

# Zhan Li

Helmholtz Centre for Environmental Research – UFZ, Leipzig, 04318, Germany

GFZ German Research Centre for Geosciences, Potsdam, 14473, Germany.

Tel: +49-15236287657; E-mail: [zhan.li@ufz.de](mailto:zhan.li@ufz.de)

ORCID: [0000-0001-6307-5200](https://orcid.org/0000-0001-6307-5200)

Scopus Author ID: [36193003800](https://scopus.org/authid/36193003800)

## EDUCATION

---

<b>Boston University</b>	Boston, MA, USA
Ph.D., Geography	18/08/2015
<b>Chinese Academy of Sciences</b>	Beijing, China
M. S., Cartography & Geographic Information System	2011
<b>Nanjing University</b>	Nanjing, China
B. S. in Geographic Information System	2008

## CURRENT POSITIONS

---

<b>Helmholtz Centre for Environmental Research – UFZ, Leipzig, Germany</b>	
Postdoctoral Scientist	01/2021 to present
<b>GFZ German Research Centre for Geosciences, Potsdam, Germany</b>	
Postdoctoral Scientist	01/2020 to present

## PREVIOUS POSITIONS

---

<b>Canadian Forest Service, Natural Resources Canada, Victoria</b>	
Postdoctoral Fellow	05/2018 to 01/2020
<b>School for the Environment, University of Massachusetts, Boston</b>	
Research Fellow	10/2015 to 04/2018

## REVIEW SERVICES

- 
- Journals    Agricultural and Forest Meteorology; Climate Dynamics; Computers and Electronics in Agriculture; Earth System Dynamics; Earth System Science Data; Forest Science; IEEE Transactions on Geoscience and Remote Sensing; IEEE Geoscience and Remote Sensing Letters; Interface Focus by the Royal Society; International Journal of Digital Earth; International Journal of Remote Sensing; ISPRS Journal of Photogrammetry and Remote Sensing; Journal of Applied Remote Sensing; Journal of Geophysical Research – Atmospheres; Journal of Selected Topics in Applied Earth Observations and Remote Sensing; PLOS One; Remote Sensing; Remote Sensing of Environment; Remote Sensing Letters; Sensors.
  - Proposals    Panelist of NASA ROSES 2016, Remote Sensing of Water Quality Program

## MEMBERSHIPS of SCIENTIFIC SOCIETIES

- 
- Member of the American Geophysical Union
  - Member of the IEEE Geoscience and Remote Sensing Society

## FELLOWSHIPS & AWARDS & FUNDING

- 
- ESA Third-Party Mission Open Opportunities for Researchers, European Space Agency, 22403 km<sup>2</sup> of commercial Planet Lab images (equivalent 2020-2021)

~\$26,884)

- Excellent Student of Chinese Academy of Sciences 2010
- Excellent Graduate of Nanjing University 2007
- Excellent Student Leader of Nanjing University 2007

## PEER-REVIEWED PUBLICATIONS

- [1] **Li, Z.**, White, J.C., Wulder, M.A., Hermosilla, T., Davidson, A.M., Comber, A.J., 2020. Land cover harmonization using Latent Dirichlet Allocation. *International Journal of Geographical Information Science* 35(2), 348–374.
- [2] **Li, Z.**, Chen, H., White, J.C., Wulder, M.A., Hermosilla, T., 2020. Discriminating treed and non-treed wetlands in boreal ecosystems using time series Sentinel-1 data. *International Journal of Applied Earth Observation and Geoinformation* 85, 102007.
- [3] Wulder, M.A., Loveland, T.R., Roy, D.P., Crawford, C.J., Masek, J.G., Woodcock, C.E., Allen, R.G., Anderson, M.C., Belward, A.S., Cohen, W.B., Dwyer, J., Erb, A., Gao, F., Griffiths, P., Helder, D., Hermosilla, T., Hipple, J.D., Hostert, P., Hughes, M.J., Huntington, J., Johnson, D.M., Kennedy, R., Kilic, A., **Li, Z.**, Lymburner, L., McCorkel, J., Pahlevan, N., Scambos, T.A., Schaaf, C., Schott, J.R., Sheng, Y., Storey, J., Vermote, E., Vogelmann, J., White, J.C., Wynne, R.H., Zhu, Z., 2019. Current status of Landsat program, science, and applications. *Remote Sensing of Environment* 225, 127–147.
- [4] **Li, Z.**, Erb, A., Sun, Q., Liu, Y., Shuai, Y., Wang, Z., Boucher, P., Schaaf, C., 2018. Preliminary assessment of 20-m surface albedo retrievals from sentinel-2A surface reflectance and MODIS/VIIRS surface anisotropy measures. *Remote Sensing of Environment*. 217, 352–365.
- [5] **Li, Z.**, Strahler, A., Schaaf, C., Jupp, D., Schaefer, M., Olofsson, P., 2018. Seasonal change of leaf and woody area profiles in a midlatitude deciduous forest canopy from classified dual-wavelength terrestrial lidar point clouds. *Agricultural and Forest Meteorology*. 262, 279–297.
- [6] **Li, Z.**, Schaefer, M., Strahler, A., Schaaf, C., Jupp, D., 2018. On the utilization of novel spectral laser scanning for three-dimensional classification of vegetation elements. *Interface Focus* 8.
- [7] Wulder, M.A., **Li, Z.**, Campbell, E., White, J.C., Hobart, G., Hermosilla, T., Coops, N., 2018. A National Assessment of Wetland Status and Trends for Canada's Forested Ecosystems Using 33 Years of Earth Observation Satellite Data. *Remote Sensing*. 10, 1623.
- [8] Guan, K., **Li, Z.**, Rao, L.N., Gao, F., Xie, D., Hien, N.T., Zeng, Z., 2018. Mapping Paddy Rice Area and Yields Over Thai Binh Province in Viet Nam from MODIS, Landsat, and ALOS-2/PALSAR-2. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*. 11, 2238–2252.
- [9] Paynter, I., Genest, D., Saenz, E., Peri, F., **Li, Z.**, Strahler, A., Schaaf, C., 2018. Quality Assessment of Terrestrial Laser Scanner Ecosystem Observations Using Pulse Trajectories. *IEEE Transaction on Geoscience and Remote Sensing*. 1–10.
- [10] Orwig, D.A., Boucher, P., Paynter, I., Saenz, E., **Li, Z.**, Schaaf, C., 2018. The potential to characterize ecological data with terrestrial laser scanning in Harvard Forest, MA. *Interface Focus* 8.
- [11] Cai, Y., Guan, K., Peng, J., Wang, S., Seifert, C., Wardlow, B., **Li, Z.**, 2018. A high-performance and in-season classification system of field-level crop types using

time-series Landsat data and a machine learning approach. *Remote Sensing of Environment*, 210, 35–47.

[12]Sun, Q., Wang, Z., **Li, Z.**, Erb, A., & Schaaf, C. B. (2017). Evaluation of the Global MODIS 30 Arc-Second Spatially and Temporally Complete Snow-Free Land Surface Albedo and Reflectance Anisotropy Dataset. *International Journal of Applied Earth Observation and Geoinformation*, 58, 36–49.

[13]Liu, Y., Wang, Z., Sun, Q., Erb, A. M., **Li, Z.**, Schaaf, C. B., Zhang, X., Román, M. O., Scott, R. L., Zhang, Q., Novick, K. A., Sydonia Bret-Harte, M., Petroy, S., & SanClements, M. (2017). Evaluation of the VIIRS BRDF, Albedo and NBAR Products Suite and an Assessment of Continuity with the Long Term MODIS Record. *Remote Sensing of Environment*, 201, 256–274.

[14]Paynter, I., Genest, D., Saenz, E., Peri, F., Boucher, P., **Li, Z.**, Strahler, A. H., & Schaaf, C. (2017). Classifying Ecosystems with Metaproperties from Terrestrial Laser Scanner Data. *Methods in Ecology and Evolution*, (June), 1–13.

[15]**Li, Z.**, Jupp, D. L. B., Strahler, A. H., Schaaf, C. B., Howe, G., Hewawasam, K., Douglas, E., Chakrabarti, S., Cook, T., Paynter, I., Saenz, E., & Schaefer, M. (2016). Radiometric Calibration of a Dual-Wavelength, Full-Waveform Terrestrial Lidar. *Sensors*, 16(3), 313.

[16]Paynter, I., Saenz, E., Genest, D., Peri, F., Erb, A., **Li, Z.**, Wiggin, K., Muir, J., Raunonen, P., Schaaf, E. S., Strahler, A. H., & Schaaf, C. (2016). Observing Ecosystems with Lightweight, Rapid-Scanning Terrestrial Lidar Scanners. *Remote Sensing in Ecology and Conservation*, 1–16.

[17]Hui, F., Kang, J., Liu, Y., Cheng, X., Gong, P., Wang, F., **Li, Z.**, Ye, Y., & Guo, Z. (2016). AntarcticaLC2000: The New Antarctic Land Cover Database for the Year 2000. *Science China Earth Sciences*.

[18]Hancock, S., Armston, J., **Li, Z.**, Gaulton, R., Lewis, P., Disney, M., Mark Danson, F., Strahler, A., Schaaf, C., Anderson, K., & Gaston, K. J. (2015). Waveform Lidar over Vegetation: An Evaluation of Inversion Methods for Estimating Return Energy. *Remote Sensing of Environment*, 164(0), 208–224.

[19]Douglas, E. S., Martel, J., **Li, Z.**, Howe, G., Hewawasam, K., Marshall, R. A., Schaaf, C. L., Cook, T. A., Newnham, G. J., Strahler, A., & Chakrabarti, S. (2015). Finding Leaves in the Forest: The Dual-Wavelength Echidna Lidar. *Geoscience and Remote Sensing Letters, IEEE*, 12(4), 776–780.

[20]Liu, C., Huang, H., Gong, P., Wang, X., Wang, J., Li, W., Li, C., & **Li, Z.** (2015). Joint Use of ICESat/GLAS and Landsat Data in Land Cover Classification: A Case Study in Henan Province, China. *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal*, 8(2), 511–522.

[21]Howe, G. A., Hewawasam, K., Douglas, E. S., Martel, J., **Li, Z.**, Strahler, A., Schaaf, C., Cook, T. A., & Chakrabarti, S. (2015). Capabilities and Performance of Dual-Wavelength Echidna® Lidar. *Journal of Applied Remote Sensing*, 9(1), 95979.

[22]**Li, Z.**, Strahler, A., Schaaf, C., Howe, G., Martel, J., Hewawasam, K., Douglas, E., Chakrabarti, S., Cook, T., Paynter, I., Saenz, E., Wang, Z., Yang, X., Woodcock, C., Jupp, D., Schaefer, M., Culvenor, D., Newnham, G., & Lovell, J. (2014). Effective Area Indexes and Angle Distributions of Leafy and Woody Components of Forests from Dual-Wavelength

Terrestrial Lidar Scanning Data. In *Geoscience and Remote Sensing Symposium (IGARSS), 2014 IEEE International*. Quebec City, Canada.

[23] Hui, F., Cheng, X., Liu, Y., Zhang, Y., Ye, Y., Wang, X., **Li, Z.**, Wang, K., Zhan, Z., Guo, J., Huang, H., Li, X., Guo, Z., & Gong, P. (2013). An Improved Landsat Image Mosaic of Antarctica. *Science China Earth Sciences*, 56(1), 1–12.

[24] **Li, Z.**, Douglas, E., Strahler, A., Schaaf, C., Yang, X., Wang, Z., Yao, T., Zhao, F., Saenz, E. J., Paynter, I., Woodcock, C. E., Chakrabarti, S., Cook, T., Martel, J., Howe, G., Jupp, D. L. B., Culvenor, D. S., Newnham, G. J., & Lovell, J. L. (2013). Separating Leaves from Trunks and Branches with Dual-Wavelength Terrestrial Lidar Scanning. *Geoscience and Remote Sensing Symposium (IGARSS), 2013 IEEE International* (pp. 3383–3386). Melbourne, Australia.

[25] Yang, X., Schaaf, C., Strahler, A., **Li, Z.**, Wang, Z., Yao, T., Zhao, F., Saenz, E., Paynter, I., Douglas, E., Chakrabarti, S., Cook, T., Martel, J., Howe, G., Woodcock, C., Jupp, D., Culvenor, D., Newnham, G., & Lovell, J. (2013). Studying Canopy Structure through 3-D Reconstruction of Point Clouds from Full-Waveform Terrestrial Lidar. *Geoscience and Remote Sensing Symposium (IGARSS), 2013 IEEE International* (pp. 3375–3378). Melbourne, Australia.

[26] Wang, X., Cheng, X., Huang, H., **Li, Z.** (2013). DEM production for Dome-A combining GPS and GLAS data. *Journal of Remote Sensing* 17, 439–451.

[27] Wang, X., Cheng, X., **Li, Z.**, Huang, H., Niu, Z., Li, X., & Gong, P. (2012). Lake Water Footprint Identification from Time-Series ICESat/GLAS Data. *Geoscience and Remote Sensing Letters, IEEE*, 9(3), 333–337.

[28] Douglas, E. S., Strahler, A., Martel, J., Cook, T., Mendillo, C., Marshall, R., Chakrabarti, S., Schaaf, C., Woodcock, C., **Li, Z.**, Yang, X., Culvenor, D., Jupp, D., Newnham, G., & Lovell, J. (2012). DWEL: A Dual-Wavelength Echidna Lidar for Ground-Based Forest Scanning. *Geoscience and Remote Sensing Symposium (IGARSS), 2012 IEEE International* (pp. 4998–5001). Munich, Germany.

[29] Gong, P., **Li, Z.**, Huang, H., Sun, G., & Wang, L. (2011). ICESat GLAS Data for Urban Environment Monitoring. *Geoscience and Remote Sensing, IEEE Transactions on*, 49(3), 1158–1172.

[30] Huang, H., **Li, Z.**, Gong, P., Cheng, X., Clinton, N., Cao, C., Ni, W., & Wang, L. (2011). Automated Methods for Measuring DBH and Tree Heights with a Commercial Scanning Lidar. *Photogrammetric Engineering & Remote Sensing*, 77(3), 219–227.

[31] Wang, X., Cheng, X., Gong, P., Huang, H., **Li, Z.**, & Li, X. (2011). Earth Science Applications of ICESat/GLAS: A Review. *International Journal of Remote Sensing*, 32(23), 8837–8864.

[32] Gong, P., Niu, Z., Cheng, X., Zhao, K., Zhou, D., Guo, J., Liang, L., Wang, X., Li, D., Huang, H., Wang, Y., Wang, K., Li, W., Wang, X., Ying, Q., Yang, Z., Ye, Y., **Li, Z.**, Zhuang, D., Chi, Y., Zhou, H., & Yan, J. (2010). China's Wetland Change (1990–2000) Determined by Remote Sensing. *Science China Earth Sciences*, 53(7), 1036–1042.

---

## INVITED TALKS

[1] **Li, Z.** (2018). Some Latest Advances in Terrestrial Laser Scanning for Forest Applications and Prospects for the Near Future. *Seminar at Canadian Forest Service (Pacific Forestry Centre), Natural Resources Canada*. Victoria, Canada.

[2] **Li, Z.**, Schaefer, M. (2017). Full-waveform terrestrial laser scanning. *Theo Murphy Scientific meeting of the Royal Society: The terrestrial laser scanning revolution in forest ecology*. Kavli Royal Society Centre, Chicheley Hall, Newport Pagnell, Buckinghamshire, UK.

## MEETINGS & PRESENTATIONS

---

[1] **Li, Z.**, Schaaf, C. B., Shuai, Y., Liu, Y., Sun, Q., Erb, A. M., & Wang, Z. (2017). Preliminary Evaluation of Surface Albedo at Fine Spatiotemporal Resolution from Landsat/Sentinel-2A Surface Reflectance and MODIS/VIIRS Surface Anisotropy. Poster. 2017 Joint Ameriflux and NACP Principal Investigators Meeting. North Bethesda, MD, USA.

[2] **Li, Z.**, Schaaf, C. B., Shuai, Y., Liu, Y., Sun, Q., Erb, A. M., & Wang, Z. (2016). Potential Long-Term Records of Surface Albedo at Fine Spatiotemporal Resolution from Landsat/Sentinel-2A Surface Reflectance and MODIS/VIIRS BRDF. Oral Presentation. 2016 American Geophysical Union Fall Meeting. San Francisco, USA.

[3] **Li, Z.**, Strahler, A., Schaaf, C., Howe, G., Martel, J., Hewawasam, K., Douglas, E., Chakrabarti, S., Cook, T., Paynter, I., Saenz, E. J., Wang, Z., Woodcock, C. E., Jupp, D. L. B., Schaefer, M., & Newnham, G. J. (2014). Poster. Structure Measurements of Leaf and Woody Components of Forests with Dual-Wavelength Lidar Scanning Data. 2014 American Geophysical Union Fall Meeting. San Francisco, USA.

[4] **Li, Z.**, Strahler, A., Schaaf, C., Howe, G., Martel, J., Hewawasam, K., Douglas, E., Chakrabarti, S., Cook, T., Paynter, I., Saenz, E. J., Wang, Z., Yang, X., Woodcock, C. E., Jupp, D. L. B., Schaefer, M., Culvenor, D. S., Newnham, G. J., & Lovell, J. L. (2014). Separating Structure Measurements of Leaves and Woody Materials of Forests with Dual-Wavelength Echidna Lidar. Oral Presentation. ForestSAT 2014. Riva del Garda, Italy.

[5] Armston, J., Newnham, G., Strahler, A., Schaaf, C., Danson, M., Gaulton, R., Zhang, Z., Burt, A., Calters, K., Disney, M., Goodwin, N., Hancock, S., Hero, J.-M., Jupp, D., Herold, M., Howe, G., Johansen, K., **Li, Z.**, Muir, J., Paynter, I., Phinn, S., Saenz, E., Schaefer, M., & Walker, L. (2013). Terrestrial Laser Scanning International Interest Group (TLSIIG): Brisbane Instrument Intercomparison. *Silvilaser 2013*, 13th International Conference of LiDAR Applications for Assessing Forest Ecosystems. Beijing, China.

[6] **Li, Z.**, Strahler, A., Schaaf, C., Howe, G., Martel, J., Hewawasam, K., Douglas, E., Chakrabarti, S., Cook, T., Paynter, I., Saenz, E. J., Wang, Z., Yang, X., Yao, T., Zhao, F., Woodcock, C. E., Jupp, D. L. B., Schaefer, M., Culvenor, D. S., Newnham, G. J., & Lovell, J. L. (2013). Poster. Separating Leaves from Trunks and Branches with Dual-Wavelength Terrestrial Lidar Scanning: Improving Canopy Structure Characterization in 3-D Space. 2013 American Geophysical Union Fall Meeting. San Francisco, USA.

[7] Schaaf, C., Strahler, A., van Aardt, J., Chakrabarti, S., **Li, Z.**, Wang, Z., Yang, X., Saenz, E., Paynter, I., Erb, A., Yang, Y., Liu, Y., Rouhani, S., Peri, F., Kim, J., Cawse-Nicholson, K., Romanczyk, P., Kelbe, D., Faulring, J., Nicholson, T., Douglas, E., Martel, J., Howe, G., Hewawasam, K., Cook, T., Culvenor, D., Newnham, G., Jupp, D., Lovell, J., Krause, K., Leisso, N., Kampe, T., & Meier, C. (2013). Terrestrial LiDAR Measures of Forest Structure. *Silvilaser 2013*, 13th International Conference of LiDAR Applications for Assessing Forest Ecosystems. Beijing, China.

[8] Yang, X., Schaaf, C., Strahler, A., **Li, Z.**, Wang, Z., Yao, T., Zhao, F., Saenz, E., Paynter, I., Douglas, E., Chakrabarti, S., Cook, T., Martel, J., Howe, G., Woodcock, C., Jupp,

D., Culvenor, D., Newnham, G., & Lovell, J. (2013). Studying Canopy Structure in Three Dimensional Space Using Terrestrial Full-Waveform Lidar Scans. *Silvilaser 2013*, 13th International Conference of LiDAR Applications for Assessing Forest Ecosystems. Beijing, China.

[9] **Li, Z.**, Huang, H., & Gong, P. (2010). Oral Presentation. Automatic Registration of Multi-Scan Terrestrial Lidar Data of Forests with Stem Features. *Silvilaser 2010*, the 10th International Conference on Lidar Applications for Assessing Forest Ecosystems. Freiburg, Germany.

Updated: February 16<sup>th</sup>, 2021

Zhan Li