

# Jie Gong Curriculum Vitae

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CONTACT INFORMATION Aerosol and Cloud Science Group  
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RESEARCH INTERESTS

- Atmospheric gravity waves
- Dynamic coupling between the troposphere and stratosphere through clouds and waves
- Satellite remote sensing of cloud properties

EDUCATION **School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, NY USA**

Ph.D., Atmospheric Sciences, December 2009

- Thesis Topic: *Characteristics of two gravity wave sources in the US high-resolution radiosonde data*
- Advisor: Prof. Marvin A. Geller

**School of Physics, Peking University, Beijing, China**

B.S., Atmospheric Sciences, June 2005

- *A modified zonal index for better representation of the westerly belt* (Advisor: Prof. Weihong Qian)
- Double Major in Economics

ACADEMIC RESEARCH EXPERIENCE **Postdoctoral Scholar** 03/2010 – present  
Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA

- Project on inter-satellite calibrations and cloud property retrievals
- Project on cloud internal structures and their impacts on the global momentum budget using AIRS observation
- Project on global gravity wave climatology in the stratosphere using atmospheric infrared sounder (AIRS) observation

**Research Assistant** 01/2006 – 12/2009  
School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, NY

- Ph.D. thesis project on convective and jet imbalance gravity wave sources and gravity wave propagation properties, NSF funding ATM – 0413747

**Research Volunteer** 2004 – 2005  
Dept. of Atmospheric Sciences, School of Physics, Peking University, Beijing, China

- Project on modified zonal index for westerly belt
- Project on creating a database and data analysis for an automatic weather station

PEER-  
REVIEWED  
PAPERS

**Gong, J.**, and D. L. Wu (2011), View-angle dependent AIRS cloud radiances: Implications for tropical anvil structures, *Geophys. Res. Lett.*, [doi:10.1029/2011GL047910].

**Gong, J.**, D. L. Wu and S. D. Eckermann (2011), Gravity wave variances and propagation derived from AIRS radiances, *Atmos. Chem. Phys. Discuss.*, **11**, [doi: 10.5194/acpd-11-11691-2011].

**Gong, J.** and M.A.Geller (2010), Vertical fluctuation energy in US high vertical resolution radiosonde data as an indicator of convective gravity wave sources, *J. Geophys. Res.*, **115**, [doi: 10.1029/2009JD012265].

Geller, M. A. and **J. Gong** (2010), Gravity wave kinetic, potential and vertical fluctuation energies as indicators of different frequency gravity waves, *J. Geophys. Res.*, **115**, [doi: 10.1029/2009JD012266].

**Gong, J.**, M. A. Geller and L. Wang (2008), Source spectra information derived from US high-resolution radiosonde data, *J. Geophys. Res.*, **113**, [doi:10.1029/2007JD009252].

WORKING  
PAPERS

Choi, H.-J., H.-Y. Chun, **J. Gong**, and D. L. Wu (2011), Comparison of gravity wave temperature variances between ray-based spectral parameterization of convective gravity wave drag with AIRS observations, under review, *J. Geophys. Res.*.

**Gong, J.**, and D. L. Wu (2011), Internal structures of tropical deep convective and anvil clouds derived from AIRS radiances and their implications on global momentum budget, in preparation.

**Gong, J.**, S. Wang and M. A. Geller (2011), A case study of gravity waves generated from jet imbalance sources using a linear model with direct validation via radiosonde observations, in preparation.

CONFERENCE  
PRESENTATIONS

Gong, J. and D. L. Wu (poster, 2011), View-angle dependent cloud radiance variances: evidences of coupling between gravity waves and cloud formations, *AGU fall meeting*, Dec. 6, 2011, San Francisco, CA

Gong, J. and D. L. Wu (talk, 2011), Upper-level cloud structures inferred from AIRS angle-dependent radiances, *AIRS sounder science meeting*, Nov 8 – 11, 2011, Greenbelt, MD

Gong, J., and D. L. Wu (talk, 2011), Gravity wave signature inside upper-level clouds over Arctic region: Implications from AIRS observations, *AMS polar meteorology conference*, May 3, 2011, Boston, MA

Gong, J., D. L. Wu and S. D. Eckermann (talk, 2011), Gravity wave signatures in AIRS radiances: can AIRS observe wave scales shorter than its weighting function thickness? *AGU chapman gravity wave conference*, Mar. 3, 2011, Honolulu, HI

Gong, J., D. L. Wu and S. D. Eckermann (poster, 2010), Characteristics of AIRS observed inertial gravity waves: Implications for cirrus formation near the tropical tropopause, *AGU fall meeting*, Dec. 17, 2010, San Francisco, CA

Gong, J., D. L. Wu and S. D. Eckermann (poster, 2010), Gravity waves in AIRS radiances: can AIRS observe wave scales shorter than its footprint size? *JPL postdoc poster day*, Aug. 25, 2010, Pasadena, CA

Gong, J., D. L. Wu and S. D. Eckermann (talk, 2010), Gravity wave properties and propagation derived from AIRS radiance variances, *AIRS spring science meeting*, April 21 – 23, 2010, Pasadena, CA

Gong, J. and M. A. Geller (talk, 2009), Convective sources of gravity waves from US highresolution radiosonde data, *AGU joint Assembly*, May. 24 – 27, 2009, Toronto, Canada (M.A. Geller as the presenter)

Gong, J. and M. A. Geller (talk, 2009), Identifications and climatology of convective sources for generating gravity waves in the ascent rate profiles in US high-resolution radiosonde data, *AMS annual meeting*, Jan. 10 – 16, 2009, Phoenix, AZ

Gong, J., Geller, M. A. and Wang, L. (poster, 2008), Source spectra information derived from US high-resolution radiosonde data, *SPARC workshop on gravity wave momentum budget*, Mar. 26 – 27, 2008, Toronto, Canada

Gong, J. and Geller, M.A. (poster, 2008), Indications of convective and spontaneous emission sources for gravity waves from US high-resolution radiosonde data, *SPARC workshop on gravity wave momentum budget*, Mar. 26 – 27, 2008, Toronto, Canada

INVITED TALKS Yuk L. Yung Lunch Seminar, 'Gravity Waves seen from AIRS: What's the Limit of the Observational Window?', California Institute of Technology, 06/2010.

SERVICES • Referee for *Journal of Geophysical Research*, *Monthly Weather Review*

AWARDS AND **Jet Propulsion Laboratory**, Pasadena, CA

SCHOLARSHIPS Travel grant from NSF for AGU chapman gravity wave conference, 02/2011–03/2011

**Stony Brook University**, Stony Brook, NY  
Full research assistant scholarship, 02/2006–12/2009  
Full teaching assistant scholarship, 09/2005–01/2006

**Peking University**, Beijing, China  
Mary-Kay scholarship and Leading honored student, 2004  
Wu-Si scholarship and Leading honored student, 2003

TEACHING  
EXPERIENCE

**Jet Propulsion Laboratory**, Pasadena, CA  
*co-mentor* 07/2010–08/2010  
Summer intern student program: co-mentored a summer intern student  
on building up an IDL reader for AMSU-B L1B digital data.

**Stony Brook University**, Stony Brook, NY  
*Teaching Practicum* 02/2008–05/2008  
• ATM 346: Advanced atmospheric dynamics for undergraduates  
• MAR 594: Atmospheric dynamics for graduates  
*Teaching Assistant* 09/2005–01/2006  
• ATM 347: Synoptic meteorology for undergraduates

TECHNICAL  
SKILLS

- **Programming:** Fortran, IDL, Matlab, GrADs, Shell scripting, C, LaTeX
- **Operation Systems:** Linux, Unix variants, Mac OS, Windows