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EDUCATION

Ph.D. (1991)	Electrical Engineering
The Pennsylvania State University	University Park, Pennsylvania
M.S. (1987)	Electrical Engineering
Case Western Reserve University	Cleveland, Ohio
M.S. (2000)	Systems Analysis
Miami University	Oxford, Ohio
B.S. (1983)	Physics
Nanjing University	Nanjing, China

EMPLOYMENT

Professor (2009 – Present)
Associate Prof. (2006 – 2009)
Assistant Prof. (2004 – 2006)
Electrical & Computer Engineering Department, Miami University, Oxford, OH

Assistant Professor (2000 – 2004)
Manufacturing & Mechanical Engineering Department, Miami University, Oxford, OH

Visiting Assistant Professor (1997-2000)
Computer Science & Systems Analysis Department, Miami University, Oxford, OH

Post-Doctoral Research Fellow (1991-1993)
Space Physics Research Laboratories, The University of Michigan, Ann Arbor, MI

Research Assistant (1987-1991)
Electrical & Computer Engineering Department, The Pennsylvania State U., Univ. Park, PA

Research Assistant (1986-1987)
Electrical Engineering & Applied Physics Department, Case Western Reserve U., Cleveland, OH

Faculty (1983-1985)
Department of Physics, Nanjing University, Nanjing, China

PROFESSIONAL AFFILIATIONS AND OFFICES HELD

- Membership:
 - IEEE Aerospace and Electronics Society
 - IEEE Signal Processing Society
 - IEEE Microwave and Theory Society (MTT)
 - Institute of Navigation (ION)
 - Chinese Professionals in GPS (CPGPS)
- Offices Held
 - Outreach Committee Chair, ION (2009)
 - Eastern Region Member-At-Large, ION (2008)
 - Chair, Bradley Parkinson Thesis Award Committee, ION (2008)
 - Member, ION Council (since 2006)

- Representative, Consortium of Ohio Universities on Navigation & Time keeping (COUNT) (since 2006)
- Chair, Award and Membership Committee, CPGPS (since 2006)
- Chair, ION Dayton Section (2006-7)
- Vice Chair, ION Dayton Section (2004-6)
- Technical Committee, IEEE MTT Society, DSP Subgroup (since 2004)
- Executive Secretary, ION Dayton Section (2003-4)
- Conference Organization
 - Session Co-Chair, 2009 ION Global Navigation Satellite Systems Conference
 - Session Co-Chair, 2009 ION International Technical Meeting
 - Focused Session Organizer, Advances in Positioning Sys., 2009 Int. Microwave Sym.
 - Workshop Organizer, 2008 Miami ECE/ION Dayton Section Symposium
 - Session Co-Chair, 2008 ION National Technical Meeting
 - Award Committee Chair, 2008 New Navigation Technologies and Innovations Conf., Beijing, China
 - Award Committee Chair, 2007 CPGPS China Forum, Guangzhou, China
 - Technical Chair, 2007 ION Global Navigation Satellite Systems Conference
 - Session Co-Chair, 2007 ION Annual Meeting
 - Session Co-Chair, 2007 ION National Technical Meeting
 - Session Co-Chair, 2006 ION National Technical Meeting
 - Workshop Co-Organizer, 2005 International Microwave Symposium
 - Workshop Organizer, 2005 AFOSR Communication & Navigation Program Review
 - Session Co-Chair, 2005 ION Global Navigation Satellite Systems Conference
 - Workshop Organizer, 2004 Miami ECE/ION Dayton Section Symposium
 - Session Co-Chair, 2004 IEEE PLANs Conference
 - Session Co-Chair, 2003 ION Annual Meeting
 - Session Chair, 2002 American Control Conference
- Tutorial Presentations
 - Polar Aeronomy and Radio Science Summer Workshop (2008)
 - National Aerospace & Electronics Conference (2008)
 - COUNT Workshop (2007, 2008, 2009)
 - IEEE MTT IMS Software Radio Workshop (2005)
 - IEEE MTT IMS Quality Automotive RF Systems Workshop (2006)
 - AFRL/WPAFB Software Receiver Techniques (2007, 2008)
- Editorial services
 - Editorial board, Springer journal GPS Solutions (since 2006)
 - Associate Editor, IEEE Trans. Aerospace & Electronics (since 2008)
- Publication Reviewer:
 - IEEE Transactions on Signal Processing
 - IEEE Transactions on Aerospace & Electronics
 - IEEE Transactions on Wireless
 - Radio Science
 - GPS Solutions
 - EURASIP Journal on Advances in Signal Processing
 - Journal of Global Positioning Systems
 - Journal of Atmospheric and Solar-Terrestrial Physics
 - Communications Letters

- Proposal Reviewer:
 - National Science Foundation
 - Air Force Office for Scientific Research
 - Air Force Research Laboratories
- Conference Reviewer:
 - ION GNSS, 2005, 2006, 2009
 - ION National Technical Meeting, 2006, 2007, 2008, 2009
 - ION Annual Meeting, 2003, 2007
 - Workshop on Position, Navigation and Communication, 2007
 - IEEE PLANS Conference, 2004
 - American Control Conference, 2002

AWARDS AND HONORS

- Teaching Excellence award, School of Engineering & Applied Sci., Miami Univ. (2007)
- Best paper award, ION GNSS Conference (2004, 2007)
- Best student paper award (advisor), CPGPS (2007)
- Nominee, Teaching Effective Award, Miami University Alumni Association (2006, 2007)
- Shoupp Award, Miami University Research Advisory Council (2001, 2006)
- Outstanding Researcher award, School of Engineering & Applied Sci., Miami Univ. (2005)
- Teaching Excellence award, Committee for Enhancement of Learning, Miami Univ. (2005)
- National Research Council/AFOSR Summer Faculty Fellowship Award (2002, 2003, 2004)
- Frontiers in Education New Faculty Fellow Award, 2000.
- First place award, Annual Graduate Research Exhibition, Penn State University (1990)
- NSF award to attend The International School on Atmospheric Radar in Kyoto, Japan (1988)

UNIVERSITY COMMITTEES AND SERVICES

- Society of Woman Engineers Advisor, 2008-9
- Faculty Search Committee Chair, 2004-5, 2008-9.
- Undergraduate Curriculum Committee member, 2008-9.
- Search committee member, Vice President for Institutional Diversity, 2007
- Administrator Evaluation Committee, 2006-7.
- School of Engineering and Applied Science Research Award Committee member, 2005-7.
- School of Engineering and Applied Science Research Council member, 2005-7.
- Undergraduate Curriculum Committee Chair, 2005-6.
- Search Committee member, Associate Provost and Dean of Graduate School, 2005-6.
- Miami Team Advisor/Organizer, ION Autonomous Lawn Mower Competition, 2004-7.
- ECE Program Director Search Committee member, 2004-5.
- Search Committee member, Assistant to the President and Associate Provost for Diversity, 2004-5.
- Faculty Search Committee member, 2000-1, 2001-2, 2002-3, 2003-4, 2005-6, 2006-7.
- ECE Program Curriculum Committee member, 2001-2.
- Principle Investigator of the Fusion Project, 2001-2.

EXTERNAL RESEARCH GRANTS (Total \$2,286K)

- [1] Morton., Y, Consortium of Ohio Universities on Navigation and Timekeeping – COUNT, \$20,000, 2007-2017.

- [2] Morton., Y, "Collaborative Research and Development Program on Navigation and Time-Keeping with AFRL/RYRN," AFRL-OSU Research Foundation, 2008-2010, \$105,321.
- [3] Morton., Y, "LADAR EO GPS/INS Atomic Clock Navigation Demonstration (LEGAND) and Worldwide Accurate Sensor Positioning System (WASPS) Technical Support," \$119,627, AFRL-General Dynamics, 2007-8.
- [4] Morton., Y, D. Charney, "High Accuracy GPS Receiver Algorithms for Navigation," \$69,540, DAGSI, 2008-2009.
- [5] Morton. Y, Differential GPS Receiver System, \$43,700, TOPCON Educational Partnership Program, 2008.
- [6] Zhou, Q., Y. Morton, "Precise GPS Signal Tracking in Interference and Multipath Environment Using a Multi-Channel Software Receiver," \$288,074, AFOSR Physics and Electronics Program, 2008-2010.
- [7] Morton. Y, Q. Zhou, "A Multi-Channel Dual Frequency Radio Frequency Front End for Anti-Jamming Software GPS Receiver Research," \$223,000, AFOSR Defense University Research Instrumentation Program, 2007-2008.
- [8] Morton. Y, F. van Graas, "Three-Frequency Based High Precision GPS Receiver for Navigation Applications," \$285,000, AFOSR Test & Evaluation Programs, 2007-2010.
- [9] Zhou, Q., Morton. Y, "A Study on the Circulation and Structure of Metallic Ions in the Mid-Latitude Ionosphere." \$341,837, NSF Atmospheric Science Program, 2007-2011.
- [10] Morton. ,Y, Q. Zhou, "An Integrated Spatial Digital Beam Forming and Adaptive Periodogram Technique for Interference and Jamming Cancellation," \$15,000, AFRL, 2006.
- [11] Morton., Y, Q. Zhou, "Multi-channel RF Receiver/Exciter Systems," \$58,000, DAGSI, 2006-2007.
- [12] Morton., Y, "Integrated Navigation Reference Systems for Micro-UAV Information Applications," \$65,232, AFRL, 2005-2006.
- [13] Morton., Y, J. Smith, "Intelligent Sensing and Control for Autonomous Vehicles," \$42,840, DAGSI, 2005-2006.
- [14] Morton., Y, Q. Zhou, "Integrated Reconfigurable Aperture, Digital Beam Forming, and Software GPS Receiver for UAV Navigation," \$263,020, AFOSR, 2004-2007.
- [15] Zhou, Q., Morton. Y, "Dual-Beam incoherent scatter radar study of the mesosphere at Arecibo," \$210,447, NSF, 2003-2006.
- [16] Morton., Y, ION Graduate Grant, \$8000, 2004-8.
- [17] Morton., Y, "Digital Beam Forming for GPS Jamming Cancellation," National Research Council/AFOSR Summer Faculty Fellowship Award, \$15,000, 2004.
- [18] Morton., Y, "Assessing Ultra-wide band interference on GPS receivers using software approach," National Research Council/AFOSR Summer Faculty Fellowship Award, \$13,750, 2003.
- [19] Morton., Y, "Interference Identification and Removal for Weak GPS Signal Acquisition," National Research Council/AFOSR Summer Faculty Fellowship Award, \$13,750, 2002.
- [20] Morton., Y, "The Miami Red Blade: An Autonomous Lawn Mower", Corporate contributions, equipment donations from Snapper, Parker Hannifin, Novatel, Outback Guidance & Control, \$25,472, 2004.
- [21] Morton., Y, "Developing Signal Processing Algorithms for Weak GPS Signal Acquisition in Urban Environment", \$50,000, AFOSR, 2003-2004.
- [22] Morton., Y, "Algorithm development for GPS interference cancellation," AFRL-Veridian Engineering, \$10,000, 2002.

INTERNAL GRANTS (Total \$165K)

- [1] Morton, Y., "Three-Frequency Based High Precision GPS Receiver for Navigation Applications", Miami OARS matching fund to AFOSR grant, \$5,000, 2007-10.

- [2] Green, K., D. Anderson, J. Reynolds, M. McCollum, Morton. Y, "Miami Red Blade III," Miami undergraduate research grant, \$1200, 2007.
- [3] Morton, Y., SEAS Teaching Excellence Award, \$2,500, 2007.
- [4] Morton, Y., "Indoor Navigation Using Wireless Sensor Network Signals", Shoupp Award, Miami University Research Advisory Council, \$8,000, 2006.
- [5] Morton, Y., Miami CELT Teaching Excellent Award, \$1,000, 2005.
- [6] Morton, Y., SEAS Outstanding Research award, \$2,500, 2005.
- [7] Morton, Y., "Integrated Reconfigurable Aperture, Digital Beam Forming, and Software GPS Receiver for UAV Navigation," Miami OARS matching fund to AFOSR grant, \$61,500, 2004.
- [8] Morton, Y., GPS lawn mower support from Miami U. Page Center for Entrepreneurship, \$3,000, 2003.
- [9] Morton, Y., Engineering prototype projects support from Miami U. Page Center Entrepreneurship, \$550, 2002.
- [10] Morton, Y., SEAS Research Initiative to support travel and graduate assistants, \$3,000, 2004.
- [11] Morton, Y., Start-up fund for GPS-guided lawn mower senior capstone project, Miami University Office for Advancement of Research and Scholarship, \$5,000, 2003.
- [12] Morton, Y., Q. Zhou, "A Prototype Software-based Engineering Lab", Miami LTEP, \$4,000, 2002.
- [13] Morton, Y., M. Bailey-Van Kuren, A. Dollar, B. Scott, D. Troy, M. Zmuda, K. Schmahl, F. Moore, M. Hatch, J. Stenger, O. Ettouney, S. Campbell, "The Fusion Project: Engineering, Technology, Computing, and Liberal Arts Education At Miami", \$20,000, 2001.
- [14] Morton, Y., Summer research support, School of Engineering and Applied Science, \$4,000, 2001.
- [15] Morton, Y., "Component-based software Development for Manufacturing Systems", Shoupp Award, Miami University Research Advisory Council, \$5,000, 2001.
- [16] Morton, Y., "Software-oriented Wireless Communication Systems," Miami U. startup package, \$40,000, 2000.

PUBLICATONS

Journal Papers

- [1] Morton, Y. T., Q. Zhou, and F. van Graas, "Assessment of second order ionosphere error in GPS range observables using Arecibo incoherent scatter radar measurements," *Radio Sci.*, 44, RS1002, doi:10.1029/2008RS003888, 2009.
- [2] Morton, Y. T., F. van Graas, Q. Zhou, and J. Herdtner, "Assessment of the higher order ionosphere error on position solutions," accepted, *Navigation*, 2009.
- [3] Brennehan, M. T. and Y. T. Morton, "A new metric for the effect of interference bandwidth on beamformer performance," accepted, *IEEE Trans. Aero. & Elec.*, 2009.
- [4] Dempsey, T., G. Sahin, Y. Morton, "Wireless (mobile) ad hoc network intelligent detection and characterization," accepted, *Special Information and Communication System Security* issue, *IEICE Trans.*, 2009.
- [5] Brennehan, M. T., Y. T. Morton, Q. Zhou, "GPS Multipath Detection with ANOVA Using Multi-Channel Software Receivers," accepted, *IEEE Trans. Aero. & Elec.*, 2009.
- [6] Garmatyuk, D., Y. T. Morton, X. Mao, "Radar and GPS system inter-operability with UWB-OFDM signals," accepted, *IEEE Trans. Aero. & Elec.*, 2009.
- [7] Newstadt, G., K. Green, D. Anderson, M. Lang, Y. Morton, and J. McCollum, "Miami Redblade III: A GPS-aided autonomous lawnmower," accepted, *J. Global Positioning Systems*, 2008.
- [8] Moore, R. and Y. T. Morton, "Magneto-ionic polarization and GPS signal propagation," under review, *Geophy. Res. Let.*, 2009.

- [9] Xu, H., L. Yang, Y. T. Morton, M. M. Miller, "Performance analysis of the energy detection based ToA estimator for MB-OFDM UWB," under review, *IEEE Trans. Wireless*, 2008.
- [10] Brenneman, M. T. and Y. T. Morton, "Performance analysis of false alarm rates for information theoretic criteria using the Tracy-Widom law," under review, *IEEE Trans. Signal Processing*, 2008.
- [11] Zmuda, M., A. Elesev, Y. Morton, "Localizing mobile robots using accelerometers and RF transceivers," under review, Special Positioning and Telecommunication Systems issue, *Ann. Telecommunications*, 2008.
- [12] Morton, Y. T., M. Miller, J. B. Tsui, D. M. Lin, and Q. Zhou, "GPS Civil Signal Self-Interference Mitigation During Weak Signal Acquisition," *IEEE Trans. Signal Processing*, Vol.55, No.12, p5859-5893, 2007.
- [13] Zhou, Q., and Y. T. Morton, "Gravity wave propagation in a non-isothermal atmosphere with height varying background wind," *Geophys. Res. Lett.*, 34, L23803, doi:10.1029/2007GL031061, 2007.
- [14] Zhou, Q., Y. T. Morton, "A case study of mesospheric gravity wave momentum flux and dynamical instability using the Arecibo dual beam incoherent scatter radar," *Geophys. Res. Lett.*, 33, L10802, doi:10.1029/2005GL025608, 2006.
- [15] Martin, J. D., Y. T. Morton, Q. Zhou, "Neural Network Development for the Forecasting of Upper Atmosphere Parameter Distributions," *Adv. Space Res.*, Vol. 36, No. 12, P2480-2485, 2005.
- [16] Zhou, Q. H., and Y. T. Morton, "Incoherent scatter radar study of photochemistry in the E-region," *Geophys. Res. Lett.*, 32, L01103, doi:10.1029/2004GL021275, 2005.
- [17] Zhou, Q. H., J. Friedman, S. Raizada, C. Tepley, Y. T. Morton, "Morphology of nighttime ion, potassium and sodium layers in the meteor zone above Arecibo," *J. Atmos. Solar-Terr. Phys.*, 67, 1245-1257, 2005.
- [18] Morton, Y. T., M. P. French, Q. Zhou, J. B. Y. Tsui, D. M. Lin, M. M. Miller, D. Jennings, "A Software Approach to Access Ultra-Wide Band Interference on GPS Receivers," *IEEE Trans. Aero. & Elec. Magazine*, V.20, No.1, P28-33, 2005.
- [19] Zhou, Q. H., Y. T. Morton, J. D. Mathews, D. Janches, "Aspect sensitivity of VHF echoes from field aligned irregularities in meteor trails and thin ionization layers," *Atmos. Chem. & Phys.*, 4, 685-692, 2004.
- [20] Morton, Y. T., Troy D. A., and Pizza G. A., "A State-Based Modeling Approach to Develop Component-Based Control Software for Flexible Manufacturing Systems", *Int. J. Computer Integrated Manufacturing*, V.16, No. 4-5, P292-306, 2003.
- [21] Mathews, J. D., Y. T. Morton, "Radar Measurements of Dynamics and Layering Processes in the 80-150 km Region at Arecibo," *Adv. Space Res.*, 14, No. 9, P153-169, 1994.
- [22] Hays, P. B., D. L. Wu, M. D. Burrage, D. A. Gell, H. J. Grassl, R. S. Lieberman, A. R. Marshall, Y. T. Morton, D. A. Ortland, W. R. Skinner, "Observations of the diurnal tide from space," *J. Atmos.Sci.*, 51, P3077-3093, 1994.
- [23] Morton, Y. T., R. S. Lieberman, P. B. Hays, D. A. Ortland, A. R. Marshall, D. Wu, W. R. Skinner, M. D. Burrage, D. A. Gell, J. H. Yee, "Global mesospheric tidal wind fields observed by the High Resolution Doppler Imager on board the Upper Atmosphere Research Satellite," *Geophys. Res. Lett.*, V.20, No.12, P1263-1266, 1993.
- [24] Burrage, M. D., W. R. Skinner, A. R. Marshall, P. B. Hays, R. S. Lieberman, S. J. Franke, D. A. Gell, D. A. Ortland, Y. T. Morton, F. J. Schmidlin, R. A. Vincent, and D. Wu, "Comparison of HRDI wind measurements with Radar and Rocket observations," *Geophys. Res. Lett.*, V.20, No.12, P1259-1262, 1993.

- [25] Morton, Y. T. and J. D. Mathews, "Effects of the 13-14 March 1989 geomagnetic storm on the E-region tidal ion layer structure at Arecibo during AIDA," *J. Atmos. Solar-Terr. Phy.*, V.55, No.3, P467- 485, 1993.
- [26] Morton, Y. T., J. D. Mathews, and Q. Zhou, "Further evidence for a 6-hour tide above Arecibo," *J. Atmos. Solar-Terr. Phy.*, V.55, No.3, P459- 465, 1993.
- [27] Mathews, J. D., Y. T. Morton and Q. Zhou, "Observation of ion layer motions during the AIDA campaign," *J. Atmos. Solar-Terr. Phy.*, V.55, No.3, P447- 457, 1993.
- [28] Mathews, J. D., Q. Zhou, C. R. Philbrick, Y. T. Morton, and C. S. Gardner, "Observations of ion and sodium layer coupled processes during AIDA," *J. Atmos.Solar- Terr. Phy.*, V.55, No.3, P487-498, 1993.
- [29] Hays, P. B., V.J. Abreu, M.D. Burrage, D.A. Gell, H.J. Grassl, A.R. Marshall, Y.T. Morton, D.A. Ortland, W.R. Skinner, D.L. Wu, and J.-H. Yee, "Remote sensing of mesospheric winds with the High Resolution Doppler Imager", *Planet. Space Sci.*, Vol. 40, P1599- 1606, 1992.
- [30] Tong, Y. (maiden name), J. D. Mathews and W. P. Ying, "An upper E-region quarter diurnal tide at Arecibo?" *J. Geophy. Res.*, V.93, No.A9, P10047-10051, 1988.

Conference Papers

- [1] Yang, C., Y. Morton, "Adaptive replica code synthesis for interference suppression in GNSS receivers," *2009 ION Int. Technical Meeting*, Los Angeles, CA, Jan. 2009.
- [2] Morton, Y. T., F. van Graas, Q. Zhou, J. Herdtner, "Assessment of the Second Order Ionosphere Error on Position Solutions," *2008 ION GNSS*, Savanna, GA, Sept. 2008.
- [3] Zmuda, M., A. Elesev, and Y. Morton, "Robot localization using RF and inertial sensors," 2008 NAECOM, July 2008.
- [4] Morton, Y., Q. Zhou, and F. van Graas, "Analysis of second order ionosphere error using incoherent scatter radar measurements," *Proc. 2008 Int. Ionosphere Effect Sym.*, Washington DC, May, 2008.
- [5] Garmatyuk, D., Y. Morton, X. Mao, "On coexistence of in-band UWB-OFDM and GPS signals: tracking performance analysis," *Proc. 2008 IEEE PLANS/ION*, Monterey, CA, May, 2008.
- [6] Brenneman, M., Y. Morton, Q. Zhou, "Applying ANOVA test to GPS multipath detection using a multi-channel software receiver," *Proc. 2008 IEEE PLANS/ION*, Monterey, CA, May, 2008.
- [7] Zhou, Q., M. Brennemann, Y. Morton, "Analysis of EEG data using an adaptive periodogram technique," *Proc. 2008 Int. Biomedical Eng. & Informatics*, China, May, 2008.
- [8] Brenneman, M., Y. Morton, C. Yang, F. van Grass, "Mitigation of GPS multipath using polarization and spatial diversities," *Proc. 2007 ION Global Nav. Satellite Sys.*, p1221-1229, Fort Worth, TX, Sept. 2007.
- [9] Green, K., A. Hill, Y. Morton, M. Miller, J. Campbell, "A real-time position, velocity, and physiological monitoring and tracking device for equestrian and race training," *Proc. 2007 ION Global Nav. Satellite Sys.*, p1802-1806, Fort Worth, TX., Sept. 2007.
- [10] Yang, L., H. Xu, and Y. Morton, "Positioning and navigation with ultra-wideband signals," *Proc. 2007 ION Global Nav. Satellite Sys.*, p1861-1866, Fort Worth, TX., Sept. 2007.
- [11] Garmatyuk, D., J. Schuerger, Y. Morton, K. Binns, M. Durbin, and J. Kimani, "Feasibility Study of a Multi-Carrier Dual-use Imaging Radar and Communication System," *Proc. 2007 European Radar Conf.*, Oct. 2007.
- [12] Brenneman, M. T., Y. T. Morton, Q. Zhou, and G. Distler, "GPS Interference Source Angle of Arrival Determination Using Adaptive Periodogram Techniques," *Proc. 2007 ION National Tech. Meeting*, p389-404, San Diego, CA, Jan., 2007.

- [13] Garmatyuc, D., Y. T. Morton, "On coexistence of in-band UWB-OFDM and GPS signals," *Proc. 2007 ION National Tech. Meeting*, p378-385, San Diego, CA, Jan., 2007.
- [14] Zmuda, M., Y. T. Morton, "Calibrating Non-GPS Navigation Sensors for Use in Robot Localization," *Proc. 2007 ION National Tech. Meeting*, p1137-1146, Jan., 2007.
- [15] Morton, Y., Q. Zhou, M. Cosgrove, "Ionosphere Delay correction for Single Frequency GPS Receivers," *Proc. 2007 ION Annual Meeting*, p479-484, Boston, MA, April, 2007.
- [16] Miller, C., Pickering, K., B. Samic, Y. Morton, M. Miller, "Miami Metro Bus Tracking," *Proc. 2006 ION Global Nav. Satellite Sys.*, Fort-Worth, TX, Sept. 2006.
- [17] Morton, Y., L. Liou, D. Lin, J. Tsui, Q. Zhou, "Broadband interference cancellation using digital beam forming and a software receiver," *Proc. 2005 ION Global Nav. Satellite Sys.*, Sept., 2005, Long Beach, CA.
- [18] Liou, L. L., D. M. Lin, J. B. Tsui, J. Schamus, Y. T. Morton, "Baseline Vector Measurement Using a Two-Channel Software GPS Receiver," *Proc. 2005 Global Nav. Satellite Sys. Conf.*, Sept. 2005, Long Beach, CA.
- [19] Liou, L. L., D. M. Lin, J. B. Tsui, J. Schamus, Y. T. Morton, "GPS Time Tag Using Software GPS Receiver Approach," *Proc. 2005 ION Global Nav. Satellite Sys.*, Sept. 2005, Sept., 2005, Long Beach, CA.
- [20] Liou, L. L., D. M. Lin, J. B. Tsui, J. Schamus, Y. T. Morton, "Frequency Characterization of A/D Converter in Software GPS Receivers," *Proc. 2005 Joint IEEE Int'l Frequency Control Sym. & Precise Time & Time Interval Sys. & Appl. Meeting*, Vancouver, Canada, August 2005.
- [21] Smith, J. E., Y. T. Morton, S. Campbell, "Design and implementation of a control algorithm for an autonomous lawn mower," *Proc. 48th IEEE Int'l Midwest Sym. Cir. & Sys.*, Cincinnati, OH, Aug., 2005.
- [22] Morton, Y. T. J., L. L. Liou, D. M. Lin, J. B. Y. Tsui, Q. Zhou "Interference Cancellation Using Power Minimization and Self-coherence Properties of GPS Signals," *Proc. 2004 ION Global Nav. Satellite Sys.*, P132-143, Long Beach, CA, Sept., 2004.
- [23] Morton, Y. T., M. P. French, Q. Zhou, J. B. Y. Tsui, D. M. Lin, M. M. Miller, D. Jennings, "A Software Approach to Access Ultra-Wide Band Interference on GPS Receivers," *Proc. 2004 IEEE PLANS Conference*, P551-557, Monterey, CA, April, 2004.
- [24] Mantz, C. P., Q. Zhou, Y. T. Morton, "Application of a Neural Network Model to GPS Ionosphere Error Correction," *Proc. 2004 IEEE PLANS Conf.*, P538-542, Monterey, CA, April 2004.
- [25] McNally, B., M. Stutzman, C. Korando, J. Macasek, C. Mantz, S. Miller, Y. Morton, S. Campbell, J. Leonard, "The Miami Red Blade: An Autonomous Lawn Mower," *Proc. 2004 ION Annual Meeting*, P538-542, Dayton, OH, June 2004.
- [26] Morton, Y. T. J., J. B. Tsui, D. M. Lin, M. M. Miller, J. Schamus, Q. Zhou, M. P. French, "Assessment and handling of CA code self-interference during weak GPS signal acquisition", *Proc. 2003 ION GPS*, P646-653, Portland, OR, Sept. 2003.
- [27] Liou, L.L, J. B. Tsui, D. M. Lin, J. Schamus, F. van Graas, Y. T. Morton, "Passive Altimeter Study Using GPS Flight Data," *Proc. 2003 ION GPS*, P1264-1270, Portland, OR, Sept. 2003.
- [28] Martin, J. D., Y. T. Morton, and Q. Zhou, "Neural network development for the forecasting of upper atmosphere parameters distributions", *Proc. 34th COSPAR Scientific Assembly*, Houston, TX, October 2002.
- [29] Lin, D. M., J. B. Tsui, L. L. Liou, and Y. T. Morton, "Sensitivity analysis of a stand alone GPS software GPS receiver and an acquisition method", *Proc. 2002 ION GPS*, Portland, OR, Sept. 2002.

- [30] Morton, Y. T., D. A. Troy, G. A. Pizza, O. Ettouney, "Incorporating Component-Based Control Software In Manufacturing Engineering Instruction", *Proc. 2002 ASEE*, Montreal, Canada, June 2002.
- [31] Morton, Y. T., D. A. Troy, G. A. Pizza, "An approach to develop component-based control software for flexible manufacturing systems", *Proc. 2002 American Control Conf.*, Anchorage, Alaska, May 2002.
- [32] Morton, Y. T., "East meets west: Making the best of two worlds," *Proc. 2000 Frontiers In Education*, Kansas City, Kansas, October 2000.
- [33] Mathews, J. D. and Y. T. Morton, "Radar measurements of dynamics and layering processes in the 80-150 km region at Arecibo," *1992 COSPAR Proceedings*.
- [34] Mathews, J. D., Q. Zhou, Y. T. Morton, C. S. Gardner, and T. J. Beatty, "Simultaneous observation of narrow sodium and narrow ionization layers using both Lidar and Incoherent Scatter Radar techniques at Arecibo during AIDA," *Int. Sym. Mid. Atm. Studies*, Dushanbe, Tadzhikistan, USSR, Nov., 1989.
- [35] Mathews, J. D., Y. T. Morton, Q. Zhou, "Tides and acoustic-gravity waves as observed in the motions of ionospheric E-region meteoric ion layers," *Int. Sym. Mid. Atm. Studies*, Dushanbe, Tadzhikistan, USSR, Nov., 1989.
- [36] Getman, V.S., J. D. Mathews, Y. T. Morton, Q. Zhou, R. G. Roper, "Observations of long-lived meteor trails at Arecibo using optical and radar techniques," *Int. Sym. Mid. Atm. Studies*, Dushanbe, Tadzhikistan, USSR, Nov., 1989.

Invited GPS World Magazine Articles:

- [1] Morton, J., "Second Order Ionosphere Error: Should We Worry About Them?" *GPS World*, Teck Talk, 2008.
- [2] Morton, J., "Software Receivers Will Define Future Development," *GPS World*, Expert Advice Column, August, 2007.
- [3] Morton, J., "Software GNSS Receiver Explained," *GPS World*, p153-240, April, 2007.
- [4] Miller, M., J. Raquet, J. Morton, F. Van Graas, B. Pervan, and L. O'Rear, "Just Keep Rolling A Lawn, ION's Autonomous Mowers," *GPS World*, P16-26, Sept. 2004.

SHORT COURSES AND WORKSHOPS:

- [1] Morton, Y. T., "Software Receiver Techniques," AFRL, WPAFB, OH, August 2008.
- [2] Morton, Y. T., "Ionosphere Effects on GPS Receiver Performances," Univ. Alaska Fairbanks, PARS Summer Workshop, July 2008.
- [3] Morton, Y. T., "Software Receiver Techniques," NAECOM tutorial, July 2008.
- [4] Morton, Y.T., "Software Receiver Techniques," COUNT short course, June 2008.
- [5] Morton, Y. T., "Updates on Navigation Research at Miami University during 2007-8," 2nd COUNT annual workshop, April 2008.
- [6] Morton, Y. T., "Software Receiver Technologies," AFRL, WPAFB, OH, September, 2007.
- [7] Morton, Y. T., "Software Receiver Technologies," COUNT short course, June 2007.
- [8] Morton, Y. T., "Navigation Research at Miami University," 1st COUNT annual workshop, March 2007.
- [9] Morton, Y. T., "Evaluation of GPS receivers," IEEE IMS Workshop on Quality of Automotive RF Systems, San Francisco, CA, June 2006.

- [10] Morton, Y. T., "Integrating Beam Forming and A Software GPS Receiver," IEEE IMS Workshop on Software Defined Radio, Long Beach, CA, June 2005.

SELECTED INVITED TALKS:

- [1] Morton, Y. T., "Navigation Research at Miami University" Stanford University, May 2008.
- [2] Morton, Y.T., "Second Order Ionosphere Error Assessment and Low Power Short Delay Multipath Detection," NAVAIR, Washington DC, May 2008.
- [3] Morton, Y. T., "High Order Ionosphere Error: Do We Have To Worry about Them?" ION Dayton Section, March, 2008.
- [4] Morton, Y.T., "Global Navigation Satellite Systems Research at Miami," NSF Computer Science, Engineering, & Mathematics Scholarship (CSEMS) Program, Miami University, Nov., 2007.
- [5] Morton, Y. T., "Some Applied Mathematical Problems in Navigation," Department of Mathematics and Statistics, Miami University, April, 2006.
- [6] Morton, Y. T., "Mathematics in Navigation," Pi Mu Epsilon National Mathematics Society Miami Chapter, April, 2006.
- [7] Morton, Y. T., "Integrating Digital Beam Forming and Software Receivers for UAV Application," SEAS Research Expo, Sept. 2005.
- [8] Morton, Y. T., "Software GPS Receiver and Applications," Nanjing University, June, 2005.
- [9] Morton, Y. T., "Software-Based Global Positioning Systems Receiver and Applications," Miami University Research Advisory Council, April 2005.
- [10] Morton, Y. T., "Software GPS Receivers and Applications," ECE Distinguished Speaker Seminar Series, Illinois Institute of Technology, Dec., 2004.
- [11] Morton, Y. T., et al., "The Miami Red Blade: An Autonomous Lawn Mower," IEEE Cinci. Chapter, Cincinnati, OH, Oct. 2004.
- [12] Morton, Y. T., et al. "The Miami Red Blade: An Autonomous Lawn Mower," ION Dayton Section, Dayton, OH, Sept. 2004.
- [13] Zhou, Q., Y. T. Morton, "An overview of incoherent scatter radar study of the mesosphere and lower thermosphere," 5th Chinese Space Weather Conference, Wuyishan, China, Sept. 2004.
- [14] Morton, Y. T., "The Global Positioning Systems: Past, Present, and Future," the First Miami Winter College for Alumni, 2004.
- [15] Zhou, Q., D. Janches, T. Nakamura, J. D. Mathews, Y. T. Morton, "UHF and VHF Meteor observations using the Arecibo and MU radars," URSI Annual meeting, Columbus Ohio, June 2003.
- [16] Morton, Y. T., "Software GPS Receiver", Embry Riddle Aeronautics University, Feb., 2003.
- [17] Morton, Y. T., "Modeling and Measurements of the Upper Atmosphere Electron Irregularities", Embry Riddle Aeronautics University, Feb., 2003.
- [18] Morton, Y. T., "History of Navigation," Sonia Kovalevsky Mathematical Science Day, Miami University, 2003

An additional over 120 technical presentations have been made at professional conferences, workshops, symposiums, program reviews, seminars, and other occasions since 2002.

TECHNICAL REPORTS

- [1] Morton, Y., "Support Effort of LEGAND and WASPS Program," Final report, AFRL, November 2008.
- [2] Morton, Y., "Multi-Channel Wideband GPS Receiver System," Final report, AFOSR, Oct. 2008.

- [3] Morton, Y., "High Precision GPS Measurements," Annual report, AFOSR, Oct. 2008.
- [4] Morton, Y. T., "Support Effort of LEGAND and WASPS Program," Quarterly report, AFRL, April 2008.
- [5] Morton, Y. T., "High Precision GPS Measurements," Annual report, AFOSR, Nov. 2007.
- [6] Morton, Y. T., "Integrated Reconfigurable Aperture, Digital Beam Forming, and Software GPS Receiver for UAV Navigation," Annual report, AFOSR, Nov. 2007.
- [7] Morton, Y. T., "Support for Sensors Directorate's Reference Systems Branch for LEGAND and WASPS projects," Technical report, AFRL, WPAFB, Oct. 2007.
- [8] Morton, Y. T., "Indoor Navigation Using Wireless Sensor Network Signals," Interim report, OARS, Miami University, May 2007.
- [9] Morton, Y. T., G. Distler, "Multi-Channel Receiver/Exciter Systems," Interim report, AFRL, WPAFB, Jan. 2007.
- [10] Morton, Y. T., "Integrated Reconfigurable Aperture, Digital Beam forming, and Software GPS Receiver for UAV Navigation," Annual report, AFOSR, Oct. 2006.
- [11] Smith, J. E., and Y. T. Morton, "Intelligent Sensing and Control of Autonomous Vehicles," Interim report, DAGSI, January, 2006.
- [12] Morton, Y. T., "Integrated Reconfigurable Aperture, Digital Beam Forming, and Software GPS Receiver for UAV Navigation," Annual progress report, AFOSR, Sept. 2005.
- [13] French, M., J. Russle, J. Smith, L. Smith, T. Walters, Y.T. Morton, S. Campbell, J. Leonard, "Miami RedBLADE II, An Autonomous Lawn Mower," Technical report, Institute of Navigation, May, 2005.
- [14] French, M., J. Russle, J. Smith, L. Smith, T. Walters, Y.T. Morton, S. Campbell, J. Leonard, "Miami RedBLADE II, An Autonomous Lawn Mower," Production Plan, Institute of Navigation, May, 2005.
- [15] Morton, Y. T., "Digital Beam Forming Techniques for GPS Interference Cancellation," Technical Report, Sensors Directorate, AFRL, WPAFB, August, 2004.
- [16] Morton, Y. T., "Developing Signal Processing Algorithm for Weak GPS Signal Acquisition in Urban Environment," Final report, AFOSR, October, 2004.
- [17] McNally B., M. Stutzman, C. Koranda, C. Mantz, J. Macasek, S. Miller, A. Walker, J. Morton, S. Campbell, J. Leonard, "The Miami Red Blade: A GPS-guided autonomous lawnmower," Technical report, Institute of Navigation, May, 2004.
- [18] McNally B., M. Stutzman, C. Koranda, C. Mantz, J. Macasek, S. Miller, A. Walker, J. Morton, S. Campbell, J. Leonard, "The Miami Red Blade: A GPS-guided autonomous lawnmower," Production Plan Report, Institute of Navigation, May, 2004.
- [19] Morton, Y. T., "Developing Signal Processing Algorithm for Weak GPS Signal Acquisition in Urban Environment," Annual Progress report, AFOSR, October, 2003.
- [20] Morton, Y. T., "Developing A Simulation Model for Accessing Ultra-Wide Band Interference on Software GPS Receivers," Technical Report, Sensors Directorate, AFRL, WPAFB, August, 2003.
- [21] Smith, J. E., Y. T. Morton, J. Caschera, J. Schamus, "Implementation of a custom USB device for a GPS software receiver," Technical Report, Sensors Directorate, AFRL, WPAFB, August, 2003.
- [22] Morton, Y. T., "Interference Identification and Removal for Weak GPS Signal Acquisition," Technical Report, Sensors Directorate, AFRL, WPAFB, August, 2002.