



WebSci '19
B O S T O N , M A

11th International
ACM Conference on Web Science
June 30 – July 3, 2019

N Northeastern University
**Khoury College of
Computer Sciences**

Program

Conference Locations

Main Conference

Northeastern University
East Village, 17th Floor
291 St Botolph St
Boston, MA 02115

Workshops and Tutorials

Northeastern University
Richards Hall
360 Huntington Ave
Boston, MA 02115

Poster Session

Northeastern University
**Raytheon Amphitheater,
Egan Research Center**
120 Forsyth St
Boston, MA 02115

Banquet

City Winery
80 Beverly St
Boston, MA 02114



Rensselaer



The MIT Press

Schedule

June 30
Sun

Richards
Hall

9:00–10:00am	Workshops/Tutorials + PhD Symposium
10:00–10:30am	Morning Break
10:30–12:00pm	Workshops/Tutorials (cont.) + PhD Symposium (cont.)
12:00–1:00pm	Lunch Break
1:00–2:00pm	Workshops/Tutorials (cont.) + PhD Symposium (cont.)
2:00–2:30pm	Afternoon Break
2:30–4:00pm	Workshops/Tutorials (cont.) + PhD Symposium (cont.)
4:00–5:00pm	Workshop and Tutorial Participant Meet and Greet

July 1
Mon

East
Village

9:00–10:00am	Keynote: Sandra Gonzalez-Bailon
10:00–10:30am	Morning Break
10:30–12:00pm	Paper Session: Web content and emotional well-being
12:00–2:00pm	Lunch & Poster Session (Raytheon Amphitheater)
2:00–3:30pm	Paper Session: User behavior on the web
3:30–4:00pm	Afternoon break
4:00–5:30pm	Paper Session: Methods and data for Web Science

July 2
Tue

East
Village

9:00–10:00am	Keynote: Fabien Gandon
10:00–10:30am	Morning Break
10:30–12:00pm	Paper Session: Prediction studies
12:00–2:00pm	Lunch break
2:00–3:30pm	Paper Session: Fairness and equality on the web
3:30–4:00pm	Afternoon break
4:00–5:30pm	Paper Session: Fake news, non-human actors and misbehaviour on the web - Part I
7:00–9:00pm	Banquet featuring Web Science Manifesto presentation

July 3
Wed

East
Village

9:00–10:30am	Paper Session: Fake news, non-human actors and misbehaviour on the web - Part II
10:30–11:00am	Morning Break
11:00–12:30pm	Paper Session: Information diffusion
12:30–1:00pm	Awards and Closing Remarks

Workshops, Tutorials and PhD Symposium Schedule

Workshops and PhD Symposium

RI = Richards Hall, Northeastern University
360 Huntington Ave, Boston, MA 02115

9:00–10:00am	Brave Conversations RI 227	Linked Learning 2019 RI 238		PhD Symposium RI 239
10:00–10:30am	Coffee Break RI 236			
10:30–12:00pm	Brave Conversations RI 227	Linked Learning 2019 RI 238	Handling Web Bias RI 229	PhD Symposium RI 239
12:00–1:00pm	Lunch			
1:00–2:00pm	Brave Conversations RI 227	Linked Learning 2019 RI 238	Handling Web Bias RI 229	PhD Symposium RI 239
2:00–2:30pm	Coffee Break RI 236			
2:30–4:00pm	Brave Conversations RI 227	Linked Learning 2019 RI 238	Handling Web Bias RI 229	PhD Symposium RI 239
4:00–5:00pm	Meet and Greet RI 236			

Tutorials

9:00–10:00am	Online Interactive Experiments on Networks RI 233	Build your own Online Lab with Volunteer Science RI 235	Web research ethics: Confidentiality, consent, data integrity & more RI 237
10:00–10:30am	Coffee Break RI 236		
10:30–12:00pm	Online Interactive Experiments on Networks RI 233	Build your own Online Lab with Volunteer Science RI 235	Web research ethics: Confidentiality, consent, data integrity & more RI 237
12:00–1:00pm	Lunch		
1:00–2:00pm	Re-decentralizing the Web with Solid RI 231	Build your own Online Lab with Volunteer Science RI 235	Web research ethics: Confidentiality, consent, data integrity & more RI 237
2:00–2:30pm	Coffee Break RI 236		
2:30–4:00pm	Re-decentralizing the Web with Solid RI 231	Build your own Online Lab with Volunteer Science RI 235	Web research ethics: Confidentiality, consent, data integrity & more RI 237
4:00–5:00pm	Meet and Greet RI 236		

Keynote Speakers

Sandra Gonzalez-Bailon

University of Pennsylvania, USA

Monday, July 1, 2019, 9:00am



Fabien Gandon

Inria, Université Côte d'Azur, CNRS, I3S, France

Tuesday, July 2, 2019, 9:00am



Paper Sessions

Web content and emotional well-being

Monday, July 1, 10:30am–12:00pm

Session Chair: Professor Pauline Leonard

In What Mood Are You Today? An Analysis of Crowd Workers' Mood, Performance and Engagement

Mengdie Zhuang (*The University of Sheffield, United Kingdom*), Ujwal Gadiraju (*L3S Research Center, Germany*)

Prevalence and Psychological Effects of Hateful Speech in Online College Communities

Koustuv Saha (*Georgia Institute of Technology, USA*), Eshwar Chandrasekharan (*Georgia Institute of Technology, USA*), Munmun De Choudhury (*Georgia Institute of Technology, USA*)

Understanding Brand consistency from Web content

Soumyadeep Roy (*Indian Institute of Technology Kharagpur, India*), Niloy Ganguly (*Indian Institute of Technology Kharagpur, India*), Shamik Sural (*IIT, Kharagpur, India*), Niyati Chhaya (*Big Data Experience Lab, Adobe Research, India*), Anandhavelu Natarajan (*Adobe, India*)

Dogs Good, Trump Bad: The Impact of Social Media Content on Sense of Well-Being (short)

Jennifer Golbeck (*University of Maryland, USA*)

Differences in Emotional Reactions to Social Media Content: The Role of Location and Content Type (short)

Farhad Mohammad Afzali (*University of Nebraska Omaha, USA*), Christian Haas (*University of Nebraska Omaha, USA*), Margeret Hall (*School of Interdisciplinary Informatics, University of Nebraska Omaha, USA*)

User behavior on the web

Monday, July 1, 2:00pm–3:30pm

Good News for People Who Love Bad News: Centralization, Privacy, and Transparency on US News Sites

Tim Libert (*Carnegie Mellon University, USA*), Reuben Binns (*University of Oxford, United Kingdom*)

The Six Relative Advantages in Multichannel Retail for Three-Dimensional Virtual Worlds and Two-Dimensional Websites

Alex Zarifis (*University of Mannheim, Germany*)

Auditing Autocomplete: Suggestion Networks and Recursive Algorithm Interrogation

Ronald Robertson (*Northeastern University, USA*), Shan Jiang (*Northeastern University, USA*), David Lazer (*Northeastern University, USA*), Christo Wilson (*Northeastern University, USA*)

Characterising third party cookie usage in the EU after GDPR (short)

Xuehui Hu (*King's College London, United Kingdom*), Nishanth Sastry (*King's College London, United Kingdom*)

Methods and data for Web Science

Monday, July 1, 4:00pm–5:30pm

Session Chair: Professor Dame Wendy Hall

The Potential for Serious Spaceships to Make a Serious Difference

Robert Fleet (*Australian National University, Australia*), Terhi Nurmikko-Fuller (*Australian National University, Australia*)

Using the Web for Science in the Classroom: Online Citizen Science Participation in Teaching and Learning

Cathal Doyle (*Victoria University of Wellington, New Zealand*), Rodreck David (*Victoria University of Wellington, New Zealand*), Jane Li (*Victoria University of Wellington, New Zealand*), Markus Luczak-Roesch (*Victoria University of Wellington, New Zealand*), Dayle Anderson (*Victoria University of Wellington, New Zealand*), Cameron Pierson (*Victoria University of Wellington, New Zealand*)

A Broad Evaluation of the Tor English Content Ecosystem

Mahdieh Zabihimayvan (*Wright State University, USA*), Reza Sadeghi (*Wright State University, USA*), Derek Doran (*Wright State University, USA*), Mehdi Allahyari (*Georgia Southern University, USA*)

Incentivized Blockchain-based Social Media Platforms: A Case Study of Steemit

Chao Li (*University of Pittsburgh, USA*), Balaji Palanisamy (*University of Pittsburgh, USA*)

A Data-Driven Examination of Hotelling's Linear City Model

Xin Liu (*University of Pittsburgh, USA*), Konstantinos Pelechrinis (*University of Pittsburgh, USA*)

Towards a Cyberphysical Web Science: A Social Machines Perspective on Pokémon GO!

David De Roure (*University of Oxford, United Kingdom*), Jim Hendler (*Rensselaer Polytechnic Institute, USA*), Diccon James (*Oxford Brookes University, United Kingdom*), Terhi Nurmikko-Fuller (*Australian National University, Australia*), Max Van Kleek (*University of Oxford, United Kingdom*), Pip Willcox (*University of Oxford, United Kingdom*)

Prediction studies

Tuesday, July 2, 10:30am–12:00pm

Session Chair: Professor Steffen Staab

EAN: Event Attention Network for Stock Price Trend Prediction based on Sentimental Embedding

Yaowei Wang (*City University of Hong Kong, Department of Computer Science, Hong Kong*), Qing Li (*The Hong Kong Polytechnic University, Department of Computing, Hong Kong*), Zhexue Huang (*Shenzhen University, College of Computer Science & Software Engineering, China*), Junjie Li (*Shenzhen University, College of Computer Science & Software Engineering, China*)

Empowering Borrowers in their choice of Lenders: Decoding Service Quality from Customer Complaints

Aniruddha Godbole (*Indiana University Bloomington, USA*), David Crandall (*Indiana University Bloomington, USA*)

Investor Retention in Equity Crowdfunding

Igor Zakhlebin (*Northwestern University, USA*), Agnes Horvat (*Northwestern University, USA*)

Harnessing Collective Intelligence in P2P Lending

Henry Dambanemuya (*Northwestern University, USA*), Agnes Horvat (*Northwestern University, USA*)

An Automated Cyclic Planning Framework Based on Plan-Do-Check-Act for Web of Things Composition

Mahda Noura (*Technische Universität Chemnitz, Germany*), Martin Gaedke (*Technische Universität Chemnitz, Germany*)

Fairness and equality on the web

Tuesday, July 2, 2:00pm–3:30pm

Session chair: Professor Ricardo Baeza-Yates

As the tweet, so the reply? Gender bias in digital communication with politicians

Armin Mertens (*University of Cologne, Germany*), Franziska Pradel (*University of Cologne, Germany*), Ayjeren Rozyjumayeva (*University of Cologne, Turkmenistan*), Jens Wäckerle (*University of Cologne, Germany*)

Exploring Misogyny across the Manosphere in Reddit

Tracie Farrell (*Open University UK, United Kingdom*), Miriam Fernandez (*Open University UK, United Kingdom*), Jakub Novotny (*United Kingdom*), Harith Alani (*Open University UK, United Kingdom*)

Algorithmic Privacy and Gender Bias Issues in Google Ad Settings (short)

Nisha Shekhawat (*The LNM Institute of Information Technology, India*), Aakanksha Chauhan (*The LNM Institute of Information Technology, India*), Sakthi Balan Muthiah (*The LNM Institute of Information Technology, India*) (**speaker: Ritam Dutt**)

Characterizing Transport Perception using Social Media: Differences in Mode and Gender (short)

Paula Vásquez-Henríquez (*Data Science Institute, Universidad del Desarrollo, Chile*), Eduardo Graells-Garrido (*Data Science Institute, Universidad del Desarrollo, Chile*), Diego Caro (*Data Science Institute, Universidad del Desarrollo, Chile*)

Pwned: Number of Breached Online Accounts Per Person and Socio-demographic Predictors (short)

Ken Cor (*University of Alberta, Canada*), Gaurav Sood (*Microsoft, Canada*)

Fake news, non-human actors and misbehaviour on the web – Part I

Tuesday, July 2, 4:00pm–5:30pm

Session Chair: Professor Harith Alani

Trust It or Not: Effects of Machine Learning Warning in Helping Individuals Mitigate Misinformation

Haeseung Seo (*The Pennsylvania State University, USA*), Aiping Xiong (*The Pennsylvania State University, USA*), Dongwon Lee (*The Pennsylvania State University, USA*)

Minority Report: Cyberbullying Prediction on Instagram

Charalampos Chelmiss (*University at Albany, State University of New York, USA*), Mengfan Yao (*University at Albany, State University of New York, USA*)

Explainable Machine Learning for Fake News Detection

Julio Reis (*Universidade Federal de Minas Gerais (UFMG), Brazil*), André Correia (*Universidade Federal de Minas Gerais (UFMG), Brazil*), Fabricio Murai (*Universidade Federal de Minas Gerais (UFMG), Brazil*), Adriano Veloso (*Universidade Federal de Minas Gerais (UFMG), Brazil*), Fabricio Benevenuto (*Universidade Federal de Minas Gerais (UFMG), Brazil*)

A Unified Deep Learning Architecture for Abuse Detection

Antigoni-Maria Founta (*Aristotle University of Thessaloniki, Greece*), Despoina Chatzakou (*Aristotle University of Thessaloniki, Greece*), Nicolas Kourtellis (*Telefonica Research, Spain*), Jeremy Blackburn (*University of Alabama at Birmingham, USA*), Athena Vakali (*Aristotle University of Thessaloniki, Greece*), Ilias Leontiadis (*Telefonica Research, Spain*)

A Reverse Turing Test for Detecting Machine-Made Texts (short)

Jialin Shao (*Beijing University of Technology, China*), Adaku Uchendu (*The Pennsylvania State University, USA*), Dongwon Lee (*The Pennsylvania State University, USA*)

Fake news, non-human actors and misbehaviour on the web – Part II

Wednesday, July 3, 9:00am–10:30am

RTbust: Exploiting Temporal Patterns for Botnet Detection on Twitter

Michele Mazza (IIT-CNR, Italy), Stefano Cresci (IIT-CNR, Italy), Marco Avvenuti (University of Pisa, Italy), Walter Quattrociocchi (University of Venice, Italy), Maurizio Tesconi (IIT-CNR, Italy)

Who Let The Trolls Out? Towards Understanding State-Sponsored Trolls

Savvas Zannettou (Cyprus University of Technology, Cyprus), Tristan Caulfield (University College London, United Kingdom), William Setzer (University of Alabama at Birmingham, USA), Michael Sirivianos (Cyprus University of Technology, Cyprus), Gianluca Stringhini (Boston University, USA), Jeremy Blackburn (University of Alabama at Birmingham, USA)

What Sets Verified Users Apart? Insights, Analysis and Prediction of Verified Users on Twitter

Indraneil Paul (IIIT Hyderabad, India), Abhinav Khattar (IIIT Delhi, India), Shaan Chopra (IIIT Delhi, India), Ponnuram Kumaraguru (IIIT Delhi, India), Manish Gupta (Microsoft, India)

Analyzing the Spread of Textual Information in Whatsapp Groups

Gustavo Jota Resende (Universidade Federal de Minas Gerais, Brazil), Philipe Melo (UFMG, Brazil), Julio C. S. Reis (Universidade Federal de Minas Gerais, Brazil), Marisa Vasconcelos (IBM, Brazil), Jussara Almeida (UFMG, Brazil), Fabricio Benevenuto (Federal University of Minas Gerais (UFMG), Brazil)

Better Safe Than Sorry: an Adversarial Approach to improve Social Bot Detection

Stefano Cresci (IIT-CNR, Italy), Marinella Petrocchi (IIT-CNR, Italy), Angelo Spognardi (Dipartimento di Informatica, Sapienza Università di Roma, Italy), Stefano Tognazzi (IMT School for Advanced Studies, Italy)

Information diffusion

Wednesday, July 3, 11:00am–12:30pm

New tab page recommendations strongly concentrate web browsing to familiar sources

Homanga Bharadhwaj (Indian Institute of Technology Kanpur, India), Nisheeth Srivastava (Indian Institute of Technology Kanpur, India) (speaker: Gaurav Sood)

Characterizing Attention Cascades in Whatsapp Groups

Josemar Caetano (UFMG, Brazil), Gabriel Magno (UFMG, Brazil), Marcos Gonçalves (UFMG, Brazil), Jussara Almeida (UFMG, Brazil), Humberto T. Marques-Neto (PUC, Brazil), Virgilio Almeida (UFMG, Brazil)

Debunking Rumors in Social Networks: A Timely Approach

Liang Wu (Arizona State University, USA), Huan Liu (Arizona State University, USA)

Spread of hate speech in online social media

Binnu Mathew (IIT, India), Ritam Dutta (IIT, India), Pawan Goyal (IIT, India), Animesh Mukherjee (IIT, India)

Modelling web based socio-technical systems through formalising possible sequences of human experience

Robert Walton (University of Oxford, United Kingdom), David De Roure (University of Oxford, United Kingdom)

Concept of Keystone Species in Web Systems: Identifying Small Yet Influential Online Bulletin Board Threads (short)

Shota Ejima (The graduate school of Systems and Information Engineering, University of Tsukuba, Japan), Mizuki Oka (The graduate school of Systems and Information Engineering, University of Tsukuba, Japan), Takashi Ikegami (The graduate school of Arts and Sciences, The University of Tokyo, Japan)

Poster Session

Monday, July 1, 12-2pm

Raytheon Amphitheater, Egan Research Center

Efficient Tracking of Breaking News in Twitter

Tuan-Anh Hoang (L3S Research Center, Leibniz University of Hanover, Germany), Huyen Nguyen (L3S Research Center, Leibniz University of Hanover, Germany), Wolfgang Nejdl (L3S and University of Hannover, Germany)

How Gullible Are You? Predicting Susceptibility to Fake News

Tracy Shen (The Pennsylvania State University, USA), Robert Cowell (The Pennsylvania State University, USA), Thai Le (The Pennsylvania State University, USA), Aditi Gupta (The Pennsylvania State University, USA), Amulya Yadav (The Pennsylvania State University, USA), Dongwon Lee (The Pennsylvania State University, USA)

FLOOD-Serv Project: Piloting of Public Emergency and Awareness Services Platform

Tomas Koren (Exdwarf consulting, s.r.o., Slovakia)

Link Prediction via Second Order Cone Programming

Shreya Malani (Microsoft, India), Dinesh Gaurav (Microsoft, India), Rahul Agrawal (Microsoft AdCenter, India)

Political Advertising on Social Media: What Makes You More Likely to be Targeted?

Or Levi (AdVerifai, Netherlands), Sardar Hamidian (The George Washington University, USA), Pedram Hosseini (The George Washington University, USA)

Temporal Analysis of Demand and Supply of Topics on The Web

Masahiro Inoue (Kyoto University, Japan), Keishi Tajima (Kyoto University, Japan)

Live It Up: Analyzing Emotions and Language Use in Tweets during the Soccer World Cup Finals

Marisa Vasconcelos (IBM, Brazil), Jussara Almeida (UFMG, Brazil), Paulo Cavalin (IBM, Brazil), Claudio Pinhanez (IBM, Brazil)

Building Sociality Through Sharing: Seniors' Perspectives on Misinformation

Mahika Wason (IIIT DELHI, India), Sharmistha Swasti Gupta (IIIT Delhi, India), Shriram Venkatraman (IIIT Delhi, India), Ponnuram Kumaraguru (IIITD, India)

Extremist Propaganda Tweet Classification with Deep Learning in realistic scenarios

Leonardo Nizzoli (Institute of Informatics and Telematics (IIT-CNR), Information Engineering Department (University of Pisa), Italy), Marco Avvenuti (Dept. of Information Engineering - University of Pisa, Italy), Stefano Cresci (CNR.it, Italy), Maurizio Tesconi (CNR - IIT, Italy)

Populism and the Web: how do populists' supporters engage online?

Justyna Jonak (University of Southampton, United Kingdom), David Millard (University of Southampton, United Kingdom)

Longitudinal Online Profile Sampling – A Method to Measure Changes in Self-Ascribed Identity

Jason Jones (Stony Brook University, USA)

From Ads to Polls: Leveraging the Facebook Ads Platform for Election Polling

Filipe Ribeiro (Federal University of Ouro Preto, Brazil), Daniel Kansaon (Federal University of Minas Gerais, Brazil), Fabrício Benevenuto (Federal University of Minas Gerais, Brazil)

Abortion Debate on Twitter: Dynamics and Representativeness

Eduardo Graells-Garrido (Data Science Institute, Universidad del Desarrollo, Chile), Ricardo Baeza-Yates (NTENT, Northeastern University, Universitat Pompeu Fabra, Universidad de Chile, USA), Mounia Lalmas (Spotify, United Kingdom)

Twitter Time Machine: A Multidimensional Immersive Exploration Environment for the TwitterSphere

Alex Mankowski (Rensselaer Polytechnic Institute, USA), Sarah McRae (Rensselaer Polytechnic Institute, USA), Brian Maher (Rensselaer Polytechnic Institute, USA), John Erickson (The Rensselaer Institute for Data Exploration and Applications, USA)

Digital Fingerprints of Cognitive Reflection

Mohsen Mosleh (MIT, USA), Gordon Pennycook (University of Regina, Canada), David Rand (MIT, USA)