

# ABDOUL RJOUNB

IEEE Senior Member

Fulbright Schholar and visiting professor at Purdue Universit – West Lafayette - USA

## ***QUALIFCATIONS:***

- Ph. D. Degree Holder in Electrical and Computer Engineering.
- 18 years in teaching and research.
- International recognition, Fulbright Scholar, DAAD Scholar, IKY Scholar, and honoured international recognition and awards.
- High skills on teacher training and professional development.
- 25 years previous successful experience managing and providing technical, administrative and financial guidance within international projects in capacity building, training, and research development.
- Strong experience in strategic planning, SWOT Analysis, socio-economic analysis, challenges and opportunities, managing and directing successful projects for more than 25 years.
- Excellent oral and written communication skills and strong interpersonal skills.
- Fluent in English, Arabic, and Greek.

## ***PROFESSIONAL EXPERIENCE:***

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- Feb. 2010 – Currently: Associate Prof. Department of Computer Engineering/Electronics Devision, Jordan University of Science & Technology, Jordan,
- Aug. 2014 – 2015 Visiting Scholar at Purdue University, Dept. of Electrical and Computer Engineering, West Lafayette, USA.
- Sept. 2010 – August 2015: Coordinator of EU-FP7, Horizon Projects: MOSAIC, JEWEL.

## ***PROFFESIONAL ACTIVITIES AND AWARDS***

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- ✓ Senior Member in IEEE,
- ✓ 2<sup>nd</sup> Place in EU-Mediterranean Hackathon contest award, Dec. 2016
- ✓ Most Download Papers short listed Authors,
- ✓ 4<sup>th</sup> Place in Contest “Static timing Analysis,” Mardird, Spain 2011,
- ✓ Budget amount 35.000 Euro, PCI- Mediterraneo, Spain – Jordan Resarch Program,
- ✓ 500,000 Euro, FP7, EU JEWEL Project, (2010 - 2013),
- ✓ 750,000 Euro, FP7, EU MOSAIC Project (2014-2016),
- ✓ Most active reviewer award in ACIT/2008,
- ✓ Journal Reviewer: VLSI DESIGN: An International Journal of Custom-Chip Design,
- ✓ Conference Reviewer: IEEE ICECS, IEEE ISCAS, DCCA, ICIT, MobiMedia, ACIT,
- ✓ Train of Trainees (TOT) Certificate.

- **Invited Speaker in the following events:**
  - ✓ ○ ANEAC/ARTIMISA Technological Platform, Paris, December 2012.
  - ✓ ○ MIRA Conference, Marrakech, December 2012.
  - ✓ ○ Africa-MENA Delegation, Cairo, Egypt, July, 2012.
  - ✓ ○ ICT Info-Day Event, Organized by EU, Poland, March 2012.
  - ✓ ○ ICT Info-Day Event, Organized by EU, Hungary, March 2011.
  - ✓ ○ Info-Day "ICT in Low Carbon", Brussels, April, 2011.
  - ✓ ○ Join-MED Forum, Cairo, Egypt, July 2011.
- **Special Session Chair in the following conferences:**
  - ✓ ○ IEEE MELECON Conference, "Advances in Nanoscale Devices and Circuits: Modeling, Design, Optimization," Tunisia, March, 2012.
  - ✓ ○ IEEE ICECS Conference, "Tools, Techniques & Circuits for low-power consumer electronics", Seville, Spain. December 2012.
- **International Coordinator in the following Conferences:**
  - ✓ ○ IEEE International Conference of Circuits and Systems, ICECS,
  - ✓ ○ IEEE International Conference of Microelectronics, ICM.
- **Technical Program Chair (TPC) in the following conferences:**
  - ✓ ○ International Symposium of Circuits and Systems, ISCAS,
  - ✓ ○ International Conference of Circuits and Systems, ICECS,
  - ✓ ○ International Conference on Information and Communication Systems (ICICS)
  - ✓ ○ International Workshop on Power Analysis, Timing, Optimization and System (PATMOS).

## ***PUBLICATIONS:***

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### **1. Journals:**

J16. **Abdoul Rjoub**, Ehab M Ghabashneh, "Low Power High Speed Block Ciphers Approaches for Cryptography Algorithms/MISTY as Example," Journal of Circuits, Systems and Computers, Vol. 27, No. 13, 2018.

J15. **Abdoul Rjoub**, Shihab AlKattab, "Modelling and simulation tools for nanoscale transistor sizing," Int. J. Simulation and Process Modelling, Vol. 13, No. 3, 2018.

J14. **Abdoul Rjoub**, Motasem Ajlouni, Hassan Manasrah, "A Fast Input Vector Approach for Sub-threshold Leakage Power Reduction," at Nanoscale Transistors," International Journal of Modeling, Identification and Control, Vol. 23, No. 4, 2015, Inderscience Publishers, USA.

J13. Atheer Al-Shaggah, **Abdoul Rjoub**, Mohammed Khasawneh, "Impacts of Parameter Scaling for Low-Power Applications Using CNTFET (Carbon Nanotube Field Effect Transistor) Models: A Comparative Assessment," Journal of Energy and Power Engineering, Vol. 8 pp. 1142-1152, 2014, David Publisher, USA.

J12. **Abdoul Rjoub** and Hassan Almanasrah, "Low Leakage Power Sequential Circuits Using Multi-V<sub>th</sub> at Nano-Scale Transistor," Journal of Energy and Power Engineering, Vol. 7, 2013, pp. 193-205, David Publisher, USA.

J11. **Abdoul Rjoub**, Almotasem Bellah Alajlouni, Hassan Almanasrah, " Graph Modeling for Static Timing Analysis at Transistor Level in Nano-Scale CMOS Circuits," Circuits and Systems, Vol. 4, April 2013, pp. 123-136, Scientific Research Publisher, USA.

- J10. **Abdoul Rjoub**, Mutasem Ajlouni, "Efficient multi-threshold voltage techniques for minimum leakage current in nanoscale technology," *Journal of Circuit Theory and Applications*, Vol. 39, Issue 1, 2011; pp. 1049-1066, Wiley Publisher, USA.
- J9. **Abdoul Rjoub**, Muna Aldourah, "The Performance and Behavioral of Dual Edge Triggered Flip-Flops in Nano-Technology," *International Journal of Computer Aided Engineering and Technology*, Inderscience Publisher, Switzerland.
- J8. **Abdoul Rjoub**, Al-Mamoun, Al-Othman, "The Influence of the Nanometer Technology on Performance of CPL Full Adders," *Journal of Computers*, Vol. 4, No. 9, September 2009, Academy Publisher, Finland.
- J7. **Abdoul Rjoub**, M. Musameh, O. Koufopavlou, "Full Custom Low-Power / High Performance DDP-Based COBRA-L64 Cipher, *International of Computers & Electrical Engineering*, Vol. 35, No. 6, 2009, Pergamon-Elsevier Science Publisher.
- J6. A.P. Kakarountas, H.E. Michail, and C.E. Goutis, **Abdoul Rjoub**, "High-Throughput Implementation of the RipeMD-160," *International Journal of Internet Technology and Secured Transactions*, , Vol. 1, No. 3, 2009, pp. 309-316, Inderscience Publisher, Switzerland.
- J5. **Abdoul Rjoub** and O. Koufopavlou, "Multithreshold Voltage Low Swing/Low Voltage Techniques in Logic Gates," *Integration, the VLSI Journal*, Volume 38, No. 2, 2004, pp. 283-298, Pergamon-Elsevier Science Publisher.
- J4. **Abdoul Rjoub** and O. Koufopavlou, "Low Power High Speed Multithreshold Voltage CMOS Bus Architectures", *Computers & Electrical Engineering an International Journal*, Volume 30, No. 2004, pp. 269 – 280, Pergamon-Elsevier Science Publisher.
- J3. **Abdoul Rjoub**, M. Alrousan, O. Aljarrah, O. Koufopavlou, "An Efficient Low - Swing Multithreshold Voltage Low Power Design Technique", *Journal of circuits Systems and Computer*, Volume 13, No. 1, 2004, pp. 193-203, word Science Publisher.
- J2. **Abdoul Rjoub** and Ali Shatnawi, "High Speed Low Power Multi-threshold Voltage Flip Flops". *IEE Journal of Electrical Engineering*, Institute of Electrical Engineering, Vol. 54, No. 5, 2003, pp. 123-127.
- J1. **Abdoul Rjoub** and Odysseas Koufopavlou, "Efficient Low Power/Low Swing Bus Design Architectures," *Journal of VLSI DESIGN*, Vol. 12, No. 3, pp. 415-429, January 2001.

## **2. Conferences**

C45. **Abdoul Rjoub** and Ehab M. Ghabashneh, "Low Power/High Speed Optimization approaches of MISTY Algorithm," 5th International Conference on Electronic Devices, Systems and Applications, Ras Al-Khaimah, Abu-Dabi.

C44. **Abdoul Rjoub** and Areej Ahmad, "Fast Modeling Technique for Nano Scale CMOS Inverter and Propagation Delay Estimation," Appeared in the 24<sup>th</sup> International Workshop on Power and Timing Modeling, Optimization and Simulation, Palma (Mallorca) 29 September to 1 October 2014.

C43. **Abdoul Rjoub**, Nedal Taradeh and Mamoun Mistarihi, "Gate Leakage Current Accurate Models for Nanoscale MOSFET Transistors," Appeared in the 24<sup>th</sup> International Workshop on Power and Timing Modeling, Optimization and Simulation, Palma (Mallorca) 29 September to 1 October 2014.

C42. **Abdoul Rjoub**, Nedal Al-Taradeh, "Accurate Modeling for CMOS Inverter Overshooting time in Nanoscale Paradigm," The 25<sup>th</sup> International Conference on Microelectronics (ICM 2013): Micro/Nanoelectronics, 15-18 December, Lebanon.

C41. Mamoun Al-Mistarihi, **Abdoul Rjoub**, Nedal Al-Taradeh, "Drain Induced Barrier Lowering (DIBL) Accurate Model for Nanoscale Si-MOSFET," The 25<sup>th</sup> International Conference on Microelectronics (ICM 2013): Micro/Nanoelectronics, 15-18 December, 2013, Lebanon.

C40. **Abdoul Rjoub**, Nedal R. Al-Taradeh, and Mamoun F. Al-Mistarihi, "Accurate Subthreshold Leakage Model for Nanoscale MOSFET Transistor," *Abdoul Rjoub, Nedal Al-Taradeh, Mamoun Al-Mistarihi,* IEEE International Conference on Circuits and Systems, Abu-Dabhi, United Arab Emirates, 5-8 December, 2013.

C39. **Abdoul Rjoub**, Mamoun Mistarihi, Nedal Taradeh, "Bascattering Coefficient Accurate Model for Nanoscale Si-MOSFET Transistor," IEEE Faible Tension Faible Consommation, June 20-21, 2013, Paris-France.

C38. **Abdoul Rjoub**, Mamoun Al-Mistarihi, Nedal Al-Taradeh, "Recent Transport Models in Nanoscale MOSFET Transistor – Study and Analysis," The 8<sup>th</sup> Jordanian International Electrical and Electronics Engineering Conference, Amman-Jordan, 16 – 18 April, 2013.

C37. **Abdoul Rjoub**, Mamoun Al-Mistarihi, Nedal Al-Taradeh, "Transport Mobility and Injection Velocity Model for Nanoscale MOSFET Transistor," The 8<sup>th</sup> Jordanian International Electrical and Electronics Engineering Conference, Amman-Jordan, 16 – 18 April, 2013.

C36. Panagiotis Chaourani, Spyridon Nikolaidis, **Abdoul Rjoub**, "Subthreshold influence on Pass Transistor Operation Modeling for Nano-Scale Technologies," The 8<sup>th</sup> Jordanian International Electrical & Electronics Engineering Conference, Amman, 16-18 April 2013.

C35. Dimitrios Tzagkas, Spyridon Nikolaidis, **Abdoul Rjoub**, "Estimating the Starting Point of Conduction in Nanoscale CMOS Gates," International Conference on Electronics, Circuits and Systems (ICECS), Seville, Spain, 9-12 Dec. 2012

C34. I. Pappas, L. Voudouris, S. Nikolaidis, **A. Rjoub**, "A new current – programmed pixel design for AMOLED displays implemented with organic thin film transistors," International Conference on Microelectronics, MIEL 2012 Conference, Nis, Serbia, May 13-16, 2012.

C33. L. Voudouris, **A. Rjoub**, S. Nikolaidis, "High speed FPGA implementation of Hough transform for real-time applications", IEEE Symposium on Design and Diagnostics of Electronic Circuits and Systems (DDECS), Tallinn, Esthonia, April 18-20, 2012.

C32. D Tzagkas, C. Varnavidou, I. Pappas, L. Voudouris, **A. Rjoub**, S. Nikolaidis, "Pass transistor driving RC loads in nanoscale technologies," IEEE Mediterranean Electrotechnical Conference (MELECON), Tunisia, March 26-28, 2012.

- C31. **Abdoul Rjoub**, Almotasem Bellah Ajlouni, Hassan Almanasrah, "A Fast Input Vector Control Approach for Subthreshold Leakage Power Reduction," 16<sup>th</sup> IEEE *International Conference on Mediterranean Electrotechnical Conference, 2012*, March 25-28 2012, Tunisia, Tunis.
- C30. **Abdoul Rjoub**, Almotasem Bellah Ajlouni, "Graph Modeling for Static Timing Analysis at Transistor Level in Nano-Scale CMOS Circuits," 16<sup>th</sup> IEEE *International Conference on Mediterranean Electrotechnical Conference, 2012*, March 25-28 2012, Tunisia, Tunis.
- C29. Dimitrios Tzagkas, Christina Varnavidou, Ilias Pappas, **Abdoul Rjoub**, "Pass transistor driving RC loads nanoscale technologies," 16<sup>th</sup> IEEE *International Conference on Mediterranean Electrotechnical Conference, 2012*, March 25-28 2012, Tunisia, Tunis.
- C28. **Abdoul Rjoub**, Nedal Al-Taradeh, Mamoun F. Al-Mistarihi, " Modeling in Nanoscale CMOS technology: Challenges and Design Requirements," Proceedings of the "International Conference on Solar energy for MENA region (INCOSOL)". Amman, Jordan, 22-23 October 2012
- C27. Calliope-Louisa Sotiropoulou, Christos Gentsos, Spiridon Nikolaidis and **Abdoul Rjoub**, "FPGA-based Canny Edge Detection for Real-Time Applications," 26<sup>th</sup> Conference on Design of Circuits and Integrated Systems (DCIS), Albufeira, Portugal, Nov. 2011.
- C26. **Abdoul Rjoub**, Hassan Manasrah, Mutasem Ajlouni, "A Fast Input Vector Control Approach for Sub-threshold Leakage Power Reduction," International Conference of MELECON, 2011, Tunisia. Tunis.
- C25. Abdoul Rjoub**, Almanasrah Hassan, Shihab Kattab, "An efficient DELOTS Algorithm for low leakage current at nano-scale transistor", IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT), December, 6-8 2011
- C24. P. Chaourani, I. Pappas, S. Nikolaidis, **Abdoul Rjoub**, "Pass transistor operation for rising ramps in both terminal inputs," The 26<sup>th</sup> Conference on Design of Circuits and Integrated Systems (*DCIS*), 2011, Portugal.
- C23. **Abdoul Rjoub**, Shihab Kattab, Hassan Almanasrah, " An Efficient DELOTS Algorithm for Low Leakage Current at Nano-Scale Transistor," IEEE International Conference on Applied Electrical Engineering and Computing Technologies (AEECT), December 6-8, 2011, Jordan.
- C22 Panagiotis Chaourani, Ilias Pappas, Spiros Nikolaidis, **Abdoul Rjoub**, "Pass Transistor Operation Modeling for Nanoscale Technologies," *International Workshop on Power and Timing Modeling, Optimization and Simulation (PATMOS)*, Sept. 26-29, 2011, Spain.
- C21. **Abdoul Rjoub**, Hassan Almanasrah, "Low leakage multi-V<sub>th</sub> technique for sequential circuits at transistor level in nanotechnology," 17<sup>th</sup> IEEE International Conference on Electronics, Circuits, and Systems, ICECS 2010, Athens, Greece, 12-15 December, 2010.
- C20. **Abdoul Rjoub**, Samer Khasawneh, "Efficient Techniques for Low Power Leakage Current Based on Header/Footer Techniques in Nano-Scale Circuits," *11<sup>th</sup> Arab Conference on Information Technology*, December 2009, Yemen.
- C19. Ghashmi Bin Talib, **Abdoul Rjoub**, Odysseas Koufopavlou, "Low Power Bus Architectures in Nano-Technology, Study and Analysis," *4<sup>th</sup> International Conference on Information Technology*, June 3-5, 2009, Amman, Jordan.
- C18. I. Jarrah, M. Shdefat, and **Abdoul Rjoub**, "An Efficient Implementation of IRIS Recognition Algorithms for Portable Equipment," On proceedings of *Arab International Conference for Information Technology*. pp. 276-281, November. 26-28, 2007, Latiqia, Syria.
- C17. **Abdoul Rjoub**, A. Ajlouni, " An Efficient Approach to Calculate Leakage Current Based on SPICEs Parameters at CMOS Transistors," On proceedings of *International Conference on Information Technology*, May 9-11, 2007, Amman, Jordan.
- C16. **Abdoul Rjoub**, M. Musameh, O. Koufopavlou, " An Optimal Low-Power/High Performance DDP-based Corba-H64 Cipher," On Proceedings of *International Mobile Multimedia Communications Conference*, August 27-29, 2007, Nafpactos, Greece.

- C15. **Abdoul Rjoub**, B. Tall, L. Mardeeni, & R. Sharou, "A Novel Multi-Forms Multiple Choice Editor Exam Tool Based on HTML Website, On the proceedings of the 7<sup>th</sup> *International Conference on Information Technology Based Higher Education and Training*, pp. 854-869, 10 – 13July, 2006, Sydney, Australia.
- C14. P. Souras, N. Sklavos, **Abdoul Rjoub**, and C. Efstathiou, "Networks Security: Risk Management and Economics in Information Technology." On Proceeding of *Arab Conference for Information Technology*, pp. 178-183, 2006. Amman, Jordan.
- C13. **Abdoul Rjoub**, L. Tawalbeh, "A Low Power, High Frequency and High Precision Multiplier Architecture in GF(p). on Proceedings of *International e-Conference of Computer Science*, 2005. Athens, Greece.
- C12. **Abdoul Rjoub**, M. Al-Rousan, O. Jarrah, and O. Koufopavlou, "Multi-Level Low Swing Voltage Values for Low Power Design Applications", *IEEE International Symposium in Circuits and Systems (ISCAS2001)*, Vol. IV, pp. 590-593, 30May-2June, 2001, Sydney, Australia.
- C11. **Abdoul Rjoub** and O. Koufopavlou, "Multiple Low Swing Voltage Values for CPL, CVSL AND Domino Logic Families," in proc. *IEEE International Conference on Electronics, Circuits and Systems*, vol. I, pp. 903- 906, December 17-20, 2000. Junieh, Lebanon.
- C10. **Abdoul Rjoub** and O. Koufopavlou, "Multithreshold Voltage Technology for Low Power Bus Architecture", *10<sup>th</sup> International Conference on Very Large Scale Integration(IFIP)*, pp. 219 – 232, December 1 - 4, 1999, Lisboa, Portugal.
- C9. **Abdoul Rjoub**, O. Koufopavlou, "Low-swing/Low-power Driver Architecture", in proc. *IEEE International Conference on Electronics Circuits and Systems*, vol. II, pp. 639-642, September, 5 - 8, 1999, Cyprus.
- C8. **Abdoul Rjoub**, O. Koufopavlou, "Efficient Drivers, Receivers, and Repeaters for Low Power CMOS Bus Architectures", in proc. *IEEE International Conference on Electronics Circuits and Systems*, vol. II, pp. 789- 794, Paphos, Cyprus, September 5 –8, 1999.
- C7. **Abdoul Rjoub**, O. Koufopavlou, "Low Power Methods Comparison", Proceedings of *3<sup>rd</sup> World Multiconference on: Circuits, Systems, Communications and Computers*, June 4 – 8, pp. 327 – 331, 1999, Greece.
- C6. **Abdoul Rjoub**, O. Koufopavlou, "Low Voltage Swing Gates for Low Power Consumption", in Proc. *IEEE International. Symposium on Circuits and Systems*, vol. I, pp. 234 - 237, May 30 - June 2, 1999, Florida, USA.
- C5. **Abdoul Rjoub**, O. Koufopavlou, "Low-Power Domino Logic Multiplier Using Low-swing Technique", in proc. *IEEE International Conference on Electronics Circuits and Systems*, Vol. II, pp. 45-48, Lisboa, 1998, Portugal.
- C4. **Abdoul Rjoub**, O. Koufopavlou, S. Nikolaidis, "Low-power/Low-swing Domino CMOS Logic", in Proc. *IEEE International. Symposium on Circuits and Systems*, vol. III, May 31 – June 3, 1998, Monterey, USA.
- C3. **Abdoul Rjoub**, L. Bisdounis, O. Koufopavlou, "Influence of the nMOS and pMOS Transistor Threshold Voltage on CMOS Circuits Power Dissipation", in proc. *IEEE International Conference on Electronics Circuits and Systems*, vol. II, pp. 545-549, December, 1997, Cairo, Egypt.
- C2. **Abdoul Rjoub**, S. Nikolaidis, O. Koufopavlou, T. Stouraitis, "A New Efficient low Power Bus Architecture", in Proc. of *IEEE International Symposium on Circuits and Systems*, vol. III, pp. 1864-1867, June, 1997, Hung- Kung, China.
- C1. **Abdoul Rjoub**, V. Paliouras, T. Stouraitis, "A Full-Custom Implementation of an RNS Multiplier", *IEEE International Conference on Electronics Circuits and System*, December, 1995, pp. 25-28, Amman, Jordan.

### **3. Chapters in Books:**

Chapter in Book1: Panagiotis Chaourani, Ilias Pappas, Spiros Nikolaidis, **Abdoul Rjoub**, “Pass Transistor Operation Modeling for Nanoscale Technologies,” Integrated Circuit and System Design. Power and Timing Modeling, Optimization, and Simulation Lecture Notes in Computer Science Volume 6951, 2011, pp 53-62.

Chapter in Book2: **Abdoul Rjoub**, Odysseas Koufopavlou, “Multithreshold Voltage Technology for Low Power Bus Architecture,” VLSI: Systems on a Chip: IFIP TC10 WG10.5 Tenth International Conference on Very Large Scale Integration.