

ABET CV for Robert J. Barsanti Jr.

1. Name: Robert J. Barsanti Jr.
2. Academic rank: Associate Professor of Electrical and Computer Engineering
3. Degrees with field, institutions and dates:
 - B.S. Electrical Engineering, Polytechnic Institute of New York, June 1982
 - M.S. Electrical Engineering, Naval Postgraduate School, December 1996
 - M.S. Engineering Acoustics, Naval Postgraduate School, December 1996
 - Ph.D. Electrical Engineering, Naval Postgraduate School, June 2001
4. Number of years service on this faculty:
 - Date of original appointment: Jan 2002
 - Date of advancement in rank: 2002 to Associate Professor
5. Other related experience:
 - a. Military Instructor and Assistant Professor of Electrical and Computer Engineering, Naval Postgraduate School, 1997-2001
 - b. Career Naval Officer with service in the Nations submarine force, including positions as Chief Engineer of nuclear propulsion systems. 1981 – 2001
6. Consulting and patents:
 - Senior Engineer, Scientific Research Corporation, Nov 2001 to present
7. Professional Engineering registration: none
8. Principal publications of last five years:
 - a. Robert Barsanti, Charles Lehman, “Application of a Wavelet-Based Receiver for the Coherent Detection of FSK Signals,” *Proceedings of IEEE 40th Southeastern Symposium on Systems and Technology 2008*, New Orleans, LA, April 2008.
 - b. Robert Barsanti, “Teaching Nuclear Engineering to Electrical Engineering Students,” *Proceedings of 2007 American Society of Engineering Educators (ASEE) Annual Conference*, Honolulu, HI, June 2007.
 - c. Robert Barsanti, Smith T., Lee R., “Performance of a Wavelet-Based Receiver for BPSK and QPSK Signals in Additive White Gaussian Noise Channels,” *Proceedings of IEEE Southeastern Symposium on Systems and Technology 2007*, Macon, GA, April 2007.
 - d. Robert Barsanti, “Undergraduate Research: Challenges, Rewards, and Lessons Learned,” *Proceedings of 2007 American Society of Engineering Educators (ASEE) Southeast Section Conference*, Louisville, KY, April 2007.
 - e. Mark H. McKinney, Robert J. Barsanti, “Sparking Interest in Middle and High School Students Using a Robotics Competition”, *Proceeding of 2006 American Society of Engineering Educators (ASEE) Southeast Section Conference*, Tuscaloosa, AL, April 2006.
 - f. Robert Barsanti, Edwin Spencer, Lucas Parobek, and James Cares, “Feature Matching and Signal Recognition Using Wavelet Analysis”, *Proceedings of IEEE Southeastern Symposium on Systems and Technology 2006*, Cookeville, TN, March 2006.
 - g. Robert Barsanti, “Removal of Colored Noise from Non-Stationary Signals using Wavelet Packet and Cosine Packet Decompositions”, *Proceedings of IEEE Southeastern Symposium on Systems and Technology 2005*, Tuskegee, AL, March 2005
 - h. Brent Munsell, Robert Barsanti, “Electrophoresis 2D Gel Residual Encoding using Adaptive Wavelets for Image Segmentation”, *Proceedings of IEEE South Eastern Conference 2005*, Ft. Lauderdale, FL, April 2005
 - i. Robert J. Barsanti and Murali Tummala “Wavelet-Based Time Delay Estimates for Transient Signals”, *Proceeding of IEEE 37th Asilomar Conference on Signals, Systems, and Computers*, Monterey, CA, November 2003.

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- j. Robert J. Barsanti, "Acoustic Signal Time Delay Estimation Using Wavelets", *Proceeding of The 7th World Multiconference on Systemics, Cybernetics and Informatics*, Orlando, FL, July 2003
- k. R. Barsanti and M. Tummula, " Combined Acoustic Target Tracking and Sensor Localization", *Proceedings of IEEE SoutheastCon 2002*, April 2002.
- l. R. Barsanti and M. Tummula, " Improved Acoustic Target Tracking Using Wavelet Based Time Difference of Arrival Information", *Proceedings of IEEE SoutheastCon 2002*, April 2002.
- m. R. Barsanti and M. Tummula, " Parameter Estimation for Target Tracking with Uncertain Sensor Positions", *Proceedings of 2001 IEEE International Symposium on Circuits and Systems*, May 2001.
- n. R. Barsanti and M. Tummula, " Passive Target Tracking with Uncertain Sensor Positions", *Proceedings of IEEE 34th Asilomar Conference on Signals, Systems, and Computers*, November 2000

9. Other Publications

- M. Tummula, C. Therrien, R. Barsanti, M. Shields, "Beartrap Post Mission Analysis System", Naval Postgraduate School Research, Vol. 11, No.3, Oct. 2001, (8 pages)
- R. Barsanti, "Passive Target Tracking with Uncertain Sensor Positions Using Wavelet-Based Transient Signal Processing," Naval Postgraduate School Dissertation, June 2001,(178 pages)
- R. Barsanti, M. Tummula, C. Therrien, "Enhanced Multi-Segment Tracker", Naval Postgraduate School Technical Report, July 2000 (142 pages).
- M. Fargues, R. Barsanti, R. Hippenstiel, " Wavelet-Based Denoising: Comparison of Orthogonal and Non-Orthogonal Decompositions", *Proceedings of 40th Midwest Symposium on Circuits and Systems*. 1998. (5 pages)
- M. Fargues, R. Barsanti, "Wavelet-Based Denoising of Transients", Naval Postgraduate School Technical Report, February 1997 (71 pages).
- M. Fargues, R. Barsanti, R. Hippenstiel, "Investigations in the Denoising of Ocean Acoustic Signals Using Wavelet-Based Techniques", Naval Postgraduate School Technical Report, February 1997 (33 pages).
- M. Fargues, R. Bennet, R. Barsanti, "Classification of Ocean Acoustic Data Using AR Modeling and Wavelet Transforms", Naval Postgraduate School Technical Report, January 1997 (37 pages).
- R. Barsanti, "Denoising of Ocean Acoustic Signals Using Wavelet-Based Techniques", Naval Postgraduate School Masters Thesis, December 1996, (104 pages).
- R. Barsanti, M. Fargues, "Wavelet-Based Denoising of Acoustic Transients", *Proceedings of 30th Asilomar Conference on Signals and Systems*, November 1996 (5 pages)

10. Scientific and Professional Society Memberships:

- Tau Beta Pi Engineering Honor Society
- Institute of Electrical and Electronic Engineers
 - Signal Processing Society
 - Ocean Engineering Society
 - Speech and Signal Processing Society
- American Society for Engineering Education
- The Military Officers Association

11. Honors and awards:

- Eta Kappa Nu Electrical Engineering Honor Society
- Tau Beta Pi Engineering Honor Society
- Outstanding Instruction Performance Award, Naval Postgraduate School, 1997

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Naval Undersea Warfare Center Award for Excellence in Underwater Systems Technology, 1996

12. Subjects or courses taught at The Citadel
- ELEC 104 *Engineering Fundamentals I, 1 hour, lecture*
 - ELEC 105 *Engineering Fundamentals II, 2 hours, lecture*

 - ELEC 301 *Linear Systems Lab, 2 hours, laboratory*
 - ELEC 302 *Electrical Machinery Lab, 2 hours laboratory*
 - ELEC 306 *Electronics I, 3 hours, lecture*
 - ELEC 307 *Nuclear Engineering, 3 hours, lecture*
 - ELEC 309 *Linear Circuit Analysis, 3 hours, lecture*
 - ELEC 313 *Electronics Laboratory, 2 hours, laboratory*
 - ELEC 312 *Systems I, 3 hours, lecture*
 - ELEC 316 *Electromechanical Energy Conversion, 3 hours, lecture*

 - ELEC 401 *Electronics II, 3 hours, lecture*
 - ELEC 407 *Systems II, 3 hours, lecture*
13. Institutional and professional service in the last five years:
- Professional service:
- Senior Engineer for Scientific Research Corporation (part-time & summer)
 - Reviewer for Circuits, Systems and Signal Processing Magazine
 - Reviewer McGraw Hill: Signals and Systems, Analysis Using Transform Methods and Matlab, by M.J. Roberts, Chapters 11, The Z Transform, and Chapter 12, Z Transform of Signals and Systems.
- Reviewer for numerous conferences including:
- The 8th World Multiconference on Systemics, Cybernetics and Informatics
 - The IEEE 37th Southeastern Symposium on Signals and Systems
 - The 2005 IEEE Frontiers in Education Conference.
 - The 2006 ASEE Southeast Section conference
- Institutional service: Tenure track faculty member since Jan 2002
- Awards Committee
 - Faculty Development Committee
 - ECE Department Search Committee
 - Seaman to Admiral student advisor
14. Professional development activities in the last five years:
- IEEE Southeastern Symposium on Systems and Technology Conference, March 2008
 - American Society of Engineering Educators (ASEE) Annual Conference, June 2007.
 - American Society of Engineering Educators (ASEE) Southeast Section Conference, April 2007.
 - IEEE Southeastern Symposium on Systems and Technology Conference, April 2007
 - American Society of Engineering Educators (ASEE) Southeast Section Conference, April 2006.
 - IEEE Southeastern Symposium on Systems and Technology Conference, March 2006
 - IEEE Southeastern Symposium on Systems and Technology Conference, March 2005
 - IEEE Frontiers in Education Conference, 20-23 Oct 2004, Savannah, GA.
 - Short courses at The Citadel: HTML Basics 9/2004, Dreamweaver I 9/2004, DreamweaverII 9/2004

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37th Asilomar Conference on Signals, Systems, and Computers, Nov 2003
The 7th World Multiconference, SCI 2003, July 2003
IEEE SoutheastCon 2002, April 2002
Writing for Professional Publication Workshop, Feb 2002
34th Asilomar Conference on Signals, Systems, and Computers, Nov 2000

15. Courses taught at Naval Postgraduate School (1/1997-10/2001)

Undergraduate courses taught

Introduction to Matlab® (EC 1010)

Circuit Analysis (EC 2100)

Introduction to Circuit and Power System Analysis (EO 2102)

Control Systems (EC 2300)

Linear Systems (EC 2320)

Discrete Systems (EC 2400)

Introduction to Linear Systems (EO 2402)

Analysis of Signals and Systems (EC 2410)

Communications Systems (EC 2500)

Introduction to Communications Systems Engineering (EO 2413)

Probabilistic Analysis of Signals and Systems (EC 2010)

Graduate courses taught

Communications Systems Engineering (EO 3513)

Introduction to Communications Systems Engineering (EO 3516)

Communications Systems Analysis (EO4516)