

Augustin Chaintreau

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- EDUCATION**
- INRIA-Ecole Normale Supérieure** Paris, France
Ph.D. in Computer Science, Advisor: François Baccelli. Jan. 2006
- Université Pierre et Marie Curie** Paris, France
DEA [M.Sc.] “Probability and Applications”, mention bien [with honors]. June 2002
- Ecole Normale Supérieure** Paris, France
Magistère [B.Sc] “Pure and Applied Maths, and Computer Science”. June 2001
- EXPERIENCE**
- Columbia University** New York, USA
Assistant Professor, Dept of Computer Science Sep. 2010 - Present
- Thomson/Technicolor Research Lab** Paris, France
Member of technical staff Oct. 2005 - July 2010
- Intel Research** Cambridge, UK
Research intern Sep. 2004 - Aug. 2005
- IBM Research** Hawthorne, NY, USA
Research intern July 2003 - Jan. 2004
- Chennai Mathematical Institute** Chennai, India
Visiting Lecturer July 2001 - Oct. 2001
- Sprintlabs** San Francisco, CA, USA
Research intern Sep. 1999 - Mar. 2000
- DISTINCTIONS**
- **Best paper award at ACM SIGMETRICS** 2009, “The Age of Gossip: Spatial Mean Field Regime”, A. Chaintreau, J.-Y. Le Boudec and N. Ristanovic.
 - **Best paper award at ACM CoNEXT** 2007, “The Diameter of Opportunistic Mobile Networks”, A. Chaintreau, A. Mtibaa, C. Diot and L. Massoulié.
 - Nomination for **best paper award at IEEE INFOCOM** 2001, “Impact of TCP-like congestion control on the throughput of multicast groups”, A. Chaintreau, F. Baccelli and C. Diot.
 - French finalist for the **Cor Baayen Award** 2008, given by the European Research Consortium for Informatics and Mathematics.
 - Ph.D Dissertation among 2 receiving honorable mention for **Prix de thèse SPECIF Gilles Kahn** 2006, [Ph.D Award for best dissertation in computer science in France, endorsed by the French Science Academy].
 - Member of **Corps des Mines** since 2002 (3 positions offered each year to ENS students).
 - Accepted in 1998 to **Ecole Normale Supérieure** ENS-Ulm in Mathematics (among 40 highest-ranked applicants at national entrance examination).

1. J. He, A. Chaintreau and C. Diot. A performance evaluation of scalable live video streaming with nano data centers. *Elsevier Computer Networks*, volume 53 issue 2, 2008. (15 pages)
2. A. Chaintreau, P. Hui, J. Scott, R. Gass, J. Crowcroft, and C. Diot. Impact of human mobility on opportunistic forwarding algorithms. *IEEE Trans. Mob. Comp.*, 6(6):606–620, 2007. (15 pages)
3. F. Baccelli, A. Chaintreau, D. De Vleeschauwer, and D. R. McDonald. HTTP turbulence. *AIMS Networks and Heterogeneous Media*, 1(1):1–40, 2006. (40 pages)
4. A. Chaintreau and D. De Vleeschauwer. A closed form formula for long-lived TCP connections throughput. *Perform. Eval.*, 49(1-4):57–76, 2002. (20 pages)
5. A. Chaintreau, F. Baccelli, and C. Diot. Impact of TCP-like congestion control on the throughput of multicast groups. *IEEE/ACM Trans. Netw.*, 10(4):500–512, 2002. (13 pages)

Refereed Conferences

6. V. Misra, S. Ioannidis, A. Chaintreau and L. Massoulié. Incentivizing Peer-Assisted Services: A Fluid Shapley Value Approach. In *Proceedings of ACM SIGMETRICS*, June 2010. (12 pages)
7. S. Ioannidis, L. Massoulié and A. Chaintreau. Distributed Caching over Heterogeneous Mobile Networks. In *Proceedings of ACM SIGMETRICS*, June 2010. (12 pages)
8. J. Reich and A. Chaintreau. The Age of Impatience: Optimal Replication Schemes for Opportunistic Networks. In *Proceedings of ACM CoNEXT*, Dec. 2009. (12 pages)
9. J. Reich and A. Chaintreau. Replication Schemes for Opportunistic Networks with Impatient Users. In *Proceedings of Allerton*, Sep. 2009. (invited paper) (6 pages)
10. A. Chaintreau J.-Y. Le Boudec and N. Ristanovic. The Age of Gossip: Spatial Mean Field Regime. In *Proceedings of ACM SIGMETRICS*, June 2009. (12 pages) (see Distinctions).
11. S. Ioannidis, A. Chaintreau and L. Massoulié, Optimal and Scalable Distribution of Content Updates over a Mobile Social Network. In *Proceedings of IEEE INFOCOM*, Apr. 2009. (9 pages)
12. A. Chaintreau, P. Fraigniaud, and E. Lebhar. Networks become navigable as people move and forget. In *Proceedings of ICALP*, July 2008. (12 pages)

13. A. Chaintreau. Sharpness: a tight condition for throughput scalability. In *Proceedings of SIROCCO*, June 2008. (15 pages)
14. V. Erramilli, A. Chaintreau, M. Crovella, and C. Diot. Delegation forwarding. In *Proceedings of ACM MobiHoc*, May 2008. (9 pages)
15. A. Chaintreau and L. Massoulié. Phase transition in opportunistic mobile networks. In *Proceedings of IEEE International Zurich Seminar on Communication*, Mar. 2008. (invited paper) (4 pages)
16. A. Chaintreau, A. Mtibaa, L. Massoulié, and C. Diot. The Diameter of opportunistic mobile networks. In *Proceedings of ACM CoNEXT*, Dec. 2007. (12 pages) (see Distinctions).
17. V. Erramilli, A. Chaintreau, M. Crovella, and C. Diot. Diversity of forwarding paths in pocket switched networks. In *Proceedings of ACM/USENIX Internet Measurement Conference*, Oct. 2007. (13 pages)
18. B. Kauffmann, F. Baccelli, A. Chaintreau, V. Mhatre, D. Papagiannaki, and C. Diot. Measurement-based self organization of interfering 802.11 wireless access networks. In *Proceedings of IEEE INFOCOM*, Apr. 2007. (9 pages)
19. A. Chaintreau, P. Hui, J. Scott, R. Gass, J. Crowcroft, and C. Diot. Impact of human mobility on opportunistic forwarding algorithms. In *Proceedings of IEEE INFOCOM*, Apr. 2006. (13 pages)
20. F. Baccelli, A. Chaintreau, Z. Liu, and A. Riabov. The one-to-many TCP overlay: A scalable and reliable multicast architecture. In *Proceedings of IEEE INFOCOM*, May 2005. (12 pages)
21. F. Baccelli, A. Chaintreau, D. De Vleeschauwer, and D. R. McDonald. A Mean-Field Analysis of Short Lived Interacting TCP Flows In *Proceedings of ACM SIGMETRICS*, June 2004. (12 pages)
22. F. Baccelli, A. Chaintreau, Z. Liu, A. Riabov, and S. Sahu. Scalability of reliable group communication using overlays. In *Proceedings of IEEE INFOCOM*, Apr. 2004. (12 pages)
23. A. Chaintreau, F. Baccelli, and C. Diot. Impact of window-flow control on the throughput of multicast groups. In *Proceedings of IEEE INFOCOM* Apr. 2001. (10 pages) (see Distinctions).

Refereed Workshops

24. K.-W. Kwong, A. Chaintreau, and R. Guerin. Quantifying content consistency improvements through opportunistic contacts. In *Proceedings of ACM Workshop on Challenged Networks (CHANTS)*, Sep. 2009. (8 pages)
25. S. Ioannidis and A. Chaintreau. On the strength of weak ties in mobile social networks. In *Proceedings of the Second ACM Workshop on Social Network Systems (SNS)*, Mar. 2009. (7 pages)

26. A. Chaintreau, P. Fraigniaud, and E. Lebhar. Opportunistic spatial gossip over mobile social networks. In *Proceedings of ACM SIGCOMM Workshop on Online Social Network (WOSN)*, Aug. 2008. (6 pages)
27. A. Mtibaa, A. Chaintreau, J. LeBrun, E. Oliver, A-K. Pietilainen, and C. Diot. Are you moved by your social networks application? In *Proceedings of ACM SIGCOMM Workshop on Online Social Network (WOSN)*, Aug. 2008. (6 pages)
28. P. Hui, A. Chaintreau, J. Scott, R. Gass, J. Crowcroft, and C. Diot. Pocket switched networks and the consequences of human mobility in conference environments. In *Proceedings of ACM SIGCOMM first workshop on delay tolerant networking and related topics (WDTN)*, 2005. (6 pages)

INVENTIONS

Patents issued

1. US Patent (number pending), *Multimedia content delivery and system* (inventors: A. Boudani, A. Chaintreau, M.-L. Champel, C. Diot, P. Houeix, C. Neumann, A. Soule, K. Suh), filed Mar. 2008, to be issued Mar. 2010.
2. US Patent 7,355,975, *Method and apparatus for group communication with end-to-end reliability* (inventors: F. Baccelli, A. Chaintreau, Z. Liu, A. Riabov), filed Apr. 2004, issued Apr. 2008.

Patents filed

1. *Optimal Distributed Caching Policies for Content Sharing over Heterogeneous Mobile Networks* (inventors: S. Ioannidis, L. Massoulie, A. Chaintreau), filed Mar. 2010.
2. *Device and method for controlling dissemination of data by transfer of sets of instructions between peers having wireless communication capacities* (inventors: A. Chaintreau, J. Reich), filed May 2009.
3. *Device and method for controlling dissemination of contents between peers having wireless communication capacities, depending on impatience reaction functions* (inventors: A. Chaintreau, J. Reich), filed May 2009.
4. *Method for disseminating content in a mobile ad hoc network* (inventors: A. Chaintreau, J.-Y. Le Boudec) filed May 2009.
5. *Devices, system and method for computing an optimal family of k n -dimensional vectors of content injection rates for user communication equipments* (inventors: A. Chaintreau, K.-W. Kwong, S. Ioannidis, L. Massoulie), filed Nov. 2008.
6. *Representation of optimal delay path in mobile networks* (inventor: A. Chaintreau), filed Aug. 2006.

TEACHING

- Spring 2011: Columbia University
COMS 6998-2: Analysis of social information networks.
- Spring 2010: Ecole Normale Supérieure, Paris, France.
Computer Networks (with F. Baccelli).
- Spring 2007: Ecole Normale Supérieure, Paris, France.
Computer Networks (with F. Baccelli, M. Lelarge).
- Fall 2001: Chennai Mathematical Institute, Chennai, India.
Introductory undergraduate course on probability.

GRADUATE SUPERVISIONS

- Nikodin Ristanovic Mar. 2010-July 2010 Ph.D student, EPFL
- Sibren Isaacman Sep. 2009-Jan. 2010 Ph.D student, Princeton U.
- Nathalie Barbuscia Feb. 2009-Aug. 2009 Master student, EPFL
now at bank Lombard Odier
- Josh Reich Oct. 2008-Mar. 2009 Ph.D student, Columbia U.
- Kin-Wah Kwong June 2008-Oct. 2008 Ph.D student, U. Pennsylvania
- Stratis Ioannidis Nov. 2007-Mar. 2008 Ph.D student, U. of Toronto
now post-doc at Thomson
won the student research competition at **ACM Mobicom 2008**
won 2nd prize (graduate) at the 2009 **ACM SRC Grand Finals**
- Vijay Erramilli May 2006-Oct. 2006 Ph.D student, Boston U.
now at Telefonica Labs
- Jiayue He June 2006-Nov. 2006 Ph.D student, Princeton U.
now at McKinsey

FUNDING

- 2009-2010: Principal Investigator for PROSE, a 3-year basic research project funded by Agence Nationale de la Recherche Coordinated the project proposal and year 1 for a 6 partner consortium (Thomson, INRIA, Eurécom, Telecom Paris Tech, Université Paris 7 and the startup PlayAdz).
- 2006-2010: co-Principal Investigator for HAGGLE, a 4-year basic research project funded by European Union's Framework Programme 6.

TALKS

- Invited speaker, *73rd Annual Meeting of the Institute of Mathematical Statistics*, Aug. 2010.
- Invited speaker, *17th Applied Probability Day*, Columbia University, June 2010.
- Invited speaker, *3rd MITACS Workshop on Learning in Networked Systems*, Bellairs Research Institute, McGill U., Mar. 2010.
- Invited speaker, *5th Workshop on Information Theory and Applications (ITA)*, UCSD, Feb. 2010.
- Invited speaker, *Workshop on "New Mathematical Frontiers in Network Multi-Resolution Analysis"*, Institute for Pure and Applied Mathematics, UCLA, Nov. 2008.
- Invited speaker, *1st International workshop on Mobility, Algorithms and Graph theory in dynamic networks (IMAGINE)*, Sep. 2007.

- Tutorial “Opportunistic Mobile Networks”, *Summer School RESCOM*, June 2007.
- Invited speaker, *16th International Symposium on Mathematical Theory of Networks and Systems (MTNS)*, July 2004.

Seminars

- Google, New York Dec. 2010
- Technicolor Opening day, Palo Alto Nov. 2010
- Kazakh-British Technical University, Almaty Sep. 2010
- University of Southern California Mar. 2010
- Columbia University Mar. 2010
- University of Toronto Nov. 2009
- University of Waterloo Nov. 2009
- McGill University Nov. 2009
- University of Illinois at Urbana Champaign Sep. 2009
- Ecole Polytechnique Fédérale de Lausanne Sep. 2009
- University of Southern California June 2009
- California Institute of Technology June 2009
- INRIA Sophia Antipolis May 2009
- Princeton University Dec. 2008
- University of Southern California, Nov. 2008
- University of Toronto, Aug. 2008
- Ecole Polytechnique Fédérale de Lausanne June 2008
- Boston University Dec. 2007
- University of California San Diego June 2007
- University of Cambridge, UK May 2006
- Ecole Normale Supérieure, Paris, talk for the entering class Sep. 2004
- Université Paris 7 Denis Diderot June 2004
- IBM T. J. Watson Apr. 2004
- Columbia University June 2002
- IBM T. J. Watson June 2002
- Indian Inst. Tech. (IIT), Chennai Sep. 2001
- Indian Inst. Tech. (IIT), Tata Inst. for Fund. Res. (TIFR), Mumbai Sep. 2001
- Indian Inst. Science (IISc), Bangalore Sep. 2001
- Indian Inst. Tech. (IIT), Indian Statistical Inst. (ISI) Delhi Sep. 2001

SERVICE

- Area editor, ACM Mobile Computing and Communication Review
- Area editor, ACM Computer Communication Review
- Program Committee, ACM CoNEXT 2011
- Program Committee, ACM IMC 2011
- Program Chair, Workshop ACM FOMC 2011
- Program Committee, IEEE ISIT 2011
- Program Committee, ACM Sigcomm 2011
- Program Committee, ACM Sigmetrics 2011
- Program Committee, ACM CoNEXT 2010
- Program Committee, ACM Sigcomm 2010
- Program Committee, ACM MobiHoc 2010
- Program Committee, ACM Sigmetrics 2010
- Program Committee, ACM CoNEXT 2009

- Program Committee, ACM Mobicom 2009
- Program Committee, ACM Sigcomm 2009
- Program Chair, Algotel 2009
- Program Committee, IEEE Infocom 2009
- Program Committee, ACM CoNEXT 2008
- Program Chair, Workshop NET-COOP 2008
- Program Committee, IEEE Infocom 2008
- Program Committee, ACM CoNEXT 2007
- Program Committee, IEEE Infocom 2007
- Program Committee, ACM CoNEXT 2006

- Student Activity Chair, ACM Sigmetrics 2010
- Co-organized the Student Shadow Program Committee, ACM Sigmetrics 2010
- Co-organized the Student Shadow Program Committee, ACM CoNEXT 2008
- Founded and organized, with R. Teixeira and A. Soule, www.paris-networking.org, a website that promotes community events, followed monthly by 380 members.

REFERENCES

Available upon request.