Besma Smida

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Networks Information Communications and Engineering Systems Laboratory
NICEST Lab – *http ://nicest.lab.uic.edu*

Education

Harvard University, Cambridge, USA
Post-doctorate Fellow, Engineering Sciences 2006 – 2009
Recipient of NSERC and FQRNT Postdoctoral Fellowships.

University of Quebec, INRS-EMT, Montreal, Canada
Ph.D., Telecommunications 2006
Recipient of the *Academic Gold Medal* of the Governor General of Canada and the INRS *Award of Academic Excellence.*
M.Sc., Telecommunications 1998
Recipient of the *Excellence Award*, Canadian International Development Agency

École supérieure des télécommunications de Tunis (SupCom), Tunisia
Principal Engineering Diploma in Telecommunications 1995
Holder of a *Tunisian Government grant*

Industrial experience

MICROCELL Inc. (now ROGERS Wireless), Montreal, Canada Sep. 1999 – Dec. 2002
Research Engineer, Technology Evolution and Standards
Surveyed and studied the evolution of radio-communication technology. Took part in major wireless normalization committees (3GPP, T1P1). Supervised students and developed relationships with universities.

Academic Experience

University of Illinois at Chicago, Chicago, USA Aug. 2015 – Present
Associate Professor
Purdue University Calumet, Hammond, USA
Assistant Professor Aug. 2012 – Aug. 2015
Visiting Assistant Professor Aug. 2009 – Aug. 2012
Conducted independent and collaborative research in wireless communications. Received internal and external fundings. Taught undergraduate and graduate courses. Advised research assistants and students. Participated in committee work as well as outreach activities.

Harvard University, Cambridge, USA Oct. 2006 – Aug. 2009
Lecturer/Post-doctorate Fellow
Conducted independent and collaborative research with Harvard professors, students, and visiting scholars. Taught graduate and undergraduate courses.

University of Southampton, Southampton, UK June 2006 – July 2006
Visiting Scholar
Conducted collaborative research in multi-carrier systems with Prof. Lajos Honzo.

Awards and Recognitions

• UIC College of Engineering Teaching Award – May 2018.
• Insight Into Diversity Magazine "100 Inspiring Women in STEM" Award – August 2015.
• *Associate Editor* of IEEE Communication Letters starting Feb. 2016.
• *Member* of the IEEE Communication Society Emerging Technologies Committee since Jan. 2016.
• *Senior Member* of the Institute of Electrical and Electronics Engineers (*IEEE*).
• Excellence in Sponsored Grants at Purdue University Calumet, 2013.
• *Chair* of IEEE Women in Engineering (WIE), Chicago section (2010-2013).
• Academic *Gold Medal of the Governor General of Canada* and INRS Academic Excellence, 2007.
• NSERC and FQRNT Postdoctoral Fellowship, Harvard University 2006 – 2009.
• Excellence Award from the Canadian International Development Agency 1996 – 1998.
• *Panelist* for National Science Foundation, *TPC chair*, *TPC member*, *Reviewer* and *Session chair* of several *IEEE/IEE* conferences and journals.

Grants at UIC (funded)

• NSF/CCF/CIF Medium #1900911 "Delay, reliability, rate tradeoffs in wireless broadcast channels" (PI : Natasha Devroye, Co-PIs : Besma Smida, Daniela Tuninetti), of $1,200,000 over the period 07/01/19 to 06/30/23.
• NSF/CCF/CIF award #1620794 "Optimizing Two-way Communications with Feedback " (sole PI) of $238,885 over the period 09/01/13 to 08/31/17.
• NSF/CCF/CIF CAREER award #1620902 "Full-duplex wireless networks by means of reflected power : Theory and applications " of $425,429 over the period 09/01/15 to 08/31/20.
• UIC COE Seed Funding grant #200250/949070 "ComRaDe : A fully-integrated Communication, Ranging and Detection system" (PI : Besma Smida, Co-PI : Mojtaba Soltanalian) of $15,000 over the period 05/16/16 to 05/15/17. My share 50%.
• UIC COE Seed Funding grant #200250/949068 "On the art of communicating highly reliable short packets with low latency" (PI : Natasha Devroye, Co-PIs : Hulya Seferoglu, Besma Smida, Daniela Tuninetti) of $30,000 over the period 05/16/16 to 05/15/17. My share 25%.
• DoD Research and Education Program for HBCU/MI "Three birds with one stone : high-frequency instrumentation for semiconductor device, radar and communication system measurements" (PI : Danilo Erricolo, Co-PI : Natasha Devroye, Mitra Dutta, Hulya Seferoglu, Junxia (Lucy) Shi, Besma Smida, Mojtaba Soltanalian, Michael Stroscio, and Daniela Tuninetti), of $600,000 over the period 02/04/17 to 01/06/2018. My share 18%.
• Illinois Ventures - Proof of Concept "Inherent Self-interference Cancellation For In band Full-duplex Wireless Communications" (PI : Besma Smida, Co-PI : Danilo Erricolo) of $50,000 over the period 01/02/18 to 06/01/8. My share 50%.

Grants before UIC (funded)

• NSF REU award #1461296 "Sustainable Wireless Communication "(PI : Shuhui Yang, Co-PI : Besma Smida) of $358,973 over the period 01/01/15 to 12/31/18. My share 50%.
• NSERC/Prompt award "Automatic kinematic data classification and its implementation as a new technology to diagnose knee pathology" (PI : Neila Mezghani, collaborator : Besma Smida) of $224,900 over the period 01/01/2014 to 12/31/2016.
• PRF/SFG Summer Faculty Grant of $8,000, Purdue University Calumet, 2013.

Students and Post-doctoral Fellows Supervised

- Graduate Students and Post-doctoral Fellows
  - Md Atiqul Islam, Ph.D. student 08/16/2017 - present. Passed qualifying exam. Partially supported by NSF CAREER #1620902.
  - Dr. Hamza Soury, Post-doctoral fellow 9/15/2016 - present. Partially supported by ECE startup funding.
  - Zohreh Ovaisi, MS student 6/15/2016 - 07/12/2018. Jointly supervised by Natasha Devroye, Daniela Tuninetti and Hulya Seferoglu. Partially supported by COE Seed Fund #200250/949068.
  - Mohammadreza Mousai, MS student 8/16/2015 - 11/30/2017. Partially supported by COE Seed Fund #200250/949070.
  - Dr. Seiran Khaledian, Ph.D. student 8/16/2015 - defended 03/04/2019. PhD preliminary exam on 07/12/2018. Partially supported by NSF CAREER #1620902.
  - Xinghao Gu, Ph.D. student 8/16/2015 - present. Passed qualifying exam. Partially supported by NSF #1620794.
  - Dr. Farhad Farzami, Ph.D. student, defended 11/09/2018. Jointly supervised by Danilo Erricolo. Partially supported by NSF CAREER #1620902.
  - Konstantin Muranov, Ph.D. student, 1/1/2014 - present, jointly supervised by Natasha Devroye. PhD preliminary exam on 4/17/2017. Working full-time at Intel (formerly Motorola).
  - Dr. Hongyi Zhu, Ph.D. student (Purdue WL), defended 04/19/2018. Jointly supervised by David J Love. Supported by NSF #1620794.
  - Shajid Islam, MS student (Purdue), defended 05/2015. Currently Ph.D. student at the University of Oklahoma.
  - Tian Li, MS student (Purdue), defended 05/2014. Currently Firmware Engineer at Marvell Semiconductor Inc.
  - Md. Maksud Alam, MS student (Purdue), defended 12/2011. Currently Senior Lecturer at North South University, Bangladesh.

Teaching experience

University of Illinois at Chicago, Chicago, USA

- ECE 311 Engineering Communication Fall 2018. Enrollment 56. Completed evaluation 36. Instructor Evaluation 4.77/5.0.
- ECE 432 Digital Communications Fall 2018. Enrollment 35. Completed evaluation 19. Instructor Evaluation 4.67-4.11/5.0.
- ECE 311 Engineering Communication Spring 2018. Enrollment 40. Completed evaluation 21. Instructor Evaluation 4.65/5.0.
- ECE 432 Digital Communications Fall 2017. Enrollment 38. Completed evaluation 23. Instructor Evaluation 4.3-4.48/5.0.
- ECE 311 Engineering Communication Spring 2017. Enrollment 34. Completed evaluation 21. Instructor Evaluation 4.76/5.0.
- ECE 432 Digital Communications Fall 2016. Enrollment 36. Completed evaluation 23. Instructor Evaluation 4.32-4.25/5.0.
- ECE 311 Engineering Communication Spring 2016. Enrollment 31. Completed evaluation 20. Instructor Evaluation 4.6/5.0.
- ECE 432 Digital Communications Fall 2015. Enrollment 48. Completed evaluation 33. Instructor Evaluation 3.1-3.5/5.0.

Purdue University, Hammond, USA
- — ECE 448 Introduction to communication theory 2011/2012/2013/2014 (evaluation 4.6/5.0).
- — ECE 595 Estimation and Detection Theory (graduate course) 2011 (evaluation 4.5/5.0).
- — ECE 502 Information Theory (graduate course) 2010/2011/2012/2014/2015 (evaluation 4.6/5.0).
- — ECE 544 Digital Communications 2009/2010/2011/2012/2013/2014 (evaluation 4.4/5.0).
- — ENGR 151 Software Tools for Engineers (undergraduate course) 2009/2010/2011/2012 (evaluation 4.2/5.0).

Harvard University, Cambridge, USA
- — Information Theory (graduate course) 2008.
- — Signals and Systems (undergraduate course) 2009.

Publications

Patent (at UIC)

[1] **B. Smida**, "Communication with backscatter modulation," US Patent US20150236841, August 20, 2015.

[2] **B. Smida**, D. Erricolo, F. Farzami, and S. Khaledian, "Method for self-interference cancellation for in-band full duplex single antenna communication systems," Provisional Patent filed on April 7, 2017.

Book Chapter (before UIC)

B. Smida and S. Affes, "Adaptive Multicarrier-CDMA Space-Time Receivers" in *Adaptive Signal Processing in Wireless Communications*, Editor M. Ibnkahla, CRC Press, 2008.

Papers in Refereed Journals (at UIC)

[24] S. Khaledian, F. Farzami, H. Soury, B. Smida and D. Erricolo, "Active Two-Way Backscatter Modulation : An Analytical Study," *IEEE Transactions on Wireless Communications* (accepted, not published yet).

[23] S. Khaledian, B. Smida and D. Erricolo, "Robust Self-Interference Cancellation for Microstrip Antennas by Means of Phase Reconfigurable Coupler," *IEEE Transactions on Antennas and Propagation* vol. 66, no. 10, Oct. 2018.

[22] O. Manoochehri, A. Darvazehban, M. Salari, S. Khaledian, D. Erricolo, and **B. Smida**, "A dual-polarized biconical antenna for direction finding applications from 2 to 18 GHz," *Microwave and Optical Technology Letters*, vol. 60, no. 6, pp. 1552-1558, April 2018.

[21] S. Khaledian, F. Farzami, **B. Smida**, D. Erricolo, "Inherent self-interference cancellation for in-band full-duplex single-antenna," *IEEE Transactions on Antennas and Propagation*, vol. 66, no. 6, pp. 2842-2850, June 2018.

[20] F. Farzami, S. Khaledian, **B. Smida**, D. Erricolo, "Reconfigurable Linear/Circular Polarization Rectangular Waveguide Filtenna," *IEEE Transactions on Antennas and Propagation*, vol. 66, no.1, pp. 9-15, January 2018.

[19] Z. Ahmad, I. Ahmad, **B. Smida** and D. Love, "Analysis of Two-Unicast Network-Coded Hybrid-ARQ With Unreliable Feedback," *IEEE Transactions on Vehicular Technology*, no.11, vol. 67, November 2018.

[18] S. Khaledian, F. Farzami, D. Erricolo and **B. Smida**, "A Full-duplex Bidirectional Amplifier with Low DC Power Consumption Using Tunnel Diodes," *IEEE Microwave and Wireless Components Letters*, vol. 27, no. 12, pp. 1125-1127, December 2017.

[17] H. Zhu, **B. Smida** and D. Love, "Throughput analysis of network coded HARQ for two-way communication with reverse-link assistance," *IEEE Communications Letters*. no. 2, vol. 22, February 2018.

[16] F. Farzami, S. Khaledian, **B. Smida** and D. Erricolo, "Reconfigurable Dual Band Bi-directional Reflection Amplifier with Applications in Van Atta Array," *IEEE Transactions on Microwave Theory and Techniques*, no.11, pp. 4198 - 4207, November 2017.

[15] **B. Smida** and S. Khaledian, "ReflectFX : In-band Full-duplex wireless communication by means of reflected power," *IEEE Transactions on Communications*, vol. 65, no. 5, May 2017.
[14] **B. Smida**, "Coding to reduce the Interference to Carrier Ratio of OFDM signals," *EURASIP Journal on Wireless Communications and Networking*, pp. 1-11, Jan. 2017.
[13] F. Farzami, S. Khaledian, **B. Smida** and D. Erricolo, "Pattern Reconfigurable Printed Dipole Antenna Using Loaded Parasitic Elements," *IEEE Antennas and Wireless Propagation Letters,* November 2016.
[12] **B. Smida**, M. Hossain, and Y. Zhao, "Optimization of pilot overhead in communication with ARQ-feedback," *IEEE Transactions on on Wireless Communication Letters*, vol. 5, no. 2, pp. 160-163, April 2016.

Papers in Refereed Journals (before UIC)
[11] P. Larsson, **B. Smida**, T. Koike-Akino and V. Tarokh, "Analysis of Network Coded HARQ for multiple unicast flows," *IEEE Transactions on Communications*, vol. 61, no. 2, pp. 722 -732, Feb. 2013.
[10] J. Earl, S. Metz, M. Tomehy, D. Gray and **B. Smida** , "Backscatter modulation in full-duplex two- way communications," *The Journal of Purdue Undergraduate Research*, August 2013.
[9] M. Sabbaghian, Y. Kwak, **B. Smida** and V. Tarokh, " Near Shannon limit low peak to average power ratio turbo block coded OFDM," *IEEE Transactions on Communications*, vol.59, no.8, August 2011.
[8] **B. Smida**, G. Efthymoglou, S. Ghassemzadeh and V. Tarokh, "On Effects of Antenna Pointing Accuracy For on-the-move Satellite Networks," *IEEE Transactions on Vehicular Technology*, vol.60, no.4, May 2011.
[7] **B. Smida** and V. Tarokh, "Analysis of Interference in Air-to-Ground CDMA Cellular Systems Under Idealized Assumptions," *IEEE Transactions on Communications*, vol.59 , no.1, January 2011.
[6] **B. Smida**, L. Hanzo and S. Affes, "Exact BER performance of asynchronous MC DS CDMA over fading channels," *IEEE Transactions on Wireless Communications*, vol.9, no.4, April 2010.
[5] **B. Smida** and S. Affes, "Analysis of multi-user detection of multi-rate transmissions in multicellular CDMA," *Wiley Wireless Communications and Mobile Computing*, 2009 ; 9 :1-20.
[4] **B. Smida**, S. Affes, K. Jamaoui and P. Mermelstein, "A multicarrier-CDMA space-time receiver with full interference suppression capabilities," *IEEE Transactions on Vehicular Technology*, vol. 57, no. 1, pp. 363-379, January 2008.
[3] **B. Smida**, S. Affes, Jun Li and P. Mermelstein, "Spectrum-efficient multicarrier CDMA arrayreceiver with time and frequency synchronization," *IEEE Transactions on Wireless Communications*, vol. 6, pp. 2315-2327, June 2007.
[2] K. Cheikhrouhou, S. Affes, A. Elderini, **B. Smida**, P. Mermelstein, B. Sultana and V. Sampath, "Design and performance verification of an enhanced wideband CDMA receiver using channel measurements," *EURASIP Journal on Applied Signal Processing*, no. 11, pp. 1736- 1752, July 2005.
[1] **B. Smida**, C. Despins and G. Delisle, "MC-CDMA performance evaluation over a multi-path fading channel using the characteristic function method," *IEEE Transactions on Communications*, vol. 49, no. 8, pp. 1325-1328, August 2001.

Conference Papers (at UIC)
[52] M. A. Islam and **B. Smida**, "A Comprehensive Self-interference Model for Single-antenna Full-duplex Communication Systems," Proc of *IEEE ICC*, Shanghai, China, pp.1- 7, May 2019.
[51] H. Soury, **B. Smida**, L. Lenderman, and M. Zefran "Unified communication and control framework to improve building response in earthquakes, " Proc of *IEEE WCNC*, Marrakech, Morocco, April 2019.
[50] D. Tuninetti, **B. Smida**, N. Devroye and H. Seferoglu, "Scheduling on the Gaussian Broadcast Channel with Hard Deadlines," Proc of *IEEE ICC*, Kansas City, MO, pp.1- 7, May 2018.

[49] Z. Ovaisi, N. Devroye, H. Seferoglu, **B. Smida**, D. Tuninetti, "On Erasure Broadcast Channels with Hard Deadlines," Proc of *IEEE ICC Workshop - 5G TACNET*, Kansas City, MO, pp.1-6, May 2018.
[48] S. Khaledian, F. Farzami, **B. Smida** and D. Erricolo, "Inherent self-interference cancellation at 900 MHz for in-band full-duplex applications," Proc of *IEEE 19th Annual Wireless and Microwave Technology Conference (WAMICON)*, Clearwater, FL, pp. 1-4, April 2018.
[47] S. Khaledian, F. Farzami, **B. Smida** and D. Erricolo, "Enhancement of backscatter tags effciency by means of low-power transistor-based reection amplifier and QPSK modulator," Proc. of *IEEE USNC-URSI National Radio Science Meeting*, Boulder, CO, Jan. 2017.
[46] F. Farzami, S. Khaledian, **B. Smida** and D. Erricolo, "Tunable SIW cavity backed active antenna with circular polarization," Proc. of *IEEE USNC-URSI National Radio Science Meeting*, Boulder, CO, Jan. 2017.
[45] H. Soury and **B. Smida**, "Optimal Pilot Overhead for FDD Full-Duplex Communication and Radar Sensing (ComSens)," Proc of *MILCOM*, Baltimore, MD, October 2017.
[44] M. H. Moghaddam, M. J. Azizipour, S. Vahidian and **B. Smida**, "A Framework for Super-Resolution of Scalable Video via Sparse Reconstruction of Residual Frames," Proc of *MILCOM*, Baltimore, MD, October 2017.
[43] M. Mousaei, M. Soltanalian and **B. Smida**, "ComSens : Exploiting Pilot Diversity for Pervasive Integration of Communication and Sensing in MIMO-TDD-Frameworks," Proc of *MILCOM*, Baltimore, MD, October 2017.
[42] F. Farzami, S. Khaledian, **B. Smida**, D. Erricolo, "Ultra-Low Power Reflection Amplifier using Tunnel Diode for RFID applications," Proc of *IEEE AP-S Symposium on Antennas and Propagation/ URSI*, San Diego, USA, July 2017.
[41] H. Soury, T.H.T. Truong, L. Lenderman and **B. Smida**, "Impact of Multiple Access Technique on Wireless Structural Control," Proc of *IEEE IWCMC*, Valencia, Spain, June 2017.
[40] M. Mousaei and **B. Smida**, "Optimizing Pilot Overhead for Ultra-Reliable Short-Packet Transmission," Proc of *IEEE ICC* 2017, Paris, France, May 2017.
[39] K. Muranov, **B. Smida**, and N. Devroye, "On Channel Equalization for Full-duplex Relay Networks," Proc of *IEEE ICC* 2017, Paris, France, May 2017.
[38] H. Zhu, X. Gu, **B. Smida** and D. Love, "On Practical Network Coded ARQ for Two-way Wireless Communication," Proc of *IEEE ICC* 2017, Paris, France, May 2017.
[37] F. Farzami, S. Khaledian, **B. Smida**, D. Erricolo, "Tunable SIW cavity backed active antenna with circular polarization," Proc of *USNC-URSI National Radio Science Meeting*, Boulder, CO, USA, January 2017.
[36] S. Khaledian, F. Farzami, **B. Smida**, D. Erricolo, "Enhancement of backscatter tags efficiency by means of low-power transistor-based reflection amplifier and QPSK modulator, " Proc of *USNC-URSI National Radio Science Meeting*, Boulder, CO, USA, January 2017.
[35] S. Khaledian, F. Farzami, D. Erricolo and **B. Smida**, "A Power-Efficient Implementation of In-Band Full-Duplex Communication System - ReflectFX," *IEEE 8th International Symposium on Signal, Image, Video and Communications (ISIVC)*, November 2016.
[34] H. Zhu, **B. Smida**, and D. Love, "An efficient network coding scheme for two-way communication with ARQ feedback," in Proc of *IEEE ICC* 2016, Kuala Lumpur, Malaysia, May 2016.
[33] **B. Smida**, H. Mojtahed, H. Markovich and A. Lee,"Backscatter-Modulation Constellation for Full-Duplex Wireless Communication," in Proc of *IEEE 12th International Conference on Mobile Ad Hoc and Sensor Systems (MASS)*, Dallas, USA, October 2015.

Conference Papers (before UIC)

[32] M.M. Alam, N.J. Disha, M.A. Rahman, and **B. Smida**, "Maximum PEP and ICI over coset representatives for 32 subcarriers reed-muller coded OFDM," in Proc of *International Conference on Electrical and Computer Engineering (ICECE)*, 2014.

[31] **B. Smida** and S. Islam, "Full-duplex wireless communication based on backscatter amplification," in Proc of *IEEE ICC*, Sydney, Australia, July 2014.

[30] T. Li and **B. Smida**, "Optimization of limited feedback in two-way communication," in Proc of *IEEE ICC* , Sydney, Australia, July 2014.

[29] **B. Smida** and N. Devroye, "Optimization of Two-way Communication with ARQ Feedback," Proc of *IEEE ICC* 2013, Budapest, Hungry, June 2013.

[28] M Maksud Alam and **B. Smida** and N. Devroye, "PAPR and ICI reduction of OFDM Signals," Proc of *IEEE CEIT* 2013, Sousse, Tunisia, June 2013.

[27] Y. Liu,, X. Zhu, X. Zhang, T. Johnson, J. Moreland and **B. Smida**, "3D Visualization of RF Propagation in an Air-to-Ground Systems," Proc of *IEEE ICEELI* 2012, Sousse, Tunisia, June 2012.

[26] **B. Smida**, "Computation and reduction of the Peak Interference to Carrier Ratio of OFDM signals," Proc of *Globecom* 2011, Houston TX, USA, December 2011.

[25] S. J. Kim, **B. Smida** and N. Devroye, "Lattice strategies for a multi-pair bi-directional relay networks," Proc of *IEEE ISIT* 2011, St. Petersburg, Russia, August 2011.

[24] Y. Kwak, M. Sabbaghian, **B. Smida** and V. Tarokh, "Low Peak To Average Power Ratio Turbo Block QPSK Coded OFDM," Proc of *IEEE CCNC* 2011, Las Vegas, USA, January 2011.

[23] S. J. Kim, **B. Smida** and N. Devroye, "Multi-pair bi-directional relay networks," Proc of *IEEE ISIT* 2010, Anstin, USA, June 2010.

[22] P. Larsson, **B. Smida**, T. Koike-Akino and V. Tarokh, "Analysis of Network Coded HARQ for Multiple Unicast Flows," Proc of *IEEE ICC* 2010, Cap town, South Africa, May 2010.

[21] **B. Smida**, G. P. Efthymoglou, S. S. Ghassemzadeh and V. Tarokh, "Interference analysis for on-the-move satellite communication systems," Proc. of *IEEE VTC* 2009 spring, Barcelona, Spain, April 2009.

[20] **B. Smida** and V. Tarokh, "Interference in Air-to-Ground Cellular Systems," Proc. of *IEEE ICC* 2008, Beijing, China, May 2008.

[19] **B. Smida**, L. Hanzo and S. Affes, "Exact BER performance of asynchronous MC-DS-CDMA over Nakagami-m fading channels," Proc. of *IEEE WCNC* 2008, Las Vegas, USA, March 2008.

[18] **B. Smida** and V. Tarokh, "Ground-to-Air Interference Analysis in Cellular ATG Systems," Proc. of *Conference on Information Sciences and Systems CISS*'08, New Jersey, USA, March 2008.

[17] **B. Smida**, L. Hanzo and S. Affes, "Accurate BER of MC-DS-CDMA over Rayleigh Fading Channels," Proc. of *IEEE MCSS* 2007, Herrsching, Germany, May 2007.

[16] **B. Smida** and S. Affes, "Performance analysis of band-limited generalized multicarrier CDMA systems," Proc. of *IEEE VTC* 2006-Fall, Montreal, Canada, September 2006.

[15] K. Cheikhrouhou, S. Affes, A. Elderini, **B. Smida**, P. Mermelstein, B. Sultana and V. Sampath, "Performance evaluation of an enhanced wideband CDMA receiver using channel measurements," Proc. of *IEEE VTC* 2006-Fall, Montreal, Canada, September 2006.

[14] **B. Smida**, S. Affes and P. Mermelstein, "Hybrid interference subspace rejection for multirate CDMA with improved performance/complexity tradeoff," Proc. of *IEEE VTC* 2005-Fall, Dallas, Texas, USA, September 2005.

[13] K. Cheikhrouhou, S. Affes, A. Elderini, **B. Smida**, P. Mermelstein, B. Sultana and V. Sampath, "On-line analysis/synthesis-based channel parameters estimation and wideband CDMA receiver design verification," Proc. of *IEEE VTC* 2005-Fall, Dallas, Texas, USA, September 2005.

[12] **B. Smida** and S. Affes, "On the performance of interference subspace rejection for next generation multicarrier CDMA," **Invited Paper**, Proc. of *IEEE ISSPA* 2005, Sydney, Australia, August 28-31, 2005.

[11] **B. Smida**, S. Affes, K. Jamaoui and P. Mermelstein, "A multicarrier-CDMA receiver with full interference suppression and carrier frequency offset recovery," Proc. of *IEEE SPAWC* 2005, New York City, USA, June 2005.
[10] **B. Smida**, S. Affes and P. Mermelstein, "Performance analysis of hybrid interference subspace rejection in multi-rate CDMA," Proc. of *IEEE Canadian Workshop on Information Theory* 2005, Montreal, Canada, June 2005.
[9] **B. Smida**, S. Affes, Jun Li and P. Mermelstein, "Multicarrier-CDMA STAR with time and frequency synchronization," Proc. of *IEEE ICC* 2005, Seoul, Korea (south), May 2005.
[8] **B. Smida**, S. Affes and P. Mermelstein, "Hybrid interference subspace rejection for multi-rate WCDMA," Proc. of *22nd Biennial Symposium on Communications*, Queen's University, Kingston, Canada, 2004.
[7] **B. Smida**, S. Affes and P. Mermelstein, "Frequency and time synchronization for the CDMA array-receiver STAR with interference subspace rejection," Proc. of *IEEE VTC* 2003-Fall, Orlando, USA, 2003.
[6] **B. Smida**, S. Affes and P. Mermelstein, "Joint time-delay and frequency offset synchronization for CDMA array-receivers," Proc. of *IEEE SPAWC* 2003, Rome, Italy, 2003.
[5] M.A. Parent, **B. Smida** and V. Sampath, "Effect of multi-code interference on the downlink capacity of a UMTS TDD CDMA cellular system," Proc. of *IEEE VTC* 2002-fall, Vancouver, Canada, September 2002.
[4] **B. Smida**, V. Sampath and P. Marinier, "Capacity degradation due to coexistence between second generation and 3G/WCDMA systems," Proc. of *IEEE VTC* 2002-spring, Birmingham, USA May 2002.
[3] **B. Smida**, C. Despins and G. Delisle, "MC-CDMA performance evaluation over a multi-path fading channel using the characteristic function method," Proc. of *IEEE ISWC* 1998, Montreal, Canada April 1998.
[2] B. Sultana, **B. Smida** and A. Benazza, "Segmentation d'images par des méthodes de seuillages," *JTEA* (Jounée Tunisienne d'Electrotechnique et Automatique), Nabeul (Tunisia), November 1995.
[1] **B. Smida**, B. Sultana and A. Benazza, "Segmentation hiérarchique d'images numériques," *CMGE* (Congrés Magrébin de Génie Electrique), Tunis (Tunisia), August 1995.