lucky enough to be involved in organising WWW1 in Geneva, and have been engaged with the conference series ever since in one way or another, most recently as Chair of IW3C2. It is quite incredible to look back to the early days and see how the conference has evolved and grown over the years. A recent development is the establishment of the Seoul Test of Time Award, which we will be presenting for the second time at WWW2016. It is wonderful to be able to properly celebrate the ground-breaking papers that have helped to establish the WWW conference as the premier international conference it is today.

We thank the team in Montreal for organizing WWW2016. We also extend many thanks to all the WWW2016 sponsors, who make this event possible. We are delighted to bring the conference series and the web community to Canada again – this time to share in the culture, the history and the food of the wonderful city of Montreal. I would also personally like to thank the general chairs – Jacqueline Bourdeau, Jim Hendler and Roger Nkambou – for all their hard work to make the conference happen. Having been one of the general chairs for WWW2006, I know how this sort of organisational effort takes over your life in the run up to the conference.

So now it's over to you to make this the best conference yet. Enjoy the papers and the posters, the tracks and the panels, the workshops and the tutorials and everything else the conference has to offer. But above all enjoy being part of the Web community and help shape it's future

DAME WENDY HALL
IW3C2 Chair
University of Southampton, UK

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WWW 2016 ORGANIZATION & COMMITTEES

GENERAL CHAIRS

JACQUELINE BOURDEAU	Tele-university (TELUQ), Montreal, QC, Canada
JIM A. HENDLER	Rensselaer Polytechnic Institute, Troy, NY, USA
ROGER NKAMBOU	Université du Québec à Montréal, Montreal, QC, Canada

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SHIBL MOURAD	Montréal Site Director, Google Inc.

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PAOLO MERIALDO   Università Roma Tre, Italy

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PETKO VALTCHEV   Université du Québec à Montréal, Canada

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MARIE-CLAIRE FORGUE   W3C, France

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MICHEL GAGNON   École Polytechnique, Montréal, Canada

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ANGE TATO   UQAM, Canada

PCO

OPC EVENTS   Montreal, Canada

MARKETING AND SPONSORSHIP

CPS MEDIA   Saint-Sauveur, Canada

IW3C2 LIAISON

LUC MARIAUX   École Centrale de Lyon, France

PROGRAM AT A GLANCE

9:00 am – 5:30 pm

Workshops

SAVE-SD2016, Q4APS2016, USEWOD (morning), SOCM2016, Web Intelligence and Communities, LocWeb2016, #LILE2016, ERMIS (morning), AW4City (afternoon), #Microposts2016

Co-located events

Digital Health 2016, Web For All Conference, Imagination WWW'P

Special event

WWW Developers Day

Tutorials

Computational Social Science for the World Wide Web, Centrality Measures on Big Graphs: Exact, Approximated, and Distributed Algorithms, Computational Social Science for the World Wide Web, Cryptographic Currencies Crash Course

9:00 am – 5:30 pm

Workshops

LDOW2016, BigScholar, Web Science and Technology for Education, Teaching the Web (afternoon), SNOW, MSM2016, Wiki@WWW, NLPIT2016 (morning), OpenDataLocalSearch (afternoon), COBE2016 (morning), TempWeb

Co-located events

BIG2016, Digital Health 2016, Web For All Conference, Imagination WWW'P, #OKFESTMTL

Special event

WWWAfrica

Tutorials

Building Decentralized Applications for the Social Web, Mining Big Time-Series Data on the Web, Automatic Entity Recognition and Typing in Massive Text Corpora, Building Decentralized Applications For The Social Web, Analyzing Sequential User Behavior On The Web

9:00 am – 11:00 am	**Opening Ceremony and Keynote 1: Sir Tim Berners-Lee**
11:00 am – 11:30 am	**BREAK**
11:30 am – 12:30 pm	**Plenary Panel** Creativity and the Web
	Co-located events Digital Health 2016, Web For All Conference **W3C Track** Digital Publishing (Starting at 11:00 am)
12:30 pm – 2:00 pm	**LUNCH**
2:00 pm – 3:30 pm	**Research Track** SOCIAL NETWORKS & GRAPH ANALYSIS (1), BEHAVIOUR ANALYSIS & PERSONALIZATION (1), SECURITY & PRIVACY (1), CONTENT ANALYSIS (1), ECONOMICS & MARKETS (1)
	W3C Track Web Payments **Co-located events** Digital Health 2016, Web For All Conference
3:30 pm – 4:00 pm	**BREAK**
4:00 pm – 5:30 pm	**Demo & Poster Session, Welcome Reception**
6:00 pm – 7:30 pm	**Keynote 2: Baroness Martha-Lane Fox (Dot everyone – power, the internet and you)**
7:30 pm – 9:00 pm	**Co-located event (Panel)** Edu-Fiction 2030

9:00 am – 10:30 am	**Keynote 3: Mary Ellen Zurko (La Sécurité Ouverte - How we doing so far?)**

10:30 am – 11:00 am	**BREAK**

11:00 am – 12:30 pm	**Research Track** SEMANTICS & BIG DATA (1), WEB MINING (1), SECURITY & PRIVACY (2), CONTENT ANALYSIS (2), MOBILITY (1) **Industry Track** Paper presentation session 1 **Ph.D. Symposium** Career Talk + Paper presentation session 1
	W3C Track HTML5 Games

12:30 pm – 2:00 pm	**LUNCH**

2:00 pm – 3:30 pm	**Research Track** SOCIAL NETWORKS & GRAPH ANALYSIS (2), BEHAVIOUR ANALYSIS & PERSONALIZATION (2), WEB SEARCH SYSTEM & APPLICATIONS (1), CROWDSOURCING SYSTEMS & SOCIAL MEDIA (1), WEB SCIENCE (1) **Industry Track** Paper presentation session 2 **Ph.D. Symposium** Paper presentation session 2
	W3C Track Web of Things - Building and Designing

3:30 pm – 4:00 pm	**BREAK**

4:00 pm – 5:30 pm	**Research Track** SOCIAL NETWORKS & GRAPH ANALYSIS (3), WEB MINING (2), WEB SEARCH SYSTEM & APPLICATIOINS (2), CROWDSOURCING SYSTEMS & SOCIAL MEDIA (2), WEB SCIENCE (2) **Industry Track** Paper presentation session 3 + Panel

Ph.D. Symposium
Mentor 1-1 Meetings

W3C Track
Web of Things - Smart cities, cars and homes

7:00 pm – 11:00 pm   **GALA DINNER**

FRIDAY, APRIL 15 | 9:00 am – 5:30 pm

9:00 am – 10:30 am   **Keynote 4: Peter Norvig (The Semantic Web and the Semantics of the Web: Where Does Meaning Come From?)**

10:30 am – 11:00 am   **BREAK**

11:30 am – 12:30 pm   **Research Track**
SEMANTICS & BIG DATA (2), BEHAVIOUR ANALYSIS & PERSONALIZATION (3),
SECURITY & PRIVACY (3), CONTENT ANALYSIS (3), ECONOMICS & MARKETS (2)

Panel
Social Action on the Web

12:30 pm – 2:00 pm   **LUNCH**

2:00 pm – 3:30 pm   **Research Track**
SEMANTICS & BIG DATA (2), SOCIAL NETWORKS & GRAPH ANALYSIS (4), WEB MINING (3),
BEHAVIOUR ANALYSIS & PERSONALIZATION (3), WEB SEARCH SYSTEM & APPLICATIOINS (3),
SECURITY & PRIVACY (4), CONTENT ANALYSIS (4), CROWDSOURCING SYSTEMS &
SOCIAL MEDIA (3), MOBILITY (2), ECONOMICS & MARKETS (3)

3:30 pm – 4:00 pm   **BREAK**

4:00 pm – 5:30 pm   **CLOSING BY PERTH & AWARD CEREMONY**

KEYNOTE SPEAKERS

Tim Berners-Lee invented the World Wide Web in 1989. He founded and Directs the World Wide Consortium (W3C) the forum for technical development of the Web. He founded the Web Foundation whose mission is that the WWW serves Humanity, and co-founded the Open Data Institute in London. His research group at MIT's Computer Science and AI Lab ("CSAIL") plans to re-decentralize the Web. Tim spends a lot of time fighting for rights such as privacy, freedom and openness of the Web.

He is the 3Com Founders Professor of Engineering in the School of Engineering with a joint appointment in the Department of Electrical Engineering and Computer Science at the Laboratory for Computer Science and Artificial Intelligence (CSAIL) at the Massachusetts Institute of Technology (MIT) where he also heads the Decentralized Information Group (DIG). He is also a Professor in the Electronics and Computer Science Department at the University of Southampton, UK.

» **WEDNESDAY, APRIL 13**

» **9:00 am – 11:00 am**

» **Opening Ceremony and Keynote 1**

» **PLENARY SESSION : ROOM 517D**

THE SEMANTIC WEB AND THE SEMANTICS OF THE WEB: WHERE DOES MEANING COME FROM?

We would like to understand the meaning of content on the web. But where should that meaning come from? From markup language created by the authors of the content? Crowdsourced from readers of the content? Automatically extracted by machine learning algorithms? This talk investigates the possibilities.

Peter Norvig is a Director of Research at Google Inc. Previously he was head of Google's core search algorithms group, and of NASA Ames's Computational Sciences Division, making him NASA's senior computer scientist. He received the NASA Exceptional Achievement Award in 2001. He has taught at the University of Southern California and the University of California at Berkeley, from which he received a Ph.D. in 1986 andthe distinguished alumni award in 2006. He was co-teacher of an Artifical Intelligence class that signed up 160,000 students, helping to kick off the current round of massive open online classes. His publications include the books Artificial Intelligence: A Modern Approach (the leading textbook in the field), Paradigms of AI Programming: Case Studies in Common Lisp, Verbmobil: A Translation System for Face-to-Face Dialog, and Intelligent Help Systems for UNIX. He is also the author of the Gettysburg Powerpoint Presentation and the world's longest palindromic sentence. He is a fellow of the AAAI, ACM, California Academy of Science and American Academy of Arts & Sciences.

» **FRIDAY, APRIL 15**

» **9:00 am – 10:30 am**

» **Keynote 4**

» **PLENARY SESSION : ROOM 517D**

LA SÉCURITÉ OUVERTE - HOW WE DOING SO FAR?

Open has meant a lot of things in the web thus far. The openness of the web has had profound implications for web security, from the beginning through to today. Each time the underlying web technology changes, we do a reset on the security it provides. Patterns and differences emerge in each round of security responses and challenges. What has that brought us as web users, technologists, researchers, and as a global community? What can we expect going forward? And what should we work towards as web technologists and caretakers?

Mary Ellen Zurko (Mez) is a member of the Office of the CTO, Security Business Group, at Cisco Systems, and a Principal Engineer on the Next Generation Fire-wall team there. Mez is a seminal member of the National Academies of Sciences Forum on Cyber Resilience. She was security architect of one of IBM's earliest clouds; SaaS for business collaboration. She defined the field of User-Centered Security in 1996. As a senior research fellow at the Open Group Research Institute, she led several innovative security initiatives in authorization policies, languages, and mechanisms that incorporate user-centered design elements. She started her security career at DEC working on a high assurance A1 Virtual Machine Monitor. She has written on security and the web, public key infrastructures, distributed authorization, active content security, and user-centered security. She is a contrib-utor to the O'Reilly book "Security and Usability: Designing Secure Systems that People Can Use." She is on the steering committees of New Security Paradigms Workshop and Symposium on Useable Privacy and Security. Mez received S.B and S.M. degrees in computer science from MIT.

» **THURSDAY, APRIL 14**

» **9:00 am – 10:30 am**

» **Keynote 3**

» **PLENARY SESSION : ROOM 517D**

FOUNDER AND EXECUTIVE CHAIR OF doteveryone.org.uk
DOT EVERYONE – POWER, THE INTERNET AND YOU

Martha Lane Fox co-founded Europe's largest travel and leisure website lastminute.com with Brent Hoberman in 1998, they took it public in 2000 and sold it in 2005.

Martha was appointed a crossbench peer in the House of Lords in March 2013. Martha is currently founder and executive chair of doteveryone.org.uk. Dotevery-one is the first institute dedicated to making Britain brilliant in the networked age. Initially, it is focusing on three key areas – women and technology, digital leader-ship and building prototypes for public organisations. She is also chair of Go On UK, a coalition of public and private sector partners that are helping millions more people and organisations online. In March 2014 she was appointed Chancellor of the Open University. Martha co- founded and chairs LuckyVoice, revolutionising the karaoke industry. She chairs MakieLab. She is a Non-Executive Director at Marks & Spencer and the Women's Prize for Fiction.

In 2015 Martha joined the board of the Creative Industries Federation and the Open Data Institute. In 2007 Martha founded her own charitable foundation Anti-gone.org.uk and also serves as a Patron of AbilityNet, Reprieve, Camfed and Just for Kids Law. In 2013 Martha was awarded a CBE.

» **WEDNESDAY, APRIL 13**

» **6:00 pm – 7:30 pm**

» **Welcome Reception and Keynote 2**

» **PLENARY SESSION : ROOM 517D**

CO-LOCATED EVENTS

6TH DIGITAL HEALTH CONFERENCE: 11TH – 13TH APRIL 2016 (DH 2016)

Everything is affected by the digital revolution. The opportunities for interdisciplinary digital health research bringing together computer science to dramatically improve health and wellbeing of individuals and populations are extraordinary. DH 2016, held in conjunction with WWW 2016, and in cooperation with ACM SIGMOD and SIGKDD, will in particular focus on public health computer science covering a wide spectrum of subjects including communities of practice and social networks, analytics and engagement with tracking and monitoring wearable devices, big data, public health surveillance, persuasive technologies, epidemic intelligence, participatory surveillance, serious games for public health interventions and automated early identification of health threats and response.

DAY 1 – MONDAY, APRIL 11

9:00 am WELCOME AND KEYNOTE 1 | ROOM 516B
SESSION CHAIR **PATTY KOSTKOVA**

11:00 am SESSION 1: BIG DATA AND SOCIAL MEDIA FOR PUBLIC HEALTH SURVEILLANCE | ROOM 516A
SESSION CHAIR **PATTY KOSTKOVA**

» *Invited speakers*

» *Extracting Signals from Social Media for Chronic Disease Surveillance*
Wenli Zhang, Sudha Ram, Mark Burkart, Yolande Pengetnze

» *Extracting Signals from Social Media for Chronic Disease Surveillance*
Wenli Zhang, Sudha Ram, Mark Burkart, Yolande Pengetnze

» *Proof of Concept Paper: Innovative Non-Traditional Data Sources for Public Health Surveillance*
Michelina Mancuso, Xiaoquan Yao, Dan Otchere, Drona Rasali, Erica Clark, Lawrence W. Svenson, Julie Reyjal, Bernard C.K. Choi

11:00 am SESSION 2: POSTER OVERVIEW | ROOM 516B
SESSION CHAIR **ED DE QUINCEY**

4:00 pm SESSION 3: E-LEARNING, EDUTAIMENT AND SERIOUS GAMES FOR HEALTH | ROOM 516A
SESSION CHAIR **BALTASAR FERNÁNDEZ MANJÓN**

» *Data Analytics Framework for A Game-based Rehabilitation System*
Jiongqian Liang, David Fuhry, David Maung, Roger Crawfis, Lynne Gauthier, Arnab Nandi, Srinivasan Parthasarathy

» *Ubiquitous Bugs and Drugs Education for Children Through Mobile Games*
Andreea Molnar, Patty Kostkova

4:00 pm   SESSION 4: BIG DATA AND SOCIAL MEDIA FOR EARLY-WARNING AND EMERGING EPIDEMICS | ROOM 516B

SESSION CHAIR **PHILIP ABDELMALIK**

» *An Analytics Framework to Support Surge Capacity Planning for Emerging Epidemics*

Martina Curran, Enda Howley, Jim Duggan –Jiongqian Liang, David Fuhry, David Maung

» *On Gastrointestinal Disease Surveillance using Social Media Content*

Bin Zou, Vasileios Lampos, Russell Gorton, Ingemar Cox

» *VAC Medi+board: Analysing Vaccine Rumours in News and Social Media*

Patty Kostkova, Vino Philip Mano, Heidi J. Larson, William S. Schulz

4:00 pm   PANEL DEBATE 1 | ROOM 516B

SESSION CHAIR **PATTY KOSTKOVA**

DAY 2 – TUESDAY, APRIL 12

9:00 am   WELCOME AND KEYNOTE 2 | ROOM 516B

SESSION CHAIR **PATTY KOSTKOVA**

11:00 am   SESSION 5: DIGITAL HEALTH TECHNOLOGY DESIGN | ROOM 516A

SESSION CHAIR **ALBERTO SANNA**

» *Computer-Supported Assessment for Tailoring Assistive Technology*

Helena Lindgren, Jayalakshmi Baskar, Esteban Guerrero, Ingeborg Nilsson, Chunli Yan

» *mHealth Technology : Towards a New Mobile Application for Caregivers of the Elderly Living with Multiple Chronic Conditions (ELMCC)*

Suboh Alkhushayni, Susan McRoy

» *Development and Use of a Tablet-based Resuscitation Sheet for Improving Outcomes during Intensive Patient Care*

Wasif Bokahri, Vimla Patel, Ayan Sen, Ashish Amresh

» *Medical Device Data Goes to Court*

David Vandervort

11:00 am SESSION 6: BIG DATA AND SOCIAL MEDIA STUDIES ON WEIGHTLOSS AND OBESITY | ROOM 516B

SESSION CHAIR **HAMED HADDADI**

» *Quantified Self Meets Social Media: Sharing of Weight Updates on Twitter*
Yafei Wang, Ingmar Weber, Prasenjit Mitra

» *The Effect of Social Feedback in a Weight Loss Subreddit*
Tiago Cunha, Ingmar Weber, Hamed Haddadi, Gisele Lobo Pappa

» *Crowdsourcing Health Labels: Inferring Body Weight from Profile Pictures*
Ingmar Weber, Yelena Mejova

2:00 pm SESSION 7: WEARABLES, ROBOTICS, SENSORS, AND UBIQUITUOUS SYSTEMS FOR HEALTH | ROOM 516A

SESSION CHAIR **HENRY POTTS**

» *Workplace Indicators of Mood: Behavioral and Cognitive Correlates of Mood Among Information Workers*
Gloria Mark, Mary Czerwinski, Shamsi Iqbal, Paul Johns

» *Impact of a digital activity tracker-based workplace activity program on health and wellbeing*
David Glance, Esther Ooi, Ye'Elah Berman, Charlotte Glance, Peter Barrett

» *Proposition and Validation of a New Index to Determine the Measurement Change Resolution of Inertial Motion Tracking Systems*
Karina Lebel, Patrick Boissy, Hung Nguyen, Christian Duval

2:00 pm SESSION 8: E-LEARNING, EDUTAIMENT AND SERIOUS GAMES FOR HEALTH | ROOM 516B

SESSION CHAIR **YELENA MEJOVA**

» *Towards Bottom-Up Analysis of Social Food*
Jaclyn Rich, Hamed Haddadi, Timothy Hospedales

» *Fruits and Vegetables Calorie Counter Using Convolutional Neural Networks*
Morteza Akbari Fard, Hamed Hadadi, Alireza Tavakoli Targhi

» *Enabling Digital Health by Automatic Classification of Short Messages*
Muhammad Imran, Patrick Meier, Carlos Castillo, Andre Lesa, Manuel Garcia Herranz

4:00 pm PANEL DEBATE 2 | ROOM 516B

11:00 am   SESSION 9: BIG DATA ANALYTICS FOR HEALTH | ROOM 516A

SESSION CHAIR **ALAIN APRIL**

» *Feature importance and predictive modeling for multi-source healthcare data with missing values*
Karthik Srinivasan, Faiz Currim, Sudha Ram, Casey Lindberg, Esther Sternberg, Perry Skeath,
Bijan Najafi, Javad Razhouyan, Hyo-Ki Lee, Colin Foe-Parker, Nicole Goebel, Reuben Herzl,
Mathias Mehl, Brian Gilligan, Judith Heerwagen, Kevin Kampschroer, Kelli Canada

» *GOAT: Genetic Output Analysis Tool – an open source GWAS and genomic region analysis tool*
Beatriz Kanzki, Cedric Urvoy, Fodil Belghait, Alain April, Francois Harvey,
Francois-Christophe Marois-Blanchet, Michael Phillips, Johanne Tremblay, Pavel Hamet

» *Enabling Digital Health by Automatic Classification of Short Messages*
Muhammad Imran, Patrick Meier, Carlos Castillo, Andre Lesa, Manuel Garcia Herranz

11:00 am   SESSION 10: SOCIAL COMPUTING FOR PHYSICAL ACTIVITY AND HEALTHLY EATING | ROOM 516B

SESSION CHAIR **ANDREW HAYWARD**

» *Characterizing Physical Activity in a Health Social Network*
Javid Ebrahimi, Nhathai Phan, Dejing Dou, Brigitte Piniewski, David Kil

» *Analyzing Taste Preferences From Crowdsourced Food Entries*
Patrick Howell, Layla Martin, Hesamoddin Salehian, Chul Lee, Kyler Eastman, Joohyun Kim

» *Predicting "About-to-Eat" Moments for Just-in-Time Eating Intervention*
Tauhidur Rahman, Mary Czerwinski, Ran Gilad-Bachrach, Paul Johns

1:00 pm   CLOSING CEREMONY | ROOM 516B

SESSION CHAIR **PATTY KOSTKOVA**

THE 13TH WEB FOR ALL CONFERENCE: EDUCATION FOR ALL ON THE WEB (W4A 2016)

The rapid emergence of online learning has brought many accessibility challenges. MOOCs, Big Data, and Open Content are changing how we look at education, broadening access to learning for millions, soon billions of individuals, and creating new opportunities to remove barriers to literacy, education, and the search for knowledge. With the explosive growth of opportunities to learn online, the theme of the 13th International Web for All Conference is "Education for All on the Web."

DAY 1 – MONDAY, APRIL 11

9:00 am   **WELCOME AND KEYNOTE 1** | ROOM 516C

SESSION CHAIR **GREG GRAY**

11:00 am   SESSION 1: BIG DATA AND SOCIAL MEDIA FOR PUBLIC HEALTH SURVEILLANCE | ROOM 516C

» *IBM People with Disabilities Awards*

» *10:30 am - 11:00 am Coffee*

» *Identifying Challenges and Opportunities in Computer-based Vocational Training for Low-Income Communities of People with Intellectual Disabilities (Technical paper)*

» *Usability Evaluation of Two Virtual Aids to Enhance Cursor Accessibility for Motor-Impaired*

» *Users (Communication paper)*

» *Exploring pedagogical culture for accessibility in education in Computing Science (Communication paper)*

» *Towards Universal Rendering in MathJax (Communication paper)*

2:00 pm   SESSION 2: WEB ACCESSIBILITY | ROOM 516C

» *Web Accessibility Guidelines for the 2020s (Communication paper)*

» *Development Technologies Impact in Web Accessibility (Communication paper)*

2:30 pm   SESSION 3: CHALLENGE PRESENTATIONS | ROOM 516C

» *Accessible OzPlayer Video Player*

» *Contextual Language Learning with Capti ESL Assistant*

» *NavCog: turn-by-turn smartphone navigation assistant for people with visual impairments or blindness*

» *WebReader: a screen reader for everyone, everywhere*

» *Lake Devo: Accessible Online Role-Play*

» *Online Nemeth Braille Input/Output Using Content MathML*

» *Editor for Accessible Images in e-Learning Platforms*

» *TactBack: VibroTactile Braille output using Smartphone and Smartwatch for Visually Impaired*

» *A web tool to better use the Sign language constraints and parameters*

» *Accessible Map Visualization Prototype*

» *Improving OER Websites for Learners with Disabilities*

4:00 pm SESSION 4 : DEMO SESSION | ROOM 516C

(Around the room lightning demos)

DAY 2 – TUESDAY, APRIL 12

9:00 am WELCOME AND SESSION 5: NON-VISUAL ACCESS & WEB ACCESSIBILITY | ROOM 516C

» *An Empirical Investigation of the Situationally-Induced Impairments Experienced by Blind Mobile Device Users (Technical papers)*

» *AudioDraw: User Preferences in Non-visual Diagram Drawing for Touchscreens (Technical papers)*

» *The Effects of Automatic Speech Recognition Quality on Human Transcription Latency (Technical paper)*

» *Doctoral Consortium Student Presentations*

» *Using Data from Social Media Websites to Inspire the Design of Assistive Technology*

» *Using Web Interaction to Monitor Parkinson‚Äôs Disease Progression through Behavioural Inferences on the Web*

» *Motivating Children with Dyslexia by Leveraging their Strengths via Web-based Games*

11:00 am SESSION 6: ACCESSIBLE LEARNING, WEB-BASED TESTING AND ASSESSMENT | ROOM 516C

» *Accessibility Barriers to Online Education for Young Adults with Intellectual Disabilities (Technical paper)*

» *An Online Chess Game Designed for People with Dyslexia (Technical paper)*

» *Towards a Multilingual Dyslexia Detection using Online Games (Communication paper)*

» *Learning Games for Cognitive Impaired People (Communication paper)*

» *Masterplanning the Digital Campus to Support Learners with Disabilities (Communication paper)*

2:00 pm SESSION 7: SUPPORTING ACCESSIBILITY AND WEARABLES | ROOM 516C

» *Measuring the Impact of Automated Evaluation Tools on Alternative Text Quality: a Web Translation Study (Technical paper)*

» *A Platform to Support Personalized Training for People with Disabilities (Communication paper)*

» *Wearables for All: Development of Guidelines to Stimulate Accessible Wearable Technology Design (Communication paper)*

» *Widening access to online health education for lung cancer: A feasibility study (Communication paper)*

» *Doctoral Consortium Students presetations (3 presentations)*

» *Evaluating the Mobile Web Accessibility of electronic text for people with print impairments in Higher Education*

» *Developing a Wearable Tactile Prototype to Support Situational Awareness*

» *Computer Vision-based Analysis of Web Page Structure for Assistive Interfaces*

4:00 pm SESSION 8: ACCESSIBLE MULTIMEDIA | ROOM 516C

SESSION CHAIR **YELIZ YESILADA**

» *HTML5 Accessible Video Player (Communication paper)*

» *Supporting the Selection of Web Content Modality Based on User Interaction Logs (Communication paper)*

» *LMS weds WhatsApp (Communication paper)*

» *Laying a Foundation for the Graphical Course Map (Communication paper)*

» *Supporting Engagement and Comprehension Online Through Multiple Means of Expression (Communication paper)*

5:15 pm AWARDS | ROOM 516C

DAY 3 – WEDNESDAY, APRIL 13 | WWW/W4A ACCESSIBILITY HACKATHON
GOOGLE MONTREAL OFFICES

11:00 am PROGRAM DESCRIPTION AND DIRECTION

11:15 am HACK (PIZZA WILL BE SERVED FOR LUNCH WHILE YOU WORK)

4:30 pm LIGHTNING PRESENTATIONS (10 GROUPS X 6 MINUTES MAX)

5:45 pm AWARDS

BIG DATA INNOVATORS GATHERING (BIG 2016)

Many of today's most successful enterprises - in business and in science - are built on the collection and analysis of data. The sheer volume and richness of these data sets has stimulated a massive wave of innovation. In addition, this revolution has also sparked important debate on data privacy policies, ethics and governance. The BigData Innovators Gathering (BIG) will bring together academic and industry leaders in the big data space to share the state of the art and its successful application in business.

This event will be co-located with WWW conference for the third time. The gathering will consist of keynotes from visionaries in the field, a panel on hot topics, and talks on successes and best practices.

The focus of BIG 2016 is **Big Data on the Web**.

DAY 2 – TUESDAY, APRIL 12 | ROOM 524A

9:00 am – 9:15 am OPENING

» *Mounia Lalmas (Yahoo) and Jian-Yun Nie (University of Montreal)*

9:15 am – 10:00 am KEYNOTE 1 (45 MN)

» *Juliana Freire (New York University) - Exploring Big Urban Data*

10:00 am – 10:30 am INVITED TALK 1 (30 MN)

» *Ronny Lempel (Outbrain) - Know Thy Users: Compiling and Serving the Content Preferences of Outbrain's Users*

10:30 am – 11:00 am BREAK

11:00 am – 11:30 am INVITED TALK 2 (30 MN)

» *Paolo Boldi (University of Milano) - Large-Scale Network Analysis: Diffusion-based Computation of Distances and Geometric Centralities*

11:30 am – 12:30 pm PRESENTATIONS (3 X 20 MN EACH)

» *Chao Deng, Zhancheng Deng, Gao Dan, Jiulin Hu, Gang Song, Yaohong Zhao, Junlan Feng, Zhanye Xiao, Long Xiong, Xuefeng Zhao and Haitao Zeng (China Mobile) - Challenges and Experiences to Derive Big Value from Big Data with an Industrial Big Data System*

» *Konark Modi and Josep M. Pujol (Cliqz) - Data Collection without Privacy Side-Effects*

» *Jeremy Barnes, Nicolas Kruchten and François Maillet (Datacratic) - The Machine Learning Database*

12:30 pm – 1:45 pm	LUNCH
1:45 pm – 2:30 pm	KEYNOTE 2 (45 MN)
	» *Big Data and Deep Learning for AI – Yoshua Bengio (University of Montreal)*
2:30 pm – 3:00 pm	INVITED TALK 3 (30 MN)
	» *Lessons learned from building user-centric big data systems – Xavier Amatriain (Quora)*
3:00 pm – 3:30 pm	INVITED TALK 4 (30 MN)
	» *Bin Shao (Microsoft Research Asia) – Graph engine*
3:30 pm – 4:00 pm	BREAK
4:00 pm – 4:30 pm	INVITED TALK 5 (30 MN)
	» *Learning factual knowledge from web data for Baidu knowledge graph – Zhengyu Niu (Baidu)*
4:30 pm – 5:30 pm	PANEL (60MN)
5:30 pm – 7:00 pm	BIG RECEPTION

IMAGINATION WWW'P

During this session, speakers and presenters will discuss various approaches to the Semantic Web, inspired by one of its precursors, Alfred Jarry, and his "science of imaginary solutions", his use of "clinamen", etc. Some actual Web projects will also be presented for the first time.

It also includes the work of artists, in the way of two performances, who in their own way challenge the general theme.

DAY 1 – MONDAY, APRIL 11

8:30 am – 9:45 am	SESSION 1 │ ROOM 516D
	» *Opening - Tickets sales*
	» *Welcome*
	» *Gleason Théberge - "Graphidéation" and We*
	» *Q&A*
10:15 am – 11:45 am	SHOW MUSIC AND WEB │ ROOM 516D
	» *Andrew Hugill - Show Music and Web*
2:00 pm – 3:30 pm	SESSION 2 │ ROOM 516D
	» *Linda Stillman - Alfred Jarry's Semantics : a web of disambiguation, mirrors, energy, machines, and potential collisions*
	» *Q&A*
	» *Michel Saint-Germain - Pataphysics, General Semantics, and the Web*
	» *Q&A*
	» *Andrew Hugill - Synthesis*
4:00 pm – 5:00 pm	CODE COURONNE – GUIDED VIRTUAL TOUR │ ROOM 516D
	» *Cozic/Claude Frascadore - Code Couronne en Synesthésie – Guided Virtual Tour* *(Translation Michel Saint-Germain)*

8:30 am – 10:45 am   SESSION 3 | ROOM 516D

» *Opening - Tickets sales*

» *Welcome*

» *Francis Gauvin - Inside the Labyrinth : the Web, the semantic "gidouille"*

» *Q&A*

» *Raôul Duguay - The Imaginary : a Fifth Dimension of a Quantum and Semantic Web*

» *Q&A*

1:30 pm – 3:00 pm   SESSION 4 | ROOM 516D

» *Line Mc Murray/Robert Ciesielski - The creative writing and the semantic Web*

» *Q&A*

» *Jim Hendler/Andrew Hugill - Pataphysical Search and the semantic Web*

» *Q&A*

» *Linda Stillman - Synthesis*

3:30 pm – 5:30 pm   SHOW CODE COURONNE EN SYNESTHÉSIE | ROOM 516D

» *Cozic/Claude Frascadore - Code Couronne en Synesthésie – Guided Virtual Tour*
 (Translation Michel Saint-Germain)

» *Q&A*

» *Line Mc Murray - Closing word*

THE OPEN KNOWLEDGE FESTIVAL OF MONTREAL (#OKFESTMTL)

The Open Knowledge Festival of Montreal aims to strengthen networking among open communities in the region of Montreal and in Quebec – practitioners, researchers and interested citizens. It provides a showcase of initiatives that enables discoveries and a feedback area.

DAY 2 – TUESDAY, APRIL 12 | ROOM 524B

8:00 am   WELCOME REGISTRATION | ENTRANCE OF THE ROOM 524B

» *Pre-registration at :* *https://www.eventbrite.ca/e/billets-okfestmtl-12-avril-2016-21035783595*

» *Note : all entrance at 40$ cdn, for the community lunch.*

9:00 am   WELCOME

» *Mot de bienvenue | Éric Bégin*

» *Video : Pavel Richter, CEO de l'Open Knowledge (to confirm)*

» *Discours du WWW2016 (to confirm)*

9:15 am   FLASH PRESENTATIONS AND LOUNGE

» *Documenter les Communs à l'aide des données liées ouvertes | Otis, Yves*

» *La participation des citoyens dans l'utilisation des données ouvertes au niveau municipal Hivon, Julien*

10:00 am   LOUNGE

» *With demonstrations and posters*

10:30 am   FLASH PRESENTATION AND LOUNGE

» *Open Licencing in Practice: Overcoming Challenges and Myths | Knodel, Mallory*

» *Le Calendrier de l'avent du domaine public | Martel, Marie D. ; Plamondon, Josée*

» *Culture ouverte | Alexandre Enkerli*

» *Mot de l'ambassadrice de l'Open Knowledge au Canada | Diane Mercier*

12:00 pm   COMMUNITY LUNCH AND LOUNGE

» *With demonstrations and posters*

1:30 pm FLASH PRESENTATION AND LOUNGE

>> *Présentation des projet de l'OKFN | Diane Mercier*

>> *Logiciels libres, économie collaborative et Web 2.0 | Schallum, Pierre*

>> *R project in the Google Summer of Code | Hocking, Toby*

2:45 pm LOUNGE

>> *With demonstrations and posters*

3:15 pm FLASH PRESENTATION AND LOUNGE

>> *L'appropriation collective de l'informatique libre et vous | Gauthier-Pilote, Mathieu*

>> *Web solidaire et justice cognitive en Afrique francophone | Mboa, Thomas*

4:30 pm CLOSING SESSION | ALEXANDRE ENKERLI

EDU-FICTION 2030 PANEL

7:30 pm

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ORGANIZER

TELUQ, THE DISTANCE LEARNING UNIVERSITY IN QUEBEC

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What will the Web bring? With the assumption that the future is not something we step on but rather the result of projected ideas sustained with effort and work, we have organized an expert panel envisioning higher education scenarios in 2030. For this committed exercise we have invited four renowned academics with different backgrounds to explore socio-economic, technological, pedagogical, and sustainable dimensions of learning in the future. Based on actual trends in open, digital, mobile, and networked learning we will engage in a productive discussion where all participants will be invited to express and imagine together. Come to this panel, listen to the experts and exchange your ideas on hot questions like:

» *How will the evolution of the Web impact learning?*

» *Which will be the role of Higher Education institutions?*

» *How the educational offer will diversify to support the growing demand of learning anytime-anywhere?*

» *How will pervasive learning environments look like?*

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PANELISTS

» *Jutta Treviranus, Professor at the Ontario College of Art and Design University (OCADU) in Toronto, Canada, and Director and Founder of the Inclusive Design Research Centre*

» *Jean-Philippe Bradette, CTDP, CRHA, Vice-President, Learning Strategies at Ellicom, a Montreal-based company in e-Learning and Training*

» *Diane-Gabrielle Tremblay, Professor of Human Resources Management at TÉLUQ, Research Chair Canada on socio-economic challenges of the knowledge economy*

» *Rick Cummings, Professor and Acting Director of the Centre for University Teaching and Learning at Murdoch University, Australia.*

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MODERATOR

» *Marcelo Maina, Professor of Educational Technology at TÉLUQ, member of Edull@ab, Open University of Catalunya, Spain.*

SPECIAL EVENTS

WWW DEVELOPERS DAY 2016

MONDAY, APRIL 11 | ROOM 524A, 524B

9:00 am – 5:30 pm

ORGANIZER

ANDREI SAMBRA – MIT, USA

OSHANI SENEVIRATNE – ORACLE, USA

LALANA KAGAL – MIT, USA

» *BotOrNot: A system to evaluate social bots*
  Clayton Allen Davis (Indiana University); Onur Varol (Indiana University); Emilio Ferrara (Information
  Sciences Institute, University of Southern California); Alessandro Flammini (Indiana University);
  Filippo Menczer (Indiana University)

» *Capturing and Annotating Processes using a Collaborative Platform*
  Tobias Weller (Karlsruher Institute of Technology); Maria Maleshkova (AIFB, Karlsruhe Institute of Technology)

» *Skos-history: Exploiting Web Standards for Change Tracking in Knowledge Organization Systems*
  Joachim Neubert (ZBW Leibniz Information Centre for Economics)

» *A Payment Protocol of the Web, for the Web (Or, Finally Enabling Web Micropayments with the
  Interledger Protocol)*
  Evan Schwartz (Ripple)

» *Context-based A/B test validation*
  Michael Nolting (Sevenval Technologies GmbH); Jan Eike von Seggern (Sevenval Technologies GmbH)

» *Interledger: Creating a Standard for Payments*
  Stefan Thomas (Ripple); Adrian Hope-Bailie (Ripple)

WWWAFRICA 2016

This special event of WWW2016 has three main objectives: 1) provide a meeting platform for African web developers and researchers; 2) stimulate the development of e-Gov, e-Health, e-Education and Smart-cities via the link between African web actors and deciders in African countries; 3) stimulate the research publication on web related topics to African issues and help African scientists access to world-class conferences.

TUESDAY, APRIL 12 | ROOM 524C

9:00 am – 9:30 am   OPENING CEREMONY

9:30 am – 10:30 am   INVITED TALK

10:30 am – 11:00 am   BREAK

11:00 am – 12:30 pm   MORNING SESSION ON E-EDUCATION

» *Amine Berqia : Li-Fi the future of Mobile Learning*

» *Kameni Homte Jaures Styve, Batchakui Bernabe, Tangha Claude and Nkambou Roger : A semantic search engine of web content for educational purposes*

» *Armel Ayimdji Tekemetieu and Souleymane Koussoube : Contextual Concepts in Description Logics Based Ontologies*

» *Komi Sodoké and Angelo de Souza : Toward an innovative blended learning platform for Africa*

» *Edith Belise Kenmogne : A context-aware and hybrid recommender algorithm adapted to e-learning for African environments*

12:30 pm – 2:00 pm   LUNCH

2:00 pm – 3:30 pm   AFTERNOON SESSION ON E-HEALTH

» *Ahmed Moussa : Enabling Bioinformatics and health informatics Skills in Africa*

» *Alain Tiedeu and Christian Menyeng : Network architecture for remote healthcare delivery*

» *Alain Tiedeu and Yannick Abanda : E-medicine: a secure transmission of electrocardiograms using chaos synchronization*

» *Moussa Lo, Gaoussou Camara, Al Hassim Diallo, Jacques-Noël Tendeng and Seynabou Lo :*
Towards a National

» *Medical Information System for Senegal (SIMENS)*

» *Pasteur Poda : Situation-aware e-Steering Design for African Parliaments*

3:30 pm – 4:00 pm	**BREAK**
4:00 pm – 6:00 pm	PUBLIC PANEL ON WEB TECHNOLOGY IN AFRICA
8:00 pm – 11:00 pm	SOCIAL EVENT

TUTORIALS

MONDAY **APRIL 11**

COMPUTATIONAL SOCIAL SCIENCE FOR THE WORLD WIDE WEB | ROOM 519A

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

PRESENTERS

MARKUS STROHMAIER, UNIVERSITY OF KOBLENZ-LANDAU

CLAUDIA WAGNER, LEIBNIZ INSTITUTE FOR THE SOCIAL SCIENCES

LUCA AIELLO, UNIVERSITY OF TORINO

INGMAR WEBER, QATAR COMPUTING RESEARCH INSTITUTE

ABSTRACT

Due to the increasing availability of large-scale data on human behavior collected on the social web, as well as advances in analyzing larger and larger data sets, interest in applying computer science methods to address research questions in the social sciences continues to grow. "Big Data" researchers and "Data Scientists" entering the interdisciplinary field of Computational Social Science (CSS) often lack background in theories and methods in sociology, whereas sociologists are often not aware of cutting edge advances in computational methods. This tutorial helps to bridge this gap by providing an introduction to statistical and computational methods that are useful for addressing typical social science research questions with observational data (that can e.g. be found on the Web) and to social theories and models that help to understand the process that generated the data. The goal of this tutorial is to give participants a rich repertoire of methods that help to answer not only interesting "how" questions but also more fundamental "why" questions.

The tutorial will run as a full-day event that is divided into two main parts: first we will focus on challenges for empirical computational social scientist and will present state of the art methods that help to address problems such as self-selection bias and non-representativeness. We will also discuss how construct validity can be ensured when working with low-level signals such as clickstreams or tweets. In the second part we will focus on social theories and models that can be used to complement and enrich data-driven research. The goal is to give participants an overview about different theories and models that are relevant in this field and show them how to incorporate theoretical assumptions about the data generation process into a model that can be validated against data.

CENTRALITY MEASURES ON BIG GRAPHS: EXACT, APPROXIMATED, AND DISTRIBUTED ALGORITHMS | ROOM 519B

9:00 am – 12:30 pm

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PRESENTERS

FRANCESCO BONCHI, ISI FOUNDATION

GIANMARCO DE FRANCISCI MORALES, QATAR COMPUTING RESEARCH INSTITUTE

MATTEO RIONDATO, TWO SIGMA INVESTMENTS

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ABSTRACT

Centrality measures allow to measure the relative importance of a node or an edge in a graph w.r.t. other nodes or edges. In this tutorial, we survey the different definitions of centrality measures and the algorithms to compute them. We start from the most common measures (e.g., closeness centrality, betweenness centrality) and move to more complex ones, like spanning-edge centrality. In our presentation, we begin from exact algorithms and then move to approximation algorithms, including sampling-based ones, and to highly-scalable MapReduce algorithms for huge graphs, both for exact computation and for keeping the measures up-to-date on dynamic graphs where edges are inserted or deleted over time. Our goal is to show how advanced algorithmic techniques and scalable systems can be used to obtain efficient algorithms for important graph mining tasks, and to encourage research in the area by highlighting open problems and possible directions.

A mini-website for the tutorial is available at http://matteo.rionda.to/centrtutorial/.

CRYPTOGRAPHIC CURRENCIES CRASH COURSE | ROOM 519B

2:00 pm – 5:30 pm

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PRESENTERS

ALJISHA JUDMAYER, SBA RESEARCH

EDGAR WEIPPL, SBA RESEARCH

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ABSTRACT

This tutorial aims to further close the gap between IT security research and the area of cryptographic currencies and block chains. We will describe and refer to Bitcoin as an ex- ample throughout the tutorial, as it is the most prominent representative of a such a system. It also is a good reference to discuss the underlying block chain mechanics which are the foundation of various altcoins (e.g. Namecoin) and other derived systems. In this tutorial, the topic of cryptographic currencies is solely addressed from a technical IT security point-of-view. Therefore we do not cover any legal, sociological, financial and economical aspects. The tutorial is designed for participants with a solid IT security background but will not assume any prior knowledge on cryptographic currencies. Thus, we will quickly advance our discussion into core aspects of this field.

TUESDAY **APRIL 12**

BUILDING DECENTRALIZED APPLICATIONS FOR THE SOCIAL WEB | ROOM 519A

9:00 am – 5:30 pm

PRESENTERS

ANDREI SAMBRA, MIT/W3C

AMY GUY, UNIVERSITY OF EDINBURGH/MIT

SARVEN CAPADISLI, UNIVERSITY OF BONN/MIT

NICOLA GRECO, MIT

ABSTRACT

Recent advancements in technologies and protocols mean that it is easier than ever to integrate social features into diverse web applications, and increased awareness of privacy concerns means that it is pertinent to consider empowerment of application users when doing so. Many developers are already familiar with the notion of personal data stores; this tutorial will demonstrate how to access or provide such stores for users, and build simple web applications which read and write to the storage whilst remaining completely decoupled from it. This advantages developers in two ways: by removing the burden of storing and maintaining a canonical copy of user data; and by enabling access to and ease of integration with data created through other applications, creating richer, seamless experiences. From the application users' perspective, they need no longer commit and become bound to particular services, but can mix, match and move between those that best meet their needs.

We will introduce Solid, a set of protocols based on existing W3C recommendations, for reading, writing and access control of the contents of a personal data store, which can be layered up in order to integrate various social features into new or existing web applications. Attendees will leave with an understanding of Solid and how different parts of the protocols can work together, and having written some code to implement the parts that interest them most. They will also have hands on experience with existing libraries and tooling to facilitate working with the Solid protocols. Those who stay for the full day will have an opportunity to build a small but complete web application with decentralized social features, and to collaborate with others to see the advantages of sharing data between multiple applications.

MINING BIG TIME-SERIES DATA ON THE WEB | ROOM 519B

9:00 am – 12:30 pm

PRESENTERS

YASUSHI SAKURAI, KUMAMOTO UNIVERSITY

YASUKO MATSUBARA, KUMAMOTO UNIVERSITY

CHRISTOS FALOUTSOS, CARNEGIE MELLON UNIVERSITY

ABSTRACT

Online news, blogs, SNS and many other Web-based services has been attracting considerable interest for business and marketing purposes. Given a large collection of time series, such as web-click logs, online search queries, blog and review entries, how can we efficiently and effectively find typical time-series patterns? What are the major tools for mining, forecasting and outlier detection? Time-series data analysis is becoming of increasingly high importance, thanks to the decreasing cost of hardware and the increasing on-line processing capability.

The objective of this tutorial is to provide a concise and intuitive overview of the most important tools that can help us find meaningful patterns in large-scale time-series data. Specifically we review the state of the art in three related fields: (1) similarity search, pattern discovery and summarization, (2) non-linear modeling and forecasting, and (3) the extension of time-series mining and tensor analysis. We also introduce case studies that illustrate their practical use for social media and Web-based services.

AUTOMATIC ENTITY RECOGNITION AND TYPING IN MASSIVE TEXT CORPORA | ROOM 521ABC

9:00 am – 12:30 pm

PRESENTERS

XIANG REN, UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, URBANA

AHMED EL-KISHKY, UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, URBANA

CHI WANG, MICROSOFT RESEARCH

JIAWEI HAN, MICROSOFT RESEARCH

ABSTRACT

In today's computerized and information-based society, we are soaked with vast amounts of natural language text data, ranging from news articles, product reviews, advertisements, to a wide range of user-generated content from social media. To turn such massive unstructured text data into actionable knowledge, one of the grand challenges is to gain an understanding of entities and the relationships between them. In this tutorial, we introduce data-driven methods to recognize typed entities of interest in different kinds of text corpora (especially in massive, domain-specific text corpora). These methods can automatically identify token spans as entity mentions in text and label their types (e.g., people, product, organization) in a scalable way. We demonstrate on real datasets including news articles and yelp reviews how these typed entities aid in knowledge discovery and management.

2:00 pm – 5:30 pm

PRESENTERS

PHILIPP SINGER, LEIBNIZ INSTITUTE FOR THE SOCIAL SCIENCES GESIS

FLORIAN LEMMERICH, LEIBNIZ INSTITUTE FOR THE SOCIAL SCIENCES GESIS

ABSTRACT

The World Wide Web is an information environment that facilitates sequential user behavior between states. A prime example for that is the navigation of users between websites enabled through the presence of hyperlinks. However, today, we can think of many other kinds of transitional behavior that many of us perform on a daily base. For instance, if users listen to music on Spotify, they transition between songs, or when users check-in at locations on Foursquare they transition between geocoordinates, or when users write reviews on Amazon they transition between products.

To that end, we consider all kinds of transitions between states as sequences on the Web. States can refer to any kind of categorical action performed, such as the ones listed. Our research community has been interested in studying such sequences in various contexts such as (i) modeling, (ii) the detection of regularities and patterns or (iii) the understanding of the production of underlying sequences (e.g., cognitive strategies). Recent research heavily focused on studying human navigation on the Web, but also other types of transition data have sparked the interest of researchers such as mobility sequences, search sequences or song listening sequences. In this tutorial we will give an outline of the fundamental methods of analyzing such categorical sequences on the Web and discuss some recent advancements in-depth.

WORKSHOPS

MONDAY **APRIL 11**

#MICROPOSTS2016 – THE 6TH "MAKING SENSE OF MICROPOSTS" WORKSHOP | ROOM 520F

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

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ORGANIZERS

ABA-SAH DADZIE

AMPARO E. CANO

DANIEL PREOTIUC-PIETRO

DANICA RADOVANOVIC

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» *ClaimFinder: A Framework for Identifying Claims in Microblogs*
  Wee Yong Li, Mong Li Lee and Wynne Hsu

» *Birds of a Feather also Tweet: Computational Techniques to Understand User Communities in Social Networks*
  David Burth Kurka, Alan Godoy and Fernando J. Von Zuben

» *Comparing Social Media and Traditional Surveys Around the Boston Marathon Bombing*
  Cody Buntain

» *Estimating the influence of elites in U.S. political Twitter debates*
  Sebastian Stier

» *CEOs on Twitter*
  Alex Jeongwoo Oh

» *Invited Talk by Mihajlo Grbovic (Yahoo Labs)*

8ᵀᴴ WEB INTELLIGENCE AND COMMUNITIES WORKSHOP | ROOM 520B

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

ORGANIZERS

RAJENDRA AKERKAR

PIERRE MARET

LAURENT VERCOUTER

» *Web Communities in Big Data Era. Editorial*
   Pierre Maret, Rajendra Akerkar and Laurent Vercouter

» *Enriching how-to guides by linking actionable phrases*
   Nikolaos Lagos, Alexandr Chernov, Matthias Gallé and Agnes Sandor

» *Detection of Multiple Identity Manipulation in Collaborative Projects*
   Zaher Yamak, Laurent Vercouter and Julien Saunier

» *Ontological Networks: Mapping Ontological Knowledge Bases into Graphs*
   Lucas Navarro, Estevam Hruschka Junior and Ana Paula

» *StarrySky: A Practical System to Track Millions of High-Precision Query Intents*
   Qi Ye, Feng Wang and Bo Li

LINKED LEARNING 2016: 6ᵀᴴ INTERNATIONAL WORKSHOP ON LEARNING AND EDUCATION WITH THE WEB OF DATA (#LILE2016) | ROOM 520D

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

ORGANIZERS

STEFAN DIETZE

MATHIEU D'AQUIN

EELCO HERDER

DRAGAN GASEVIC

» *Linking Online Identities and Content in Connectivist MOOCs across Multiple Social Media Platforms*
   Rafa Absar, Anatoliy Gruzd, Caroline Haythornthwaite and Drew Paulin

» *Correlational analysis between school performance and municipal indicators in Brazil supported by linked open data*
   Bruno E. Penteado

» *Competency Based Learning in the Web of Learning Data*
   Guillaume Durand, Nabil Belacel and Cyril Goutte

» *Workload Study of a Media-Rich Educational Web Site*
  Yang Liu and Carey Williamson

» *Metadata Extraction from Open edX Online Courses Using Dynamic Mapping of NoSQL Queries*
  Dmitry Mouromtsev, Aleksei Romanov, Dmitry Volchek and Fedor Kozlov

» *Prerequisite Concept Maps Extraction for Automatic Assessment*
  Shuting Wang and Lei Liu

» *Embedded markups of learning resources on the Web: a quantitative analysis of the use of LRMI properties*
  Davide Taibi, Stefan Dietze

2016 WORKSHOP ON "SEMANTICS, ANALYTICS AND VISUALISATION:ENHANCING SCHOLARLY DATA" (SAVE-SD 2016) | ROOM 518A

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

. . . .

ORGANIZERS

ALEJANDRA GONZALEZ-BELTRAN

FRANCESCO OSBORNE

SILVIO PERONI

. . . .

FULL RESEARCH PAPERS

» *Detection of Embryonic Research Topics by Analysing Semantic Topic Networks*
  Angelo Salatino and Enrico Motta

» *Semantic User Profiles: Learning Scholars' Competences by Analyzing their Publications*
  Bahar Sateli, Felicitas Löffler, Birgitta König-Ries and René Witte

» *Knowledge Extraction and Modeling from Scientific Publications*
  Francesco Ronzano and Horacio Saggion

» *Scholarly Data Forest*
  Marko Požega, Dario Poljak and Kristina Kocijan Building

» *Semantic Publishing Challenge: Bootstrapping a Value Chain for Scientific Data*
  Sahar Vahdati, Anastasia Dimou, Christoph Lange and Angelo Di Iorio

» *A framework for keyphrase extraction from scientific journals*
  Vidas Daudaravicius

POSITION PAPERS

» *Citation functions for knowledge export - a question of relevance, or, can CiTO do the trick?*
   Joakim Philipson

» *Analysing Structured Scholarly Data Embedded in Web Pages*
   Pracheta Sahoo, Ujwal Gadiraju, Ran Yu, Sriparna Saha and Stefan Dietze

POSTER AND DEMO PAPERS

» *From Papers to Triples: An Open Source Workflow for Semantic Publishing Experiments*
   Bahar Sateli and René Witte

» *Text mining of related events from natural science literature*
   Erwin Marsi and Pinar Øzturk

» *OpenAIRE LOD services: Scholarly Communication Data as Linked Data*
   Giorgos Alexiou, Sahar Vahdati, Christoph Lange, George Papastefanatos and Steffen Lohmann

» *A Typology of Semantic Relations Dedicated to Scientific Literature Analysis*
   Kata Gábor, Haïfa Zargayouna, Isabelle Tellier, Davide Buscaldi and Thierry Charnois

» *Dynamic Visualization of Citation Networks Showing the Influence of Scholarly Fields Over Time*
   Jason Portenoy and Jevin West

» *A Model for Content Enrichment of Institutional Repositories Using Linked Data*
   Vinit Kumar and Devika P. Madalli

LOCWEB 2016 – SIXTH INTERNATIONAL WORKSHOP ON LOCATION AND THE WEB | ROOM 520C

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

ORGANIZERS

DIRK AHLERS

ERIK WILDE

BRUNO MARTINS

» *Context-Aware Friend Recommendation for Location Based Social Networks using Random Walk*
   Hakan Bagci and Pinar Karagoz

» *Maps for HTML: A New Media Type and Prototype Client for Web Mapping*
   Peter Rushforth

» *Discovering and Explaining Mobility Patterns in Urban Spaces: A Study of Manhattan Taxi Data*
   Lisette Espín-Noboa, Florian Lemmerich, Philipp Singer and Markus Strohmaier

Q4APS2016 – QUESTION ANSWERING AND ACTIVITY ANALYSIS IN PARTICIPATORY SITES | ROOM 518B

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

....

ORGANIZERS

PHILIPP CIMIANO

JEAN-MICHEL DALLE

FABIEN GANDON

....

» *Enriching Topic Modelling with Users' histories for Improving Tag Prediction in Q&A Systems*
   Johan Loeckx and Glenn Boudaer

» *Which Answer is Best? Predicting Accepted Answers in MOOC Forums*
   Maximilian Jenders, Ralf Krestel and Felix Naumann

» *Identifying user issues and request types in forum question posts based on discourse analysis*
   Ágnes Sándor, Nikolaos Lagos, Ngoc-Phuoc-An Vo and Caroline Brun

» *OCKTOPUS: an overview*
   Jean-Michel Dalle, Catherine Faron-Zucker , Fabien Gandon, Mathieu Lacage and Zide Meng

» *Using Semantics to Search Answers for Unanswered Questions in Q&A Forums*
   Priyanka Singh

» *Structural Normalisation Methods for Improving Best Answer Identification in Question Answering Communities*
   Gregoire Burel, Paul Mulholland, Harith Alani

» *Question Answering on Linked Data: Challenges and Future Directions*
   Saeedeh Shekarpour Knoesis, Denis Lukovnikov, Ashwini Jaya Kuma, Kemele M. Endris, Kuldeep Singh,
   Harsh Thakkar, Christoph Lange

6TH INTERNATIONAL WORKSHOP ON USAGE ANALYSIS AND THE WEB OF DATA: THE DIVERSE ECOSYSTEM OF WEB OF DATA ACCESS MECHANISMS | ROOM 518C

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

ORGANIZERS

BETTINA BERENDT

LAURA HOLLINK

MARKUS LUCZAK-ROESCH

» *Current directions for Usage Analysis and the Web of Data: The diverse ecosystem of Web of Data access mechanisms*

Markus Luczak-Roesch, Laura Hollink and Bettina Berendt

» *What public transit API logs tell us about travel flows*

Pieter Colpaert, Alvin Chua, Ruben Verborgh, Erik Mannens, Rik Van de Walle and Andrew Vande Moere

» *Modeling Complex Clickstream Data by Stochastic Models: Theory and Methods*

Choudur Lakshminarayan, Ram Kosuru and Meichun Hsu

» *Embedded metadata and the digital lifecycle of images: methodological challenges*

Nathalie Casemajor

THE 4RD INTERNATIONAL WORKSHOP ON THE THEORY AND PRACTICE OF SOCIAL MACHINES | ROOM 520A

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

ORGANIZERS

DOMINIC DIFRANZO

RAMINE TINATI

KEVIN PAGE

THANASSIS TIROPANIS

ELENA SIMPERL

NIGEL SHADBOLT

» *Exploring Cooperation with Social Machines*

Sally A. Applin and Michael D. Fischer

» *Model of an Individual in Social Machines*

Sindhu Kiranmai Ernala, Shivani Poddar, Navjyoti Singh and Ashin Samvara. Towards a Ubiquitous

» *Privacy Languages: Are we there yet to enable user controls?*

Jun Zhao, Reuben Binns, Max Van Kleek and Nigel Shadbolt

» *Going Meta: Norm Formation and Enactment on the Stack Exchange Network*
Paul Matthews

» *Observlets: Empowering Analytical Observations on Web Observatory*
Aastha Madaan, Tiropanis Thanassis, Srinath Srinivasa and Wendy Hall

» *Towards an Understanding of Smart Cities As Social Machines*
Dirk Ahlers

» *Using the SPENCE model of online/offline community to analyse sociality of social machines*
Caroline Halcrow, Leslie Carr and Susan Halford

» *The Use of Trust in Social Machines*
Arpit Merchant, Tushant Jha and Navjyoti Singh

WORKSHOP ON EMPIRICAL RESEARCH METHODS IN INFORMATION SECURITY | ROOM 520E

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

ORGANIZERS

EDGAR WEIPPL

MICHAEL HUTH

MARTIN GILJE JAATUN

LOTFI BEN OTHMANE

» *Longitudinal study of the use of client-side security mechanisms on the European Web*
Ping Chen (KU Leuven); Lieven Desmet (KU Leuven); Christophe Huygens (KU Leuven); Wouter Joosen (KU Leuven)

» *TLScompare: Crowdsourcing Rules for HTTPS Everywhere*
Wilfried Mayer (SBA Research); Martin Schmiedecker (SBA Research)

» *A Work-Flow for Empirical Exploration of Security Events*
Martin Pirker (St.Pölten University of Applied Sciences); Andreas Nusser (St.Pölten University of Applied Sciences)

» *Ettu: Analyzing Query Intents in Corporate Databases*
Gökhan Kul (State University of New York at Buffalo); Duc Luong (State University of New York at Buffalo); Ting Xie (State University of New York at Buffalo); Patrick Coonan (State University of New York at Buffalo); Varun Chandola (State University of New York at Buffalo); Oliver Kennedy (State University of New York at Buffalo); Shambhu Upadhyaya (State University of New York at Buffalo)

» *Empirical Malware Research*
Stefan Marschalek; Manfred Kaiser; Robert Luh;Sebastian Schrittwieser

» *Chains of Distrust: Towards Understanding Certificates Used for Signing Malicious Applications*
Omar Alrawi; Aziz Mohaisen

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

ORGANIZERS

LEONIDAS ANTHOPOULOS

VISHANTH WEERAKKODY

MARIJN JANSSEN

» *SMARTBUS: A Web Application for SMART Urban Mobility and Transportation*
   Sudha Ram, Yun Wang, Faiz Currim,Fan Dong, Ezequiel, Luiz Alberto Sabóia

» *Technological Ecosystems' Role in Preventing Neo-Feudalism in Smart-City Informatization*
   Alois Paulin

» *Smart City and Smart Government: Synonymous or Complementary?*
   Leonidas Anthopoulos and Christopher G. Reddick

» *Smart Cities in China: A Review and the Case of Dream Town in the City of Hangzhou*
   Iraklis Argyriou

» *Smart City Planning: Integrating Data and Tools*
   João Pedro Gouveia, Júlia Seixas and George Giannakidis

» *Smart Service Portfolios: do the Cities Follow Standards?*
   Leonidas Anthopoulos, Marijn Janssen and Vishanth Weerakkody

TUESDAY **APRIL 12**

6ᵀᴴ TEMPORAL WEB ANALYTICS WORKSHOP (TEMPWEB) | ROOM 518A

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

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ORGANIZERS
MARC SPANIOL
RICARDO BAEZA-YATES
JULIEN MASANES

....

» *Temponym Tagging: Temporal Scopes for Textual Phrases*
Erdal Kuzey, Jannik Strötgen, Vinay Setty and Gerhard Weikum

» *Towards a distributed infrastructure for evolving graph analytics*
Vera Moffitt and Julia Stoyanovich

» *A First Study on Temporal Dynamics of Topics on the Web*
Aécio Santos, Bruno Pasini, Juliana Freire

» *Predictive Analysis of Temporal and Overlapping Community Structures in Social Media*
Mohsen Shahriari, Stephen Guneshekar, Marven von Domarus and Ralf Klamma

» *DynamoGraph: A Distributed System for Large-scale, Temporal Graph Processing, its Implementation and First Observations*
Matthias Steinbauer, Gabriele Anderst-Kotsis

» *Temporal Analytics for Predictive Cyber Threat Intelligence*
Staffan Truvé

9ᵀᴴ INTERNATIONAL WORKSHOP ON LINKED DATA ON THE WEB (LDOW2016) | ROOM 520F

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

....

ORGANIZERS
CHRISTIAN BIZER
TIM BERNERS-LEE
SÖREN AUER
TOM HEATH

....

» *Annalist: A practical tool for creating, managing and sharing evolving linked data*
Graham Klyne, Cerys Willoughby and Kevin Page

» *Assessing Quantity and Quality of Links Between Link Data Datasets*
Ciro Baron Neto, Dimitris Kontokostas and Sebastian Hellmann

» ***Automated Metadata Generation for Linked Data Generation and Publishing Workflows***
Anastasia Dimou, Tom De Nies, Ruben Verborgh, Erik Mannens and Rik Van de Walle

» ***Complex Schema Mapping and Linking Data: Beyond Binary Predicates***
Jacobo Rouces, Gerard de Melo and Katja Hose

» ***Discovering Spatial and Temporal Links among RDF Data***
Panayiotis Smeros and Manolis Koubarakis

» ***Improving Link Specifications using Context-Aware Information***
Andrea Cimmino, Carlos R. Rivero and David Ruiz

» ***KnowledgeWiki: An OpenSource Tool for Creating Community-Curated Vocabulary, with a Use Case in Materials Science***
Nishita Jaykumar, Pavankalyan Yallamelli, Vinh Nguyen, Sarasi Lalithsena, Krishnaprasad Thirunarayan, Amit Sheth and Clare Pau

» ***Publish and Subscribe for RDF in Enterprise Value Networks***
Marvin Frommhold, Natanael Arndt, Sebastian Tramp and Niklas Petersen

» ***R2RML-F: Towards Sharing and Executing Domain Logic in R2RML Mappings***
Christophe Debruyne and Declan O'Sullivan

» ***Requirements on Linked Data Consumption Platform***
Jakub Klímek, Petr Škoda and Martin Ne aský

» ***Semantic Hadith: Leveraging Linked Data Opportunities for Islamic Knowledge***
Amna Basharat, Bushra Abro, I. Budak Arpinar and Khaled Rasheed

» ***Structured Feedback: A Distributed Protocol for Feedback and Patches on the Web of Data***
Natanael Arndt, Kurt Junghanns, Roy Meissner, Philipp Frischmuth, Norman Radtke, Marvin Frommhold and Michael Martin

» ***Towards Cache-Enabled, Order-Aware, Ontology-Based Stream Reasoning Framework***
Rui Yan, Brenda Praggastis, William P. Smith and Deborah L. McGuinness

» ***Towards a Collaborative Process Platform: Publishing Processes according to the Linked Data Principles***
Tobias Weller and Maria Maleshkova

BIGSCHOLAR THE THIRD WWW WORKSHOP ON BIG SCHOLARLY DATA: TOWARDS THE WEB OF SCHOLARS | ROOM 518B

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

. . . .

ORGANIZERS

FENG XIA

HUAN LIU

IRWIN KING

KUANSAN WANG

. . . .

» *AceMap: A Novel Approach towards Displaying Relationship among Academic Literatures*
Zhaowei Tan, Changfeng Liu, Yuning Mao, Yunqi Guo, Jiaming Shen and Xinbing Wang

» *Citation Distance: Measuring Changes in Scientific Search Strategies*
Ryan Whalen, Yun Huang, Craig Tanis, Anup Sawant, Brian Uzzi and Noshir Contractor

» *Tracing and Predicting Collaboration for Junior Scholars*
Chun-Hua Tsai and Yu-Ru Lin

» *Babel: A platform for facilitating research in scholarly article discovery*
Ian Wesley-Smith and Jevin West

» *A Query-oriented Approach for Relevance in Citation Networks*
Luam Totti, Prasenjit Mitra, Mourad Ouzzani and Mohammed Zaki

» *Get To the Top and Stay There: A Study of Citation Rank Dynamics in Academia*
Yan Wu, Srini Venkat and Dah Ming Chiu

» *H-index Sequences across Fields: A Comparative Analysis*
Marlies Olensky, Tsung-Han Tsai and Kuan-Ta Chen

» *Backward Chaining Ontology Reasoning System with Custom Rules*
Hui Shi, Kurt Maly, Dazhi Chong and Gongjun Yang

» *Research Collaborations in Multidisciplinary Institutions – a Case Study of iSchools*
Zhiya Zuo, Xi Wang, David Eichmann and Kang Zhao

» *VizioMetrix: A Platform for Analyzing the Visual Information in Big Scholarly Data*
Po-Shen Lee, Jevin West and Bill Howe

» *CocaRank: A Collaboration Caliber-based Method for Finding Academic Rising Stars*
Jun Zhang, Feng Xia, Wei Wang, Xiaomei Bai, Shuo Yu, Teshome Megersa Bekele and Zhong Peng

» *Investigations on Rating Computer Sciences Conferences*
Suhendry Effendy and Roland Yap

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

. . . .

ORGANIZERS

JACQUELINE BOURDEAU

IRWIN KING

BEBO WHITE

. . . .

» *Keynote by Dame Wendy Hall*

» *Turning Down the Noise in Classrooms*
  Pinar Yanardag and Mariheida Cordova Sanchez

» *A Quantitative Analysis of the Most Relevant Gamification Elements in an Online Learning Environment*
  Sivaldo de Santana, Hugo Souza, Victor Florentin, Ranilson Paiva, Ig Bittencourt and Seiji Isotani

» *Scalable Monitoring of Student Interaction Indicators in Exploratory Learning Environments*
  Sergio Gutierrez Santos, Stefano Capuzzi, Ken Kahn, Sokratis Karkas and Alexandra Poulovassilis

» *Towards Qualitative Insights for Visualizing Student Engagement in Web-based Learning Environments*
  Rubiela Carrillo-Rozo, Elise Lavoué and Yannick Prié

» *BBookX: Design of an Automated Web-based Recommender System for the Creation of Open Learning Content*
  Bart Pursel, Chen Liang, Shuting Wang, Zhaohui Wu, Kyle Williams, Benjamin Brautigam, Sherwyn Saul,
  Hannah Williams, Kyle Bowen and ;C. Lee Giles

» *STI-DICO : a Web-Based System for Intelligent Tutoring of Dictionary Skills*
  Alexandra Luccioni, Roger Nkambou, Jacqueline Bourdeau, Claude Coulombe

» *Trust-aware Peer Assessment using Multi-armed Bandit Algorithms*
  Hou Pong Chan, Tong Zhao and Irwin King

» *The Web and Web science, Education and Learning sciences: where do they meet?*
  Wendy Hall, Huayu Wu and Gee Wiz

» *Sample Title Only: A Generalised Cross-Modal Clustering Method Applied to Multimedia News Semantic
  Indexing and Retrieval*
  Anthony Messina and Monty Agunaldo

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PANEL: EVALUATING EDUCATIONAL SOFTWARE IN THE WEB ERA

PANELISTS

JUTTA TREVIRANUS, **JEAN-PHILIPPE BRADETTE**, **IRWIN KING** AND **BEVERLY WOOLF**

MODERATOR

IRINA MUHINA, PHD,TORONTO-BASED ANALYTICAL–CONSULTANT AND KNOWLEDGE ARCHITECT

SNOW 2016: THIRD WORKSHOP ON SOCIAL NEWS ON THE WEB | ROOM 520A

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

ORGANIZERS

GIANMARCO DE FRANCISCI MORALES

LUCA MARIA AIELLO

SYMEON PAPADOPOULOS

HAEWOON KWAK

» *Employing Robot Journalists: Legal Implications, Considerations and Recommendations*
   Pieter-Jan Ombelet, Aleksandra Kuczerawy, and Peggy Valcke

» *Hoaxy: A Platform for Tracking Online Misinformation*
   Chengcheng Shao, Giovanni Luca Ciampaglia, Alessandro Flammini, and Filippo Menczer

» *For Your Eyes Only: Consuming vs. Sharing Content*
   Ram Meshulam and Roy Sasson

» *Predicting News Popularity by Mining Online Discussions*
   Georgios Rizos, Symeon Papadopoulos, and Yiannis Kompatsiaris

» *Understanding the Competitive Landscape of News Providers on Social Media*
   Sudha Ram and Devipsita Bhattacharya

» *Veracity and Velocity of Social Media Content during Breaking News: Analysis of November 2015 Paris Shootings*
   Stefanie Wiegand and Stuart Middleton

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

. . . .

ORGANIZERS

SIDDHARTH SURI

WINTER MASON

DAN GOLDSTEIN

. . . .

» *Design-based Adaptive experimentation*
   Eytan Bakshy, Drew Dimmery and John Myles White

» *Tweetment Effects on the Tweeted: Social Norm Promotion on Online Harassers*
   Kevin Munger

» *TurkServer*
   Andrew Mao

» *Guess the Karma: Predicting popularity on Reddit*
   Greg Stoddard

» *Response validity in crowdsourcing studies: An empirical investigation into sources of noise*
   Patrick McKnight, Jacob Quartuccio, Michele Saad and David Nicholas

» *Disentangling the Effects of Social Signals in Crowdsourcing*
   Tad Hogg and Kristina Lerman

7TH INTERNATIONAL WORKSHOP ON MODELING SOCIAL MEDIA: BEHAVIORAL ANALYTICS ON THE WEB (MSM 2016) | ROOM 520B

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

. . . .

ORGANIZERS

MARTIN ATZMUELLER

ALVIN CHIN

CHRISTOPH TRATTNER

. . . .

» *Recommending Sellers to Buyers in Virtual Marketplaces Leveraging Social Information*
Lukas Eberhard and Christoph Trattner

» *Perceived Task Similarities for Task Recommendation in Crowdsourcing Systems*
Steffen Schnitzer, Svenja Neitzel, Sebastian Schmidt and Christoph Rensing

» *A Joint Model for Who-to-Follow and What-to-View Recommendations on Behance*
Maja Rudolph

» *Wikipedia and Stock Return: Wikipedia usage pattern helps to predict the individual stock movement*
Pengyu Wei and Ning Wang

» *DASHTrails: Distribution-Based Analysis of Sequential Hypotheses and Trails*
Martin Atzmueller, Andreas Schmidt and Mark Kibanov

» *Geography of Emotion: Where in a City are People Happier?*
Luciano Heitor Gallegos Marin, Kristina Lerman, Arthur Huang and David Garcia

» *Personality Traits and the Relationship with (Non-)Disclosure Behavior on Facebook*
Bruce Ferwerda, Markus Schedl and Mark Tkalcic

» *Privacy Behaviour and Profile Configuration in Twitter*
Taraneh Khazaei, Lu Xiao, Robert Mercer and Atif Khan

THE 2ND INTERNATIONAL WORKSHOP ON NATURAL LANGUAGE PROCESSING FOR INFORMAL TEXT (NLPIT 2016) | ROOM 520D

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

. . . .

ORGANIZERS

MENA HABIB

FLORIAN KUNNEMAN

MAURICE VAN KEULEN

. . . .

» *Pattern-based Unsupervised Induction of Yoruba Morphology*
  Tunde Adegbola

» *A test suite for evaluating POS taggers across varieties of English*
  Anna Jørgensen and Anders Søgaard

» *HDPauthor: A New Hybrid Author-Topic Model using Latent Dirichlet Allocation and Hierarchical Dirichlet Processes*
  Ming Yang and William Hsu

» *Lexical Normalization of Spanish Tweets*
  Jhon Adrián Cerón-Guzmán and Elizabeth León-Guzmán

» *Topical differences between Chinese language Twitter and Sina Weibo*
  Qian Zhang and Bruno Gonçalves

» *Language Identification for Social Media: short messages and transliteration*
  Pedro Dias Cardoso and Anindya Roy

WIKI WORKSHOP @ WWW | ROOM 520C

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

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ORGANIZERS

ROBERT WEST

LEILA ZIA

JURE LESKOVEC

....

» *With a Little Help from my Neighbors: Person Name Linking Using the Wikipedia Social Network*
Johanna Geiß (Heidelberg University); Michael Gertz (Heidelberg University)

» *Learning Web Queries For Retrieval of Relevant Information About an Entity in a Wikipedia Category*
Vikrant Yadam (Indian Institute of Technology, Roorkee); Sandeep Kumar (Dept. of Computer Science & Engineering, Indian Institute of Technology, Roorkee, India)

» *On the Retrieval of Wikipedia Articles Containing Claims on Controversial Topics Wikipedia Tools for Google Spreadsheets*
Haggai (Roitman IBM Research - Haifa); Shay Hummel (IBM Research - Haifa); Ella Rabinovich (IBM Research - Haifa); Benjamine Sznajder (IBM Research - Haifa); Noam Slonim (IBM Research - Haifa); Ehud Aharoni (IBM Research - Haifa);

» *Assessing the Quality of Wikipedia Editors through Crowdsourcing*
Thomas Steiner (Google)

» *Applying a Multi-Level Modeling Theory to Assess Taxonomic Hierarchies in Wikidata*
Yu Suzuki (Nara Institute of Science and Technology); Satoshi Nakamura (Nara Institute of Science and Technology)

» *Finding Structure in Wikipedia Edit Activity: An Information Cascade Approach*
Freddy Brasileiro (Federal University of Espírito Santo); João Paulo A. Almeida (Federal University of Espírito Santo); Victorio A. Carvalho (Federal University of Espírito Santo); Giancarlo Guizzardi (Federal University of Espírito Santo);

» *Cleansing Wikipedia Categories using Centrality*
Ramine Tinati (University of Southampton); Markus Luczak-Roesch (University of Southampton); Wendy Hall (University of Southampton)

» *Automatic Discovery of Emerging Trends using Cluster Name Synthesis on User Consumption Data*
Tanushyam Chattopadhyay (Innovation Lab, Kolkata, Tata Consultancy Services Limited); Santa Maiti (Innovation Lab, Kolkata, Tata Consultancy Services Limited); Arindam Pal (Innovation Lab, Kolkata, Tata Consultancy Services Limited)

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

ORGANIZERS

STÉPHANE B. BAZAN

MARIE JOAN KRISTINE GLORIA

SU WHITE

» *The Practice of Web Product Design and Development Course Design*
Xiaoxuan Wang and Jiale Gao

» *The Garden of Earthly Delights: Constructing and Revising a Web Development Textbook*
Ricardo Hoar, Randy Connolly

» *Emerging a Web Science Curriculum*
Elisabeth Coskun and Su White

» *Evaluating the use of a MOOC within Higher Education Professional Development Training*
Lucy Ractliffe and Kate Mori

» *Collaborative social learning: rewards and challenges in mainstream Higher Education*
Lisa Harris, Nicholas Fair and Sarah Hewit

» *Experiences with curricula for a BSc and MSc in Web Development: 2008-2016*
Brigitte Jellinek

» *Teacher preparation for the digital literacy applying ubiquitous learning*
Andreja Istenic Starcic and Ziga Turk

OPEN DATA FOR LOCAL SEARCH | ROOM 520D

9:00 am – 12:30 pm & 2:00 pm – 5:30 pm

ORGANIZERS

ERIC CHARTON

MARIE-JEAN MEURS

NIZAR GHOULA

» *Semantic Enrichment for Local Search Engine using Linked Open Data*
Mazen Alobaidi, Khalid Mahmood and Susan Sabra

» *Improving Local Search with Open Geographic Data*
Chuankai An and Dan Rockmore

» *A simple tags categorization framework using spatial coverage to discover geospatial semantics*
Camille Tardy, Laurent Moccozet and Gilles Falquet

» *Address Geocoding using Street Profiles for Local Search*
Michael Peterman, Omar Benomar, Hacene Mechedou and Felix-Hervé Bachand

» *Lookupia : An Intelligent Real Estate Search Engine for Finding Houses Optimally Geolocated to Rearch Points of Interest*
Jonathan Milot, Eric Beaudry, François Grondin, Patrick Munroe and Guillaume Bourdeau

» *Open Data Business Licence Usage to Improve Local Search Engine Content Ranking*
Bob Lytle

» *Open Data and Local Search: Challenges and Perspectives*
Eric Charton, Nizar Ghoula and Marie-Jean Meurs

TECHNICAL PROGRAM

WEDNESDAY APRIL 13

RESEARCH TRACK

2:00 pm – 3:30 pm

TRACK 1: SOCIAL NETWORKS & GRAPH ANALYSIS (1) | ROOM 520BE

SESSION CHAIR: **MATTEO RIONDATO**

» *Social Networks Under Stress*
Daniel Romero, Brian Uzzi and Jon Kleinberg

» *Measuring Urban Social Diversity Using Interconnected Geo-Social Networks*
Desislava Hristova, Matthew J. Williams, Mirco Musolesi, Pietro Panzarasa and Cecilia Mascolo

» *Recommendations with Signed Social Networks*
Jiliang Tang, Charu Aggarwal and Huan Liu

» *HeteroSales: Utilizing Heterogeneous Social Networks to Identify the Next Enterprise Customer*
Qingbo Hu, Sihong Xie, Jiawei Zhang, Qiang Zhu, Songtao Guo and Philip Yu

TRACK 2: BEHAVIOUR ANALYSIS & PERSONALIZATION (1) | ROOM 520CF

SESSION CHAIR: **XAVIER AMATRIAN**

» *Immersive Recommendation: News and Event Recommendations Using Personal Digital Traces*
Cheng-Kang Hsieh, Longqi Yang, Honghao Wei, Mor Naaman and Deborah Estrin

» *Beyond Collaborative Filtering: Optimizing List Recommendation Click-Through Rate*
Noam Koenigstein, Oren Sar Shalom, Ulrich Paquet and Hastagiri Vanchinathan

» *Recommendation based on Total Surplus Maximization*
Yongfeng Zhang, Qi Zhao, Yi Zhang, Daniel Friedman and Min Zhang

» *When do Recommender Systems Work the Best?*
Dokyun Lee and Kartik Hosanagar

TRACK 3: SECURITY & PRIVACY (1) | ROOM 520AD

SESSION CHAIR TBA

» *TrackMeOrNot: Enabling Flexible Control on Web Tracking*

  Wei Meng, Byoungyoung Lee, Xinyu Xing and Wenke Lee

» *In a World that Counts: Clustering and Detecting Fake Social Engagement at Scale*

  Yixuan Li, Oscar Martinez, Xing Chen and Yi Li and John Hopcroft

» *Tracking the Trackers*

  Zhonghao Yu, Sam Macbeth, Konark Modi and Josep M. Pujol

» *Crowdsourcing Annotations of Websites' Privacy Policies: Can it Really Work?*

  Shomir Wilson, Florian Schaub, Rohan Ramanath, Norman Sadeh, Fei Liu, Noah Smith and Frederick Liu

TRACK 4: CONTENT ANALYSIS (1) | ROOM 518

SESSION CHAIR TBA

» *Abusive Language Detection in User Content*

  Chikashi Nobata, Joel Tetreault, Achint Thomas, Yashar Mehdad and Yi Chang

» *Hidden Topic Sentiment Model*

  Md Mustafizur Rahman and Hongning Wang

» *Mining aspect-specific opinion using a holistic topic model*

  Shuai Wang, Zhiyuan Chen and Bing Liu

TRACK 5: ECONOMICS & MARKETS (1) | ROOM 519

SESSION CHAIR: **CHRISTO WILSON**

» *Mean Field Equilibria for Competitive Exploration in Resource Sharing Settings*

  Pu Yang, Krishnamurthy Iyer and Peter Frazier

» *A Field Guide to Personalized Reserve Prices*

  Renato Paes Leme, Martin Pal and Sergei Vassilvitskii

» *Competition on Price and Quality in Cloud Computing*

  Cinar Kilcioglu and Justin Rao

» *Mechanism Design for Mixed Ads*

  Yoram Bachrach, Sofia Ceppi, Ian Kash, Peter Key and Mohammad Reza Khani

PLENARY PANEL | ROOM 517D

11:30 am – 12:30 pm

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WHERE CREATIVITY MEETS THE WEB: A PATAPHYSICAL PARTNERSHIP

MODERATOR

ANDREW HUGILL, COMPOSER, ACADEMIC AND PATAPHYSICIAN

PANELISTS

LINE MCMURRAY, WRITER AND ARTIST, DIRECTOR OF THE ACADÉMIE QUÉBÉCOISE DE LA PATAPHYSIQUE

MICHEL DE SÉVIGNÉ, ARTIST AND FORMER ENTERPRISE INFORMATION MANAGER

TANJA HOLLANDER, ARTIST

Pataphysics is the science of imaginary solutions. How do we find a solution to the problem that the web, which is objectively technical and engineered, seems to be incompatible with creativity, which is subjectively organic and designed? Some kind of partnership is necessary. This panel presents four examples of how creative people approach the web in the light of pataphysical knowledge.

POSTER TRACK | ROOM 517AB

3:00 pm – 5:30 pm

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1. *Context-Aware Text Representation for Social Relation Aided Sentiment Analysis,*
   Minh Luan Nguyen.

2. *NERank: Ranking Named Entities in Document Collections,*
   Chengyu Wang, Xiaofeng He, Rong Zhang and Aoying Zhou.

3. *HLBPR:A Hybrid Local Bayesian Personal Ranking method,*
   Xu Chen, Pengfei Wang, Yongfeng Zhang and Zheng Qin.

4. *Power of Human Curation in Recommendation Systems,*
   Yuchen Liu, Dmitry Chechik and Junghoo Cho.

5. *Finding All Maximal Paths In Web User Sessions,*
   Murat Ali Bayir and Ismail Hakki Toroslu.

6. *Persistent URIs Must Be Used To Be Persistent,*
   Herbert Van De Sompel, Martin Klein and Shawn Jones.

7. *Label Aggregation with Instance Grouping Model,*
   Li'Ang Yin, Jianhua Han and Yong Yu.

8. *Fact Checking in Heterogeneous Information Networks,*
   Baoxu Shi and Tim Weninger.

9. *Article De-duplication Using Distributed Representations,*
   Shumpei Okura, Yukihiro Tagami and Akira Tajima.

10. *The Language of Deceivers: Linguistic Features of Crowdfunding Scams,*
    Wafa Shafqat, Seunghun Lee, Sehrish Malik and Hyun-Chul Kim.

11. *Sampling bias in LinkedIn: a case study,*
    Shanshan Zhang and Slobodan Vucetic.

12. *Combining NLP and semantics for mining software technologies from research publications,*
    Hélène de Ribaupierre, Francesco Osborne and Enrico Motta.

13. *Mining Large Dense Subgraphs,*
    Ajitesh Srivastava, Charalampos Chelmis and Viktor Prasanna.

14. *Stweeler: A Framework for Twitter Bot Analysis,*
    Zafar Gilani, Mario Almeida, Reza Farahbakhsh, Liang Wang and Jon Crowcroft.

15. *Improving Document Ranking with Dual Word Embeddings,*
    Eric Nalisnick, Bhaskar Mitra, Nick Craswell and Rich Caruana.

16. *TRecSo: Enhancing Top-k Recommendation With Social Information,*
    Chanyoung Park, Donghyun Kim, Jinoh Oh and Hwanjo Yu.

17. *Analytical Framework of Relations among Nations using News Articles,*
    Takeru Yokoi, Masato Fukuchi, Michihiro Kobayakawa, Roliana Ibrahim and Ali Selamat.

18. *Purchase Intention Mining by Leveraging Item-Item Relationship,*
    Sungchul Kim, Jinyoung Yeo, Eunyee Koh and Nedim Lipka.

19. *Real-time Tweet Classification in Disaster Situation,*
    Fujio Toriumi and Seigo Baba.

20. *Design and Implementation: the End User Development Ecosystem for Cross-platform Mobile Applications,*
    Zhongyi Zhai, Bo Cheng, Zhaoning Wang, Xuan Liu, Meng Niu and Junliang Chen.

21. *Predicting the link strength of "newborn" links,*
    Matteo Zignani, Sabrina Gaito and Gian Paolo Rossi.

22. *Fusing Social Media Cues: Personality Prediction from Twitter and Instagram,*
    Marcin Skowron, Bruce Ferwerda, Marko Tkalcic and Markus Schedl.

23. *PeARS: a Peer-to-peer Agent for Reciprocated Search,*
    Aurelie Herbelot.

24. *Cluster Hypothesis in Low-Cost IR Evaluation with Different Document Representations,*
    Kai Hui and Klaus Berberich.

25. *Incorporating Side Information in Tensor Completion,*

Hemank Lamba, Vaishnavh Nagarajan, Kijung Shin and Naji Shajarisales.

26. *Can One Tamper with the Sample API? -Toward Neutralizing Bias from Spam and Bot Content,*

Fred Morstatter, Harsh Dani, Justin Sampson and Huan Liu.

27. *Attention Based Recurrent Neural Networks for Online Advertising,*

Shuangfei Zhai, Keng-Hao Chang, Ruofei Zhang and Zhongfei Zhang.

28. *Complex Patterns in Dynamic Attributed Graphs,*

Rina Singh, Jeffrey Graves and Doug Talbert.

29. *On the Discovery of Success Trajectories of Authors,*

Tanmoy Chakraborty, Dinesh Pradhan, Saswata Pandit and Subrata Nandi.

30. *Selective Exploration of Commercial Documents in Web Search,*

Alexander Shishkin, Ekaterina Gladkikh and Aleksandr Vorobev.

31. *Toward G-OWL: A graphical, polymorphic and typed language for building formal OWL2 ontologies,*

Michel Héon, Roger Nkambou and Christian Langheit.

32. *PGRank: Personalized Geographical Ranking for Point-of-Interest Recommendation,*

Haochao Ying, Liang Chen, Yuwen Xiong and Jian Wu.

33. *Investigation of the Subjective Asymmetry of Social Interrelationship with Interactive Language,*

Bo Wang, Yanshu Yu and Peng Zhang.

34. *SparkTrails: A MapReduce Implementation of HypTrails for Comparing Hypotheses About Human Trails,*

Martin Becker, Hauke Mewes, Andreas Hotho, Dimitar Dimitrov, Florian Lemmerich and Markus Strohmaier.

35. *Less is More: Filtering Abnormal Dimensions in GloVe,*

Yang-Yin Lee, Hao Ke, Hen-Hsen Huang and Hsin-Hsi Chen.

36. *Author2Vec: Learning author representations by combining content and link information,*

Ganesh J, Soumyajit Ganguly, Manish Gupta, Vasudeva Varma and Vikram Pudi.

37. *PNCOIRank: Evaluating the COI Impact of Scholarly Papers from both Positive and Negative Aspects,*

Xiaomei Bai, Jun Zhang, Hai Cui, Zhaolong Ning and Feng Xia.

38. *Estimating Gender and Age of Web Page Visitors from the Way They Use Their Mouse,*

Peter Krátky and Daniela Chudá.

39. *Inferring Gender from Names on the Web: A ComparativeEvaluation of Gender Detection Methods,*

Fariba Karimi, Claudia Wagner, Florian Lemmerich, Mohsen Jadidi and Markus Strohmaier.

40. *A Large Public Corpus of Web Tables containing Time and Context Metadata,*

Oliver Lehmberg, Dominique Ritze, Robert Meusel and Christian Bizer.

41. *Hierarchy-Based Link Prediction in Knowledge Graphs,*
    Manling Li, Yantao Jia and Yuanzhuo Wang.

42. *Visual Positions of Links and Clicks on Wikipedia,*
    Dimitar Dimitrov, Philipp Singer, Florian Lemmerich and Markus Strohmaier.

43. *Modeling and predicting retweeting dynamics via a mixture process,*
    Jinhua Gao, Huawei Shen, Shenghua Liu and Xueqi Cheng.

44. *For the DISTINCT clause of SPARQL queries,*
    Medha Atre.

45. *Structure and Dynamics of Signed Citation Networks,*
    Srijan Kumar.

46. *Concept Evolution Modeling Using Semantic Vectors,*
    Tin Kam Ho, Luis Lastras and Oded Shmueli.

47. *Information Diffusion and Provenance of Interactions in Twitter: is it only about retweets?*
    Io Taxidou, Peter M. Fischer, Tom De Nies, Erik Mannens and Rik Van de Walle.

48. *Browsing2purchase: Online Customer Model for Sales Forecasting in an E-Commerce Site,*
    Jinyoung Yeo, Sungchul Kim, Eunyee Koh, Seung-Won Hwang and Nedim Lipka.

49. *Combining Word Embedding and Lexical Database for Semantic Relatedness Measurement,*
    Yang-Yin Lee, Hao Ke, Hen-Hsen Huang and Hsin-Hsi Chen.

50. *Time Series Analysis Using SNT,*
    Noriaki Kawamae.

51. *A Machine learning Filter for Relation Extraction,*
    Kevin Lange Di Cesare, Amal Zouaq, Ludovic Jean-Louis and Michel Gagnon.

52. *Generating Graph Snapshots from Streaming Edge Data,*
    Sucheta Soundarajan, Acar Tamersoy, Elias B. Khalil, Tina Eliassi-Rad, Duen Horng Chau, Brian Gallagher and Kevin Roundy.

53. *Improving Music Recommendation using Distributed Representation,*
    Dongjing Wang, Shuiguang Deng and Guandong Xu.

54. *Explaining reviews and ratings with PACO Poisson Additive Co-Clustering,*
    Chao-Yuan Wu, Alex Beutel, Amr Ahmed and Alexander Smola.

55. *More than an Edit: Using Transcendental Information Cascades to Capture Hidden Structure in Wikipedia,*
    Ramine Tinati, Markus Luczak-Roesch, Nigel Shadbolt and Wendy Hall.

56. *What Makes a Music Track Popular in Online Social Networks? Music or You?*
    Jing Ren and Jialie Shen.

57. *Aspect-specific Sentimental Word Embedding for Sentiment Analysis of Online Reviews,*
Xueke Xu.

58. *Effect of Spam on Hashtag Recommendation for Tweets,*
Surendra Sedhai and Aixin Sun.

59. *Explainable Matrix Factorization for Collaborative Filtering,*
Behnoush Abdollahi and Olfa Nasraoui.

60. *Weighted Micro-Clustering: Application to Community Detection in Large-Scale Co-Purchasing Networks with User Attributes,*
Tomoya Yamazaki, Nobuyuki Shimizu, Hayato Kobayashi and Satoshi Yamauchi.

61. *Target-Oriented Influence Estimation for Understanding Information Diffusion Accurately in Social Networks,*
Yun-Yong Ko, Dong-Kyu Chae and Sang-Wook Kim.

62. *It ROCS! The RASH Online Conversion Service,*
Angelo Di Iorio, Alejandra Gonzalez-Beltran, Francesco Osborne, Silvio Peroni, Francesco Poggi and Fabio Vitali.

63. *Leveraging Crowdsourcing for the Thematic Annotation of the Qur'an,*
Amna Basharat, I. Budak Arpinar and Khaled Rasheed.

64. *Travel the World: Analyzing and Predicting Booking Behavior using E-mail Travel Receipts,*
Nemanja Djuric, Mihajlo Grbovic and Vladan Radosavljevic.

65. *Smartphone App Categorization for Interest Targeting in Advertising Marketplace,*
Vladan Radosavljevic, Mihajlo Grbovic and Nemanja Djuric.

66. *Maximizing the Spread of Positive Influence by Deadline,*
Hemank Lamba and Jürgen Pfeffer.

67. *Multimodal Content-Aware Image Thumbnailing,*
Kohei Yamamoto, Hayato Kobayashi, Yukihiro Tagami and Hideki Nakayama.

68. *Look Before You Shame: A Study on Shaming Activities on Twitter,*
Rajesh Basak, Niloy Ganguly, Shamik Sural and Soumya K. Ghosh.

69. *A graph-coarsening approach for tag recommendation,*
Manel Hmimida and Rushed Kanawati.

70. *Importance of First Steps in a Community for Growth, Diversity, and Engagement,*
Atef Chaudhury, Myunghwan Kim and Mitul Tiwari.

71. *THUMP: Semantic Analysis on Trajectory Traces to explore Human Movement Patterns,*
Shreya Ghosh and Soumya Ghosh.

72. *Visual Event Mining from the Twitter Stream,*
Keiji Yanai and Takamu Kaneko.

3:00 pm – 5:30 pm

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1. ***A Demonstration of the Solid Platform for Social Web Applications,***
   Essam Mansour, Andrei Sambra, Sandro Hawke, Maged Zereba, Sarven Capadisli, Ashraf Aboulnaga and Tim Berners-Lee.

2. ***Analyzing Global and Pairwise Collective Spatial Attention for Geo-social Event Detection in Microblogs,***
   Shoko Wakamiya, Adam Jatowt, Yukiko Kawai and Toyokazu Akiyama.

3. ***CRATE: Writing Stories Together with our Browsers,***
   Brice Nédelec, Pascal Molli and Achour Mostéfaoui.

4. ***Destiny - A Cognitive Mobile Guide for the Olympics,***
   Ana Paula Appel, Heloisa Candello, Beatriz de Souza and Bruna Andrade.

5. ***D-ForenRIA: Distributed Reconstruction of User-Interactions for Rich Internet Applications,***
   Salman Hooshmand, Akib Mahmud, Gregor V. Bochmann, Muhammad Faheem, Guy-Vincent Jourdan, Russ Couturier and Iosif-Viorel Onut.

6. ***DREAM in Action: A Distributed and Adaptive RDF System on the Cloud,***
   Aisha Hasan, Mohammad Hammoud, Reza Nouri and Sherif Sakr.

7. ***Fashionista: A Fashion-aware Graphical System for Exploring Visually Similar Items,***
   Ruining He, Chunbin Lin and Julian Mcauley.

8. ***FindYou: A Personal Location-Privacy Auditing Tool,***
   Christopher Riederer, Danny Echikson, Stephanie Huang and Augustin Chaintreau.

9. ***FuhSen: A Platform for Federated, RDF-based Hybrid Search,***
   Diego Collarana, Christoph Lange and Sören Auer.

10. ***GraPhys: Understanding Health Care Insurance Data through Graph Analytics,***
    Luis G. Moyano, Ana Paula Appel, Vagner F. de Santana, Márcia Ito and Thiado D. Dos Santos.

11. ***How Powerful are You? gSPIN: Bringing Power Analysis to Your Finger Tips,***
    Vinodkumar Prabhakaran and Owen Rambow.

12. ***Human Atlas: A Tool for Mapping Social Networks,***
    Martin Saveski, Eric Chu, Soroush Vosoughi and Deb Roy.

13. ***HyLAR+: improving Hybrid Location-Agnostic Reasoning with Incremental Rule-based Update,***
    Mehdi Terdjimi, Lionel Médini and Michael Mrissa.

14. ***Incremental, per-query ontology matching with RepMine,***
    Thomas Kowark, Keven Richly and Hasso Plattner.

15. *Instant Espresso: Interactive Analysis of Relationships in Knowledge Graphs,*
    Stephan Seufert, Patrick Ernst, Srikanta J. Bedathur, Sarath Kumar Kondreddi, Klaus Berberich and Gerhard Weikum.

16. *KCF.js: A Javascript Library for Knowledge Cards Fusion,*
    Haofen Wang, Zhijia Fang and Tong Ruan.

17. *LODVader: An Interface to LOD Visualization, Analytics and DiscovERy in Real-time,*
    Ciro Baron Neto, Kay Mueller, Martin Brümmer, Dimitris Kontokostas and Sebastian Hellmann.

18. *PerSentiment: A Personalized Sentiment Classification System for Microblog Users,*
    Kaisong Song, Ling Chen, Wei Gao, Shi Feng, Daling Wang and Chengqi Zhang.

19. *Piglet – Interactive and Platform Transparent Analytics for RDF & Dynamic Data,*
    Stefan Hagedorn and Kai-Uwe Sattler.

20. *Predicting Drug-Drug Interactions Through Similarity-Based Link Prediction Over Web Data,*
    Achille Fokoue, Oktie Hassanzadeh, Mohammad Sadoghi and Ping Zhang.

21. *RECAP: Building Relatedness Explanations on the Web,*
    Giuseppe Pirrò and Alfredo Cuzzocrea.

22. *Search by Ideal Candidates: Next Generation of Talent Search at LinkedIn,*
    Viet Ha-Thuc, Ye Xu, Satya Kanduri, Xianren Wu, Vijay Dialani, Yan Yan, Abhishek Gupta and Shakti Sinha.

23. *SEMO: Searching Majority Opinions on Movies using SNS and QA Threads,*
    Ju Kyoung Lee, Yonghwa Choi, Suhkyung Kim, Seongsoon Kim and Jaewoo Kang.

24. *SoMap: Dynamic Clustering and Ranking of geotagged posts,*
    Marie Al-Ghossein and Talel Abdessalem.

25. *Tempas: Temporal Archive Search Based on Tags,*
    Helge Holzmann and Avishek Anand.

26. *The Knowledge Awakens: Keeping Knowledge Bases Fresh with Emerging Entities,*
    Johannes Hoffart, Dragan Milchevski, Gerhard Weikum, Avishek Anand and Jaspreet Singh.

27. *The Liquid.js framework for migrating and cloning statefulWeb components across multiple devices,*
    Andrea Gallidabino and Cesare Pautasso.

28. *VERA: A Platform for Veracity Estimation over Web Data,*
    Mouhamadou Lamine Ba, Laure Berti-Equille and Hossam M. Hammady.

29. *Watson Concept Insights: A Conceptual Association Framework,*
    Michele Franceschini, Livio Soares and Luis Lastras.

30. *"What is the city but the people?" - Exploring Urban Activity using Social Web Traces,*
    Emre Çelikten, Géraud Le Falher and Michael Mathioudakis.

11:00 am – 12:30 pm

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DIGITAL PUBLISHING

WOULD YOU LIKE TO PARTICIPATE IN SHAPING THE FUTURE OF DOCUMENT PUBLISHING ON THE WEB?

The Web and Digital Publishing are strongly related. Digital Publishing (online journals, digital books and magazines, etc.) use Web Technologies like HTML, CSS, or SVG, placing extremely high quality requirements when it comes to their usage for high end publishing like online (academic) journals or educational publications. The need in curating content, in combining various forms of media with high demands on accessibility and ergonomics, etc., has been shaping the publishing industry and accumulating a body of experience over hundreds of years. The convergence of these two worlds also opens up new possibilities in storytelling, in education, or communicating scientific achievements through new forms of scholarly publishing.

» *Scholarly Publishing in a Connected World, by Tzviya Siegman (John Wiley & Sons, Inc.)*

» *Portable Web Publications: Technology Challenges, by Ivan Herman (W3C)*

» *Opening the book: What the Web can teach books, and what books can teach the Web, by Hugh McGuire (PressBooks)*

2:00 pm – 3:30 pm

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WEB PAYMENTS

DO YOU WANT TO STREAMLINE THE ONLINE CHECKOUT EXPERIENCE?

» *Introduction of the W3C Web Payments Activity, by Alan Bird*

» *TBC, by Adrian Hope-Bailie (Ripple)*

RESEARCH TRACK

11:00 am – 12:30 pm

TRACK 6: SEMANTICS & BIG DATA (1) |CLOSED | ROOM 518
SESSION CHAIR: **SOREN AUER**

» *Semantics and Expressive Power of Subqueries and Aggregates in SPARQL 1.1*
  Mark Kaminski, Egor V. Kostylev and Bernardo Cuenca Grau

» *Reverse Engineering SPARQL Queries*
  Marcelo Arenas, Gonzalo Diaz and Egor V. Kostylev

» *Profiling the Potential of Web Tables for Augmenting Cross-domain Knowledge Bases*
  Dominique Ritze, Oliver Lehmberg, Yaser Oulabi and Christian Bizer

» *Foundations of JSON Schema*
  Felipe Pezoa, Juan L. Reutter, Fernando Suarez, Martin Ugarte and Domagoj Vrgoc

TRACK 7: WEB MINING (1) | ROOM 519
SESSION CHAIR: **YIZHOU SUN**

» *Mining Online Social Data for Detecting Social Netowrk Mental Disorders*
  Hong-Han Shuai, Chih-Ya Shen, De-Nian Yang, Yi-Feng Lan, Wang-Chien Lee, Philip S. Yu and Ming-Syan Chen

» *Visualizing Large-Scale and High-dimensional Data*
  Jian Tang, Jingzhou Liu, Ming Zhang and Qiaozhu Mei

» *Predicting Pre-click Quality for Native Advertisements*
  Ke Zhou, Miriam Redi, Andy Haines and Mounia Lalmas

» *The Lifecycle and Cascade of Social Messaging Groups*
  Jiezhong Qiu, Yixuan Li, Jie Tang, Zheng Lu, Hao Ye, Bo Chen, Qiang Yang and John Hopcroft

TRACK 8: SECURITY & PRIVACY (2) | ROOM 520AD
SESSION CHAIR TBA

» *Characterizing Long-tail SEO Spam on Cloud Web Hosting Services*
  Xiaojing Liao, Chang Liu, Damon Mccoy, Elaine Shi, Raheem Beyah and Shuang Hao

» *Automatic Extraction of Indicators of Compromise for Web Applications*
  Onur Catakoglu, Marco Balduzzi and Davide Balzarotti

» *Cracking Classifiers for Evasion: A Case Study on the Google's Phishing Pages Filter*

Bin Liang, Miaoqiang Su, Wei You, Wenchang Shi and Gang Yang

» *Understanding the detection of view fraud in Video Content Portals*

Miriam Marciel, Rubén Cuevas, Albert Banchs, Roberto Gonzalez, Stefano Traverso, Mohamed Ahmed and Arturo Azcorra

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TRACK 9: CONTENT ANALYSIS (2) | ROOM 520BE

SESSION CHAIR TBA

» *On the Temporal Dynamics of Opinion Spamming - Case Studies on Yelp*

Santosh Kc, Arjun Mukherjee

» *Scaling up Dynamic Topic Models*

Arnab Bhadury, Jianfei Chen, Jun Zhu and Shixia Liu

» *Learning Global Term Weights for Content-based Recommender Systems*

Yupeng Gu, Bo Zhao and David Hardtke

» *Exploring patterns of identity usage in tweets: a new problem, solution and case study*

Kenneth Joseph, Wei Wei and Kathleen Carley

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TRACK 10: MOBILITY (1) | ROOM 520CF

SESSION CHAIR: **ANASTASIOS NOULAS**

» *The Death and Life of Great Italian Cities: A Mobile Phone Data Perspective*

Marco De Nadai, Jacopo Staiano, Roberto Larcher, Nicu Sebe, Daniele Quecia and Bruno Lepri

» *Beyond the baseline: Establishing the value in mobile phone based poverty estimates*

Christopher Smith-Clarke and Licia Capra

» *Pushing the Frontier: Exploring the African Web Ecosystem*

Roderick Fanou, Gareth Tyson, Pierre Francois and Arjuna Sathiaseelan

2:00 pm – 3:30 pm

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TRACK 11: SOCIAL NETWORKS & GRAPH ANALYSIS (2) | ROOM 518

SESSION CHAIR: **ALESSANDRA SALA**

» *On Sampling Nodes in a Network*

Flavio Chierichetti, Anirban Dasgupta, Ravi Kumar, Silvio Lattanzi and Tamas Sarlos

» *Modeling a Retweet Network via an Adaptive Bayesian Approach*

Bin Bi and Junghoo Cho

» *Latent Space Model for Multi-Modal Social Data*

Yoon-Sik Cho, Greg Ver Steeg, Emilio Ferrara and Aram Galstyan

» *Distributed Estimation of Graph 4-Profiles*

Ethan R. Elenberg, Karthikeyan Shanmugam, Michael Borokhovich and Alexandros G. Dimakis

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TRACK 12: BEHAVIOUR ANALYSIS & PERSONALIZATION (2) | ROOM 519

SESSION CHAIR: **MOUNIA LALMAS**

» *Detecting Good Abandonment in Mobile Search*

Kyle Williams, Julia Kiseleva, Aidan Crook, Imed Zitouni, Ahmed Hassan Awadallah and Madian Khabsa

» *Ups and Downs: Modeling the Visual Evolution of Fashion Trends with One-Class Collaborative Filtering*

Ruining He and Julian McAuley

» *Modeling User Consumption Sequences*

Austin Benson, Ravi Kumar and Andrew Tomkins

» *A Neural Click Model for Web Search*

Alexey Borisov, Ilya Markov, Maarten de Rijke and Pavel Serdyukov

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TRACK 13: WEB SEARCH SYSTEM & APPLICATIONS (1) | ROOM 520AD

SESSION CHAIR: **MARC NAJORK**

» *Query-Less: Predicting Task Repetition for NextGen Proactive Search and Recommendation Engines*

Yang Song and Qi Guo

» *Behavior Driven Topic Transition for Search Task Identification*

Liangda Li, Hongbo Deng, Yunlong He, Anlei Dong, Yi Chang and Hongyuan Zha

» *A Piggyback System for Joint Entity Mention Detection and Linking in Web Queries*

Marco Cornolti, Paolo Ferragina, Massimiliano Ciaramita, Hinrich Shuetze and Stefan Rued

» *Towards Mobile Query Auto-Completion: A Mobile Application-Aware Approach*

Aston Zhang, Amit Goyal, Ricardo Baeza-Yates, Yi Chang, Jiawei Han, Carl A. Gunter and Hongbo Deng

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TRACK 14: CROWDSOURCING SYSTEMS & SOCIAL MEDIA (1) | ROOM 520BE

SESSION CHAIR: **PHILIPPE CUDRE-MAUROUX**

» *Disinformation on the Web: Impact, Characteristics, and Detection of Wikipedia Hoaxes*

Srijan Kumar, Robert West and Jure Leskovec

» *Tweet Properly: Analyzing Deleted Tweets to Understand and Identify Regrettable Ones*

Lu Zhou, Wenbo Wang and Keke Chen

» *Winning arguments: Interaction dynamics and persuasion strategies in good-faith online discussions*

Chenhao Tan, Vlad Niculae, Cristian Danescu-Niculescu-Mizil and Lillian Lee

» *Addressing Complex and Subjective Product-Related Queries with Customer Reviews*

Julian Mcauley and Alex Yang

TRACK 15: WEB SCIENCE (1) | ROOM 520CF

SESSION CHAIR: **LAURA HOLLINK**

» *A robust framework for estimating linguistic alignment in social media conversations*
Gabriel Doyle, Dan Yurovsky and Michael C. Frank

» *Detecting Evolution of Concepts based on Cuase-Effect Relationships in Online Reviews*
Yating Zhang, Adam Jatowt and Katsumi Tanaka

» *The QWERTY effect on the web: How typing shapes the meaning of words in online human-computer interaction*
David Garcia and Markus Strohmaier

16:15 – 5:30 pm

TRACK 16: SOCIAL NETWORKS & GRAPH ANALYSIS (3) | ROOM 518

SESSION CHAIR: **SILVIO LATTANZI**

» *Do Cascades Recur?*
Justin Cheng, Lada Adamic, Jon Kleinberg and Jure Leskovec

» *Exploring limits to prediction in complex social systems: Predicting cascase size on Twitter*
Travis Martin, Jake Hofman, Amit Sharma, Ashton Anderson and Duncan Watts

» *TribeFlow: Mining & Predicting User Trajectories*
Flavio Figueiredo, Bruno Ribeiro, Jussara Almeida and Christos Faloutsos

» *Linking Users Across Domains with Location Data: Theory and Validation*
Christopher Riederer, Yunsung Kim, Nitish Korula, Silvio Lattanzi and Augustin Chaintreau

TRACK 17: WEB MINING (2) | ROOM 519

SESSION CHAIR: **ZHENHUI JESSIE LI**

» *Exploiting Dining Preferences for Restaurant Recommendation*
Fuzheng Zhang, Nicholas Jing Yuan, Kai Zheng, Defu Lian, Xing Xie and Yong Rui

» *Non-Linear Mining of Competing Local Activities*
Yasuko Matsubara, Yasushi Sakurai and Christos Faloutsos

» *PCT: Partial Co-Alignment of Social Networks*
Jiawei Zhang and Philip S. Yu

» *Improving Post-Click User's Engagement on Native Ads via Survival Analysis*
Nicola Barbieri, Fabrizio Silvestri and Mounia Lalmas

TRACK 18: WEB SEARCH SYSTEM & APPLICATIONS (2) | ROOM 520AD

SESSION CHAIR: **YOELLE MAAREK**

» *Table Cell Search for Question Answering*

Huan Sun, Hao Ma, Xiaodong He, Wen-Tau Yih, Yu Su and Xifeng Yan

» *Identifying Web Queries with Question Intent*

David Carmel, Yuval Pinter, Idan Szpektor and Gilad Tsur

» *Language Models for Long Documents and Queries in Information Retrieval*

Ronan Cummins

» *Effective Construction of Relative Lempel-Ziv Dictionaries*

Kewen Liao, Matthias Petri, Alistair Moffat and Anthony Wirth

TRACK 19: CROWDSOURCING SYSTEMS & SOCIAL MEDIA (2) | ROOM 520BE

SESSION CHAIR: **JULIAN MCAULE**

» *Just in Time: Controlling Temporal Performance in Crowdsourcing Competitions*

Markus Rokicki, Sergej Zerr and Stefan Siersdorfer

» *Evolution of effort and activity in online communities from a cohort perspective*

Samuel Martins Barbosa Neto, Dan Cosley, Amit Sharma and Roberto Cesar

» *Using Hierarchical Skills for Optimized Task Assignment in Knowledge-intensive Crowdsourcing*

Panagiotis Mavridis, David Gross-Amblard and Zoltan Miklos

» *Scheduling Human Intelligence Tasks in Multi-Tenant Crowd-Powered Systems*

Djellel Eddine Difallah, Gianluca Demartini and Philippe Cudré-Mauroux

TRACK 20: WEB SCIENCE (2) | ROOM 520CF

SESSION CHAIR: **STEPHANE B. BAZAN**

» *MapWatch: Detecting and Monitoring International Border Personalization on Online Maps*

Gary Soeller, Karrie Karahalios, Christian Sandvig and Christo Wilson

» *What links Alice and Bob? Matching and Ranking Semantic Patterns in Heterogeneous Networks*

Jiongqian Liang, Deepak Ajwani, Patrick Nicholson, Alessandra Sala and Srinivasan Parthasarathy

» *An Empirical Study of Web Cookies*

Aaron Cahn, Scott Alfeld, Paul Barford and S. Muthukrishnan

» *From Social Machines to Social Protocols: Software Engineering Foundations for Sociotechnical Systems*

Amit Chopra and Munindar P. Singh

11:00 am – 12:30 pm

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PAPER PRESENTATION SESSION 1

CHAIR: **SEBASTIAN SCHAFFERT**

» *Voting with Their Feet: Inferring User Preferences from App Management Activities*
   Huoran Li, Wei Ai, Xuanzhe Liu, Jian Tang, Gang Huang, Feng Feng and Qiaozhu Mei.

» *User Fatigue in Online News Recommendation*
   Hao Ma, Xueqing Liu and Zhihong Shen.

» *Mining User Intentions from Medical Queries: A Neural Network Based Heterogeneous Jointly Modeling Approach*
   Chenwei Zhang, Wei Fan, Nan Du and Philip S. Yu.

2:00 pm – 3:30 pm

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PAPER PRESENTATION SESSION 2

CHAIR: **CHENWEI ZHANG**

» *Who benefits from the "sharing" economy of Airbnb?*
   Giovanni Quattrone, Davide Proserpio, Daniele Quercia, Licia Capra and Mirco Musolesi.

» *Socialized Language Model Smoothing via Topic-Aware Influence Propagation on Social Networks*
   Rui Yan.

» *Collaborative Nowcasting for Contextual Recommendation*
   Yu Sun, Nicholas Jing Yuan, Xing Xie, Kieran McDonald and Rui Zhang.

4:00 pm – 5:00 pm

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PAPER PRESENTATION SESSION 3

CHAIR: **RUI YAN**

» *From Freebase to Wikidata: The Great Migration*
   Thomas Pellissier Tanon, Denny Vrandecic, Sebastian Schaffert, Thomas Steiner and Lydia Pintscher.

» *Automatic Discovery of Attribute Synonyms*
   Yeye He, Kaushik Chakrabarti, Tao Cheng and Tomasz Tylenda.

5:00 pm – 6:30 pm

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PANEL DISCUSSION

» *NEW DIRECTIONS FOR WEB BROWSERS AND THE WEB TO IMPROVE USER'S EXPERIENCE.*

11:00 am – 11:30 am

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CAREER TALK

» *Dr. Yih-Farn Robin Chen - AT&T Labs, USA*

11:30 am – 12:30 pm

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PRESENTATION SESSION 1

» *Monitoring Parkinson's Disease Progression Using Behavioural Inferences, Mobile Devices and Web Technologies*
   Julio Vega

» *Knowledge extraction in Web media: at the frontier of NLP, Machine Learning and Semantics*
   Julien Plu

» *Structural Properties in Delta-Hyperbolic Networks: Algorithmic Analysis and Implications*
   Hend Alrasheed

2:00 pm – 3:30 pm

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PRESENTATION SESSION 2

» *Linked data profiling*
   Andrejs Abele

» *Detecting and Mitigating the Effect of Manipulated Reputation on Online Social Networks*
   Anupama Aggarwal

» *Web-scale Multimedia Search for Internet Video Content*
   Lu Jiang

» *Discouraging abusive behavior in privacy-preserving online social networking applications*
   Álvaro García-Recuero

4:00 pm – 5:30 pm

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MENTOR-STUDENT 1-1 MEETINGS & CLOSING REMARKS

THURSDAY APRIL 14

11:00 am – 12:30 pm

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TRACK: HTML5 GAMES

WHEN YOUR BROWSER BECOMES A GAME CONSOLE!

 » *Coding games for the Web, by Michel Buffa (University of Nice)*

» *Demo of the HTML5 game developed by students in the first W3Cx HTML5 Part 2 course*

» *Demos from the Montreal gaming industry representatives*

2:00 pm – 3:30 pm

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BUILDING AND DESIGNING THE WEB OF THINGS

DID YOU REALIZE THAT THE INTERNET OF THINGS REQUIRES COMMON FORMATS AT THE WEB LEVEL?

» *Building the Web of Things, by Dave Raggett (W3C)*

» *A Web of Things: Welcome to the Physical World, by Johannes Hund (Siemens)*

» *An Avatar-based Workflow for the Semantic Web of Things, by Lionel Médini (LIRIS Lab, University of Lyon)*

» *WOT Ecosystems: Designing Human-Centric Sensory Modalities, by Mike Paciello (The Paciello Group)*

» *Scripting APIs for the Web of Things, by Louay Bassbouss (Frauhnofer FOKUS)*

4:00 pm – 5:30 pm

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WEB OF THINGS - SMART CITIES, CARS AND HOMES

THE INTERNET OF THINGS WON'T JUST CONNECT PEOPLE. SO WILL BE "SMART" HOMES, WEARABLES, CARS, FACTORIES, CITIES… IE, THE ENTIRE WORLD!

» *Building Blocks for an Interoperable Web of Things, by Sebastian Kaebisch (Siemens)*

» *Web of Things: enabling smart cities to reach all potentials, by Frank Alexander Reusch (Lemonbeat GmbH)*

» *Web of Things for Connected Vehicles [abstract], by Soumya Kanti Datta (EURECOM)*

» *Controlling the Smart home from the VSDL home gateway: opportunities and lack of standards,
  by Claudio Venezia (Telecom Italia)*

FRIDAY **APRIL 15**

RESEARCH TRACK

11:00 am – 12:30 pm

TRACK 21: SEMANTICS & BIG DATA (2) |CLOSED | ROOM 518
SESSION CHAIR: **AVIGDOR GAL**

» *As Time Goes By: Comprehensive Tagging of Textual Phrases with Temporal Scopes*
Erdal Kuzey, Vinay Setty, Jannik Strötgen and Gerhard Weikum

» *Probabilistic Bag-of-Hyperlinks Model for Entity Linking*
Octavian-Eugen Ganea, Marina Ganea, Aurelien Lucchi, Carsten Eickhoff and Thomas Hofmann

» *Discovering Structure in the Universe of Attribute Names*
Alon Halevy, Sunita Sarawagi, Steven Whang, Xiao Yu and Natalya Noy

TRACK 22: BEHAVIOUR ANALYSIS & PERSONALIZATION (3) | ROOM 519
SESSION CHAIR: **RICARDO BAEZA-YATES**

» *Modeling User Exposure in Recommendation*
Dawen Liang, Laurent Charlin, James McInerney and David Blei

» *On the Relevance of Irrelevant Alternatives*
Austin Benson, Ravi Kumar and Andrew Tomkins

» *Growing Wikipedia Across Languages via Recommendation*
Ellery Wulczyn, Robert West, Leila Zia and Jure Leskovec

» *Using Shortlists to Support Decision making and Improve Recommender System Performance*
Tobias Schnabel, Paul Bennett, Susan Dumais and Thorsten Joachims

TRACK 23: SECURITY & PRIVACY (3) | ROOM 520AD
SESSION CHAIR TBA

» *Tell Me About Yourself: The Malicious CAPTCHA Attack*
Nethanel Gelernter and Amir Herzberg

» *Remedying Web Hijacking: Notification Effectiveness and Webmaster Comprehension*
Frank Li; Grant Ho, Eric Kuan, Yuan Niu, Lucas Ballard, Kurt Thomas, Elie Bursztein and Vern Paxson

» *No Honor Among Thieves: A Large-Scale Analysis of Malicious Web Shells*
Oleksii Starov, Johannes Dahse, Syed Sharique Ahmad, Thorsten Holz and Nick Nikiforakis

» *Stress Testing the Booters: Understanding and Undermining the Business of DDoS Services*
Mohammad Karami, Youngsam Park and Damon Mccoy

TRACK 24: CONTENT ANALYSIS (3) | ROOM 520BE

SESSION CHAIR TBA

» ***N-gram over Context***
Noriaki Kawamae

» ***Representing Documents via Latent Keyphrase Inference***
Jialu Liu, Xiang Ren, Jingbo Shang, Taylor Cassidy, Clare Voss and Jiawei Han

» ***Unsupervised, Efficient and Semantic Experise Retrieval***
Christophe Van Gysel, Maarten de Rijke and Marcel Worring

» ***Using Metafeatures to increase the Effectiveness of Latent Semantic Models in Web Search***
Alexey Borisov, Pavel Serdyukov and Maarten de Rijke

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TRACK 25: ECONOMICS & MARKETS (2) | ROOM 520CF

SESSION CHAIR: **PETER KEY**

» ***Bayesian Budget Feasibility with Posted Pricing***
Eric Balkanski and Jason Hartline

» ***People and Cookies: Imperfect Treatment Assignment in Online Experiments***
Dominic Coey and Michael Bailey

» ***Objective Variables for Probabilistic Revenue Maximization in Second Price Auctions with Reserve***
Maja Rudolph, Joseph Ellis and David Blei

» ***Understanding User Economic Behavior in the City Using Large-scale Geotagged and Crowdsourced Data***
Yingjie Zhang, Beibei Li and Jason Hong

2:00 pm – 3:30 pm

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PART 1

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TRACK 26A: SEMANTICS & BIG DATA (3) |CLOSED | ROOM 518

SESSION CHAIR: **CHRISTIAN BIZER, JULIAN MCAULEY**

» ***IncApprox: A Data Analytics System for Incremental Approximate Computing***
Dhanya R Krishnan, Do Le Quoc, Pramod Bhatotia, Christof Fetzer and Rodrigo Rodrigues

» ***From Diversity-based Prediction to Better Ontology & Schema Matching***
Avigdor Gal, Haggai Roitman and Tomer Sagi

TRACK 27A: WEB MINING (3) | ROOM 520AD

SESSION CHAIR: **QIAOZHU MEI**

» *Which to View: Personalized Prioritization for Broadcast Emails*

Beidou Wang, Martin Ester, Jiajun Bu, Deng Cai, Yu Zhu and Ziyu Guan

» *Learning-to-Rank for Real-Time High-Precision Hashtag Recommendation for Streaming News*

Bichen Shi, Georgiana Ifrim and Neil Hurley

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TRACK 28A:WEB SEARCH SYSTEMS & APPLICATIONS (3) | ROOM 520CF

SESSION CHAIR: **ALFREDO CUZZOCREA**

» *Where Can I Buy a Boulder? Searching for Offline Retail Locations*

Sandro Bauer, Filip Radlinski and Ryen White

» *Exploiting Green Energy to Reduce Operational Costs of Multi-Center Web Search Engines*

Roi Blanco, Matteo Catena and Nicola Tonellotto

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TRACK 29A: CONTENT ANALYSIS (4) | ROOM 520BE

SESSION CHAIR TBA

» *Entity Disambiguation with Linkless Knowledge Bases*

Yang Li, Shulong Tan, Huan Sun, Jiawei Han, Dan Roth and Xifeng Yan

» *Joint Recognition and Linking Fine-Grained Locations from Tweets*

Zongcheng Ji, Aixin Sun, Gao Cong and Jialong Han

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TRACK 30A: MOBILITY (2) - 2-3:10PM | ROOM 519

SESSION CHAIR: **XING XIE**

» *An In-depth study of Mobile Browser Performance*

Javad Nejati and Aruna Balasubramanian

» *If WiFi APs Could Move: A Measurement Study*

Mahanth Gowda, Ashutosh Dhekne and Romit Roy Choudhury

» *GoCAD: GPU-assisted Online Content Adaptive Display Power Saving for Mobile Devices in Internet Streaming*

Yao Liu, Mengbai Xiao, Ming Zhang, Xin Li, Mian Dong, Zhan Ma, Zhenhua Li and Songqing Chen

15:10 – 3:30 pm

PART 2

TRACK 26B: SOCIAL NETWORKS & GRAPH ANALYSIS (4) | ROOM 519

SESSION CHAIR: **JULIAN MCAULEY**

» *The Effect of Recommendations on Network Structure*
   Jessica Su, Aneesh Sharma and Sharad Goel

» *Gender, Productivity, and Prestige in Computer Science Faculty Hiring Networks*
   Samuel Way, Daniel Larremore and Aaron Clauset

TRACK 27B: BEHAVIOUR ANALYSIS & PERSONALIZATION (4) | ROOM 520BE

SESSION CHAIR: **PAVEL SERDYUKOV**

» *Discovery of Topical Authorities in Instagram*
   Aditya Pal, Amaç Herdağdelen, Sourav Chatterji, Sumit Taank and Deepayan Chakrabarti

» *Did You Say U2 or Youtube? Inferring Implicit Transcripts from Voice Search Logs*
   Milad Shokouhi, Umut Ozertem and Nick Craswell

TRACK 28B: SECURITY & PRIVACY (4) | ROOM 518

SESSION CHAIR: **ALFREDO CUZZOCREA**

» *Strengthening Weak Identities Through Inter-Domain Trust Transfer*
   Giridhari Venkatadri, Oana Goga, Changtao Zhong, Bimal Viswanath, Krishna P. Gummadi and Nishanth Sastry

TRACK 29B: CROWDSOURCING SYSTEMS & SOCIAL MEDIA (3) | ROOM 520AD

SESSION CHAIR: **AMIT SHARMA**

» *Internet Collaboration on Extremely Difficult Problems: Research versus Olympiad Questions on the Polymath Site*
   Isabel Kloumann, Chenhao Tan, Jon Kleinberg and Lillian Lee

» *The Communication Network Within the Crowd*
   Ming Yin, Mary Gray, Siddharth Suri and Jennifer Wortman Vaughan

TRACK 30B: ECONOMICS & MARKETS (3) | ROOM 520CF

SESSION CHAIR TBA

» *An Empirical Analysis of Algorithmic Pricing on Amazon Marketplace*
   Le Chen, Alan Mislove and Christo Wilson

11:30 am – 12:30 pm

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ONLINE ACTIVISM: SOCIAL ACTION ON THE WORLD WIDE WEB

MODERATOR

JIM HENDLER, RENSSELAER POLYTECHNIC INSTITUTE

PANELISTS

DIANE MERCIER, OPEN KNOWLEDGE CANADA AND LICEF-TÉLUQ

MICHAEL ROBERTS, WEB FOUNDATION

MARK STANLEY, DEMAND PROGRESS

BROOKE FOUCAULT WELLES, NORTHEASTERN UNIVERSITY

Since the inception of the Web, it has been seen not just as a platform for peddling pornography, or perhaps worse, advertising, but rather as a means to bring many people together. During the Arab Spring in the Middle East and the SOPA "blackout" in the US, people began to realize just how powerful the Web was for bringing people together and achieving societal changed. This panel will look at several aspects of the Web as platform got social action including political movements, Open Government, the democratization of the Web, and the use of the Web as a means for spreading "memes" to raise consciousness and increase awareness in society.

GENERAL INFORMATION

SOCIAL EVENTS & CATERING ONSITE

WELCOMING COFFEE & BREAKS

DATE | **Monday, April 11 to Friday, April 15**

ROOM 517AB | **Trade Show Area**

LUNCHES

DATE | **Monday, April 11 to Friday, April 15**

ROOM 517C

OPENING CEREMONY

DATE | **Wednesday, April 13**

TIME | **9:00 am – 11:00 am**

ROOM 517D

All participants are invited to attend the Opening Ceremony.

POSTER AND DEMO RECEPTION

DATE | **Wednesday, April 13**

TIME | **3:30 pm – 5:30 pm**

ROOM 517AB

All participants are invited to the reception. Snacks and drinks will be served.

GALA DINNER

DATE | **Thursday, April 14**

TIME | **7:00 pm – 11:00 pm**

ROOM 710AB

The dinner ticket is included only in Full Pass and 3-Day Pass (13-15 April). Onsite tickets will be available according the venue maximum capacity.

CLOSING & AWARDS CEREMONY

DATE | **Friday, April 15**

TIME | **4:00 pm – 5:30 pm**
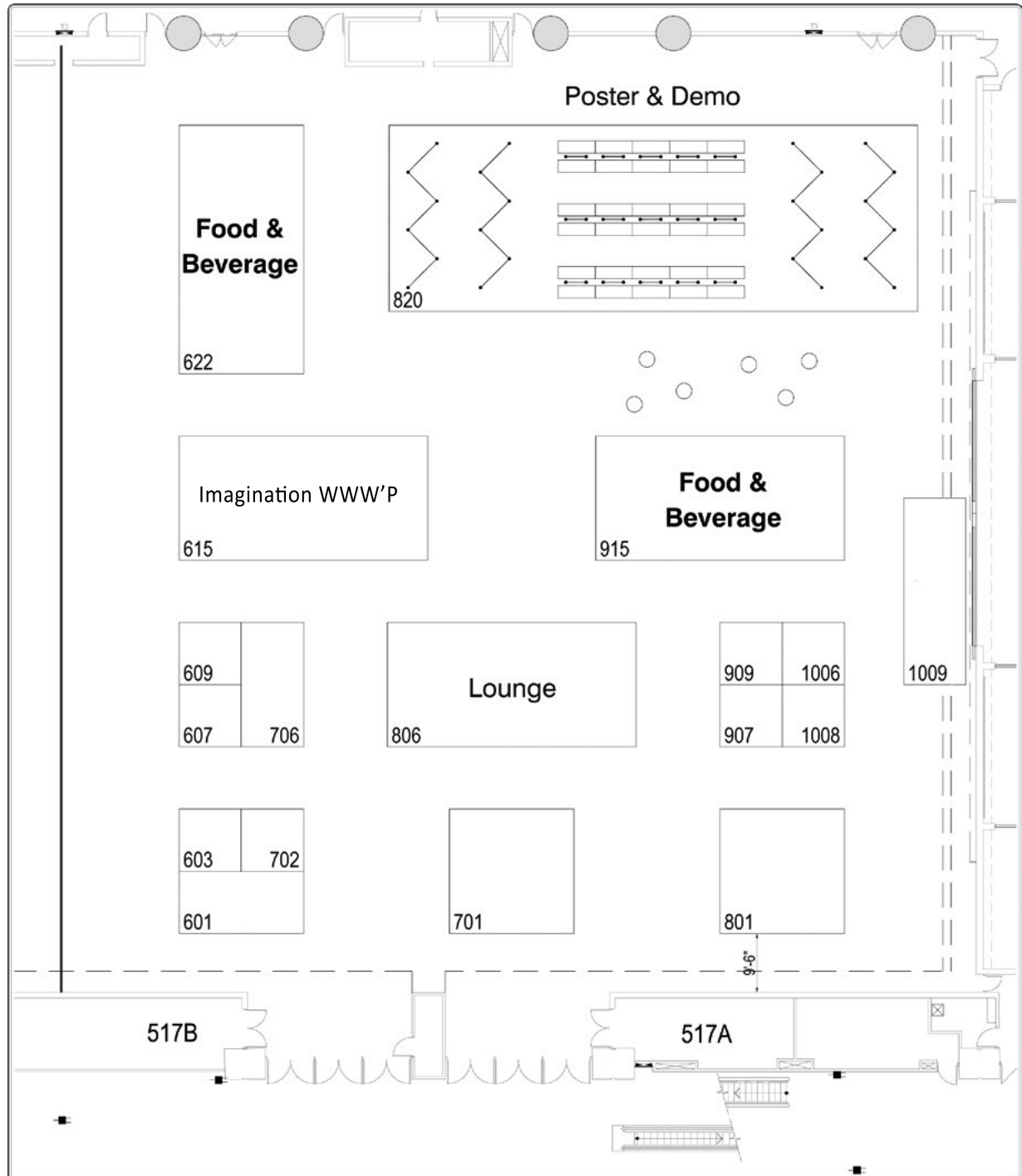
ROOM 517D

MONTREAL CITY MAP

Montréal combines modern facilities and attractions with old world charm. Set in spectacular surroundings, between Mount Royal and the mighty St.Lawrence River, the upbeat downtown area and the Old Montréal — and it's adjoining Old Port — are alive with major international festivals and events, exquisite fine dining, high style shopping and reputed nightlife. Montréal is without a doubt the liveliest city in Canada and one of the loveliest on the continent. With open spaces galore, the happy mix between big city glitz and nature park settings is perfect for tourists who like to stay in shape while visiting.

There is this joie de vivre that permeates the city and gives it a leisurely atmosphere that visitors absolutely cannot resist. Rated by the AAA as North America's gourmet capital, you can choose between some 4,900 restaurants, bistros and sidewalk cafés. You may want to shop in fashionable boutiques on elegant Crescent or Sherbrooke streets or in the fascinating 30 km web of the Underground City, or decide to take in some of the major venues such as the fabulous Casino, the Olympic Park or history-filled Old Montréal. After all, Montréal was named top cycling town in North America (Bicycling magazine) and the second trendiest city on the continent, after South Beach Florida, (Shape magazine).
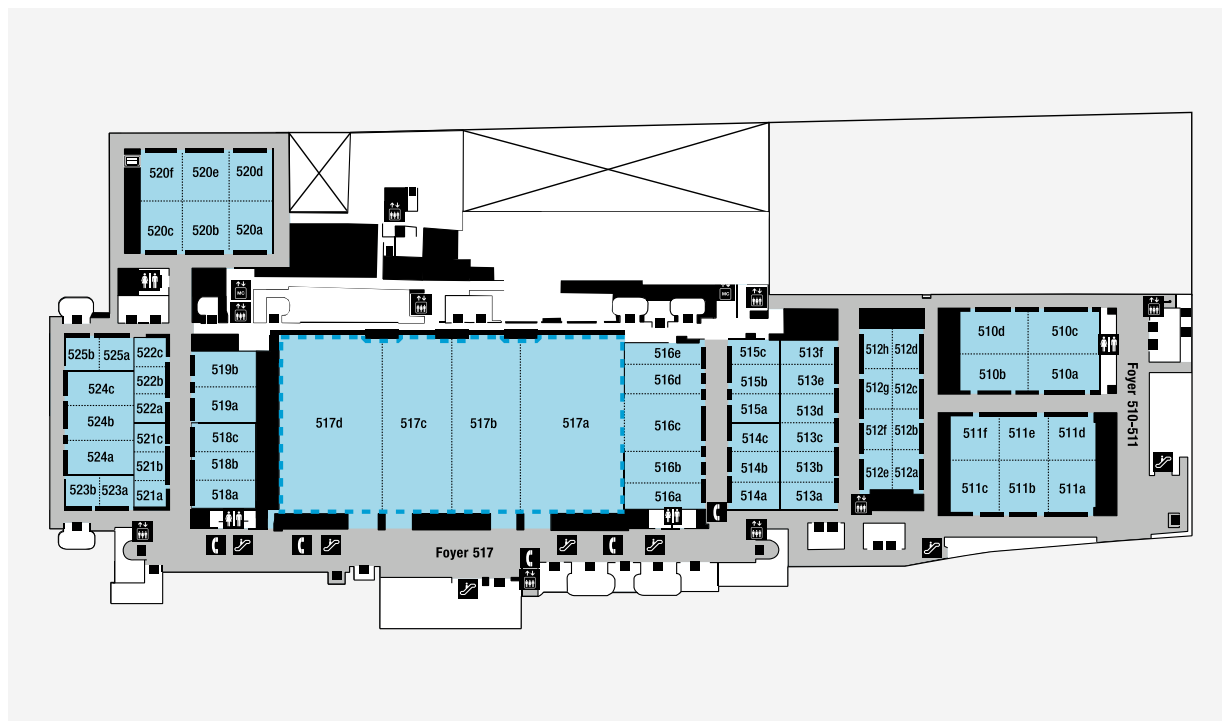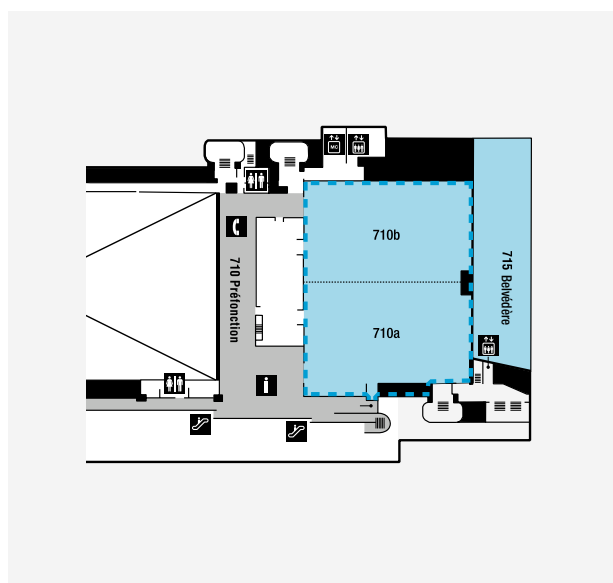
CONFERENCE VENUE (PLAN)

PALAIS DES CONGRÈS – LEVEL 5

PALAIS DES CONGRÈS – LEVEL 7

INTERNET ON SITE

Free wi-fi Internet connection is available in all meeting rooms and common spaces

ID | **WWW2016**
PASSWORD | **www-ouvert**

EXHIBITION

DATE & TIME
Monday to Thursday 8:00 am – 6:00 pm
Friday 8:00 am – 4:00 pm
ROOM 517AB

EXHIBITORS	BOOTH NUMBER
Bookwitty	1008
Cambridge University Press Canada	1006
Elsevier	909
Google	801
Microsoft	701
Morgan & Claypool Publishers	607
Nexalogy	609
Teluq	907
UQAM	601
WWW 2017	603
Yahoo Research	1009
Yellow Pages	702

PROGRAM SCHEDULE

REGISTRATION

DATE | **Monday, April 11**
TIME | **7:30 am – 5:00 pm**
ROOM 517

DATE | **Tuesday, April 12 and Wednesday, April 13**
TIME | **7:30 am – 6:00 pm**
ROOM 517

DATE | **Thursday, April 14**
TIME | **7:30 am – 7:30 pm**
ROOM 517

DATE | **Friday, April 15**
TIME | **7:30 am – 5:00 pm**
ROOM 517

TRADESHOW

DATE | **Monday, April 11 and Thursday, April 14**
TIME | **8:00 am – 6:00 pm**
ROOM 517AB

DATE | **Tuesday, April 12**
TIME | **8:00 am – 5:30 pm**
ROOM 517AB

DATE | **Wednesday, April 13**
TIME | **8:00 am – 3:00 pm**
ROOM 517AB

DATE | **Friday, April 15**
TIME | **8:00 am – 4:00 pm**
ROOM 517AB

MONDAY, APRIL 11

Time	516A	516B	516C	516D	518A	518B	518C	519A	519B
07:30									
08:00	WELCOMING COFFEE	ROOM 517							
08:30									
09:00									
09:30	DH 2016	DH 2016	W4A	Imagination WWW'P	SAVE-SD	Q4APS	USEWOD	Computational Social Science for the World Wide Web	Centrality Measures on Big Graphs
10:00									
10:30	BREAK	Trade show area							
11:00									
11:30	DH 2016	DH 2016	W4A	Imagination WWW'P	SAVE-SD	Q4APS	USEWOD	Computational Social Science for the World Wide Web	Centrality Measures on Big Graphs
12:00									
12:30	LUNCH	ROOM 517C							
13:00									
13:30									
14:00									
14:30	DH 2016	DH 2016	W4A	Imagination WWW'P	SAVE-SD	Q4APS		Computational Social Science for the World Wide Web	Cryptographic Currencies Crash Course
15:00									
15:30	BREAK	Trade show area							
16:00									
16:30	DH 2016	DH 2016	W4A	Imagination WWW'P	SAVE-SD	Q4APS		Computational Social Science for the World Wide Web	Cryptographic Currencies Crash Course
17:00									
17:30									
18:00		Poster & Demo DH							
18:30	DH 2016								
19:00									
19:30									
20:00									
20:30									

MONDAY, APRIL 11

Time	520A	520B	520C	520D	520E	520F	521AB	524A	524B	524C
07:30										
08:00										
08:30	WELCOMING COFFEE	ROOM 517								
09:00										
09:30	SOCM	8th Web Intelligence and Communities	LOCWEB	#LILE2016	ERMIS	#MICROPOSTS		DEVDAY	DEVDAY	
10:00										
10:30	BREAK	Trade show area								
11:00										
11:30	SOCM	8th Web Intelligence and Communities	LOCWEB	#LILE2016	ERMIS	#MICROPOSTS		DEVDAY	DEVDAY	
12:00										
12:30	LUNCH	ROOM 517C								
13:00										
13:30										
14:00										
14:30	SOCM	8th Web Intelligence and Communities	LOCWEB	#LILE2016	AW4CITY	#MICROPOSTS		DEVDAY	DEVDAY	
15:00										
15:30	BREAK	Trade show area								
16:00										
16:30	SOCM	8th Web Intelligence and Communities	LOCWEB	#LILE2016	AW4CITY	#MICROPOSTS		DEVDAY	DEVDAY	
17:00										
17:30								AV SET UP	AV SET UP	AV SET UP
18:00										
18:30										
19:00										
19:30										
20:00										
20:30										

TUESDAY, APRIL 12

Time	516A	516B	516C	516D	518A	518B	518C	519A	519B
09:30–10:30	DH 2016	DH 2016	W4A	Imagination WWW'P	LDOW	BIGSCHOLAR	WEBED	Building Decentralized Applications for the Social Web	Mining Big Time-Series Data on the Web
10:30–11:00					**BREAK** | Trade show area				
11:00–12:30	DH 2016	DH 2016	W4A	Imagination WWW'P	LDOW	BIGSCHOLAR	WEBED	Building Decentralized Applications for the Social Web	Mining Big Time-Series Data on the Web
12:30–14:00					**LUNCH** | ROOM 517C				
14:00–15:30	DH 2016	DH 2016	W4A	Imagination WWW'P	LDOW	BIGSCHOLAR	WEBED	Building Decentralized Applications for the Social Web	Analyzing Sequential User Behavior on the Web
15:30–16:00					**BREAK** | Trade show area				
16:00–17:30	DH 2016	DH 2016	W4A	Imagination WWW'P	LDOW	BIGSCHOLAR	WEBED	Building Decentralized Applications for the Social Web	Analyzing Sequential User Behavior on the Web

TUESDAY, APRIL 12

Time	520A	520B	520C	520D	520E	520F	521ABC	524A	524B	524C
07:30										
08:00										
08:30										
09:00										
09:30 – 10:00	SNOW	MSM2016	WIKI @ WWW	NLPIT	COBE	TEMPWEB	Automatic Entity Recognition and Typing in Massive Text Corpora	BIG	#OKFESTMTL	WWW Africa 2016
10:30					**BREAK** | Trade show area					
11:00										
11:30 – 12:00	SNOW	MSM2016	WIKI @ WWW	NLPIT	COBE	TEMPWEB	Automatic Entity Recognition and Typing in Massive Text Corpora	BIG	#OKFESTMTL	WWW Africa 2016
12:30 – 13:30					**LUNCH** | ROOM 517C					
14:00 – 14:30	SNOW	MSM2016	WIKI @ WWW	OD4LS	TEACHING THE WEB	TEMPWEB		BIG	#OKFESTMTL	WWW Africa 2016
15:00										
15:30					**BREAK** | Trade show area					
16:00										
16:30 – 17:00	SNOW	MSM2016	WIKI @ WWW	OD4LS	TEACHING THE WEB	TEMPWEB		BIG	#OKFESTMTL	WWW Africa 2016
17:30										
18:00										
18:30										
19:00										
19:30										

WEDNESDAY, APRIL 13

Time	516B	516C	518	519	520AD	520BE	520CF	524A	524B	517AB	517D
09:00											
09:30	DH 2016	W4A									OPENING CEREMONY Sir Tim Berners-Lee
10:00											
10:30											
11:00	BREAK	Trade show area									
11:30	DH 2016	W4A						W3C: Digital Publishing			Creativity Panel
12:00											
12:30											
13:00	LUNCH	ROOM 517C									
13:30											
14:00	DH 2016	W4A	Content Analysis (1)	Economics & Markets (1)	Security & Privacy (1)	Social Networks & GRAPH Analysis (1)	Behaviour Analysis & Personalization (1)	W3C: Web Payments			
14:30											
15:00											
15:30											
16:00										Poster Demo	
16:30											
17:00										Public	
17:30								W3C: Meetup			
18:00											WELCOME RECEPTION Keynote 2: Lady Martha Lane-Fox (6 – 7pm)
18:30											
19:00											
19:30									Edu-Fiction 2030		
20:00											
20:30											
21:00											

BREAK | Trade show area

THURSDAY, APRIL 14

Time	516C	518	519	520AD	520BE	520CF	521ABC	524A	517D	710AB
09:00										
09:30									Keynote 3: Mary Ellen Zurko	
10:00										
10:30	BREAK	Trade show area								
11:00										
11:30	PHD Symposium	Semantics & Big Data (1)	Web Mining (1)	Security & Privacy (2)	Content Analysis (2)	Mobility (1)	Industry Session 1	W3C: HTML Games		
12:00										
12:30										
13:00	LUNCH	ROOM 517C								
13:30	PHD Symposium	Social Networks & Graph Analysis (2)	Behaviour Analysis & Personalization (2)	Web Search System & Applications (1)	Crowdsourcing Systems & Social Media (1)	Web Science (1)	Industry Session 2	W3C: Building and Designing the Web of Things		
14:00										
14:30										
15:00										
15:30	STAND BY									
16:00										
16:30	PHD Symposium	Social Networks & Graph Analysis (3)	Web Mining (2)	Web Search System & Applicatioins (2)	Crowdsourcing Systems & Social Media (2)	Web Science (2)	Industry Session 3	W3C: Smart Cities, Cars & Homes		
17:00										
17:30							Panel: New Directions for Web Browsers and the Web to Improve User's Experience			
18:00										
18:30										
19:00										GALA
19:30										
20:00										
20:30										
21:00										
21:30										

FRIDAY, APRIL 15

Time	516C	518	519	520AD	520BE	520CF	517D
08:30							
09:00							Keynote 4: Peter Norvig
09:30							
10:00							
10:30	BREAK	Trade show area					
11:00	Social Action on the Web	Semantics & Big Data (2)	Behaviour Analysis and Personalization (3)	Security & Privacy (3)	Content Analysis (3)	Economics & Markets (2)	
11:30							
12:00							
12:30	LUNCH	ROOM 517C					
13:00							
13:30							
14:00	Seoul - Test of Time Award	Semantics & Big Data (2)	Social Networks and Graph Analysis (4)	Web Mining (3)	Behaviour Analysis & Personalization (4)	Web Search System & Applicatioins (3)	
14:30							
15:00		Security & Privacy (4)	Mobility (2)	Crowdsourcing Systems & Social Media (3)	Content Analysis (4)	Economics & Markets (3)	
15:30	BREAK	Trade show area					
16:00							CLOSING BY PERTH & AWARD CEREMONY
16:30							
17:00							
17:30							
18:00							
18:30							
19:00							
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GOOGLE

Google is a global technology leader focused on improving the ways people connect with information. Google's innovations in web search and advertising have made its website a top internet property and its brand one of the most recognized in the world. For more information, visit www.google.com/about.html.

MICROSOFT

At Microsoft Research more than 1,000 scientists and engineers work across multiple research areas in research labs worldwide, making significant product contributions and collaborating on external projects that help solve global challenges.

TOURISME MONTREAL

Tourisme Montréal is a private, non-profit organization, founded in 1919 and incorporated in 1924. It comprises more than 750 members and partners from Montreal's tourism industry, who share the common goal of promoting the city as a premier travel destination to non-local markets.

THE PALAIS DES CONGRÈS DE MONTRÉAL

Since we opened in 1983, we have built an international reputation for excellence through the more than 6,000 events and 16 million visitors we have hosted. Shortlisted for the title of World's Best Congress Centre, the Palais was Quality Standards gold certified in 2015 by the International Association of Convention Centres.

YAHOO! RESEARCH

YAHOO RESEARCH

Yahoo Research serves as Yahoo's incubator for bold new ideas and laboratory for rigorous experimentation. We work very closely with product and engineering partners to power the company's most critical products with innovative science. The forward-looking insights from our research scientists also help position Yahoo as an industry and research leader.

Baidu百度

BAIDU

Baidu, Inc. is the leading Chinese language Internet search provider. As a technology- based media company, Baidu aims to provide the best and most equitable way for people to find they're looking for. In addition to serving individual Internet search users, Baidu provides an effective platform for businesses to reach potential customers. Baidu's ADSs trade on the NASDAQ Global Select Market under the symbol "BIDU".

UQÀM

UQAM

An urban university in the heart of French North America. The quality of UQAM programs, its research activities rooted in social issues and its innovations in creation have contributed to establish its reputation, here and around the globe. A window on the world, UQAM integrates an international dimension in all its programs, and attracts students from diverse backgrounds and cultures. UQAM is the WWW2016 Local Conference Organizer.

BOOKWITTY

BOOKWITTY

Bookwitty is the first discovery platform combining open knowledge-sharing, e-commerce and social networking functionalities. Beyond discovering new content, members can also create content with an accessible online editor and connect with other users. Its unique contextualized concept enables personalized recommendations to users, based on their interests and interactions with others. Bookwitty is at the forefront of a transformation in how people from around the world find content, share ideas and purchase books, making it more of a social interaction than ever before.

Montréal

VILLE DE MONTRÉAL

Canada's second largest city with a population of 2 million, Montreal is the cultural and economic centre of the province of Quebec. Founded in 1642, Montreal's growth was originally fuelled by trade and commerce. Second largest French speaking city in the world, Montreal also prides itself as being the largest bilingual city in North America. With four universities, a rich diverse economy and a multicultural population, Montreal is now looking towards the future to position itself as one of the most innovative, welcoming and smart city on the planet.

CISCO

CISCO

Cisco Research Center (CRC) facilitates research interactions between Cisco and universities worldwide to foster innovation through external partnerships and to attract, retain, and develop top technical talent. For more information please visit research.cisco.com.

Yellow Pages

YELLOW PAGES

Yellow Pages is a Canadian digital media and marketing solutions company helping small businesses reach and foster stronger relationships with their customers and neighbourhoods through its various digital products and properties.

IBM Research

IBM RESEARCH

For more than sixty years, IBM Research has been the innovation engine of the IBM corporation. From helping the Apollo space missions land on the moon to the discovery of fractals; from the technology behind laser eye surgery to a question answering computer called Watson now being applied to health care, IBM Research continues to define the future of technology.

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NEXALOGY

Helping people and businesses to get the most out of social media. Nexalogy technology sifts through millions of social posts every day and discovers conversations, communities, audiences and much more. Our new product offers a smarter way to use Twitter. Our social discovery solutions let companies and organizations leverage social networks.

TELUQ

Founded in 1972, TÉLUQ is North America's only French-language distance education university. Each year, nearly 20,000 undergraduate and graduate students obtain their university education from TÉLUQ, which is also known for its research excellence.

NOTES

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