JELENA MARAŠEVIĆ

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EDUCATION

2012–2016 Columbia University, New York, NY

Ph.D. in Electrical Engineering

School of Engineering and Applied Science, Department of Electrical Engineering
Cumulative GPA: 4.11/4.0, M.Phil. awarded in Oct. 2015
Research Interests: *Algorithms, optimization, full-duplex networks, energy harvesting networks.*
Advisors: Prof. Gil Zussman and Prof. Cliff Stein

2011–2012 Columbia University, New York, NY

M.S. in Electrical Engineering

School of Engineering and Applied Science, Department of Electrical Engineering
Final GPA: 4.09/4.0
Master of Science Award of Excellence

2007–2011 University of Belgrade, Belgrade, Serbia

B.S. in Electrical Engineering and Computing

School of Electrical Engineering
Major: Communication Systems and Microwave Engineering
Final GPA: 9.82/10.0 (top 2%)
Thesis: Antenna Array Optimization Using a Genetic Algorithm
Thesis advisor: Prof. Dragan Olćan

PUBLICATIONS

Conference Proceedings

H. Krishnaswamy, G. Zussman, J. Zhou, J. Marašević, T. Dinc, N. Reiskarimian, and T. Chen, "Full-Duplex in a Hand-held Device - From Fundamental Physics to Complex Integrated Circuits, Systems, and Networks: An Overview of the Columbia FlexICoN Project", *to appear* in Proc. Asilomar'16, 2016, **invited paper**

J. Marašević, C. Stein, G. Zussman, "A Fast Distributed Stateless Algorithm for $\alpha-$Fair Packing Problems", In Proc. ICALP'16, 2016.

J. Marašević, G. Zussman, "On the Capacity Region of Single-Channel and Multi-Channel Full-Duplex Links", In Proc. ACM MobiHoc'16, 2016 (accept. rate: 18.7%).

J. Marašević, J. Zhou, H. Krishnaswamy, Y. Zhong, G. Zussman, "Resource Allocation and Rate Gains in Practical Full-Duplex Systems", In Proc. ACM SIGMETRICS'15, 2015 (accept. rate 13.4%).

J. Marašević, C. Stein, G. Zussman, "Max-min Fair Rate Allocation and Routing in Energy Harvesting Networks: Algorithmic Analysis", In Proc. ACM MobiHoc '14, 2014 (accept. rate: 18.9%).

Journal and Magazine Publications

J. Zhou, N. Reiskarimian, J. Marašević, T. Dinc, T. Chen, G. Zussman, H. Krishnaswamy, "Integrated Full-Duplex Radios", *submitted to* IEEE Communications Magazine, 2016, **invited paper**

J. Marašević, J. Zhou, H. Krishnaswamy, Y. Zhong, G. Zussman, "Resource Allocation and Rate Gains in Practical Full-Duplex Systems", *to appear in* IEEE/ACM Transactions on Networking, 2016

J. Marašević, C. Stein, G. Zussman, "Max-min Fair Rate Allocation and Routing in Energy Harvesting Networks: Algorithmic Analysis", *to appear in* Springer Algorithmica, 2016

Workshops

J. Marašević, T. Chen, J. Zhou, N. Reiskarimian, H. Krishnaswamy, and G. Zussman, "Full-Duplex Wireless: Algorithms and Rate Improvement Bounds for Integrated Circuit Implementations", *to appear in* Proc. ACM HotWireless'16, **invited paper**

J. Zhou, J. Marašević, G. Zussman, H. Krishnaswamy, "Co-design of Full-duplex RFIC and Resource Allocation Algorithms", IEEE Power Amplifier Symposium, Sept. 2015

J. Marašević, J. Janak, H. Schulzrinne, G. Zussman, "WiMAX in the Classroom: Designing a Cellular Networking Hands-on Lab", in Proc. The Second GENI Research and Educational Experiment Workshop (GREE2013), Mar. 2013, **Best Educational Paper Award**

Demos T. Chen, J. Zhou, N. Grimwood, R. Fogel, J. Marašević, H. Krishnaswamy, G. Zussman, "Demo: Full-Duplex Wireless based on a Small Form-Factor Analog Self-Interference Canceller", In Proc. ACM MobiHoc'16, 2016

AWARDS & HONORS

Recognitions
2016, 10 Women in Networking/Communications That You Should Watch
2015, MIT EECS Rising Star
2015, Heidelberg Laureate Forum Outstanding Young Researcher

Fellowship Awards
2015, Qualcomm Innovation Fellowship
2010, Government of the Republic of Serbia, Ministry of Youth and Sports, *Dositeja* Fellowship
(Awarded annually to top 1% of senior undergraduate students from Serbian universities.)
2009, Government of the Republic of Serbia, Ministry of Education and Science – Republic Foundation for the Development of Scientific and Artistic Youth Fellowship
(Awarded annually to 35 students from all engineering schools in Serbia.)

Best Paper Award
2013, GENI GREE2013 Best Educational Paper Award

Academic Honors
2013, Columbia University Master of Science Award of Excellence
2013, Columbia University Jacob Millman Prize for Excellence in Teaching Assistance

Scholarship Awards
2013, Dr Miloš Babić Scholarship Award
(Awarded annually to one student from the City of Kraljevo, Serbia.)
2012, Yahoo! Yodel Your Thoughts Scholarship Award

Leadership Awards
2010, Microsoft Student Partners, Most Valuable Partner (MVP MSP)
(Awarded annually to one MSP out of all the active MSPs from Serbia.)

Competitions
2010, *Elektrijada*, Čanj, Montenegro, 1st place in Telecommunications
2009, *Elektrijada*, Budva, Montenegro, 2nd place in Fundamentals of Electrical Engineering
(*Elektrijada* is the largest annual electrical engineering students' meeting in Europe. It gathers over 2000 students from about 30 schools, and includes competitions in science and sport disciplines.)

PROFESSIONAL ACTIVITIES

Talks
April 2016, "A Fast Distributed Algorithm for α-Fair Packing Problems", *Caltech*, Pasadena, CA, **RSRG seminar**
November 2015, "Full-Duplex Wireless: Resource Allocation and Rate Gains for Realistic Hardware Models", *Bell-Labs*, Murray Hill, NJ, **invited talk**
June 2015, "A Fast Distributed Algorithm for α-Fair Packing Problems", *Google Research*, New York, NY, **invited talk**
May 2015, "Full-Duplex Wireless: Resource Allocation and Rate Gains for Realistic Hardware Models", *University of Southern California*, Los Angeles, CA, **CS colloquium talk**
May 2015, "A Fast Distributed Algorithm for α-Fair Packing Problems", *Microsoft Research Redmond Theory Group*, Redmond, WA, **invited talk**
May 2015, "Full-Duplex Wireless: Resource Allocation and Rate Gains for Realistic Hardware Models", *University of California Santa Barbara*, Santa Barbara, CA, **CS colloquium talk**
March 2014, "GENI in the Classroom: Teaching Cellular Networking with WiMAX Hands-on Labs", *19th GENI Engineering Conference (GEC19)*, Atlanta, GA, **invited talk**
2013–2016, Conference and workshop presentations: ICALP'16, ACM MobiHoc'16, ACM SIGMETRICS'15, ACM MobiHoc'14, GENI GREE2013

Seminars
November 2015, MIT EECS Rising Stars Workshop, Boston, MA
August 2015, 3rd Heidelberg Laureate Forum, Heidelberg, Germany
May 2014, Women in Theory Workshop, co-located with ACM STOC '14, New York

(Selected as a participant and presented at the student rump session.)
May 2013, Summer School on Green Communications and Networking *GreenComNet* '13, Boston
(Selected as one out of seven students from U.S. universities for a full travel financial support.)

Mentoring and Advising

Fall 2015–Spring 2016, Nicole Grimwood, full-duplex project, undergrad student at Columbia University (now a Ph.D. student at Stanford)
Fall 2015–Spring 2016, James Thompson, full-duplex project, M.S. student at Columbia University
Summer 2015–Fall 2015, Israel Fogel, full-duplex project, M.S. student at Columbia University
Summer 2015, Preetish Tilak, full-duplex project, undergrad student at Purdue University
Summer 2014, Caroline Schiavo, energy-harvesting project, high school student at Kent Place School, NJ (now an undergrad at George Washington University)

RESEARCH AND PROFESSIONAL EXPERIENCE

2011–2016 WiMNet Lab, Columbia University, New York, NY

Research Assistant

Advisors: Prof. Gil Zussman and Prof. Cliff Stein
Ongoing research in fair and efficient resource allocation in wireless networks:

1. One of the initiators of the Full-duplex wireless: from integrated circuits to networks (FlexICoN, flexicon.ee.columbia.edu) project. Worked on algorithm design and analysis for scheduling, resource allocation, and power control in full-duplex networks. The considered problems were derived from a realistic model of the hardware. The research focused on the interactions between the physical layer and the MAC layer protocols. Papers accepted to ACM SIGMETRICS'15, ACM MobiHoc'16, and IEEE/ACM Transactions on Networking. Invited papers at IEEE Communications Magazine, ACM HotWireless'16, and Asilomar'16. The project won the 2015 Qualcomm Innovation Fellowship. Research performed in collaboration with Prof. Harish Krishnaswamy's lab.
2. Algorithmic analysis of routing and rate allocation in energy harvesting networks, under fairness criterion that is required over both nodes and time slots. A thorough algorithmic study of the centralized max-min fair rate allocation and routing was published in Proc. of ACM MobiHoc'14 and in Springer Algorithmica.
3. Design and analysis of a distributed and stateless algorithm for α-fair resource allocation under positive linear constraints. The results are general and apply to the problem of ($\alpha-$)fair resource allocation in energy harvesting networks, and appeared in Proc. ICALP'16.

12/2009–2/2010 Serbian Object Laboratories, Belgrade, Serbia

Intern

Developed sample web applications for SOLoist web tutorial[1]. Learned about concepts of model-driven development for web-based object-oriented information systems (OOIS) and applied them to the development of sample web applications.

2011 University of Belgrade, Belgrade, Serbia

B.S. Thesis

Title: Array Optimization Using a Genetic Algorithm, thesis advisor: Prof. Dragan Olćan.
Implemented a Genetic Algorithm in C++ for a multi-objective optimization of an antenna array's radiation pattern by varying electromotive forces of the array elements' feeding generators. Criteria set for shaping the radiation pattern: (1) direction of the maximum radiation, (2) directions (arbitrarily many) of the minimum radiation, and (3) side lob suppression. Verified results obtained from the optimization algorithm via electromagnetic simulation in WIPL-D.

TEACHING EXPERIENCE

2011–2015 Columbia University, New York, NY

Teaching Assistant

Fall 2015, ELEN E6950 Wireless & Mobile Networking I
Spring 2014, ELEN E6951 Wireless & Mobile Networking II
Spring 2012, ELEN E6951 Wireless & Mobile Networking II

1 SOLoist is a Java-based framework for model-driven development based on UML and is a product of *Serbian Object Laboratories*

Fall 2011, ELEN E3801 Signals and Systems
Fall 2011, ELEN E3804 Signals and Systems Laboratory

Course Manager

Summer 2014, ELEN E6951 Wireless & Mobile Networking II (CVN[2])
Summer 2013, ELEN E6951 Wireless & Mobile Networking II (CVN)
Spring 2013, ELEN E6951 Wireless & Mobile Networking II (CVN)
Summer 2012, ELEN E6951 Wireless & Mobile Networking II (CVN)

2009–2011 University of Belgrade, Belgrade, Serbia

Teaching Assistant

Spring 2011, Foundations of Electrical Engineering Lab
Fall 2010, Microwave Engineering Lab
Spring 2010, Foundations of Electrical Engineering Lab
Spring 2009, Foundations of Electrical Engineering Lab

COMMUNITY SERVICE AND OUTREACH

Journal Reviews

2012–2016, *IEEE Transactions on Wireless Communications*, *IEEE Transactions on Mobile Computing*, *IEEE/ACM Transactions on Networking*, *Elsevier Ad Hoc Networks*, *IEEE Communication Letters*, *IEEE Transactions on Vehicular Technology*, *ACM Transactions on Embedded Computing Systems*

Conference Reviews

2012–2016, *ACM SIGMETRICS*, *ACM MobiHoc*, *ACM MobiCom*, *IEEE INFOCOM*, *ACM PODC*, *EATCS ICALP*, *ACM-SIAM SODA*

Volunteering

2012–2014, *ACM STOC'14*, *IEEE INFOCOM'12*, *ACM SIGMETRICS'12*

Organization

2016, Organized an N² Women meeting at ACM MobiHoc '16 and received a travel award.
2014, Organized an N² Women meeting at ACM MobiHoc '14 and received a travel award.
2013, Organized multiple career development events as the corporate chair of Graduate Society of Women Engineers in collaboration with the Center for Career Education at Columbia University.
2008–2011, As a Microsoft Student Partner (MSP) and MSP Lead for 2010/2011: organized over 15 Microsoft academic events and participated in organization of a Student Tech Club and local finals of programming competitions Bubble Cup an Imagine Cup; led organization of a course on functional programming at School of Electrical Engineering, University of Belgrade.

Outreach

2015, *SWE EEE*. Participated as an experimenter and as a speaker in the outreach event "Engineering, Exploration, Experience" organized for high school girls by Society of Women Engineers at Columbia University.
2013–2015, *Girls Science Day*. Participated as an experimenter in an outreach event organized for middle school girls.
2014, *GSTEM*. Mentored a high school student for her research summer internship through NYU Girls' Science, Technology, Engineering, and Mathematics program supported by the Alfred P. Sloan Foundation.
2013, *High school outreach*. Organized an outreach event at the Manhattan Center for Science and Mathematics in East Harlem.
2012/2013, *Everybody Wins!–Power Lunch program*. Volunteered in the reading program for elementary school children at Mosaic Preparatory Academy in East Harlem.
2012, *Dress for Success*. Co-organized a women-empowerment clothing drive at Columbia University.

AFFILIATIONS

N² Women

2014–Present, Networking Networking Women member

GradSWE

2012–2016, Graduate Society of Women Engineers member and corporate chair for 2013

CIAN

2012–2016, NSF Center for Integrated Access Network student member

MSP

2008–2011, Microsoft Student Partners member and MSP Lead for 2010/2011

2 Columbia Video Network