

# Panshi Wang | Curriculum Vitae

4321 Hartwick Road Suite 400 – College Park Maryland 20740 – USA

✉ pswang@umd.edu • 🌐 pswang.net • in panshi-wang

## Education

---

**University of Maryland** **College Park, MD**  
*Ph.D. Geographical Sciences, Advisor: Dr. Chengquan Huang* 2011–2017  
Dissertation: Towards Fine Scale Characterization of Global Urban Extent, Change and Structure

**Institute of Electronics, Chinese Academy of Sciences** **Beijing, China**  
*M.E. Signal and Information Processing* 2008–2011

**University of Science and Technology of China** **Hefei, China**  
*B.E. Electronic Engineering, Special Class for the Gifted Young* 2003–2008

## Experience

---

Research.....

**Global Land Analysis and Discovery (GLAD) Lab, University of Maryland**  
*Postdoctoral Associate, Supervisor: Dr. Matthew Hansen* 2018–

o Developed algorithm for mapping urbanization annually using Landsat data archive.

**University of Maryland** **College Park**  
*Graduate Research Assistant* 2012–2017

Supported various remote sensing projects, including:

- o Global Land Survey Impervious Mapping Project (<https://urban.gsfc.nasa.gov>):
  - Designed a global urban extent mapping algorithm using Landsat data;
  - Produced a 30m global Human Built-up and Settlement Extent (HBASE) product;
  - Developed computer programs for global-scale Landsat imagery processing;
  - Led validation efforts for global HBASE product and impervious surface change.
- o VIIRS Surface Type Project (<http://vct.geog.umd.edu/st>):
  - Developed and implemented an algorithm for automatic training data generation from high resolution imagery to map continuous fields land cover;
  - Supported VIIRS surface type product development and validation;
  - Prototyped VIIRS daily burnt area mapping;
  - Prototyped VIIRS daily inundation validation method using Sentinel-1 SAR data.

**Institute of Electronics** **Beijing**  
*Graduate Research Assistant* 2009–2011

Developed and implemented a relative calibration platform and data processing systems.

Teaching.....  
**University of Maryland** **College Park**  
*Teaching Assistant* *2011–2012*

## Skills

---

**Programming Languages:** C/C++ (10+ yr), Python (8+ yr), IDL (8+ yr), Java (basic)  
**Datasets:** Landsat (8+ yr), MODIS (8+ yr), VIIRS (5+ yr), Sentinel-1/2 (1+ yr)  
**Geospatial Tools:** ENVI (8+ yr), ArcGIS (6+ yr), QGIS (5+ yr), GDAL (5+ yr)  
**Others:** Linux (8+ yr), GIT (2+ yr)

## Awards

---

**Jacob K. Goldhaber Travel Grant:** University of Maryland *2015. 12*  
**Jingli Yang Graduate Research Fellowship:** University of Maryland *2016. 04*  
**Open Access Publishing Fund:** University of Maryland *2017. 09*  
**Jacob K. Goldhaber Travel:** University of Maryland *2017. 10*

## Services

---

- o Editorial board member:
  - Frontiers in Built Environment (2018–)
- o Reviewer for the following journals (a list of verified peer reviews available on [publons](#)):
  - Frontiers in Built Environment
  - IEEE Geoscience and Remote Sensing Letters
  - IEEE Transactions on Geoscience and Remote Sensing
  - International Journal of Geographical Information Science
  - IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
  - International Journal of Remote Sensing
  - Journal of Applied Remote Sensing
  - Journal of Electronic Imaging
  - JMIR Public Health & Surveillance
  - Remote Sensing
  - Remote Sensing Applications: Society and Environment
  - Sustainability
  - Symmetry
  - Urban Science
- o Member of organizing committee of 2018 University of Maryland Postdoctoral Research Symposium
- o Student mentor for the Mentoring365 program (2018–)
- o Career and Research Advice Mentorship (CRAM) program of 2017 AGU Fall Meeting

- o Co-chair for 2017 IGARSS session TU1.L12: Radar and Thermal Data for Urban Monitoring
- o Undergraduate student mentor for college of Behavioral and Social Sciences (Fall 2013)

## Publications

---

### Journal Papers.....

- o P. Wang, C. Huang, J. C. Tilton. Mapping Three-dimensional Urban Structure by Fusing Landsat and Global Elevation Data. *Submitted to PLOS One*.
- o P. Wang, C. Huang, J. C. Tilton, B. Tan, and E. C Brown de Colstoun. Continental scale mapping of human built-up and settlement extent (HBASE) using landsat-based hierarchical segmentation and texture information. *Remote Sensing of Environment (In Revision)*.
- o P. Wang, C. Huang, and E. C. Brown de Colstoun. Mapping 2000–2010 impervious surface change in india using global land survey landsat data. *Remote Sensing*, 9(4):366, 2017.
- o K. Sun, X. Geng, P. Wang, and Y. Zhao. A fast endmember extraction algorithm based on gram determinant. *IEEE Geoscience and Remote Sensing Letters*, 11(6):1124–1128, 2014.
- o P. Wang, and Y. Zhao. Evaluation of Relative Radiometric Correction Methods Using Simulated Images. *Science Technology and Engineering*, 11(19):4501–4505, 2011. (In Chinese).

### Scientific Data Products.....

- o P. Wang, C. Huang, P. Wang, J. C. Tilton. 30m Building Height/Volume of England by Fusing Landsat and Global Elevation Data. [doi://10.7910/DVN/NNUDZG](https://doi.org/10.7910/DVN/NNUDZG).
- o E. C. Brown de Colstoun, C. Huang, P. Wang, J. C. Tilton, B. Tan, J. Phillips, S. Niemczura, P. Y. Ling, and R. E. Wolfe. Global man-made impervious surface (GMIS) dataset from landsat. [doi://10.7927/H4P55KKF](https://doi.org/10.7927/H4P55KKF).
- o P. Wang, C. Huang, E. C. Brown de Colstoun, J. C. Tilton, and B. Tan. Global human built-up and settlement extent (HBASE) dataset from landsat. [doi://10.7927/H4DN434S](https://doi.org/10.7927/H4DN434S).

### Conferences.....

- o P. Wang, C. Huang, E. C. Brown de Colstoun, and M. Hansen. Big Earth Observation Data for Sustainable Urban Development. Oral presentation at 2018 International Conference on Sustainable Urban Development.
- o P. Wang. Characterizing Large Scale 3D Urban Structure by Fusing Lidar, Global DSM, and Landsat Data. Poster presentation at 2018 EarthCube Research Coordination Network Workshop - Advancing the Analysis of High Resolution Topography.
- o P. Wang, C. Huang, J. C. Tilton. Characterizing Large Scale 3D Urban Structure by Fusing Landsat and Global Elevation Data. Poster presentation at 2018 NASA LCLUC Spring Science Team Meeting.
- o P. Wang, C. Huang. Towards large-scale mapping of urban three-dimensional structure using Landsat imagery and global elevation datasets. Poster presentation at 2017 AGU Fall Meeting.
- o P. Wang, C. Huang, J. C. Tilton, B. Tan, and E. C. Brown de Colstoun. HOTex: An Approach for Global Mapping of Human Built-up and Settlement Extent. Oral paper presentation at 2017 IEEE International Geoscience and Remote Sensing Symposium

(IGARSS).

- X. Zhan, R. Zhang, P. Wang, C. Huang, I. Csiszar, L. Zhou, and F. Weng. Monitoring Surface Type Changes with S-NPP/JPSS VIIRS Observations. Oral paper presentation at 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS).
- P. Wang, C. Huang, J. C. Tilton, B. Tan, and E. C. Brown de Colstoun. A new map of circa 2010 global urban extent from Landsat data. Poster presentation at 2015 AGU Fall Meeting.
- P. Wang, C. Huang, J. C. Tilton, B. Tan, and E. C. Brown de Colstoun. Global Urban Extent from Landsat using Multi-level Object-based Texture Features. Poster presentation at 2015 NASA Carbon Cycle & Ecosystems Joint Science Workshop.
- P. Wang, C. Huang, J. C. Tilton, B. Tan, and E. C. Brown de Colstoun, R. E. Wolfe, J. Philips, and P.-Y. Ling. Urban Extent Mapping Using Object-Based Texture Classification and Landsat Data. Poster presentation at 2014 AGU Fall Meeting.