Achilleas Anastasopoulos
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EDUCATION

Ph.D. in Electrical Engineering August 1999
University of Southern California, Los Angeles, CA

M.S. in Electrical Engineering December 1994
University of Southern California, Los Angeles, CA

Diploma in Electrical Engineering July 1993
National Technical University of Athens, Athens, Greece

AWARDS

Co-author of best student paper award for: A. Nazari, S. Pradhan, and A. Anastasopoulos "New Bounds on the Maximal Error Exponent for Multiple-Access Channels," ISIT, Seoul, Korea, July 2009.

EECS Departmental Award: For service as Chair of the EE:Systems Graduate Program, for outstanding teaching evaluations, and for sustained research excellence 2009

CAREER Award, National Science Foundation (NSF) for the proposal "Exploring the complexity limits of joint data detection and channel estimation: exact, polynomial-complexity solutions and ultra-fast approximations" 2004

Outstanding Research Paper Award, University of Southern California 1999

Myronis Fellowship, The Graduate School, University of Southern California 1996

Outstanding Teaching Assistant Award, University of Southern California 1995

Technical Chamber of Greece Award for Academic Excellence 1990-1993

PROFESSIONAL EXPERIENCE

Associate Professor, Department of Electrical Engineering and Computer Science, University of Michigan 2006-present

Assistant Professor, Department of Electrical Engineering and Computer Science, University of Michigan 1999-2006

Instructor, University of Southern California Winter 1997

Research Assistant, University of Southern California September 1993 – December 1998

Teaching Assistant, University of Southern California September 1993 – May 1995

PROFESSIONAL ACTIVITIES

Associate Editorship: IEEE Transactions on Communications. Associate Editor for Iterative Detection, Estimation, and Coding in the area of Wireless Communication

November 2003–December 2008

Conference Organization

1. Technical Program Committee member, Next Generation Networking Symposium, ICC'17, (Paris, France), May 2017.
2. Technical Program Committee member, Next Generation Networking Symposium, ICC'16, (Kuala Lumpur, Malaysia), May 2016.
3. Technical Program Committee member, ISIT'15, (Hong Kong), June 2015.
4. Technical Program Committee member, Next Generation Networking Symposium, ICC'15, (London, UK), June 2015.
5. Technical Program Committee member, Cooperative Communications, Distributed MIMO and Relaying, VTC'15, (Glasgow, UK), Spring 2015.
6. Technical Program Committee member, Cooperative Communications, Distributed MIMO and Relaying, VTC'14, (Seoul, Korea), Spring 2014.
7. Technical Program Committee member, Communication Theory Symposium, Globecom'12 (Anaheim, CA), December 2012.
8. Technical Program Committee member, Transmission Technologies, VTC'07, (Baltimore, MD), Fall 2007.
9. Technical Program Committee member, Communication Theory Symposium, Globecom'04 (Dallas, TX), November 2004.
10. Technical Program Committee member, Communication Theory Symposium, ICC'03, (Anchorage, AK), May 2003.

Membership: Senior member IEEE (Communication Society, Information Theory Society)

NSF panelist for proposals submitted to CISE/CCR 2006, 2017

NSF panelist for CAREER proposals submitted to CISE/CCR 2002, 2004

External reviewer for a proposal submitted to Swiss National Science Foundation 2002

External reviewer for proposals submitted to Qatar National Research Fund 2009–2012

Invited talks

1. A. Sinha and A. Anastasopoulos, "Mechanism Design with Learning Guarantees in Networks," in *Information Theory and Applications*, San Diego, CA, Feb. 2017.
2. D. Vasal and V. Subramanian and A. Anastasopoulos, "A forward/backward algorithm for evaluating perfect Bayesian equilibrium in dynamic games with asymmetric information," in *Information Theory and Applications*, San Diego, CA, Feb. 2016.
3. D. Vasal, V. Subramanian, and A. Anastasopoulos, "Incentive design for learning in user-recommendation systems with time-varying states," in *Proc. Asilomar Conf. Signals, Systems, Comp.*, Pacific Grove, CA, Nov. 2015.

4. A. Sinha and A. Anastasopoulos, "Beyond sum of utilities: mechanism design for fair allocation," in *Information Theory and Applications*, San Diego, CA, Feb. 2015.
5. A. Sinha and A. Anastasopoulos, "A general Mechanism Design methodology for social utility maximisation with linear constraints," in *Information Theory and Applications*, San Diego, CA, Feb. 2014.
6. D. Vasal and A. Anastasopoulos, "Incentive design in dynamic games for cooperative communications," in *Information Theory and Applications*, San Diego, CA, Feb. 2013.
7. A. Anastasopoulos and D. Vasal, "Incentive design for cooperative communications: achieving socially optimal solutions through money transfers in dynamic games," in *USC, Communications Sciences Institute 30th Anniversary*, Los Angeles, CA, Nov. 2012.
8. A. Anastasopoulos and D. Vasal, "Communication and control problems in information theory, coding, and MAC-layer design," in *Notre Dame*, South Bend, IN, Apr. 2012.
9. A. Anastasopoulos, "Structural properties for dynamic games," in *Information Theory and Applications*, San Diego, CA, Feb. 2012.
10. A. Anastasopoulos and K. Sohn, "A stochastic control interpretation of the Cover and Leung region for the MAC with noiseless feedback," in *Information Theory and Applications*, Feb. 2011.
11. J. H. Bae and A. Anastasopoulos, "The capacity of Markov channels with noiseless output and state feedback," in *Information Theory and Applications*, San Diego, CA, Feb. 2010.
12. A. Nazari, A. Anastasopoulos, and S. Pradhan, "A new random-coding bound for multiple access channels," in *Information Theory and Applications*, San Diego, CA, Feb. 2009.
13. K. M. Chugg and A. Anastasopoulos, "Phase Tracking for Turbo Codes: An Approach Based on Adaptive SISOs," *28-th Annual IEEE Communication Theory Workshop 1999,* Aptos, CA, May 1999.
14. K. M. Chugg and A. Anastasopoulos, "Adaptive SISO Algorithms and Iterative Detection for Systems with Parametric Uncertainty," University of Bologna, December 1998. Also at California Institute of Technology, November 1998; *Communication Sciences Institute Annual Technical Review, USC,* November 1998.

EDUCATIONAL ACTIVITIES[1]

Courses Taught

1. EECS 650: Channel Coding Theory — 2002, 2004, 2005, 2007, 2010, 2011, 2013
2. EECS 598: Modern Coding Theory — 2004
3. EECS 555: Communication Theory — 2014–2015
4. EECS 554: Digital Communication and Codes — 1999–2001, 2008, 2010–2015
5. EECS 501: Probability and Random Processes — 2011, 2012
6. EECS 455: Digital Communication Signals and Systems — 2000, 2002, 2003
7. EECS 401/301: Probability Theory for Engineers — 2009, 2015-2016
8. EE 464: Probability Methods in Engineering, University of Southern California — 1997
9. EECS 353: Introduction to Communication Systems — 2001, 2003, 2005, 2007, 2008

[1]Unless otherwise noted, all courses taught and students supervised are at the University of Michigan.

10. EECS 351: Digital Signal Processing 2017
11. EECS 216: Introduction to Signals and Systems 2014–2016
12. Short Course on "Equalization Techniques for Discrete Multitone Systems"
    INTRACOM S.A., Peania, Greece January-February 1998

Ph.D. Students Graduated

1. D. Vasal, "Dynamic decision problems with cooperative and strategic agents and asymmetric information," (Graduation date: May 2016, now Post-Doctoral research fellow at the University of Wisconsin-Madison)
2. A. Nazari (jointly with S. Pradhan), "Error Exponent for Discrete Memoryless Multiple-Access Channels," (Graduation date: May 2011, now with J.P. Morgan, quantitative research group, New York, NY)
3. J-H. Bae, "Capacity-Achieving Schemes for Finite-State Channels," (Graduation date: May 2011, now with Samsung Information Systems America, San Diego, CA)
4. K. Fu, "Finite-Length and Asymptotic Analysis and Design of LDPC Codes for Binary Erasure and Fading Channels," (Graduation date: August 2007, now with Northrop Grumman, San Jose, CA)
5. C.-H. Hsu, "Design and Analysis of Capacity-Achieving Codes and Optimal Receivers with Low Complexity," (Graduation date: December 2006; now with Qualcomm, Campbell, CA)
6. S. Chang (jointly with W. Stark), "Design and optimization of multiple access layer for energy/delay efficient networks," (Graduation date: August 2006, now with the Department of Computer Science, National Tsing-Hua University, Taiwan)
7. A. Krishnamoorthy, "Analysis and design of space-time codes for fast fading channels," (Graduation date: August 2005; now with Motorola Inc., Schaumbourg, IL)
8. L. Weng (jointly with S. Pradhan), "Error exponent tradeoffs for multiple access and broadcast channels," (Graduation date: August 2005; now with MStar Semiconductor Inc., Taiwan)
9. R. Nuriyev, "Capacity and coding for noncoherent channels with memory," (Graduation date: May 2003; now with Boston Consulting Group, Moscow)

Ph.D. Students Currently Supervised

A. Sinha (expected graduation date: Sep. 2017)

J. Wu (expected graduation date: Dec. 2017)

M.S. Students Supervised

1. Group consisting of Yu Wang, Yang Xiao 2015–2016
2. Zhe Feng 2014–2015
3. Y. Chen (jointly with T.Mudge) Fall 2011-2013
4. S. Sharma Fall 2011-Summer 2012
5. Group consisting of (jointly with W. Stark): Jaehyun Chang, Sheng-Yang Hung, Taewon Kim, Sunghwan Moon, Hedieh Alavi Tamaddoni, Erh-Kang Tsao, Suhang Wang
   Spring 2011-Summer 2012
6. K. Sohn 2009-2011

7. Zehra Fatima Rizvi — Spring/Summer 2004
8. Chia-han Lee — Fall 2002
9. Subramanian Jayaram — Winter 2002
10. Apurva A Turakhia — Fall 2001,Winter 2002
11. Srikumar Kanajan — Fall 2001
12. Rajeshwar Singh Khara — Fall 2001
13. Fahd Binjawad Pirzada — Fall 2001
14. Hai-Jo Tarn — Fall 1999,Winter 2000

Undergraduate Students Supervised

1. Group consisting of: Keyu Chen, Jianan Jiang, — 2017
2. Sanyam Gupta (international student), — 2017
3. Xisheng Yao — 2013
4. Paul Rigge (jointly with Z. Zhang and S. Pradhan) — 2012
5. Frederic Sala — 2009
6. Annapoorna Leela Mallepalle — 2009
7. Group consisting of: Chao Yuan, Rahul Kundu, Yu Wang (jointly with W. Stark) — 2009
8. Brian Bagnal — Spring/Summer 2008
9. Nibal Arzouni — 2007
10. Brent Ditri — 2005
11. Thomas Rainwater — 2005
12. Stephen Gallagher — 2005
13. Michael Quinn — 2005
14. Wichai Pawgasame — Fall 2002/Winter 2003
15. Donald Chan — Fall 2003
16. Nataphone Subsin — Winter 2002
17. Tufan Coskun Karalar — Spring/Summer 2002

RESEARCH GRANTS/CONTRACTS

Current and Past Grants

1. Sponsor: National Science Foundation (ENG-ECCS)
   Title: A control-theoretic framework for analysis and design of networked systems with strategic agents via structured strategies
   Amount: $400,000
   Duration: September 2016 – September 2019
   Co-PIs: V. Subramanian
2. Sponsor: National Science Foundation (CISE-CCR)
   Title: CIF:Large:Collaborative Research: Controlled Sensing, and Distributed Signal Processing and Decision Making in Networked Systems
   Amount: $2,500,000
   Duration: September 2011 – September 2016
   Co-PIs: M. Moghadam, S. Pradhan, D. Teneketzis (PI), and 3 co-PIs from UIUC

3. Sponsor: King Abdullah University of Science and Technology (KAUST)
   Title: Energy-efficient cooperative communications
   Amount: $300,000
   Duration: July 2010 – June 2012
   Co-PIs: W. Stark, K. Winick
4. Sponsor: Microsoft
   Title: Pushing the Wireless Coexistence Boundary using the SORA Platform
   Amount: $120,000
   Duration: March 2010 – February 2011 and June 2011 – May 2012
   Co-PIs: M. Liu (PI), W. Stark
5. Sponsor: National Science Foundation (CISE-CCR)–small ITR
   Title: A framework for heterogenous quality-of-service guarantees in wireless networks: a communication-theoretic approach
   Amount: $400,000
   Duration: September 2004 – September 2007
   Co-PIs: S. Pradhan (PI)
6. Sponsor: National Aeronautics and Space Administration (Research Training Grant)
   Title: Reconfigurable LDPC codes and receivers for deep-space communications
   Amount: $24,000
   Duration: July 2004 – June 2007
   Graduate Student: Kaiann Fu
7. Sponsor: National Science Foundation (CISE-CCF)
   Title: CAREER:Exploring the complexity limits of joint data detection and channel estimation: exact, polynomial-complexity solutions and ultra-fast approximations
   Amount: $412,000
   Duration: February 2004 – February 2009
8. Sponsor: Horace H. Rackham School of Graduate Studies, University of Michigan
   Title: Writing on scratched dirty paper: a capacity-achieving strategy for the broadcast channel
   Amount: $10,000
   Duration: May 2003 – August 2003
9. Sponsor: Office of Naval Research
   Title: Energy-efficient wireless networking
   Amount: $1,000,000
   Duration: January 2003 – December 2005
   Co-PIs: S. Lafortune, M. Liu, W. Stark (PI), D. Teneketzis
10. Sponsor: National Science Foundation (CISE-CCR)–small ITR
    Title: Design of novel receiver algorithms for OFDM incorporating realistic indoor channel modeling
    Amount: $400,000
    Duration: September 2002 – August 2005
    Co-PIs: J. Volakis

PUBLICATIONS

Books

B1. K. M. Chugg, A. Anastasopoulos, and X. Chen. *Iterative Detection: Adaptivity, Complexity Reduction, and Applications*. Kluwer Academic Publishers, 2001

Refereed Journals

Full articles

J1. Abhinav Sinha and Achilleas Anastasopoulos. Mechanism design for resource allocation in networks with intergroup competition and intragroup sharing. *IEEE Trans. on Control of Network Systems*, Feb. 2017

J2. Abhinav Sinha and Achilleas Anastasopoulos. Incentive mechanisms for fairness in resource allocation among strategic agents. *IEEE J. Select. Areas Commun.*, 35(2):288 – 301, Nov. 2017. (special issue on "Game theory for networks")

J3. A. Nazari, S. S. Pradhan, and A. Anastasopoulos. Error exponent for multiple-access channels: Upper bounds. *IEEE Trans. Information Theory*, 61(7):3605–3621, July 2015

J4. Q. Zheng, Y. Chen, R. Dreslinski, C. Chakrabartiy, A. Anastasopoulos, S. Mahlke, and T. Mudge. Using graphics processing units in an LTE base station. *Journal of Signal Processing Systems*, 78(1):35–47, Jan. 2015

J5. Deepanshu Vasal and Achilleas Anastasopoulos. Stochastic control of relay channels with cooperative and strategic users. *IEEE Trans. Communications*, 62(10):3434 – 3446, Sept. 2014

J6. A. Nazari, A. Anastasopoulos, and S. S. Pradhan. Error exponent for multiple-access channels: Lower bounds. *IEEE Trans. Information Theory*, 60(9):5095–5115, Sept. 2014

J7. L. Weng, A. Anastasopoulos, and S. S. Pradhan. Diversity gain regions for MIMO fading broadcast channels. *IEEE Trans. Communications*, 59(10):2716 –2728, Oct. 2011

J8. C.-H. Hsu and A. Anastasopoulos. Capacity-achieving codes with bounded graphical complexity and maximum likelihood decoding. *IEEE Trans. Information Theory*, 56(3):992–1006, Mar. 2010

J9. J. H. Bae and A. Anastasopoulos. Capacity-achieving codes for finite-state channels with maximum-likelihood decoding. *IEEE J. Select. Areas Commun.*, 27:974–984, Aug. 2009

J10. L. Weng, S. S. Pradhan, and A. Anastasopoulos. Error exponent regions for Gaussian broadcast and multiple access channels. *IEEE Trans. Information Theory*, 8:2919 – 2942, July 2008

J11. A. Anastasopoulos, K. M. Chugg, G. Colavolpe, G. Ferrari, and R. Raheli. Iterative detection for channels with memory. *Proc. IEEE*, 95(6):1272–1294, June 2007

J12. I. Motedayen-Aval, A. Krishnamoorthy, and A. Anastasopoulos. Optimal joint detection/estimation in fading channels with polynomial complexity. *IEEE Trans. Information Theory*, 53(1):209–223, Jan. 2007

J13. C.-P. Lim, J. L. Volakis, K. Sertel, R. W. Kindt, and A. Anastasopoulos. Indoor propagation models based on rigorous methods for site-specific multipath environments. *IEEE Trans. Antennas and Prop.*, 54(6):1718–1725, June 2006

J14. C.-H. Hsu and A. Anastasopoulos. Design and analysis of joint data detection and frequency/phase estimation algorithms. *IEEE J. Select. Areas Commun.*, 23:1707–1717, Sept. 2005

J15. A. Krishnamoorthy and A. Anastasopoulos. Code and receiver design for the non-coherent fast fading channel. *IEEE J. Select. Areas Commun.*, 23:1769–1778, Sept. 2005

J16. K. Fu and A. Anastasopoulos. Analysis and design of LDPC codes for time-selective complex-fading channels. *IEEE Trans. Wireless Communications*, 4:1175–1185, May 2005

J17. R. Nuriyev and A. Anastasopoulos. Capacity and coding for the block-independent noncoherent AWGN channel. *IEEE Trans. Information Theory*, 51:866–883, Mar. 2005

J18. G. Ferrari, A. Anastasopoulos, G. Colavolpe, and R. Raheli. Adaptive iterative detection for the phase uncertain channel: Limited-tree-search versus truncated-memory detection. *IEEE Trans. Veh. Tech.*, 53(2):433–442, Mar. 2004

J19. R. Nuriyev and A. Anastasopoulos. Rotationally invariant and rotationally robust codes for the AWGN and the noncoherent channel. *IEEE Trans. Communications*, 51(12):2001–2010, Dec. 2003

J20. R. Nuriyev and A. Anastasopoulos. Pilot-symbol-assisted coded transmission over the block-noncoherent AWGN channel. *IEEE Trans. Communications*, 51(6):953–963, June 2003

J21. I. Motedayen and A. Anastasopoulos. Polynomial-complexity noncoherent symbol-by-symbol detection with application to adaptive iterative decoding of turbo-like codes. *IEEE Trans. Communications*, 51(2):197–207, Feb. 2003

J22. A. Anastasopoulos and K. M. Chugg. Adaptive iterative detection for phase tracking in turbo coded systems. *IEEE Trans. Communications*, 49(12):2135–2144, Dec. 2001

J23. A. Anastasopoulos and K. M. Chugg. Adaptive Soft-Input Soft-Output algorithms for iterative detection with parametric uncertainty. *IEEE Trans. Communications*, 48(10):1638–1649, Oct. 2000

J24. A. Anastasopoulos and A. Polydoros. Adaptive soft-decision algorithms for mobile fading channels. *European Trans. Telecommun.*, 9(2):183–190, March/April 1998

Letters

L1. C.-H. Hsu and A. Anastasopoulos. Capacity achieving LDPC codes through puncturing. *IEEE Trans. Information Theory*, 54:4698–4706, Oct. 2008

L2. S. Y. Chang, W. E. Stark, and A. Anastasopoulos. Energy-delay analysis of MAC protocols in wireless networks. *IEEE Trans. Wireless Communications*, 7:2841–2845, Aug. 2008

L3. C.-P. Lim, J. L. Volakis, and A. Anastasopoulos. BER calculation for multiple-antenna systems in Ricean fading channels. *IEEE Trans. Veh. Tech.*, 56(4):1862–1866, July 2007

L4. A. Anastasopoulos. Sequence error probability lower bounds for joint detection and estimation. *IEEE Trans. Communications*, 51(3):347–351, Mar. 2003

L5. K. M. Chugg and A. Anastasopoulos. On symbol error probability bounds for ISI-like channels. *IEEE Trans. Communications*, 49(10):1704–1709, Oct. 2001

Conferences of journal archival quality

CJ1. Abhinav Sinha and Achilleas Anastasopoulos. A distributed mechanism for public goods allocation with dynamic learning guarantees. In *NetEcon 2017: The 12th Workshop on the Economics of Networks, Systems and Computation*, Boston, MA, June 2017

CJ2. Abhinav Sinha and Achilleas Anastasopoulos. A general mechanism design methodology for social utility maximization with linear constraints. *ACM SIGMETRICS Performance Evaluation Review*, 42(3):12–15, 2014

Refereed Conferences

2017:

C1. Abhinav Sinha and Achilleas Anastasopoulos. Distributed mechanism design with learning guarantees. In *Proc. IEEE Conf. on Decision and Control*, Melbourne, Australia, Dec. 2017

C2. Dipankar Maity, Achilleas Anastasopoulos, and John Baras. Linear quadratic games with costly measurements. In *Proc. IEEE Conf. on Decision and Control*, Melbourne, Australia, Dec. 2017

C3. A. Anastasopoulos and J. Wu. Variable-length codes for channels with memory and feedback: error exponent lower bounds. In *Proc. International Symposium on Information Theory*, Aachen, Germany, Jan. 2017. (Extended version available online on arxiv at `https://arxiv.org/abs/1701.06681`)

2016:

C4. Deepanshu Vasal and Achilleas Anastasopoulos. Decentralized Bayesian learning in dynamic games. In *Proc. Allerton Conf. Commun., Control, Comp.*, pages 264 – 273, Sept. 2016

C5. Deepanshu Vasal and Achilleas Anastasopoulos. Signaling equilibria for dynamic LQG games with asymmetric information. In *Proc. IEEE Conf. on Decision and Control*, pages 6901–6908, Dec. 2016

C6. Abhinav Sinha and Achilleas Anastasopoulos. Structured perfect Bayesian equilibrium in infinite horizon dynamic games with asymmetric information. In *Proc. Allerton Conf. Commun., Control, Comp.*, pages 256 – 263, Monticello, Illinois, Sept. 2016

C7. J. Wu and A. Anastasopoulos. Zero-rate achievability of posterior matching schemes for channels with memory. In *Proc. International Symposium on Information Theory*, pages 2384 – 2388, Barcelona, Spain, July 2016

C8. J. Wu and A. Anastasopoulos. On the capacity of the chemical channel with feedback. In *Proc. International Symposium on Information Theory*, pages 295–299, Barcelona, Spain, July 2016

C9. Deepanshu Vasal and Achilleas Anastasopoulos. A systematic process for evaluating structured perfect Bayesian equilibria in dynamic games with asymmetric information. In *American Control Conference*, pages 3378 – 3385, Boston, MA, July 2016

2015:

C10. Deepanshu Vasal, Vijay Subramanian, and Achilleas Anastasopoulos. Incentive design for learning in user-recommendation systems with time-varying states. In *Proc. Asilomar Conf. Signals, Systems, Comp.*, Pacific Grove, CA, Nov. 2015

C11. Abhinav Sinha and Achilleas Anastasopoulos. Mechanism design for fair allocation. In *Proc. Allerton Conf. Commun., Control, Comp.*, Monticello, Illinois, Sept. 2015

C12. Abhinav Sinha and Achilleas Anastasopoulos. A practical mechanism for network utility maximization for unicast flows on the Internet. In *Proc. International Conf. Communications*, pages 5679–5684, June 2015

2014:

C13. J. Wu and A. Anastasopoulos. The feedback capacity of a class of finite state multiple access channels. In *Proc. International Symposium on Information Theory*, pages 2939–2943, June 2014

2013:

C14. Abhinav Sinha and Achilleas Anastasopoulos. Generalized proportional allocation mechanism design for multi-rate multicast service on the Internet. In *Proc. Allerton Conf. Commun., Control, Comp.*, pages 146–153, Monticello, Illinois, Oct 2013

C15. Q. Zheng, Y. Chen, R. Dreslinski, C. Chakrabartiy, A. Anastasopoulos, S. Mahlke, and T. Mudge. Architecting an LTE base station with GPUs. In *IEEE Workshop on Signal Processing Systems (SiPS)*, Taipei, Taiwan, Oct 2013

C16. Q. Zheng, Y. Chen, R. Dreslinski, C. Chakrabartiy, A. Anastasopoulos, S. Mahlke, and T. Mudge. WiBench: An open source kernel suite for benchmarking wireless systems. In *IEEE International Symposium on Workload Characterization (IISWC)*, Sept. 2013

C17. Q. Zheng, Y. Chen, R. Dreslinski, C. Chakrabartiy, A. Anastasopoulos, S. Mahlke, and T. Mudge. Parallelization techniques for implementing trellis algorithms on graphics processors. In *International Symposium on Circuits and Systems (ISCAS)*, Beijing, China, May 2013

2012:

C18. D. Vasal and A. Anastasopoulos. Achieving socially optimal solution through payments in a dynamic game for the relay channel. In *Proc. Allerton Conf. Commun., Control, Comp.*, Oct. 2012

C19. A. Anastasopoulos. A sequential transmission scheme for unifilar finite-state channels with feedback based on posterior matching. In *Proc. International Symposium on Information Theory*, pages 2914–2918, July 2012

C20. A. Anastasopoulos. Structural properties for dynamic games. In *Information Theory and Applications*, San Diego, CA, Feb. 2012

C21. A. Anastasopoulos and K. Sohn. An interpretation of the Cover and Leung capacity region for the MAC with feedback through stochastic control. In *Proc. International Conf. Communications*, pages 2360–2364, June 2012

2011:

C22. A. Anastasopoulos and K. Sohn. A stochastic control interpretation of the Cover and Leung region for the MAC with noiseless feedback. In *Information Theory and Applications*, Feb. 2011

2010:

C23. J. H. Bae and A. Anastasopoulos. The capacity of Markov channels with noiseless output and state feedback. In *Information Theory and Applications*, San Diego, CA, Feb. 2010

C24. J. H. Bae and A. Anastasopoulos. A posterior matching scheme for finite-state channels with feedback. In *Proc. International Symposium on Information Theory*, pages 2338–2342, Austin, TX, June 2010

C25. A. Nazari, D. Krithivasan, S. S. Pradhan, A. Anastasopoulos, and R. Venkataramanan. Typicality graphs and their properties. In *Proc. International Symposium on Information Theory*, pages 520–524, Austin, TX, June 2010

2009:

C26. A. Anastasopoulos. A sequential transmission scheme for the multiple access channel with noiseless feedback. In *Proc. Allerton Conf. Commun., Control, Comp.*, Monticello, Illinois, 2009

C27. J. H. Bae and A. Anastasopoulos. Capacity-achieving codes for channels with memory and maximum-likelihood decoding. In *Proc. International Symposium on Information Theory*, pages 586–590, June 28-July 3 2009

C28. A. Nazari, S. S. Pradhan, and A. Anastasopoulos. New bounds on the maximal error exponent for multiple-access channels. In *Proc. International Symposium on Information Theory*, pages 1704–1708, Seoul, Korea, June 28 2009–July 3 2009 (**Best Student Paper Award**)

C29. A. Nazari, A. Anastasopoulos, and S. Pradhan. A new universal random-coding bound for average probability error exponent for multiple-access channels. In *43rd Annual Conference on Information Sciences and Systems, 2009. CISS 2009.*, pages 295–300, March 2009

C30. A. Nazari, A. Anastasopoulos, and S. S. Pradhan. A new random-coding bound for multiple access channels. In *Information Theory and Applications*, San Diego, CA, Feb. 2009

2008:

C31. A. Nazari, S. Pradhan, and A. Anastasopoulos. A new sphere-packing bound for maximal error exponent for multiple-access channels. In *Proc. International Symposium on Information Theory*, pages 1513–1517, Toronto, Canada, July 2008

C32. A. Anastasopoulos. Delay-optimal hybrid ARQ protocol design for channels and receivers with memory as a stochastic control problem. In *Proc. International Conf. Communications*, Beijin, China, May 2008

2007:

C33. A. Anastasopoulos. Delay-optimal ARQ protocol design for channels with memory. In *Proc. IEEE Conf. on Decision and Control*, New Orleans, LA, Dec. 2007

C34. K. Fu and A. Anastasopoulos. Stopping set enumerator approximations for finite-length protograph LDPC codes. In *Proc. International Symposium on Information Theory*, pages –, Nice, France, June 2007 (**finalist for the Best Student Paper Award**)

2005:

C35. C.-H. Hsu and A. Anastasopoulos. Asymptotic weight distributions of irregular repeat-accumulate codes. In *Proc. Globecom Conf.*, pages 1147–1151, St. Louis, MO, Nov. 2005

C36. C.-H. Hsu and A. Anastasopoulos. Capacity-achieving codes with bounded graphical complexity on noisy channels. In *Proc. Allerton Conf. Commun., Control, Comp.*, Allerton House, IL, Sept. 2005

C37. C.-P. Lim, J. L. Volakis, and A. Anastasopoulos. Multi- Ricean modeling of site-specific indoor channel in wireless communications. In *Antennas and Propagation Society International Symposium*, pages 402–405, Washington, DC, July 2005

C38. C.-H. Hsu and A. Anastasopoulos. Capacity-achieving LDPC codes through puncturing. In *International Conference on Wireless Networks, Communications, and Mobile Computing*, pages 1575–1580, Maui, HI, June 2005

C39. S. Y. Chang, A. Anastasopoulos, and W. E. Stark. Energy and delay analysis of wireless networks with ARQ. In *Proc. Vehicular Tech. Conf.*, pages 2601–2605, Stockholm, Sweeden, May 2005

C40. C.-P. Lim, J. L. Volakis, K. Sertel, R. W. Kindt, and A. Anastasopoulos. Statistical modeling of site-specific indoor channels in wireless communications. In *IEEE/ACES International Conference on Wireless Communications and Applied Computational Electromagnetics*, pages 474–477, Oahu, HI, Apr. 2005

2004:

C41. S. Y. Chang, A. Anastasopoulos, and W. E. Stark. Energy-delay analysis of wireless systems with random coding. In *Proc. Globecom Conf.*, pages 3270–3274, Dallas, TX, Nov. 2004

C42. L. Weng, S. S. Pradhan, and A. Anastasopoulos. Diversity gain region for MIMO fading multiple access channels. In *Proc. Allerton Conf. Commun., Control, Comp.*, Allerton House, IL, Oct. 2004

C43. L. Weng, A. Anastasopoulos, and S. Pradhan. Diversity gain region for MIMO fading broadcast channels. In *Proc. Information Theory Workshop*, pages 359–364, San Antonio, TX, Oct. 2004

C44. L. Weng, A. Anastasopoulos, and S. S. Pradhan. Error exponent region for Gaussian multiple-access channels. In *Proc. International Symposium on Information Theory*, page 446, Chicago, IL, June 2004

C45. C.-H. Hsu and A. Anastasopoulos. Maximum likelihood decoding of trellis codes in fading channels with no receiver CSI is a polynomial-complexity problem. In *Proc. International Symposium on Information Theory*, page 147, Chicago, IL, June 2004

C46. C.-H. Hsu and A. Anastasopoulos. Subexponential-complexity exact sequence detection in the presence of frequency and phase uncertainty. In *Proc. International Conf. Communications*, pages 499–503, Paris, France, June 2004

C47. C.-P. Lim, R. W. Kindt, K. Sertel, J. L. Volakis, and A. Anastasopoulos. Propagation studies using rigorous methods for indoor wireless connectivity. In *IEEE AP-S Antennas and Propagation Society International Symposium and USNC/CNC/URSI National Radio Science Meeting*, pages 1643–1646, Monterey, CA, June 2004

C48. A. Krishnamoorthy and A. Anastasopoulos. Pilot symbol assisted schemes: A better alternative to systematic unitary constellations for the fast fading channel. In *Proc. Vehicular Tech. Conf.*, pages 939–943, Milan, Italy, May 2004

C49. L. Weng, A. Anastasopoulos, and S. Pradhan. Error exponent regions for multi-user channels. In *Communcation Theory Workshop*, Capri Island, Italy, May 2004

C50. L. Weng, S. Pradhan, and A. Anastasopoulos. Error exponent region for Gaussian broadcast channels. In *Proc. Conference on Information Sciences and Systems (CISS)*, Princeton, NJ, Mar. 2004

2003:

C51. R. Nuriyev and A. Anastasopoulos. Capacity-approaching code design for the noncoherent AWGN channel. In *Proc. Globecom Conf.*, pages 1598–1602, San Fransisco, CA, Dec. 2003

C52. L. Weng, S. S. Pradhan, and A. Anastasopoulos. Coding with transmitter side information for wireless MIMO channels. In *Proc. Allerton Conf. Commun., Control, Comp.*, Allerton House, IL, Oct. 2003

C53. R. Nuriyev and A. Anastasopoulos. Capacity characterization for the noncoherent block-independent AWGN channel. In *Proc. International Symposium on Information Theory*, page 373, Yokohama, Japan, June 2003

C54. I. Motedayen and A. Anastasopoulos. Polynomial complexity ML sequence and symbol-by-symbol detection in fading channels. In *Proc. International Conf. Communications*, pages 2718–2722, Anchorage, Alaska, May 2003

2002:

C55. K. Fu and A. Anastasopoulos. Performance analysis of LDPC codes for time-selective complex fading channels. In *Proc. Globecom Conf.*, pages 1279–1283, Taipei, Taiwan, Nov. 2002

C56. G. Ferrari, A. Anastasopoulos, G. Colavolpe, and R. Raheli. Adaptive iterative detection: A comparison between open-loop and closed-loop phase synchronization. In *Proc. Globecom Conf.*, pages 1368–1372, Taipei, Taiwan, Nov. 2002

C57. A. Anastasopoulos. Correct-decision-feedback performance bounds for joint detection and estimation. In *Proc. International Symposium on Information Theory*, page 216, Lausanne, Switzerland, June 2002

C58. R. Nuriyev and A. Anastasopoulos. Analysis of joint iterative decoding and phase estimation for the non-coherent AWGN channel, using density evolution. In *Proc. International Symposium on Information Theory*, page 168, Lausanne, Switzerland, June 2002

C59. A. Anastasopoulos. Polynomial-complexity ML sequence and symbol-by-symbol detection for fading channels. In *Communcation Theory Workshop*, Sanibel Island, FL, May 2002

C60. I. Motedayen-Aval and A. Anastasopoulos. Polynomial-complexity, adaptive symbol-by-symbol soft-decision algorithms with application to non-coherent detection of LDPCC. In *Proc. International Conf. Communications*, pages 1677–1681, New York, NY, Apr. 2002

C61. R. Nuriyev and A. Anastasopoulos. Analysis and design of pilot-symbol-assisted codes, for the non-coherent AWGN channel, using density evolution. In *Proc. International Conf. Communications*, pages 1511–1515, New York, NY, Apr. 2002

2001:

C62. A. Anastasopoulos. A comparison between the sum-product and the min-sum iterative detection algorithms based on density evolution. In *Proc. Globecom Conf.*, pages 1021–1025, San Antonio, TX, Nov. 2001

C63. I. Motedayen-Aval and A. Anastasopoulos. Low-complexity GLRT-based joint data detection and parameter estimation. In *Proc. Allerton Conf. Commun., Control, Comp.*, pages 496–498, Allerton House, IL, Oct. 2001

C64. G. Ferrari, A. Anastasopoulos, G. Colavolpe, and R. Raheli. On pilot-symbol-assisted iterative detection over channels with carrier-phase uncertainty. In *Proc. SoftCom*, pages 9–16, Ancona, Italy, Oct. 2001

C65. R. Nuriyev and A. Anastasopoulos. Design and robustness analysis of rotationally invariant SCTCM. In *Proc. International Conf. Communications*, pages 2226–2230, Helsinki, Finland, June 2001

2000:

C66. P. Panagiotou, A. Anastasopoulos, and A. Polydoros. Likelihood ratio tests for modulation classification. In *Proc. IEEE Military Comm. Conf.*, pages 670–674, Los Angeles, CA, Oct. 2000

C67. J. Heo, K. M. Chugg, and A. Anastasopoulos. A comparison of forward-only and bi-directional fixed-lag adaptive SISOs. In *Proc. International Conf. Communications*, pages 1660–1664, New Orleans, LA, June 2000

1999:

C68. A. Anastasopoulos and K. M. Chugg. Adaptive SISO algorithms for iterative detection with parametric uncertainty. In *Proc. International Conf. Communications*, pages 177–181, Vancouver, Canada, June 1999

C69. A. Anastasopoulos and K. M. Chugg. Adaptive iterative detection for turbo codes with carrier-phase uncertainty. In *Proc. Globecom Conf.*, pages 2369–2374, Rio de Janeiro, Brazil, Dec. 1999

1998:

C70. A. Anastasopoulos and K. M. Chugg. TCM for frequency-selective, interleaved fading channels using joint diversity combining. In *Proc. International Conf. Communications*, pages 1340–1344, Atlanta, GA, June 1998

1997:

C71. A. Anastasopoulos and A. Polydoros. Soft-decisions Per-Survivor Processing for mobile fading channels. In *Proc. Vehicular Tech. Conf.*, pages 705–709, Phoenix, AZ, May 1997

C72. A. Anastasopoulos and K. M. Chugg. An efficient method for simulation of frequency selective isotropic Rayleigh fading. In *Proc. Vehicular Tech. Conf.*, pages 2084–2088, Phoenix, AZ, May 1997

C73. A. Anastasopoulos and K. M. Chugg. Iterative equalization/decoding of TCM for frequency-selective fading channels. In *Proc. Asilomar Conf. Signals, Systems, Comp.*, pages 177–181, Pacific Grove, CA, Nov. 1997

1995:

C74. A. Polydoros, P. Panagiotou, A. Anastasopoulos, T. K. Liu, C. M. Sun, and R. Gerges. Integrated-layer packet radio study for AHS. In *Proc. IEEE International Symposium on Personal, Indoor, and Mobile Radio Communications*, pages 870–875, Toronto, Canada, Sept. 1995

C75. A. Polydoros, P. Panagiotou, A. Anastasopoulos, T. K. Liu, C. M. Sun, and R. Gerges. Communication technologies for AHS. In *Proceedings of the 3rd IEEE Mediterranean Symposium on New Directions in Control and Automation*, pages 216–222, Limassol, Cyprus, July 1995

Patents and Invention Disclosures

P1. K. M. Chugg, A. Anastasopoulos "Adaptive Iterative Detection," US Patent 7,092,457 B1 (Aug. 15, 2006)