#### APPENDIX A

#### **CURRICULUM VITA**

#### Michael S. Braasch

Education: B.S.E.E., 1988 Ohio University

M.S.E.E., 1989 Ohio University

Title of Thesis: <u>Current Developments In Signal</u> Modeling Of The Precision Distance Measuring

Equipment.

Ph.D., 1992 Ohio University

Title of Thesis: On The Characterization Of Multipath Errors In Satellite-Based Precision

Approach and Landing Systems.

## <u>Professional Registration:</u>

Licensed Professional Engineer (P.E.) in the State of Ohio.

### **Employment**:

<u>Professor</u>, School of Electrical Engineering and Computer Science, Ohio University, Athens, Ohio, September 2003 to present. Appointed as the Thomas Professor of Engineering, September 2004.

<u>Director</u>, Avionics Engineering Center, School of Electrical Engineering and Computer Science, Ohio University, Athens, Ohio, October 2007 to May 2011.

<u>Interim Director</u>, Avionics Engineering Center, School of Electrical Engineering and Computer Science, Ohio University, Athens, Ohio, January 2007 to September 2007.

<u>Associate Professor</u>, School of Electrical Engineering and Computer Science, Ohio University, Athens, Ohio, September 1999 to August 2003.

<u>Assistant Professor</u>, School of Electrical Engineering and Computer Science, Ohio University, Athens, Ohio, January 1994 to August 1999.

<u>Assistant to the Director for Special Projects</u>, Avionics Engineering Center, Ohio University, Athens, Ohio, July 1995 to September 2007.

Research Scientist, Avionics Engineering Center, Ohio University, Athens, Ohio. July 1993 to September 2007.



Adjunct Assistant Professor, Department of Electrical and Computer Engineering, Ohio University, Athens, Ohio, July 1993 to December 1993.

<u>Visiting Scientist</u>, Delft University of Technology, Delft, The Netherlands. December 1992 to May 1993.

Research Engineer, Avionics Engineering Center, Ohio University, Athens, Ohio. December 1989 to June 1993.

<u>Graduate Fellow</u>, Avionics Engineering Center, Ohio University, Athens, Ohio. June 1988 to November 1989.

<u>Undergraduate Intern</u>, Avionics Engineering Center, Ohio University, Athens, Ohio, September 1985 to June 1988.

# **Academic Specialization**:

Antenna Theory Communications and Digital Signal Processing Electromagnetic Theory

## Professional Specialization:

Electronic Navigation Receiver Design Electronic Navigation System Engineering Satellite-Based Navigation Systems with emphasis in GPS Inertial Navigation Systems (INS) Integrated Navigation Systems

#### Honors:

First runner-up for Best Presentation at the 2nd International Meeting of the Satellite Division of the Institute of Navigation, September 1989.

1992 RTCA William E. Jackson Award (an international award given in recognition of an outstanding publication on aviation electronics).

1997 Ohio University EECS Outstanding Graduate Faculty Award.

1997 RTCA William E. Jackson Award won by my Ph.D. student, Dennis M. Akos.

1997-98 Ohio University EECS School Research Award.

1997-98 Ohio University Russ Engineering College Outstanding Research Paper



#### Award.

2002 University Student Competition organized by the NASA Small Aircraft Transportation System (SATS) program: This was a national competition and my undergraduate student, Douglas Burch, won third place in the Technology Innovation category for his paper on the enhanced Head-Up Display (eHUD) for general aviation aircraft.

2006 Best Student Paper at the Digital Avionics Systems Conference (Portland, OR, October) won by my students Behlul Poonawalla, Sunny Pandya and Joshua Kephart.

2008 Best Student Paper at the Digital Avionics Systems Conference (St. Paul, MN, October) won by my student, Ryan Kephart.

## Professional Memberships:

Member, Institute of Electrical and Electronics Engineers (Senior Member) Member, Institute of Navigation (Fellow) Member, Tau Beta Pi

### Research Grants and Contracts:

U.S. Department of Transportation (DOT) Volpe National Transportation Systems Center (VNTSC), "DME/P Signal Model Development and Integration with Refined Angle Signal Model," \$81,000, 1990-92, Principal Investigator: R. Lilley (project was conducted entirely by M. Braasch).

U.S. DOT Federal Aviation Administration (FAA) and National Aeronautics and Space Administration (NASA), "Integrated Avionics Technology Development: Joint University Program in Air Transportation Research," \$110,000, 1990-91, Principal Investigator: R. Lilley (grant was managed by M. Braasch).

U.S. DOT VNTSC, "Satellite-Based System Precision Approach Issues," \$264,997, 1991-92, Principal Investigator: F. Van Graas (responsibility for this contract was shared with M. Braasch and T. Skidmore).

U.S. DOT FAA and NASA, "Integrated Avionics Technology Development: Joint University Program in Air Transportation Research," \$75,320, 1991-92, Principal Investigator: R. Lilley (grant was managed by M. Braasch).

U.S. DOT FAA and NASA, "Joint University Program for Air Transportation Research," \$75,989, 1993-94, Principal Investigator: R. Lilley (grant was managed by M. Braasch).



Boeing Commercial Airplane Company, "D/GPS Signal Model Enhancement and Validation," \$48,682, 1994-1995, Principal Investigator: M. Braasch.

Mayflower Communications/U.S. Air Force/Wright Lab, "Multipath Mitigation Investigations to Support Enhanced GPS," \$35,000, 1995, Principal Investigator: M. Braasch.

U.S. DOT FAA and NASA, "Integrated Avionics Technology Development: Joint University Program in Air Transportation Research," \$149,999, 1995-98, Principal Investigator: R. Lilley, co-PI: M. Braasch.

Air Force Office of Scientific Research/Wright Lab, "L1-Band Receivers: Design, Simulation and Implementation," \$50,000, 1995-1996, Principal Investigator: M. Braasch.

Honeywell, Inc., "Inertial Navigation - GPS/DGPS Studies," \$15,000, 1995, Principal Investigator: M. Braasch.

Boeing Commercial Airplane Company, "D/GPS Signal Model Enhancement and Validation in Support of GNSS Investigations," \$99,945, 1996, Principal Investigator: M. Braasch.

Air Force Office of Scientific Research/Wright Lab, "L1-Band Receivers: Design, Simulation and Implementation," \$50,000, 1996-1997, Principal Investigator: M. Braasch.

Honeywell, Inc., "Inertial Navigation - GPS/DGPS Studies," \$80,000, 1996, Principal Investigator: M. Braasch.

Boeing Commercial Airplane Company, "D/GPS Signal Model Enhancement and Validation in Support of GNSS Investigations - Year Two," \$171,493, 1997, Principal Investigator: M. Braasch.

Honeywell, Inc., "Inertial Navigation - GPS/DGPS Studies," \$80,000, 1997, Principal Investigator: M. Braasch.

Air Force Office of Scientific Research/Wright Lab, "L1-Band Receivers: Design, Simulation and Implementation," \$135,000, 1997-1998, Principal Investigator: M. Braasch, Co-PI: J. Dill.

Megapulse, "Development and Testing of Antenna and Receiver Components Related to Navigation Using Loran-C and GPS," \$49,000, 1997-1998, Principal Investigator: R. Lilley, co-PI: M. Braasch.

U.S. DOT FAA and NASA, "Integrated Avionics Technology Development: Joint



University Program for Air Transportation Research," \$100,000, 1998-99, Principal Investigator: J. Rankin, co-PI: M. Braasch.

Rockwell-Collins, "Multipath Mitigation Studies," \$50,000, 1998, Principal Investigator: M. Braasch.

Honeywell, Inc., "Inertial Navigation - GPS/DGPS Studies," \$80,000, 1998, Principal Investigator: M. Braasch.

Boeing Commercial Airplane Group, "GPS Implementation Issues," \$125,255, 1999, Principal Investigator: M. Braasch.

Air Force Office of Scientific Research/Wright Lab, "L1-Band Receivers: Design, Simulation and Implementation," \$50,000, 1998-1999, Principal Investigator: M. Braasch.

U.S. DOT FAA and NASA, "Joint University Program for Air Transportation Research," \$107,000, 1999-2000, Principal Investigator: J. Rankin, co-PI: M. Braasch.

Honeywell, Inc., "Inertial Navigation - GPS/DGPS Studies," \$80,000, 1999, Principal Investigator: M. Braasch.

Boeing Commercial Airplane Group, "GPS/INS Integration and VHF Data Broadcast Studies," \$160,000, 2000, Principal Investigator: M. Braasch.

Air Force Office of Scientific Research/Wright Lab, "L1-Band Receivers: Design, Simulation and Implementation," \$50,000, 1999-2000, Principal Investigator: M. Braasch.

U.S. DOT FAA and NASA, "Integrated Avionics Technology Development: Joint University Program for Air Transportation Research," \$107,000, 2000-2001, Principal Investigator: J. Rankin, co-PI: M. Braasch.

Honeywell, Inc., "Inertial Navigation - GPS/DGPS Studies," \$40,000, 2000, Principal Investigator: M. Braasch.

SAIC, "AGNS Test Station Architecture Design," \$60,000, 2000-2001, Principal Investigator: M. Braasch.

Air Force Office of Scientific Research/Wright Lab, "L1-Band Receivers: Design, Simulation and Implementation," \$50,000, 2001, Principal Investigator: M. Braasch.

U.S. DOT FAA and NASA, "Joint University Program for Air Transportation



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