

CV — Zongpeng Li

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RESEARCH INTERESTS	Computer Networks, Network Coding, Cloud Computing	
EDUCATION	◇ Ph.D., 2005, University of Toronto, Electrical and Computer Engineering ◇ M.Sc., 2001, University of Toronto, Computer Science ◇ B.Eng., 1999, Tsinghua University, Computer Science and Technology	
EMPLOYMENT	▷ 2016 -, Professor, Department of Computer Science, University of Calgary. ▷ 2013 - 2015, Associate Head, Department of Computer Science, University of Calgary. ▷ 2011 - 2015, Associate Professor, Department of Computer Science, University of Calgary. ▷ 2011 - 2012, Visiting Faculty, Institute of Network Coding, Chinese University of Hong Kong. ▷ 2005 - 2010, Assistant Professor, Department of Computer Science, University of Calgary.	
HONOURS & AWARDS	▷ 2016, <i>Best Paper Award</i> , ACM e-Energy 2016. ▷ 2015, <i>Outstanding Young Computer Science Researcher</i> , Canadian Association of Computer Science/Association d'Informatique Canadienne (CACCS/AIC). ▷ 2015, <i>Research Excellence Award</i> , Faculty of Science, University of Calgary. ▷ 2014, <i>Excellence Award</i> , Department of Computer Science, University of Calgary. ▷ 2008-2014, Three graduate students received or nominated for Best Thesis Award. ▷ 2012, <i>Best Paper Award</i> , HotPOST 2012. ▷ 2008, <i>Best Paper Award</i> , the Ninth Passive and Active Measurement Conference (PAM), 2008. ▷ 2007, <i>Ingenuity New Faculty Award</i> , Alberta Ingenuity Fund. ▷ 2007, Nomination for <i>Sloan Research Fellow</i> , Alfred P. Sloan Foundation. ▷ 2004, <i>Edward S. Rogers Sr. Scholar</i> , Faculty of Applied Science and Engineering, University of Toronto. ▷ 1994, <i>Outstanding Freshman Award</i> , Tsinghua University, 1994.	
CITATION COUNTS	◇ Total citation count (Google Scholar): 4,600 ◇ Top 10 citation counts: 924, 235, 224, 210, 205, 147, 128, 116, 108, 100 ◇ H-index: 32	

RESEARCH
GRANTS

- ◇ Strategic Research Project, Kiosk: A Self-Service Cloud Computing Platform, \$684,000, 2017-2020, Alberta Innovates -Technology Futures, (Co-I, 30% share of fund).
- ◇ Accelerate Cluster Grant, “Bulk Data Transfer among Cloud Data Centers: Online Algorithms and SDN Implementation”, \$80,000, 2015-2016, The Mathematics of Information Technology and Complex Systems (MITACS).
- ◇ Project Grant, “Network Function Virtualization for Cloud Managed Security Services”, \$61,200, 2015-2016, National Research Council of Canada (NRC-IRAP) (2/3 of funding) - Wedge Networks (1/3 of funding).
- ◇ Research Tools and Instrument (RTI) Grant, “Data Workload Generator for Research on Big Data and Network Science”, \$150,000, 2015, National Science and Engineering Research Council of Canada (NSERC).
- ◇ Project Grant, “Feasibility Study of Cloud Computing Security”, \$75,000, 2014-2015, National Research Council of Canada (NRC-IRAP) (2/3 of funding) - Wedge Networks (1/3 of funding).
- ◇ Discovery Grant, “The Science of Network Coding”, \$270,000 (\$54,000/year), 2014-2019, National Science and Engineering Research Council of Canada (NSERC).
- ◇ Strategic Project Grant (SPG) (PI), “Secure and Reliable Enterprise-Public Cloud Computing”, \$423,000, 2013-2016, National Science and Engineering Research Council of Canada (NSERC).
- ◇ Strategic Project Grant (SPG) (Co-I), “Cloud-Assisted Crowdsourcing Machine-to-Machine Networking Platform for Vehicular Applications”, \$447,000, 2013-2016, National Science and Engineering Research Council of Canada (NSERC). (PI: Dr. Baochun Li at University of Toronto; Co-I: Dr. Jiangchuan Liu at Simon Fraser University. My share: 33%)
- ◇ ENGAGE Grant, “Data Structures and Algorithms for Defending Advanced Persistent Threats”, \$24,700, 2013-2014, National Science and Engineering Research Council of Canada (NSERC).
- ◇ Strategic Networking and Development Grant, \$10,000, 2012-2013, Alberta Innovates - Technology Futures (AI-TF).
- ◇ Discovery Grant, “Internet Information Multicast: Algorithms, Mechanisms and Systems”, \$150,000 (\$30,000/year), 2009-2014, National Science and Engineering Research Council of Canada (NSERC).
- ◇ Project Grant, “Optimizing Information Flows over the Internet: Routing and Coding with Non-Cooperative Users”, \$80,000, 2009-2011, The Mathematics of Information Technology and Complex Systems (MITACS) (joint grant with Dr. Baochun Li from University of Toronto and Dr. Jiangchuan Liu from Simon Fraser University).
- ◇ Ingenuity New Faculty Award, “Internet Information Dissemination: Information Theory Meets Game Theory”, \$300,000, 2008-2011, Alberta Ingenuity Fund (AIF).
- ◇ Discovery Grant, “Optimization Algorithms in Data Networks”, \$54,000 (\$18,000/year), 2006-2009, National Science and Engineering Research Council of Canada (NSERC).
- ◇ Starters Grant, “Coping with Selfish Agents in Internet Information Dissemination”, \$15,000, 2006-2007, Research Services, University of Calgary.
- ◇ Start-up Research Grant, \$30,000, 2005-2007, Department of Computer Science/Faculty of Science, University of Calgary.

Yongzheng Jia, Chuan Wu, Zongpeng Li, Frank Le, Alex Liu. Online Scaling of NFV Service Chains across Geo-distributed Datacenters. *IEEE/ACM Transactions on Networking (ToN)*, to appear.

Ruiting Zhou, Zongpeng Li, Chuan Wu. Scheduling Frameworks for Cloud Container Services. *IEEE/ACM Transactions on Networking (ToN)*, to appear.

Ruiting Zhou, Zongpeng Li, Chuan Wu. A Truthful Online Mechanism for Location-Aware Tasks in Mobile Crowd Sensing. *IEEE Transactions on Mobile Computing (TMC)*, to appear.

Xunrui Yin, Zongpeng Li, Yaduo Liu, Xin Wang. A Reduction Approach to the Multiple-Unicast Conjecture in Network Coding. *IEEE Transactions on Information Theory (TIT)*, to appear.

Yong Cui, Jian Song, Kui Ren, Minming Li, Zongpeng Li, Qingmei Ren, Yangjun Zhang. Software Defined Cooperative Offloading for Mobile Cloudlets. *IEEE/ACM Transactions on Networking (ToN)*, 25(3):1746-1760, June 2017.

Yu Wu, Zhizhong Zhang, Chuan Wu, Zongpeng Li, Chuanxiong Guo, Francis Lau, Orchestrating Bulk Data Transfers across Geo-Distributed Datacenters. *IEEE Transactions on Cloud Computing (TCC)*, 5(1):112-125, 2017.

Ruiting Zhou, Zongpeng Li, Chuan Wu, Zhiyi Huang. An Efficient Cloud Market Mechanism for Computing Jobs with Soft Deadlines. *IEEE/ACM Transactions on Networking (ToN)*, 25(2):793-805, April 2017.

Rui Zhu, Bang Liu, Di Niu, Zongpeng Li, Vicky H. Zhao. Network Latency Estimation for Personal Devices: a Matrix Completion Approach. *IEEE/ACM Transactions on Networking (ToN)*, 25(2):724-737, April 2017.

Xiaoxi Zhang, Zhiyi Huang, Chuan Wu, Zongpeng Li, Francis C. M. Lau. Online Auctions in IaaS Clouds: Welfare and Profit Maximization with Server Costs. *IEEE/ACM Transactions on Networking (ToN)*, 25(2):1034-1047, April 2017.

Weijie Shi, Chuan Wu, Zongpeng Li. An Online Auction Mechanism for Dynamic Virtual Cluster Provisioning in Geo-Distributed Clouds. *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, 28(3):677-688, March 2017.

Sijia Gu, Zongpeng Li, Chuan Hu, Huyin Zhang. Virtualized Resource Sharing in Cloud Radio Access Networks Through Truthful Mechanisms. *IEEE Transactions on Communications (TCOM)*, 65(3):1105-1118, March 2017.

Xiaoxi Zhang, Zhiyi Huang, Chuan Wu, Zongpeng Li, Francis C. M. Lau. An Online Stochastic Buy-Sell Mechanism for VNF chains in the NFV market. *IEEE Journal on Selected Areas in Communications (JSAC)*, 35(2):392-406, February 2017.

Mohammad Hassan Hajiesmaili, Lei Deng, Minghua Chen, Zongpeng Li. Incentivizing Device-to-Device Load Balancing for Cellular Networks: An Online Auction Design. *IEEE Journal on Selected Areas in Communications (JSAC)*, 35(2):265-279, February 2017.

Qifu Tyler Sun, Xiaolong Yang, Keping Long, Xunrui Yin, Zongpeng Li. On Vector Linear Solvability of Multicast Networks. *IEEE Transactions on Communications (TCOM)*, 64(12):5096-5107, December 2016.

Qifu Tyler Sun, Robert S. Y. Li, Zongpeng Li. On Base Field of Linear Network Coding. *IEEE*

Transactions on Information Theory (TIT), 62(12):7272-7282, December 2016.

Zhi Zhou, Fangming Liu, Zongpeng Li. Bilateral Electricity Trade Between Smart Grids and Green Datacenters: Pricing Models and Performance Evaluation. IEEE Journal on Selected Areas in Communications (JSAC), 34(12):3993-4007, December 2016.

Qihang Sun, Chuan Wu, Zongpeng Li, Shaolei Ren. Colocation Demand Response: Joint Online Mechanisms for Individual Utility and Social Welfare Maximization. IEEE Journal on Selected Areas in Communications (JSAC), 34(12):3978-3992, December 2016.

Linquan Zhang, Shaolei Ren, Chuan Wu, Zongpeng Li. A Truthful Incentive Mechanism for Emergency Demand Response in Geo-distributed Colocation Data Centers. ACM Transactions on Modeling and Performance Evaluation of Computing Systems (TOMPECS), 1(4):article 18, September 2016.

Weijie Shi, Linquan Zhang, Chuan Wu, Zongpeng Li, Francis Lau. An Online Auction Framework for Dynamic Resource Provisioning in Cloud Computing. IEEE/ACM Transactions on Networking (ToN), 24(4):2060-2073, August 2016.

Hongxing Li, Chuan Wu, Zongpeng Li, Francis Lau. Virtual Machine Trading in a Federation of Clouds: Individual Profit and Social Welfare Maximization. IEEE/ACM Transactions on Networking (ToN), 24(3):1827-1840, June 2016.

Yaochen Hu, Di Niu, Zongpeng Li. A Geometric Approach to Server Selection for Interactive Video Streaming, IEEE Transactions on Multimedia (TMM), 18(5):840-851, May 2016.

Linquan Zhang, Zongpeng Li, Chuan Wu, Shaolei Ren. Online Electricity Cost Saving Algorithms for Co-Location Data Centers. IEEE Journal on Selected Areas in Communications (JSAC), 33(12): 2906-2919, December 2015.

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Xuanjia Qiu, Hongxing Li, Chuan Wu, Zongpeng Li, Francis Lau. Cost-Minimizing Dynamic Migration of Content Distribution Services into Hybrid Clouds. IEEE Transactions on Parallel and Distributed Systems (TPDS), 26(12): 3330-3345, December 2015.

Qifu Tyler Sun, Xunrui Yin, Zongpeng Li, Keping Long. Multicast Network Coding and Field Sizes. IEEE Transactions on Information Theory (TIT), 61(11): 6182-6191, November 2015.

Yu Wu, Chuan Wu, Bo Li, Linquan Zhang, Zongpeng Li, Francis C.M. Lau. Scaling Social Media Applications into Geo-Distributed Clouds. IEEE/ACM Transactions on Networking (ToN), 23(3):689-702, June 2015.

Zongpeng Li, Baochun Li, Yuefei Zhu. Designing Truthful Spectrum Auctions for Multi-hop Secondary Networks. IEEE Transactions on Mobile Computing (TMC), 14(2):316-327, February 2015.

Wei Huang, Chuan Wu, Zongpeng Li, Francis C. M. Lau. The Performance and Locality Trade-off in Bittorrent-like File Sharing Systems. Peer-to-Peer Networking and Applications (PPNA), 7(4):469-484, December 2014.

Niklas Carlsson, Derek Eager, Ajay Gopinathan, Zongpeng Li. Caching and Optimized Request

Routing in Cloud-based Content Delivery Systems . Elsevier Performance Evaluation, 79(SI Performance 2014):38-55, September 2014.

Yuefei Zhu, Baochun Li, Haoming Fu, Zongpeng Li. Core-Selecting Secondary Spectrum Auctions. IEEE Journal on Selected Areas in Communications (JSAC), 32(11):2268-2279, November 2014.

Xunrui Yin, Yan Wang, Zongpeng Li, Xin Wang, Xiangyang Xue. A Graph Minor Perspective to Multicast Network Coding. IEEE Transactions on Information Theory (TIT), 60(9):5375-5386, September 2014.

Tang Xiahou, Zongpeng Li, Chuan Wu, Jiaqing Huang. A Geometric Perspective to Multiple-Unicast Network Coding. IEEE Transactions on Information Theory (TIT), 60(5):2884-2895, May 2014.

Xunrui Yin, Yan Wang, Zongpeng Li, Xin Wang, Jin Zhao, Xiangyang Xue. Bounding the Advantage of Multicast Network Coding in General Network Models. IEEE Transactions on Communications (TCOM), 62(3):1023-1032, March 2014.

Xiaowei Chen, Xiaowen Chu, Zongpeng Li. Improving Sustainability of BitTorrent Darknets. Peer-to-Peer Networking and Applications (PPNA), 7(4):539:554, June 2014.

Fajun Chen, Yijie Wang, Jiangchuan Liu, Zongpeng Li. Probing-based Anypath Forwarding Routing Algorithms in Wireless Mesh Networks. Elsevier Ad Hoc Networks, 13:222-233, 2014.

Ouldooz Baghban Karimi, Jiangchuan Liu, Zongpeng Li. Multicast with Cooperative Gateways in Multi-Channel Wireless Mesh Networks. Elsevier Ad Hoc Networks Journal, 13:170-180, 2014.

Linquan Zhang, Chuan Wu, Zongpeng Li, Chuanxiong Guo, Minghua Chen, Francis C. M. Lau. Moving Big Data to the Cloud: An Online Cost-Minimizing Approach. IEEE Journal on Selected Areas in Communications (JSAC), 31(12):2710-2721, December 2013.

Ruiting Zhou, Zongpeng Li, Chuan Wu, Carey Williamson. Signal Alignment: Enabling Physical Layer Network Coding for MIMO Networking. IEEE Transactions on Wireless Communications (TWC), 12(6):3012-3023, June 2013.

Yu Wu, Zhizhong Zhang, Chuan Wu, Zongpeng Li, Francis Lau. CloudMoV: Cloud-based Mobile Social TV. IEEE Transactions on Multimedia (TMM), 15(4):821-832, June 2013.

Yuefei Zhu, Baochun Li, Zongpeng Li. Designing Two-Dimensional Spectrum Auctions for Mobile Secondary Users. IEEE Journal on Selected Areas in Communications (JSAC), 31(3):345-352 March 2013.

Xiaowen Chu, Kaiyong Zhao, Zongpeng Li. Tsunami: Massively Parallel Homomorphic Hashing on Many-core GPUs. Concurrency and Computation, John Wiley & Sons, 24(17):2028-2039, December 2012.

Ajay Gopinathan, Zongpeng Li. Algorithms for Stochastic Optimization of Multicast Content Delivery with Network Coding. ACM Transactions on Multimedia Computing, Communications and Applications (ToMM), (8)4: article 56, November 2012.

Chuan Wu, Zongpeng Li, Xuanjia Qiu, Francis C. M. Lau. Auction-based P2P VoD Streaming: Incentives and Optimal Scheduling. ACM Transactions on Multimedia Computing, Communica-

tions and Applications (ToMM), 8(1), article No.14, February 2012.

Shreya Maheshwar, Zongpeng Li, Baochun Li. Bounding The Coding Advantage of Combination Network Coding in Undirected Networks. *IEEE Transactions on Information Theory (TIT)*, 58(2):570-584, February 2012.

Zongpeng Li, Xiaowen Chu. On Achieving Group Strategyproof Multicast. *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, 23(5):913-923, May 2012.

Hanan Shpungin, Zongpeng Li. Throughput and Energy Efficiency in Wireless Ad Hoc Networks with Gaussian Channels, in *IEEE/ACM Transactions on Networking (ToN)*, 20(1):15-28, February 2012.

Ajay Gopinathan, Zongpeng Li, Baochun Li, Group Strategyproof Multicast in Wireless Networks, *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, 22(5):708-715, May 2011.

Ajay Gopinathan, Zongpeng Li, Optimal Layered Multicast, *ACM Transactions on Multimedia Computing, Communications and Applications (ToMM)*, 7(2), May 2011.

Xiaowen Chu, Kaiyong Zhao, Zongpeng Li, Anirban Mahanti, Auction Based On-Demand P2P Min-Cost Media Streaming with Network Coding, *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, 20(12):1816-1829, December 2009.

Zongpeng Li, Carey Williamson, Enforcing Minimum-Cost Multicast Routing Against Selfish Information Flows, *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, 20(9):1299-1308, September 2009.

Zongpeng Li, Baochun Li, Lap Chi Lau, A Constant Bound on Throughput Improvement of Network Coding in Undirected Networks. *IEEE Transactions on Information Theory (TIT)*, 55(3):997-1015, March 2009.

Phillipa Gill, Liqi Shi, Anirban Mahanti, Zongpeng Li, Derek L. Eager. Scalable On-demand Media Streaming for Heterogeneous Clients, *ACM Transactions on Multimedia Computing, Communications and Applications (ToMM)*, 5(1):8:1-8:24, October 2008.

Niklas Carlsson, Anirban Mahanti, Zongpeng Li, Derek L. Eager. Optimized Periodic Broadcast of Non-Linear Media, *IEEE Transactions on Multimedia (TMM)*, 10(5):871-884, August 2008.

Chuan Wu, Baochun Li, Zongpeng Li, Dynamic Bandwidth Auctions in Multi-overlay P2P Streaming with Network Coding, *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, 19(6):806-820, June 2008.

Jun Yuan, Zongpeng Li, Wei Yu, Baochun Li. A Cross-Layer Optimization Framework for Multi-hop Multicast in Wireless Mesh Networks, *IEEE Journal on Selected Areas of Communication (JSAC)*, 24(11):2092-2103, November 2006.

Zongpeng Li, Baochun Li, Lap Chi Lau. On Achieving Optimal Multicast Throughput in Undirected Networks, in joint special issue, *IEEE Transactions on Information Theory (TIT)* and *IEEE/ACM Transactions on Networking (ToN)*, 52(6):2467-2485, June 2006.

Zongpeng Li, Baochun Li. Improving Throughput in Multi-hop Wireless Networks, *IEEE Transactions on Vehicular Technology (TVT)*, 55(3):762-773, May 2006.

Zongpeng Li, Baochun Li. Probabilistic Power Management for Wireless Ad Hoc Networks, ACM/Kluwer Mobile Networks and Applications (MONET), 10(5):771-782, 2005.

CONFERENCE
PAPERS

Xiaoxi Zhang, Chuan Wu, Zhiyi Huang, Zongpeng Li. Occupation-Oblivious Pricing of Cloud Jobs via Online Learning. In the Proceedings of IEEE INFOCOM 2018, Honolulu, HI, USA, April 15-19, 2018. (acceptance rate: 19%)

Yixin Bao, Yanghua Peng, Chuan Wu, Zongpeng Li. Online Job Scheduling in Distributed Machine Learning Clusters. In the Proceedings of IEEE INFOCOM 2018, Honolulu, HI, USA, April 15-19, 2018. (acceptance rate: 19%)

Yipei Niu, Fangming Liu, Zongpeng Li. Load Balancing across Microservices. In the Proceedings of IEEE INFOCOM 2018, Honolulu, HI, USA, April 15-19, 2018. (acceptance rate: 19%)

Zijun Zhang, Zongpeng Li, Chuan Wu. Optimal Posted Prices for Online Cloud Resource Allocation. In the Proceedings of ACM SIGMETRICS 2017, Urbana-Champaign, IL, USA, June 5-9, 2017.

Hanqi Tang, Qifu Tyler Sun, Xiaolong Yang, Keping Long, Zongpeng Li. Circular-Shift Linear Network Coding. In The Proceedings of IEEE ISIT 2017, Aachen, Germany, June 25-30, 2017.

Zijun Zhang, Zongpeng Li, Chuan Wu, Chuanhe Huang. A Scalable and Distributed Approach for NFV Service Chain Cost Minimization. In the Proceedings of IEEE ICDCS 2017, Atlanta, GA, USA, June 5-8, 2017.

Linquan Zhang, Shangqi Lai, Chuan Wu, Zongpeng Li and Chuanxiong Guo. Virtualized Network Coding Functions on The Internet. In the Proceedings of IEEE ICDCS 2017, Atlanta, GA, USA, June 5-8, 2017.

Rui Zhu, Di Niu, Zongpeng Li. Robust Web Service Recommendation via Quantile Matrix Factorization. In the Proceedings of IEEE INFOCOM 2017, Atlanta, GA, USA, May 1-4, 2017.

Rui Zhu, Di Niu, Baochun Li, Zongpeng Li. Optimal Multicast in Virtualized Datacenter Networks with Software Switches. In the Proceedings of IEEE INFOCOM 2017, Atlanta, GA, USA, May 1-4, 2017.

Xiaoxi Zhang, Chuan Wu, Zongpeng Li, Francis C. M. Lau. Proactive VNF Provisioning with Multi-timescale Cloud Resources: Fusing Online Learning and Online Optimization. In the Proceedings of IEEE INFOCOM 2017, Atlanta, GA, USA, May 1-4, 2017.

Xinxin Mei, Xiaowen Chu, Hai Liu, Yiu-Wing Leung, Zongpeng Li. Energy Efficient Real-time Task Scheduling on CPU-GPU Hybrid Clusters. In the Proceedings of IEEE INFOCOM 2017, Atlanta, GA, USA, May 1-4, 2017.

Rui Zhu, Di Niu, Linglong Kong, Zongpeng Li, Expectile Matrix Factorization for Extreme Data Analysis, in the Proceedings of AAAI 2017, San Francisco, CA, USA, February 4-9, 2017.

Jiaqing Huang, Zongpeng Li. A Delaunay Triangulation Approach to Space Information Flow. In the Proceedings of NetCod 2016, Washington, DC, USA, December 4, 2016.

Ruiting Zhou, Zongpeng Li, Chuan Wu. An Emergency Demand Response Mechanism for Cloud Computing. In the Proceedings of ACM Greenmetrics 2016, Antibes Juan-les-Pins, France, June 14 2016 (Runner-up, Best Student Paper Award).

Xiaoke Wang, Chuan Wu, Franck Le, Alex Liu, Zongpeng Li, Francis Lau. Online VNF Scaling in Datacenters. In the Proceedings of IEEE Cloud 2016, San Francisco, USA, June 27 - July 2, 2016. (acceptance rate: 15%) (Runner-up, Best Student Paper Award)

Qihang Sun, Shaolei Ren, Chuan Wu, Zongpeng Li. An Online Incentive Mechanism for Emergency Demand Response in Geo-Distributed Colocation Data Centers. In the Proceedings of ACM e-Energy 2016, Waterloo, Ontario, Canada, June 21-24, 2016 (Best Paper Award).

Xunrui Yin, Zongpeng Li, Xin Wang. A Reduction Approach to the Multiple-Unicast Conjecture in Network Coding. In the Proceedings of IEEE ISIT 2016, Barcelona, Spain, July 10-15, 2016.

Xiaomeng Yi, Fangming Liu, Zongpeng Li, Hai Jin. Flexible Instance: Meeting Deadlines of Delay Tolerant Jobs in The Cloud with Dynamic Pricing. In the Proceedings of IEEE ICDCS 2016, Nara, Japan, June 27-30, 2016. (acceptance rate: 17.6%)

Weijie Shi, Chuan Wu, Zongpeng Li. "An Online Mechanism for Dynamic Virtual Cluster Provisioning in Geo-Distributed Clouds," to appear in the Proceedings of IEEE INFOCOM 2016, San Francisco, CA, USA, April 10-15, 2016. (acceptance rate: 18%)

Sijia Gu, Zongpeng Li, Chuan Wu, Chuanhe Huang. "An Efficient Auction Mechanism for Service Chains in the NFV Market," to appear in the Proceedings of IEEE INFOCOM 2016, San Francisco, CA, USA, April 10-15, 2016. (acceptance rate: 18%)

Qifu Tyler Sun, Shuo-Yen Robert Li, Zongpeng Li. On Base Field of Linear Network Coding. In the Proceedings of IEEE NetCod 2015 (invited paper), Sydney, Australia, June 2015.

Shengkai Shi, Chuan Wu, Zongpeng Li. Cost-Minimizing Online VM Purchasing for Application Service Providers with Arbitrary Demands. In the Proceedings of IEEE Cloud 2015, New York, USA, June 27 - July 2, 2015. (acceptance rate: 15%)

Yao Zhao, Zongpeng Li, Xiaowen Chu. QoS Prediction for the Cloud Marketplace: A Grassmann Manifold Approach. In the Proceedings of IEEE Cloud 2015, New York, USA, June 27 - July 2, 2015. (acceptance rate: 15%)

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Qihang Sun, Chuan Wu, Shaolei Ren, Zongpeng Li. Fair Rewarding in Colocation Data Centers: Truthful Mechanism for Emergency Demand Response. In the Proceedings of IEEE/ACM IWQoS 2015, Portland, Oregon, USA, June 15-16, 2015. (acceptance rate: 22%)

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Zhi Zhou, Fangming Liu, Zongpeng Li, Hai Jin. Pricing Bilateral Electricity Trade between Smart Grids and Hybrid Green Datacenters, in the Proceedings of ACM SIGMETRICS 2015 (poster paper), Portland, Oregon, USA, June 15-19, 2015. (acceptance rate: 17%)

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Tyler Sun, Xiaolong Yang, Keping Long, Xunrui Yin, Zongpeng Li. On Vector Linear Solvability of Multicast Networks, in the Proceedings of IEEE ICC 2015, June 8-12, London, UK.

Zhi Zhou, Fangming Liu, Zongpeng Li, Hai Jin. When Smart Grid Meets Geo-distributed Cloud: An Auction Approach to Datacenter Demand Response, in the Proceedings of IEEE INFOCOM 2015, Hong Kong, April 26 - May 1, 2015. (acceptance rate: 19%)

Jian Zhao, Xiaowen Chu, Hai Liu, Yiu-Wing Leung, Zongpeng Li. Online Procurement Auctions for Resource Pooling in Client-Assisted Cloud Storage Systems, in the Proceedings of IEEE INFOCOM 2015, Hong Kong, April 26 - May 1, 2015. (acceptance rate: 19%)

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Weijie Shi, Chuan Wu, Zongpeng Li. RSMOA: A Revenue and Social Welfare Maximizing Online Auction for Dynamic Cloud Resource Provisioning, in the Proceedings of IEEE/ACM IWQoS 2014, Hong Kong, China, May 26-27, 2014 (acceptance rate: 22%).

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Xuanjia Qiu, Hongxing Li, Chuan Wu, Zongpeng Li, Francis C. M. Lau. Federated Private Clouds via Broker's Marketplace: A Stackelberg-Game Perspective, in the Proceedings of IEEE Cloud 2014, Anchorage, Alaska, USA, June 27-July 2, 2014. (acceptance rate: 18%)

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Linquan Zhang, Zongpeng Li, Chuan Wu. Randomized Auction Design for Electricity Markets between Grids and Microgrids, in the Proceedings of ACM SIGMETRICS 2014, Austin, Texas, USA, June 16-20, 2014. (acceptance rate: 16.8%)

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Linquan Zhang, Zongpeng Li, Chuan Wu. Dynamic Resource Provisioning in Cloud Computing: A Randomized Auction Approach, in the Proceedings of IEEE INFOCOM 2014, Toronto, Canada, April 27-May 2, 2014. (acceptance rate: 19%)

Xunrui Yin, Zongpeng Li, Xin Wang. A Matroid Theory Approach to Multicast Network Coding, in the Proceedings of IEEE INFOCOM 2014, Toronto, Canada, April 27-May 2, 2014. (acceptance rate: 19%)

Linquan Zhang, Zongpeng Li, Chuan Wu, Minghua Chen. Online Algorithms for Uploading Deferrable Big Data to The Cloud, in the Proceedings of IEEE INFOCOM 2014, Toronto, Canada, April 27-May 2, 2014. (acceptance rate: 19%)

Jian Zhao, Hongxing Li, Chuan Wu, Zongpeng Li, Zhizhong Zhang, Francis C.M. Lau. Dynamic Pricing and Profit Maximization for the Cloud with Geo-Distributed Data Centers, in the Proceedings of IEEE INFOCOM 2014, Toronto, Canada, April 27-May 2, 2014. (acceptance rate: 19%)

Tongjie Zhang, Zongpeng Li, Reihaneh Safavi-Naini. Incentivize Cooperative Sensing in Distributed Cognitive Radio Networks with Reputation-based Pricing, in the Proceedings of IEEE INFOCOM 2014, Toronto, Canada, April 27-May 2, 2014. (acceptance rate: 19%)

Ming He, Zongpeng Li, Chuan Wu, Xunrui Yin. On Uniform Matroidal Networks, in the Proceedings of IEEE ISIT 2013, Istanbul, Turkey, July 7-12, 2013.

Shaoquan Zhang, Minghua Chen, Zongpeng Li, Longbo Huang. Optimal Distributed Broadcasting with Per-neighbor Queues in Acyclic Overlay Networks with Arbitrary Underlay Capacity Constraints, in the Proceedings of IEEE ISIT 2013, Istanbul, Turkey, July 7-12, 2013.

Tang Xiahou, Zongpeng Li, Chuan Wu. Information Multicast in (Pseudo-)Planar Networks: Efficient Network Coding over Small Finite Fields, in the Proceedings of the 2013 IEEE International Symposium on Network Coding (NetCod 2013), Calgary, Canada, June 7-9, 2013.

Jiaqing Huang, Xunrui Yin, Xiaoxi Zhang, Xu Du, Zongpeng Li. On Space Information Flow: Single Multicast, in the Proceedings of the 2013 IEEE International Symposium on Network Coding (NetCod 2013), Calgary, Canada, June 7-9, 2013.

Tongjie Zhang, Rei Safavi-Naini, Zongpeng Li. ReDiSen: Reputation-based Secure Cooperative Sensing in Distributed Cognitive Radio Networks, in the Proceedings of the 2013 IEEE ICC

2013, Budapest, Hungary, June 9-13, 2013.

Hongxing Li, Chuan Wu, Zongpeng Li, Francis Lau. Profit-Maximizing Virtual Machine Trading in a Federation of Selfish Clouds, in the Proceedings of IEEE INFOCOM 2013, mini-conference, Turin, Italy, April 14-19, 2013.

Linquan Zhang, Chuan Wu, Zongpeng Li, Chuanxiong Guo, Minghua Chen, Francis Lau. Moving Big Data to the Cloud, in the Proceedings of IEEE INFOCOM 2013, mini-conference, Turin, Italy, April 14-19, 2013.

Xunrui Yin, Yan Wang, Xin Wang, Xiangyang Xue, Zongpeng Li. A Graph Minor Perspective to Network Coding: Connecting Algebraic Coding with Network Topologies, in the Proceedings of IEEE INFOCOM 2013, Turin, Italy, April 14-19, 2013. (acceptance rate: 17%)

Yuefei Zhu, Baochun Li, Zongpeng Li. Core-Selecting Combinatorial Auction Design for Secondary Spectrum Markets, in the Proceedings of IEEE INFOCOM 2013, Turin, Italy, April 14-19, 2013. (acceptance rate: 17%)

Hongxing Li, Chuan Wu, Zongpeng Li, Francis Lau. Socially-optimal Multi-hop Secondary Communication Under Arbitrary Primary User Mechanisms, in the Proceedings of IEEE INFOCOM 2013, Turin, Italy, April 14-19, 2013. (acceptance rate: 17%)

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Shambhavi Srinivasa, Carey Williamson, Zongpeng Li, Barrier Counting in Mixed Wireless Sensor Networks, in the Proceedings of IEEE MASCOTS 2012, Washington, DC, USA, August 7-9, 2012.

Ruiting Zhou, Zongpeng Li, Chuan Wu, Carey Williamson, Buddy Routing: A Routing Paradigm for NanoNets Based on Physical Layer Network Coding, in the Proceedings of IEEE ICCCN 2012, Munich, Germany, July 30-August 2, 2012.

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Xuanjia Qiu, Hongxing Li, Chuan Wu, Zongpeng Li, Francis C.M. Lau. Scheduling Video-on-Demand Services on Hybrid Clouds with Cost Minimization and QoS Guarantee, in the Proceedings of the 19th International Packet Video Workshop, Munich, Germany, May 10-11, 2012.

Hongxing Li, Chuan Wu, Zongpeng Li, Wei Huang, Francis C. M. Lau. Stochastic Optimal Multirate Multicast in Socially Selfish Wireless Networks, in the Proceedings of IEEE INFOCOM 2012, Orlando, FL, USA, March 25-30, 2012. (acceptance rate: 18%).

Yuefei Zhu, Baochun Li, Zongpeng Li. Truthful Spectrum Auction Design for Secondary Networks, in the Proceedings of IEEE INFOCOM 2012, Orlando, FL, USA, March 25-30, 2012. (acceptance rate: 18%).

Yu Wu, Chuan Wu, Bo Li, Linqun Zhang, Zongpeng Li, Francis C. M. Lau. Scaling Social Media Applications into Geo-Distributed Clouds, in the Proceedings of IEEE INFOCOM 2012, Orlando, FL, USA, March 25-30, 2012. (acceptance rate: 18%).

Xunrui Yin, Xin Wang, Jin Zhao, Xiangyang Xue, Zongpeng Li. On Benefits of Network Coding in Bidirected Networks and Hyper-networks, in the Proceedings of IEEE INFOCOM 2012, Orlando, FL, USA, March 25-30, 2012. (acceptance rate: 18%).

Xuanjia Qiu, Hongxing Li, Chuan Wu, Zongpeng Li, Francis C. M. Lau. Cost-Minimizing Dynamic Migration of Content Distribution Services into Hybrid Clouds, in the Proceedings of IEEE INFOCOM 2012, mini-conference, Orlando, FL, USA, March 25-30, 2012.

Hongxing Li, Wei Huang, Chuan Wu, Zongpeng Li, Francis C. M. Lau. Utility-Maximizing Data Dissemination in Socially Selfish Cognitive Radio Networks, in the Proceedings of IEEE MASS 2011, Valencia, Spain, October 17-22, 2011 (acceptance rate: 20%).

Hanan Shpungin, Zongpeng Li. Feasible Capacity of Distributed Beamforming in Multi-Hop Wireless Sensor Networks, in the Proceedings IEEE MASS 2011, Valencia, Spain, October 17-22, 2011.

Ruiting Zhou, Zongpeng Li, Chuan Wu, Carey Williamson. Physical Layer Network Coding with Signal Alignment for MIMO Wireless Networks, in the Proceedings of IEEE MASS 2011, Valencia, Spain, October 17-22, 2011 (acceptance rate: 20%).

Song Zhang, Niklas Carlsson, Derek Eager, Zongpeng Li, Anirban Mahanti. Design of a Dynamic File Bundling System for Large-scale Content Distribution, in the Proceedings of IEEE MASCOTS 2011, work in progress, Singapore, July 25-27, 2011.

Xiaowei Chen, Xiaowen Chu, Zongpeng Li. Improving Sustainability of Private P2P Communities, in the Proceedings of IEEE ICCCN 2011, Maui, Hawaii, USA, July 31-August 4, 2011.

Hanan Shpungin, Ajay Gopinathan, Zongpeng Li. Capacity Bounds for Energy Efficient Data Streaming in Homogeneous Wireless Ad Hoc Networks, in the Proceedings of IEEE SECON 2010, Salt Lake City, USA, June 27-30, 2011 (acceptance rate: 22%).

Ajay Gopinathan, Zongpeng Li. Strategyproof Mechanisms for Content Delivery via Layered Multicast, in the Proceedings of IFIP Networking 2011, Valencia, Spain, May 9-13, 2011.

Ajay Gopinathan, Zongpeng Li, Chuan Wu. Strategyproof Auctions for Balancing Social Welfare and Fairness in Secondary Spectrum Markets, in the Proceedings of IEEE INFOCOM 2011, Shanghai, China, April 10-15, 2011 (acceptance rate: 16%).

Ajay Gopinathan, Zongpeng Li. A Prior-Free Revenue Maximizing Auction For Secondary Spectrum Access, in the Proceedings of IEEE INFOCOM 2011, mini-conference, Shanghai, China, April 10-15, 2011.

Ajay Gopinathan, Zongpeng Li. Strategyproof Wireless Spectrum Auctions with Interference, in the Proceedings of IEEE GlobeCom 2010, Miami, Florida, December 6-10, 2010.

Emeka Egbogah, Abraham O. Fapojuwo, Zongpeng Li. On the Performance of Network Coding for Multicast Data Delivery in Large Scale Mobile Ad Hoc Networks, in the Proceedings of IEEE Vehicular Technology Conference (VTC), Ottawa, Canada, September 6-9, 2010.

Nissan Lev-tov, Niklas Carlsson, Zongpeng Li, Carey Williamson, Song Zhang. Dynamic File-selection Policies for Bundling in BitTorrent-like Systems, in the Proceedings of IEEE IWQoS 2010, Beijing, China, June 16-18, 2010.

Fajun Chen, Jiangchuan Liu, Zongpeng Li, Yijie Wang. Routing with Uncertainty in Wireless Mesh Networks, in the Proceedings of IEEE IWQoS 2010, Beijing, China, June 16-18, 2010.

Hanan Shpungin, Zongpeng Li. Throughput and Energy Efficiency in Wireless Ad Hoc Networks with Gaussian Channels, in the Proceedings of IEEE SECON 2010, Boston, Massachusetts, June 21-25, 2010 (acceptance rate: 23%).

Ouldooz Baghban Karimi, Jiangchuan Liu, Zongpeng Li. Multicast in Multi-Channel Wireless Mesh Networks, in the Proceedings of IFIP/TC6 Networking 2010, Chennai, India, May 10-14, 2010.

Ajay Gopinathan, Zongpeng Li, Carey Williamson. Optimal Multicast in Multi-Channel Multi-Radio Wireless Networks, in the Proceedings of IEEE MASCOTS 2009, Imperial College London, UK, September 21-23, 2009.

Ajay Gopinathan, Zongpeng Li. Stochastic Multicast with Network Coding, in the Proceedings of IEEE ICDCS 2009, Montreal, Quebec, Canada, June 22-26, 2009 (acceptance rate: 16%).

Ajay Gopinathan, Zongpeng Li, Baochun Li. On Achieving Group Strategyproof Information Dissemination in Wireless Networks, in the Proceedings of the 1st International Conference on Game Theory for Networks (GameNets), Istanbul, Turkey, May 13-15, 2009.

Parthasarathy Ramanujam, Zongpeng Li, Lisa Higham. Shadow Prices vs. Vickrey Prices in Multipath Routing, in the Proceedings of IEEE INFOCOM 2009, mini-conference, Rio de Janeiro, Brazil, April 19-25, 2009.

Ajay Gopinathan, Zongpeng Li. Optimal Layered Multicast with Network Coding: Mathematical Model and Empirical Studies, in the Proceedings of IEEE MASCOTS 2008, Baltimore, MD, USA, September 8-10, 2008.

Phillipa Gill, Zongpeng Li, Anirban Mahanti, Jingxiang Luo, Carey Williamson. Network Information Flow in Network of Queues, in the Proceedings of IEEE MASCOTS 2008, Baltimore, MD, USA, September 8-10, 2008.

Andrew Smith, Bryce Evans, Zongpeng Li, Baochun Li. The Cost Advantage of Network Coding in Uniform Combinatorial Networks, in the Proceedings of the First IEEE Workshop on Wireless Network Coding (WiNC), San Francisco, California, USA, June 16, 2008.

Phillipa Gill, Martin Arlitt, Zongpeng Li, Anirban Mahanti. The Flattening Internet Topology: Natural Evolution, Unsightly Barnacles or Contrived Collapse, in the Proceedings of the Ninth Passive and Active Measurement Conference (PAM 2008), Cleveland, Ohio, April 29-30, 2008 (Best Paper Award).

Zongpeng Li. Cross-Monotonic Multicast, in the Proceedings of IEEE INFOCOM 2008, Phoenix, Arizona, April 15-17, 2008 (acceptance rate: 21%).

Phillipa Gill, Martin Arlitt, Zongpeng Li, Anirban Mahanti. Characterizing User Sessions on YouTube, in the Proceedings of the Fifteenth Annual Multimedia Computing and Networking Conference (MMCN 2008), San Jose, CA, January 30-31, 2008.

Phillipa Gill, Martin Arlitt, Zongpeng Li, Anirban Mahanti. YouTube Traffic Characterization: A View From the Edge, in the Proceedings of ACM IMC 2007, San Diego, CA, October 24-26, 2007 (acceptance rate: 24%).

Zongpeng Li, Baochun Li, Mea Wang. Optimization Models for Streaming in Multihop Wireless Networks, in the Proceedings of IEEE ICCCN 2007, Honolulu, Hawaii, August 13-16, 2007 (acceptance rate: 29%).

Zongpeng Li. Min-Cost Multicast of Selfish Information Flows, in the Proceedings of IEEE INFOCOM 2007, Anchorage, Alaska, May 6-12, 2007 (acceptance rate: 18%).

Liqi Shi, Phillipa Sessini, Anirban Mahanti, Zongpeng Li, Derek Eager. Scalable Streaming for Heterogeneous Clients, in the Proceedings of ACM Multimedia 2006, Santa Barbara, CA, October 22-27, 2006 (acceptance rate: 16%).

Zongpeng Li, Anirban Mahanti. A Progressive Flow Auction Approach for Low-Cost On-Demand P2P Media Streaming, in the Proceedings of the Third International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks (QShine 2006), Waterloo, Canada, August 7-9, 2006.

Zongpeng Li, Baochun Li. On Increasing End-to-end Throughput in Wireless Ad Hoc Networks, in the Proceedings of the Second International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks (QShine 2005), Orlando, Florida, August 22-24, 2005.

Mea Wang, Zongpeng Li, Baochun Li. A High-Throughput Overlay Multicast Infrastructure with Network Coding, in the Proceedings of IEEE IWQoS 2005, Passau, Germany, June 20-23, 2005 (acceptance rate: 26%, runner-up for Best Student Paper Award).

Jun Yuan, Zongpeng Li, Wei Yu, Baochun Li. A Cross-Layer Optimization Framework for Multicast in Multi-hop Wireless Networks, in the Proceedings of the First IEEE International Conference on Wireless Internet (Wicon 2005), Visegrad-Budapest, Hungary, July 10-15, 2005.

Zongpeng Li, Baochun Li, Dan Jiang, Lap Chi Lau. On Achieving Optimal Throughput with Network Coding, in the Proceedings of IEEE INFOCOM 2005, Miami, Florida, March 13 – 17, 2005 (acceptance rate: 17%).

Zongpeng Li, Baochun Li. Efficient and Distributed Computation of Maximum Multicast Rates, in the Proceedings of IEEE INFOCOM 2005, Miami, Florida, March 13 – 17, 2005 (acceptance rate: 17%).

Zongpeng Li, Baochun Li. Network Coding: The Case of Multiple Unicast Sessions, in the Proceedings of the 42nd Annual Allerton Conference on Communication, Control, and Computing, Monticello, Illinois, September 29 – October 1, 2004.

Mea Wang, Baochun Li, Zongpeng Li. sFlow: Towards Resource-Efficient and Agile Service Federation in Service Overlay Networks, in the Proceedings of IEEE ICDCS 2004, Tokyo, Japan, March 23 – 26, 2004 (acceptance rate: 17%).

Zongpeng Li, Baochun Li. Network Coding in Undirected Networks, in the Proceedings of the 38th Annual Conference on Information Sciences and Systems (CISS 2004), Princeton, New Jersey, March 17 – 19, 2004.

Zongpeng Li, Baochun Li, Dongyan Xu, Xin Zhou. iFlow: Middleware-assisted Rendezvous-based Information Access for Mobile Ad Hoc Applications, in the Proceedings of ACM/USENIX MobiSys 2003, San Francisco, CA, May 5 – 8, 2003 (acceptance rate: 15%).

BOOKS AND
BOOK
CHAPTERS

Linquan Zhang, Chuan Wu, Zongpeng Li, Chuanxiong Guo, Minghua Chen, Francis C. M. Lau. Moving Big Data to the Cloud: Online Cost-Minimizing Algorithms. *Networking for Big Data*, CRC Press, August 2015.

Jiaqing Huang, Zongpeng Li. Network Coding Principles (in Chinese). China Defense Industry Press, 2012.

Zongpeng Li, Hong Xu, Baochun Li. Network Coding in Bi-directed and Peer-to-Peer Networks. *Next-Generation Internet Architectures and Protocols*, Cambridge University Press, 2011.

DISSERTATIONS

Zongpeng Li. "On Achieving Optimal Throughput in Data Networks," *Ph.D. Dissertation*, Department of Electrical and Computer Engineering, University of Toronto, September 2005.

Zongpeng Li. "Non-blocking Implementation of Queues in Asynchronous Distributed Shared-memory Systems," *M.Sc. Dissertation*, Department of Computer Science, University of Toronto, August 2001.

SELECTED
CONFERENCE
SERVICES

- ◇ IEEE INFOCOM, Technical Program Committee, 2011 - 2017.
- ◇ ACM e-Energy, Technical Program Committee, 2016, 2017.
- ◇ IEEE Symposium on Network Coding (NetCod), General Chair, 2013; Session Chair, 2012; Publicity Chair, 2010, 2011; Technical Program Committee, 2010, 2013, 2015.
- ◇ IEEE IWQoS, TPC Co-Chair, 2018; Technical Program Committee, 2014; Finance Chair, 2004.
- ◇ IEEE International Conference on Multimedia and Expo 2015 (ICME 2015), Area Chair.
- ◇ ACM SIGCOMM International Measurement Conference 2014 (IMC 2014), Publications Chair.
- ◇ The 2013 BIRS Workshop on The Science of Network Coding, Co-Chair.
- ◇ IEEE/ACM MASCOTS, Technical Program Committee, 2010, 2011, 2013, 2015
- ◇ ACM SIGCOMM HotNets 2007, Publications Chair

TEACHING
EXPERIENCES

Course Instructor **2017**
Department of Computer Science, University of Calgary

- ◇ *CPSC 331, Data Structures and Algorithms*
- ▷ Second-year undergraduate course for Computer Science majors, on the subject of fundamental data structures, algorithm design and analysis. Topics covered include: Proof of correctness, abstract data structures, searching and sorting, hash tables, binary search trees and balanced binary search trees, graph algorithms: shortest path, minimum spanning trees, breadth first search, depth first search.

Course Instructor **2010, 2013, 2016**
Department of Computer Science, University of Calgary

◇ *CPSC 235, Advanced Introduction to Computer Science*

- ▷ First-year undergraduate course for Computer Science majors, on the subject of problem solving using computer programs, with both procedural and object oriented programming studied. This is a small scale class for talented and motivated students. Topics covered include most of those studied in CPSC 231 (Introduction to Computer Science I) and CPSC 233 (Introduction to Computer Science II). Two programming languages are introduced: Python and Java.

Course Instructor

2008, 2009, 2012

Department of Computer Science, University of Calgary

◇ *CPSC 231, Introduction to Computer Science I*

- ▷ First-year undergraduate course for Computer Science majors, on the subject of problem solving using computer programs. The language of teaching is Python. Topics covered include (1) variables, expressions, statements, (2) functions, (3) conditionals, (4) iterations, (5) strings, lists, dictionaries, tuples, (6) modules and files, (7) recursion and exceptions, (8) classes and objects and (9) Python in research.

Course Instructor

2006-2008, 2015

Department of Computer Science, University of Calgary

◇ *CPSC 441, Computer Communications*

- ▷ Third-year undergraduate course on the principles and practices of computer networking. Topics covered include network protocol stack, reliable data transfer, congestion control, routing algorithms, media access control and delay analysis.

Course Instructor

2006, 2007, 2015, 2016

Department of Computer Science, University of Calgary

◇ *CPSC 599/601, Network Coding*

- ▷ Cross-listed graduate and undergraduate course on the studies of the theory, algorithms, and applications of network coding, an emerging research area at the intersection of computer science and information theory.

Course Instructor

2007

Department of Computer Science, University of Calgary

◇ *CPSC 599.20, Special Topics in CS: Algorithmic Game Theory*

- ▷ Summer course offered jointly by Dr. Lisa Higham and myself in 2007. Topics covered include basic concepts and models in game theory, Nash Equilibrium, Mixed Equilibrium, Mechanism Design, applications of game theory in computer networks.

Course Instructor

2009-2010

Department of Computer Science, University of Calgary

◇ *CPSC 601.39, Network Flows and Network Information Flows*

- ▷ Graduate course in computer science. Topics covered include basic concepts and models and algorithms in network flows, multicast trees and network coding, as well as recent research on the optimization and application of network information flows.

Course Instructor

2008, 2015

Department of Computer Science, University of Calgary

◇ *CPSC 503, Project Course, Investigating the Potential of Network Coding in Improving Multi-*

cast Throughput

- ▷ Project based course offered in Winter 2008 to a team of two undergraduate students, both working for their double major in Computer Science and Pure Mathematics. In this project, the students will exercise theoretical (mathematical proofs), analytical (modelling of computer networks and information flows), and experimental (writing computer programs to create random networks, formulate and solve routing linear programs) skills. Positive results from the project will advance the state-of-the-art knowledge in network coding research.

Teaching Assistant

1999-2005

- ◇ Department of Computer Science, University of Toronto
- ◇ Department of Electrical and Computer Engineering, University of Toronto
- ▷ *Discrete Mathematics*
- ▷ *Data Structure and Algorithms*
- ▷ *Computability and Complexity*
- ▷ *Distributed Systems*
- ▷ *Introduction to Programming*
- ▷ *Computer Graphics*
- ▷ *Compilers and Interpreters*
- ▷ *Computer Organization*

HQP
TRAINING

Graduate Students

- ▷ Yining Zhang, MSc, 2017 - current
- ▷ Rong Jiang, MSc, 2016 - current
- ▷ Zijun Zhang, PhD, 2015 - current
- ▷ Ruiting Zhou, PhD, 2014 - current
- ▷ Rui Zhu, PhD, 2014 - current (co-supervised with Di Niu at University of Alberta)
- ▷ Sijia Gu, MSc, 2014 - 2016
- ▷ Akshita Tyagi, MSc, 2014 - 2016
- ▷ Shunyi Xu, MSc, 2014 - 2015
- ▷ Wei Fang, MSc, 2014 - 2016
- ▷ Maryam Soleimani, MSc, 2014 - 2016
- ▷ Yuhui Lin, MSc, 2014 - 2016
- ▷ Yao Zhao, MSc, 2013 - 2015
- ▷ Linqun Zhang, PhD, 2012 - 2016
- ▷ Haoming Fu, MSc, 2012 - 2014
- ▷ Tongjie Zhang, PhD, 2009 - 2014 (co-supervised with Rei Safavi-Naini)
- ▷ Ming He, MSc, 2011 - 2013
- ▷ Ruiting Zhou, MSc, 2010 - 2012 (co-supervised with Carey Williamson)
- ▷ Tang Xiahou, MSc, 2010 - 2012
- ▷ Shambhavi Srinivasa, MSc, 2009 - 2011 (co-supervised with Carey Williamson)
- ▷ Ajay Gopinathan, PhD, 2006 - 2011
- ▷ Shreya Maheshwar, MSc, 2008 - 2010

- ▷ Song Zhang, MSc, 2008 - 2010
- ▷ Parthasarathy Ramanujam, MSc, 2007 - 2009 (co-supervised with Lisa Higham)
- ▷ Phillipa Gill, MSc, 2005 - 2007, (co-supervised with Anirban Mahanti)

Post-doc Fellows

- ▷ Xunrui Yin, 2013 - 2016
- ▷ Hanan Shpungin, 2009 - 2011
- ▷ Nissan Lev-tov, 2009