



City of Seattle Boards & Commissions Notice of Appointment

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|--|---|--|
| Appointee Name: <i>Dr. Afra J. Mashhadi</i> | | |
| Board/Commission Name: <i>Seattle Pedestrian Advisory Board</i> | | Position Title: <i>Member</i> |
| <input checked="" type="checkbox"/> Appointment OR <input type="checkbox"/> Reappointment | Council Confirmation required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Appointing Authority: <input type="checkbox"/> Council <input checked="" type="checkbox"/> Mayor <input type="checkbox"/> Other: <i>Specify appointing authority</i> | | Term of Office: <i>04/01/16 to 04/01/18</i> |
| Residential Neighborhood: <i>Uptown</i> | Zip Code: <i>98119</i> | Contact Phone No.: |
| Legislated Authority: <i>Resolution 29532</i> | | |
| Background: <i>Afra is a research scientist for Bell Laboratories and has a great interest in urban analytics in understanding urban cities and the geographical attributes that could contribute to citizens' happiness. In this line, she has investigated crowd-sourcing systems, which rely on active participation of citizens to report information about city infrastructure (urban barriers and facilities). Her interest stems from understanding the intangible factors that shape citizens' perception of the built environment. She wants to bridge the gap between research and real world experiences.</i> | | |
| Date of Appointment: <i>3/21/16</i> | Authorizing Signature (original signature): | Appointing Signatory: <i>Edward B. Murray Mayor of Seattle</i> |

FILED
 CITY OF SEATTLE
 2016 APR -6 PM 2:01
 CITY CLERK

Dr. Afra J. Mashhadi

BRIEF BIO

Since April 2012, I have been a research scientist at Bell Laboratories where I am a member of Internet of Things team led by Fahim Kawsar. Prior to joining Bell Labs I was part of Mobile System group at University College London where I also received my Ph.D. under the supervision of Prof. Licia Capra. My research pioneered the use of human behavioural traits to facilitate content dissemination in delay tolerant networks (DTN). My current research is on Ubiquitous Computing where I leverage human behavioural patterns to design human-centric systems; and Human Computer Interactions (HCI) where I aim to uncover the perception of users interaction with such systems. In particular my main focus is on CrowdSensing which refers to the data collection methodology where information is gathered from the participants through either explicit CROWD-sourcing or implicit pervasive SENSING. Results of my research have been published in top-tier conferences (Percom, CHI, CSCW, Ubicomp) and journals, and trialled as part of multiple deployments in European projects and private entities such as WebSummit 2015. My most recent professional activities include acting as Panel Chair of UrbanIoT2016, serving as AC committee member of CSCW2016, ICWSM 2016, external reviewer for CHI 2016 and UBICOMP 2015, as well as organising an upcoming workshop in CSCW 2016.

EDUCATION

PhD in Computer Science
Awarded March 2011

University College London
Sep. 2007 - Mar. 2011

- Thesis Title: Content Dissemination for Participatory Delay Tolerant Networks
- Advisors: Prof. Licia Capra and Prof. Stephen Hailes

The thesis presents content dissemination protocols that leverage information about user mobility, as well as interest, in order to deliver content, while avoiding overwhelming non-interested users. In the thesis, I explicitly reason about battery consumption of mobile devices to model participation, and achieve fairness in terms of workload distribution among participants. I also introduce a dynamic priority scheduling framework, which enables the network to allocate the scarce energy resources available to support the delivery of the most desired messages.

M.Eng Computer Science
First Class Honours

University College London (UCL)
Sep. 2003 - May 2007

WORK EXPERIENCE

- Senior Research Scientist
IoT Group (Bell Laboratories)

Dublin
April 2012- Present

In my current role as a senior research scientist in Bell Labs, I lead a sub-team of three researchers in Dublin. I have demonstrated my leadership skills through both bringing cutting-edge research directions and multiple projects to the team. More precisely, I have initiated two projects in the past three years. One as an external EU project that received funding from EIT ICT labs for which I acted

as the principle investigator. More recently an internal (ongoing) project on Future Communities for which my work has led to external collaboration with CI Lab and deployment in WebSummit 2015.

In addition to my team members, I have supervised over five research interns and acted as an external supervisor for others including a group of four final year students in the Media Lab Amsterdam. The result of my research has received attention and praise from both internal and external entities. With over seven filed patents, I have illustrated how my findings could be translated into products and services. I have also presented and demonstrated my work externally to the community in top-tier conferences.

- Research Fellow London
iTour - Intelligent Transport system for Optimised URban trips (UCL) March 2011 - February 2012
During my Post-Doc training at UCL I was funded by the i-Tour project, a multimillion Euro project of the European Commission, aiming to provide intelligent mobility services and encouraging a "sustainable public transport" system. UCL was one of the nine academic and industrial EU partners, alongside FIAT, ULA and FORMIT. As part of this project I was responsible for defining novel mechanisms for quality assurance in crowdsourced transport information. This research direction engendered my subsequent work on urban crowdsourcing where I investigated coverage and quality challenges. My research in the field of urban crowdsourcing led to multiple top-tier publications, an honourable mention by the UNITED NATIONS Globe Pulse labs, as well as to many workshops and conferences which I have organised and took part in as invited speaker. During this period I also co-supervised two junior researchers, Desi Hristova and Chris Smith for whom I continue to act as external PhD supervisor in Bell Labs.

- Teaching and Supervisory Experiences London
Computer Science Department (UCL) Sep. 2007 -2012
During my postgraduate years in UCL I carried active duties such as teaching courses in Requirement analysis and Principles of Programming - as well as regularly organising and providing latex classes for fellow PhD students and others. I have been responsible for the supervision of several students at different levels of study. More specifically, I had been the principle supervisor for two groups of final year Advanced Soft. Eng. project, as well as a final year MEng student whose project focused on information-centric content distribution in DTN, and a summer research intern.

- { Sep 2009 to Mar 2010: Final year student, G. Lo Giusto, whose project was focused on information-centric content distribution in DTN.
- { June 2009 to Sep 2009: Research intern, Jonathan Ellis, whose work was focused on the Friend-Sensing project and implementation for the BlackBerry platform.
- { Sep 2008 to Mar 2009: Final group projects for Masters in Advanced Software Engineering (2 groups of 5 students each).

- Visiting Researcher Berlin
Deutsche Telekom Labs April 2010 - July 2010

- Asset Servicing Technology Developer London
Goldman Sachs May 2006 - Sep. 2006

- Research and Development Intern London
Computer Science Department (UCL) May 2005 - Sep. 2005
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PROFESSIONAL ROLES

- N2Women Fellowship Chair 2015-2017
<http://committees.comsoc.org/n2women/>
I am immensely proud to serve as as the N2WOMEN fellowship co-chair 2015. Networking Networking Women (N2 Women) is a discipline-specific community for researchers in the communications and networking research fields. The main goal of N2 Women is to foster connections among the under-represented women in computer networking and related research fields.

 - Principle Investigator of EIT ICT TravelDashboard Project 2013-2014

In 2012 I took the initiative to bring a multi million project funded by EIT ICT labs to Bell Labs, and acted as PI for this project. As the PI I actively worked with other partners to shape the proposal, define the project's goals and contributions from Bell Labs staff. With the money acquired from this project I hired and supervised a research assistant who helped with the technology maturation and the demo of the final product which was demonstrated on Milan Expo in 2015.

 - Honorary Research Staff at UCL 2012-Present

I hold my honorary research position at UCL and actively collaborate with my previous research team and Intel Collaborative Research Institute located at UCL
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PROFESSIONAL ACTIVITIES

- Organising Committee
 - { Program Chair: I have served as the Technical Program Co-Chair for:
 - The First International Conference on Urban-IoT in 2014.
 - GeoHCI Workshop in conjunction with CHI2013
 - Quantified Workplace Workshop in conjunction with CSCW2016
 - { Panel Chair: Urban-IoT 2016.
 - { AC Program Committee:
 - CSCW 2016
 - CSCW 2015
 - UIC 2015
 - ICWSM 2016
 - ICWSM 2015
 - MobiQuitous 2016
 - MobiQuitous 2014
 - Wikisym 2015
 - Wikisym 2014
 - Wikisym 2013
 - PURBA 2015
 - UrbanIoT 2016
 - UbiCrowd 2012

{ External Reviewer:

- CHI 2016
 - CHI 2015
 - CHI 2014
 - MobiCase 2015
 - Ubicomp 2015
 - Ubicomp 2014
 - Ubicomp 2013
 - IEEE Pervasive Computing
 - IEEE Transactions in Computing
- Editorial Advisory Board of: "Enriching Urban Spaces with Ambient Computing, the Internet of Things and Smart City Design"
-

Student Advising and Mentorship

Research Interns at Bell Labs

- [2015] - Otto Waltari - WiFi sensing
- [2014] - Alessandro Montanari - Privacy of IoT objects
- [2013] - Moustafa Alzantot - TravelDashboard
- [2012] - Vaclav Belak - Information Diffusion

Research Interns at UCL

- [2011] - Desi Hristova - Social Aspect of Crowdsourcing
- [2010] - G. Lo Giusto - Folksonomy-based Content Dissemination
- [2009] - Jonathan Elis - Friend Sensing

External PhD Advisor

- [2012-2014] - Chris Smith

External PhD Examiner

- [2015] - Catia Prandi
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AWARDS

| | |
|--|-----------|
| Women in Networking (N2Women) Fellowship Award | 2010 |
| EPSRC (DTA) PhD full funding | 2007-2010 |
| Nuffield Undergraduate Award (\$1,800) | 2005 |

SELECTED PUBLICATIONS

2016

- Afra Mashhadi, Fahim Kawsar, Akhil Mathur, Casey Dugan, N.Sadat Shami. Let's Talk About the Quantified Workplace. In the proceedings of the CSCW '16 Companion, San Francisco, CA, USA.
- Sourav Battacharya, Afra Mashhadi, Fahim Kawsar. In Pursuit of Happiness: Understanding Subjective Well-Being of Citizens from the City Attributes. Under review in PLOS ONE journal.

2015

- Geert Vanderhulst, Afra Mashhadi, Mina Dashti, Fahim Kawsar. Detecting Human Encounters from WiFi Radio Signals. In the proceedings of the 14th ACM international conference on Mobile and Ubiquitous Multimedia (MUM 2015).
- Akhil Mathur, Marc Van den Broeck, Geert Vanderhulst, Afra Mashhadi, Fahim Kawsar. Tiny Habits in the Giant Enterprise: Understanding the Dynamics of a Quantified Workplace. In the proceedings of the ACM international joint conference on Pervasive and Ubiquitous Computing (UbiComp 2015).
- U. Gunay Acer, A. Mashhadi, C. Forlivesi, F. Kawsar. Energy Efficient Scheduling for Mobile Push Notifications. In proceedings of the 12th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQoS 2015).
- V. Belak, A. Mashhadi, A. Sala, D. Morisson. Phantom Cascades: The effect of hidden nodes on information diffusion. In Elsevier Journal of Computer Communication.
- G. Vanderhulst, M. Dashti, A. Mashhadi and F. Kawsar. CrumbIR: Enabling Proxemic Services through Opportunistic Location Sharing. In Proceedings of the International Conference on Pervasive Computing and Communication (Percom 2015), March 2015
- A. Mashhadi, G. Quattrone, and L. Capra. The Impact of society on Volunteered Geographic Information: the case of OpenStreetMap. A book chapter in Springer Edition of OpenStreetMap in GIScience: experiences, research and applications.

2014

- A. Mashhadi, Akhil Mathur and Fahim Kawsar. The Myth of Subtle Notification. In Adjunct Proceedings of the International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2014), September 2014
- A. Mashhadi and Fahim Kawsar. Human Data Interaction in IoT: The Ownership Aspect. In Proceedings of The IEEE World Forum on Internet of Things 2014 (WF-IoT 2014), Seoul, Korea, 6-8 March 2014
- C. Smith, A. Mashhadi and L. Capra. Poverty on the Cheap: Estimating Poverty Maps Using Aggregated Mobile Communication Networks. In Proceedings of the of the ACM conference on Human Factors in Computing Systems (CHI2014)

- G. Quattrone, A. Mashhadi , L. Capra. Modelling Growth of Urban Crowd-Sourced Information. In Proceedings of the 7th ACM International Conference on the Web Search and Data Mining.(WSDM 2014)
- G. Quattrone, A. Mashhadi , L. Capra. Mind the Map: The Impact of Culture and Economic Affluence on Crowd-Mapping Behaviours. In Proceedings of the 17th ACM International Conference on the Computer Supported Work and Social Computing. (CSCW2014)

2013

- T. Yasseri, G. Quattrone, A. Mashhadi. Temporal Analysis of Activity Patterns of Editors in Collaborative Mapping Project of OpenStreetMap. In Proceedings of the 8th International Conference on Wikis and Open Collaboration (Wikisym2013).
- B. Hecht, J. Shoning, M. Haklay, L. Capra, A. Mashhadi, L. Terveen and M. Kawn. Geographic Human Computer Interaction. In Proceedings of the ACM conference on Human Factors in Computing Systems. CHI2013.(Extended Abstract).
- C. Smith, A. Mashhadi and L. Capra. Ubiquitous Sensing for Mapping Poverty in Developing Countries. In Proceedings of in 3rd International Conference on the Analysis of Mobile Phone Datasets (NetMob2013). May 2013.
- D. Hristova and G. Quattrone and A. Mashhadi and L. Capra. The Life of the Party: Impact of Social Mapping on OpenStreetMap. In Proceedings of the 8th AAAI International Conference on Weblogs and Social Media (ICWSM 2013). June 2013.
- A. Mashhadi and Giovanni Quattrone and L. Capra. Putting Ubiquitous Crowd-sourcing into Context. In Proceedings of the 16th ACM International Conference on the Computer Supported Work and Social Computing (CSCW2013). February 2013.

2012

- A. Mashhadi and Giovanni Quattrone and L. Capra and Peter Mooney. On the Accuracy of Urban Crowd-Sourcing for Maintaining Large-Scale Geospatial Databases. In Proceedings of the 8th International Conference on Wikis and Open Collaboration (Wikisym2012). Linz, Austria. August 2012.
- D. Hristova and A. Mashhadi and L. Capra Mapping Community Engagement with Urban Crowd-Sourcing. In Proceedings of When the City Meets the Citizen (WCMCW), in conjunction with ICWSM. Dublin, Ireland. June 2012.

2011

- A. J. Mashhadi and L. Capra. Quality Control for Real-Time Crowdsourcing. In Proceedings of the 2nd ACM International Workshop on Ubiquitous Crowdsourcing (UBICROWD'11). Beijing, China. September 2011.
- A. J. Mashhadi and L. Capra. Priority Scheduling for Participatory Delay Tolerant Networks. In Proceedings of the 12th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM '11). Lucca, Italy. June 2011.
- A. J. Mashhadi, S. Ben Mokhtar and L. Capra. Fair Content Dissemination in Participatory DTNs. Elsevier Journal Special Issue on Ad Hoc Networks. June 2011.

2010

- G. Lo Giusto, A. J. Mashhadi, and L. Capra. Folksonomy-based Reasoning for Content Dissemination in Mobile Settings. In Proceedings of the 6th ACM Workshop on Challenged Networks (CHANTS'10 in conjunction with MobiCom). Chicago. USA. September 2010.
- S. Ben Mokhtar, A. J. Mashhadi, L. McNamara and L. Capra. A Self-Organising Directory and Matching Service for Opportunistic Social Networking. In Proceedings of the 3rd Workshop on Social Network Systems (SNS'10). Paris. France. April 2010.

2009

- A. J. Mashhadi, S. Ben Mokhtar and L. Capra. Habit: Leveraging Human Mobility and Social Network for Efficient Content Dissemination in DTN. In Proceedings of the 10th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM 09). Kos. Greece. June 2009.

PATENTS

2015

- Geert Vanderhulst, A. Mashhadi, and Fahim Kawsar. Method For Generating A Reputation Measure, An Access Point, User Equipment And A Computer Program Product. EU Patent Pending
- Geert Vanderhulst, A. Mashhadi, and Fahim Kawsar. User Tracking. EU Patent Pending

2014

- Geert Vanderhulst and A. Mashhadi. A Platform For Privacy-Preserved User Location Sharing Based On Wireless Signal Fingerprinting. EU Patent Pending
- Alessandro Montanari, A. Mashhadi, Aidan Boran and Fahim Kawsar. Privacy Meter for Connected Devices. U.S Patent Pending

- A. Mashhadi, Utku Acer Gunay, Fahim Kawsar and Marc Van den Broeck. Wearable Display For Personal Computing. EU Patent Pending

2013

- A. Mashhadi, Fahim Kawsar, Utku Acer and Claudio Forlivesi. Method For Priority Scheduling Of Notification And Ad Messages For Efficient Network Communication. EU Patent Pending
- A. Mashhadi, Aidan Boran and Vijay Venkateswaran. Security Mechanism for Short Range Radio Frequency Communication Method. US Patent Pending

REFERENCES

Available upon request only.

Seattle Pedestrian Advisory Board

11 Members per *Resolution 29532*, 2-year terms

1 Get-Engaged Member per *Ordinance 120325*, 1-year term

All subject to City Council confirmation:

- 5 City Council-appointed
- 7 Mayor-appointed
- 0 Other Appointing Authority-appointed

Roster:

| *D | **G | Position No. | Position Title | Name | Term Start Date | Term End Date | Term # | Appointed By |
|----|-----|--------------|--------------------|-----------------------------|-----------------|---------------|--------|--------------|
| 5 | M | 1. | Member | Beau Morton | 4/1/16 | 4/1/18 | 1 | Council |
| 6 | F | 2. | Member | Catherine E. Morrison | 4/1/15 | 4/1/17 | 1 | Council |
| 6 | M | 3. | Member | Paul Muldoon | 4/1/15 | 4/1/17 | 1 | Council |
| 6 | M | 4. | Member | Gordon Padelford | 3/30/15 | 4/1/17 | 1 | Council |
| 2 | F | 5. | Member | Angela Davis | 7/1/15 | 4/1/17 | 1 | Council |
| 8 | F | 6. | Member | Dr. Afra J. Mashhadi | 4/1/16 | 4/1/18 | 1 | Mayor |
| 6 | F | 7. | Member | April A. Kelley | 4/1/15 | 4/1/17 | 1 | Mayor |
| 9 | F | 8. | Member | Christina Rajan Billingsley | 4/1/16 | 4/1/18 | 1 | Mayor |
| 6 | F | 9. | Member | Janine C. Blaeloch | 4/1/16 | 4/1/18 | 1 | Mayor |
| 6 | F | 10. | Member | Joanne Donohue | 4/1/15 | 4/1/17 | 2 | Mayor |
| 5 | M | 11. | Member | Ryan Bondroff | 4/1/16 | 4/1/18 | 1 | Mayor |
| 5 | F | 12. | Get-Engaged Member | Cameron Zapata | 9/9/15 | 9/1/16 | 1 | Mayor |

Diversity Chart:

| | (1) | | (2) | | (3) | | (4) | | (5) | | (6) | | (7) | | (8) | | (9) | |
|--------------|----------|----------|--------|----------|----------------|------------------------|-----------------|-------------------------------|----------|------------------------|------------------|----------------|-------------|--|-----|--|-----|--|
| | Men | Women | Vacant | Minority | Asian-American | Black/African American | Hispanic/Latino | American Indian/Alaska Native | ***Other | Caucasian/Non-Hispanic | Pacific Islander | Middle Eastern | Multiracial | | | | | |
| Mayor | 1 | 6 | | 4 | | | | | 2 | 3 | | 1 | 1 | | | | | |
| Council | 3 | 2 | | 2 | | 1 | | | 1 | 3 | | | | | | | | |
| Other | | | | | | | | | | | | | | | | | | |
| Total | 4 | 8 | | 6 | | 1 | | | 3 | 6 | | 1 | 1 | | | | | |

Key:

*D List the corresponding *Diversity Chart* number (1 through 9)

**G List gender, M or F

***Other Includes diversity in any of the following: *race, gender and/or ability*