Kuo-Nung Wang

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EDUCATION

Ph.D, Astronautics and Aeronautics Engineering
Purdue University, West Lafayette, IN, USA — Aug 2010 – Present
Major: Astrodynamics**; Minor:** Dynamics and Control

M.S., Electrical Engineering
National Cheng Kung University (NCKU), Tainan, Taiwan — Sep 2007 – June 2009
Major: Control

B.S.E., Electrical Engineering
National Cheng Kung University (NCKU), Tainan, Taiwan — Sep 2003 – June 2007

EXPERIENCE

Earth Science Group / Visiting Student Researchers — May 2014 – Aug 2014
NASA Jet Propulsion Laboratory, Pasadena, CA, USA

- **Remote Sensing --** RO signal processing at lower atmosphere with RH method

Radio Navigation Laboratory/Research Assistant — May 2012 – Present
Purdue University, West Lafayette, IN, USA

- **Remote Sensing --** GPS airborne RO signal and system analysis for atmosphere refractivity retrievals

Radio Navigation Laboratory/Graduate Student — Aug 2010 – May 2012
Purdue University, West Lafayette, IN, USA

- **Weak GNSS Signal** acquisition and tracking
- **Compressed Sensing** of GPS long-prop. ephemerides

Attitude Control Experiment Lab/Research Assistant — Sep 2006 – Jun 2009
National Cheng Kung University, Tainan, Taiwan

- **Micro-satellite --** 30kg class micro-satellite attitude determination subsystem design
- **Spaceborne GPS Receiver --** Signal carrier tracking loops modification

HONORS

- **Outstanding Student Poster Award** of 8th FORMOSAT-3/COSMIC Data Users' Workshop, 2014.
- **Award of Poster Competition Program** of 4th Asian Space Conference(ASC) & FORMOSAT-3/COSMIC International Workshop, 2008.

TECHNICAL SKILLS

- **Matlab**, **Simulink**, **Labview (PXI), C/C++**, **JAVA, STK, Altium**

PUBLICATIONS

- **Kuo-Nung Wang**, Signal analysis and radio-holographic methods for airborne radio occultations, *Dissertation for Doctorate of Philosophy, Purdue University, 2015.*

- **Kuo-Nung Wang**, James L. Garrison, Ulvi Acikoz, Jennifer S. Haase, Brian J. Murphy, Paytsar Muradyan, and Tyler Lulich, Open-loop tracking of rising and setting GPS radio-occultation signals from an airborne platform: signal model and error analysis, Accepted by *Transactions on Geosciences and Remote Sensing, 2015.*

- **Kuo-Nung Wang**, James L. Garrison, Jennifer S. Haase, Brian Murphy, Chi O. Ao, Phase Matching (PM) method implementation of GPS airborne radio occultation (ARO) system, *IEEE IGARSS, Milan, Italy, 2015.*

- Brian Murphy, Jennifer S. Haase, Paytsar Muradyan, James L. Garrison, **Kuo-Nung Wang**, Airborne GPS radio occultation refractivity profiles observed in tropical storm environments*, Journal of Geophysical Research - Atmospheres, 2015*

- **Kuo-Nung Wang**, James L. Garrison, Brian Murphy, Jennifer S. Haase, Chi O. Ao, Phase matching (PM) and Full Spectrum Inversion (FSI) comparison of airborne and spaceborne GPS radio occultation signals, *Eighth FORMOSAT-3/COSMIC Data Users' Workshop, UCAR, Boulder, Colorado U.S.A., 2014.*

- **Kuo-Nung Wang,** James L. Garrison, Brian Murphy, Jennifer S. Haase, Paytsar Muradyan, A statistical test to determine the minimum threshold for open-loop tracking of GNSS radio-occultation signals, *31st Conference on Hurricanes and Tropical Meteorology , San Diego, California, 2014*

- Jennifer S. Haase, Brian Murphy, Paytsar Muradyan, Felips G. Nievinski, K. Larson, James L. Garrison, **Kuo-Nung Wang**, First Results from an Airborne GPS Radio Occultation System for Atmospheric Profiling, *Geophysical Research Letters Volume 41, Issue 5, pages 1759–1765, 2014*

- **Kuo-Nung Wang,** Paytsar Muradyan, James L. Garrison, Jennifer S. Haase, Brian Murphy, Ulvi Acikoz, Tyler Lulich, Open-loop Tracking of Rising And Setting GNSS Radio-Occultation Signals From an Airborne Platform: Signal Model And Statistical Analysis, *IEEE IGARSS, Melbourne, Australia, 2013*

- Loknath Adhikari, Brian Murphy, Feiqin Xie, Jennifer S. Haase, Paytsar Muradyan, **Kuo-Nung Wang**, James L Garrison, High-Resolution Profiling of the Lower Troposphere from Airborne GPS Radio Occultation*, American Geophysical Union Meeting, San Francisco U.S.A, 2013.*

- **Kuo-Nung Wang,** Paytsar Muradyan, Jennifer S. Haase, James L. Garrison, Airborne and Spaceborne GPS Radio Occultation Signal Strength and Performance Comparison, *6th FORMOSAT-3/COSMIC Data Users' Workshop, UCAR, Boulder, Colorado U.S.A., 2012.*

- **Kuo-Nung Wang**, Design of Micro Satellite Attitude Determination and Control Subsystem, *Thesis for Master of Science, NCKU, 2009.*

- **Kuo-Nung Wang**, Jyh-Ching Juang, Yung-Fu Tsai, Design and Verification of the LEAP Attitude Control System, *Proceedings of the 7th Asian Control Conference (ASCC 2009), Hong Kong, 2009*.

- **Kuo-Nung Wang**, Jyh-Ching Juang, Design of the LEAP Attitude Control System, *4th Asian Space Conference & FORMOSAT-3/COSMIC International Workshop (ASC 2008), National SPace Organization (NSPO), Taipei, 2008.*