

## **Magdy A. Bayoumi**

Director, The Center for Advanced Computer Studies

Head, Computer Science Department

Z.L. Loflin Eminent Scholar Endowed Chair Professor

Ph.D., Electrical Engineering, University of Windsor, Canada, 1984

Dissertation: *VLSI Implementation of Residue Number System Architectures*

### **Publications**

#### ***Refereed Journal Publications (Selected)***

- C. Akl and M. Bayoumi, "Reducing Interconnect Delay Uncertainty via Hybrid Polarity Repeater Insertion," *IEEE Trans. on Very Large Scale Integration (VLSI) Systems*, vol. 16, Issue 9, pp. 1230-1239, Sept. 2008.
- C. Akl and M. Bayoumi, "Transition Skew Coding for Global On-Chip Interconnect," *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, vol. 16, Issue 8, pp. 1091-1096, Aug. 2008.
- C. Akl and M. Bayoumi, "Single-Phase SP-Domino: A Limited-Switching Dynamic Circuit Technique for Low-Power Wide Fan-in Logic Gates," *IEEE Trans. Circuits and Systems-II (TCAS-II)*, vol. 55, no. 2, pp. 141-145, Feb. 2008.
- Walid M. Elgharbawy, Pradeep Golconda, Abdelhamid G. Moursy, and M.A. Bayoumi, "Novel Adaptive Body Biasing Techniques for Energy Efficient Subthreshold CMOS Circuits," *Journal of Low Power Electronics JOLPE*, vol. 3, no. 2, pp. 175-188(14), Aug. 2007.
- Ramy E. Aly and M.A. Bayoumi, "Low-Power Cache Design Using 7T SRAM Cell," *IEEE Transactions on Circuits and Systems II*, vol. 54, no. 4, pp. 318-322, April 2007.
- Peiyi Zhao, Jason McNeely, Pradeep Golconda, M.A. Bayoumi, Kuang W.D., and Bobby Barcenas, "Low Power Clock Branch Sharing Double-Edge Triggered Flip-Flop," *IEEE Transactions on VLSI*, vol. 15, no. 3, pp. 338-345, March 2007.
- Nan Wang and M.A. Bayoumi, "System-on-chip Communication Architecture: Dynamic Parallel Fraction Control Bus Design and Test Methodologies," *IET Proc. Computers and Digital Techniques Journal*, vol. 1, no. 1, pp. 1-8, Jan. 2007.

#### ***Grants and Contracts (Selected)***

- Co-Investigator, NSF, "MRI: Acquisition of a Wireless Nanonetworks Integration and Emulation System for Multi-Processor SoC Research and Education," August 2008 - August 2011: \$500,000.
- Co-Investigator, DOE, EPSCoR, "Ubiquitous Computing and Monitoring System (UCoMS) for Discovery and Management of Energy Resources," August 2007 - August 2010: \$900,000.
- Co-Investigator, BoR, State of Louisiana, "Ubiquitous Computing and Monitoring System (UCoMS) for Discovery and Management of Energy Resources," August 2007 - August 2010: \$1,200,000 (State matching).
- Principal Investigator, "Design of Smart Sensor and Its Implementation in Wireless Sensor Network," NSF, Aug. 2007 - July 2009, \$29,997.
- Principal Investigator, "U.S.-Egypt Workshop on Ubiquitous Computing: Sensors and Wireless Sensor Networks," NSF, Oct. 2007 - Sept. 2008, \$40,000.
- Principal Investigator, "Web-based Decision Support using Internet Tool to Provide Information and Data for Coastal Wetlands Restoration Activities," USGS, July 2007 - June 2009, \$174,500.
- Principal Investigator, "Recruitment of Superior Graduate Students in Computer Science and Computer Engineering," Aug. 2005 - July 2012, \$352,000, LEQSF, State of Louisiana.

#### ***Offices, Awards and Honors (Selected)***

- ABET Program Evaluator, 2009
- Co-Guest Editor, Special Issue on "SoC," *IEEE Proceedings*, 2006
- NSF Panel in Nanotechnology, Feb. 2004
- Chair, VLSI Signal Processing Technical Committee of the IEEE Signal Processing Society, 2001-2003
- NSF Panel in Information Technology Research, Feb. 9-10, 2000
- On the Advisory Board for the Project, "Special Education beyond year 2000," US Department of Education (1990-1993); also serving on the Technology Panel for that project
- **General Chair**, *Ubiquitous Computing: Sensors and Wireless Sensor Networks NSF Workshop*, Dec. 29-30, 2008
- **General Chair**, *IEEE International Symposium on Circuits and Systems (ISCAS 2007)*, May 27-30 2007, New Orleans, LA

- **General Chair**, *IEEE Computer Society Annual Symposium on VLSI*, Feb. 19-20, 2004, Lafayette, LA
- **General Chair**, *IEEE Workshop on Signal Processing Systems (SiPS)*, Oct. 11-13, 2000, Lafayette, LA
- **Distinguished Lecturer**, “Wireless Sensor Networks: The Art of Integration,” Rice University Distinguished Lecture Series, Jan. 15, 2009
- **Panelist**, “Communication Advances for the Oil, Gas, and Energy Industries,” *IEEE Global Communications Conference (GLOBECOM) 2008*, Dec. 3, 2008, New Orleans, LA
- **Keynote**, “SoC: The Promise Land for Wireless Sensors Networks,” *International SoC Design Conference*, Nov. 24, 2008, Busan, Korea
- **Invited Speaker**, “Wireless Sensors Networks: Current and Future Challenges,” University of Bridgeport, School of Engineering Colloquium Series, Nov. 13, 2008, Bridgeport, CT
- **Plenary Speaker**, “Renewable Energy: From Intellectuality to Reality,” *The 2nd IASTED International Conference on Power and Energy Systems*, Sept. 9, 2008, Gaborone, Botswana
- **Invited Speaker**, “A Ubiquitous Computing and Monitoring System (UCoMS) for Oil Platforms Management,” *IEEE International Conference on RFID 2008*, April 16, 2008, Las Vegas, Nevada
- **Keynote**, “New Wireless Sensors Networks: The Art of Integration,” *14th IEEE International Conference on Electronics, Circuits and Systems*, Dec. 12, 2007, Marrakech, Morocco
- **Keynote**, “Wireless Sensor Networks: A Collaborative and Embedded Information Processing Environment,” *The 1st International Symposium on Information Electronics Systems*, Nov. 27, 2007, Sendai, Japan
- **Keynote**, “Wireless Sensor Networks & DSP: Marriage Made in Heaven,” *IEEE Workshop on Signal Processing Systems (SiPS 2007)*, Oct. 17, 2007, Shanghai, China
- **Keynote**, “SoC: The Promise Land for Wireless Sensors Networks,” *The 18th VLSI Design/CAD Symposium*, August 9, 2007, Taiwan
- **Keynote**, “Renewable Energy: From Aristocracy and Intellectuality to Reality,” *International Seminar on Renewable Energy*, Jan. 29, 2007, Taipei, Taiwan.
- IEEE Circuits and Systems Meritorious Service Award, 2009
- French Government Fellowship, University of Paris IV Orsay, 1994, 1995, 2002, 2009
- In a formal ceremony, including ribbon cutting and dedication rituals, a VLSI Lab in a new College of Engineering in Hyderabad, India, was named after me: **Bayoumi Lab** (Feb. 2006)
- Elected Vice President for Conferences, IEEE Circuits and Systems Society, 2006
- IEEE Circuits & Systems Society 2003 Education Award, May 2003
- United Nations Fellowship, TOKTEN Visitor, Egypt, 1994, 2002, 2003
- Chair, People-to-People Ambassador Delegate to China, 2000
- Fellow IEEE, 1999
- Distinguished University Professor of the Year, 1993
- USL Researcher of the Year, 1989