

**ATHINA MARKOPOULOU**  
Professor, Chancellor's Fellow, and Chair  
Electrical Engineering and Computer Science  
University of California, Irvine

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## CONTACT INFO

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## RESEARCH INTERESTS

- ▶ My interests are in the general area of networking, including: mobile systems and mobile data analytics, Internet-of-Things, privacy and data transparency, network measurement, online social networks, and network coding.

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## EDUCATION

- ▶ **Stanford University** *Stanford, CA*  
Ph.D. in Electrical Engineering *Jan. 2003*  
Dissertation: "Assessing the Quality of Multimedia Communications over Internet Backbones". Advisor: Prof. Fouad Tobagi.
- ▶ **Stanford University** *Stanford, CA*  
M.S. in Electrical Engineering *March 1998*
- ▶ **National Technical University of Athens** *Athens, Greece*  
Diploma in Electrical and Computer Engineering *June 1996*  
Entered and graduated in the top 1% (in a class of ~250).

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## HONORS AND DISTINCTIONS

- ▶ Chancellor's Fellow, UCI, 2019-2022.
- ▶ Orange County Engineering Council – Educator Award, Feb. 2017.
- ▶ HSSoE Faculty Midcareer Award for Research, UCI, June 2014.
- ▶ NSF CAREER Award 2008.
- ▶ Paper Awards: Andreas Pfitzmann best student paper in PETS 2018; Best Demo Award Winner, Mobicom 2015 S3 Workshop; Best Paper Nominee Award (top 5%), Ubicomp 2014; 2nd place in MobiCom App Competition, 2013; one of the 5 best papers in ACM MobiSys 2012; best student paper nominee in IEEE ISIT 2010; one of the 8 best papers in IEEE INFOCOM 2002.

- ▶ Graduate studies: L. Voudouri Foundation fellowship, 2001-2002; I. Latsis Foundation fellowship, 1997-2000; Fulbright Scholarship awardee, 1996-1997; Departmental Assistantship, Dept. of Electrical Engineering, Stanford, 1996-1997.
- ▶ Undergraduate studies: 3<sup>rd</sup> medal of excellence, National Technical University of Athens (in a class of ~250), 1998; State Scholarship Foundation (IKY), 1992-1994; Technical Chamber of Greece (TEE), 1993; I.Latsis Foundation fellowship, 1992-1996.
- ▶ Hellenic Olympiads in Mathematics (nation-wide): 1<sup>st</sup> prize, 1987; 3<sup>rd</sup> prize, 1988; distinction, 1991.

## RESEARCH AND WORK EXPERIENCE

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### ▶ Employment

- **EECS Department, UC Irvine** *Irvine, CA*  
*Department Chair* *July 2019 – today*  
*Full Professor* *July 2019 – today*  
*Associate Professor* *July 2012 - June 2019*  
*Assistant Professor* *Jan. 2006 - June 2012*
- **Shoelace Wireless, Inc.** *Irvine, CA*  
*Co-Founder* *Nov. 2012 - Mar. 2016*
- **IT University of Copenhagen** *Copenhagen, Denmark*  
*Visiting Associate Professor (on Sabbatical Leave)* *Sept. 2012-June 2013*
- **Arista Networks** *Palo Alto, CA* *Research Scientist, Member of the Technical Staff* *July 2005 - Dec. 2005*
- **Stanford University, Electrical Engineering Dept.** *Stanford, CA*  
*Postdoctoral Researcher at ISL* *Aug. 2003 - June 2005*
- **Sprint Advanced Technologies Lab, IP Group** *Burlingame, CA* *Postdoctoral Member of Technical Staff* *Jan. - July 2003*

### ▶ Internships

- **Cisco Systems, Gigabit Ethernet Switching Group** *San Jose, CA* *Research Intern* *July - Sept. 2000*
- **Nokia Research Center** *Mountain View, CA* *Research Intern* *June-Sept 1999*
- **Aloha Networks Inc.** *San Francisco, CA* *Research Intern* *June - Sept. 1998*
- **Institut National des Télécommunications Francaises (I.N.T.)** *Evry, France*  
*Summer intern (I.A.E.S.T.E, european exchange program)* *June-Aug. 1994*

## FUNDING

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(*F*=extramural research funding, *I*= intramural research (competitive process), *M*= misc/other.)

- F20: 10/1/19-9/30/22: NSF Award 1900654, \$550K (UCI's share), A. Markopoulou, K. Psounis, "CNS Core: Medium: Collaborative Research: Privacy-Preserving Mobile Crowdsourced Data".
- F19: 9/1/19-8/31/20: NSF Award 1939237, \$300K, A. Markopoulou, C.T. Butts, A. Chandramowliswaran "EAGER: N-Body Algorithms for Mobile and Social Data".
- I1: 2/25/19-2/24/21: UCI Office of Research, Seed Funding Grant, \$150K, A. Markopoulou, G. Tsudik, C. Butts, "Security, Privacy and Data Analytics of Mobile and IoT Devices".
- M1: Oct. 20018+: Co-PI in NSG GAANN Award (PI: G.P. Li). GAANN award supported two PhD students (minority and with financial need) so far.
- F18: 10/1/18-9/30/21: NSF Award 1815666, \$500K, A. Markopoulou, Z. Shafiq, "SaTC: CORE: Small: Collaborative: A Multi-Layer Learning Approach to Mobile Traffic Filtering."
- F17: 11/1/2017-3/31/2017: \$67K, A. Markopoulou, "AntMonitor for Mobile Data Transparency and Privacy", POP (Proof-of-Concept) Grant by UCI Innovation.
- F16: 11/2016-10/2017: Data Transparency Lab (DTL) Gift, \$55K, A. Markopoulou, "AntMonitor: On-Device Network Monitoring for Privacy". (Media coverage: <http://dtlconferences.org/home/videos-2016/>.)
- F15: 10/2016-09/2019: NSF award 1649372, \$300K, A. Markopoulou, "EAGER: A New Framework for Mobile Network Monitoring, Learning and Control".
- F14: 09/2015-08/2019: NSF award 1526736, \$500K, A. Markopoulou and C.T. Butts, "III: Small: Network Sampling and Construction Methods for Inference and Anonymization".
- F13: 9/2012-06/2013: Marie Curie CIG Grant, EU project 321802, €100K awarded (~€25K spent during one-year sabbatical at ITU, Copenhagen) A. Markopoulou, "SmartOSN: Smartphones meet Online Social Networks".
- F12: 10/2012-03/2014: NSF Award 1258866, \$50K, A. Markopoulou "I-CORPS: Microcast: Cooperative Networking of Mobile Devices". (GeorgiaTech Cohort, Oct.-Nov. 2012.)
- F11: 10/2012-9/2016: NSF Award 1228995, \$800K, "TWC: Medium: Collaborative Proposal: Safety in Numbers: Crowdsourcing for Global Software Integrity", B.Demsky and A. Markopoulou (on the UCI side). Collaborative proposal with M. Tyler at UCSD.
- F7b: 09/2011-08/2012: Supplemental Funding to MURI Subcontract, \$50K, A. Markopoulou.
- F10: 09/2010-09/2014: NSF Award CDI-1028394, \$1,999,503, A. Markopoulou, C.T. Butts, N. Przulj, "Local Topology and Function of Computer, Social, & Biological Networks".
- F9: 09/2010-08/2013: AFOSR FA9550-10-1-0310, \$585K, A. Markopoulou, L. Swindlehurst, A. Anandkumar, "NetSense: Optimizing Network Configuration for Sensing".
- F8: 06/2010-05/2011: Contract with DoCoMo USA Labs, \$68,704, A. Markopoulou, "Online Social Networks: Measurements and System Design from a Provider's Perspective".
- F7a: 05/2010-08/2010: Supplemental Funding to MURI Award, \$18K, A. Markopoulou, supplement to support a collaboration with AT&T Research-Labs.

- F7: 09/2009-08/2014: AFOSR FA9550-09-1-0643 (MURI Prime Award to Princeton, PI: Robert Calderbank), subcontract to UCI for \$616,700, “Information Dynamics as Foundation for Network Management”.
- F6: 02/2010-01/2011: NSF CNS-1007615 \$25K, A.Markopoulou, “IEEE INFOCOM 2010 Student Travel Grants”.
- F5: 08/2009-08/2010: NSF CNS-0936144, \$25K, A.Markopoulou, “ACM SIGCOMM’09 Student Travel Grants”.
- F4: 02/2009-06/2009: Contract with DoCoMo USA Labs, \$40K, A.Markopoulou, “Design of a new TCP-Friendly Media Transport”.
- F3 02/2008-01/2013: NSF CNS-0747110, \$450K, A. Markopoulou, “CAREER: Network Coding Mechanisms for the Internet”.
- F2: 09/2008-08/2011: NSF CT-0831530, \$400K, A. Markopoulou (UCI) and M. Faloutsos (UCR), “CT-ISG: I-BLOCK: Understanding & Filtering Malicious IP Traffic”.
- F1: 09/2006-05/2007: VURI gift from AT&T Research, \$35K, for research on the topic of “Distributed Denial-of-Service Attacks Mitigation”.

## PROFESSIONAL ACTIVITIES

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- ▶ Associate Editor for:
  - ACM Computer Communication Review (CCR), Dec. 2016 - Sept. 2017.
  - IEEE/ACM Trans. on Networking March 2013- March 2015.
  - Elsevier Computer Networks, 2009-2011.
- ▶ Technical Program Committees:
  - 2020: ACM SIGMETRICS 2020 (also **TPC Co-Chair**); IEEE INFOCOM 2020
  - 2019: IEEE INFOCOM 2019, SIGMETRICS 2019.
  - 2018: ACM MobiHoc 2018.
  - 2017: ACM CoNEXT 2017, ACM MobiHoc 2017, ITC 29, Edge Computing 2017.
  - 2016: ACM MobiHoc 2016.
  - 2015: IEEE INFOCOM 2015, DSN 2015; SIGMETRICS 2015; MobiHoc 2015; NetCod 2015; FOG Workshop.
  - 2014: IEEE INFOCOM 2014.
  - 2013: IEEE INFOCOM 2013, DSN 2013, NetCod 2013, ACM MobiHoc 2013, ACM CoNext 2013, IFIP Performance 2013, Packet Video 2013.
  - 2012: NetCod 2012 (alo **TPC Co-Chair**), IEEE INFOCOM 2012, IEEE NetSciCom 2012, ACM CoNext 2012, IEEE ISIT 2012.
  - 2011: IEEE INFOCOM 2011, WinMee 2011, MMSP 2011
  - 2010: IEEE INFOCOM 2010, Usenix WOSN 2010, Packet Video PV 2010.
  - 2008: ACM/USENIX IMC 2008, IEEE Global Internet 2008, IFIP Networking 2008.
  - 2007: IEEE INFOCOM 2007, USENIX SRUTI. 2007, IFIP Networking 2007.
  - 2006: IEEE Globecom 2006 (General Conference TPC, Committee for Best Paper Selection), IFIP Networking 2006, ACM SIGCOMM Posters 2006.

- 2005- : IFIP Networking 2004 - Grid Computing Workshop.
- ▶ Executive Committees
  - SIGMETRICS Conference Development Subcommittee Member, 2019-20.
  - TPC Co-Chair for: ACM SIGMETRICS 2020; Fog World Congress - Research Track 2017; NetCod 2012.
  - Local Arrangements Chair: SIGMETRICS 2018, IEEE WoWMoM 2008.
  - General Co-Chair: ACM CoNext 2016.
  - Travel Grants Chair: IEEE INFOCOM 2010 and ACM SIGCOMM 2009.
- ▶ Senior Member of IEEE (2012+). Member of ACM.
- ▶ Served for funding agencies:
  - Co-organized breakout session on “Online Tracking and Advertising”, NSF SATC PI Meeting, Oct. 2019, Alexandria, VA.
  - NSF panels: CISE - 2 panels in 2019, CISE 2017, 2014-2016, 2012, 2007-2010; CSR 2016; CyberTrust in 2008.
  - AFOSR reviewer: in 2010, 2011, 2012.
  - Participated in NSF Edge Workshop, Oct. 2016, Washington, DC.
  - Participated in NSF workshop on Wireless Infrastructure: Nov. 2014.
- ▶ Session Chair:
 

WWW 2019 (Session on Event Forecasting and Ridesharing); ITA 2017; IEEE INFOCOM 2013, 2012, 2011, 2010; Asilomar 2011 (organized a session on network coding); NetCod 2010; IEEE WoWMoM08; Packet Video 2004, “Towards a Science of Networks Workshop” 2006.
- ▶ Reviewer for Journals:
 

ACM CCR (2018), IEEE Transactions on Network Science (2017), IEEE/ACM Transactions on Networking (2006-today), IEEE Trans. on Inf. Theory (2009-10), IEEE Journal of Selected Topics on Communications (2006-today), IEEE TPDS (2011), IEEE TMC (2011) WCM, ACM CCR (2017, 2008), IEEE Trans. on Multimedia (2007-09), ACM TOMCCAP (2007), IEEE Transactions on Audio, Speech and Language Processing (March 2006), IEEE Magazine (2010), IEEE Communications Letters (2006), Springer Telecommunications Systems Journal (March 2006), Elsevier Computer Networks (2009-10), Elsevier Computer Communications (2010), IEEE Network Magazine, Wireless Networks.
- ▶ External Reviewer for Conferences:
 

NetCod 2010; WiNC 2010; IEEE ICIP 2008, IEEE ICC (2007, 2008, 2009), IEEE GLOBECOM 2006 (Spring 2006), IEEE INFOCOM, ACM SIGCOMM, ACM HotNets , IEEE IWQoS, IEEE WCNC, ACM/USENIX IMC, IEEE Hot Interconnects, ACM Multimedia, IFIP Networking, Packet Video Workshop, IEEE ICME.
- ▶ Diversity and Outreach Activities:
  - Judge at NAE’s Global Grand Challenges Student Competition Playoffs, Beckman Center, Irvine, CA, April 23, 2019.
  - Keynote speaker at Athena Olympiad (STEM for middle school and high school girls), UC Irvine, April 2019.

- Co-PI in an NSF GAANN Grant (which started Oct. 2018) and advised 2 GAANN fellows (graduate students with financial need) in 2019.
- N2Women Mentor in INFOCOM 2018;
- Faculty Participant in South Asia Pacific Workshop by Broadcom Foundation, May 2018, Pasadena, CA;
- Keynote speaker at the Society of Women Engineers at UCI, in Jan. 2016;
- Panelist on “This is What a Scientist/Engineer Looks Like: Changing the Face of STEM”, Spring 2014, UCI;
- Member of IEEE WIE (Women in Engineering), 2006-; member of WEE (Women in Electrical Engineering, Stanford), 2003-2005.

## PUBLICATIONS

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(*J*: journal, *C*: conference (only), *JC*: journal+conference (=“jourference”))

### ► JOURNAL PAPERS

- J31/JC3 J. Varmarken, H. Le, A. Shuba, A. Markopoulou, Z. Shafiq, “The TV is Smart and Full of Trackers: Measuring Smart TV Advertising & Tracking,” *to appear in the Proc. of Privacy Enhancing Technologies Symposium (PETS/PoPETS) 2020*.
- J30/JC2 A. Shuba, A. Markopoulou, “NoMoATS: Towards Automatic Detection of Mobile Tracking,” *to appear in the Proc. of Privacy Enhancing Technologies Symposium (PETS/PoPETS) 2020*.
- J29 L. Baldesi, A. Markopoulou, C. T. Butts, “Spectral Graph Forge: A Framework for Generating Synthetic Graphs with a Target Modularity?,” *in IEEE/ACM Trans. on Networking*, Vol. 27(5), pp.2125-2136, Oct. 2019.
- J28 B. Tillman, A. Markopoulou, M. Gjoka, C. T. Butts, “K+ Graph Construction Framework: Targeting Joint Degree Matrix and Beyond?,” *in IEEE/ACM Trans. on Networking*, Vol. 27(2), pp. 591-606, April 2019. preprint. 2018
- J27/JC1 A. Shuba, A. Markopoulou, Z. Shafiq, “NoMoAds: Effective and Efficient Cross-App Mobile Ad-Blocking,” in the Proceedings of the Privacy Enhancing Technologies Symposium (PoPETS) 2018, Issue 4. July 2018, Barcelona, Spain.
- \* The Andreas Pfitzmann Best Student Paper Award.
- J26 Anh Le, Arash Tehrani, Alex Dimakis, Athina Markopoulou, “Recovery of Packet Losses in Wireless Broadcast for Real-Time Applications,” *in IEEE/ACM Transactions on Networking*, Vol. 25(2), pp. 676–689, April 2017.
- J25 A. Le, L. Keller, H. Seferoglu, B. Cici, C. Fragouli, A. Markopoulou, “MicroCast: Cooperative Video Streaming using Cellular and Local Connections,” *in IEEE/ACM Transactions on Networking*, Vol. 24 (5), pp. 2983 – 2999, Oct. 2016.
- J24 A. Le A. Markopoulou, A. Dimakis, “Auditing for Distributed Storage System,” *in IEEE/ACM Transactions on Networking*, Vol. 24 (4), Aug. 2016.
- J23 F. Malandrino, M. Kurant, A. Markopoulou, C. Westphal, U. Kozat, “Minimizing Peak Load from Information Cascades: Social Networks Meet Cellular Networks,” *in IEEE Trans. on Mobile Computing*, Vol. 15(4), April 2016.
- J22 C. Meng, A. K. Das, A. Ramakrishnan, S.A. Jafar, A. Markopoulou and S. Vishwanath, “Precoding-Based Network Alignment For Three Unicast Sessions,” *in IEEE Transactions on Information Theory*, Vol. 61(1), pp. 426 – 451, Jan. 2015.

- J21 Omer Nebil Yaveroglu, Sean M. Fitzhugh, Maciej Kurant, Athina Markopoulou, Carter T. Butts, Natasa Przulj, “ergm.graphlets: a package for ERG modelling based on graphlet properties,” in *Journal of Statistical Software*, Vol. 65, Issue 12, June 2015.
- J20 P. Sattari, M. Kurant, A. AnandKumar, M. Rabbat, A. Markopoulou, “Active Learning of Multiple Source Multiple Destination Topologies,” in *IEEE Transactions on Signal Processing*, Vol. 62 (8), pp. 1926-1937, April 2014.
- J19 Hulya Seferoglu, Athina Markopoulou, “Network Coding-Aware Queue Management for TCP Flows over Coded Wireless networks”, in *IEEE/ACM Trans. on Networking*, Vol. 22, Issue 4, Sept. 2013.
- J18 P. Sattari, A. Markopoulou, C. Fragouli, M. Gjoka, A Network Coding Approach to Loss Tomography, in *IEEE Transactions on Information Theory*, Vol. 59, Issue 3, pp. 1532 - 1562, March 2013.
- J17 E. Magli, M.Wang, P.Frossard, A.Markopoulou, “Network Coding meets Multimedia: a Review”, in *IEEE Trans. on Multimedia*, March 2013.
- J16 P. Sattari, C. Fragouli, A. Markopoulou, “Active topology Inference using Network Coding,” in the *Elsevier Physical Communication: Special Issue on “Network Coding and its Applications to Wireless Communications*, Vol. 6, pp. 142 - 163, March 2013.
- J15 Anh Le, Athina Markopoulou, “Cooperative Defense against Pollution Attacks using SpaceMaC,” in *IEEE JSAC on “Cooperative Networking Challenges and Applications”*, vol. 30 (2), pp. 442-449, Feb. 2012.
- J14 F.Soldo, A.Argyrazi, A.Markopoulou, “Optimal Filtering of Malicious IP Sources,” in *IEEE/ACM Transactions on Networking*, vol. 20(2), pp. 381395, July 2011.
- J13 M.Gjoka, M.Kurant, C.T. Butts, A. Markopoulou, “Practical Recommendations on Sampling Online Social Networks,” in *IEEE JSAC on “Measurements of Internet Topologies”*, vol. 29(9), Oct. 2011.
- J12 M.Gjoka, C.T. Butts, M.Kurant, A.Markopoulou, “Multigraph Sampling of Online Social Networks,” in *IEEE JSAC on “Measurements of Internet Topologies”*, vol. 29 (9), Oct. 2011.
- J11 M. Kurant, A. Markopoulou, P. Thiran, “Towards Unbiased BFS Sampling,” in *IEEE JSAC on “Measurements of Internet Topologies”*, vol. 29 (9), Oct. 2011.
- J10 F.Soldo, A.Le, A.Markopoulou, ”BRS: a Blacklisting Recommendation System”, in *IEEE JSAC on “Forensics for Communications and Networking,”* vol. 29 (7), pp. 1423 – 1438, Aug. 2011.
- J9 H.Seferoglu, A.Markopoulou, U.Kozat, J.Kempf, R.Cinvalar, “Dynamic FEC Algorithms for TFRC Flows,” in *IEEE Trans. on Multimedia*, vol. 12 (8), pp. 869–885, Dec. 2010.
- J8 H.Seferoglu, A.Markopoulou, “Video-Aware Opportunistic Network Coding over Wireless Networks”, in *IEEE JSAC, Special Issue on Network Coding over Wireless Communication Networks*, vol. 27 (5), pp. 713–728, June 2009.
- J7 Y.Li, A. Markopoulou, J.Apostolopoulos, N.Bambos, “Content-Aware Payout and Packet Scheduling for Video Streaming over Wireless Links”, in *IEEE Trans. on Multimedia*, vol. 10 (5), pp. 885 – 895, Aug. 2008.
- J6 A. Markopoulou, G.Iannaccone, S.Bhattacharyya, C.N.Chuah, Y.Ganjali, C.Diot, “Characterization of Failures in an Operational IP Backbone Network,” in *IEEE/ACM Trans. on Networking*, Vol. 16 (4), pp. 749 – 762, Aug. 2008.

- J5 Y. Li, A. Markopoulou, N. Bambos, J. Apostolopoulos, “Joint power-payout control for media streaming over wireless links”, in *IEEE Transactions in Multimedia*, vol.8 (4), pp. 830 – 843, Aug. 2006.
- J4 A. Markopoulou, F. Tobagi, and M. Karam, “Loss and Delay Measurements of IP Backbone Networks,” in *Elsevier Computer Communications Journal - Special Issue on Measurements and Monitoring of IP Networks*, vol.29, pp. 1590–1604, June 2006.
- J3 A. Markopoulou, F. Tobagi, and M. Karam, “Assessing the Quality of Voice Communications over Internet Backbones,” in *IEEE/ACM Transactions on Networking*, vol.11 (5), pp.747-760, Oct. 2003.
- J2 S. Guha and A. Markopoulou, “Hierarchical Reliable Multicast: Performance Analysis and Placement of Proxies,” in *Elsevier Computer Communications Journal*, vol.26, pp. 2070–2081, Oct. 2003.
- J1 A. Markopoulou and M. Anagnostou, “Optimal Grouping of Components in a Distributed System,” in *Elsevier Computer Communications Journal*, vol.21, pp.1452–1461, 1998.

► **PEER-REVIEWED CONFERENCES**

- J31/JC3 J. Varmarken, H. Le, A. Shuba, A. Markopoulou, Z. Shafiq, “The TV is Smart and Full of Trackers: Measuring Smart TV Advertising & Tracking,” to appear in the *Proc. of Privacy Enhancing Technologies Symposium (PETS/PoPETS) 2020*.
- J30/JC2 A. Shuba, A. Markopoulou, “NoMoATS: Towards Automatic Detection of Mobile Tracking,” to appear in the *Privacy Enhancing Technologies Symposium (PETS/PoPETS) 2020*.
- C57 E. Alimpertis, A. Markopoulou, K. Psounis, C.T. Butts, “City-Wide Signal Strength Maps: Prediction with Random Forests?”, In *Proc. of The Web Conference (WWW) 2019*, pp. 2536 – 2542, May 2019, San Fransisco, USA ( 20
- J27/JC1 A. Shuba, A. Markopoulou, Z. Shafiq, “NoMoAds: Effective and Efficient Cross-App Mobile Ad-Blocking”, in the *Proceedings of the Privacy Enhancing Technologies Symposium (PoPETs) 2018*, Issue 4. July 2018, Barcelona, Spain.
  - \* The Andreas Pfitzmann best student paper award,
- C56 L. Baldesi, C.T Butts, A. Markopoulou, “Spectral Graph Forge: Graph Generation Targeting Modularity,” in *Proc. of IEEE INFOCOM 2018 (acceptance rate 19.2%)*, Honolulu, HI, 2018. [Code contributed to NetworkX.]
- C55 B. Tillman, A. Markopoulou, C.T Butts, M.Gjoka, “Construction of Directed 2K Graphs,” in *Proc. of KDD 2017 and poster presentation (acceptance rate 17% among all submitted papers)*, Halifax, Canada, Aug. 2017.
- C54 B. Cici, A. Markopoulou, N. Laoutaris, “ORS: A Scalable Online Ridesharing System, in *Proc. of 9th ACM SIGSPATIAL International Workshop on Computational Transportation Science (IWCS2016)*, San Francisco, CA, Oct. 2016.
- C53 B.Cici, E. Alimpertis, A. Ihler, A. Markopoulou, ”Cell-to-cell Activity Prediction for Smart Cities”, in *Proc. of INFOCOM 2016 Workshop on Smart Cities and Urban Computing (SmartCity 2016)*, San Francisco, CA, April 2016.
- C52 Abinesh Ramakrishnan, Cedric Westphal, Athina Markopoulou, An Efficient Delivery Scheme for Coded Caching, in *Proc. of ITC 27*, Ghent, Belgium, Sept. 2015.
- C51 A. Le, J. Varmarken, S. Langhoff, A. Shuba, M. Gjoka, A. Markopoulou, AntMonitor: A System for Monitoring from Mobile Devices, in *Proc. of ACM SIGCOMM Workshop on Crowdsourcing and Crowdsharing of Big Internet Data (C2BID)*, London, UK, Aug. 17, 2015.



- C50 B.Cici, M.Gjoka, A. Markopoulou, C.Butts, “On the decomposition of cell phone activity patterns and their connection with urban ecology,” in *Proc of ACM MobiHoc*, Hangzhou, China, June 2015.
- C49 M.Gjoka, B. Tillman, A. Markopoulou, “Construction of Simple Graphs with a Target Joint Degree Matrix and Beyond,” in *Proc. of IEEE INFOCOM 2015*, Hong Kong, April 2015.
- C48 B. Cici, N. Laoutaris, E. Frias-Martinez, A. Markopoulou, “Assessing the Potential of Ride-Sharing Using Mobile and Social Data – A Tale of Four Cities,” in *Proc of Ubicomp 2014*, Seattle, Sept. 2014.
- \* Best Paper Nominee Award, top 5%.
  - \* Media coverage: Mentioned in MIT Technology Review article “Google Could Reinvent Commuting,” July 2015.
- C47 C. Meng, A. Markopoulou, “On Routing-Optimal Networks for Multiple Unicasts,” in *Proc. of IEEE ISIT 2014*, Honolulu, Hawaii, July 2014.
- C46 Chun Meng, Hulya Seferoglu, Athina Markopoulou, Kenneth W. Shum, Chung Chan, “MPC: Multicast Packing for Coding across Multiple Unicasts,” in *Proc. of NetCod 2013*, Calgary, Canada, June 2013.
- C45 Anh Le, Arash Saber Tehrani, Alex Dimakis, and Athina Markopoulou, “Instantly Decodable Network Codes for Real-Time Applications,” in *Proc. of NetCod 2013*, Calgary, Canada, June 2013.
- C44 Pegah Sattari, Maciej Kurant, Animashree Anandkumar, Athina Markopoulou, Michael Rabbat, “Active Learning of Multiple Source Multiple Destination Topologies,” in *Proc. of CISS 2013*, John Hopkins, Baltimore, Maryland, March 2013.
- C43 B. Cici, A. Markopoulou, E. Fras-Martnez, N. Laoutaris, Quantifying the Potential of Ride-Sharing using Call Description Records, in *Proc. of ACM HotMobile 2013*, Feb. 2013.
- C42 M.Gjoka, M.Kurant, A.Markopoulou, “2.5K-Graphs: from Sampling to Generation, in *Proc. of IEEE INFOCOM 2013*, Turin, Italy, March 2013. (acceptance rate 17.5%)
- C41 A. Le, L. Keller, C. Fragouli, and A. Markopoulou, “MicroPlay: a Networking Framework for Local Multiplayer Games, in *the 1st SIGCOMM Workshop on Mobile Gaming (MobiGames)*, Helsinki, August 2012.
- C40 M.Kurant, M. Gjoka, Y. Wang, Z.Almquist, C.Butts, A. Markopoulou, “Coarse-Grained Topology Estimation via Graph Sampling”, in *SIGCOMM Workshop on Online Social Networks (WOSN’12)*, Helsinki, Aug. 2012.
- C39 C. Meng, A. Ramakrishnan, A. Markopoulou, S.Jafar, “On the Feasibility of Precoding-Based Network Alignment for Three Unicast Sessions,” in *Proc. of IEEE ISIT 2012*, Boston, MA, July 2012.
- C38 A. Le and A. Markopoulou, “NC-Audit: Auditing for Network Coding Storage”, in *Proc. of the International Symposium on Network Coding (NetCod)*, Cambridge, MA, June 2012.
- C37 L. Keller, A. Le, B. Cici, H. Seferoglu, C. Fragouli, A. Markopoulou, “MicroCast: Cooperative Video Streaming on Smartphones,” in *Proc. of ACM MobiSys 2012*, Low Wood Bay, Lake District, United Kingdom, June 25-29, 2012. (acceptance rate 17.5 %)
- \* Runner up for best paper award in MobiSys 2012 (i.e, one of the best 5 papers in the conference).

- \* Demo won first place in AMASE 2012 (competition on mobile apps).
  - \* 3rd place in the Wireless Innovation Open Mic, CTIA, Las Vegas, May 2013.
  - \* 2nd place in Mobicom Mobile App Competition, Maiami, FL, Oct. 2013.
- C36 A. Le and A. Markopoulou, “On Detecting Pollution Attacks in Inter-Session Network Coding,” in *Proc. of IEEE INFOCOM 2012*, Orlando, Florida, March 2012. (acceptance rate  $\sim 18\%$ )
- C35 F. Malandrino, M.Kurant, A. Markopoulou, C.Westphal, U.Kozat, “Proactive Seeding for Information Cascades in Cellular Networks,” in *Proc. of IEEE INFOCOM 2012*, Orlando, Florida, March 2012. (acceptance rate  $\sim 18\%$ )
- C34 M.Kokkodis, M.Faloutsos, A.Markopoulou, ”Network-level characteristics of Spamming: An empirical analysis,” in *Proc. of ICNP Workshop on Trust and Security in the Future Internet (FIST) 2011*, Vancouver, BC Canada, Oct. 2011.
- C33 H. Seferoglu, A. Markopoulou, M. Medard, “NCAPQ: Network Coding-Aware Priority Queueing for UDP Flows over COPE,” in *Proc. of NetCod 2011*, Beijing, China, July 2011.
- C32 Anh Le, Athina Markopoulou, “TESLA-Based Defense Against Pollution Attacks in P2P Systems with Network Coding,” in *Proc. of NetCod 2011*, Beijing, China, July 2011.
- C31 P. Sattari, A. Markopoulou, C. Fragouli, “Maximum Likelihood Estimation for Multiple-Source Loss Tomography with Network Coding,” in *Proc. of NetCod 2011*, Beijing, China, July 2011.
- C30 M. Kurant, M. Gjoka, C.T. Butts, A. Markopoulou, “Walking on a Graph with a Magnifying Glass,” in *Proc. of ACM SIGMETRICS 2011*, pp: 281–292, San Jose, CA, June 2011. (acceptance rate  $\sim 15\%$ )
- C29 H. Seferoglu, A. Markopoulou, K. K. Ramakrishnan, “I2NC: Inter- and Intra- Session Network Coding,” in *Proc. of IEEE INFOCOM 2011*, pp: 1035–1043, Shanghai, China, April 2011. (acceptance rate 15.96%)
- \* Media coverage: AT&T Labs-Research featured a story on our collaboration that led to that paper, Nov. 2010.
- C28 A. Le, A. Markopoulou, M. Faloutsos, “PhishDef: URL Names Say It All,” in *INFOCOM mini-conference*, pp:191–195, Shanghai, China, April 2011. (acceptance rate 23.42%)
- C27 M.Kurant, A.Markopoulou, P.Thiran, “On the bias of Breadth First Search (BFS),” in *Proc. of ITC 22*, Amsterdam, The Netherlands, Sept.2010.
- C26 A.Das, S. Vishwanath, S.Jafar, A.Markopoulou, “Network Coding for Multiple Unicasts: An Interference Alignment Approach,” in *Proc. of IEEE ISIT 2010*, Austin, TX, June 2010.
- \* Nominated for Best Student Paper Award in ISIT 2010.
- C25 A. Le, A. Markopoulou, “Locating Byzantine Attackers in Intra-Session Network Coding using SpaceMac,” in *Proc. of NetCod 2010*, Toronto, Canada, June 2010. Longer version on *arXiv*.
- C24 P.Sattari, M.Gjoka, A.Markopoulou, “A Network Coding Approach to IP Traceback,” in *Proc. of NetCod 2010*, Toronto, Canada, June 2010.
- C23 F. Soldo, A. Markopoulou, A. Lopez-Toledo, “A Simple Optimization Model for Wireless Opportunistic Routing with Intra-session Network Coding,” in *Proc. of NetCod 2010*, Toronto, Canada, June 2010.

- C22 H.Seferoglu, A.Markopoulou, “Network Coding-Aware Queue Management for Unicast Flows over Coded Wireless Networks,” in *Proc. of NetCod 2010*, Toronto, Canada, June 2010.
- C21 H.Seferoglu, A.Markopoulou, “Delay-Optimized Network Coding for Video Streaming over Wireless Networks”, in *Proc. of IEEE ICC 2010*, South Africa, May 2010.
- C20 F.Soldo, A.Le, A.Markopoulou, “Predictive Blacklisting as an Implicit Recommendation system,” in *Proc. of IEEE INFOCOM 2010*, pp: 1640–1648, San Diego, April 2010. (*acceptance rate 17.5%*)
- \* Media coverage: MIT Technology Review, Slashdot, Dark Reading, ACM TechNews.
- C19 M.Gjoka, M.Kurant, C.T. Butts, A.Markopoulou, “Walking in Facebook: a Case Study of Unbiased Sampling of Facebook,” in *Proc. of IEEE INFOCOM 2010*, pp: 2498–2506, San Diego, April 2010. (*acceptance rate 17.5%*)
- C18 P.Sattari, A.Markopoulou, C.Fragouli, “Multiple Source Multiple Destination Topology Inference using Network Coding,” in *Proc. of NetCod 2009*, EPFL, Lausanne, June 2009.
- C17 H.Seferoglu, A.Markopoulou, U.Kozat, “Network coding-aware rate control and scheduling in wireless networks,” in *Proc. of ICME 2009*, Special Session on “Network Coding for Multimedia Streaming,” pp: 1496–1499, New York, July 2009.
- C16 H.Seferoglu, A.Markopoulou, “Distributed Rate Control for Video Streaming over Wireless Networks with Intersession Network Coding,” in *Proc. of Packet Video 2009*, Seattle, May 2009.
- C15 X. Yang, M. Gjoka, P. Chhabra, A. Markopoulou, P. Rodriguez, “Kangaroo: Video Seeking in P2P Systems,” in *Proc. of USENIX IPTPS*, Boston, April 2009.
- C14 F. Soldo, A. Markopoulou, K. Argyraki, “Optimal Filtering of Source Address Prefixes: Models and Algorithms,” in *Proc. of IEEE INFOCOM 2009*, 2446–2454, Rio de Janeiro, Brazil, Apr. 2009. (*acceptance rate 19.7%*)
- C13 M.Gjoka, M.Sirivianos, A.Markopoulou, X.Yang, “Poking Facebook: Characterization of OSN Applications,” in *Proc. of ACM SIGCOMM Workshop on Online Social Networks (WOSN)*, Seattle, Aug. 2008.
- C12 H.Seferoglu, A.Markopoulou, “Opportunistic Network Coding for Video Streaming over Wireless,” in *Proc. of IEEE Packet Video*, Lausanne, Switzerland, Nov. 2007.
- C11 M.Gjoka, C.Fragouli, P.Sattari, A.Markopoulou, “Loss Tomography in General Topologies with Network Coding,” in *Proc. of IEEE GLOBECOM 2007*, pp: 381–386, Washington, DC, Nov. 2007.
- C10 C. Fragouli, D. Katabi, S. Katti, A. Markopoulou, M. Medard, H. Rahul, “Wireless Network Coding: Opportunities & Challenges,” in *Proc. of MILCOM*, Oct. 2007.
- C9 K.El Defrawy, M.Gjoka, A.Markopoulou, “Bottorrent: Misusing BitTorrent to Launch DDoS Attacks,” in *Proc. of USENIX SRUTI*, Santa Clara, June 2007.
- \* Media coverage: by the New Scientist and Slashdot.org.
- C8 Y.Li, A.Markopoulou, J. Apostolopoulos, N.Bambos, “Packet Transmission and Content-Dependent Playout for Video Streaming over Wireless”, in *Proc. IEEE MMSP’05 - special session on Content-Aware Video Coding and Communication*, Oct.30-Nov.2 2005, Shanghai, China.
- C7 A. Markopoulou, Y. Li, C.Chan, and N. Bambos, “Power Management in Battery-Constrained Hand-held Devices,” in *Proc. of IEEE 2nd Int. Conference on Broadband Networks - Wireless Symposium*, pp:441 - 450, Oct. 3-7, 2005, Boston, MA.

- C6 Y. Li, A. Markopoulou, N. Bambos, and J. Apostolopoulos, "Joint Power/Playout Control Schemes for Media Streaming over Wireless Links," in Proc. of *IEEE 14<sup>th</sup> Packet Video Workshop*, Irvine, Dec. 2004, CA, USA.
- C5 A. Markopoulou, G. Iannaccone, S. Bhattacharyya, C.N. Chuah, and C. Diot, "Characterization of Failures in an IP Backbone Network," in Proc. of *IEEE INFOCOM 2004*, March 2004, Hong Kong. (Acceptance rate 18.4%).
- C4 A. Markopoulou, E. Setton, M. Kalman, and J. Apostolopoulos, "WiSE Video: Improving rate-controlled video streaming over wireless links, using in-band wireless loss notification," in Proc. of *IEEE Int'l Conference on Multimedia and Expo (ICME'04)*, July 2004, Taipei, Taiwan. (Acceptance rate 24.8%).
- C3 A. Markopoulou, F. Tobagi, and M. Karam, "Assessment of VoIP quality over Internet backbones," in Proc. of *IEEE INFOCOM 2002*, June 2002, New York, USA. (Acceptance rate 20.5%).
- \* *One of the 8 best papers in the conference*
- C2 A. Markopoulou and B. Subbiah, "Dynamic traffic conditioning for a DiffServ domain using feedback and topology techniques," in Proc. of *IC 2000*, Arizona, USA, 2000.
- C1 A. Markopoulou and F. Tobagi, "Performance analysis of Hierarchical Reliable Multicast," in the Proc. of *ACM 2nd Int'l Workshop on Network Group Communications (NGC 2000)*, Nov. 2000, Stanford, CA. (Acceptance rate 24.5%)

► **INVITED PAPERS**

- I10 B.Cici, L.Keller, A.Le, A.Markopoulou, C.Fragouli, H.Seferoglu, (in alphabetical order) "Cooperative smartphones with network coding," in *Allerton Conference*, Sept. 2011, Monticello, IL.
- I9 A. Ramakrishnan, A. Das, H. Maleki, A. Markopoulou, S. Jafar, S. Vishwanath, "Network Coding for Three Unicast Sessions: Interference Alignment Approaches," in *Allerton Conference 2010*, Sept. 2010, Monticello, IL.
- I8 F.Soldo, K. El Defrawy, A. Markopoulou, B.Krishnamurthy, K. van der Merwe, "Filtering algorithms for unwanted traffic," in Proc. of *ITA Workshop '08*, UCSD, Jan. 2008.
- I7 K. El Defrawy, A. Markopoulou, K.Argyrazi, "Optimal allocation of Filters against DDoS Attacks," in Proc. of *ITA Workshop '07*, UCSD, Jan. 2007.
- I6 C.Fragouli, A.Markopoulou, R.Srivasanan, S.Diggavi, "Network Monitoring: It Depends on your Points of View," in Proc. of *ITA Workshop'07*, UCSD, Jan. 2007.
- I5 C. Fragouli, A. Markopoulou, S.Diggavi, "Topology Inference using Network Coding", in Proc. of the *44<sup>th</sup> Allerton Conference on Communication, Control, and Computing*, Monticello, IL, Sept. 2006.
- I4 C.Fragouli, A.Markopoulou, "A Network-Coding Approach to Overlay Network Monitoring", in Proc. of the *Allerton Conference 2005*, Sept. 2005.
- I3 A. Abbas and A. Markopoulou, "A Bayesian - Maximum Entropy Approach to Subjective Voice Quality Testing," in Proc. of *AIP 23<sup>rd</sup> International WorkShop on Maximum Entropy and Bayesian Inference*, Jackson Hole, WY, USA, Aug. 2003.
- I2 F. Tobagi, A. Markopoulou, and M. Karam, "Is the Internet ready for VoIP?," in Proc. of *2002 Tyrrhenian International Workshop on Digital Communications (IWDC 2002)*, Capri, Italy, pp.49-57, Sept. 2002, Capri, Italy.

- I1 F. Tobagi, W. Nouredine, B. Chen, A. Markopoulou, M. Karam, C. Fraleigh, J.M. Pulido and J. Kimura, "Service Differentiation in the Internet to support multimedia traffic," in *Proc. of 2001 Tyrrhenian Int'l Workshop on Digital Communications (IWDC 2001)*, and printed by *Springer Verlag LNCS*, Vol. 2170, p.381, 2001.

► **TECHNICAL REPORTS** (only listing those without overlap with published papers)

- TR7 Evita Bakopoulou, Balint Tillman, Athina Markopoulou, "A Federated Learning Approach for Mobile Packet Classification", in *arxiv.org/abs/1907.13113*, July 2019.
- TR6 Rahmadi Trimananda, Janus Varmarken, Athina Markopoulou, Brian Demsky, "Ping-Pong: Packet- Level Signatures for SmartHome Device events", in *arxiv.org/abs/1907.11797*, July 2019.
- TR5 Anastasia Shuba, Evita Bakopoulou, Milad Asgari Mehrabadi, Hieu Le, David Choffnes, Athina Markopoulou, "AntShield: On-Device Detection of Personal Information Exposure," in *arxiv.org/abs/1803.01261*, March 2018.
- TR4 A. Shuba, A. Le, M. Gjoka, E. Alimpertis, A. Markopoulou, "AntMonitor: A System for On-Device Mobile Network Monitoring and its Applications," in *arxiv.org/abs/1611.04268v2*, April 2017.
- TR1 A. Markopoulou, D. Cheriton, "The Case for Redundant Arrays of Internet Links (RAIL)," Technical Report ArXiv:cs.NI/0701133, *arXiv.org*, Jan. 2007.

► **SHORT PAPERS and POSTERS**

- S15 A. Shuba, E. Bakopoulou, A. Markopoulou, "Privacy Leak Classification from Mobile Devices," in *Proc. of SPAWC (19th IEEE Int'l Workshop in Signal Processing Advances in Wireless Communications?)*, Kalamata, Greece, June 2018.
- S14 A. Shuba, A. Markopoulou, "Demo: AntWall - A System for Mobile Adblocking and Privacy Exposure Prevention," MobiHoC Demo, UCLA, June 2018.
- S13 B. Tillman, A. Markopoulou, "On the Number of Connected Components of Joint Degree Matrix Realizations," Network Science (NetSci) Workshop, Paris, France, June 2018.
- S12 E. Alimpertis and A. Markopoulou, "A System for Crowdsourcing Passive Mobile Network Measurements", *NSDI Poster*, Boston, March 2017.
- S11 L. Baldesi, C. Butts, A. Markopoulou, Graph Generation Targeting Modularity, *ACM CoNEXT 2016 Student Workshop Poster*, Irvine, CA, Dec. 2016.
- S10 B. Cici, A. Markopoulou, N. Laoutaris "Short Paper: Designing an On-Line Ride-Sharing System," in *Proc. of 23rd ACM SIGSPATIAL*, Seattle, Washington, USA, Nov. 2015.
- S9 A. Shuba, A. Le, M. Gjoka, J. Varmarken, S. Langhoff, A. Markopoulou, "Demo: AntMonitor - Network Traffic Monitoring and Real-Time Prevention of Privacy Leaks in Mobile Devices," in *ACM MobiCom S3 Workshop*, Paris, France, July 2015. Best Demo Award Winner.
- S8 A. Shuba, A. Le, M. Gjoka, J. Varmarken, S. Langhoff, A. Markopoulou, "AntMonitor: A System for Mobile Traffic Monitoring and Real-Time Prevention of Privacy Leaks," in *ACM Mobicom Demos*, Paris, France, Sep 7-10, 2015.
- S7 M.Gjoka, B.Tillman, R.Pagh, A.Markopoulou, "Construction of 2K Graphs", *Poster in NetSci 2014*, Berkeley, June 2014.
- S6 L. Keller, A. Le, B.Cici, H.Seferoglu, C. Fragouli, A. Markopoulou, "MicroCast: Video Streaming on Smartphones," demo/poster presented in:

- (a) *ITA Workshop*, Feb. 2012, San Diego, CA
- (b) ACM/SIGMOBILE HotMobile 2012, Feb. 2012, San Diego, CA.
- S5 P. Sattari, A. Markopoulou, “Algebraic Traceback Meets Network Coding,” *in Proc. of NetCod 2011 (Poster Session)*, Beijing, China, July 2011.
- S4 B. Cici, F. Malandrino, M. Gjoka, M. Kuran, A. Markopoulou, “Online Social Networks meet Smartphones,” *poster at the Calit2 anniversary*, UC Irvine, Fall 2010.
- S3 A. Markopoulou, H. Seferoglu, “Network Coding Meets Multimedia: Opportunities and Challenges,” *invited letter, IEEE MMTC E-Letter*, Vol.4, No.1, pp.12-15, Feb.2009.
- S2 C. Fragouli, A. Markopoulou, “Network Coding Techniques for Network Monitoring: A Brief Introduction”, *in IEEE Int’l Zurich Seminar (IZS) on Communications*, pp.82-83, ETH, Zurich, Switzerland, Feb. 2006.
- S1 A. Markopoulou, N. Bambos “Optimizing Timeout-Based Sleep Algorithms,” *poster appeared in the WIP session of IEEE/ACM IPSN 2005*.

► **PATENTS**

- P3 H. Seferoglu, A. Markopoulou, K.K. Ramakrishnan, “Methods and Apparatus to utilize network coding in a wireless network”, US 20130051377 A1, granted in Feb. 2013.
- P2 A. Markopoulou, F. Soldo, A. Le, Predictive Blacklisting using Implicit Recommendation,” US 8,572,746 B2, granted on Oct.29, 2013.
- P1 Jacobus Van der Merwe, Balachander Krishnamurthy, Karim M. El Defrawy, Athina Markopoulou, Fabio Soldo, System and Method for Filtering Unwanted Internet Protocol Traffic Based on Blacklists, US Pat. No. 8,539,576. Filed in Nov. 2008 and Issued 9/17/2013.

## TEACHING AND ADVISING EXPERIENCE

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► **EECS Dept, UC Irvine**

*Jan. 2006 - today*

- Undergraduate classes:
  - \* *EECS148 (Introduction to Computer Networks)*: Spring 2011, Spring 2012, Fall 2013, Spring 2015, Fall 2016, Fall 2017 (2 sessions, approx. 450 students), Spring 2019 (approx. 350 students).
  - \* *EECS140 (Engineering Probability)*: Spring 2006, Spring 2007, Spring 2008, Winter 2010.
- Graduate classes:
  - \* *EECS215 (Design and Analysis of Algorithms)*: Fall 2009, Fall 2010, Fall 2011, Fall 2014, Fall 2015, Winter 2017, Winter 2018, Fall 2019.
  - \* *EECS248B/NetSys250 (Performance Analysis of Networks)*: Winter ’07, ’08.
  - \* *EECS246/NetSys256 (Network Coding)*: Fall 2009, Winter 2011.
  - \* *EECS298/EECS/221/NetSys270 (Advanced Topics)*: Advanced Topics on Networking (Spring ’07, Spring ’08); Network Coding (Fall 2009, Winter 2011, Winter 2012); Topics on Network Science & Applications (Winter’16, Spring’17); Mobile Data Privacy (Winter ’19)
  - \* *NetSys295 (Networked Systems/Distinguished Speakers Seminar)*: Winter ’08, Spring ’09.
- Research Supervision:

- \* *Postdocs:*
  - Maciej Kurant, from EPFL Lausanne: Mar.-July 2009, Sept.2010-Feb. 2012. Currently with Google, Zurich.
  - Omer Nebil Yaveroglu, from Imperial College, London: Jan. 2014-Sept 2015. Currently with Google, London.
- \* *Graduated Ph.D students:*
  1. Hulya Seferoglu, EECS: graduated in Fall 2010, thesis on “Cross-layer Optimization of Coded Wireless Networks”, currently an Assistant Professor in EECS at UIC.
  2. Minas Gjoka, Networked Systems: graduated in Fall 2010, thesis on “Measurements of Online Social Networks”, currently with Google, Santa Monica.
  3. Fabio Soldo, Networked Systems: graduated in Summer 2011, thesis on “Defense Mechanisms Against Internet Malicious Traffic: Data Analysis and Algorithms”; with Google Inc. Mountain View, CA.
  4. Pegah Sattari, EECS, graduated in June 2012, thesis on “Network Tomography with Network Coding.” Currently with Apple Inc.
  5. Anh Le, Computer Science (ICS), graduated in June 2012, thesis on “Defense against Pollution Attacks in Network Coding”. Co-Founder & CTO of Shoelace Wireless Inc.
  6. Abinesh Ramakrishnan, EECS, graduated in March 2015, thesis on “Precoding-Based Techniques for Multiple Unicasts in Wired and Wireless Networks.” Currently at Huawei R&D, Santa Clara.
  7. Chun Meng, EECS, graduated in Sept. 2014, thesis on “Effects of Network Structure on Achievable Rates for Multiple Unicasts.”
  8. Blerim Cici, Networked Systems, graduated in June 2016, thesis on “Mobile Data Analysis for Smart City Applications”. Currently with Apple, Cupertino.
  9. Anastasia Shuba, EECS, graduated in June 2019, thesis on “Mobile Data Transparency and Control,” currently with Broadcom, Culver City.
  10. Balint Tillman, Networked Systems, graduated in Aug. 2019, thesis on “Graph Construction using the dK-Series Framework”, currently with Google, Mountain View, CA.
- \* *Current Ph.D. students:*
  - Manos Alimpertis, Networked Systems, 6<sup>th</sup> year Ph.D. student.
  - Evita Bakopoulou, Networked Systems, 4<sup>rd</sup> year Ph.D. student.
  - Janus Varmarken, Networked Systems, 3<sup>rd</sup> year Ph.D. student.
  - Hieu Le, EECS, 2<sup>nd</sup> year Ph.D. student.
  - Stelios Stavroulakis, EECS, 1<sup>st</sup> year PhD student.
- \* *M.S. Theses Supervised (and Funded):*
  - Milad Asgari, Networked Systems, MS thesis on “A Recommendation Systems Approach for Detecting Privacy Leaks”, May 2019.
  - Nivedhita Sathyamurthy, MS thesis on “Visualization of Individual Mobile Data”, Feb. 2017; currently with Facebook, Menlo Park.
  - Yan Wang: MS thesis on “Visualization of Geo-Social Data”, Spring 2012; currently with Microsoft (Development), Redmond.
  - Karthik Raman: MS thesis on “Classification and Detection of Polymorphic Malware”, Winter 2011.
  - Giuseppe Valente: supported and advised Sept.2007 -Dec. 2008; M.S. thesis on “Using multiple paths to improve end-to-end performance”; currently with Arista Networks, Palo Alto, CA.

\* *Visiting Students:*

- Luca Baldesi, PhD student at University of Trento, Italy, visiting April-August 2016. Worked on Graph Construction using spectral methods.
- Janus Varmarken and Simon Langhoff: MS students at ITU, Copenhagen, Visiting Aug.- Jan. 2014. Implemented an android app for monitoring network traffic on a mobile devices.
- Balint Tillman: MS student at ITU, Copenhagen. Visiting Feb-June 2014. Studied algorithms for graph construction. Joint later for Ph.D.
- Omer Nebil Yaveroglu: Ph.D. student at Imperial, London. Visited Aug.-Sept. 2011. Studied the structure of biological and social networks, co-advised by Profs. Przulj and Butts.
- Lorenzo Keller: Ph.D. student, visiting from EPFL, Lausanne, Switzerland. Visited in May 2011 and Oct. 2011. He worked on implementing network coding on smartphone devices.
- Francesco Malandrino: Ph.D. student, visiting from Politecnico di Torino, Italy. Visited during the period Sept. 2010 - Feb. 2011 and June 2011. Worked on “Online Social Networks from a Mobile Operator’s Perspective”.
- Alessandra Tripodi: undergraduate visitor from the University of Padova, Italy; partially supported and co-advised (Jan.-June 2009); thesis on “countering pollution attacks in network coding”.

\* *External Committees:*

- External member of the Ph.D. thesis committee of Lorenzo Keller in EPFL, Lausanne, July 2012 (Advisor: C.Fragouli).
- External member of the Ph.D. thesis committee of Christine Neuberg in EPFL, Lausanne, July 2011 (Advisor: R.Urbanke).
- External member of the Ph.D. thesis committee of Maciej Kurant in EPFL, Lausanne, 2009 (Advisor: P.Thiran).
- External member of the M.S. thesis committee of Ramya Srinivasan in EPFL, Lausanne, 2007 (Advisor: C.Fragouli).

\* *Undergraduate Advising at UCI:*

- Supervised two senior design projects in 2007 -2008, one (on autonomous drones) in 2015-2016; both projects won a UROP grant.
- Supervised two undergraduate students, supported by a UROP fellowship, in Summer and Fall of 2008.

► **Networked Systems Program, UC Irvine**

- Program Co-Director *2015-2017*
- Program Director *2013-2015*
- Program Co-Director *2011-2012*

► **IT University of Copenhagen**

*(on sabbatical) 2012-13*

- Taught one undergraduate course on *Algorithms and Data Structures*, Fall 2012.
- Advised two bachelor theses in software development: (i) “Cooperative web browsing on mobile devices” (J. Varnarken and S. Langhoff); (ii) “Peer-to-peer aided mobile game server” (J. Kristensen); June 2013.
- Advised one group project (4 MS/Ph.D. students) in advanced algorithms: “Methods for construction of graphs with a given joint degree distribution”, June 2013.



- Co-advised one MS Thesis on “Towards 3K-Graph Construction” (B. Tilman), June 2014.

► **Stanford University**

- *Co-organizer of the Stanford Networking Seminar (NetSeminar)* *2004-2005*  
The seminar brought together networking researchers from academia and industry.
- *Teaching Assistant* *Winter 2000*  
for the graduate course EE384A on “Internet protocols and standards”.
- *Supervision.* *2003-2004*  
As a postdoc, I had the privilege to work with talented graduate students (E. Setton, M. Kalman, Y. Li).

► **National Technical University of Athens** *Sept. 1993 - Nov. 1994*  
*Assistant in the Computer Science Lab*

I gave tutorials on programming languages and supervised programming projects, at undergraduate level. I was also a part-time network and system administrator.

## INVITED TALKS

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T25 Panelist on “IoT Privacy Regulation” Panel, IoT Security & Privacy Conference and Research Symposium, CPRI, UCI, May 2019.

T24 “Mobile Data Privacy”

- b: Google Networking Faculty Summit, Sunnyvale, March 2019.
- a: Intelligence 2020, Tel Aviv University, Tel Aviv, Israel, Nov. 2018

T23 “Construction Algorithms for Directed 2K-Graphs”, ITA, UCSD, Feb. 2017.

T22 On the `antmonitor.calit2.uci.edu` project:

- b: “AntMonitor: Mobile Network Monitoring for Privacy”, DTL Conference and AT&T Research Seminar, New York, NY, Nov. 2016.
- a: “AntMonitor: A System for Mobile Network Monitoring, Learning and Control”, ITA Workshop, Feb. 2016.

T21 “Measurements and Analysis of Mobile and Social Networks”.

- e: Invited Seminar at Verizon Digital Media Services, Los Angeles, CA, Aug. 2018.
- d: Invited Seminar at Symantec Research, Los Angeles, CA, March 2018
- c: Invited Seminar at ECE dept, USC, April 2017
- b: CS Colloquium, UC Riverside, Nov. 2015.
- a: Henry Samueli School of Engineering Distinguished Speaker Series (for midcareer research award), May 2015.

T20 “Construction of Graphs with a target Joint Degree Distribution, and beyond.”

- c: Data Science Workshop, UCI, March 2015.
- b: ACM MobiHoc TPC Workshop, Columbia University, Feb. 2015.
- a: ITA invited talk, UCSD, Feb. 2014.

T19 “Cooperative Schemes for Content Delivery to Mobile Devices”.

- c: Joint HHSoE and DBH Alumni event at Sony Pictures, April 2014.
  - b: UCSD Communications and Coding Seminar, March 2014.
  - a: EECS Seminar, University of Michigan, Ann Arbor, Feb. 2014.
- T18 “Microcast: Network Coding on Android Phones”, ITA, UCSD 2012.
- T17 “Sampling Online Social Networks”, presented at:
- g: Technicolor Research, Palo Alto, CA, Apr. 2012.
  - f: Computational Social Sciences Initiative (CSSI) Seminar Series, UMASS Amherst, Massachusetts, Feb. 16, 2012.
  - e: UCSD, Oct. 14, 2011.
  - d: Advanced Networks Colloquium, University of Maryland, College Park, Sept. 23, 2011.
  - c: Keynote at the *Network Measurement and Mapping Conference (NMMC)*, May 16-17, 2011, in Madison, Wisconsin.
  - b: EE Colloquium at UCLA, April 2011.
  - a: IMBS Workshop on “Behavior in and on Networks,” UC Irvine, Jan. 2011.
- T16 “I2NC: Inter- and Intra- Session Network Coding,” Invited talk at ITA, UC San Diego, Feb. 2011.
- T15 “Predictive Blacklisting as a Recommendation System”, presented at:
- a: *Netseminar*, Stanford University, May 2010.
  - b: *Systems Seminar*, EECS, University of Michigan, Ann Arbor, April 2010.
  - c: *ITA 2010*, UC San Diego, Feb. 2010.
- T14 “Highly Predictive Blacklisting”, *invited talk in SuRI (Summer Research Institute)*, Special Session: “Rediscovering Favorites”, EPFL, Lausanne, June 2009.
- T13 “Filtering Malicious Sources: Models and Algorithms,” *invited talk at the IPAM Workshop II: Applications of Internet MRA to Cyber-Security*, UCLA, Oct.2008.
- T12 “Dealing with Malicious Traffic”, panel organizer and speaker in *IEEE CCW’08 Workshop*, Colorado (Oct. 2008).
- T11 “(Some) Novel Applications of Network Coding,” presented at:
- *DocomoLabs, Palo Alto, CA*, March 2008.
  - *GeorgiaTech, Network Seminar*, Nov. 2007.
- T10 “Optimal Filter Allocation against DDoS Attacks”, presented at:
- *CAIDA, San Diego Supercomputer Center*, Feb. 2007
  - *AT&T Research*, New Jersey, Feb. 2007
- T9 “Improving Network Inference using Network Coding Techniques”, presented at:
- *University of Southern California*, March 2007.
  - *CS Colloquium, UC Riverside*, Nov. 2006
- T8 “Control Mechanisms for Multimedia Streaming over Wireless”, presented at:

- *Networked Systems Seminar, UC Irvine, May 2006*
  - *Summer Research Institute at EPFL, Lausanne, Switzerland, July 2006.*
  - *IDIAP Research Institute, Martigny, Switzerland, July 2006.*
  - *EECS Dept, UC Irvine, CA, March 2005*
  - *Google Inc., Mountain View, CA, June 2005*
- T7 “Rate-control for real-time multimedia applications”, Guest lecture in EEC273 graduate class on Computer Networks, UC Davis, CA Jan. 2005.
- T6 “Improving the Dependability of the Internet,” Stanford Networking Seminar (NetSeminar), *Stanford University*, Jan. 2005
- T5 “Improving Video Streaming over Wireless Links,” presented at:
- *Microsoft Research, Cambridge, UK, Dec. 2004*
  - *National Technical University of Athens, Greece, Jan. 2005.*
- T4 “The Good, the Bad and the WISE: Three Problems in Designing a Ubiquitous Packet Network,” *Sprint ATL*, Burlingame, CA, USA, March 2004
- T3 “Failures and Availability in IP Backbone Networks,” presented at:
- *AT&T Labs at Florham Park, NJ, USA, June 2004*
  - *National Technical University of Athens, Athens, Greece, Dec. 2003*
  - *Athens University of Economics and Business, Athens, Greece, Dec. 2003*
  - *EECS Dept. Seminar, UC Berkeley, Berkeley, CA, USA, Aug. 2003*
  - *Sprint Retreat, Miami Beach, FL, USA, May 2003*
- T2 “Is the Internet ready for VoIP?,” presented, from Aug. to Nov. 2002:
- *AT&T Labs, Menlo Park, CA & at Florham Park, NJ, USA*
  - *Lucent-Bell Labs, Holmdel & Murray Hill, NJ, USA*
  - *Nokia Research Center, Mountain View, CA, USA*
  - *CAIDA, San Diego, CA, USA*
- T1 “Differentiated Services for Voice and Video”, *University of Crete, Computer Science Dept.*, Heraklion, Greece, July 2000