

## CURRICULUM VITAE

<b>Education</b>	STANFORD UNIVERSITY	Stanford, CA
	<i>Department of Electrical Engineering</i>	Jan. 1999 - Dec. 2002
	<b>Ph.D. degree in Electrical Engineering.</b> Thesis title: "Probabilistic Methods for Web Caching and Performance Prediction of IP Networks and Web Farms", supervised by Prof. Balaji Prabhakar.	
	STANFORD UNIVERSITY	Stanford, CA
	<i>Department of Electrical Engineering</i>	Sep. 1997 - Jan. 1999
	<b>M.S. degree in Electrical Engineering.</b> GPA: 4.0/4.0. (Actual GPA 4.05/4.0.)	
	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	Athens, Greece
	<i>Electrical and Computer Engineering Department</i>	Sep. 1992 - June 1997
	<b>Diploma in Electrical and Computer Engineering.</b> GPA: 9.74/10.0. (Graduated ranking 1st in the class of '97.)	
<b>Work/ Research Experience</b>	UNIVERSITY OF SOUTHERN CALIFORNIA	Los Angeles, CA
	<i>Professor</i>	Nov. 2017 - now
	<i>Associate Professor</i>	May. 2009 - Nov. 2017
	<i>Assistant Professor</i>	Sep. 2003 - Apr. 2009
	<i>Electrical Engineering and (jointly) Computer Science departments</i>	
	Modeling and performance analysis of a variety of wired and wireless networks, design and implementation of schemes and protocols to solve problems related to such systems.	
	SPACEMUX, INC.	
	<i>Co-founder and CEO</i>	May 2013 - Dec. 2014
	Increasing wireless bandwidth and speed tenfold.	
	QUANTENNA COMMUNICATIONS	
	<i>Consultant</i>	Jan. 2015 - now
	Advanced MAC and PHY layer techniques applied to next generation wireless networks.	
	HONEYWELL	
	<i>Consultant</i>	Sep. 2013 - Jun. 2014
	Sensor-network based fire alarm systems.	
	STANFORD UNIVERSITY	Stanford, CA
	<i>Visiting Associate Professor</i>	Aug. 2009 - Dec. 2009
	<i>Electrical Engineering department</i>	
	<i>Postdoctoral Research Fellow</i>	Jan. 2003 - Aug. 2003
	Scheduling of Internet flows and multi-server systems.	
	CISCO SYSTEMS	San Jose, CA
	<i>Consultant</i>	Sep. 2009 - Dec. 2009
	Vehicular multi-technology wireless connectivity.	
	<i>Summer Intern at ATM Platforms Group</i>	June 1999 - Aug. 1999
	Switch scheduling with QoS guarantees.	
	FINEGROUND NETWORKS INC.	Cambell, CA
	<i>Technology Architect</i>	Sep. 2000 - June 2001
	Accelerating web downloads using delta encoding.	

**Teaching  
Experience**

UNIVERSITY OF SOUTHERN CALIFORNIA  
*Instructor*

Los Angeles, CA  
Sep. 2003 - now

- Co-creator and Instructor for the class EE597: “Wireless Networks”. Content: This course provides an introduction to various current and next generation wireless networking technologies, and undertakes a detailed exploration of fundamental architectural and design principles used at all layers. Instructor ratings: Spring 2013 4.83/5, Spring 2015 4.73/5, Fall 2015 4.03/5, Spring 2016 4.52/5.  
Average instructor rating: 4.53/5.
- Instructor for the class EE503: “Probability for Electrical and Computer Engineering”. Content: Probability, discrete and continuous time Markov chains, basic queueing theory. Instructor ratings: Fall 2013 4.49/5, Fall 2015 4.47/5, Fall 2016 4.56/5.  
Average instructor rating: 4.51/5.
- Instructor for the class EE465: “Probabilistic Methods in Computer Systems Modelling”. Content: Probability, discrete and continuous time Markov chains, queueing theory, simulations. Instructor ratings: Fall 2003 4.13/5, Fall 2004 4.03/5, Fall 2005 4.37/5, Fall 2006 4.22/5, Fall 2007 4.53/5, Fall 2008 4.60/5, Fall 2010 4.59/5, Fall 2011 4.75/5, Fall 2012 4.77/5.  
Average instructor rating: 4.44/5.
- Creator and Instructor for the class EE650: “Advance Topics in Computer Networks: Mathematical tools for analyzing wired and wireless networks”. Content: Brief introductions to and applications to networking problems of probability and queueing, Lyapunov functions, fluid limits and analysis, bipartite matchings and stable marriages, random walks on graphs, deterministic and stochastic optimization, statistical analysis, information theory, game theory. Instructor ratings: Spring 2004 4.62/5, Spring 2005 4.67/5, Spring 2007 4.75/5, Spring 2008 4.67/5, Fall 2011 4.86/5.  
Average instructor rating: 4.71/5.

**PhD Student  
Supervision**

- Po-Han Huang (Sep. 2015 - now)
- Kaidong Wang (Sep. 2014 - now)
- Yonglong Zhang (Sep. 2013 - PhD oral exam Sep. 2017)
- Matthew Clark (Sep. 2013 - now, PhD defense Sep. 2017)
- Weng Chon Ao (Sep. 2012 - now, PhD defense Oct. 2017)
- Antonios Michaloliakos (Aug. 2010 - Sep. 2016, currently at Broadcom, San Jose, California)
- Ranjan Pal (Jan. 2009 - Aug. 2014, currently a post-doc at USC, co-advised with Prof. Leana Golubchik)
- Vlad Horia Balan (Sep. 2007 - Aug. 2013, currently at Google, Mountain View, California)
- Wei-Cherng Liao (Sep. 2004 - Dec. 2008, currently at NetFlame, Taiwan)
- Apoorva Jindal (Sep. 2003 - Dec. 2008, currently at Juniper Networks, San Jose, California)
- Fragkiskos Papadopoulos (Sep. 2003 - Dec. 2007, currently a tenure-track Lecturer, Cyprus University of Technology)
- Thrasyvoulos Spyropoulos (Sep. 2003 - Jun. 2006, currently a tenure-track Assistant Professor, Eurecom, France)

**Proposals  
Funded**

CISCO SYSTEMS GRANT Dec 2016  
Research grant from the Cisco University Research Program.  
Proposal Title: Data-driven formal optimization of data centers.  
Amount: \$85,000 - Percentage: 100%  
Role: Principal Investigator

NSF NETS GRANT Sep. 2016 - Aug. 2019  
National Science foundation (NSF) award under the Networking Technology and Systems (NeTS) call.  
Proposal Title: Spectrum Sharing Systems for Wireless Networks: Performance and Privacy Challenges.  
Amount: \$500,000 - Percentage: 100%  
Role: Principal Investigator

ADANT TECHNOLOGIES GRANT June 2016  
Research grant from Adant Technologies.  
Proposal Title: Using reconfigurable antenna systems with WiFi communication devices.  
Amount: \$8,000 - Percentage: 100%  
Role: Principal Investigator

HUAWEI GRANT May 2016  
Research grant from Huawei.  
Proposal Title: Addressing wireless bandwidth demand via asynchronously coordinated multi-cell deployments.  
Amount: \$66,000 - Percentage: 100%  
Role: Principal Investigator

ADANT TECHNOLOGIES GRANT Dec. 2015  
Research grant from Adant Technologies.  
Proposal Title: Asynchronous coordination of WiFi transmitters equipped with smart antennas for enhanced spectral efficiency.  
Amount: Hardware licensing and support equivalent to \$172,500 - Percentage: 100%  
Role: Principal Investigator

NSF EARS GRANT Sep. 2014 - Aug. 2018  
National Science foundation (NSF) award under the Enhancing Access to the Radio Spectrum (EARS) crosscutting program.  
Proposal Title: Future Wireless Broadband Access: Cross-Optimizing Hardware, Physical and Network Layers.  
Amount: \$680,000 - Percentage: 35%  
Role: Principal Investigator

CISCO SYSTEMS GRANT May 2014  
Research grant from the Cisco University Research Program.  
Proposal Title: Rateless encoded UDP for error-resilient wireless links.  
Amount: \$85,000 - Percentage: 100%  
Role: Principal Investigator

ARMY RESEARCH LABORATORY (ARL) GRANT Sep. 2009 - Aug. 2014  
CTA: Communications and Networking Academic Research Center.  
Proposal Title: QUANTA: Quality of Information-Aware Networks for Tactical Applications.  
Amount: \$3,500,000 - Percentage: 25%  
Role: co-Principal Investigator

DoCoMo LABS GRANT Sep. 2011 - 2013  
Research support from the DoCoMo Labs, US.

Proposal Title: MIMO systems with TDD  
Amount: \$60,000 - Percentage: 33%  
Role: co-Principal Investigator

CISCO SYSTEMS GRANT Sep. 2011 - 2013  
Research grant from the Cisco University Research Program.  
Proposal Title: Efficient airtime allocation in wireless networks.  
Amount: \$80,000 - Percentage: 80%  
Role: Principal Investigator

MING HSIEH INSTITUTE (MHI) GRANT May 2011 - 2013  
MHI grant to build a large scale software radio testbed and implement distributed MIMO, interference alignment and massive MIMO systems, as well as perform channel sounding and modelling.  
Proposal Title: Large-Scale Software-Radio Testbed.  
Amount: \$200,000 - Percentage: 33%  
Role: Principal Investigator

METRANS TRANSPORTATION CENTER GRANT Aug. 2009 - Aug. 2010  
METRANS Transportation Center grant to conduct research on metropolitan transportation issues.  
Proposal title: End-to-end performance in vehicular networks with an emphasis on safety and security applications.  
Amount: \$90,000 - Percentage: 100%  
Role: Principal Investigator

CISCO SYSTEMS GRANT Sep. 2008  
Research grant from the Cisco University Research Program.  
Proposal Title: Neighborhood centric transport for home networking environments.  
Amount: \$29,000 - Percentage: 100%  
Role: Principal Investigator

NSF NETS GRANT Aug. 2008 - Aug. 2011  
National Science foundation (NSF) award under the Networking Technology and Systems (NeTS) call.  
Proposal title: Contention-Awareness in Mesh Transport: Theory and Practice.  
Amount: \$200,000 - Percentage: 50%  
Role: Principal Investigator

CISCO SYSTEMS GRANT Apr. 2008  
Research grant from the Cisco University Research Program.  
Proposal Title: TCP challenges in multi-hop wireless networks. From the networking workshop "The Future of TCP: Train-wreck or Evolution?".  
Amount: \$10,000 - Percentage: 100%  
Role: Principal Investigator

NSF REU SITE GRANT Mar. 2008 - Mar. 2011  
Grant to establish a National Science Foundation (NSF) Research Experiences for Undergraduates (REU) site within the Computer Science department at the Viterbi School of Engineering.  
Proposal Title: Coordination, Communication, Autonomy: Principles and Technologies.  
Amount: \$310,000 - Percentage: N/A  
Role: Faculty mentor

VSoE INNOVATIVE RESEARCH FUND GRANT Dec. 2007 - Dec. 2008  
Fund to initiate a Viterbi School of Engineering (VSoE) invited workshop on Wireless

Networks. Proposal title: Establishing a New USC Invited Workshop on Theory and Practice in Wireless Networks.  
Amount: \$15,000 - Percentage: 100%  
Role: Principal Investigator

METRANS TRANSPORTATION CENTER GRANT Oct. 2007 - Dec. 2008  
METRANS Transportation Center grant to conduct research on metropolitan transportation issues.  
Proposal title: Efficient Routing for Safety Applications in Vehicular Networks.  
Amount: \$80,000 - Percentage: 100%  
Role: Principal Investigator

NSF NETS GRANT Aug. 2005 - Aug. 2008  
National Science foundation (NSF) award under the Networking Technology and Systems (NeTS) call.  
Proposal title: Efficient Routing in Delay Tolerant Networking.  
Amount: \$350,000 - Percentage: 70%  
Role: Principal Investigator

ZUMBERGE FACULTY RESEARCH AND INNOVATION GRANT July 2005 - June 2006  
The James H. Zumberge faculty research and innovation award is granted to a selected number of Professors at the University of Southern California.  
Proposal title: Routing in Intermittently Connected Mobile Networks.  
Amount: \$25,000 - Percentage: 100%  
Role: Principal Investigator

CHARLES LEE POWELL SCHOLARSHIP GRANT Dec. 2003 - Dec. 2004  
The Charles Lee Powell grant is granted to a selected number of Assistant Professors at the University of Southern California.  
Amount: \$25,000 - Percentage: 100%  
Role: Principal Investigator

## Awards

DISTINGUISHED MEMBER OF 2016 IEEE INFOCOM TPC AWARD 2016  
The distinguished member of the 2016 IEEE Infocom technical program committee (TPC) award is given to a select number of TPC members.

ACM NOTABLE ARTICLE IN COMPUTING - BEST OF 2013 2014  
Selection of paper "Modelling BitTorrent-like systems with many classes of users", W.-C. Liao, F. Papadopoulos, K. Psounis, and C. Psomas, ACM Transactions on Modelling and Computer Simulation, Vol. 23, Issue 2, Article No. 13, May 2013.

MEPC BUSINESS PLAN COMPETITION - 2ND PLACE 2013  
Presentation of SpaceMUX Inc., a USC spinoff startup specializing in advanced physical layer techniques applied to next generation wireless networks.

ACM SENIOR MEMBER AWARD Jan. 2009  
The Senior Member grade recognizes those ACM members with at least 10 years of professional experience and 5 years of continuous professional membership who have demonstrated performance that sets them apart from their peers.

IEEE SENIOR MEMBER AWARD Nov. 2008  
Qualifications for this distinction are at least ten years of professional practice and five years of significant performance as demonstrated by substantial engineering responsibility or achievement, publication of engineering and technical papers, books or inventions, and the development and teaching of engineering courses.

FUTURE OF TCP BEST PRESENTATION AWARD Apr. 2008  
“Best and Most Compelling Presentation and Demonstration Award” at the networking workshop “The Future of TCP: Train-wreck or Evolution?” held at Stanford University and sponsored by Cisco Systems.

ZUMBERGE FACULTY RESEARCH AND INNOVATION AWARD July 2005  
The James H. Zumberge faculty research and innovation award is granted to a selected number of Professors at the University of Southern California.

CHARLES LEE POWELL SCHOLARSHIP AWARD Dec. 2003  
The Charles Lee Powell award is granted to a selected number of Assistant Professors at the University of Southern California.

ILLEANA AND ERIC BENHAMOU STANFORD GRADUATE FELLOWSHIP 1997 - 2002  
Fellowship is awarded for four years to a very select number of PhD students based on academic merit.

BEST-STUDENT NATIONAL TECHNICAL UNIVERSITY OF ATHENS AWARD 1997  
Awarded yearly to the student that graduates with the highest GPA across all departments of National Technical University of Athens.

OTHER GRADUATE STUDIES AWARDS 1997 - 1998  
Regent’s Fellowship by University of California Berkeley, Charles Lee Powell Foundation Graduate Fellowship by Caltech, Gordon Y. S. Wu Fellowship in Engineering by Princeton University, Sage Fellowship by Cornell University.

## Publications REFEREED JOURNALS

1. W. Chon Ao and K. Psounis. “Data-locality-aware User Grouping in Cloud Radio Access Networks”, under revision at *IEEE Transactions on Wireless Communications*, 2017.
2. M. Clark and K. Psounis. “Trading Utility for Privacy in Shared Spectrum Access Systems”, accepted to appear at *IEEE/ACM Transactions on Networking*, 2017.
3. A. Michaloliakos, W. C. Ao, K. Psounis and Y. Zhang. “Asynchronously Coordinated Multi-timescale beamforming architecture for multi-cell networks”, accepted to appear at *IEEE/ACM Transactions on Networking*, 2017.
4. W. Chon Ao and K. Psounis. “Fast Content Delivery via Distributed Caching and Small Cell Cooperation”, accepted to appear at *IEEE Transactions on Mobile Computing*, 2017.
5. W. Chon Ao and K. Psounis. “Approximation Algorithms for Online User Association in Multi-Tier Multi-Cell Mobile Networks”, accepted to appear at *IEEE/ACM Transactions on Networking*, 2017.
6. R. Pal, L. Golubchik, K. Psounis, and P. Hui. “Security Pricing as Enabler of Cyber-Insurance: A First Look at Differentiated Pricing Markets”, accepted to appear at *IEEE Transactions on Dependable and Secure Computing*, 2017.
7. M. Clark and K. Psounis. “Equal Interference Power Allocation for Efficient Shared Spectrum Resource Scheduling”, *IEEE Transactions on Wireless Communications*, Vol: 16, Issue 1, January 2017.
8. A. Michaloliakos, R. Rogalin, Y. Zhang, K. Psounis and G. Caire. “Performance Modeling of Next-Generation WiFi Networks”, *Computer Networks Journal*, Vol. 105, pp.150-165, August 2016.

9. R. Rogalin, O. Y. Bursalioglu, H. Papadopoulos, G. Caire, A. Molisch, A. Michaloliakos, V. Balan, and K. Psounis. "Scalable Synchronization and Reciprocity Calibration for Distributed Multiuser MIMO", *IEEE Transactions on Wireless Communications*, Vol. 13, Issue 4, pp. 1815 - 1831, April 2014.
10. H. V. Balan, R. Rogalin, A. Michaloliakos, K. Psounis and G. Caire. "AirSync: Enabling Distributed Multiuser MIMO with Full Spatial Multiplexing", *IEEE/ACM Transactions on Networking*, Vol. 21, Issue 6, pp. 1681 - 1695, December 2013.
11. A. Jindal and K. Psounis. "On the Efficiency of CSMA-CA Scheduling in Wireless Multihop Networks", *IEEE/ACM Transactions on Networking*, Vol. 21, Issue 5, pp. 1392 - 1406, October 2013.
12. W.-C. Liao, F. Papadopoulos, K. Psounis, and C. Psomas. "Modelling BitTorrent-like systems with many classes of users", *ACM Transactions on Modelling and Computer Simulation*, Vol. 23, Issue 2, Article No. 13, May 2013.
13. A. Jindal, K. Psounis, and M. Liu, "CapEst: A Measurement-based Approach to Estimating Link Capacity in Wireless Networks", *IEEE Transactions on Mobile Computing*, Vol. 11, Iss. 12, pp. 2098–2108, May 2012.
14. S. Rangwala, A. Jindal, K.-Y. Jang, K. Psounis, and R. Govindan. "Neighborhood-centric congestion control for multi-hop wireless mesh networks", *IEEE/ACM Transactions on Networking*, Vol. 19, No. 6, pp. 1797–1810, December 2011.
15. W.-J. Hsu, T. Spyropoulos, K. Psounis and A. Helmy. "Modelling Spatial and Temporal Dependencies of User Mobility in Wireless Mobile Networks", *IEEE/ACM Transactions on Networking*, Vol. 17, Iss. 5, pp. 1564–1577, October 2009.
16. A. Jindal and K. Psounis. "The Achievable Rate Region of 802.11-Scheduled Multihop Networks", *IEEE/ACM Transactions on Networking*, Vol. 17, Iss. 4, pp. 1118–1131, August 2009.
17. A. Jindal, and K. Psounis. "Contention-Aware Performance Analysis of Mobility-Assisted Routing", *IEEE Transactions on Mobile Computing*, Vol. 8, No. 2, 145-161, February 2009.
18. T. Spyropoulos, K. Psounis, and C. Raghavendra. "Efficient Routing in Intermittently Connected Mobile Networks: The Multiple-copy Case", *IEEE/ACM Transactions on Networking*, Vol. 16, Iss. 1, pp. 77–90, February 2008.
19. T. Spyropoulos, K. Psounis, and C. Raghavendra. "Efficient Routing in Intermittently Connected Mobile Networks: The Single-copy Case", *IEEE/ACM Transactions on Networking*, Vol. 16, Iss. 1, pp. 63–76, February 2008.
20. F. Papadopoulos and K. Psounis. "Efficient Identification of Uncongested Internet Links for Topology Downscaling", *ACM SIGCOMM Computer Communication Review (CCR)*, Vol. 37, Issue 5, pp. 39–52, October 2007.
21. W.-C. Liao, F. Papadopoulos and K. Psounis. "Performance Analysis of BitTorrent-like Systems with Heterogeneous Users", *Performance Evaluation Journal*, Vol. 64, Issues 9–12, pp. 876-891, October 2007.
22. F. Papadopoulos, K. Psounis, and R. Govindan. "Performance Preserving Topological Downscaling of Internet-like Networks", *IEEE Journal on Selected Areas in Communications (JSAC)*, special issue on "Sampling the Internet: Techniques and Applications", Vol. 24, No. 12, pp. 2313-2326, December 2006.
23. W.-C. Liao, F. Papadopoulos, and K. Psounis. "A Peer-to-peer Cooperation Enhancement Scheme and its Performance Analysis", *Journal of Communications (JCM)*, Vol. 1, No. 7, pp. 24–35, November/December 2006.
24. A. Jindal and K. Psounis. "Modelling Spatially Correlated Data in Sensor Networks", *ACM Transactions on Sensor Networks*, Vol. 2, Issue 4, pp. 466 - 499, November 2006.

25. S. Rangwala, R. Gummandi, R. Govindan, and K. Psounis. “Interference-aware Fair Rate Control in Wireless Sensor Networks”, *ACM SIGCOMM Computer Communication Review (CCR)*, Vol. 36, Issue 4, pp. 63–74, October 2006.
26. W.-C. Liao, F. Papadopoulos, and K. Psounis. “An Efficient Algorithm for Resource Sharing in Peer-to-peer Networks”, *Lecture Notes in Computer Science, Springer*, Vol. 3976/2006, pp. 592–605, April 2006.
27. K. Psounis, P. Molinero Fernandez, B. Prabhakar, and F. Papadopoulos. “Systems with Multiple Servers under Heavy-tailed Workloads”, *Performance Evaluation Journal*, Vol. 62, Issue 1–4, pp. 456–474, October 2005.
28. R. Pan, K. Psounis, B. Prabhakar, and D. Wischik. “SHRiNK: A Method for Enabling Scaleable Performance Prediction and Efficient Network Simulation”, *IEEE/ACM Transactions on Networking*, Vol. 13, No. 5, pp. 975–988, October 2005.
29. J. Faruque, K. Psounis, and A. Helmy. “Analysis of Gradient-based Routing Protocols in Sensor Networks”, *Lecture Notes in Computer Science, Springer-Verlag*, Vol. 3560/2005, pp. 258–275, July 2005.
30. K. Psounis, A. Zhu, B. Prabhakar, and R. Motwani. “Modelling Correlations in Web-Traces and Implications for Designing Replacement Policies”, *Computer Networks Journal*, Vol. 45, No. 4, pp. 379–398, July 2004.
31. K. Psounis, R. Pan, B. Prabhakar, and D. Wischik. “The Scaling Hypothesis: Simplifying the Prediction of Network Performance Using Scaled-down Simulations”, *ACM SIGCOMM Computer Communication Reviews*, Vol. 33, No. 1, pp. 35–40, January 2003.
32. K. Psounis and B. Prabhakar. “Efficient Randomized Web-Cache Replacement Schemes Using Samples from Past Eviction-Times”, *IEEE/ACM Transactions on Networking*, Vol. 10, No. 4, pp. 441–454, August 2002.
33. K. Psounis, R. Pan, and B. Prabhakar. “An Approximate Fair Dropping Scheme for Variable Length Packets”, *IEEE Micro*, Vol. 21, No. 1, pp. 48–56, January/February 2001.
34. K. Psounis. “Active Networks, Applications, Security, Safety, and Architectures”, *IEEE Communications Surveys Magazine*, Vol. 2, No. 1, pp. 1–16, 1st quarter 1999.

#### INVITED JOURNALS

1. T. Spyropoulos, A. Jindal, and K. Psounis. “An Analytical Study of Fundamental Mobility Properties for Encounter-based Protocols”, *International Journal of Autonomous and Adaptive Communications Systems*, Vol. 1, Issue 1, pp. 440, July 2008.

#### CONFERENCE, PEER-REVIEWED, FULL-LENGTH PAPERS

1. Y. Zhang and K. Psounis. “Efficient MU-MIMO via Switched-beam Antennas”, in *Proceedings of ACM MOBIHOC*, 10 pages (no pp. avail.), Madras, India, July 2017. (acceptance rate 17%)
2. M. Clark and K. Psounis. “Designing Sensor Networks to Protect Primary Users in Spectrum Access Systems”, in *Proceedings of the 13th Annual Conference on Wireless On-Demand Network Systems and Services (IFIP/IEEE WONS)*, 8 pages (no pp. avail.), Jackson, WY, February 2017. (acceptance rate 30%)
3. P.-H. Huang and K. Psounis. “Efficient mmwave wireless backhauling for dense small-cell deployments”, in *Proceedings of the 13th Annual Conference on Wireless On-Demand Network Systems and Services (IFIP/IEEE WONS)*, 8 pages (no pp. avail.), Jackson, WY, February 2017. (acceptance rate 30%)



4. W. Chon Ao and K. Psounis. “An Efficient Approximation Algorithm for Online Multi-Tier Multi-Cell User Association”, in *Proceedings of ACM MOBIHOC*, 10 pages (no pp. avail.), Paderborn, Germany, July 2016. (acceptance rate 18.7%)
5. H. Qiu, K. Psounis, G. Caire, K. Chugg and K. Wang. “High-Rate WiFi Broadcasting in Crowded Scenarios via Lightweight Coordination of Multiple Access Points”, in *Proceedings of ACM MOBIHOC*, 10 pages (no pp. avail.), Paderborn, Germany, July 2016. (acceptance rate 18.7%)
6. M. Clark and K. Psounis. “Can the Privacy of Primary Networks in Shared Spectrum be Protected?”, in *Proceedings of IEEE INFOCOM*, 9 pages (no pp. avail.), San Francisco, April 2016. (acceptance rate 18.2%)
7. G. Zois, A. Michaloliakos, K. Psounis, V. Vassalos and I. Mourtos. “Non-asymptotic performance bounds for downlink MU-MIMO scheduling”, in *Proceedings of the 12th Annual Conference on Wireless On-Demand Network Systems and Services (IFIP WONS)*, 8 pages (no pp. avail.), Italy, January 2016. (acceptance rate 30%)
8. W. Chon Ao and K. Psounis. “Distributed Caching and Small Cell Cooperation for Fast Content Delivery”, in *Proceedings of ACM MOBIHOC*, pp. 127–136, Hangzhou, China, June 2015. (acceptance rate 14.8%)
9. M. Clark and K. Psounis. “Efficient Resource Scheduling for a Secondary Network in Shared Spectrum”, in *Proceedings of IEEE INFOCOM*, pp. 1257–1265, Hong Kong, April 2015. (acceptance rate 19.0%)
10. R. Pal, L. Golubchik, K. Psounis, and P. Hui. “Will Cyber-Insurance Improve Network Security? A Market Analysis”, in *Proceedings of IEEE INFOCOM*, pp. 235–243, Toronto, Canada, April 2014. (acceptance rate 19.4%)
11. E. N. Ciftcioglu, A. Michaloliakos, K. Psounis, T. La Porta, and A. Yener. “Power Minimization with Quality-of-Information Outages”, in *Proceedings of the IEEE Wireless Communications and Networking Conference (WCNC)*, pp. 1655–1660, Istanbul, Turkey, April 2014.
12. R. Pal, L. Golubchik, K. Psounis, and P. Hui. “On A Way to Improve Cyber-Insurer Profits: When A Security Vendor Becomes the Cyber-Insurer”, in *Proceedings of IFIP NETWORKING*, 9 pages (no pp. avail.), New York, May 2013. (acceptance rate 26.2%)
13. H. V. Balan, M. Segura, S. Deora, A. Michaloliakos, R. Rogalin, K. Psounis and G. Caire. “USC SDR, an easy-to-program, high data rate, real time software radio platform”, in *Proceedings of the ACM SIGCOMM workshop of Software Radio Implementation Forum (SRIF 2013)*, pp. 25–30, Hong Kong, China, August 2013.
14. A. Michaloliakos, R. Rogalin, H. V. Balan, K. Psounis and G. Caire. “Efficient MAC for distributed multiuser MIMO systems”, in *Proceedings of the 10th Annual Conference on Wireless On-Demand Network Systems and Services (IFIP/IEEE WONS)*, pp. 52–59, Alberta, March 2013.
15. H. V. Balan, R. Rogalin, A. Michaloliakos, K. Psounis and G. Caire, “Achieving High Data Rates in a Distributed MIMO System”, in *Proceedings of ACM MOBICOM*, pp. 41–52, Istanbul, Turkey, August 2012. (acceptance rate 15.1%)
16. M. Mongioli, A. Singh, X. Yan, B. Zong, and K. Psounis, “Efficient multicasting for delay tolerant networks using graph indexing”, in *Proceedings of IEEE INFOCOM*, pp. 1386–1394, Orlando, Florida, March 2012. (acceptance rate 18.0%)
17. R. Pal, L. Golubchik, and K. Psounis. “Aegis: A Novel Cyber-Insurance Model”, in *Proceedings of the 2nd Conference on Decision and Game Theory for Security (GameSec 2011)*, pp. 131–150, College Park, Maryland, November 2011.

18. E. N. Ciftcioglu, A. Yener, R. Govindan, and K. Psounis. "Operational Information Content Sum Capacity: Formulation and Examples", in *Proceedings of the 14th International Conference on Information Fusion (FUSION)*, pp. 1–7, Chicago, July 2011.
19. K.-Y. Jang, K. Psounis, and R. Govindan. "Simple Yet Efficient, Transparent Airtime Allocation for TCP in Wireless Mesh Networks", in *Proceedings of ACM CoNEXT*, article no. 28, 12 pages, Philadelphia, December 2010. (acceptance rate 19%)
20. A. Jindal and K. Psounis. "Making the Case for Random Access Scheduling in Wireless Multi-hop Networks", in *Proceedings of IEEE INFOCOM*, (mini-conference), pp. 1–5, San Diego, California, March 2010. (acceptance rate 24%)
21. S. Rangwala, A. Jindal, K.-Y. Jang, K. Psounis, and R. Govindan. "Understanding Congestion Control in Multi-hop Wireless Mesh Networks", in *Proceedings of ACM MOBICOM*, pp. 291–302, San Fransisco, California, September 2008. (acceptance rate 12%)
22. F. Papadopoulos and K. Psounis. "Scaling Properties of IEEE 802.11 Wireless Networks", in *Proceedings of the 6th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt)*, 8 pages (no pp. avail.), Berlin, Germany, March 2008.
23. W.-C. Liao, F. Papadopoulos and K. Psounis. "Performance Analysis of BitTorrent-like Systems with Heterogeneous Users", in *Proceedings of the 26th International Symposium on Computer Performance, Modeling, Measurements and Evaluation (IFIP Performance)*, pp. 876–891, Cologne, Germany, October 2007. (acceptance rate 23%)
24. W.-J. Hsu, T. Spyropoulos, K. Psounis and A. Helmy. "Modeling Time-variant User Mobility in Wireless Mobile Networks", in *Proceedings of IEEE INFOCOM*, pp. 758–766, Anchorage , Alaska , USA, May 2007. (acceptance rate 18%)
25. A. Jindal, and K. Psounis. "Contention-Aware Analysis of Routing Schemes for Mobile Opportunistic Networks", in *Proceedings of ACM MOBISYS, on the 1st International Workshop on Mobile Opportunistic Networking (MobiOpp)*, pp. 1–8, San Juan, Puerto Rico, June 2007.
26. F. Papadopoulos and K. Psounis. "Predicting the Performance of Mobile Ad hoc Networks Using Scaled-down Replicas", in *Proceedings of IEEE International Conference on Communications (ICC)*, pp. 3928-3935, Glasgow, Scotland, June 2007.
27. T. Spyropoulos, K. Psounis, and C. Raghavendra. "Spray and Focus: Efficient Mobility-Assisted Routing for Heterogeneous and Correlated Mobility", in *Proceedings of IEEE PERCOM, on the International Workshop on Intermittently Connected Mobile Ad hoc Networks (ICMAN)*, pp. 79–85, New York City, USA, March 2007.
28. A. Jindal and K. Psounis. "Fundamental Mobility Properties for Realistic Performance Analysis of Intermittently Connected Mobile Networks", in *Proceedings of IEEE PERCOM, on the International Workshop on Intermittently Connected Mobile Ad hoc Networks (ICMAN)*, pp. 59–64, New York City, USA, March 2007.
29. S. Rangwala, R. Gummandi, R. Govindan, and K. Psounis. "Interference-aware fair rate control in wireless sensor networks", in *Proceedings of ACM SIGCOMM*, pp. 63–74, Pisa, Italy, September 2006. (acceptance rate 12%)
30. T. Spyropoulos, K. Psounis, and C. Raghavendra, "Performance Analysis of Mobility-assisted Routing, in *Proceedings of ACM MOBIHOC*, pp. 49–60, Florence, Italy, May 2006. (acceptance rate 10%)
31. W.-C. Liao, F. Papadopoulos, and K. Psounis. "An Efficient Algorithm for Resource Sharing in Peer-to-peer Networks", in *Proceedings of IFIP Networking*, pp. 592–605, Coimbra, Portugal, May 2006. (acceptance rate 20%)

32. A. Jindal and K. Psounis. "Performance Analysis of Epidemic Routing under Contention", in *Proceedings of IWCMC*, pp. 539–544, Vancouver, Canada, July 2006.
33. K. Psounis, P. Molinero Fernandez, B. Prabhakar, and F. Papadopoulos. "Systems with Multiple Servers under Heavy-tailed Workloads", in *Proceedings of the 24th International Symposium on Computer Performance, Modeling, Measurements and Evaluation (IFIP Performance)*, pp. 456–474, Juan-les-Pins, France, October 2005. (acceptance rate 22%)
34. A. Jindal and K. Psounis. "Modeling Spatially-correlated Data of Sensor Networks with Irregular Topologies", in *Proceedings of IEEE SECON*, pp. 305–316, Santa Clara, California, USA, October 2005. (acceptance rate 27%)
35. T. Spyropoulos, K. Psounis, and C. Raghavendra. "Spary and Wait: An Efficient Routing Scheme for Intermittently Connected Mobile Networks", in *Proceedings of ACM SIGCOMM workshop on Delay Tolerant Networking (WDTN)*, pp. 252–259 Philadelphia, Philadelphia, USA, August 2005. (acceptance rate 22%)
36. J. Faruque, K. Psounis, and A. Helmy. "Analysis of Gradient-based Routing Protocols in Sensor Networks", in *Proceedings of IEEE/ACM DCOSS*, pp. 258–275, Marina Del Rey, California, USA, June 2005. (acceptance rate 28%)
37. K. Psounis, A. Ghosh, B. Prabhakar, and G. Wang. "SIFT: a Simple Algorithm for Trucking Elephant Flows and Taking Advantage of Power Laws", in *Proceedings of the 43rd Allerton Conference on Communication, Control, and Computing*, 10 pages (no pp. avail.), Urbana-Champaign, Illinois, USA, September 2005.
38. F. Papadopoulos, K. Psounis, and R. Govindan. "Performance-Preserving Network Downscaling", in *Proceedings of the 38th Annual Simulation Symposium (ANSS)*, pp. 285–294, San Diego, California, April 2005.
39. A. Jindal and K. Psounis. "Modelling Spatially-correlated Sensor Network Data", in *Proceedings of IEEE SECON*, pp. 162–171, Santa Clara, California, USA, October 2004. (acceptance rate 19%)
40. T. Spyropoulos, K. Psounis, and C. Raghavendra. "Single-copy Routing in Intermittently Connected Mobile Networks", in *Proceedings of IEEE SECON*, pp. 235–244, Santa Clara, California, USA, October 2004. (acceptance rate 19%)
41. R. Pan, B. Prabhakar, K. Psounis, and D. Wischik. "SHRiNK: A Method for Scalable Performance Prediction and Efficient Network Simulation", in *Proceedings of IEEE INFOCOM*, Vol. 3, pp. 1943–1953, San Fransisco, California, USA, April 2003. (acceptance rate 21%)
42. K. Psounis, R. Pan, B. Prabhakar, and D. Wischik. "The Scaling Hypothesis: Simplifying the Prediction of Network Performance Using Scaled-down Simulations", in *Proceedings of ACM HOTNETS*, pp. 35–40, Princeton, New Jersey, USA, October 2002.
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44. K. Psounis. "Class-based Delta Encoding: A Scalable Scheme for Caching Dynamic Web Content", in *Proceedings of IEEE ICDCS Workshops*, pp. 799 - 805, Vienna, Austria, July 2002.
45. K. Psounis and B. Prabhakar. "A Randomized Web-cache Replacement Scheme", in *Proceedings of IEEE INFOCOM*, Vol. 3, pp. 1407–1415, Anchorage, Alaska, USA, April 2001. (acceptance rate 23%)
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47. K. Psounis, R. Pan, and B. Prabhakar. “An Approximate Fair Dropping Scheme for Variable Length Packets”, in *Proceedings of Hot Interconnects 8*, pp. 2–10, Stanford, California, USA, August 2000.
48. K. Psounis, B. Prabhakar, and D. Engler. “A Randomized Cache Replacement Scheme Approximating LRU”, in *Proceedings of the 34th annual conference on Information Sciences and Systems*, 6 pages (no pp. avail.), Princeton, New Jersey, USA, March 2000.

#### INVITED CONFERENCE PAPERS

1. A. Michaloliakos, W. Chon Ao and K. Psounis. “Joint user-beam selection for hybrid beamforming in asynchronously coordinated multi-cell networks”, in *Proceedings of the Information Theory and Applications Workshop (ITA)*, 10 pages (no pp. avail.), San Diego, California, USA, February 2016.
2. Y. Zhang, D. Bethanabhotla, T. Hao and K. Psounis. “Near-optimal user-cell association schemes for real-world networks”, in *Proceedings of the Information Theory and Applications Workshop (ITA)*, 10 pages (no pp. avail.), San Diego, California, USA, February 2015.
3. A. Jindal, K. Psounis, and M. Liu. “CapEst: Estimating wireless link capacity in multi-hop networks”, in *Proceedings of the Information Theory and Applications Workshop (ITA)*, 6 pages (no pp. avail.), San Diego, California, USA, February 2011.
4. D. Antonellis, A. Mansy, K. Psounis, and M. Ammar. “Real time, distributed network classification for routing protocol selection in mobile ad hoc networks”, in *Proceedings of the fourth international wireless Internet conference (WICON)*, 8 pages (no pp. avail.), Maui, Hawaii, November 2008.
5. Y. Wang, A. Ahmed, B. Krishnamachari, and K. Psounis. “IEEE 802.11p performance evaluation and protocol enhancement”, in *Proceedings of the IEEE International Conference on Vehicular Electronics and Safety*, pp. 317–322, Columbus, Ohio, USA, September 2008.
6. A. Jindal and K. Psounis. “Achievable Rate Region and Optimality of Multi-hop Wireless 802.11-Scheduled Networks”, in *Proceedings of the Information Theory and Applications Workshop (ITA)*, 7 pages (no pp. avail.), San Diego, California, USA, January 2008.
7. F. Papadopoulos and K. Psounis. “Application of the many sources asymptotic in downscaling Internet-like networks”, in *Proceedings of the Information Theory and Applications Workshop (ITA)*, pp. 314–322, San Diego, California, USA, January 2007.
8. A. Jindal and K. Psounis. “Optimizing Multi-Copy Routing Schemes for Resource Constrained Intermittently Connected Mobile Networks”, in *Proceedings of the Fortieth Asilomar Conference on Signals, Systems and Computers*, pp. 2142–2146, Pacific Grove, California, USA, October 2006.

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#### Patents

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*US Patent No. 9,479,240*, issued Oct. 2016.

- K. Psounis, G. Caire, H. V. Balan. AirSync: enabling distributed multiuser MIMO with full multiplexing gain. USC.  
*US Patent No. 61,651,964*, issued Jan. 2015.
- K. Psounis and J. Jawahar. Method and System for Class-based Management of Dynamic Content in a Networked Environment. Cisco Systems, Inc.  
*US Patent No. 7,802,014*, issued Sep. 2010.
- R. Pan, B. Prabhakar and K. Psounis. A Stateless Active Queue Management Scheme for Approximating Fair Bandwidth Allocation. Stanford.  
*US Patent No. 7,324,442*, issued Jan. 2008.

FILLED - UNDER REVIEW

- K. Psounis, Y. Zhang Efficient MU-MIMO via switched-beam antennas. USC.  
*US Provisional Patent*, filed July 2017.

**Selected  
Professional  
Service**

INTERNATIONAL CONFERENCES - ORGANIZING/EXECUTIVE COMMITTEE

- Steering Committee, IFIP/IEEE WONS, 2017 - now.
- General Chair, ACM SIGMETRICS, 2018.
- General Chair, IFIP/IEEE WONS, 2017.
- Program Chair, IFIP/IEEE WONS, 2016.
- Program Chair, IEEE DCOSS workshop on Wireless Sensor Networks (PWSN), 2014.
- Program Chair, ACM MOBICOM workshop on Challenged Networks (CHANTS), 2008.
- Workshop Chair, ACM SIGMETRICS 2008.
- Workshop Chair, USC Workshop on Theory and Practice in Wireless Networks, 2008.
- Publication Chair, ACM SIGMETRICS 2007.
- Panel Chair, ACM MOBIHOC, 2009.
- Panel Chair, IEEE CCW, 2008.

INTERNATIONAL CONFERENCES - TECHNICAL PROGRAM COMMITTEE

- IEEE INFOCOM 2005 - 2017.
- ACM SIGMETRICS 2008, 2014, 2015, 2017.
- ACM MOBIHOC, 2008 - 2010, 2017.
- WiOpt 2016-2017.
- IFIP/IEEE WONS 2013 - 2014.
- IEEE SECON 2007 - 2010.
- IFIP NETWORKING 2006 - 2010.
- ACM MOBICOM, 2009.
- IEEE ICNP 2009.
- IEEE WOWMOM workshop on Autonomic and Opportunistic Communications (AOC), 2008 -2009.
- IEEE ICDCS workshop on Delay Tolerant Mobile Networks (DTMN), 2008.
- ACM MOBISYS workshop on Mobile Opportunistic Networks (MOBIOPP), 2007.
- IEEE PERCOM workshop on Intermittently Connected Mobile Ad hoc Networks (IC-MAN), 2007.

## JOURNALS

- Editorial Board, IEEE/ACM Transactions on Networking (ToN), 2015 - now.
- Editorial Board, IEEE Transactions on Mobile Computing (TMC), 2009 - now.
- Editorial Board, Computer Networks Journal, Elsevier, 2009 - 2010.
- Editorial Board, International Journal of Autonomous and Adaptive Communications Systems (IJAACS), 2008.
- Reviewer of IEEE/ACM Transactions on Networking, IEEE Journal on Selected Areas in Communication, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Mobile Computing, ACM Transactions on Sensor networks, Elsevier Computer Networks Journal, Elsevier Performance Evaluation Journal, Elsevier Ad Hoc Networks Journal, Transportation Research Journal Part C, IEEE Transactions on Automatic Control.

## GOVERNMENTAL AGENCIES

- NSF EARS meeting, 2016.
- NSF Future Internet Architecture Summit participant, 2009.
- NSF CRI panel member, 2008.
- NSF Wireless mobile workshop participant, 2007.
- NSF NeTS-NOSS panel member, 2005.
- Reviewer of NSF NeTS proposals.

## Selected University Service

### SCHOOL LEVEL

- Viterbi School of Engineering APT committee member 2012 - 2015.
- Engineering Faculty Council representative 2011 - 2012.

### DEPARTMENT LEVEL

- Electrical Engineering faculty search committee, 2015 - 2016.
- Electrical Engineering AFR committee, 2012 - 2013, 2015 - 2016.
- Electrical Engineering networking curriculum committee for M.S. / Ph.D., 2003 - now.
- Electrical Engineering course coordinator for EE465 and EE503, 2003 - now.
- Electrical Engineering faculty mentor, 2012 - 2015.
- Electrical Engineering research space committee, 2011 - 2013.
- Electrical Engineering member of academic progress review committee, 2012.
- Electrical Engineering member of tenure appointment committee, 2012.
- Electrical Engineering undergraduate curriculum committee, 2008.

### DIVISION LEVEL

- Computer Engineering screening exam coordinator, 2011 - 2013, 2015 - 2016.
- Computer Engineering Ph.D. evaluation committee, 2011 - 2016.
- Computer Engineering faculty recruitment committee, 2007 - 2013.
- Computer Engineering Ph.D. curriculum committee, 2011 - 2012.

- Computer Engineering Ph.D. screening exam reform committee, 2007 - 2009.

**Professional  
Associations**

- Technical Institution of Greece (TEE), 1997 - now.
- Institute of Electrical and Electronic Engineers (IEEE):  
Senior Member, 2008 - now.  
Member, 1998 - 2008.
- Association for Computing Machinery (ACM):  
Senior Member, 2009 - now.  
Member, 2001 - 2008.

**Languages**

English, Greek, French.

**Personal**

Married, three children.