Curriculum Vitae – Dr. Zheng Chen

Contact Information:
Communication Systems Division
Department of Electrical Engineering (ISY)
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EDUCATION

- **12/2013 - 12/2016:** Ph.D. in Telecommunications
  Department of Telecommunications, CentraleSupélec, University of Paris-Saclay, France
  Thesis: Device-Centric Content-Aware Communication in Wireless Networks
  Supervisor: Prof. Marios Kountouris
- **09/2011 - 09/2013:** M.Sc. in Information Systems and Technologies
  ENS Cachan - University Paris-Sud - CentraleSupélec, France
  Major : Advanced Wireless Communications Systems
- **09/2007 - 06/2011:** B.Sc. in Electrical **&** Opto-electronic Engineering
  Huazhong University of Science and Technology, China
  Major: Opto-electronic Information Engineering

RESEARCH INTERESTS

Stochastic modeling and analysis, cross-layer control and optimization, queueing analysis, energy harvesting, wireless edge caching, machine-type communication, distributed massive MIMO.

RESEARCH EXPERIENCE

- **01/2017 - Present:** Linköping University, Campus Valla, Sweden
  Postdoctoral Researcher, Division of Communication Systems, Department of Electrical Engineering.
  Advisors: Prof. Erik G. Larsson and Prof. Emil Björnson
- **06/2016 - 07/2016:** Linköping University, Campus Norrköping, Sweden
  Visiting Researcher, Mobile Telecommunications Group, Department of Science and Technology
  Collaborating with Prof. Nikolaos Pappas and Prof. Vangelis Angelakis.
- **06/2015 - 11/2015:** Singapore University of Technology and Design (SUTD), Singapore
  Visiting Scholar, Wireless Networks and Decision Systems Group
  Collaborating with Prof. Tony Quek and Prof. Jemin Lee.
- **04/2013 - 09/2013:** Alcatel-Lucent (now Nokia) Bell Labs, Nozay, France
  Research Intern, Multimedia Group
  Topic: SoftCast – video encoder design for reliable distribution of multimedia content to mobile devices.
- **06/2012 - 09/2012:** Laboratoire des Signaux et Systèmes (L2S), Gif-sur-Yvette, France
  Research Intern, under the supervision of Prof. Michel Kieffer
  Topic: Modelling the image reconstruction errors in video coding with retransmission.

PEDAGOGICAL EXPERIENCE

- Course director and lecturer of Ph.D. course **Stochastic Network Optimization** (4 ECTS), Linköping University, spring 2019.
- Tutorial and lab assistant of M.Sc. course **TSKS15 Detection and Estimation of Signals**, Linköping University, fall 2019.
- Tutorial assistant of M.Sc. course **TSDT14 Signal Theory**, Linköping University, 2017-2018.

AWARDS

- Ericsson Travel Grant, May 2019.
- Best Reviewer for IEEE Transactions on Wireless Communications in 2017.
- Knut and Alice Wallenberg Travel Grant, May 2017.
- Exemplary Reviewer for IEEE Communications Letters in 2016.
- International Mobility Grant for PhD Students, University of Paris-Saclay, June 2016

PUBLICATIONS

• Book Chapters

[B1] **Z. Chen**, N. Pappas, M. Kountouris, "Stochastic Caching Schemes in Large Wireless Networks", invited chapter in "Wireless Edge Caching: Modelling, Analysis, and Optimization", Cambridge University Press, 2019.

• Journal Articles

[J10] **Z. Chen**, N. Pappas, E. Björnson, E. G. Larsson, "Optimal Control of Status Updates in a Multiple Access Channel with Stability Constraints", submitted, 2019.

[J9] **Z. Chen**, E. Björnson, E. G. Larsson, "Dynamic Resource Allocation in Co-Located and Cell-Free Massive MIMO", in *IEEE Transactions on Green Communications and Networking*, 2019.

[J8] B. Chen, **Z. Chen**, N. Pappas, Di Yuan, J. Zhang, "LTE-WLAN Aggregation with Bursty Data Traffic and Randomized Flow Splitting", in *IEEE Access*, vol. 7, pp. 24667-24678, 2019.

[J7] **Z. Chen**, E. Björnson, "Channel Hardening and Favorable Propagation in Cell-Free Massive MIMO", in *IEEE Transactions on Communications*, vol. 66, no. 11, pp. 5205-5219, Nov. 2018.

[J6] **Z. Chen**, E. Björnson, E. G. Larsson, "When is the Achievable Rate Region Convex in Two-User Massive MIMO Systems?", in *IEEE Wireless Communication Letters*, vol. 7, no. 5, pp. 796-799, Oct. 2018.

[J5] **Z. Chen**, M. Kountouris, "Decentralized Opportunistic Access for D2D Underlaid Cellular Networks", in *IEEE Transactions on Communications*, vol. 66, no. 10, pp. 4842-4853, Oct. 2018.

[J4] **Z. Chen**, N. Pappas, M. Kountouris, V. Angelakis, "Throughput with Delay Constraints in a Shared Access Network with Priorities", in *IEEE Transactions on Wireless Communications*, vol. 17, no. 9, pp. 5885-5899, Sept. 2018.

[J3] N. Pappas, **Z. Chen**, I. Dimitriou,"Throughput and Delay Analysis of Wireless Caching Helper Systems with Random Availability", in *IEEE Access*, vol. 6, pp. 9667-9678, 2018.

[J2] **Z. Chen**, J. Lee, T. Q. S. Quek, M. Kountouris, "Cooperative Caching and Transmission Design in Cluster-Centric Small Cell Networks", in *IEEE Transactions on Wireless Communications*, vol. 16, no. 5, pp. 3401-3415, May 2017.

[J1] **Z. Chen**, N. Pappas, M. Kountouris, "Probabilistic Caching in Wireless D2D Networks: Cache Hit Optimal vs. Throughput Optimal", in *IEEE Communications Letters*, vol. 21, no. 3, pp. 584-587, Mar. 2017.

• Conference Papers

[C14] G. Smpokos, N. Pappas, **Z. Chen**, P. Mohapatra, "Wireless Caching Helper System with Heterogeneous Traffic and Secrecy Constraints", in *IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, 2019.

[C13] **Z. Chen**, N. Pappas, E. Björnson, E. G. Larsson, "Age of Information in a Multiple Access Channel with Heterogeneous Traffic and an Energy Harvesting Node", in *IEEE INFOCOM Workshops*, 2019.

[C12] **Z. Chen**, E. Björnson, E. G. Larsson, "Dynamic Scheduling and Power Control in Uplink Massive MIMO with Random Data Arrivals", in *IEEE International Conference on Communications (ICC)*, 2019.

[C11] B. Chen, **Z. Chen**, N. Pappas, Di Yuan, J. Zhang, "LTE-WLAN Aggregation with Bursty Data Traffic and Randomized Flow Splitting", in *IEEE International Conference on Communications (ICC)*, 2019.

[C10] N. Pappas, **Z. Chen**, I. Dimitriou, "Network-level Cooperation in Random Access IoT Networks with Aggregators", in *30th International Teletraffic Congress (ITC 30)*, Vienna, 2018, pp. 245-253.

[C9] **Z. Chen** and E. Björnson, "Can We Rely on Channel Hardening in Cell-Free Massive MIMO?," *IEEE Globecom Workshops (GC Wkshps)*, Singapore, 2017, pp. 1-6.

[C8] B. Chen, **Z. Chen**, N. Pappas, Di Yuan, J. Zhang, "Modeling and Analysis of MPTCP Proxy-based LTE-WLAN Path Aggregation", *IEEE Global Communications Conference (Globecom)*, Singapore, 2017, pp. 1-7.

[C7] **Z. Chen**, N. Pappas, M. Kountouris, "Energy Harvesting in Delay-Aware Cognitive Shared Access Networks", in *IEEE International Conference on Communications Workshops (ICCW)*, 2017.

[C6] **Z. Chen**, M. Kountouris, "D2D caching vs. small cell caching: where to cache content in a wireless network?", in *IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Edinburgh, United Kingdom, 2016, pp. 1-6.

[C5] **Z. Chen**, N. Pappas, M. Kountouris, V. Angelakis, "Throughput analysis of smart objects with delay constraints", *IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM)*, Coimbra, Portugal, 2016, pp. 1-6.

[C4] **Z. Chen**, J. Lee, T. Q. S. Quek and M. Kountouris, "Cluster-centric cache utilization design in cooperative small cell networks", in *IEEE International Conference on Communications (ICC)*, Kuala Lumpur, Malaysia, 2016, pp. 1-6.

[C3] **Z. Chen**, M. Kountouris, "Cache-enabled small cell networks with local user interest correlation", in *IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Stockholm, Sweden, 2015, pp. 680-684.

[C2] **Z. Chen**, M. Kountouris, "Guard zone based D2D underlaid cellular networks with two-tier dependence", in *IEEE International Conference on Communication Workshop (ICCW)*, London, UK, 2015, pp. 222-227.

[C1] **Z. Chen**, M. Kountouris, "Distributed SIR-aware opportunistic access control for D2D underlaid cellular networks", in *IEEE Global Communication Conference (Globecom)*, Austin, TX, 2014, pp. 1540-1545.

PROFESSIONAL ACTIVITIES

- **Served as technical program committee (TPC) member for:**
  - 2020 IEEE International Conference on Communications (ICC).
  - 2019 IEEE Global Communications Conference (GLOBECOM).
  - 2019 IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC).
  - 2018 IEEE Vehicular Technology Conference(VTC)-Fall.
  - 2018 IEEE GLOBECOM.
  - 2018 IEEE PIMRC.
  - 2017 IEEE GLOBECOM.
  - 2017 IEEE PIMRC.
- **Served as peer reviewer for the following journals:**
  - IEEE Journal on Selected Areas in Communications (JSAC)
  - IEEE Transactions on Wireless Communications (TWC)
  - IEEE Transactions on Communications (TCOM)
  - IEEE Transactions on Mobile Computing (TMC)
  - IEEE Transactions on Vehicular Technology (TVT)
  - IEEE Wireless Communications Letters
  - IEEE Communications Letters
  - EURASIP Journal on Wireless Communications and Networking