

Chuan Liao

School of Sustainability
Arizona State University
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EDUCATION

2012-2015 PhD, Natural Resources, Cornell University
2010-2012 MS, Natural Resources, Cornell University
2006-2010 BS, Resource Science, Beijing Normal University

PROFESSIONAL APPOINTMENTS

2018- Assistant Professor, School of Sustainability, Arizona State University
2018- Senior Sustainability Scientist, Julie Ann Wrigley Global Institute of Sustainability, Arizona State University
2018- Faculty Affiliate, Swette Center for Sustainable Food Systems, Arizona State University
2018- Faculty Affiliate, Global Drylands Center, Arizona State University
2018- Faculty Affiliate, Center for Behaviors, Institutions and the Environment, Arizona State University
2018- Faculty Affiliate, Institute for Social Science Research, Arizona State University
2015-2018 Postdoctoral Research Associate, School for Environment and Sustainability, University of Michigan – Ann Arbor

PUBLICATIONS

Journals

22. **Liao, C.**, Fei, D. Poverty Reduction through Photovoltaic-Based Development Intervention in China: Potentials and Constraints. *World Development* (accepted).
21. Hajjar, R., Ayana, A., Rutt, R., Hinde, O., **Liao, C.**, Keene, S., Bandiaky-Badji, S., Agrawal, A. Capital, Labor, and Gender: The Consequences of Large-Scale Land Transactions on Household Labor Allocation. *Journal of Peasant Studies* (accepted).
20. Jung, S., **Liao, C.**, Agrawal, A., Brown, D. Evidence on the Impacts of Forestry Concessions on Wealth in Liberia. *Journal of the Association of Environmental and Resource Economists* (accepted).
19. **Liao, C.**, Clark, P., DeGloria, S. 2018. Bush Encroachment Dynamics and Rangeland Management Implications in the Horn of Africa. *Ecology and Evolution*. 8(23), 11694-11703.

18. Agrawal, A. Hajjar, R., **Liao, C.**, Rasmussen, L., Watkins, C. 2018. Editorial Overview: Forest Governance Interventions for Sustainability through Information, Incentives, and Institutions. *Current Opinions in Environmental Sustainability*. 32, A1-A7.
17. **Liao, C.**, Brown, D., Fei, D., Long, X., Chen, D., Che, S. 2018. Big Data-Enabled Social Sensing in Spatial Analysis: Potentials and Pitfalls. *Transactions in GIS*. 22(6): 1351-1371.
16. **Liao, C.**, Brown D. 2018. Sustainable Intensification of Agriculture for Synergistic Outcomes in Food Production, Ecosystem Services, and Smallholder Livelihoods. *Current Opinions in Environmental Sustainability*, 32, 53-59.
15. **Liao, C.** Clark, P., Shibia, M., DeGloria, S. 2018. Spatio-Temporal Dynamics of Cattle Behaviors and Resource Selection Patterns in the Open Grazing System of East Africa. *International Journal of Geographical Information Science*, 32(7): 1523-1540.
14. **Liao, C.** 2018. Quantifying Multi-Scale Pastoral Mobility: Developing A Metrics System and Using GPS-Tracking Data for Evaluation. *Journal of Arid Environments*, 153, 88-97.
13. **Liao, C.**, Clark, P. 2018. Rangeland Vegetation Diversity and Transition Pathways under Indigenous Pastoralist Management Regimes in Southern Ethiopia. *Agriculture, Ecosystems & Environment*, 215, 105-113.
12. **Liao, C.** 2018. Modeling Herding Decision-Making in the Extensive Grazing System in Southern Ethiopia. *Annals of American Association of Geographers*, 108 (1): 260-276.
11. Fei, D., Samatar, A., **Liao, C.** 2018. Chinese-African Encounters in High-Tech Sectors: Comparative Investigation of Chinese Workplace Regimes in Ethiopia. *Development Policy Review*, 36 (S1): O455-O475.
10. **Liao, C.**, Clark, P., DeGloria, S., Barrett, C. 2017. Complexity in the Spatial Utilization of Rangelands: Pastoral Mobility in Borana, Ethiopia. *Applied Geography*, 86, 208-219.
9. **Liao, C.**, Fei, D. 2017. Pastoralist Adaptation Practices under Non-Governmental Development Interventions in Southern Ethiopia. *The Rangeland Journal* 39 (2): 189-200.
8. **Liao, C.** Fei, D. 2017. Sedentarization as Constrained Adaptation: Evidence from Pastoral Regions in Far Northwestern China. *Human Ecology*, 45 (1): 23-35.
7. **Liao, C.**, Ruelle, M., Kassam, K-A. 2016. Indigenous Ecological Knowledge as the Basis for Adaptation to Rangeland Vegetation Regime Shifts: Evidence from Pastoralist Communities in the Horn of Africa. *Journal of Environmental Management*, 182 (2016): 70-79.
6. **Liao, C.**, Jung, S., Brown, D., Agrawal, A. 2016. Insufficient Research on Land Grabbing. *Science*, 353 (6295): 131.
5. **Liao, C.**, Fei, D. 2016. Resilience of What to What: Evidence from Pastoral Contexts in East Africa and Central Asia. *Resilience: International Policies, Practices and Discourses*, 4 (1): 14-29.
4. **Liao, C.**, Barrett, C., Kassam, K.-A. 2015. Does Diversification Improve Livelihoods? Pastoral Households in Xinjiang, China. *Development and Change*, 46 (6): 1302-1330.
3. **Liao, C.**, Sullivan, P., Barrett, C., Kassam, K.-A. 2014. Socioenvironmental Threats to Pastoral Livelihoods: Risk Perceptions in the Altay and Tianshan Mountains of Xinjiang,

China. *Risk Analysis*, 34 (4): 640–655.

2. **Liao, C.**, Morreale, S., Kassam, K.-A., Sullivan, P., Fei, D. 2014. Following the Green: Coupled pastoral migration and vegetation dynamics in the Altay and Tianshan Mountains of Xinjiang, China. *Applied Geography*, 46, 61–70.
1. Wang M., **Liao C.**, Yang S., Zhao W., Liu M., Shi P. 2012. Are People Willing to Buy Natural Disaster Insurance in China? Risk Awareness, Insurance Acceptance, and Willingness to Pay. *Risk Analysis*, 32 (10): 1717–1740.

Under Review

- Khatami, R., Southworth, J., Muir, C., Caughlin, T., Ayana, A., Brown, D., **Liao, C.**, Agrawal, A. Operational Large-Area Land-Cover Mapping: An Ethiopia Case Study (under review, *Remote Sensing of Environment*).
- **Liao, C.**, Jung, S., Agrawal, A., Brown, D. Socio-Environmental Patterns of Large-Scale Land Transactions: Evidence from Ethiopia, Liberia, Cambodia, and Peru (under review, *Land Degradation and Development*).
- Fei, D., **Liao, C.** Unpacking the Enclaves: Chinese Investors and African Workers in China's Eastern Industrial Zone in Ethiopia (under review, *Third World Quarterly*).

In Preparation

- Ingalls, M., Barney, K., **Liao, C.**, Nanthavong, V., DiCarlo, J. Geopolitical Dimensions of Land Governance in the Mekong Region: Discourses and Political Economies of Securitization.
- Miao, Y*, **Liao, C.**, Caughlin, T., Sullivan, J., Brown, D. Exploring Social and Environmental Outcomes from Large-Scale Land Transactions: Agent-Based Modeling of Alternative Arrangements. **Undergraduate Mentee*
- Long, X*, **Liao, C.**, Brown, D., Chen, D., Che, S. Assessing Urban Green Space Utilization Patterns in Shanghai, China Using Spatial Big Data. **Graduate Mentee*
- Song, K*, Liao, C., Xu, M. Cost-Benefit Analysis of Distributed Solar Systems for Poverty Reduction in Rural China. **Graduate Mentee*
- Kelly, A., Erbaugh, J., **Liao, C.**, Agrawal, A. Evidence of the Effects of Clean Energy Transitions on Human Well-Being and Livelihoods: A Systematic Review
- **Liao, C.**, Nolte, K, Brown, D., Lay, J., Althoff, C., Agrawal, A. Carbon Emissions Scenarios of Global Land Rush and Potential Mitigation Strategies.
- **Liao, C.**, Brown, D., Agrawal, A. Diversity of Large-Scale Land Acquisitions and Their Divergent Outcomes in Ethiopia.
- **Liao, C.**, Agrawal, A., Brown, D. Do Large-Scale Land Transactions Accelerate Deforestation? A Matching-Based Four-Country Comparison.
- Agrawal, A., **Liao, C.** Jung, S., Lund, J., Brown, D. Research Biases Undermine the Science of 'Land Grabbing'.

Book Chapters

- Kassam, K-A., **Liao, C.**, Dong S. 2016. Sociocultural and Ecological Systems of Pastoralism in Inner Asia: Cases from Xinjiang and Inner Mongolia in China and the Pamirs of Badakhshan, Afghanistan. In Dong, S., Kassam, K-A., Tourrand, J., Boone, R. (Ed) *Building Resilience of Human-Natural Systems of Pastoralism in the Developing World*. Springer.
- **Liao, C.**, Fei, D. 2016. The Operationalization of Resilience in Pastoral Regions in East Africa and Central Asia. In Chandler, D., Coaffee J. (Ed) *Routledge Handbook of International Resilience*. Taylor & Francis Group.

Reports

- Daupan, M., Erbaugh, J.T, Jung, S., Kinzer, A., **Liao, C.**, Sullivan, J., Watkins, C. Agrawal, A. 2018. Livelihood and Well-Being Survey Tool User Manual for Enumerators. Forest and Livelihoods: Assessment, Research, and Evaluation (FLARE).
- Hajjar, R., Rutt, R., Mulu, E., Ayana, A., **Liao, C.**, Agrawal, A. 2017. Gendered impacts of large-scale land acquisitions in Western Ethiopia. Rights and Resources Initiative
- **Liao, C.**, Clark, P., DeGloria, D., Mude, A., Barrett, C. 2016. Pastoral mobility and policy recommendations for livestock herding in the Borana pastoral system in southern Ethiopia. CGIAR Research Program on Dryland Systems.
- **Liao, C.** 2014. Pastoral Migration Atlas. Maps returned to participant households in Borana, Ethiopia.
- **Liao, C.** 2014. Coupled Socio-Ecological System under Woody Plant Encroachment: Rangeland Utilization and Conservation in Borana, Ethiopia. Toward Sustainability Foundation Final Report.
- **Liao, C.** 2013. Rural Resilience Assessment in Borana, Ethiopia. ACSF-Oxfam Rural Resilience Collaboration and Fellowship Final Report.
- **Liao, C.** 2012. Toward Sustainable Pastures: Nomadic Migration, Livelihood Diversification, and Risk Perception in the Altay and Tianshan Mountains. Toward Sustainability Foundation Final Report.

RESEARCH FUNDING

- National Science Foundation. *CNH2-L: Investigating Socio-Environmental Systems Transitions in the Drylands through the Lens of Mobility*. **My role: PI**; Co-PI Simon Levin, Daniel Rubenstein (Princeton), Jianguo Wu (ASU), Patrick Clark (USDA). \$1,599,245 (pending).
- Swette Center for Sustainable Food Systems, Arizona State University. *Impacts of Large-Scale Land Acquisitions on Food Systems in Bolivia*. **My role: PI**. Co-PI Hallie Eakin (ASU). **Funded: \$5,000**.
- Institute of Social Science Research, Arizona State University. *Sustainability of Subsistence Pastoralism in the African and Asian Drylands: The Mobility- Land-Livelihood Nexus*. **My role: PI**. **Funded: \$7,950**.
- Graham Sustainability Institute, University of Michigan (2016-2018). *Complex Rural and*

Urban Sustainability Issues: Using Big Data for Impact Assessment. My role: PI. Funded: \$15,000

- Michigan Institute for Data Science (2016-2018). *Unlocking the Potential of Big Data from Mobile Phones to Assess Urban Green Space Utilization. My role: Co-PI; PI Daniel Brown (Michigan), Shengquan Che (Shanghai Jiao Tong U), Co-PI Natalie Colabianchi (Michigan), Dan Chen (Shanghai Jiaotong U). Funded: \$199,735*
- Rights and Resources Institute (2016). *The Impacts of Large-Scale Land Acquisitions on Local Women's Land and Forest Tenure Rights: Case Studies from Western Ethiopia. My role: Co-PI; PI Arun Agrawal, Co-PI Reem Hajjar (Michigan), Alemayehu Ayana (Ethiopian Environment and Forest Research Institute). Funded: \$68,632*
- National Science Foundation (2016-2020). *Recent Land Transactions in Ethiopia: Impacts on Agriculture, Ecosystem Services, and Food-Energy Security. My role: Senior personnel; PI Arun Agrawal, Co-PI Daniel Brown (Michigan), Jane Southworth (Florida). Funded: \$1,599,951*
- Cornell University and CARE International (2014-2015). *Toward Resilient Pastoral Communities: How Mobility Mapping Supports Rangeland Management in Borana, Ethiopia. My role: Graduate researcher who developed the proposal; PI Stephen DeGloria (Cornell), Co-PI Christopher Barrett (Cornell). Funded: \$9,745*
- Atkinson Center for a Sustainable Future, Cornell University (2014). *Coupled Socio-ecological System under Woody Plant Encroachment: Rangeland Biodiversity and Utilization in Borana, Ethiopia. My role: Sole PI. Funded: \$4,500*
- Cornell University and Oxfam America (2013). *Rural Resilience Assessment in Borana, Ethiopia. My role: PI. Funded: \$5,000*
- Toward Sustainability Foundation (2013-2015). *Reaching the Tipping Point of Pastoral Food System? Vegetation Dynamics, Herder Mobility, Community Cooperation, and Environmental Impact Monitoring in Borana, Ethiopia. My role: PI; Co-PI Karim-Aly Kassam (Cornell). Funded: \$10,000*
- Sigma Xi: The Research Society (2011) *Linking Natural Resource Conservation with Disaster Risk in Local Communities of the Tian Shan Mountain Regions in Xinjiang, China. My role: Sole PI. Funded: \$400*
- Toward Sustainability Foundation (2011). *Mapping Disaster Risk in Local Communities in Tian Shan Mountains Regions in Xinjiang, China. My role: PI; Co-PI Karim-Aly Kassam (Cornell). Funded: \$4,000*

HONORS, AWARDS AND FELLOWSHIPS

- School of Sustainability Travel Award (2019), ASU
- National Postdoctoral Association Annual Meeting Award (2016), Michigan
- Hsien and Daisy Yen Wu Scholarship (2015), Cornell
- Graduate Teaching Assistant Fellows (2015), Center for Teaching Excellence, Cornell
- Scholarship of Teaching and Learning Practitioner Fellows (2015), Center for Teaching

Excellence, Cornell

- Graduate School Conference Travel Grant (2015), Cornell
- Cornell Population Center Travel Grant (2015), Cornell
- Graduate School Conference Travel Grant (2014), Cornell
- Guani Fellowship (2012), Department of Natural Resources, Cornell

TEACHING EXPERIENCE AND APPOINTMENTS

- Instructor, SOS 327 Sustainable Food and Farms, ASU (08/2018 – 12/1018)
- Instructor, SOS 494/598 Introduction to Quantitative Research in R, ASU (08/2018 – 12/1018)
- Invited Lecturer, NRE 563 International Environmental Policy, Michigan (02/2017)
- Teaching and Learning Practitioner Fellow, Center for Teaching Excellence, Cornell (02 – 05/2015)
- Graduate Teaching Assistant, NTRES 2201 Society and Natural Resources, Cornell (01 – 05/2015)
- Invited Lecturer, NTRES 2010 Environmental Conservation, Cornell (02/2015)
- Invited Lecturer, BIOPL 2430 Taxonomy of Cultivate Plants, Cornell (12/2014)
- Invited Lecturer, NTRES 3330 Ways of Knowing, Cornell (11/2014)
- Graduate Teaching Assistant, NTRES 2100 Introductory Field Biology, Cornell (08 – 12/2014)
- Instructor, GIS Data Processing Training Workshop, International Livestock Research Institute, Nairobi, Kenya (07/2014)

STUDEN MENTORING

- Yousuf Mahid (ASU): Master Thesis Committee
- Megan Ewy (ASU): Undergraduate Honors Research Project
- Mark Crandell (Michigan): Undergraduate Research Opportunities Program
- Jacqueline Freeman (Michigan): Undergraduate Research Opportunities Program
- Xuewen Long (Shanghai Jiao Tong U): Master Research Project
- Caylin Luebeck (Michigan): Undergraduate Research Opportunities Program
- Yufei Miao (Tsinghua U): Summer Student Exchange Program at U Michigan

CONFERENCE PRESENTATIONS (* indicates presenter)

Liao, C. “Spatial Science of Coupled Natural-Human Systems for Sustainable Development in

- the Drylands”. Landscape Sustainability Science Forum (plenary talk), Xining, Qinghai, China, July, 2019 (scheduled).
- Liao, C.** “A Network Approach for Understanding the Global Land Rush”. Annual Meeting of Association of American Geographers, Washington, DC, April, 2019.
- Muir, C.*, Khatami, R., Southworth, J., **Liao, C.**, Ayana, A. “Agricultural Intensification and Large-Scale Land Acquisition in Ethiopia”. Annual Meeting of Association of American Geographers, Washington, DC, April, 2019.
- Khatami, R.*, Southworth, J., Muir, C., Caughlin, T., Ayana, A., Brown, D., **Liao, C.**, Agrawal, A. “Operational Large-Area Land-Cover Mapping: An Ethiopia Case Study”. Annual Meeting of Association of American Geographers, Washington, DC, April, 2019.
- Smith A.*, Southworth, J., Agrawal, A., Brown, D., **Liao, C.**, Ayana, A. “Large-Scale Land Acquisitions in Ethiopia: Implications for Ecosystem Services”. Annual Meeting of Association of American Geographers, Washington, DC, April, 2019.
- Agrawal, A.*, Brown, D., **Liao, C.**, Lund, J. “Agricultural Development, Structural Change, and Large-Scale Land Transactions”. Annual Meeting of Association of American Geographers, Washington, DC, April, 2019.
- Liao, C.*.** “Poverty Reduction through Solar Energy-Based Intervention in China: Potentials and Constraints.” Sustainability and Development Conference, Ann Arbor, MI, November, 2018.
- Liao, C.*,** Brown, D., Long, X., Chen, D., Che, S. “Applying Big Data from Social Media to Assess Urban Green Space Utilization Patterns in Shanghai, China.” The 2017 Global City Forum, Shanghai, China, October, 2017.
- Liao, C.*,** Brown, D., Fei, D., Long, X., Chen, D., Che, S. “Data Biases Undermine Geospatial Inference Based on Location-Based Crowdsourced Data.” The 2017 Michigan Institute for Data Science Symposium, Ann Arbor, MI, October, 2017.
- Liao, C.*,** Nolte, K., Lay, J., Brown, D., Agrawal, A. “Anticipating Carbon Emission and Its Mitigation from the Global Land Rush.” Third Annual Meeting of Forests & Livelihoods: Assessment, Research, and Engagement, Stockholm, Sweden, September, 2017.
- Ingalls, M.*, **Liao, C.**, Barney, K. “Geopolitical Dimensions of Land Systems Governance in the Mekong: Implications of Political and Economic Securitization.” International Conference on Research for Development, Bern, Switzerland, September, 2017.
- Liao, C.*,** Nolte, K., Agrawal, A. “Virtual Land Flow and Potential Carbon Emission in the Global Land Rush” Association for Law, Property & Society 8th Annual Meeting, Ann Arbor, MI, May, 2017.
- Fei, D.*, **Liao, C.** “Chinese Dispatched Labour Migration to Africa.” Annual Meeting of Population Association of America, Chicago, IL, April 2017.
- Brown, D.* Agrawal, A., **Liao, C.**, Jung, S., Sullivan, J. “Large-Scale Land Transactions as Drivers of Land-Cover Change in Sub-Saharan Africa.” 2017 Land Use and Land Cover Change Spring Science Team Meeting, Rockville, MD, April, 2017.
- Liao, C.*,** Ayana, A., Brown, D., Agrawal, A. “Can Large-Scale Land Transactions Lead to

- Social-Economic-Ecological Synergy” Annual Meeting of Association of American Geographers, Boston, MA, April, 2017.
- Liao, C.**, Sullivan, J.*, Agrawal, A., Brown, D., Jung, S. “Large-Scale Land Transactions as Drivers of Land-Cover Change in Ethiopia” Annual Meeting of Association of American Geographers, Boston, MA, April, 2017.
- Liao, C.***, Ayana, A., Brown, D., Agrawal, A. “Can Large-Scale Land Transactions Lead to Social-Economic-Ecological Synergy?” Forests & Livelihoods: Assessment, Research, and Engagement Second Annual Meeting, Edinburgh, UK, December, 2016.
- Liao, C.***, Jung, S., Agrawal, A., Brown, D. 2016. “Do Large-Scale Land Transactions Accelerate Deforestation? A Matching-Based Four-Country Comparison.” Third GLP Open Science Meeting, Beijing, China, October, 2016.
- Liao, C.***, Brown, D., Jung, S., Agrawal, A. 2016. “Large-Scale Land Transactions as Drivers of Land-Cover Change in Sub-Saharan Africa.” 2016 Land Use and Land Cover Change Spring Science Team Meeting, North Bethesda, MD, April, 2016.
- Fei, D*, **Liao, C.*** 2015. “Development through Assimilation and Integration? Evidence from Kazak Pastoral Sedentarization in Xinjiang, China.” Population Association of America Annual Conference, San Diego, CA, April, 2015.
- Washington-Allen, R*, Louhaichi, M*, Mude, A, **Liao, C**, Clifton, K, Clark, P. 2015. “The Impact of Land Use Change on the 3-D Structure of Shrubland and Savanna Dryland Ecosystems.” 3rd UNCCD Scientific Conference: Combating Desertification/Land Degradation and Drought for Poverty Reduction and Sustainable Development: The Contribution of Science, Technology, Traditional Knowledge and Practices, Cancún, Mexico, March, 2015.
- Liao, C.*** 2014. “Following the Green: Coupled pastoral migration and vegetation dynamics in the Altay and Tianshan Mountains of Xinjiang, China.” Annual Meeting of Association of American Geographers, Tampa, FL, April, 2014.
- Wang, M*, **Liao, C.** 2010. “Toward an Understanding of Risk Perception and Willingness to Pay of Chinese People on Natural Catastrophe Insurance.” Global Risk Forum, Davos, Switzerland, June, 2010.
- Liao, C.*** 2009. “A Nationwide Survey: Feasibility Study of Catastrophe Insurance in China.” Fourth Asian Conference on Risk Assessment and Management, Beijing, China, May, 2009.

OTHER TALKS AND ACTIVITIES (* indicates presenter)

- Liao, C.*** 2018. “Spatial Science of Coupled Natural-Human Systems for Sustainable Development.” Spatial Analysis Research Center, Arizona State University, Tempe, AZ, November, 2018.
- Liao, C.*** 2018. “Modeling Herding Decision Making in the Extensive Grazing System in Southern Ethiopia.” Center for Behavior, Institutions and the Environment, Arizona State University, Tempe, AZ, October, 2018.
- Liao, C.*** 2018. “Poverty Reduction through Solar Energy-Based Intervention in China:

- Potentials and Constraints.” Eradicating Poverty through Energy Innovation Workshop, Arizona State University, Tempe, AZ, February, 2018.
- Liao, C.*** 2017. “Research Tools to Study Forest and Livelihoods.” School of Agricultural Economics and Rural Development. Renmin University of China, Beijing, China, October, 2017.
- Liao, C.*** 2017. “Diversity of Large-Scale Land Acquisitions and Their Divergent Outcomes in Ethiopia.” German Institute of Global and Area Studies Socioeconomic Seminar Series, Hamburg, Germany, September, 2017.
- Liao, C., Clark, P., Shibia, M., DeGloria, S.*** “Spatio-Temporal Dynamics of Cattle Behaviors and Resource Selection Patterns on the East African Rangelands” Grazing Behavior Inservice, Springdale, UT, January, 2017.
- Liao, C.*** 2016. “Livelihood Diversification, Herd Migration and Risk Perception on the Western Edge of Mongolian Plateau.” Symposium on Research synthesis & innovation on the Mongolian Plateau, Ann Arbor, MI, May, 2016.
- Liao, C.*, Brown, D., Jung, S., Agrawal, A.** 2016. “Spatial Patterns of Large-Scale Land Transactions: Number, Size, Context and Outcome in Cambodia, Ethiopia, Liberia and Peru.” Symposium on Large-Scale Land Transactions in sub-Sahara Africa, South Asia and Southeast Asia, Ann Arbor, MI, April, 2016.
- Liao, C.*** 2016. “A Coupled Systems Approach to Understanding Human Dimensions of Global Environmental Change.” Department of GeoSciences, University of Missouri – Kansas City, Kansas City, MO, March, 2016.
- Liao, C.*** 2015. “Modeling Pastoralists’ Camp Relocation Strategies in Borana, Ethiopia: An Integrated Approach.” Department of Natural Resources Seminar Series, Cornell University, Ithaca, NY, October, 2015.
- Liao, C.*** 2015. “How Does a Rubric Enhance Learning: Using Place Journal as a Case Study.” Classroom Research and Teaching Symposium: A Symposium for Current and Future Faculty, Cornell University, Ithaca, NY, May, 2015.
- Liao, C.*** 2015. “Adaptation to Bush Encroachment: Insights from Ethnobotanical Knowledge of Pastoralists in Borana, Ethiopia.” Student Symposium at Atkinson Center for a Sustainable Future, Cornell University, Ithaca, NY, March, 2015.
- Liao, C.*** 2014. “Quantifying Pastoral Mobility Using GPS Collar Data: An Application in Borana, Ethiopia.” Department of Natural Resources Seminar Series, Cornell University, Ithaca, NY, November, 2014.
- Liao, C.*** 2014. “External Development Interventions and Pastoral Resilience in Borana, Ethiopia.” Cornell University Workshop on Resilience & Development, Ithaca, NY, October, 2014.
- Liao, C.*** 2014. “Rangeland Vegetation State-and-transition and Pastoral Mobility in Borana, Ethiopia.” Sustainable Biodiversity Fund Symposium, Cornell University, Ithaca, NY, October, 2014.
- Liao, C.*** 2014. Invited Panelist on Panel “Natural Resources and Infrastructure Development in Inner Asia.” Annual Meeting of Association of American Geographers, Tampa, FL, April, 2014.

- Liao, C.*** 2014. “Rangeland Ecology and Livestock Mobility in Borana, Ethiopia.” Special Seminar of Northwest Watershed Research Center, USDA Agriculture Research Service in Boise, ID, March, 2014.
- Liao, C.*** 2013. “Pastoral Resilience in Borana, Ethiopia.” ACSF-Oxfam Rural Resilience Community Assessment workshop, Cornell University, Ithaca, NY, September, 2013.
- Liao, C.*** 2012. “Livelihood Strategies and Migration Patterns in the Pastoral System in Xinjiang, China.” Department of Natural Resources Graduate Student Association Symposium, Cornell University, Ithaca, NY, January, 2012.
- Liao, C.*** 2011. “Mapping Disaster Risk in Local Communities in Tian Shan Mountain in Xinjiang, China.” Department of Natural Resources Graduate Student Association Symposium, Cornell University, Ithaca, NY, January, 2011.

PROFESSIONAL SERVICE

Journal Manuscript Reviewer

Annals of the American Association of Geographers (1); *Community Development* (3); *Earth's Future* (1); *Ecological Processes* (1); *Ecological Applications* (1); *Ecology and Evolution* (2); *Ecosphere* (1); *Environment, Development and Sustainability* (3); *Environmental Management* (1); *Human Ecology* (10); *International Journal of Disaster Risk Science* (1); *International Journal of Geographical Information Science* (1); *Land Use Policy* (1); *Journal of Arid Environments* (1); *Journal of Contemporary African Studies* (1); *Journal of Environmental Studies and Sciences* (1); *Journal of Management and Sustainability* (3); *Journal of Mountain Science* (1); *Journal of Poverty* (1); *Livestock Science* (1); *Natural Hazards* (1); *Sustainability* (2); *Water* (1); *World Development* (6)

Journal Editing

Guest editor of Special Issue “Forest governance interventions for sustainability: Information, incentives, and institutions” in *Current Opinions in Environmental Sustainability*

Grant Proposal Reviewer

Science & Technology Facilities Council, UK (2018); National Geographic Society Committee for Research and Exploration Grant (2015); Sustainable Biodiversity Fund, Cornell (2014); Mellon/Kieckhefer Grant, Cornell (2011)

Editorial Board Member

Journal of Management and Sustainability

Conference and Session Organizer

Conference Session, “Large-Scale Land Acquisitions and Effect on Agricultural Production, Ecosystem Services, and Smallholder Livelihoods”, Annual Meeting of Association of American Geographers, Washington, DC, April, 2019 (scheduled).

Conference Session, “Systematic Assessment of Land Transaction Outcomes”, Third Annual Meeting of Forests & Livelihoods: Assessment, Research, and Engagement, Stockholm, Sweden,

September, 2017.

Conference Session and Panel Discussion, “Dynamics of Coupled Natural and Human Systems Panels: Models, Feedback, Analyses, and Outcomes”, Annual Meeting of Association of American Geographers, Boston, MA, April, 2017.

Round-Table Discussion Session, “The Impact of Large-Scale Land Transactions on Smallholder Livelihoods and Agroecological Systems”, Third GLP Open Science Meeting, Beijing, China, October, 2016.

Symposium, “Large-Scale Land Transactions in Sub-Saharan Africa, South Asia and Southeast Asia”, University of Michigan, Ann Arbor, MI, April, 2016.

Committee Member

Undergraduate Quantitative Skills Curriculum Committee, School of Sustainability, ASU (2019-)

Graduate Committee, School of Sustainability, ASU (2018-)

The Board of University of Michigan Postdoctoral Association (2016-2018)

Coordination Committee of Forests & Livelihoods: Assessment, Research, and Engagement (FLARE) Network (2016-2018)

ACADEMIC AFFILIATIONS

American Association of Geographers

American Association for the Advancement of Science

Sigma Xi, The Scientific Research Society