JIE DAI, Ph.D.

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Apr 2024

EDUCATION

Ph. D., Geography, University of California, Santa Barbara/San Diego State University, USA, 2020

M. S., Natural Resources and Environment, University of Michigan, Ann Arbor, USA, 2013

B. E., Spatial Informatics and Digitized Technology, Wuhan University, China, 2011

PROFESSIONAL APPOINTMENTS

Research Associate, Great Lakes Bioenergy Research Center, Michigan State University, USA, 2024-

Postdoctoral Research Scholar, Center for Global Discovery and Conservation Science/School of Life Sciences, Arizona State University, USA, 2021 - 2024

Special Consultant, Center for Complex Human-Environment Systems, San Diego State University, USA, 2020 - 2021

PUBLICATIONS

Peer-reviewed Journal Articles

Submitted/In Review/Revision

Dai, J., P. Brewer, C. Feng, D. Roman, M. Delkash, K.L. Hondula, R. Allen and H. Cadillo-Quiroz (in review). Environmental controls of fugitive methane emission of an arid municipal waste landfill in Arizona, U.S. *Waste Management*

Hondula, K.L., M. König, B.K. Grunert, N.R. Vaughn, R. Martin, **J. Dai**, E. Jamalinia, G.P. Asner. (in revision). Mapping water quality in nearshore reef environments using airborne imaging spectroscopy. *Remote Sensing*

König, M., B. Grunert, K.L. Hondula, N. Bohn, **J. Dai**, E. Jamalinia, N.R. Vaughn, D.R. Thompson and G.P. Asner (in review). Assessment of combined atmospheric and glint correction approaches for remote sensing reflectance estimation. *Remote Sensing of Environment*

Published/In Press/Accepted

Dai, J., M. König, E. Jamalinia, K.L. Hondula, N.R. Vaughn, J. Heckler, G.P. Asner. (2024). Canopy level spectral variation and classification of diverse crop species with fine spatial resolution imaging spectroscopy. *Remote Sensing* 16(8): 1447.

Jamalinia, E., **J. Dai**, N.R. Vaughn, R.E. Martin, K.L. Hondula, M. König, J. Heckler and G.P. Asner (2024). Crop canopy nitrogen estimation from mixed pixels in agricultural lands using imaging spectroscopy. *Remote Sensing* 16(8): 1382.

An, L., J. Liu, Q. Zhang, C. Song, D. Ezzine-de-Blas, **J. Dai**, H. Zhang, R. Lewison, E. Bohnett, D. Stow, W. Xu and B. Bryan (2024). Global hidden spillover effects among concurrent green initiatives. *Science of the Total Environment* 917: 169880.

Dai, J., E. Jamalinia, N.R. Vaughn, R.E. Martin, M. König, K.L. Hondula, J. Calhoun, J. Heckler and G.P. Asner (2023). A general methodology for the quantification of crop canopy nitrogen across diverse species using airborne imaging spectroscopy. *Remote Sensing of Environment* 298: 113836.

Liu, Y., **J. Dai**, S. Yang, R. Bilsborrow, M. Wang and L. An (2023). Measuring neighborhood impacts on out-migration from Fanjingshan National Nature Reserve, China. *Spatial Demography* 11:7.

Seeley, M.M., R.E. Martin, N.R. Vaughn, D.R. Thompson, **J. Dai** and G.P. Asner (2023). Quantifying the spectral variation of *Metrosideros polymorpha* canopies across environmental gradients. *Remote Sensing* 15(6): 1614.

Dai, J., N.R. Vaughn, M. Seeley, J. Heckler, D.R. Thompson and G.P. Asner (2022). Spectral dimensionality of imaging spectroscopy data over diverse landscapes and spatial resolutions. *Journal of Applied Remote Sensing* 16(4): 044518.

An, L., E. Bohnett, C. Battle, **J. Dai**, R. Lewison, N. Carter, P. Jankowski, D. Ghimire, J. Karki, M. Dhakal and A. Zvoleff (2021). Sex-specific habitat suitability modeling of *Panthera tigris* in Chitwan National Park, Nepal: Broader conservation implications. *Sustainability* 13(24): 13885.

Zhang, H., L. An, R. Bilsborrow, Y. Chun, S. Yang and **J. Dai** (2021). Neighborhood impacts on household participation in payments for ecosystem services programs: methodological exploration in China. *Journal of Geographical Sciences* 31(6): 899-922.

Dai, J., D. Roberts, D. Stow, L. An and Q. Zhao (2020). Green vegetation cover has steadily increased since establishment of community forests in Western Chitwan, Nepal. *Remote Sensing* 12(24): 4071.

Dai, J., D. Roberts, D. Stow, L. An, S. Hall, S. Yabiku and P. Kyriakidis (2020). Mapping understory invasive plant species with field and remotely sensed data in Chitwan, Nepal. *Remote Sensing of Environment* 250, 112037.

Dai, J., D. Roberts, P. Dennison and D. Stow (2018). Spectral-radiometric differentiation of non-photosynthetic vegetation and soil within Landsat and Sentinel 2 wavebands. *Remote Sensing Letters* 9(8): 733-742.

In Preparation

Dai, J. et al. Assessing plant intra-specific spectral variation with imaging spectroscopy.

Peer-reviewed Book Chapters

Dai, J. and L. An (2018). Time Geography. In Huang, B. (Ed.), *Comprehensive Geographic Information Systems*, Vol. 1, pp. 303-312. Oxford: Elsevier. http://dx.doi.org/10.1016/B978-0-12-409548-9.09625-1

An, L. and **J. Dai** (2017). Space-time Analysis. In Lin, H., X. Shi, X. Ye, and Y. Guan (Ed.), *Frontiers in Geographic Information Science* (in Chinese). Beijing: Advanced Education Press.

Peer-reviewed Conference Papers

Jamalinia, E., **J. Dai**, N.R. Vaughn, K.L. Hondula, M. König, J. Heckler and G.P. Asner (2023). Application of Imaging spectroscopy to quantify fractional cover over agricultural lands. *IEEE International Geoscience and Remote Sensing Symposium*, 681-684.

Zhao, Q., E. Wentz, S. Fotheringham, S. Yabiku, S. Hall, J. Glick, **J. Dai**, M. Clark and H. Heavenrich (2016). Semi-parametric geographically weighted regression (S-GWR): A case study on invasive plant species distribution in subtropical Nepal. *The 9th International Conference on Geographic Information Science*, 396-399.

GRANTS

Co-PI, NASA Earth and Space Science Fellowship "Mapping and modeling the invasion of *Mikania micrantha* in the Chitwan community forests, Nepal: A coupled human and natural systems approach" (80NSSC17K0317; PI & Academic Advisor: Li An). Total budget: $127,987, 2017-2020.

FELLOWSHIPS & AWARDS

Third Place, AAG Remote Sensing Specialty Group Student Paper Competition (2020)

NASA Earth and Space Science Fellowship (2017-2020), $127,987

ASPRS Pacific Southwest Region Scholarship (2019), $1,000

William & Vivian Finch Scholarship in Remote Sensing (2018-2019), $4,000

Graduate Student Travel Fund, San Diego State University (2018 & 2019), $500

ASD Goetz Instrument Student Support Program, Malvern Panalytical (2018)

Free lease of FieldSpec 4 Spectroradiometer

Inamori Fellowship (2017-2018), $5,000

Geography Department Citizenship Award, San Diego State University (2017), $500

TEACHING EXPERIENCES

Cal Poly San Luis Obispo, Guest Lecturer

NR 218 Introduction to Geographic Information System: "The Future of GIS" (Winter 2024)

San Diego State University, Instructor of Record

GEOG 370 Conservation Science and Policy (Fall 2017)

Teaching evaluation (31 students): Mean: 4.67/5; St. Dev.: 0.56; Median: 5/5

San Diego State University, Guest Lecturer

GEOG 106 World Regional Geography: "East Asia" (Fall 2017)

GEOG 585 Quantitative Methods in Geographic Research: "Logistic Regression" (Spring 2018)

GEOG 688L Advanced Remote Sensing: "Multiple Endmember Spectral Mixture Analysis" (Fall 2017, 2019)

San Diego State University, Teaching Associate (Fall 2013 – Spring 2018)

GEOG 101 Earth's Physical Environment	GEOG 104 Geographical Information Science
GEOG 385 Spatial Data Analysis	GEOG 409 Global Climate Change
GEOG 506 Landscape Ecology	GEOG 585 Quantitative Methods in Geographic Research

University of Michigan, Graduate Student Instructor

NRE 531 Principles of GIS (Winter 2013)

PRESENTATIONS & POSTERS

2024 Applied geospatial science in environmental management: applications in invasion ecology and precision agriculture (Cal Poly, San Luis Obispo, CA)

2023 Effects of atmospheric and glint correction approaches on remote sensing reflectance estimation from airborne imaging spectroscopy (International Ocean Color Science Meeting, St. Petersburg, FL)

2023 Application of Hyperspectral Images to Quantify Fractional Cover over Agricultural Lands (IEEE IGARSS, Pasadena, CA)

2023 Quantifying Crop Canopy Nitrogen Conditions with Airborne Imaging Spectroscopy (IEEE IGARSS, Pasadena, CA)

2022 Land & Ocean Applications & Approaches for the Carbon Mapper Satellite Mission (AGU Fall Meeting, Chicago, IL)

2019 Understory *Mikania micrantha* Mapping with Field and Remotely Sensed Data in Chitwan, Nepal (AGU Fall Meeting, San Francisco, CA)

2019 Urbanization, Protected National Park, and Community Forestry: Land Cover Change in Chitwan, Nepal, 1988-2018 (AAG Annual Meeting, Washington D.C.)

2018 Spectral-radiometric differentiation of non-photosynthetic vegetation and soil within Landsat and Sentinel 2 wavebands (ASPRS Annual Meeting, Denver, CO)

2014 Linking Forest Health with Vulnerability to an Invasive Plant Species: A Case Study in Chitwan, Nepal (AAG Annual Meeting, Tampa, FL)

SERVICES

Guest Editor: Special Issue "Landscape Ecology in Remote Sensing", *Remote Sensing* (2021-2022)

Career Day Panelist: School for Environment and Sustainability, University of Michigan, Ann Arbor (2020)

ASPRS Student Chapter President: San Diego State University (2018-2019)

Invasive Plant Removal, Patrol and Education Table Volunteer: Cabrillo National Monument (2016-2018)

Doctoral Student Representative: Department of Geography, San Diego State University (2016 - 2017)

AAG Annual Meeting Paper Session Chair: 5566 Land Use and Land Cover Change (2014)

Track Leader: Environmental Informatics, School of Natural Resources and Environment, University of Michigan, Ann Arbor (2012 - 2013)