

CURRICULUM VITAE: Mérouane Debbah

Contact

SUPELEC

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Present Occupation

Full Professor (since 2007, head of the **Alcatel-Lucent Chair on Flexible Radio**) at Supélec (Paris, France).

Education

2008 **Habilitation à diriger des recherches** from Université Paris - Sud, Orsay (France).

2002 **Phd in Electrical Engineering** from Ecole Normale Supérieure de Cachan (France).

1999 **B.Sc and M.Sc** from Ecole Normale Supérieure de Cachan (France).

1996 **Mathématiques supérieures and Mathématiques spéciales** in Lycée Henri IV, Paris (France).

Awards

2010 Newcom++ Best paper award.

2009 Best student paper award at CrownCom2009;
Best paper award at Wi-Opt 2009.

2008 Best student paper award at Valuetools 2008.

2007 Best paper award at IEEE GLOBECOM 2007;
Best student paper award at Valuetools 2007.

2005 Mario Boella Prize Award for *Protocol using channel reciprocity to generate long keys for secure wireless transmissions.*

2001 Internal Motorola-labs Certificate of Appreciation for the European patent *System, Receiver and Method of Operation for Spread OFDM Wireless Communication.*

Honors

- WWRF Fellow, IEEE Senior member, SEE Senior member.

Visiting Appointments

- **Telecommunication Research Center of Vienna**, April 2004.
- **University of Oslo, Norway**, May 2005, April-May 2006, August-September September 2007.
- **University of Adelaide**, November 2006.

Research Experience

2003-2007 **Assistant Professor** at the Mobile Telecommunication Department of Eurecom (France)

Related topics: MIMO, Ad-hoc networks, OFDM, MC-CDMA, UWB, Sensor networks, Random matrices, Free Probability Theory, Game theory, Cognitive Radio, Maximum Entropy Principles, Wireless Channel modelling, Cryptography.

2002-2003 **Senior Researcher** at the Telecommunication Research Center of Vienna (Austria)

Related topics: MIMO Channel modelling.

1999-2002 **Research Engineer** at the Motorola Labs research center of Paris

Related topics: Precoders for OFDM wireless communications, IEEE802.11 Wireless Lan Networks, 4G MC-CDMA schemes, Free probability theory.

Teaching Experience

Organizer

2005-2007 *Head* of the Mobile Communication Track at Eurecom.

Lecturer

2003-2007 **Mobile Communication Techniques** (Graduate level, Eurecom).

2000-2002 **Automatics** (undergraduate level, University of Marne La Vallée).

2002-2007 **OFDM** (graduate level, ENST).

2007 **Inference Methods for Science and Engineering Applications** (Master and PhD level, University of Oslo).

2008-2011 **Statistical Signal Processing for Communications** (Master level, Coltech, Vietnam).

2005-2011 **Multi-Antenna Technologies** (graduate level, ENSEIRB Bordeaux, Université of Avignon, Ecole Polytechnique de Tunisie).

2006-2009 **Random Matrix Theory and its applications to Wireless Communications** (Master and PhD level, University of Oslo, University of Aalborg, INRIA, SUPELEC, Orange-Labs, Cambridge University).

2006-2011 **Game Theory and its applications to Wireless Communications** (Master and PhD level, University of Oulu, University of Oslo, SUPELEC, University of Modena).

2008-2011 **Channel Modelling** (Master "Systèmes Avancés de Radiocommunications" at SUPELEC).

2008-2011 **Theoretical Foundations of Mobile Flexible Networks** (Master "Systèmes Avancés de Radiocommunications" at SUPELEC).

2009-2011 **Représentation et Analyse Statistique des Signaux** (Second year at SUPELEC).

Jury Member

1997-2002 Oral examiner in Physics at Lycée Raspail in math Spé PT*.

2000-2006 Examiner of Physics at the entrance exam of MINES, ENSEA and Centrale.

2006 Member of the Jury of the "Prix Thèse Telecom Valley".

Committee Member

2009-2010 Member of the French ANR Verso Committee.

PhD Students (25)

1. Nicolas Bonneau (Defense September 2007, State Representative X-Telecom, France)
2. Nadia Fawaz (Defense December 2008, Researcher at Technicolor, Silicon Valley, USA)
3. Raul de Lacerda (Defense December 2008, Assistant professor, SUPELEC, France)
4. Gaoning He (Defense January 2010, Researcher, Bell-Labs Shangai, China)
5. Majed Haddad (Defense December 2008, Post-doc, INRIA Sophia-Antipolis, France)
6. Alonso Silva (Defense May 2010, Post-doc at UC Berkeley, USA)
7. Alberto Suarez (Defense May 2010, NEC Telecom Modus, UK)
8. Walid Saad (Defense June 2010, Assistant professor, University of Miami, USA)
9. Romain Couillet (Defense November 2010, Assistant professor, SUPELEC, France)
10. Veronica Belmega (Defense December 2010, Assistant professor, ENSEA, France)
11. Samir Perlaza Medina (Defense June 2011, Post-doc SUPELEC, France)
12. Leonardo Cardoso (Defense scheduled September 2011, Research Engineer INRIA,France)
13. Jakob Hoydis (Defense scheduled April 2012)
14. Sreenath Ramanath (Defense scheduled September 2011)
15. Antonia Masucci (Defense scheduled December 2011)
16. Subhash Lakshminarayan (Defense scheduled December 2012)
17. Marco Maso (Defense scheduled April 2013)

18. Luca Rose (Defense scheduled December 2013)
19. Vineeth Varma (Defense scheduled January 2014)
20. Apostolos Destounis (Defense scheduled April 2014)
21. Axel Mueller (Defense scheduled September 2014)
22. Matthieu de Mari (Defense scheduled September 2014)
23. Sylvain Azarian (Defense scheduled September 2014)
24. Julia Vinogradova (Defense scheduled September 2014)
25. Bhanukiran Perabathini (Defense scheduled September 2014)

Post-doc Students (8)

1. Laura Cottatellucci (2005)
2. Maxime Guillaud (2006)
3. Helmut Hofstetter (2006)
4. Øyvind Ryan (2006)
5. Sharon Betz (2008)
6. Giuseppa Alfano (2009)
7. Laura Luzzi (2010)
8. François Chapon (2011)

Projects

EU funded

– On-going

– Past

2007-2010 *NEWCOM++ (Network of Excellence in Wireless Communications)*: IST funded program target towards Wireless Communications.

2006-2009 *BioNet (Biologically Inspired Autonomic Networks and Services)*: IST Integrated Project targeted towards ad-hoc networks.

2006-2007 *UNITE (Virtual Distributed Testbed for Optimization and Coexistence of Heterogeneous Systems)*: IST Funded Strep targeted towards Wireless Communications.

2004-2006 *European Space Agency Project*: External contract with ESA on Novel Intra-System Interference Mitigation Techniques & Technologies for Next Generations Broadband Satellite Systems.

2004-2007 *NEWCOM (Network of Excellence in Wireless Communications)*: IST funded program target towards Wireless Communications.

2002-2003 *FLAWS (Flexible Convergence of Wireless Standards)* : IST funded program targeted towards Channel modelling issues for MIMO Systems.

International funded

– **On going**

– **Past**

2010-2011 *THEFONE, Theoretical Foundations of Mobile Flexible Networks*: Norwegian funded project.

2006-2009 *OPTIMO, Optimized Heterogeneous Multiuser MIMO Networks*: Norwegian funded project.

2006-2009 *Statistical Physics in Advanced Multiuser Communications (SPAM)*: Norwegian funded project.

Bilateral funded

– **On going**

2010-2011 *STAR*: French-South Korean funded project.

2011-2013 *FIREFLIES* French-Chinese funded project.

– **Past**

2007-2010 *CAPEX-COFECUB*: French-Brazilian funded project.

2008-2009 *Aurora, Cooperative Communications under uncertain topologies*: Joint French-Norwegian project between SUPELEC and UNIK (University Graduate center).

2006-2007 *FAST, Advanced Concepts for Future Broadband Wireless Networks*: Joint French-Australian project between Eurecom and Institute for Telecommunications Research, University of South Australia.

2006-2007 *Amadeus, Advanced Concepts for Future Multiuser Wireless Networks*: Joint French-Austrian project between Eurecom and FTW/TUWIEN.

2005-2006 *Aurora, Optimization of broadband Wireless Communication networks*: Joint French-Norwegian project between Eurecom and UNIK (University Graduate center).

National funded

– **On-going**

2011-2014 Digiteo (Flexicells and SecuWaves): Project sponsored by the Region Ile-de-France

2011-2014 *HENIAC (High spectral Efficiency 400G/1T Optical Networks Powered by very high speed Digital-to-Analog Converters)*: Project sponsored by the french ANR.

2011-2014 *SIMILAN (SIMulation & ImpLémentation haute performance Adaptées aux métiers du traitement du signal Numérique)* : Project sponsored by the french pôle de compétitivité SYSTEM@TIC.

2010-2013 *ECOSCells (Efficient Cooperating Small Cells)*: Project sponsored by the french ANR.

2008-2011 *Netptune (Nouvelle PlaTe-forme pour les Usages Numériques Experimentaux)*: Project sponsored by the french pôle de compétitivité SYSTEM@TIC.

– **Past**

- 2008-2011 *SESAME (Consistent estimation and large random matrices)*: Project sponsored by the french ANR.
- 2008-2010 *POSEIDON (PilOte de Services et d'Expérimentation Du haut débit sans fil de Nouvelle génération)*:
Project sponsored by the french pôle de compétitivité SYSTEM@TIC.
- 2008-2011 *TEROPP (Technologies for terminals in opportunistic radio applications)*: Project sponsored by the french ANR.
- 2007 *Matrices Aléatoires et Communication Numériques*: Project sponsored by the GDR ISIS (Groupe de recherche Information, Signal, Images et ViSion).
- 2006-2007 *Information Theory: New Challenges and New Interdisciplinary Tools* Joint research project with INRIA Sophia-Antipolis.
- 2006-2007 *MIMO Measurement and Modelling at 1.9 Ghz*: External research contract with SFR (French wireless Provider).
- 2005-2006 *Statistical Models of the Propagation Channel for Advanced Broadband Communication Systems*: External research contract with France Telecom.
- 2004-2007 *MALCOM (Matrices Aléatoires pour les Communications)* : National project on the use of Random Matrices for Wireless Communications.

Miscellaneous

Expert for the European Commission, the French National Research Agency (ANR), CNRS and the Maryland Industrial Partnerships Program (MIPS), Natural Sciences and Engineering Research Council of Canada (NSERC).

Member of the Club Télécom and Administrative Counsel of the SEE.

TPC

- 2007 co-chair of the IEEE workshop RAWNET 2007 (Third workshop on Resource Allocation in Wireless Networks).
- 2007 chair of the 2007 Winter School on Information Theory, Sophia-Antipolis.
- 2008 co-chair WiOpt 2008 (6th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks).
- 2009 co-chair of the Communication Theory Symposium of the IEEE Globecom 2009
- 2009 co-chair of Physcomnet 2009 (Physics-inspired Paradigms for Wireless Communications and Networks).
- 2009 co-chair of the workhop on 'Cooperative and Cognitive Networks', International Wireless Communications and Mobile Computing Conference (IWCMC 2009), Germany, June 2009.
- 2009 Chair of the "Next Generation Wireless Green Networks (NGWGN) Workshop", Paris, October 2009.

- 2010 co-chair of the 2nd Cognitive Information Processing Conference, Elba island, Italy, June, 2010.
- 2010 co-chair of the Newcom++ workshop at the Future Network and MobileSummit 2010, Florence, Italy.
- 2010 co-chair of the International Green Workshop, PIMRC 2010, Istanbul, Turkey.
- 2011 co-chair of the Game Theory and Resource Allocation for 4G workshop at ICC 2011.
- 2011 General co-chair of WiOPT 2011, Princeton, USA.
- 2011 co-chair of the 1st Intl. Workshop on Secure Wireless Networks, Cachan, France, 2011.

Member of the organizing committee of

- 2006 the 7th IEEE Signal Processing Advances in Wireless Communications, 2006, Cannes.
- 2007 the IEEE International Symposium on Information Theory, 2007, Nice.

2007-2008 Chair of the Performance and Evaluation Technical and Business council of ICST.

2006-2008 **Associate Editor** of Springer WIRELESS NETWORK JOURNAL item[2011-2013]**Associate Editor** of Associate Editor for IEEE Transactions on Signal Processing..

2006 **Guest Editor** of the special issue "Space-Time Channel Modeling for Wireless Communications" in Eurasip Journal on Wireless Communicatons and Networking.

2008 **Guest Editor** of the special issue "Physical Layer Security in Wireless networks" in Eurasip Journal on Wireless Communications and Networking".

2011 **Guest Editor** of the special issue "Game Theory in Wireless Communications" in IEEE Journal on Selected Areas in Communications

2011 **Guest Editor** of the special issue "Special Issue on Signal Processing in Heterogeneous Networks for Future Broadband Wireless Systems", IEEE Journal of Selected Topics in Signal Processing.

2012 **Guest Editor** of the Journal of Communications and Networks, Special Issue on Physical-Layer Security

Tutorial/Plenary Speaker at

- 2004 Symptic'04 (Bratislava, Slovakia).
- 2005 The 2005 Winter School on Information Theory (Bratislava, Slovakia), Performance 2005 symposium (Juan-les-Pins, France).
- 2006 2nd Engineering Research Conference 2006 at Cebu, Philippines, the International Telecommunication Symposium 2006 (Fortaleza, Brazil), the ACoRN Spring School 2006 Coding, Multiple User Communications and Random Matrix Theory (Adelaide, Australia).
- 2007 IST summit 2007 (Budapest, Hungary), IST NATO lecture Series (Helsinki, Rennes and Prague).
- 2008 ATC 2008 (Hanoi, Vietnam), PIMRC 2008 (Cannes, France), 9me Atelier en Evaluation de Performances (Aussois), QEST'08 (St-Malo, France).

2009 ATC 2009 (Hanoi, Vietnam), WWRF 2009 (Paris, France), Catalonia's Distinguished Lectureship Program (Barcelona, Spain), ICECS2009 (Hammamet, Tunisia).

2010 5th IEEE Workshop on Advanced Information Processing for Wireless Communication Systems (Copenhagen, Denmark), Femtocell workshop at Globecom 2010 (Miami, USA), Newcom++ Spring School 2010 on Cognitive Wireless Communication Networks, Lucca Italy, Indoor and Outdoor Femto Cells workshop, PIMRC 2010, Istanbul, Turkey, 6th International symposium on turbo codes & iterative information processing, Brest, 2010.

2011 VTC BeFEMTO keynote WORKSHOP speaker (Budapest), 2011 International Conference on Acoustics, Speech and Signal Processing (Prague), 1st International Summer school on Cognitive Wireless Communications (Florence), IEEE Communication Theory Workshop (Sitges, Spain)

Organizer of the special session

2005 "Large Random Matrices and Performance Evaluation of Large Digital Communication Systems" at 2005 IEEE International Conference on Acoustics, Speech, and Signal Processing.

2006 "Large Scale, Large Band and Asymptotic Systems" at the 2006 Second International Symposium on Communications, Control and Signal Processing, (Marrakech, Morocco).

2008 "Physical Layer Security" at the 2008 IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) (Cannes, France).

2010 "Physical Layer Security" at European Wireless 2010 (Lucca, Italy), "Optimal Transport and routing in ad-hoc Networks" at PIMRC 2010, Cognitive Multihop Networks at WWIC2010 in Lulea, Sweden, June 2010.

2011 "Statistical estimation in large digital communication systems" at SSP 2011, Nice, France.

2012 Future Green Communications workshop, WCNC2012, Paris, France.

Foreign Stay: 1 year in Madrid (Spain), 5 years in Abidjan (Ivory Coast), 3 years in Algiers (Algeria), 4 years in Washington D.C (U.S.A), 4 years in Algiers (Algeria), 10 years in Paris (France), 1 year in Vienna (Austria), 4 years in Sophia-Antipolis (France), 4 years in Paris (France).

Language abilities: English (Excellent level), Arabic (Excellent level), French (Excellent level), Spanish (Scholar level), German (Scholar level).

Selected List of Publications: Mérouane Debbah

The publications can be downloaded at: <http://www.supelec.fr/d2ri/flexibleradio/publication.html> .

International Patents

1. System, receiver and method of operation for spread OFDM wireless communication, WO/2003/06563, International Application No.: PCT/EP2003/000596, <http://www.wipo.int/pctdb/en/wo.jsp?WO=2003065635> .
2. Channel Estimation Using The Guard Interval Of A Multicarrier Signal, WO/2004/064344, International Application No.: PCT/EP2003/050767, <http://www.wipo.int/pctdb/en/wo.jsp?WO=2004064344> .
3. Method of Transmitting Data by Selection of Modulation Type, for a Frequency Division Multiplexing Communication Network and Associated Modulator and Demodulator, WO/2009/101317, International Application No.: PCT/FR2009/050157, <http://www.wipo.int/pctdb/en/wo.jsp?WO=2009101317> .

Books

1. R. Couillet, M. Debbah, "Random Matrix Theory Methods for Wireless Communications", Cambridge University Press, 2011.

Book Chapters

1. M. Debbah, "Information Theory and Wireless Channel Modeling", in Telecommunications: Advances and Trends in Transmission, Networking and Applications, ISBN: 85-98876-18-6, 2006.
2. M. Debbah, "Wireless Multi-user Communications", 21 pages, NATO Lecture Series IST-070 on "Emerging Wireless Technologies", 2007.
3. M. Debbah, "Wireless Communications and Propagation aspects", 33 pages, NATO Lecture Series IST-070 on "Emerging Wireless Technologies", 2007.
4. E.V.Belmega, S. Lasaulce and M. Debbah, "Capacity of cooperative channels: three terminals case study", Cooperative Wireless Communication, Auerbach Publications, CRC Press, Taylor and Francis Group, pp. 3–24, ISBN 142006469X, Mar. 2009.
5. G. He, M. Debbah, S. Lasaulce, and E. Altman, "Game theory for OFDM systems with incomplete information", Game Theory for Wireless Communications and Networking, Auerbach Publications, Taylor and Francis Group, CRC Press, ISBN: 978-1-4398-0889-4, Apr. 2009.
6. L. Cardoso, M. Debbah, S. Lasaulce, M. Kobayashi and J. Palicot, "Spectrum sensing for opportunistic wireless channel access", Cognitive Radio Networks: Architectures, Protocols and Standards, Taylor & Francis Group, Auerbach Publications, CRC Press, pp. 3–28, ISBN 1420077759, May 2010.

7. R. Couillet and M. Debbah, "Orthogonal Frequency Division Multiple Access (OFDMA)", Fundamentals of OFDMA Synchronization, Auerbach Publications, CRC Press, Taylor & Francis, book chapter, Auerbach Publications, CRC Press, Taylor & Francis, ISBN 9781420088243, April 2010.
8. S. Medina Perlaza, S. Lasaulce, M. Debbah, and J. M. Chaufray, "Game theory or dynamic spectrum sharing", Cognitive Radio Networks: Architectures, Protocols and Standards, Taylor & Francis Group, Auerbach Publications, CRC Press, pp. 257–288, ISBN 1420077759, May 2010.
9. E.V. Belmega, S. Lasaulce and M. Debbah, "Shannon rate-efficient power allocation games", Game Theory for Wireless Communications and Networking, Auerbach Publications, Taylor and Francis Group, CRC Press, ISBN: 978-1-4398-0889-4, Apr. 2010.
10. M. Bennis, S. Lasaulce, and M. Debbah, "Hierarchy in power allocation games", Game Theory for Wireless Communications and Networking, Auerbach Publications, Taylor and Francis Group, CRC Press, ISBN: 978-1-4398-0889-4, Apr. 2010.
11. M. Debbah, "A short Introduction to MIMO theory", MIMO: From Theory to Implementation, ISBN 9780123821942, Elsevier Academic Press, 2011.
12. J. Palicot, C. Moy, M. Debbah, R. Couillet, H. Tembine, R. Segurier, D. Le Guennec, W. Jouini, G. Tourneur, Y. Lout, A. Nafkha, P. Leray, R. Loison, R. Gillard, "De la radio logicielle à la radio intelligente" : Edition Lavoisier-Herms, 2011.
13. M. Bennis, S. M. Perlaza and M. Debbah "Game Theory and Femtocell Communications: Making Network Deployment Feasible". Book chapter in "Femtocell Communications: Business Opportunities and Deployment Challenges". IGI Global, USA, 2011.
14. R. Couillet and M. Debbah, "Random Matrices", Mathematical Foundations for Signal Processing, Communications and Networking, Cambridge University Press, to appear 2011.
15. E. Souza, R. Vieira, M. Kobayashi and M. Debbah, "Resource Allocation and User Scheduling in Coordinated Multicell MIMO Systems", Vehicular Technologies, INTECH Book Chapter, 2011.
16. S. Lasaulce, H. Tembine, M. Debbah, and E.V. Belmega, "Rate-efficient power allocation games", Game Theory and Learning for Wireless Networks : Fundamentals and Applications, ISBN 9780123846983, Academic Press, Elsevier, pp. 1391, Jul. 2011. Techniques, and Resource Allocation, Cambridge University Press, Apr. 2012.

Publications in International Journals

1. M. Debbah, W. Hachem, P. Loubaton and M. de Courville, "MMSE Analysis of Certain Large Isometric Precoded Systems", IEEE Transactions on Information Theory, vol. 49, no. 5, May 2003.
2. M. Debbah, P. Loubaton and M. de Courville, "Asymptotic Performance of Successive Interference Cancellation in the Context of Linear Precoded OFDM," IEEE Transactions on Communications, vol. 52, no. 9, Sep. 2004.

3. M. Debbah and R. Müller, "MIMO Channel Modelling and the Principle of Maximum Entropy," *IEEE Transactions on Information Theory*, vol. 51, no. 5, May 2005.
4. N. Bonneau, M. Debbah and E. Altman, "Spectral Efficiency of CDMA Downlink Cellular Networks with Matched Filter", Volume 2006, Article ID 74081, Pages 1-10, *EURASIP Journal on Wireless Communications and Networking*.
5. E. Altman, N. Bonneau and M. Debbah, "Correlated Equilibrium in Access Control for Wireless Communications", *Lecture Notes in Computer Science*, Springer Berlin, pp. 173 - 183, 2006.
6. P. Almers, E. Bonek, A. Burr, N. Czink, M. Debbah, V. Degli-Esposti, H. Hofstetter, P. Kyosti, D. Laurenson, G. Matz, A.F. Molisch, C. Oestges and H. Ozcelik, "Survey of Channel and Radio Propagation Models for Wireless MIMO Systems," vol. 145, no. 1, Article ID 19070, 12 pages, 2007, in *EURASIP Journal on Wireless Communications and Networking*.
7. E. Altman, K. Avrachenkov, N. Bonneau, M. Debbah, R. El-Azouzi and D. Sadoc Menasche "Constrained Cost-Coupled Stochastic Games with Independent State Processes", in *Operations Research Letters*, vol. 35, 2007.
8. A. Hjørungnes and M. Debbah, "Minimum BER Detector for Uplink DS-CDMA Systems," *EURASIP Journal on Wireless Communications and Networking*, vol. 2008, Article ID 462710, 12 pages, 2008.
9. M. Haddad, M. Debbah and A. Menouni, "Spectral efficiency of spectrum-pooling systems", *IET on Communications*, vol. 2, no. 6 pp. 733-741, Jul. 2008.
10. N. Fawaz, D. Gesbert and M. Debbah, "When Network Coding and Dirty Paper Coding meet in a Cooperative Ad Hoc Network", *IEEE Transactions on Wireless Communications*, vol. 7, no. 5, Part 2, pp. 1862-1867, May 2008.
11. S. Lasaulce, A. Suarez, R. De Lacerda and M. Debbah, "Using Cross-System Diversity in Heterogeneous Networks: Throughput Optimization Optimization", *Elsevier J. of Performance Evaluation (PEVA)*, vol. 65, no. 11, pp. 907-921, Nov. 2008.
12. Ø. Ryan and M. Debbah, "Channel Capacity Estimation using Free Probability Theory", *IEEE Transactions on Signal Processing*, vol. 56, no. 11, Nov. 2008.
13. C. Oestges, B. Clerckx, M. Guillaud and M. Debbah, "Dual Polarized Wireless Communications: From Propagation Models to System Performance Evaluation", *IEEE Transactions on Wireless Communications*, vol. 7, no. 10, Oct. 2008.
14. N. Bonneau, M. Debbah, E. Altman and A. Hjørungnes, "Non-Atomic Games for Multi-User Systems", *IEEE Journal on Selected Areas in Communications*, vol. 26, no. 7, pp. 1047-1058, Sep. 2008.
15. E.V. Belmega, S. Lasaulce and M. Debbah, "Power Allocation Games for MIMO Multiple Access Channels with Coordination", *IEEE Transactions on Wireless Communications*, vol. 8, no. 5, pp. 3182-3192, Jun. 2009.

16. Y. Hayel, S. Lasaulce, R. El-Azouzi and M. Debbah, "Introducing Hierarchy in Energy Games", IEEE Transactions on Communications, vol. 8, no. 7, pp. 3833-3843, Jul. 2009.
17. E.V. Belmega, S. Lasaulce and M. Debbah, "A trace inequality for positive definite matrices", Journal of Inequalities in Pure and Applied Mathematics (JIPAM), vol. 10, no. 1, pp. 1-4, 2009.
18. Ø. Ryan and M. Debbah, "Asymptotic Behaviour of Random Vandermonde Matrices with Entries on the Unit Circle", IEEE Transactions on Information Theory, vol. 55, no. 7, pp. 3115-3148, July 2009.
19. B. Maham, A. Hjørungnes and M. Debbah, "Power Allocations in Minimum-Energy SER Constrained Cooperative Networks", special issue on cognitive radio, Annales des télécommunications, vol. 64, no. 7, pp. 545-555, Aug. 2009.
20. B. Maham, M. Debbah and A. Hjørungnes, "Energy-Efficient Cooperative Routing in BER Constrained Multihop Networks", In Frontiers of Computer Science in China, (published by Higher Education Press and Springer-Verlag), vol. 3, no. 2, Jun. 2009, ISSN 1673-7350.
21. E. Altman, P. Bernhard, M. Debbah and A. Silva, "Continuum Equilibria for Routing in Dense Static Ad-hoc Networks", Elsevier special issue of Computer Networks on Interdisciplinary Paradigms for Networking, 2009.
22. W. Saad, Z. Han, M. Debbah, A. Hjørungnes and T. Basar, "Coalitional Game Theory for Communication Networks: A tutorial", IEEE Signal Processing Magazine, Special Issue on Game Theory, vol. 26, no. 5, pp. 77-97, Sep. 2009.
23. S. Lasaulce, M. Debbah and E. Altman, "Methodologies for Analyzing Equilibria in Wireless Games", IEEE Signal Processing Magazine, Special issue on Game Theory, vol. 26, no. 5, pp. 51-52, 2009, Sep. 2009.
24. **M. Kobayashi, M. Debbah and S. Shamai, "Secured Communication over Frequency-Selective Fading Channels: a practical Vandermonde precoding", Eurasip Journal on Wireless Communications and Networking, special issue on physical layer security, 2009, Newcom++ Best Paper Award.**
25. W. Saad, Z. Han, M. Debbah and A. Hjørungnes, "A Distributed Coalition Formation Framework for Fair User Cooperation in Wireless Networks", IEEE Transactions on Wireless Communications, 2009.
26. M. Bennis, S. Lasaulce and M. Debbah, "Inter-Operator Spectrum Sharing from a Game Theoretical Perspective," EURASIP Journal on Advances in Signal Processing, vol. 2009, Article ID 295739, 12 pages, 2009.
27. R. Couillet and M. Debbah, "Outage performance of flexible OFDM schemes in packet switched transmissions" EURASIP Journal on Advances in Signal Processing, vol. 2009, Article ID 698417, 9 pages, 2009.
28. R. Couillet, M. Debbah, "Mathematical foundations of cognitive radios", Journal of Telecommunications and Information Technology" (JTIT), no. 4, 2009.

29. Z. Han, N. Marina, M. Debbah and A. Hjørungnes, "Physical Layer Security Game: Interaction between Source, Eavesdropper and Friendly Jammer", *Eurasip Journal on Wireless Communications and Networking*, special issue on physical layer security, 2009.
30. E.V. Belmega, S. Lasaulce and M. Debbah, M. Jungers and J. Dumont "Power Allocation Games in Wireless Networks of Multi-antenna Terminals", *Springer Telecomm. Sys. J.*, vol. 44, no. 5–6, pp. 1018-4864, May-Jun. 2010, doi: 10.1007/s11235-010-9305-3.
31. S. Perlaza, N. Fawaz, S. Lasaulce and M. Debbah, "From Spectrum Pooling to Space Pooling: Interference Alignment in MIMO Cognitive Networks", *IEEE Trans. in Signal Processing*, vol.58, no.7, pp. 3728-3741, July 2010.
32. R. Couillet and M. Debbah, "Le téléphone du futur: plus intelligent pour une exploitation optimale des fréquences", *Revue de l'Electricité et de l'Electronique*, no. 6, pp. 71-83, 2010.
33. L. Cottatellucci, R. Müller and M. Debbah, "Asynchronous CDMA Systems with Random Spreading—Part I: Fundamental Limits", *IEEE transactions on Information theory*, vol. 56, no. 4, Apr. 2010.
34. L. Cottatellucci, R. Müller and M. Debbah, "Asynchronous CDMA Systems with Random Spreading—Part II: Design Criteria", *IEEE transactions on Information theory*, vol. 56, no. 4, Apr. 2010.
35. M. R. Bhatnagar, A. Hjørungnes and M. Debbah, "Delay-Tolerant Decode-and-Forward Based Cooperative Communication over Ricean Channels", *In IEEE Transactions on Wireless Communications*, vol. 9, no. 4, pp. 1277-1282, Apr. 2010.
36. G. He, M. Debbah and E. Altman, "A Bayesian Game-Theoretic Approach for Distributed Resource Allocation in Fading Multiple Access Channels ", *Eurasip Journal on Wireless Communications and Networking*, vol. 2010, Article ID 391684, 10 pages, 2010.
37. L. Song, G. Hong, B. Jiao and M. Debbah, "Joint Relay Selection and Analog Network Coding using Differential Modulation in Two-Way Relay Channels", *IEEE Transactions on Vehicular Technology*, vol. 59, no. 6, Jul. 2010.
38. P. Bianchi, M. Debbah, J. Najim, "Asymptotic independence in the spectrum of the Gaussian unitary ensemble", *Elect. Comm. Probab.* (15) 2010 , pp. 376-395.
39. G. He, L. Cottatellucci, and M. Debbah: "The Waterfilling Game-Theoretical Framework for Distributed Wireless Network Information Flow", *EURASIP Journal on Wireless Communications and Networking*, vol. 2010, Article ID 482975, 13 pages, 2010.
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