

# Panshi Wang | Curriculum Vitae

7065 Oak Grove Way – Elkridge Maryland 21075 – USA

📞 +1 (301) 538 8078 • ✉ panshi\_wang@ieee.org • 🌐 pswang.net  
in panshi-wang • 🔄 panshi-wang

## Highlights

---

- o Advanced skills in programming, machine learning, and geospatial tools for large-scale applications.
- o Strong knowledge of remote sensing datasets and algorithms.
- o Practical experience working with multi-disciplinary teams and handling diverse tasks.

## Education

---

<b>University of Maryland</b> <i>Ph.D. Geographical Sciences, Advisor: Dr. Chengquan Huang</i> Dissertation: Towards Fine Scale Characterization of Global Urban Extent, Change and Structure	<b>College Park, MD</b> 2011–2017
<b>Institute of Electronics, Chinese Academy of Sciences</b> <i>M.E. Signal and Information Processing</i>	<b>Beijing, China</b> 2008–2011
<b>University of Science and Technology of China</b> <i>B.E. Electronic Engineering, Special Class for the Gifted Young</i>	<b>Hefei, China</b> 2003–2008

## Experience

---

Research.....

<b>University of Maryland</b> <i>Graduate Research Assistant</i>	<b>College Park</b> 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***Graduate Research Assistant*

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

**Beijing***2009–2011*

Teaching.....

**University of Maryland***Teaching Assistant*

Lab instructor for two remote sensing courses.

**College Park***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 Reviewer for scientific journals including IEEE Transactions on Geoscience and Remote Sensing, International Journal of Remote Sensing, Urban Science, and Remote Sensing Applications: Society and Environment
- o Co-chair for 2017 IGARSS session TU1.L12: Radar and Thermal Data for Urban Monitoring
- o Undergraduate mentoring program of 2017 AGU Fall Meeting
- o Undergraduate student mentor for college of Behavioral and Social Sciences (Fall 2013)

**References** *(Contact information available upon request)*

---

**Dr. Chengquan Huang:** Research Professor *University of Maryland***Dr. Eric Brown de Colstoun:** Physical Scientist *NASA Goddard Space Flight Center***Dr. Bin Tan:** Research Scientist *NASA / Science Systems and Applications, Inc.***Dr. James Tilton:** Computer Engineer *NASA Goddard Space Flight Center***Greg Yetman:** Associate Director *CIESIN, Columbia University*

## Publications

---

### Journal Papers.....

- P. Wang, C. Huang. Characterizing urban structure using the synergy of landsat and global elevation datasets: A case study of England. *Submitted to PLOS One*.
- 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)*.
- 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.
- 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.
- 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.....

- 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. <https://doi.org/10.7927/H4P55KKF>.
- 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. <https://doi.org/10.7927/H4DN434S>.

### Conferences.....

- 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.
- 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.