

MILAN VOJNOVIĆ

London School of Economics (LSE)

Department of Statistics
Columbia House, Office 2.05A
Houghton Street
London WC2A 2AE
United Kingdom

Tel. +44 (0)20 7107 5146
m.vojnovic@lse.ac.uk
<http://personal.lse.ac.uk/vojnovic>

AREAS OF INTEREST

Data science, machine learning, game theory, networks, information networks.

EDUCATION

Ph.D., Technical Sciences, École Polytechnique Fédérale de Lausanne (EPFL), 2003
Thesis Title: *Bits of Internet Traffic Control*, EPFL thesis no 2827
Supervisor: Professor Jean-Yves Le Boudec
M.Sc. Electrical Engineering, University of Split, Croatia, 1998
B.Sc. Electrical Engineering, University of Split, Croatia, 1995

EXPERIENCE

London School of Economics, Department of Statistics

Professor, Chair in Data Science October 2016–
MSc Data Science programme director

Microsoft Research

Senior Researcher March 2010–September 2016
Researcher May 2005–March 2010
Associate Researcher January 2004–May 2005

University of Cambridge, Statistical Laboratory

Affiliated Lecturer September 2014–June 2016

University of Split, Department of Computer Science

Visiting Professor September 2005–June 2013

EPFL

Research Assistant September 1999–June 2003

Bell Laboratories, Mathematical Research Center, Murray Hill, New Jersey

Research Intern August 2001–October 2001

EPFL Pre-Doctoral School in Communication Systems

Graduate Student September 1998–June 1999

University of Split

Graduate Student & Lecturer September 1995–June 1998

AWARDS

2015 Microsoft Achievement Award
2010 ACM SIGMETRICS Rising Star Researcher Award
2007 IEEE IWQoS Best Student Paper Award
2005 ERCIM Cor Baayen Award
2005 IEEE INFOCOM Best Paper Award
2005 ACM SIGMETRICS Best Paper Award
2003 EPFL Best Ph.D. Thesis Nomination
2001 ITC-17 Best Student Paper Award
1999 EPFL Best Student Ph.D. Research Fellowship
1995 Best Student Award, University of Split

PUBLICATIONS

Books

Milan Vojnović, *Contest Theory: Incentive Mechanisms and Ranking Methods*, Cambridge University Press, February 2016, 730 pages.

A unified and comprehensive coverage of contest theory as developed in computer science, economics and statistics.

More information here: Amazon, Cambridge University Press

Conference Papers and Journal Articles

Vojnović M., “Contest Theory,” Communications of the ACM, May 2017

Alistarh D., Li J., Tomioka R. and Vojnović M., “Quantized Stochastic Gradient Descent,” Proc. of the 9th NIPS Workshop on Optimisation for Machine Learning (OPT), Barcelona, Spain December 10, 2016

Fogel F., d’Aspremont A. and Vojnović M., “Spectral Ranking using Seriation,” Journal of Machine Learning Research (JMLR), Vol. 17, No. 1, January 2016, pages 3013–3057

Vojnović M. and Yun S., “Parameter Estimation for Generalized Thurstone Choice Models,” Proc. of the 33rd International Conference on Machine Learning (ICML), New York City, NY, USA, June 19–24, 2016, pages 498–506

Rasley J., Karanasos K., Kandula S., Fonseca R., Vojnović M. and Rao S., “Efficient Queue Management for Cluster Scheduling,” Proc. of the 11th European Conference on Computer Systems (Eurosys), London, UK, April 18–21, 2016

Alistarh D., Iglesias J. and Vojnović M., “Streaming Min-Max Graph Partitioning,” Proc. of Annual Conference on Neural Information Processing Systems (NIPS), Montreal, Canada, December 7–12, 2015

Alistarh D., Gelashvili R. and Vojnović M., “Fast and Exact Majority Population Protocol,” Proceedings of the 2015 ACM Symposium on Principles on Distributed Computing (PODC), pages 47-56, Donostia-San Sebastián, Spain, July 21–23, 2015

Alistarh D., Gelashvili R. and Vojnović M., “Lock-Free Algorithms under Stochastic Schedulers,” Proceedings of the 2015 ACM Symposium on Principles on Distributed Computing (PODC), pages 251-260, Donostia-San Sebastián, Spain, July 21–23, 2015

Huang Z., Radunović B., Vojnović M. and Zhang Q., “Communication Complexity of Approximate Matching in Distributed Graphs,” Proceedings of the thirty-second International Symposium on Theoretical Aspects of Computer Science (STACS), pages 460-473, Garching, Germany, March 4–7, 2015

Zong B., Gkantsidis C. and Vojnović M., “Herding Small Streaming Queries,” Proceedings of the ninth ACM International Conference on Distributed Event-Based Systems (DEBS), pages 46–57, Oslo, Norway, June 29–July 3, 2015

Bourse F., Lelarge M. and Vojnović M., “Balanced Graph Edge Partition,” Proceedings of the twentieth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), pages 1456–1465, New York, NY, August 24–27, 2014

Fogel F., d’Aspremont A. and Vojnović M., “SerialRank: Spectral Ranking using Seriation,” Proceedings of Advances in Neural Information Processing Systems (NIPS), pages 900-908, Montreal, Canada, December 8–13, 2014

Bachrach Y., Syrgkanis V., Tardos É. and Vojnović E., “Strong Price of Anarchy, Utility Games and Coalitional Dynamics,” Proceedings of the seventh International Symposium on Algorithmic Game Theory (STAGT), pages 218–230, Haifa, Israel, September 30-October 2, 2014

Tsourakais C. E., Gkantsidis C., Radunović B. and Vojnović M., “Fennel: Streaming Graph Partitioning for Massive Scale Graphs,” Proceedings of the seventh ACM Inter-

national Conference on Web Search and Data Mining (WSDM), pages 33-342, New York, NY, February 24–28, 2014

Bachrach Y., Syrgkanis V., and Vojnović M., “Incentives and Efficiency in Uncertain Collaborative Environments,” Proceedings of the ninth International Conference on Web and Internet Economics (WINE), pages 26–39, Cambridge, MA, December 11–14, 2013

Draief M. and Vojnović M., “Convergence Speed of Binary Interval Consensus,” SIAM Journal on Control and Optimization, Vol 5, No. 3, pages 1087–1109, 2012

Jung K., Kim B. Y. and Vojnović M., “Distributed Ranking in Networks with Limited Memory and Communication,” Proceedings of the 2012 IEEE International Symposium on Information Theory (ISIT), pages 980–984, Cambridge, MA, July 1–16, 2012

Liu Z., Radunović B. and Vojnović M., “Continuous Distributed Counting for Non-Monotonic Streams,” Proceedings of the thirty-first ACM Symposium on Principles of Database Systems (PODS), pages 307–318, Scottsdale, AZ, May 20–24, 2012

Draief M. and Vojnović M., “Bargaining Dynamics in Exchange Networks,” Annual Allerton Conference on Communication, Control and Computing, 2010

Vojnović M. and Proutiere A., “Hop Limited Flooding over Dynamic Networks,” Proceedings of the thirtieth IEEE International Conference on Computer Communications (INFOCOM), pages 685–693, Shanghai, China, April 10–15, 2011

Gunawardena D., Karagiannis T., Proutiere A., Santos-Neto E. and Vojnović M., “Scoop: Decentralized and Opportunistic Multicasting of Information Streams,” Proceedings of the seventeenth Annual International Conference on Mobile Computing and Networking (MOBICOM), pages 169-180, Las Vegas, Nevada, September 19–23, 2011

Nguyen T. and Vojnović M., “Weighted Proportional Allocation,” Proceedings of the 2011 ACM SIGMETRICS International Conference on Measurement and Modeling of Computer Systems, pages 173–184, San Jose, CA, June 7–11, 2011

Karagiannis T., Le Boudec J.-Y., and Vojnović M., “Power Law and Exponential Decay of Interconnect Times between Mobile Devices,” IEEE Trans. on Mobile Computing, Vol. 9, No. 10, pages 1377–1390, 2010

Vojnović M., Gupta V., Karagiannis T. and Gkantsidis C., “Sampling Strategies for Epidemic-Style Information Dissemination,” IEEE/ACM Transactions on Networking, Vol. 18, No. 4, pages 1013–1025, 2010

Hu L., Le Boudec J.-Y., and Vojnović M., “Optimal Channel Choice for Collaborative Ad-Hoc Dissemination,” Proceedings of the twenty-ninth IEEE International Conference on Computer Communications (INFOCOM), pages 614–622, March 15–19, 2010

Draief M. and Vojnović M., “Convergence Speed of Binary Interval Consensus,” Proceedings of the twenty-ninth IEEE International Conference on Computer Communications (INFOCOM), pages 1792-1800, March 15–19, 2010

Vojnović M., Cruise J., Gunawardena D. and Marbach P., “Ranking and Suggesting Popular Items,” IEEE Trans. on Knowledge and Data Engineering, Vol. 21, No. 8, pages 1133–1146, 2009

Robertson S., Vojnović M. and Weber I., “Rethinking the ESP Game,” CHI Extended Abstracts, pages 3937–3942, 2009

Gunawardena D., Karagiannis T., Proutiere A. and Vojnović M., “Characterizing Podcast Services: Publishing, Usage, and Dissemination,” Proceedings of the ninth ACM SIGCOMM Internet Measurement Conference (IMC), pages 209–222, Chicago, Illinois, November 4–6, 2009

Perron E., Vasudevan D. and Vojnović M., “Using Three States for Binary Consensus on Complete Graphs,” Proceedings of the twenty-eight IEEE International Conference on Computer Communications (INFOCOM), pages 2527-2535, Rio de Janeiro, Brazil, April 19–25, 2009

DiPalantino D. and Vojnović M., "Crowdsourcing and All-Pay Auctions," Proceedings of the tenth ACM Conference on Electronic Commerce (EC), pages 119–128, Stanford, California, July 6–10, 2009

Karagiannis T. and Vojnović M., "Behavioural Profiles for Advanced Email Features," Proceedings of the eighteenth International Conference on World Wide Web (WWW), pages 711–720, Madrid, Spain, April 20–24, 2009

Kesidis G., Hamadeh I., Jin O., Jiwasurat S. and Vojnović M., "A Model of the Spread of Randomly Scanning Internet Worms that Saturate Access Links," ACM Transactions on Modeling and Computer Simulation (TOMACS), Vol. 18, No. 2, 2008

Massoulié L. and Vojnović M., "Coupon Replication Systems," IEEE/ACM Transactions on Networking, Vol. 16, No. 3, pages 603–616, 2008

Vojnović M. and Ganesh A. J., "On the Race of Worms, Alerts, and Patches," IEEE/ACM Transactions on Networking, Vol. 16, No. 3, pages 603–616, 2008

Suchanek F. M., Vojnović M. and Gunawardena D., "Social Tags: Meaning and Suggestions," Proceedings of the seventeenth ACM Conference on Information and Knowledge Management (CIKM), pages 223–232, Napa Valley, California, October 26–30, 2008

Vojnović M., Gupta V., Karagiannis T. and Gkantsidis C., "Sampling Strategies for Epidemic-Style Information Dissemination," Proceedings of the twenty-seventh IEEE International Conference on Computer Communications (INFOCOM), pages 1678–1686, Phoenix, Arizona, April 13–18, 2008

Liu S., Vojnović M. and Gunawardena D., "Competitive and Considerate Congestion Control for Bulk Data Transfers," Proceedings of the fifteenth IEEE International Workshop on Quality of Service (IWQoS), pages 1–9, Evanston, Illinois, June 21–22, 2007

Karagiannis T., Le Boudec J.-Y. and Vojnović M., "Power Law and Exponential Decay of Inter Contact Times between Mobile Devices," Proceedings of the thirteenth Annual International Conference on Mobile Computing and Networking (MOBICOM), pages 183–194, Montreal, Canada, September 9–14, 2007

Le Boudec J.-Y. and Vojnović M., "The Random Trip Model: Stability, Stationary Regime, and Perfect Simulation," IEEE/ACM Transactions on Networking, Vol. 16, No. 6, pages 1153–1166, 2006

Altman E., Barman D., Tuffin B. and Vojnović M., "Parallel TCP Sockets: Simple Model, Throughput and Validation," Proceedings of the twenty-fifth IEEE International Conference on Computer Communications, Barcelona, Spain, April 23–29, 2006

Gkantsidis C., Karagiannis T., Rodriguez P. and Vojnović M., "Planet Scale Software Updates," Proceedings of the ACM SIGCOMM 2006 Conference on Applications, Technologies, Architectures, and Protocols for Computer Communications (SIGCOMM), pages 423–434, Pisa, Italy, September 11–15, 2006

Vojnović M. and Le Boudec J.-Y., "On the Long-Run Behaviour of Equation-Based Rate Control," IEEE/ACM Transactions on Networking, Vol. 13, No. 3, pages 568–581, 2005

PalChaudhuri S., Le Boudec J.-Y. and Vojnović M., "Perfect Simulations for Random Trip Mobility Models," Proceedings of the thirty-eighth Annual Simulation Symposium, pages 72–79, San Diego, California, April 4–6, 2005

Key P., Massoulié L. and Vojnović M., "Farsighted Users Harness Network Time-Diversity," Proceedings of the twenty-fourth Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM), pages 2383–2394, Miami, Florida, March 13–17, 2005

Le Boudec J.-Y. and Vojnović M., "Perfect Simulation and Stationary of a Class of Mobility Models," Proceedings of the twenty-fourth Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM), pages 2743–2754, Miami, Florida, March 13–17, 2005

Massoulié L. and Vojnović M., “Coupon Replication Systems,” Proceedings of the International Conference on Measurements and Modeling of Computer Systems (SIGMETRICS), pages 2–13, Banff, Canada, June 6–10, 2005

Vojnović M. and Ganesh A. J., “On the Effectiveness of Automatic Patching,” Proceedings of the 2005 ACM Workshop on Rapid Malcode (WORM), pages 41–50, Fairfax, Virginia, November 11, 2005

Andrews M. and Vojnović M., “Scheduling Reserved Traffic in Input-Queued Switches: New Delay Bounds via Probabilistic Techniques,” IEEE Journal on Selected Areas in Communications, Vol. 21, No. 4, pages 595–605, 2003

Andrews M. and Vojnović M., “Scheduling Reserved Traffic in Input-Queued Switches: New Delay Bounds via Probabilistic Techniques,” Proceedings of the twenty-second Annual Joint Conference of the IEEE Computer and Communications Societies, San Francisco, California, March 30–April 3, 2003

Vojnović M. and Le Boudec J.-Y., “Bounds for Independent Regulated Inputs Multiplexed in a Service Curve Network Element,” IEEE Transactions on Communications, Vol. 51, No. 5, pages 735–740, 2003

Vojnović M. and Le Boudec J.-Y., “Stochastic Bound on Delay for Guaranteed Rate Nodes,” IEEE Communications Letters, Vol. 6, No. 10, pages 449–451, 2002

Vojnović M. and Le Boudec J.-Y., “Stochastic Analysis of Some Expedited Forwarding Networks,” Proceedings of the twenty-first Annual Joint Conference of the IEEE Computer and Communication Societies (INFOCOM), New York, USA, June 23–27, 2002

Vojnović M. and Le Boudec J.-Y., “On the Long-Run Behaviour of Equation-Based Rate Control,” Proceedings of the ACM SIGCOMM 2002 Conference on Applications, Technologies, Architecture, and Protocols for Computer Communication, pages 103–116, Pittsburgh, Pennsylvania, August 19–23, 2002

Vojnović M. and Le Boudec J.-Y., “Bounds for Independent Regulated Inputs Multiplexed in a Service Curve Network Element,” Proceedings of the Global Telecommunications Conference (GLOBECOM), pages 1857–1861, San Antonio, Texas, November 25–29, 2001

Vojnović M. and Rožić N., “An Evaluation of the ABR Explicit-Rate Allocation Interfering with the Guaranteed Services Traffic,” Computer Networks, Vol. 34, No. 1, pages 139–155, 2000

Vojnović M., Le Boudec, J.-Y., and Boutremans C., “Global Fairness of Additive-Increase and Multiplicative-Decrease with Heterogeneous Round-Trip Times,” Proceedings of the nineteenth Annual Joint Conference of the IEEE Computer and Communication Societies (INFOCOM), pages 1303–1312, Tel Aviv, Israel, March 26–30, 2000

Hubaux J.-P., Le Boudec J.-Y., Giordano S., Hamdi M., Blažević L., Buttyán L. and Vojnović M., “Towards Mobile Ad-Hoc WANs: Terminodes,” Proceedings of the 2000 IEEE Wireless Communications and Networking Conference (WCNC), pages 1052–1059, Chicago, Illinois, September 23–28, 2000

PATENTS

Efficient Queue Management for Cluster Scheduling, Microsoft Corporation, Redmond, patent application, April 2017

Quantized Stochastic Gradient Descent, Microsoft Corporation, Redmond, WA, patent application, May 2016

Decentralized Relaying Algorithm for Mobile Devices, Microsoft Corporation, Redmond, WA, Patent No. 8,886,731, granted on November 11, 2014

Allocating Tasks to Machines in Computing Clusters, Microsoft Corporation, Redmond, WA, Patent No. 9,695,009, granted on April 8, 2014

Optimal Query Assignment: Network Load Minimization, Microsoft Corporation, Redmond, WA, Patent filed on March 3, 2014

Ranking System, Microsoft Corporation Redmond, WA, Patent No. 8,478,762, granted on July 2, 2013

Graph Partitioning for Massive Scale Graphs, Microsoft Corporation, Redmond, WA, Patent filed on Apr. 29, 2013

Sampling Rules for Information Dissemination, Microsoft Corporation, Redmond, WA, Patent No. 8,081,581, granted on December 20, 2011

Modeling of Plurality of Contests at a Crowdsourcing Node, Microsoft Corporation, Redmond, WA, Patent No. 8,195,498, granted on June 5, 2012

Count Tracking in Distributed Environments, Microsoft Corporation, Redmond, WA, Patent filed on March 15, 2012

Ranking and Suggesting Candidate Objects, Microsoft Corporation, Redmond, WA, Patent No. 7,685,200, granted on March 23, 2010

Competitive and Considerate Congestion Control, Microsoft Corporation, Redmond, WA, Patent No. 7,649,841, granted on January 19, 2010

TECHNOLOGY TRANSFER

Main Technology Transfers

Network Stream Optimiser, Stream Processing Platform, Bing, supporting Cortana as one of main applications, 2014

Tag Recommendation System, Microsoft Live Service, 2008

4CP: Background Transport Control Protocol, congestion control module of Microsoft Vista (beta), 2006

Consultancy, Demos and Prototypes

“Office Delve Recommendation System,” consultancy and working with the product team, 2015

“On the Algorithms that Underpin our Cloud,” poster, MSR TechFest 2015, Microsoft, Redmond, WA; with Dan Alistarh and Christos Gkantsidis

“MSR Algorithms Virtual Center (VIRAL),” booth with demos, MSR TechFest 2014, Microsoft Redmond, WA; with Andrew Goldberg, Ravi Kanan, Yuval Peres, Madhu Sudan and Robert Tarjan

“Streaming Partitioning for Massive-Scale Graphs,” demo, MSR TechFest 2013, Microsoft, Redmond, WA; with Christos Gkantsidis

“Big Data Analytics and Infrastructure,” theme demo owner, MSR TechFest 2013, Microsoft, Redmond, WA - proposed the theme for the event, coordinated presentation of 10 demos from all across Microsoft Research

“Sampling Based Methods for Range Partition,” Cosmos, Bing Infrastructure Team, 2010; with Fei Xu and Jingren Zhou

“Ox: System for Large-Scale Information Dissemination in Mobile Networks,” demo, MSR TechFest 2009, Microsoft, Redmond, WA; with Thomas Karagiannis and Eliseu Santos-Neto

“TagBooster: A System for Ranking and Suggesting Popular Items,” demo, MSR TechFest 2007, Microsoft, Redmond, WA; with Dinan Gunawardena

“Farsighted Congestion Control,” demo, MSR TechFest 2006, Microsoft, Redmond, WA; with Peter Key and Laurent Massoulié

PRINCIPAL LECTURES

On a Portfolio Selection Problem using Individual Test Scores, Invited Talk, Risk & Stochastics Conference, London, April 20-21, 2017

How to Hire a Team using Individual Test Scores?, Invited Talk, LSE Maths Seminar on Combinatorics, Games and Optimisation, LSE, London, UK, January 12, 2017

Communication Efficient Stochastic Gradient Descent, Huawei Innovative Algorithmic and Mathematic Workshop on Next Generation Network Technology, Paris, France, November 7, 2016

Talk by an EDIC Alumnus, Invited Talk, EDIC - Open House, EPFL, Switzerland, March 21–22, 2016

Majority Computation Problem, Invited Keynote Talk, MSR Theory Day, Redmond, WA, USA, March 10th, 2016

On Rating Skills and Hiring a Team, Invited Talk, Telefonica Research, Barcelona, Spain, February 26th, 2016

Utility Sharing and Social Welfare, Invited Talk, LSE, June 11, 2015

Utility Sharing and Social Welfare, Invited Talk, University of Cambridge, Department of Economics, UK, June 4, 2015

Talk by an EDIC Alumnus, Invited Talk, EDIC - Open House, EPFL, Switzerland, March 20–21, 2015

A Spectral Algorithm for Ranking using Seriation, Invited Talk, Machine Learning in Cambridge, UK, March 3, 2015

Load Balancing Tasks with Overlapping Requirements, Invited Talk, Workshop on Community Detection at Institut Henri Poincaré, Paris, France, February 26–27, 2015

How to Divide Prize Money?, Invited Talk, Trinity Mathematical Society, Cambridge, UK, February 2, 2015

Crowdsourcing and All-Pay Auctions, Invited Talk, Contemporary Economic Issues, University of East Anglia, Norwich, UK, November 2014

Consensus - A Retrospective, Invited Talk, Workshop on Performance and Control of Large-Scale Networks, European Institute for Statistics, Probability, Stochastic Operations Research and their Applications (EURANDOM), Eindhoven, Netherlands, June–July 2014

Consensus - A Retrospective, Invited Talk, University of Oxford, UK, June 2014

Fennel: Streaming Graph Partitioning for Massive Scale Graphs, Invited Talk, Workshop on Big Dynamic Distributed Data, VLDB 2013, Trento, Italy, 2013

Balanced Graph Partitioning for Massive Scale Computations, Invited Talk, LIDS Seminar, MIT, Cambridge, MA, USA, December 2013

Balanced Graph Partitioning for Massive Scale Computations, Invited Talk, University of Warwick, UK, December 2013

Cooperation and Efficiency in Utility Maximization Games, Invited Talk, Microsoft Research, Silicon Valley, Theory Seminar, October 2013

Efficiency and Redistribution of Welfare, Invited Talk, Hamilton Institute, Ireland, February 2013

Continuous Distributed Counting for Non-Monotonic Streams, Invited Talk, INTIMATE “Big Data In Digital Life” workshop, organised by C. Diot, S. Fdida, J. Kurose and P. Rodriguez, June 20–21, Paris, France

Some Maths of Use in the Computer Systems World, Invited Talk, Cambridge Centre for Analysis, University of Cambridge, October 2012

Consensus, Invited Talk, Lecture Series Algorithms and Complexity in Durham, University of Durham, Durham, UK, October 2012

Sampling Based Range Partition Methods for Big Data Analytics, Invited Talk, IN-QUEST Workshop, organised by M. Benedikt and D. Oletanu, University of Oxford,

UK, September 2012

Continuous Count Tracking for Distributed Non-Monotonic Streams, Invited Talk, NI Shonan Meeting: Large-Scale Distributed Computation, organised by G. Cormode, S. Mutukrishnan and K. Yi, Shonan, Japan, January 2012

Continuous Count Tracking for Distributed Non-Monotonic Streams, Invited Talk, Tokyo University of Technology, Japan, January 2012

Revenue of Auctions: Truthful vs. Non-Truthful Designs, Invited Talk, Session: New Directions in Stochastic Games chaired by Alexandre Proutiere and Ramesh Johari, INFORMS, Stockholm, Sweden, July 2011

Weighted Proportional Allocation, Invited Talk, Microsoft Research Asia, Beijing, China 2011

Mechanism Design, Invited Talk, Summer Research Institute, EPFL, Switzerland, June 2011

Computer Systems seen as Auctions, Keynote Talk, ACM Sigmetrics 2010, New York City, NY, USA, June 14–18, 2010

Mechanism Design, Tutorial, Series: Microsoft Research Tutorial, Cambridge, UK, March 2010

Bargaining Dynamics in Exchange networks, Invited Talk, Allerton, IL, USA, September 2010

Weighted Proportional Allocation, Invited Talk, University of Cambridge, UK, 2010

Weighted Proportional Allocation, Invited Talk, Harvard University, MA, USA, 2009

Crowdsourcing and All-Pay Auctions, Invited Talk, University of California Berkeley, CA, USA, July 2009

Crowdsourcing and All-Pay Auctions, Invited Talk, Statslab Networks Seminar, University of Cambridge, UK, May 2009

Binary Consensus Using Three States on Complete Graphs, Invited Talk, Epidemic Spreading and Networks, The Institute of Mathematical Sciences, Imperial College, London, UK, October 2008

Consensus with Limited Memory and Signaling, Invited Talk, Statslab, University of Cambridge, UK, 2008

Consensus with Limited Memory and Signaling, Invited Talk, NET-COOP 2008, Paris, France

Social Networks Overview, Invited Talk, Unilever Spark Workshop, Norwich, United Kingdom, 2008

Tagging done by YOU, Tutorial, Series: Microsoft Research Tutorial, Cambridge, UK, 2008

Power Law and Exponential Decay-Mobile Devices, Invited Talk, Hynet Colloquium, University of Maryland, MD, USA, 2007

Ranking and Suggesting Popular Items, Invited Talk, Workshop on Mathematics of Communication Networks, ENS, Paris, France, 2007

Ranking and Suggesting Popular Items, Invited Talk, INFORMS, Eindhoven, Netherlands, 2007

Coupon Replication Systems, Invited Talk, INFORMS, Pittsburgh, PA, USA, 2006

Random Trip Model, Three Lecture Mini-Course, Charles University Prague, Czech Republic, 2006

Farsighted Congestion Control, Invited Talk, CSAIL, MIT, Cambridge, MA, USA, 2005

Planet Scale Software Updates, Invited Talk, Microsoft Research, Redmond, WA, USA, 2005

Planet Scale Software Updates, Invited Talk, TU Munich, Germany, 2005

Random Trip Model, Invited Talk, Max Plank Institute fur Informatik, Saarbrucken, Germany, 2005

Random Trip Mobility Models, Tutorial, ACM Mobicom 2006, with Jean-Yves Le Boudec, Los Angeles, CA, USA

Software Updates, Tutorial, IFIP Performance 2005, with Ayalvadi Ganesh, Juan-les-Pins, France, 2005

Coupon Replication Systems, Invited Talk, EPFL Summer Research Institute, Switzerland, 2004

Random Trip Model, Invited Talk, University of Cambridge, UK, 2004

Farsighted Congestion Control, Invited Talk, ARC-TCP Workshop, INRIA, Sophia-Antipolis, France, 2004

Equation-Based Rate Control, Invited Talk, IPAM Workshop on Large Scale Communication Networks: Topology, Routing, Traffic and Control, organised by D. Donoho, J. Doyle, F. P. Kelly, and W. Willinger, UCLA, Los Angeles, CA, USA, March 18–22, 2002

Equation-Based Rate Control, Invited Talk, Columbia University, New York City, NY, USA, 2001

Equation-Based Rate Control, Invited Talk, University of Massachusetts at Amherst, MA, USA, 2001

COURSES TAUGHT

Distributed Computing for Big Data, MSc in Data Science, LSE, lecturer, 2017/18

Managing and Visualising Data, MSc in Data Science, LSE, lecturer, 2017/18

Contest Theory, Lent Term, Part III of the Mathematical Tripos, University of Cambridge, lecturer, 2013–2015

Networked Systems Architecture, University of Split, undergraduate study in computer science, lecturer, 2005–2013

Performance Evaluation, EPFL, master program, teaching assistant, 2002

Computer Networking, EPFL, undergraduate studies, teaching assistant, 2001

Java Programming, EPFL, undergraduate studies, 2000

Analogue and Digital Circuits, University of Split, undergraduate studies in electrical engineering, laboratory and theoretical problem solving exercises, 1995–1998

Antennas and Propagation, University of Split, undergraduate studies in electrical engineering, laboratory and theoretical problem solving exercises, 1995–1998

Numerical Methods in Electronics, University of Split, undergraduate studies in electrical engineering, laboratory and theoretical problem solving exercises, 1995–1998

SUPERVISIONS

Ph.D. Thesis

- Fajwel Fogel, Convex and Spectral Relaxations for Phase Retrieval, Seriation and Ranking, École Polytechnique, Paris, France, September 2015; reader

Post-docs

- Virag Shah, University of Texas at Austin, 2016–
- Se-Young Yun, KAIST, 2015–2016
was a post-doc with Los Alamos National Laboratory, Los Alamos, New Mexico, now an Assistant Professor at KAIST

- Dan Alistarh, EPFL, 2014–2015
was a Researcher with MSR, now an Assistant Professor at ETH Zurich

Interns

- Remi Jezequel, École Normale Supérieure, 2017
- Lucas Maystre, EPFL, 2016
- Jerry Li, MIT, 2016
- Hyun Jik Kim, University of Cambridge, 2015
now pursuing Ph.D. studies in machine learning at Oxford University
- Gautam Kamath, MIT, 2015
- Fajwel Fogel, École Normale Supérieure, 2014
now a lead scientist at Kayrros
- Rati Gelashvili, MIT, 2014
- Jennifer Iglesias, CMU, 2014
- Florian Bourse, École Normale Supérieure, 2013
- Nan Li, University of Santa Barbara, 2013
was with oDesk, then Apple, now with Facebook
- Bo Zong, University of Santa Barbara, 2013
now with NEC Laboratories America
- Charalampos Tsourakakis, CMU, 2012
was a post-doc at Harvard University, now an Assistant Professor at the University of Boston
- Alan Roytman, UCLA, 2012
- Zengfeng Huang, Hong Kong University of Science and Technology, 2012
was a post-doc with MADALGO, Denmark, now a Research Fellow at CSE, UNSW
- Zhenming Liu, Harvard University, 2011
was with Two Sigma, now an Assistant Professor at the College of William and Mary
- Vasilis Syrgkanis, Cornell University, 2011
now with Microsoft Research
- Jinshan Zhang, University of Liverpool, UK, 2011
- Amin Karabasi, EPFL, 2010
was a post-doc at ETHZ, now an Assistant Professor at Yale University
- Thanh Nguyen, Cornell University, 2009
now an Assistant Professor at Purdue University
- Dominic DiPalantino, Stanford University, 2008
was with Google, now with Twitter
- Elizeu Santos-Neto, University of British Columbia, 2008
now with Google
- Dinkar Vasudevan, EPFL, 2008
now with a wireless communications company in Bristol, UK
- Fabian Suchanek, MPI, 2007
was a Visiting Researcher at Microsoft Research, then a post-doc at INRIA Sacley, leader of an MPI group, now an Associate Professor at Télécom ParisTech University, Paris, France
- James Cruise, University of Cambridge, 2007
now a lecturer at Heriot-Watt University, Edinburgh, United Kingdom

- Varun Gupta, CMU, 2006
now an Assistant Professor at Chicago Business School
- Thomas Karagiannis, University of Riverside, 2006
now with Microsoft Research
- Shao Liu, UIUC, 2005
now with Microsoft

Part III Master Program Essays

- Aya Ahmed, “Allocating Tasks to Workers in Crowdsourcing Services,” 2015
- Adam Chudziak, “Statistical Inference and Optimal Auction Design,” 2015
- Benjamin Dubois, “Fair Allocation of Multi-Type Resources,” 2015
- Fikri Pitsuwan, “Statistical Inference and Optimal Auction Design,” 2015
- George Bignall, “Tug of War,” 2014

PROFESSIONAL SERVICE Program Committee Activities

- Member, Program Committee, ACM SIGMETRICS 2017
- Member, Program Committee, ACM SIGMETRICS 2016
- Member, Program Committee, ACM SIGMETRICS 2015
- Chair, Workshop on Algorithms and Data Science, Microsoft Research, Cambridge, UK, May 15, 2014; keynote speaker: Robert Tarjan
- Chair, Workshop on Big Data Analytics, Microsoft Research, Cambridge, UK, May 23-24, 2013; co-organised with Artur Czumaj and Jingren Zhou; keynote speakers: Surajit Chaudhuri, Sanjeev Khanna, and Gerhard Weikum
- Member, Program Committee, ACM SIGMETRICS 2014
- Member, Program Committee, ACM SIGMETRICS 2013
- Member, External Review Committee—Cloud Computing and Next-Generation Distributed Query Processing, ACM SIGMOD 2013
- Member, Program Committee, ACM SIGMETRICS 2012
- Member, Program Committee, ACM Electronic Commerce 2011
- Member, Program Committee, IFIP Performance 2011
- Member, Program Committee, ACM SIGMETRICS 2011
- Member, Program Committee, WWW 2011
- Member, Program Committee, IEEE INFOCOM 2011
- Chair, Workshop on the Economics of Networks, Systems, and Computation (NETECON), 2010; co-organised with Mike Dahlin
- Chair, Workshop on the Future of Social Networking: Experts from Industry and Academia, Cambridge, UK, Nov 18th, 2010; co-organized with Jon Crowcroft, Pietro Lio, Neil Walton, and Eiko Yoneki
- Member, Program Committee, IEEE INFOCOM 2010
- Member, Program Committee, WWW 2010
- Member, Program Committee, IEEE INFOCOM 2009
- Member, Program Committee, WWW 2009
- Member, Program Committee, IEEE INFOCOM 2008
- Chair, Workshop on Online Social Networks, Microsoft Research, Cambridge, UK, 2007; co-organised with Thomas Karagiannis, Peter Key, and Bala Krishnamurthy

- Member, Program Committee, IEEE INFOCOM 2007
- Member, Program Committee, ACM SIGCOMM 2007
- Member, Program Committee, IEEE INFOCOM 2006
- Chair, InterPerf 2006, ValueTools 2006; co-organised with Sean Collins

Steering Committees

- NetEcon - Workshop on the Economics of Networks, Systems and Computation, 2008–
- Workshop on Online Social Networks (WOSN), 2008–2011
- Incentive-Based Computing (IBC), 2006

Other Panels

- Member, Senior Leadership Team, Microsoft Research Algorithms Virtual Center (VIRAL), 2013-2016; other members included Nikhil Devanur, Andrew Goldberg, Ravi Kannan, Robert Kleinberg, Thomas Moscibroda, Yuval Peres, Robert Schapire, Madhu Sudan and Robert Tarjan
- Evaluator, Horizon 2020, European Commission, Brussels, Belgium, June 12-22, 2017
- Evaluator, INRIA projects under the theme “Networks and Telecommunications,” March 22–24, 2016, Paris, France
- Evaluator, FP7, European Commission, Brussels, Belgium, December 7–11, 2009

OTHER ACTIVITIES

Lecture Series Organised

- Lecture series: *Big Data Analytics*, MSR, Cambridge, UK, 2012
Speakers: Graham Cormode (AT&T Research), Tugkan Batu (LSE), Ely Porat (Bar-Ilan University), Tom Friedetzky (Durham University), Alexandre d’Aspremont (Ecole Polytechnique, Paris), Nicolo Cesa-Bianchi (University of Milan) and Michael Benedikt (Oxford University)
- Lecture series: *Algorithms and Economics*, MSR, Cambridge, UK, 2011
Speakers: Kostas Bimpikis (Microsoft Research, New England), Paul Goldberg (University of Liverpool), Michael Kearns (University of Pennsylvania), Robert Mataescu (Microsoft Research), Romans Panco (University of Rochester), Harald Raecke (University of Warwick), Peyton Young (University of Oxford), Jenn Wortman Vaughan (UCLA), Richard Weber (University of Cambridge)