

Marc Lelarge

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EDUCATION

HDR in Computer Science

Ecole Normale Supérieure

Title: Topics in random graphs, combinatorial optimization and statistical inference. 2015

Reviewers: Francis Comets (Paris 7), Bruce Hajek (UIUC), Remco van der Hofstad (Eindhoven University of Technology).

Ph.D. in Applied Mathematics

Ecole Polytechnique

Title: Rare events in networks. Advisor: Prof. F. Baccelli 2005

Reviewers: Venkat Anantharam (UC Berkeley), Sem Borst (CWI), Neil O'Connell (University of Warwick).

M.S. in Probability (with highest honors)

Université Paris VI Pierre et Marie Curie

2001

Diplôme d'Ingénieur

Ecole Nationale Supérieure des Télécommunications, Paris, France

2001

Majors: communication networks and statistics.

Diplôme d'Ingénieur

Ecole Polytechnique, Palaiseau, France

1999

Majors: computer science and applied mathematics.

PROFESSIONAL EXPERIENCE

Part-time Professor, **Ecole Polytechnique**

since 2018

Deep learning lecturer

Research scientist, **INRIA - Ecole Normale Supérieure**

Paris, France

Head of DYOGENE project-team

since 2013

Deep learning lecturer at ENS

since 2017

Member of TREC project-team

2006-2013

Research scientist, **SAFRAN**

January-December 2017

Industrial data analytics

Acting Assistant Professor, **Stanford University**

September-December 2011

Department of Electrical Engineering

Post-Doctoral Fellow, **University College Cork**

2005-2006

Department of Mathematics, Boole Centre for Research in Informatics, Cork, Ireland.

Research Staff Member, **IBM Watson Research Center**

2004-2005

System Analysis and Optimization group, New York, USA

TEACHING

<i>Deep Learning: Do-It-Yourself</i> , with Florent Krzakala and Andrei Bursuc graduate course, Ecole Normale Supérieure, http://www.di.ens.fr/~lelarge/dldiy/ .	2017
<i>Aléatoire</i> , (tutorial classes) math undergraduate course given by Sylvie Méléard, Ecole Polytechnique.	2016
<i>Networks: distributed control and emerging phenomena</i> , (tutorial classes) math/cs graduate course given by Laurent Massoulié, Ecole Polytechnique.	2015
<i>Models and algorithms for networks</i> , with Ana Basic math/cs graduate course, Ecole Normale Supérieure.	2015
<i>Algorithms for Networked Information</i> Master Advanced Communication Networks, Telecom ParisTech and Ecole Polytechnique.	2016, 2015, 2014
<i>Algorithms for social networks</i> math/cs graduate course, Ecole Normale Supérieure.	2013
<i>Information theory and coding</i> math/cs undergraduate course, Ecole Normale Supérieure.	2014,2013,2012,2011,2010,2009
<i>Random structures and algorithms</i> , with Pierre Brémaud math/cs undergraduate course, Ecole Normale Supérieure.	2009
<i>Communication networks</i> , with François Baccelli and Augustin Chaintreau math/cs undergraduate course, Ecole Normale Supérieure.	2007

SUPERVISED STUDENTS

PhD students

• Alexis Galland (co-supervised with Florent Krzakala)	2017-
• Léo Miolane	2016-
• Alexandre Holloco (co-supervised with Thomas Bonald)	2015-
• Lennart Gulikers (co-supervised with Laurent Massoulié, now Safran) Sur deux problèmes d'apprentissage automatique: détection de communautés et appariement adaptatif	2014-2017
• Mathieu Leconte (co-supervised with Laurent Massoulié, now Huawei) Load-balancing and resource-provisioning in large distributed systems	2011-2013
• Emilie Coupechoux (now professeur en classes préparatoires) Analysis of Large Random Graphs	2009-2012
• Justin Salez (now University Paris 7 Paris Diderot) Some implications of local weak convergence for sparse random graphs	2008-2012
• Hamed Amini (now University of Miami) Epidemics and percolation in random networks	2007-2011

Postdoctoral fellows

• Arpan Mukhopadhyay (co-supervised with Nidhi Hegde (Nokia), now EPFL)	2016-2017
• Emilie Kaufmann (now CNRS)	2014-2015
• Mustafa Khandawala (now research engineer at Zalando)	2014-2015
• Se-Young Yun (now KAIST)	2014-2015

HONORS AND AWARDS

Best Publication Award, INFORMS Applied Probability Society with Mohsen Bayati and Andrea Montanari	2015
ACM Sigmetrics Rising Star Researcher Award	2012
NetGCooP Best Paper award co-authored with Emilie Coupechoux	2011
Visiting Fellow at the Isaac Newton Institute of Mathematical Sciences	2010
"Prime d'excellence scientifique" INRIA	2009-2016
Postdoctoral fellowship (Institut Mittag-Leffler) from the Royal Swedish Academy of Science	2004

PROFESSIONAL SERVICE

Editorial Duties

<i>Associate editor</i> , IEEE's Transactions on Network Science and Engineering	2014-pres
<i>Associate editor</i> , Bernoulli Journal	2013-2017
<i>Associate editor</i> Queueing Systems	2012-2017

Program Chair and Committee

<i>Technical Program Committee co-chair</i> ACM Sigmetrics	2014
ACM MOBIHOC	2016
ICALP	2016
INFOCOM	2016,2017
WAW	2015
ACM SIGMETRICS	2016,2013,2009
ESA	2014
WiOpt	2015,2014,2013
WEIS	2015,2014
GameSec	2012
NetCoop	2009,2008
Inter-Perf	2007

Invited Referee for Journals and Conferences

- **Probability and Statistics:** Annals of Probability, Annals of Applied Probability, Stochastic Processes and their Applications, Journal of Applied Probability, Random Structures & Algorithms, Journal of Combinatorial Theory Series A, Electronic Journal of Statistics.
- **Mathematical Physics:** Journal of Statistical Physics, Journal of Mathematical Physics, Physica A: Statistical Mechanics and its Applications.
- **Optimization, Operations Research:** Mathematics of Operations Research, Operations Research, SIAM Journal on Discrete Mathematics, Discrete Applied Mathematics, SIAM Journal on Applied Mathematics, Mathematical Methods of Operations Research, Surveys in Operations Research and Management Science, Information Processing Letters
- **Networks:** Queueing Systems: Theory and Applications, Performance Evaluation, IEEE/ACM Transactions on Networking, IEEE/ACM Transactions on Information Theory, IEEE Journal on Selected Areas in Communications, ACM Transactions on Information and Systems Security, ACM Transactions on Internet Technology, IEEE Transactions on Mobile Computing, IEEE Transactions on Systems, Man and Cybernetics, Computer Networks, Journal of Economic Dynamics and Control, IEEE Transactions on Emerging Topics in Computing.

- **Conferences:** ICML, NIPS, AISTATS, COLT, INFOCOM, NetCoop, ISIT, SODA, ITW, SEA, ICALP, FOCS

Grant proposal review

The Engineering and Physical Sciences Research Council (EPSRC, UK)
 Swiss National Science Foundation
 Netherlands Organisation for Scientific Research (NWO)

Dissertation Committees

Reviewer for PhD: Arun Kadavankandy (INRIA)	2017
Reviewer for PhD: Kevin Scaman (ENS Cachan)	2016
Reviewer for PhD: Van Hao Can (université Aix-Marseille)	2016
External Examiner for PhD: Lucas Mercier (Université de Lorraine)	2016
External Examiner for PhD: Jean Barbier (ENS)	2015
External Examiner for PhD: Hang Zhou (ENS)	2015
External Examiner for PhD: Jiaming Xu (UIUC)	2014
External Examiner for PhD: Feng Yan (Telecom Paristech)	2013
External Examiner for PhD: Dan-Cristian Tomozei (UPMC)	2011

Hiring Committees

Member of the hiring committee for “maître de conférence Probabilités (Université Lyon 1)”	2015
CR2 INRIA Paris-Rocquencourt hiring committee	2014
Member of the hiring committee for “maître de conférence à l’Ecole Normale Supérieure”	2013
Member of the hiring committee for “chaire INRIA-ENS Lyon”	2013
Member of the hiring committee for “maître de conférence à l’Ecole Normale Supérieure”	2010
Member of the hiring committee for chaire CNRS-UJF 1254	2009

Other Professional Duties

Co-organizer, Workshop on graph learning, with Thomas Bonald and Laurent Massoulié	2018
Co-organizer, Highlights of Algorithms, with Pierre Fraigniaud, Varun Kanade and Claire Mathieu	2016
Co-organizer, Workshop on Networks: learning, information and complexity, with Emmanuel Abbe, Sébastien Bubeck and Laurent Massoulié	2016
Co-organizer, Cargèse fall school on random graphs, with Dieter Mitsche and Pawel Pralat	2015
Co-organizer, Workshop on Community Detection, with Laurent Massoulié	2015
Co-organizer, Stochastic networks and stochastic geometry A conference dedicated to François Baccelli on his 60th birthday, with Bartek Blaszczyszyn, Charles Bordenave, Bruno Gaujal and Jean Mairesse	2015
INFORMS Nicholson prize committee	2014-2015
Member of the steering committee for the “Math-STIC” (math-cs) program in the labex LMH	2014-pres
Member of the scientific committee for “10eme Atelier en Évaluation de Performances”	2014
Publicity chair ACM Sigmetrics 2013	2013
Co-organizer, Stochastic Processes in Communication Networks for Young Researchers, Edinburgh, with Denis Denisov and Bert Zwart	2010
Co-organizer, Young European Queueing Theorists, EURANDOM, with Matthieu Jonckheere and Seva Shneer	2009

HIGHLIGHT ON PUBLICATIONS AND PATENTS

29 papers in international journals on the following topics:

- **Probability:** Ann. Probab.(2), Probab. Theory Related Fields (2), Ann. Appl. Probab.(2), Random Structures Algorithms(2), Ann. Inst. Henri Poincaré Probab. Stat., Adv. Appl. Prob.(3), J. Appl. Prob. (4), J. Math. Sci.
- **Combinatorial optimization:** SIAM J. Comput., SIAM J. Discrete Math, Theor. Comput. Sci.
- **Economics:** Games Econom. Behav.
- **Stochastic Networks:** IEEE Trans. Network Science and Engineering, IEEE JSAC, Queueing Systems (3), Discrete Event Dyn. Syst., Math. Methods Oper. Res.

47 papers in major peer-reviewed conferences on the following topics:

- **Machine learning and data mining:** COLT(2), NIPS(3), UAI, KDD, GSP
- **Theoretical computer science and analysis of algorithms:** FOCS, ITCS, SODA(3), ISAAC, AofA, ANALCO
- **Information theory:** ITW(3), ISIT(4)
- **Performance evaluation of communication networks:** ITC, Allerton (2), SIGMETRICS (4), INFOCOM (5), Netcoop/NetGCoop (2), Valuetools
- **Economics of networks:** Europ. Ass. Research in Industrial Economics, Work. Economics of Information Security (2), NetEcon, Work. Internet and Network Economics, Work. on Information and Decision in Social Networks

2 patents

INVITED SPEAKER AT CONFERENCES AND WORKSHOPS

2018: Statistical Physics and Machine Learning Back together, Cargèse (Aug.)
IMS Annual Meeting on Probability and Statistics, Vilnius (Jul.)
Conference on Stochastic Processes and their Applications SPA 2018, Gothenburg (Jun.)
Coding Theory for Inference, Learning and Optimization, Dagstuhl (Mar.)
2017: Random matrix advances in large dimensional statistics and machine learning, Paris (Nov.)
2016: Networks Meeting at the RSS, London (Feb.)
Simons Workshop: Random Instances and Phase Transitions, Berkeley (May)
World Congress in Probability and Statistics, Toronto (Jul.)
Workshop: Phase transitions in discrete structures, Frankfurt (Jul.)
2015: The International Symposium on Optimization (ISMP), Pittsburgh (Jul.)
CAp2015 : Conférence sur l'Apprentissage automatique, Lille (Jul.)
Algotel, Beaunes (Jun.)
DALI 2015 - Workshop on Learning Theory, Spain (Apr.)
Assemblée Générale du GdR Information Signal Image viSion (ISIS), Lyon (Apr.)
Combinatorial and algorithmic aspects of convexity, Paris (Jan.)
2014: Allerton Conference on Communication, Control and Computing, UIUC (Oct.)
Stochastic Networks, CWI, The Netherlands (Jun.)
Workshop on random geometric graphs, continuum percolation and related models, Leiden, The Netherlands (Apr.)
Information Theory and Applications Workshop, UCSD, USA (Feb.)
Networks with community structure, EURANDOM, The Netherlands (Jan.)
2013: Statistics & Econometrics of Networks, ENSAE, France (Nov.)
Theoretical Foundations of Network Analysis, UCL, London (Nov.)
Allerton Conference on Communication, Control and Computing, UIUC, USA (Oct.)
IEEE Information Theory Workshop, Sevilla, Spain (Sep.)
INFORMS/Applied Probability Society Conference, Costa Rica (July)

17th Workshop on Stochastic Geometry, Stereology and Image Analysis, Torun, Poland (June)
Congrès de la SMAI, Seignosse, France (May)
Asymptotics of Large-Scale Interacting Networks, Banff, Canada (Feb.)
Journées ANR Modèles aléatoires en écologie, génétique et évolution, Université Paris 13, France (Jan.)
2012: Keynote talk at ACM Sigmetrics conference, London, UK (June)
Models of sparse graphs and network algorithms, Banff, Canada (Feb.)
Network Science in Electrical Engineering and Computer Science, Indian Institute of Science, Bangalore (Jan.)
2011: Stochastic Activity Month, EURANDOM, the Netherlands (Apr.)
Journées ANR Arbres aléatoires et applications, Nancy, France (Mar.)
2010: Random Matrices, Information Theory and Applications, IHP, France (Dec.)
Mathematical Challenges in Stochastic Networks, Oberwolfach, Germany (Oct.)
Journées MAS, Bordeaux, France (sep.)
International Workshop in Applied Probability, Madrid, Spain (July)
Stochastic Networks, Isaac Newton Institute for Mathematical Sciences, Cambridge (Mar.)
Information Theory and Applications Workshop, UCSD, USA (Feb.)
2009: Young European Queueing Theorists, EURANDOM, Netherlands (Nov.)
INFORMS/Applied Probability Society Conference (Oct.)
Stochastic Networks And Related Topics, Bedlewo, Poland (May)
ALEA, CIRM, France (Mar.)
Information Theory and Applications Workshop, UCSD, USA (Feb.)
Workshop on Models and Images for Porous Media, Paris (Jan.)
2008: Complexity and Networks: Epidemic Spreading and Networks, Imperial College London, UK (Oct.)
EARIE: Conference of the European Association for Research in Industrial Economics, Toulouse, France (Sep.)
ARC Popeye-GameComp: Game Theory for Analysis and Optimization of Computer Systems, Université de Grenoble, France (May)
Young European Probabilists: Statistical Mechanics on Random Structures, EURANDOM, Netherlands (Mar.)
2007: Young European Queueing Theorists, EURANDOM, Netherlands (Nov.)
INFORMS/Applied Probability Society Conference (Oct.)
Stochastic Networks And Related Topics, Bedlewo, Poland (May)
ALEA, CIRM, France (Mar.)
2006: New Directions in Applied Probability: Stochastic Networks and Beyond, Edinburgh (Jul.)
2005: INFORMS/Applied Probability Society Conference (Oct.)
Rare Events in Communication Networks, EURANDOM-EuroNGI, Netherlands (Feb.)
2004: INFORMS/Applied Probability Society Conference (Oct.)
A Mathematical Perspective on Queueing and Teletraffic Modeling, Institut Mittag-Leffler, Sweden (Oct.)
2003: ARC TCP: Models and algorithms for TCP/IP Networks, Paris, France (Nov.)
Applied Probability and Advanced Communication Networks, Bedlewo, Poland (May)
2002: Modern Problems in Applied Probability, Heriot-Watt University, UK (Aug.)
The Mathematics of Stochastic Networks, EURANDOM, Netherlands (Oct.)

PUBLICATIONS

Refereed Journal Publications

- [J1] Marc Lelarge, Léo Miolane, Fundamental limits of symmetric low-rank matrix estimation, *Probability Theory and Related Fields*, to appear.
- [J2] Charles Bordenave, Marc Lelarge, Laurent Massoulié. Non-backtracking spectrum of random graphs: community detection and non-regular Ramanujan graphs, *Annals of Probability*, 46(1):1-71 , 2018.
- [J3] Julien Barré, Marc Lelarge, Dieter Mitsche, On rigidity, orientability, and cores of random graphs with sliders, *Random Struct. Algorithms* 52(3):419-453, 2018.
- [J4] Francesco Caltagirone, Marc Lelarge, Léo Milane, Recovering asymmetric communities in the stochastic block model, *IEEE Transactions on Network Science and Engineering*, 2017.
- [J5] Lennart Gulikers, Marc Lelarge, Laurent Massoulié, A spectral method for community detection in moderately sparse degree-corrected stochastic block models, *Advances in Applied Probability*, 49(3):686-721, 2017.
- [J6] Marc Lelarge, Laurent Massoulié, Jiaming Xu, Reconstruction in the Labeled Stochastic Block Model, *IEEE Trans. on Network Science and Engineering*, 2(4):152-163, 2015.
- [J7] Emilie Coupechoux, Marc Lelarge, Contagions in Random Networks with Overlapping Communities, *Advances in Applied Probability*, 47(4):973-988, 2015.
- [J8] Hamed Amini, Marc Lelarge, The Diameter of Weighted Random Graphs, *Annals of Applied Probability*, 25(3):1686-1727, 2015.
- [J9] Mohsen Bayati, Marc Lelarge, Andrea Montanari, Universality in Polytope Phase Transitions and Message Passing Algorithms, *Annals of Applied Probability*, 25(2):753-822, 2015.
- [J10] Emilie Coupechoux, Marc Lelarge, How Clustering Affects Epidemics in Random Networks, *Advances in Applied Probability*, 46(4), 2014.
- [J11] Marc Lelarge, Hang Zhou, Sublinear-time algorithms for monomer-dimer systems on bounded degree graphs, *Theoretical Computer Science*, 548:68-78, 2014.
- [J12] Marc Lelarge, Antonella Villani. Exact tail asymptotics of a queue with LRD input traffic, *Journal of Mathematical Sciences*, 196(1):57-69, 2014.
- [J13] Charles Bordenave, Marc Lelarge, Justin Salez, Matchings on infinite graphs, *Probability Theory and Related Fields*, 157(1-2):183-208, 2013.
- [J14] Hamed Amini, Moez Draief, Marc Lelarge, Flooding in Weighted Sparse Random Graphs, *SIAM Journal on Discrete Mathematics*, 27(1):1-26, 2013.
- [J15] Hamed Amini, Marc Lelarge, Upper deviations for split times of branching processes, *Journal of Applied Probability*, 49(4):1134-1143, 2012.
- [J16] Marc Lelarge, Coordination in Network Security Games: a Monotone Comparative Static Approach, *IEEE Journal on Selected Areas in Communications*, 30(11):2210-2219, 2012.
- [J17] Marc Lelarge, Diffusion and Cascading Behavior in Random Networks, *Games and Economic Behavior*, 75(2):752-775, 2012.
- [J18] Charles Bordenave, Marc Lelarge, Justin Salez, The rank of diluted random graphs, *Annals of Probability*, 39(3):1097-1121, 2011.
- [J19] Charles Bordenave, Marc Lelarge, Resolvent of Large Random Graphs, *Random Structures and Algorithms*, 37(3):322-352, 2010.
- [J20] David J. Aldous, Charles Bordenave, Marc Lelarge, Dynamic Programming Optimization over Random Data: the Scaling Exponent for Near-optimal Solutions, *SIAM Journal on Computing*, 38(6):2382-2410, 2009.

- [J21] Marc Lelarge, Asymptotic behavior of Generalized Processor Sharing queues under subexponential assumptions, *Queueing Systems. Theory and Applications* 62(1):51-73, 2009.
- [J22] David J. Aldous, Charles Bordenave, Marc Lelarge, Near-Minimal Spanning Trees: a Scaling Exponent in Probability Models, *Annales de l'Institut Henri Poincaré (B)* 44(5):962-976, 2008.
- [J23] Marc Lelarge, Tail asymptotics for Discrete Event Systems, *Discrete Event Dynamic Systems* 18(4):563-584, 2008.
- [J24] Marc Lelarge, Packet Reordering in Networks with Heavy-Tailed Delays, *Mathematical Methods of Operations Research* 67(2):341-371, 2008.
- [J25] Marc Lelarge, Tail asymptotics for monotone-separable networks, *Journal of Applied Probability* 44(2):306-320, 2007.
- [J26] Ton Dieker, Marc Lelarge, Tails for (max,plus) recursions under subexponentiality, *Queueing Systems. Theory and Applications* 53(4):213-230, 2006.
- [J27] François Baccelli, Serguei Foss, Marc Lelarge, Tails in Generalized Jackson Networks with Subexponential Service Time Distributions, *Journal of Applied Probability* 42(2):513-530, 2005.
- [J28] Marc Lelarge, Fluid limit of generalized Jackson queueing networks with stationary and ergodic arrivals and service times, *Journal of Applied Probability* 42(2):491-512, 2005.
- [J29] François Baccelli, Marc Lelarge, Serguei Foss, Asymptotics of Subexponential Max Plus Networks the Stochastic Event Graph Case, *Queueing Systems. Theory and Applications* 46(1-2):75-96, 2004

Refereed Conference and Workshop Publications

- [C1] Alexis Galland, Marc Lelarge. Community detection with the triplet loss. *Graph Signal Processing Workshop (GSP)* 2018
- [C2] Arpan Mukhopadhyay, Nidhi Hegde, Marc Lelarge. Optimal Content Replication and Request Matching in Large Caching Systems. *IEEE INFOCOM* 2018.
- [C3] Alexandre Holloco, Thomas Bonald, Marc Lelarge. Multiple Local Community Detection. *SIGMETRICS Perform. Eval. Rev* 2017.
- [C4] Marc Lelarge, Léo Miolane. Fundamental limits of symmetric low-rank matrix estimation. *COLT* 2017.
- [C5] Thibault Lesieur, Léo Miolane, Marc Lelarge, Florent Krzakala, Lenka Zdeborová. Statistical and computational phase transitions in spiked tensor estimation. *ISIT* 2017.
- [C6] Marc Lelarge. Counting matchings in irregular bipartite graphs and random lifts. *SODA* 2017.
- [C7] Lennart Gulikers, Marc Lelarge, Laurent Massoulié. Non-Backtracking Spectrum of Degree-Corrected Stochastic Block Models. *ITCS* 2017
- [C8] Mehrdad Moharrami, Vijay Subramanian, Mingyan Liu, Marc Lelarge. Impact of Community Structure on Cascades. *EC* 2016.
- [C9] Alaa Saade, Florent Krzakala, Marc Lelarge, Lenka Zdeborová. Clustering from Sparse Pairwise Measurements. *ISIT* 2016.
- [C10] Se-Young Yun, Marc Lelarge, Alexandre Proutière. Fast and Memory Optimal Low-Rank Matrix Approximation. *NIPS* 2015
- [C11] Richard Combes, Sadegh Talebi, Alexandre Proutière, Marc Lelarge. Combinatorial Bandits Revisited. *NIPS* 2015.
- [C12] Charles Bordenave, Marc Lelarge, Laurent Massoulié. Non-backtracking spectrum of random graphs: community detection and non-regular Ramanujan graphs. *FOCS* 2015: 1347-1357.
- [C13] Mathieu Leconte, Marc Lelarge, Laurent Massoulié. Designing Adaptive Replication Schemes in Distributed Content Delivery Networks. *ITC* 2015: 28-36.

- [C14] Alaa Saade, Florent Krzakala, Marc Lelarge, Lenka Zdeborová. Spectral Detection in the Censored Block Model, *ISIT* 2015: 1184-1188.
- [C15] Se-Young Yun, Marc Lelarge, Alexandre Proutière, Streaming, Memory Limited Algorithms for Community Detection, *NIPS* 2014.
- [C16] Florian Bourse, Marc Lelarge, Milan Vojnovic, Balanced Graph Edge Partition, *KDD* 2014: 1456-1465.
- [C17] Jiaming Xu, Marc Lelarge, Laurent Massoulié, Edge Label Inference in Generalized Stochastic Block Models: from Spectral Theory to Impossibility Results, *COLT* 2014: 903-920.
- [C18] Marc Lelarge, Hang Zhou, Sublinear-Time Algorithms for Monomer-Dimer Systems on Bounded Degree Graphs, *ISAAC* 2013: 141-151.
- [C19] Marc Lelarge, Alexandre Proutière, Sadegh Talebi, Spectrum Bandit Optimization, *ITW* 2013.
- [C20] Marc Lelarge, Laurent Massoulié, Jiaming Xu, Reconstruction in the Labeled Stochastic Block Model, *ITW* 2013.
- [C21] Marc Lelarge, Bypassing Correlation Decay for Matchings with an Application to XORSAT, *ITW* 2013.
- [C22] Mathieu Leconte, Marc Lelarge, Laurent Massoulié, Convergence of multivariate belief propagation, with applications to cuckoo hashing and load balancing, *ACM-SIAM SODA*, 2013: 35-46.
- [C23] Simon Heimlicher, Marc Lelarge, Laurent Massoulié, Community Detection in the Labelled Stochastic Block Model, *NIPS 2012 Workshop: Algorithmic and Statistical Approaches for Large Social Networks*.
- [C24] Stéphane Caron, Branislav Kveton, Marc Lelarge, Smriti Bhagat, Leveraging Side Observations in Stochastic Bandits, *UAI*, 2012: 142-151.
- [C25] Mohsen Bayati, Marc Lelarge, Andrea Montanari, Universality in Polytope Phase Transitions and Iterative Algorithms, *ISIT*, 2012: 1643-1647.
- [C26] Mathieu Leconte, Marc Lelarge, Laurent Massoulié, Bipartite graph structures for efficient balancing of heterogeneous loads, *ACM SIGMETRICS*, 2012: 41-52.
- [C27] Marc Lelarge, Coordination in Network Security Games, *IEEE INFOCOM*, 2012: 2856-2860.
- [C28] Marc Lelarge, A New Approach to the Orientation of Random Hypergraphs, *ACM-SIAM SODA*, 2012: 251-264.
- [C29] Emilie Coupechoux, Marc Lelarge, Impact of Clustering on Diffusions and Contagions in Random Networks, *NetGCooP*, 2011: 1-7.
- [C30] Marc Lelarge, Diffusion and Cascading Behavior in Random Networks, *MAMA workshop at Sigmetrics 2011 and Interdisciplinary Workshop on Information and Decision in Social Networks*, MIT, 2011.
- [C31] Hamed Amini, Moez Draief, Marc Lelarge, Flooding in Weighted Random Graphs. *SIAM ANALCO*, 2011: 1-15.
- [C32] Charles Bordenave, Marc Lelarge, The Rank of Diluted Graphs, *ACM-SIAM SODA*, 2010: 1389-1402.
- [C33] Marc Lelarge, Efficient Control of Epidemics over Random Networks, *ACM SIGMETRICS*, 2009: 1-12.
- [C34] Marc Lelarge, Economics of Malware: Epidemic Risks Model, Network Externalities and Incentives, *Allerton Conference* 1353-1360, and *WEIS*, 2009.
- [C35] Marc Lelarge, Jean Bolot, Economic Incentives to Increase Security in the Internet: The Case for Insurance, *IEEE INFOCOM*, 2009: 1494-1502.
- [C36] Hamed Amini, Moez Draief, Marc Lelarge, Marketing in Random Networks, *NetCoop08*, LNCS 5425, 2009: 17-25.
- [C37] Marc Lelarge, Diffusion of Innovations on Random Networks: Understanding the Chasm, *WINE*, LNCS 5385, 2008: 178-185.
- [C38] Marc Lelarge, Jean Bolot, A Local Mean Field Analysis of Security Investments in Networks, *ACM SIGCOMM NetEcon*, 2008: 25-30.
- [C39] Marc Lelarge, Jean Bolot, Cyber Insurance as an Incentive for Internet Security, *WEIS*, 2008.

- [C40] Marc Lelarge, Jean Bolot, Network Externalities and the Deployment of Security Features and Protocols in the Internet, *ACM SIGMETRICS*, 2008: 37-48.
- [C41] Jean Bolot, Marc Lelarge, A New Perspective on Internet Security using Insurance, *IEEE INFOCOM*, 2008: 1948-1956.
- [C42] Marc Lelarge, Online Bandwidth packing with symmetric distributions, *Conference on Analysis of Algorithms*, DMTCS 2007: 471-482.
- [C43] Cathy H. Xia, Zhen Liu, Don Towsley, Marc Lelarge, Scalability of Fork/Join queueing networks with blocking, *ACM SIGMETRICS*, 2007: 133-144.
- [C44] Marc Lelarge, Tail asymptotics for Discrete Event Systems, *ValueTools*, 2006.
- [C45] Marc Lelarge, Zhen Liu, Anton Riabov, Automatic Composition of Secure Workflow, *Automatic and Trusted Computing*, LNCS 4158, 2006: 322-331.
- [C46] François Baccelli, Marc Lelarge, David McDonald, Metastable Regimes for multiplexed TCP flows, *Allerton conference*, 2004.
- [C47] Marc Lelarge, Zhen Liu and Cathy H. Xia, Asymptotic Tail Distribution of End-to-End Delay in Networks of Queues with Self-Similar Cross Traffic, *IEEE INFOCOM*, 2004: 2352-2363.

Patents

- [P1] Stéphane Caron, Branislav Kveton, Marc Lelarge, Smriti Bhagat et al., US20150199715 A1: A system and method for recommending items in a socila network, (filed Jun. 2013) 2015
- [P2] Z. Liu, G. Grabarnik, A. Riabov, M. Lelarge et al., USPTO 2008/0016547: System and method for security planning with hard security constraints (filed Jul. 2006) 2008