LI AN

Curriculum Vitae

April 2024

Solon & Martha Dixon Endowed Professor
Professor of Ecosystem Modeling
College of Forestry, Wildlife, and Environment at Auburn University
602 Duncan Drive
Auburn, AL 36849
Telephone: (344)844-1028
E-mail: anli@auburn.edu
Zoom number: https://auburn.zoom.us/my/li.an

HIGHER EDUCATION

- Ph.D., Systems Modeling (Fisheries and Wildlife), Michigan State University, East Lansing, Michigan, 2003
- M.S., Probability and Statistics, Michigan State University, East Lansing, Michigan, 2002
- M.S., Systems Ecology, Chinese Academy of Sciences, Beijing, China, 1992
- B.S., Urban and Regional Planning (Economic Geography), Peking University, Beijing, China, 1989

PROFESSIONAL APPOINTMENTS

- Solon & Martha Dixon Endowed Professor & Professor of Ecosystem Modeling (with tenure) at College of Forestry, Wildlife, and Environment at Auburn University, 2023 – present)
- Director, International Center for Climate and Global Change Research (ICCGCR), Auburn University (2023 – present)
- Professor (tenured), Department of Geography, San Diego State University (SDSU), 2013 - 2023
- Founding director, Center for Complex Human-Environment Systems (CHES) at San Diego State University (USA), 2019-2023
- Associate Professor (tenured), Department of Geography, San Diego State University, 2009 - 2013
- Assistant Professor, Department of Geography, San Diego State University, 2005 - 2009
- Postdoctoral Research Fellow, University of Michigan, Ann Arbor, Michigan, 2003 - 2005

RESEARCH PROFILE

OVERALL RESEARCH GOALS

My research focuses on understanding, envisioning, and conserving complex earth systems (e.g., complex human-environment systems, human-influenced ecosystems, protected areas) in the context of global change. Environmental data science, landscape ecology, geographic information science, applied spatial statistics, artificial intelligence, complex adaptive systems theory, sustainability science, and other relevant domain knowledge leverage theoretical, methodological, and empirical support toward my research focus.

RECENT INTERESTS AND ACTIVITIES

1. Understanding the complex earth systems (e.g., environment, ecosystems, and coupled human and natural systems) in the context of global change, climate change, and sustainability crisis. Exemplar areas of interest:
   - Exploring pathways toward improved biodiversity, wildlife habitat, sustainability, public health, and systems dynamics under global change pressures.
   - Understanding the trajectories of landscapes and/or the environment in the context of socio-political and environmental challenges.
   - Revealing dynamics and mechanisms of ecosystems (structure & services) at various spatial and temporal scales.
   - Performing socio-environmental hazard (e.g., fires, floods, diseases) analysis for improved planning, management, and recovery.
2. Developing simulation-based, geospatial methods to facilitate space-time representation, visualization, analysis, computation, and micro-level simulation of various earth systems for improved understanding, envisioning, planning, and sustainability. Exemplar methods of interest:
   - Agent-based modeling
   - Artificial intelligence
   - Machine learning
3. Environmental data science & geo-environmental informatics methods for systems planning, engineering, and management. Exemplar methods of interest:
   - Latent trajectory modeling.
   - Land survival analysis.
   - Spatial statistics
   - Geographic information science
   - Geographic information systems
4. Establishing and maintaining various research, education, and outreach networks through international, interdisciplinary, and inter-scale collaboration.

HONORS & AWARDS

- Recipient of the 2023 Distinguished Scholarship Honors from the Association of American Geographers (AAG) “for his pioneering contributions to agent-based modeling and space-time analysis that strengthen the ability to understand spatiotemporal variability of complex human-environmental processes”.
- Endowed professorship in Auburn University with a medal that recognizes faculty who “elevate the

level of scholarship" (2023).

- Recipient of the 2022 Outstanding Service Award of the Spatial Analysis and Modeling (SAM) Specialty Group of the Association of American Geographers (AAG).
- Fellow of the Association of American Geographers (AAG) selected by AAG Fellows Selection Committee and the AAG Council (elected in 2021) for his "creative and ground-breaking … work on agent-based modeling and space-time analysis …to model human-environment processes".
- Fellow of the American Association for the Advancement of Science (AAAS) for "distinguished contributions to complex human-environmental systems theory and methodological breakthroughs in modeling human decisions, agent-based modeling, land survival & latent trajectory analysis" (elected in 2020).
- Recipient of the Excellence in Research Award for the Humanities and the Social Sciences at College of Arts and Letters, San Diego State University, 2018.
- The 2013-2014 Outstanding International Scholar Award at San Diego State University, which annually recognizes a distinguished faculty member with demonstrated outstanding contributions to the international arena.
- Awardee of the SDSU President's Leadership Fund in 2014, which aims at "building on excellence" in support of student success, research and creative endeavors, and community and communication.
- Prominent faculty in 2013 recognized in The Campanile Foundation (TCF) Board Dinner, September 11, 2013 (by SDSU President Elliot Hirshman, Vice President for Research Stephen Welter, and Dean of College of Arts and Letters Paul Wong).
- Outstanding Paper Award in Landscape Ecology (2006): "Exploring Complexity in a Human-Environment System: An Agent-based Spatial Model for Multidisciplinary and Multiscale Integration" (by An et al. 2005 in Annals of the Association of American Geographers 95(1): 54-79). The US Chapter of the International Association of Landscape Ecologists. Reprinted in Handbook of Applied System Science (Routledge Handbooks) 1st Edition by Zachary P. Neal (Editor), 2016.
- Gill-Chin Lim Award for Outstanding Doctoral Dissertation in Global Studies, Michigan State University (2004).
- Dissertation Completion Fellowship for outstanding dissertations from College of Agriculture and Natural Resources, Michigan State University (2002).
- Thoman Fellowship from International Studies & Programs Office, designed for international students excellent in studies and research, Michigan State University (2001).
- Research Enhancement Fellowship from Michigan State University and Department of Fisheries and Wildlife, for "Workshop on Linking Household and Remotely Sensed Data: Methodological and Practical Problems, Honolulu, Hawaii" (2002).
- Travel Grant from Michigan State University, for the international Conference "Panda 2000: Conservation Priorities for the New Millennium, San Diego, CA" (2000).
- NASA-MSU Scholarship in Landscape Ecology from the National Aeronautics and Space Administration (NASA) and Michigan State University (1998).

MEDIA COVERAGE

- SDSU Weekly Newsletter for Dr. Li An's honor to receive the 2023 Distinguished Scholarship Honors from the American Association of Geographers (January 23, 2023).
- Newsletter report by American Association of Geographers (AAG) that recognizes Dr. Li An to receive the 2023 Distinguished Scholarship Honors (January 12, 2023).

- News report at the San Diego State University's *Strategic Communications and Public Affairs* Newsletter (as top news) titled "Li An Selected as American Association of Geographers Fellow" (January 24, 2022).
- Newsletter report by American Association of Geographers (AAG) that recognizes Dr. Li An as one of the 2022 Class of AAG Fellows (January 18, 2022).
- News report at the San Diego State University's NewsCenter (as front coverage) titled "Leading Scientist Elected as an AAAS Fellow" (December 2, 2020).
- News release by the American Association for the Advancement of Science (AAAS) that Dr. Li An has been elected to be a Fellow of AAAS (announced at the 27th November 2020 issue of *Science*).
- The NSF Award "CNH: Impacts of ecosystem service payments in coupled natural and human systems" has been reported by Daily Aztec (SDSU newspaper) and SDSU Website in 2012.
- The NSF Project on understanding micro human-environment interaction (Li An as Co-PI for agent-based modeling; dissertation of PhD student Alex Zvoleff) has been featured by the National Association of Science Writers in 2011 (http://www.nasw.org/modeling-interplay-people-and-places).
- Research on human-environment interaction in the golden money reserve has been reported by San Diego State University Website (front page) and The 360 Magazine (The Magazine of San Diego State University) in 2009.

RESEARCH ACTIVITIES AND OUTCOMES

GRANTS AND PROJECTS (as PI, Co-PI, or Senior Personnel):

- PI, National Science Foundation USA Award "CNH-L: People, place, and payments in complex human-environment systems" (BCS-1826839); Co-PIs: Douglas Stow, Rebecca Lewison, Fang Chiu, and Jennifer Glick; Senior personnel: Stuart Aitken, Minjuan Wang and Scott Yabiku. Total budget: $1,450,000, 2018-2024.
- Project Director, College of Arts and Letters Dean's grant to support the NSF CNH2 Award "CNH-L: People, place, and payments in complex human-environment systems". Total budget: $12,000, 2022-2023.
- Project Director, SDSU Vice President's Office in support of the Center for Complex Human-Environment Systems. Total budget: $10,000, 2019.
- Project Director/Advisor, 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" (17-EARTH17F-337). PI: Jie Dai (PhD candidate). Total budget: $84,612, 2017-2019.
- PI, University of Hradec Králové Grant "Simulation of migration theories –SioMiTe" (Czech Republic; Co-PIs: JiříŠedivý, Jan Österreicher, and Hana Tomášková), 1,553,600 Czech crowns ($71,341), 2017-2018.
- PI, NSF project "ABM'17: The usefulness, uselessness, and impending tasks of agent-based models in social, human-environment, and life sciences" (BCS-1638446; Co-PIs: Piotr Jankowski, Steven Manson, B. L. Turner II, Shaowen Wang). Total budget: $94,996, 2016-2018.
- PI, NSF project "CNH: Impacts of ecosystem service payments in coupled natural and human systems" (DEB-1212183; co-PIs: Douglas Stow, Stuart Aitken, Rebecca Lewison, Xiaodong Chen). Total budget: $1,299,917, 2012-2017.

- PI, SDSU President's Leadership Fund project "Cross the border: Immerse undergraduates in conservation" (2014). Total budget: $7,500.
- Co-PI, NSF project "CNH: Feedbacks between human community dynamics and socio-ecological vulnerability in a biodiversity hotspot" (BCS-1211498; PI: Scott T. Yabiku at Arizona State University). Total budget: $1,449,521, 2012-2016.
- Co-investigator, NASA project "The urban transition in Ghana and its relation to land cover and land use change through analysis of multi-scale and multi-temporal satellite image data" (11-IDS11-42; PI: Douglas Stow). Total budget: $992,960, 2012-2015.
- Co-PI, NSF project "PIRE collaborative research and training in social context, population processes, and environmental change" (OISE-0729709; PI: William Axinn, University of Michigan). Total budget secured: $2,500,000, 2007-2012 (with no-cost extension to 2013).
- Senior personnel, NSF CDI project "Mapping cyberspace to real-space: visualizing and understanding the spatiotemporal dynamics of global diffusion of ideas and the semantic web" (PI: Dr. Ming-Hsiang Tsou). Total budget: $ 1,300,000, 2010-2015.
- PI, SDSU internal grant "Where are the golden monkeys? A predictive habitat analysis". Total budget: $5,068, 2009-2010.
- PI, SDSU internal grant "Sampling at what scales? A computational simulation approach". Total budget: $9,654, 2008-2009.
- PI, SDSU internal grant "Complexity science in support of disaster alleviation—preference, place, and promise". Total budget: $9,857, 2005-2006.
- PI, Zoological Society of San Diego grant "Does ecotourism help conserving the nature? A case study of the Fanjingshan National Nature Reserve, China". Total budget: $1,100, 2009-2010.
- Project director, Margot Marsh Biodiversity Foundation grant "Documenting impacts of illegal mining on the Guizhou golden monkey, *Rhinopithecus brelichi*, in Fanjingshan National Nature Reserve, China" (Student PI: Sarah Wandersee). Total budget: $12,000, 2009-2010.
- PI, Shared Visions Grant, Department of Geography, San Diego State University. Total: $2,160, 2005-2006.

GRANTS AND PROJECTS (as collaborator or consultant):

- Consultant, NIH R01 (APPLE CDS) Project "Assessment of policies/programs through prediction of long-term effects on cardiovascular disease using simulation" (PI: Yan Li). Total budget: $3,150,000, 2018-2022.
- Collaborator, NIH project "Health, poverty, and place: modeling inequalities in Accra using RS and GIS" (PI: John. W. Weeks, SDSU). Total budget: 3,057,586, 2007-2012.
- Collaborator, NSF project "SI2-S2I2 Conceptualization: Geospatial software institute" (PI: Shaowen Wang, UIUC). Total budget: $500,000, 2017-2018.

PEER-REVIEWED JOURNAL ARTICLES (*Graduate students working with or advised by Li An):

119. **An, L.**, Q. Zhang, C. Song, and X. Wei (in press). Methods for assessing spillover effects between concurrent green initiatives. *MethodsX.*

118. **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.A. Bryan (2024). Global hidden spillover effects among concurrent green efforts. *Science of the Total Environment,* 169880. https://doi.org/10.1016/j.scitotenv.2024.169880.

117. Lyu, H., F. Qiu, **L. An**, D. Stow, R. Lewison, and E. Bohnett (2024). Deer population survey from

drone thermal imagery using enhanced faster R-CNN based on FPN and ResNets. *Ecological Informatics*, 79, 102383.

116. Bohnett, E, and **L. An** (2023). Editorial: Biodiversity and ecosystem services in forest ecosystems. *Sustainability,* 15(23), 16364.

115. Lawyer, C., **L. An**, and E. Goharian (2023). Climate change and coastal community response: from agent-based modeling towards a system of systems approach. *Water*, 15(14), 2635

114. Bohnett, E., J. Holmberg, S. P. Faryabi, **L. An**, B. Ahmad, W. Rashid, and S. Ostrowski (2023). Comparison of two individual identification algorithms for snow leopards (Panthera uncia) after automated detection. *Ecological Informatics*, 77, 102214.

113. Zhang, H., P. Li, X. Liu, X. Yang, and **L. An** (2023). An iterative semi-supervised approach with pixel-wise contrastive loss for road extraction. *Transactions on Multimedia Computing Communications and Applications*. https://doi.org/10.1145/3606374.

112. **An, L.**, V. Grimm, A. Sullivan, B.L. Turner II., N. Malleson, A. Heppenstall, C. Vincenot, D. Robinson, X. Ye, J. Liu, E. Lindvist, and W. Tang (2023). Modeling agent decision and behavior in the light of data science and artificial intelligence. *Environmental Modeling & Software,* 105713. https://doi.org/10.1016/j.envsoft.2023.105713.

111. Liu, Y.*, Dai, J.*, 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. https://doi.org/10.1007/s40980-023-00117-5.

110. Bohnett., E, S. Lamichhane, Y. Liu, Y.T. Scott, D.S. Dahal, S. Mammo, K. Fandjinou, B. Ahmad, and **L. An** (2023). The implications of community forest income on social and environmental sustainability. *Sustainability* 15, 8, 6603.

109. Bohnett, E., S. P. Faryabi, R. Lewison, **L. An**, X. Bian, A. M. Rajabi, N. Jahed, H. Rooyesh, E. Mills, S. Ramos, N. Mesnildrey, C. M. S. Perez, J. Taylor, V. Terentyev, and S. Ostrowski (2023). Human expertise combined with artificial intelligence improves performance of snow leopard camera trap studies. *Global Ecology and Conservation,* 41(2023), e02350.

108. Zhang, Q., S. Tao, S. Walsh, X. Chen, R. Bilsborrow, **L. An**, and C. Song (2022). Agent-based modeling of the effects of conservation policies on social-ecological feedbacks between cropland abandonment and labor migration. *Landscape Ecology,* 1-17, https://doi.org/10.1007/s10980-022-01575-w

107. Bohnett, E. T., A. Coulibaly, D. Hulse, B. Ahmad, **L. An**, and R. Lewison (2022). Corporate responsibility and biodiversity conservation: Challenges and opportunities for companies participating in China's Belt and Road Initiative. *Environmental Conservation*, 49(1), 42-52; doi:10.1017/S0376892921000436.

106. Mirka, B., D. Stow, G. Paulus, A. Loerch, L. Coulter, and **L. An** (2022). Evaluation of thermal infrared imaging from uninhabited aerial vehicles for arboreal wildlife surveillance. *Environmental Monitoring and Assessment* 194, 512.

105. Giefer, M., and **L. An** (2022). Divergent impacts of the grain to green program, landholdings, and demographic factors on livelihood diversification in rural China. *World Development* 156, 105917, https://doi.org/10.1016/j.worlddev.2022.105917.

104. Yabiku, S.T., A. Sullivan, A. York, Q. Zhao, J.E. Glick, S.J. Hall, D.J. Ghimire, and **L. An** (2022). Drivers of prohibited natural resource collection in Chitwan National Park, Nepal. *Environmental Conservation*. doi: 10.1017/S0376892922000121.

103. **An**, **L.,** E. Bohnett, C. Battle, J. Dai, R. Lewison, P. Jankowski, N. Carter, D. Ghimire, M. Dhakal, J. Karki, and A. Zvoleff (2021). Sex-specific habitat suitability modeling for *Panthera tigris* in Chitwan National Park, Nepal: Broader conservation implications. *Sustainability 13, 13885, https://doi.org/10.3390/su132413885*.

102. **An, L.**, V. Grimm, A. Sullivan, B.L. Turner II., N. Malleson, A. Heppenstall, C. Vincenot, D.

Robinson, X. Ye, J. Liu, E. Lindvist, and W. Tang (2021). Challenges, tasks, and opportunities in modeling agent-based complex systems. Ecological Modeling 457: 109685. doi: 10.1016/j.ecolmodel.2021.109685.

101. Zhang, H., **L. An**, V. Chu, D.A. Stow, X. Liu, and Q. Ding. (2021). Learning adjustable reduced downsampling network for small object detection in urban environments. *Remote Sensing* 13(18), doi: 10.3390/rs13183608.
100. Xiong, B., R. Chen, **L. An**, Q. Zhang, and Z. Xia (2021). Telecoupling urbanization and mountainous deforestation between 2000 and 2020: Evidence from Zhejiang Province, China. *Land Degradation & Developmen*t 32 (16): 4727-4739.
99. 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. *Journal of Geographical Sciences* 31(6): 899-922.
98. Shen, M., J. Zu, C. K. Fairley, J. A. Pagán, Z. Du, Y. Guo, L. Rong, Y. Xiao, G. Zhuang, Y. Li, **L. An**, and L. Zhang (2021). Projected COVID-19 epidemic in the United States in the context of the effectiveness of a potential vaccine and implications for social distancing and face mask use. *Vaccine* 39(16): 2295-2302.
97. Giefer, M.M., **L. An**, and X. Chen (2021). Normative, livelihood, and demographic influences on enrollment in payment for ecosystem services programs. *Land Use Policy* 108 (2021), 105525.
96. Dai, J.*, D. A. Roberts, D. A. Stow, **L. An**, and Q. Zhao (2020). Community forest green vegetation cover has steadily increased since their establishments in Western Chitwan, Nepal. *Remote Sensing* 12, 4071; doi:10.3390/rs12244071.
95. Dai, J.*, D. A. Roberts, D. A. Stow, **L. An**, S. J. Hall, Scott T. Yabiku, and P. C. Kyriakidis (2020). Mapping understory invasive plant species with field and remotely sensed data in Chitwan, Nepal. *Remote Sensing of Environment.* 250 (December 1, 2020), doi:10.1016/j.rse.2020.112037.
94. Chen, H.L., R.L. Lewison, **L. An**, S. Yang, L. Shi, and W. Zhang (2020). Understanding direct and indirect effects of payment for ecosystem services on resource use and wildlife. *Anthropocene* 31 (September 2020), 100255.
93. Chen, H.L., R.L. Lewison, **L. An**, Y.H. Tsai, D. Stow, L. Shi, and S. Yang (2020). Assessing the effects of payments for ecosystem services programs on forest structure and species biodiversity. *Biodiversity and Conservation*. https://doi.org/10.1007/s10531-020-01953-3
92. Giefer, M., and **L. An** (2020). Synthesizing remote sensing and biophysical measures to evaluate human-wildlife conflicts: The case of wild boar crop raiding in rural China. *Remote Sensing* 12(4), 618.
91. **An, L.**, V. Grimm, B.L. Turner II (2020). Editorial: Meeting grand challenges in agent-based models. *The Journal of Artificial Societies and Social Simulation* (JASSS) 23/1/5, Special issue (An as leading guest-editor).
90. **An**, **L.,** J. Mak, S. Yang, R. Lewison, D.A. Stow, H.L. Chen, W. Xu, L. Shi, and Y.H. Tsai (2020). Cascading impacts of payments for ecosystem services in complex human-environment systems. *The Journal of Artificial Societies and Social Simulation* (JASSS) 23/1/5, Special issue.
89. Ligmann-Zielinska, A., P. Siebers, N. Magliocca, D. Parker, V. Grimm, E.J. Du, M. Cenek, V. Radchuk, N. Arbab, S. Li, U. Berger, R. Paudel, D.T. Robinson, P. Jankowski, **L. An**, and X. Ye (2020). 'One size does not fit all': a roadmap of purpose-driven mixed-method pathways for sensitivity analysis of agent-based models. *The Journal of Artificial Societies and Social Simulation* (JASSS) 23/1/6, Special issue.
88. Manson, S., **L. An**, K. C. Clarke, A. Heppenstall, J. Koch, F. Morgan, D. O'Sullivan, B. Runck, E. Shook, and L. Tesfatsion (2020). Methodological issues of spatial agent-based models. *The Journal of Artificial Societies and Social Simulation* 23/1/3*,* Special issue.
87. Yost, A.*, **L. An**, R. Bilsborrow, L. Shi, X. Chen, and W. Zhang (2020). Linking concurrent payments for

ecosystem services in a Chinese nature reserve. *Ecological Economics* 169, 106509.

86. Xu, W., S. Pimm, A. Du, Y. Su, X. Fan, **L. An**, J. Liu, and Z. Ouyang (2019). Transforming protected area management in China. *Trends in Ecology and Evolution* 34(9): 762-766.
85. Xu, W., X. Fan, J. Ma, S. L. Pimm, L. Kong, Y. Zeng, X. Li, Y. Xiao, H. Zheng, J. Liu, B. Wu, **L. An**, L. Zhang, X. Wang, and Z. Ouyang (2019). Hidden loss of wetlands in China. *Current Biology* 29: 1–7.
84. Tsai, Y.*, R. Lewison, D. Stow, L. Shi, **L. An,** and H. Chen (2019). Monitoring land-cover and land-use dynamics in Fanjingshan Nation Nature Reserve. *Applied Geography* 111, 102077.
83. Gawron, J. Mark, A. Dodge, M. Tsou, B. Spitzberg, and **Li An** (2019). Linguistically guided community discovery. *Big Data & Society* January-June: 1-15. DOI: 10.1177/2053951719846634.
82. Aitken, S., **L. An**, and S. Yang* (2019). Development and sustainable ethics in Fanjingshan National Nature Reserve, China. *Annals of Association of American Geographers* 109(2): 661-672.
81. Wang, C., H. Wang, J. Pi, and **L. An** (2019). A Park Recommendation Algorithm based on User Reviews and Ratings. *International Journal of Performability Engineering* 15(3): 803-812.
80. Sullivan, A.*, A.M. York, and **L. An** (2018). Which perspective of institutional change best fits empirical data? An agent-based model comparison of rational choice and cultural diffusion in invasive plant management. *Journal of Artificial Societies and Social Simulation* 21(1):5.
79. Tsai, Y.*, D. Stow, H. Chen, R. Lewison, **L. An**, and L. Shi (2018). Mapping vegetation and land cover types in Fanjingshan National Nature Reserve using Google Earth Engine. *Remote Sensing* 2018, 10, 927. doi:10.3390/rs10060927.
78. Freeman, M., D*. Stow, and **L. An** (2017). Patterns of mortality in a montane mixed-conifer forest in San Diego County, California. *Ecological Application* 27(7): 2194-2208.
77. Lewison, R., **L. An**, and X. Chen (2017). Reframing the payments for ecosystem services framework in a coupled human and natural systems context: Strengthening the integration between ecological and human dimensions. *Ecosystem Health and Sustainability* 3(5), 2017, 1335931. https://doi.org/10.1080/20964129.2017.1335931
76. Sullivan, A.*, A.M. York, **L. An**, S.T Yabiku, and S.J. Hall (2017). How does perception at multiple levels influence collective action in the commons? The case of *Mikania micrantha* in Chitwan, Nepal. *Forest Policy and Economics* 80:1-10.
75. **An, L**., M. Tsou, B. Spitzberg, J.M. Gawron, and D.K. Gupta (2016). Latent trajectory models for space-time analysis: An application in deciphering spatial panel data. *Geographical Analysis* 48 (3): 314–336 (http://dx.doi.org/10.1111/gean.12097).
74. Tsai, Y*., D. Stow, L. Shi, R. Lewison, and **L. An** (2016). Quantifying canopy fractional cover and change in Fanjingshan National Nature Reserve, China using Multi-temporal Landsat imagery. *Remote Sensing Letters* 7(7): 671-680.
73. Luo, N.*, **L. An**, A. Nara, X. Yan, and W. Zhao (2016). GIS-based multi-element source analysis of dustfall in Beijing: A study of 40 major and trace elements. *Chemosphere* 152: 123-131.
72. Crook, S.E.S.*, **L. An**, D.A. Stow, and J.R. Weeks (2016). Latent trajectory modeling of spatiotemporal relationships between land cover and land use, socioeconomics, and obesity in Ghana. *Spatial Demography* 4(3): 221-244. (DOI 10.1007/s40980-016-0024-6).
71. Chin, A., **L. An**, J. Florsheim, L. Laurencio, R. Marston, A. Parker, G. Simon, and E. Wohl (2016). Feedbacks in human-landscape systems: lessons from the Waldo Canyon Fire of Colorado, USA. *Geomorphology* 252(2016): 40-50. http://dx.doi.org/10.1016/j.geomorph.2015.07.030
70. **An, L.,** M. Tsou, S. Crook*, B. Spitzberg, J.M. Gawron, and D.K. Gupta (2015). Space-time analysis: Concepts, methods, and future directions. *Annals of Association of American Geographers* 105(5): 891-914.
69. Liu, J., V. Hull, J. Luo, W. Yang, W. Liu, A. Viña, C. Vogt, Z. Xu, H. Yang, J. Zhang, **L. An**, X. Chen, S. Li, W. McConnell, Z. Ouyang, W. Xu, and H. Zhang (2015). Multiple telecouplings and their complex interrelationships. *Ecology and Society* 20(3):44.

68. Chen, X., A. Viña, A. Shortridge, **L. An**, and J. Liu (2014). Assessing the effectiveness of payments for ecosystem services: an agent-based modeling approach*. Ecology & Society.* 19(1):7
67. Aslam, A. A., M. H. Tsou, B. Spitzberg, **L. An**, J. M. Gawron, D.K. Gupta, K. M. Peddecord, A. C. Nagel, C. Allen, J. Yang, and S. Lindsay (2014). The Reliability of Tweets as a Supplementary Method of Seasonal Influenza Surveillance. *Journal of Medical Internet Research.*
66. **An, L.**, A. Zvoleff, J. Liu, and W. Axinn (2014). Agent based modeling in coupled human and natural systems (CHANS): Lessons from a comparative analysis. *Annals of Association of American Geographers* 104(4): 723–745. Reprinted in Handbook of Applied System Science (Routledge Handbooks) 1st Edition by Zachary P. Neal (Editor), 2016.
65. Zvoleff, A.*, and **L. An** (2014). The effect of reciprocal connections between demographic decision-making and land use on decadal dynamics of population and land use change. *Ecology and Society* 19(2): 31.
64. Zvoleff, A.*, and **L. An**. (2014). Analyzing human-landscape interactions: tools that integrate. Special issue on "The Future of Human-Landscape Interactions: Drawing on the Past, Anticipating the Future" (eds: A. Chin, K. Galvin, A. Gerlak, and E. Wohl), *Environmental Management* 53: 94-111.
63. Wang, N.*, D. G. Brown, **L. An**, S. Yang, and A. Ligmann-Zielinska (2013). Comparative performance of logistic regression and survival analysis for detecting spatial predictors of land-use change. *International Journal of Geographic Information Science* 27(10): 1960-1982. http://dx.doi.org/10.1080/13658816.2013.779377.
62. Nagel, A. C., M. H. Tsou, B. Spitzberg, **L. An**, J. M. Gawron, D.K. Gupta, J. Yang, S. Han, K. M. Peddecord, S. Lindsay, and M.H. Sawyer (2013). The complex relationship of real-space events and messages in cyberspace: a case study of influenza and pertussis using tweets. *Journal of Medical Internet Research* 15(10): e237. http://www.jmir.org/2013/10/e237/
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PEER-REVIEWED BOOK CHAPTERS (*Graduate students advised by Li An):

32. **An, L**. (2022). Complexity, in *Handbook of Spatial Analysis in the Social Sciences* (Sergio Rey and Rachel Franklin, editors), Edward Elgar Publishing Ltd.
31. Tang, W., V. Grimm, L. Tesfatsion, E. Shook, D. Bennett, **L. An**, Z. Gong, and X. Ye (2020). Code reusability and transparency of agent-based modeling: A review from a cyberinfrastructure perspective. In Tang, W. and Wang, S. (Editors): *High Performance Computing for Geospatial Applications* (https://link.springer.com/chapter/10.1007%2F978-3-030-47998-5_7), pp. 115-134; Springer: Switzerland.
30. Dai, J*, and **L. An** (2018). Time geography. In *GIS principles and technical designs of GIS,* edited by T.J. Cova and M. Tsou, a volume in *Comprehensive Geographic Information Systems* (editor B. Huang), Elsevier. Springer: Switzerland
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28. **An, L.**, and S. Crook (2016). Spatiotemporal analysis. Entry for *The International Encyclopedia of Geography: People, the Earth, Environment, and Technology* (section editor: Mei-Po Kwan; general editor: Michael Goodchild).
27. **An, L.**, W. Yang, and J. Liu (2016). Demographic decisions and cascading consequences. Book chapter (#8) in Liu et al.: *Pandas and People: Coupling Human and Natural Systems for Sustainability*. Oxford, UK: Oxford University Press.
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19. Zvoleff, A.*, S. M. Wandersee, **L. An**, and D. López-Carr (2014). Land use and land cover change. *Oxford Bibliographies*. http://oxfordindex.oup.com/view/10.1093/obo/9780199874002-0105
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16. Gupta, D., B. H. Spitzberg, M-H. Tsou, **L. An**, and J. M. Gawron (2011). Tracking the spread of violent extremism. In L. Fenstermacher & S. Canna (Eds.), *Countering Violent Extremism: Scientific Methods & Strategies* (Topical strategic multi-layer assessment [SMA] multi-agency and Air Force Research Laboratory multi-disciplinary white papers in support of counter-terrorism and counter-WMD); pp. 47-58.
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BOOKS

11. **An, L.**, C. Song, Q. Zhang, and E. Bohnett (2023). Conservation effectiveness and concurrent green initiatives (most recent findings about spillover effects between conservation programs). Routledge Taylor & Francis Group.
10. **An, L.** (in revision). Data mining methods in spatial data science (based on the teaching notes of relevant courses in quantitative methods, spatial statistics, space-time modeling, and systems simulation). Springer Nature Switzerland (agreement signed & book completed).

BOOK IN PREPARATION (PLAN)

9. Complexities in payments for ecosystem services programs (tentative title). A book based on the symposium Li An organized at the annual meeting of the North American Regional Association of the International Association for Landscape Ecology (tentative contributors: Conghe Song, Qi Zhang, Robert Gilmore Pontius Jr., et al.). Publisher to be decided.

PEER-REVIEWED CONFERENCE PAPERS (*Graduate students advised by Li An):

8. Gupta, D., B. Spitzberg, M. Tsou, M. Gawron, **L. An** (2015). Revolution in social science methodology and pitfalls. International Studies Association's 56th Annual Convention, February 18th-21st, 2015, New Orleans, Louisiana. http://www.isanet.org/annual_convention.
7. Tsou, M-H., D. Lusher, J-A. Yang, D. Gupta, J.M. Gawron, B.H. Spitzberg, **L. An**, and S. Wandersee (2012). Mapping social activities and concepts with social media (Twitter) and web search engines (Yahoo and Bing): A case study in 2012 U.S. presidential election. In Sarah Battersby edited, AutoCarto International Symposium on Automated Cartography Proceedings (Columbus, OH): Mt. Pleasant, South Carolina, Cartography and Geographic Information Society.
6. Wang, N.*, and **L. An** (2012). Use GeoSimulation data to assess the inferential power of statistics. GIScience 2012, September 18-21, 2012, Columbus, Ohio.
5. **An, L.** (2011)**.** Modeling human decisions in coupled human and natural systems: review of agent-based models. Annual meeting of American Association for the Advancement of Science (AAAS), February 17-21, Washington, D.C.
4. **An, L.,** D. G. Brown, S. E. Page, and W. Rand (2005). What statistical models can better detect land-change mechanisms? (http://www.geocomputation.org/2005/An.pdf) The 2005 GeoComputation conference, August 1-3, 2005, Ann Arbor, Michigan.
3. Wang, N.*, and **L. An** (2010). What statistical model can better detect land-change drivers? A comparative study of survival analysis, logistic regression and multivariate linear regression. SAM Student Paper Competition (I). The 2010 AAG annual conference, April 12-16, Seattle, Washington.
2. Gawron, J.M., D. Gupta, K. Stephens, M-H. Tsou, B. H. Spitzberg, and **L. An** (2012). Using group membership markers for group identification. Paper presented and published in the Proceedings of the Sixth International AAAI Conference on Weblogs and Social Media (ICWSM) Conference, Dublin, Ireland.
1. Gawron, J. Mark, A. Dodge, M. Tsou, B. Spitzberg, and **Li An** (2016). Improving community detection with linguistic information. The North American Chapter of the Association for Computational Linguistics (NAACL), San Diego, California, June 12 to June 17, 2016.

JOURNAL PAPERS OR BOOK CHAPTERS IN REVIEW OR IN REVISION (*Graduate students advised by Li An):

1. **An, L.**, E. Bohnett, T. Evan, B.H. Spitzberg, S.S.P. Shen, X. Liu, and M. H. Tsou (in review). The complex impact of weather and climate patterns on people's perception of global warming. *Proceedings of National Academy of Sciences*.
2. **An, L.**, B.L. Turner II., J. Liu, V. Grimm, Q. Zhang, Z. Wang, and R. Huang (in revision). Complex adaptive science in the era of global sustainability crisis. *Geography and Sustainability*.
3. Zhang, R., Q. Zhang, C. Song, and **L. An** (in review). Dataset to quantify spillover effects among concurrent green initiatives. Intended for: *Data in Brief*.

4. Cao, R., J. Glick, S.T. Yabiku, My-Thu Tran, and **L. An**. (in review). Drivers and motivations of using biogas plants for households in the Western Chitwan Valley, Nepal. *Environmental Conservation.*
5. Lyu, H., F. Qiu, **L. An**, D. Stow, R. Lewison, and E. Bohnett (in review). A Python implementation of thermal palette transformation for automatic wild deer detection based on faster R-CNN. *Journal of Applied Remote Sensing.*
6. Lyu, H., F. Qiu, **L. An**, D. Stow, R. Lewison, and E. Bohnett (in review). A Modified raster R-CNN for small deer object detection from infrared thermal image. *Sensing and Imaging.*
7. Clark, M., Q. Zhao, A. Sullivan, S. Yabiku, A. York, D. Ghimire, **L. An**, J. Dai, S. Murphy, S.J. Hall. Ecological and social drivers of invasive plant abundance in buffer zone community forests within a subtropical biodiversity hotspot. *Forest Ecology and Management*.
8. Shih, H., X. Wei, **L. An**, J. R. Weeks, and D. A. Stow (in review). Addressing spatial autocorrelation in space-time statistical models: a case study in southeastern Ghana. *International Journal of Geospatial and Environmental Research*.
9. Bohnett, E., B.R. Lamichhane, S. Chaudhary, K. Pokhrel, P. Coulter, G. Dormann, A. Flores, R. Lewison, F. Qiu, D. Stow, and **L. An** (In review). Flight methods for wildlife monitoring using uncrewed aerial vehicle thermal infrared imaging of the Terai grasslands, Chitwan, Nepal. *Wildlife Society Bulletin.*
10. Bohnett, E., B.R. Lamichanne, S. Chaudhary, K. Pokhrel, T. Liu, R. Lewison, and **L. An** (In review). Using thermal infrared drones to mitigate human-wildlife conflict. *European Journal of Wildlife Research*.
11. Bohnett, E., S. Poya Faryabi, R. Lewison, **L. An**, B. Ahmad, and S. Ostrowski (In review). Evaluation of the population trajectory of snow leopards between a broad time interval. *Oryx*.

PEER-REVIEWED PAPERS IN PREPARATION (*Graduate students advised by Li An):

12. Yang, S. et al. (in preparation). What influences decisions of local people to out-migrate under Payments for Ecosystem Services (PES)? Evidence from a nature reserve in China.
13. Giefer, M., **L. An**, et al. (in preparation). Targeting payments for ecosystem services through geographically weighted regression.

OTHER PAPERS IN PREPARATION OR IN REVIEW (*Graduate students advised by Li An):

[None for now]

PRESENTATIONS (As single or 1st-author)

1. **An, L**, C. Song, and Q. Zhang. Uncovering hidden spillover effects among concurrent green initiatives. The International Association for Landscape Ecology-North America (IALE-North America) 2024 Annual Meeting, April 4, Oklahoma City, Oklahoma, the USA.
2. **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.A. Bryan. 2021. Spillover effects among global green efforts in a COVID-19 spreading world. The North American Regional Association of the International Association for Landscape Ecology (IALE-North America) 2021 Annual Meeting, April 13, Virtual Conference.
3. **An, L.** The third way of doing science in agent-based complex systems. Keynote speech presented online at International Symposium on Social Simulation 2020, August 6, 2020, Huazhong Agricultural University, Wuhan, China.

4. **An, L**., J. Liu, B. Bryan, Q. Zhang, C. Song, J. Dai, H. Zhang, W. Xu, D. Ezzine-de-Blas, R. Lewison, D. Stow. 2020. Do links Exist Among Concurrent Payments for Nature's Services? Global Challenges and Opportunities. The North American Regional Association of the International Association for Landscape Ecology (IALE-North America) 2020 Annual Meeting, May 11-14, Virtual Conference.
5. **An, L**. 2019. Complex human-environment systems: Commonalities and uniquenesses, seminar at the first PKU-SDSU forum on spatial data and complex human-environment systems, Peking University, Beijing, March 27, 2019.
6. **An, L**. 2019. Space-time data mining: theory, methodology, and applications. Invited lecture (by Prof Yu Liu) at College of Earth and Spatial Sciences at Peking University, May 10, 2019, Peking University, Beijing.
7. **An, L**. 2018. Understanding and envisioning complex human-environment systems: A multi-scale integrated approach, invited colloquium at the Geography and Environment Forum annually held at Peking University, Beijing, December 1, 2018.
8. **An, L**. 2018. Spatial spillover effects and policy coordination" at Peking University, invited lecture at the *Modernization of Spatial Governance Forum* held at School of Government, Peking University Beijing, November 3, 2018.
9. **An, L**. 2018. Understanding and envisioning complex human-environment systems: A multi-scale integrated approach. Invited lecture at the Overseas Scholar Program at Peking University, Beijing, November 2, 2018.
10. **An, L**. 2017. Payments for ecosystem services (PES): 1 + 1 < 2?", invited lecture at the SDSU Discovery Slam (organized by Stephen Welter, SDSU Vice President for Research and Dean of Graduate Affairs), February 22, 2017.
11. **An, L**, W. Zhang, L. Shi, R. Bilsborrow, S. Yang, and X. Chen. 2017. Complexities in participating in payments for ecosystem services programs. Presented at the 2017 Annual meeting of the Association of American Geographers, April 7, 2017, Boston, Massachusetts.
12. **An, L**, S. Yang, H. L. Chen, L. Shi, and W. Zhang. 2016. Modeling human decision-making and their interactions with the Guizhou Golden Monkey habitat use. Presented at The International Society for Ecological Modelling Global Conference 2016, May 8-12, 2016, Towson University, Baltimore, USA.
13. **An, L**, R. Bilsborrow, X. Chen, S. Yang, S. Crook, and W. Zhang. 2015. Payments for ecosystem services: mechanisms behind local people's enrollment decisions. Presented at the 2015 Annual meeting of the Association of American Geographers, April 25, 2015, Chicago, Illinois.
14. **An, L**., S. Aitken, R. Bilsborrow, X. Chen, R. Lewison, D. Stow, and M. Wang. 2014. Impacts of payments for ecosystem services in coupled natural and human systems. Presented at the 2014 Annual Meeting of the Association of American Geographers, April 8-12, Tampa, FL, USA.
15. **An, L.,** X. Chen, S. Wandersee, S. Yang, and A. Zvoleff. 2013. Payments for ecosystem services: a coupled natural and human systems approach. Presented at the 2013 Annual Meeting of the Association of American Geographers, April 9-13, Los Angeles, USA.
16. **An, L.,** M. Tsou, S. Wandersee, D.K. Gupta, B. Spitzberg, and J. M. Gawron. 2012. Is climate change a myth? Evidence from cyberspace and realspace. Presented at the Symposium "Web Surveillance: Fighting Terrorism and Infectious Diseases", annual meeting of American Association for the Advancement of Science (AAAS), February 17-21, 2012, Vancouver, Canada.
17. **An, L.,** S. Wandersee (presenter), M. Tsou, D.K. Gupta, B. Spitzberg, and J.M. Gawron. 2012. Who is interested in climate change? Evidence from space-time analysis. Presented at the 2012 Annual Meeting of the Association of American Geographers, February 24-28, New York, USA.
18. **An, L**., N. Wang, D. Brown, and S. Yang. 2011. Geographic survival analysis: a new paradigm for characterizing and understanding land change. Session 4286, the 2011Annual Meeting of the Association of American Geographers, April 12-16, 2011, Seattle, Washington.

19. **An, L**., N. Wang, D. Brown, and S. Wandersee (presenter). 2011. Land survival analysis: a new paradigm for characterizing and understanding land change. The 26th Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter, April 3-7, 2011, Portland, Oregon.
20. **An, L.** 2011. Modeling human decisions in coupled human and natural systems: review of agent-based models. Presented at the Symposium "Mapping and Disentangling Human Decisions in Complex Human-Nature Systems", annual meeting of American Association for the Advancement of Science (AAAS), February 17-21, Washington, D.C.
21. **An, L.,** D. Brown, and N. Wang. 2010. Handling multidimensional heterogeneity in LULC changes: The survival analysis framework. The Global Land Project 2010 Open Science Meeting, October 17-19, 2010, Tempe, Arizona.
22. **An, L.**, C. L. Tan, S. Aitken, N. Wang, Y. Yang, and W. Zhang. 2010. What affects local community's supportiveness of conservation? Evidence from the Fanjingshan National Nature Reserve, China. The 2010 annual meeting of The Association of American Geographers (AAG), April 14-18, 2010, Washington, D.C.
23. **An, L.**, C. Tan, S. C. Aitken, Y. Yang, and W. Zhang. 2009. What affects attitudes toward ecotourism? A case study of the Fanjingshan National Nature Reserve, China. Association of Pacific Coast Geographers Annual Meeting, Sep.30-Oct.3, 2009, San Diego, CA.
24. **An, L**. 2009. Understanding the impact of tourism on habitat use of the Guizhou golden monkeys (*Rhinopithecus brelich*). The 24th Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter, April 12-16, 2009, Snowbird, Utah.
25. **An, L.**, and D. G. Brown. 2008. Addressing temporal complexities in land change analysis: how can survival analysis help? The annual meeting of The Association of American Geographers (AAG), Session 5208. April 15-19, 2008, Boston, Massachusetts.
26. **An, L**., and D. G. Brown. 2008. Pseudo-history approach to uncovering landscape processes. The 23rd Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter, April 6-10, 2008, Madison, Wisconsin.
27. **An, L.,** and J. Liu. 2007. Impacts of demographic compositions on long-term population and landscape dynamics. The 22nd Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter. April 4-13, 2007, Tucson, Arizona.
28. **An, L.**, and D. G. Brown. 2007. Effects of sampling strategy on the inference of land-change processes: role of uncertainties in spatiotemporal processes. The annual meeting of The Association of American Geographers (AAG), Session 4537. April 17-21, 2007, San Francisco, California.
29. **An, L**., and D. G. Brown. 2006. Exploring landscape complexity: patterns, processes, and dynamics. Presented in the Environment and Health Workshop (organized by Daniel G. Brown and Li An), June 20-21, 2006, Jiangxi Normal University, Nanchang, Jiangxi, China.
30. **An, L**., and D. G. Brown. 2006. Exploring Landscape Complexity: Patterns, Processes, and Dynamics. Invited seminar at Research Center of Eco-Environmental Sciences, the Chinese Academy of Sciences, July 11, 2006. Beijing, China.
31. **An, L.,** S. Bearer, A. Vina, J. Liu. 2006. Ecological effects of family planning in a complex human-environment system. . The 21st Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter. March 28-April 1, 2006. San Diego, California.
32. **An, L**, D. G. Brown, and W. Rand. 2006**.** Complexity science in support of disaster alleviation—preferences, places, and promises. The annual meeting of The Association of American Geographers (AAG), session 5433 (Perspectives on Geographic Complexity 4), 2006, March 7-11, Chicago, Illinois.
33. **An, L.,** D. G. Brown, and J. Nassauer**.** 2006. Timing, location, and determinants of residential development types in exurban Southeastern Michigan. The 21st Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter. March 28-April 1, 2006. San Diego, California.

34. **An, L.,** D. G. Brown, S. E. Page, and W. Rand. 2005. What statistical models can better detect land-change mechanisms? The 2005 GeoComputation conference, August 1-3, Ann Arbor, Michigan.
35. **An, L.**, D. G. Brown, J. I. Nassauer, and B. Low. 2005. Exploring temporal complexity in land-use/cover transitions: an approach integrating survival analysis with GIS and Remote Sensing images. The annual meeting of The Association of American Geographers (AAG), 2005, April 5-9, 2005. Denver, Colorado.
36. **An, L.**, D. G. Brown, J. I. Nassauer, and B. Low. 2005. Assessing the timing, location, and mechanisms of agricultural conversion to different residential landscape types in Southeastern Michigan. The 20th Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter. March 12-16, 2005. Syracuse, New York.
37. **An, L.**, D. G. Brown, J. I. Nassauer, and B. Low. 2004. Exploring spatio-temporal dynamics of agricultural to residential land-use transitions using panel data. The 19th Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter. March 30-April 4, 2004. Las Vegas, Nevada.
38. **An, L.**, M. A. Linderman, and J. Liu. 2004. Exploring human-environment complexity: an agent-based model for cross-scale and interdisciplinary integration. Swarmfest 2004, University of Michigan, Ann Arbor, Michigan.
39. **An, L**., M. Linderman, A. Shortridge, and J. Liu. 2003. An integrative model with agent-based artificial intelligence and GIS (IMABAIG): simulating the spatio-dynamics of canopy forests, rural households and the impacts on giant panda habitats in the Wolong Nature Reserve (China). The Population Association of America (PAA) 2003 Annual Meeting, Session 1006 "Population and Environment: New Approaches and Methodologies". May 1-3, 2003. Minneapolis, Minnesota.
40. **An, L**., G. He, Z. Liang, and J. Liu. 2003. Impacts of human demographics and socioeconomics on spatio-temporal dynamics of panda habitats. The Population Association of America (PAA) 2003 Annual Meeting, Session 1204 "Human Impacts on the Environment". May 1-3, 2003. Minneapolis, Minnesota.
41. **An, L**., J. Qi, and J. Liu. 2003. An Integrative model with agent-based artificial intelligence and GIS (IMABAIG): simulating the spatio-temporal dynamics of a human-influenced landscape and its conservation implication (poster). The 18th Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter. April 2-6, 2003. Alberta, Canada.
42. **An, L**., J. Liu, Z. Ouyang, M. Linderman, S. Zhou, and H. Zhang. 2000. Simulating demographic and socioeconomic processes on household level and their impacts on giant panda habitats. Panda 2000: An International Conference on Conservation Priorities for the New Millennium. October 17, 2000. San Diego, CA.
43. **An, L**., and R. Wang. 1992. Risk assessment of Beijing metropolis. Paper presented at the Regional Workshop of Risk Assessment in Southeast Asia supported by UNESCO. May 28-June 2, 1992. Manila, the Philippines.
44. **An, L**. 1992. Environmental risk assessment of Beijing metropolis (master's thesis defense). Research Center for Eco-environmental Sciences, The Chinese Academy of Sciences. June 12, 1992. Beijing, China.

PRESENTATIONS (As co-author)

45. Crook SE, **L. An**, R. Bilsborrow, S. Yang, and W. Zhang. 2015. Land use change and environmental decision making in Fanjingshan National Nature Reserve following payment for ecosystem service program implementation. Presented at the 2015 Annual meeting of the Association of American Geographers, April 25, 2015, Chicago, Illinois.
46. Yang S, R. Bilsborrow, and **L. An**. 2015. How Grain to Green Program influences local people's decisions to migrate: A case study of Fanjingshan National Nature Reserve (FNNR), China. Presented at the 2015 Annual meeting of the Association of American Geographers, April 25, 2015, Chicago, Illinois.

47. Chen, X., **L. An**, C. Song. 2015. Payments for ecosystem services in a coupled human and natural system. Presented at the 2015 Annual meeting of the Association of American Geographers, April 25, 2015, Chicago, Illinois.
48. Stow, D., Y. Tsai, **L. An**, and S. Wandersee. 2014. Forest canopy cover change in Fanjingshan national nature reserve. Presented at the 2014 Annual Meeting of the Association of American Geographers, April 8-12, Tampa, FL, USA.
49. Chen, X., **L. An**, C. Song, and Q. Zhang. 2014. Evaluating the impacts of payments for ecosystem services. Presented at the 2014 Annual Meeting of the Association of American Geographers, April 8-12, Tampa, FL, USA.
50. Yang, S., W. Zhang, **L. An**, R. Bilsborrow, D. López-Carr, Y. Yang, R. He, and L. Shi. 2014. PES policies and migration: A case study of Fanjingshan National Nature Reserve (FNNR), China. Presented at the 2014 Annual Meeting of the Association of American Geographers, April 8-12, Tampa, FL, USA.
51. Wandersee, S., **L. An**, and Y. Yang. 2013. National plans, local rules: An analysis of China's sloped land conversion program implementation in a high priority conservation area. Presented at the 2013 Annual Meeting of the Association of American Geographers, April 9-13, Los Angeles, USA.
52. Zvoleff, A., and **L. An**. 2013. Modeling feedbacks between human decision-making, community context, and land-use change. Presented at the 2013 Annual Meeting of the Association of American Geographers, April 9-13, Los Angeles, USA.
53. Yang, S., A. Zvoleff, **L. An**., and M. Liu. 2013. Socioeconomic drivers and environmental impacts of local urbanization process in rural areas: A case study of Wolong Nature Reserve, China. Presented at the 2013 Annual Meeting of the Association of American Geographers, April 9-13, Los Angeles, USA.
54. Zvoleff, A., D. López-Carr, and **L. An.** 2012. Linking conservation and development: A global-scale analysis of demographics in high value conservation areas. Presented at California State University Student Research Competition, Long Beach, CA, May 4, 2012.
55. Zvoleff, A., and **L. An**. 2012. Exploring feedbacks between demography, land-use, and land-cover in a CHANS in the Chitwan Valley, Nepal. The 27th Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter, April 8-12, 2012, Newport, RI.
56. Zvoleff, A., **L. An**, J. Stoler, and J.R. Weeks. 2012. What if neighbors' neighborhoods differ?: The influence of neighborhood definition on health outcomes in Accra. Presented at the 2012 Annual Meeting of the Association of American Geographers, February 24-28, New York, USA.
57. Wandersee, S., **L. An**, and Y. Yang. 2012. From paper to protection: Land cover dynamics in Guizhou golden monkey habitat, China. Presented at the 2012 Annual Meeting of the Association of American Geographers, February 24-28, New York, USA.
58. Spitzberg, B. H., M. H Tsou, **L. An**, D.K. Gupta, and J.M. Gawron. 2012. The map is not which territory?: Speculating on the geo-spatial diffusion of ideas in the Arab Spring of 2011. The International Communication Association Conference, Phoenix, AZ.
59. Tsou, M., **L. An**, and S. Wandersee. 2011. Visualizing and analyzing spatiotemporal dynamics of global diffusion of ideas in cyberspace. Session 2477, the 2011Annual Meeting of the Association of American Geographers, April 12-16, 2011, Seattle, Washington.
60. Wang, N., and L. An. 2011. What statistical models can better detect land-change drivers? A comparative study of survival analysis, logistic regression, and multivariate linear regression. Session 4209, the 2011Annual Meeting of the Association of American Geographers, April 12-16, 2011, Seattle, Washington.
61. Zvoleff, A., and **L. An**. 2011. Remote sensing of aboveground woody biomass resources in the Western Chitwan Valley, Nepal. The 26th Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter, April 3-7, 2011, Portland, Oregon.

62. Wandersee, S., Y. Yang, and **L. An**. 2011. "Pest" species and conservation in mixed use reserves: human-environment dynamics in Fanjingshan, China. The 26th Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter, April 3-7, 2011, Portland, Oregon.
63. Wandersee, S., **L. An**, and D. Lopez-Carr. 2011. Perception & decisions in modeling complex human-environment dynamics in protected areas. Presented at the Symposium "Mapping and Disentangling Human Decisions in Complex Human-Nature Systems", annual meeting of American Association for the Advancement of Science (AAAS), February 17-21, Washington, D.C.
64. Zvoleff, A., and **L. An**. 2011. The ChitwanABM: Modeling population-environment interactions and their implications in the Chitwan Valley, Nepal. Presented at the Symposium "Mapping and Disentangling Human Decisions in Complex Human-Nature Systems", annual meeting of American Association for the Advancement of Science (AAAS), February 17-21, Washington, D.C.
65. Gupta, D. K., B. H. Spitzberg, M. H. Tsou **L. An**, and J. M. Gawron 2011. Mapping the spread of ideas from cyberspace to real-space. PowerPoint presentation to the International Association for Intelligence Education, Washington DC.
66. Zvoleff, A., and **L. An**. 2010. Connecting micro-scale fertility decision-making with macro-scale LULC in the Chitwan Valley, Nepal using an agent-based model. The Global Land Project 2010 Open Science Meeting, October 17-19, 2010, Tempe, Arizona.
67. Wandersee, S., **L. An**, and Y. Yang. 2010. Forest vegetation dynamics in guizhou golden monkey habitat, China. The 25th Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter, April 5-9, 2010, Athens, Georgia.
68. Zvoleff, A., B. K. Shrestha, and **L. An**. 2010. Biomass resources and population change in the Chitwan Valley, Nepal. The 25th Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter, April 5-9, 2010, Athens, Georgia.
69. Wandersee, S. M., **L. An**, Y. Yang, and C. L. Tan. 2009. Chinese national policy effects on local level conservation and communities. Association of Pacific Coast Geographers Annual Meeting, September 30 - October3, 2009, San Diego, CA.
70. Zvoleff, A., and **L. An**. 2009. Exploring land use change in southern Nepal using an agent based model. American Association of Geographers, 2009 Annual Meeting, Session 2151.
71. Brown, D. G., and **L. An**. 2006. Agent-Based modeling for understanding human-environment interactions. Presented in the Environment and Health Workshop (organized by Daniel G. Brown and Li An), June 20-21, 2006, Jiangxi Normal University, Nanchang, Jiangxi, China.
72. Nassauer, J. E., **L. An,** D. G. Brown, and E. S. Dayrell 2006. An expert typology of residential sprawl: validation against landcover change and market valuation. The 21st Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter. March 28-April 1, 2006. San Diego, California.
73. Brown, D. G**.,** D. Robinson, and **L. An**. 2006. Implications of bottom-up and top-down empirical observations for an agent-based model of residential development. The annual meeting of The Association of American Geographers (AAG), session 5233 (Perspectives on Geographic Complexity 3), 2006, March 7-11, Chicago, Illinois.
74. Brown, D. G., S. E. Page, J. I. Nassauer, R. Riolo, B. Low, B. Rand, M. Zellner, **L. An**, and D. Robinson. 2006. Modeling coupled human-landscape interactions at the urban-rural fringe in Southeastern Michigan. AAAS meeting in February, 2006, St. Louis.
75. Zellner, M. L., W. Rand, D. G. Brown, J. Nassauer, B. Low, S. E. Page, R. Riolo, Derek Robinson, and **L. An**. 2004. The effects of heterogeneous habitat preservation policies on exurban development: an agent-based model of developer and homebuyer decision-making. Swarmfest 2004, University of Michigan, Ann Arbor, Michigan.

76. Brown, D. G., M. Zellber, J. I. Nassauer, **L. An**, B. Low, W. Rand, S. Page, R. Riolo, and D. Robinson. 2004. Land-use decision making by multiple actors at the urban-rural fringe and the amount of forest cover. IGU Congress, Glasgow, Scotland, Aug. 2004.
77. Zellner, M., W. Rand, D. G. Brown, J. Nassauer, B. Low, **L. An**, R. L Riolo, S. E Page, and D. T. Robinson. 2004. The effects of heterogeneous development density regulations on exurban development: an agent-based model of developer and homebuyer decision-making. Swarmfest 2004, University of Michigan, Ann Arbor, Michigan.
78. Zellner, M., W. Rand, D. G. Brown, J. Nassauer, B. Low, **L. An**, R. L Riolo, S. E Page, and D. T. Robinson. 2004. The Effects of heterogeneous development density regulations on exurban development. Association of American Geographers Centennial Meeting, Philadelphia.
79. Liu, J., **L. An**, S. S. Batie, S. Bearer, R. E. Groop, G. He, Z. Liang, M. A. Linderman, A. Mertig, Z. Ouyang, J. Qi, H. Zhang, and S. Zhou. 2004. Beyond population size: examining intricate interactions among population structure and distribution, land use, and environment in Wolong Nature Reserve (China). Workshop on New Research on Population and Environment. National Academies of Sciences, January, 2004. Beckman Center, CA.
80. Liu, J., C. Jenkins, G. He, X. Chen, S. Bearer, **L. An**, M. Linderman, A. Mertig, Z. Ouyang, H. Zhang, J. Huang, and S. Zhou. 2004. Complex interactions among policies, people, and panda habitat. symposium on frontiers in biocomplexity science: reciprocal interactions between human and natural systems. Annual Meeting of the American Association for the Advancement of Science (AAAS), Seattle, February, 2004.
81. Liu, J., **L. An**, S. Bearer, X. Chen, G. He, Z. Liang, M. Linderman, A. Mertig, Z. Ouyang, H. Zhang, and S. Zhou. 2004. Effects of household structure and distribution on panda habitat. Symposium on Complex interactions between human population and the environment: Integrating demographic, socioeconomic, and ecological perspectives. Annual Meeting of the Ecological Society of America. Portland, Oregon.
82. Linderman, M., J. Liu, J. Yang, Y. Tan, **L. An**, and Z. Ouyang. 2001. The landscape implications of understory vegetation cover on habitat analyses. Ecological Society of America, Madison, WI, August 5 – 10, 2001.
83. Linderman, M, J. Liu, J. Qi, Z. Ouyang, **L. An**, and J. Yang. 2000. Mapping the spatial distribution of bamboo: a study on the use of artificial neural networks and remote sensing data. Panda 2000: An International Conference on Conservation Priorities for the New Millennium. October 18, 2000. San Diego, CA.
84. Linderman, M., J. Liu, J. Yang, Y. Tan, **L. An**, and Z. Ouyang. 2000. Mapping the spatial distribution of bamboo in a giant panda reserve: a study on the relationship of artificial neural network activation levels to understory vegetation cover. 15th Annual Conference of U.S. Regional Association of the International Association for Landscape Ecology & the Second Conference of the Walt Dineen Society. April 15-19, 2000, Ft. Lauderdale, Florida.
85. He, G., J. Liu, Z. Ouyang, M. Linderman, **L. An**, S. Bearer, H. Zhang, and J. Yang. 2000. A preliminary decision support system prototype for giant panda reserve management. Panda 2000: An International Conference on conservation Priorities for the New Millennium. October 18. San Diego, CA.
86. Liu, J., M. Linderman, Z. Ouyang, **L. An**, Y. Tan, and H. Zhang. 2000. Landscape change in a nature reserve: integration of landscape ecology with human demography and socioeconomics. The 15th Annual Conference of U.S. Regional Association of the International Association for Landscape Ecology & the Second Conference of the Walt Dineen Society. April 15-19, 2000, Ft. Lauderdale, Florida.
87. Liu, J., M. Linderman, Z. Ouyang, **L. An**, J. Yang, Y. Tan, and H. Zhang. 2000. Changes in landscape and panda habitat in Wolong Nature Reserve: patterns and mechanisms. Panda 2000: An International Conference on Conservation Priorities for the New Millennium. October 18, 2000. San Diego, CA.

88. Liu, J., Z. Ouyang, M. Linderman, **L. An**, J. Yang, Y. Tan, and S. Zhou. 1999. Human impacts on the giant panda habitats: an age-specific approach. Paper Presented at the World Congress of International Association for Landscape Ecology. July 29-August 3. Snowmass, CO.

PROFESSIONAL MEMBERSHIPS

- American Association for the Advancement of Science (AAAS)
- Association of American Geographers (AAG)
- Population Association of America (PAA)
- International Association for Landscape Ecology (IALE)—North America
- The International Association of Chinese Professionals in Geographic Information Sciences (CPGIS; lifetime member)

TEACHING AND MENTORING

COURSES

1. Space-Time Analysis (Graduate Course; College of Forestry, Wildlife and Environment, Auburn University; in development).
2. Python Program for the Environment (Upper Division Undergraduate and Graduate Course; College of Forestry, Wildlife and Environment, Auburn University).
3. Quantitative Methods in Geographic Research (GEOG 585; Upper Division Undergraduate and Graduate Course; San Diego State University).
4. Spatial Data Analysis (GEOG 385; Lower Division Undergraduate Course; San Diego State University).
5. Spatial Modeling and Simulation (GEOG 780; Graduate Course; San Diego State University)
6. Landscape Ecology (GEOG 506; Upper Division Undergraduate and Graduate Course**;** San Diego State University)
7. Geographic Information Science (GEOG 104; Lower Division Undergraduate Course; ; San Diego State University)
8. Understanding the Chinese World (AS 150; Lower Division Undergraduate Course; team-teaching with about other colleagues; San Diego State University)

ADVISING

- Postdoctoral fellows:
    - Dr. Hsiang Ling Chen, 2016-2018; co-advised with Dr. Rebecca Lewison, SDSU Department of Biology.
    - Dr. Eve Bohnett, 2020-2022; co-advised with Dr. Rebecca Lewison, SDSU Department of Biology.
    - Dr. Eve Bohnett, 2023-present (par-time), College of Forestry, Wildlife, and Environment at Auburn University.
    - Dr. Rong Zhang, 2024-present, College of Forestry, Wildlife, and Environment at Auburn University.

- Ph.D. students: Sarah Wandersee (2013), Alex Zvoleff (2013), Ninghua Wang (2013), Shuang Yang, Jie Dai (2020), Huijie Zhang (current), My Thu Tran (2022-2023), Ren Cao (current), Xiaoxiao Wei (current).
- M.S. or M.A. students: Susan Whitford (2008), Jennifer Vaughan (2010), Kristin Meseck (2013), Curtis Battle (2016), Judy Mak (2018), William Orihuela, Jeanne Patton (2020, co-advised with John O'Leary), Alexandra Yost (2020), Yanjing (Tracy) Liu (2022), Daniel Ochoa (2023).
- As doctoral student committee member: Arika Ligmann-Zielinska (2008), Mary Freeman (2012), Justin Stoler (2012), Xinyue Ye (2009), Abigail Sullivan (Arizona State University; 2016), Yu Hsin (Cindy) Tsai (2018), Yihui Wang (2022; as qualifying committee; SDSU Ecology), Zhuolin Du (current).
- As external mentor/coauthor: Madeline Giefer, Ph.D. from University of North Carolina in 2020 (now Assistant Professor at Austin Peay State University); Qi Zhang, Ph.D. from University of North Carolina, Chapel Hill in 2017 (now Research Scholar at University of North Carolina, Chapel Hill).
- As M.S./M.A. student committee member: Jing-Yi Chen (2006), Sarah Hinton (2007), Xuening Li (2007), Mersee J. Madison_Villar (Biology; 2007), Hua Liu (Civil and Environmental Engineering; 2007), Anna Mitelberg (Biology; 2008), Wyson Pang (2008), Adam Wagschal (2009), Kira Withy-Allen (Biology; 2009), Wei Chen (Statistics; 2009), Jeffrey LaMantia-Bishop (2010), Jeanie Gaudette (2010), Jeremy Hamm (2010), Kelly Tait (Biology; 2010), Alexander Gaos (Biology; 2011) , Heather D'Anna (Biology; 2011), Danna Hinderle (Biology; 2011), Bradley McDonald (Biology; 2011), Doug Wylie (2012), Daniel Lusher (2013), Joelle Andrews (Biology; 2013), Kalee Koeslag (Biology; 2019), Julie Smith (Biology; 2019), Kylie Curtis (Biology; 2020), Blair Mirka (2020), Joseph Agenbroad (2021).
- Student awards and recognitions (advisees only)
    - Ren Cao, 2024, recipient of the NASA-MSU Professional Enhancement Award, sponsored by National Aeronautics and Space Administration (NASA) and Michigan State University (MSU) to assist outstanding junior scholars in attending the North American Regional Chapter of the International Association for Landscape Ecology (IALE–North America)'s annual meetings.
    - My Thu Tran, 2022, the International Cartographic Associated (ICA) scholarship for participating in AutoCarto 2022, ICA's regional Cartographic Conference in Redland, CA.
    - Jie Dai, 2018, William & Vivian Finch award for remote sensing, Department of Geography, San Diego State University.
    - Ali Yost, 2018, Alvena Storm Memorial Scholarship, Department of Geography, San Diego State University.
    - Jie Dai, 2017, National Aeronautics and Space Administration Earth and Space Science Fellowship for his proposal "Mapping and modeling the invasion of *mikania micrantha* in the Chitwan community forests, Nepal: A coupled human and natural systems approach" (17-EARTH17F-337). $84,612, 2017-2019.
    - Shuang Yang, 2016, Caldwell, Flores, and Winters Award in GIS Emphasizing Human Geography Applications, Department of Geography, San Diego State University.
    - Jeanne Patton, 2016, McFarland Geography Scholarship, Department of Geography, San Diego State University.
    - Stephen Crook, 2014, William and Vivian Finch Remote Sensing Award, Department of Geography, San Diego State University.
    - Kristin Meseck, 2013, Citizenship Award, Department of Geography, San Diego State University.
    - Alex Zvoleff, 2012, President's Award at San Diego State University's fifth annual Student Research Symposium for his presentation "Linking conservation and development: a global-scale analysis of demographics in high-value conservation areas".
    - Alex Zvoleff, 2012, Student Representative for the Human Dimensions of Global Change

(HDGC) Specialty Group of the American Association of Geographers.

- Alex Zvoleff, 2012, the Cotton Bridges Award for GIS Emphasizing Techniques, Department of Geography, San Diego State University.
- Alex Zvoleff, 2012, Inamori Fellowship, San Diego State University.
- Sarah Wandersee, 2011, Citizenship Scholarship, Department of Geography, San Diego State University.
- Sarah Wandersee, 2011, McFarland Geography Scholarship, Department of Geography, San Diego State University.
- Gabriel Sady, 2011, Ned H. Greenwood Award and the McFarland Geography Scholarship, Department of Geography, San Diego State University.
- Alex Zvoleff, 2011, the Dean's Award, SDSU Student Research Symposium, for his talk entitled "The ChitwanABM: Modeling population-environment interactions and their implications in the Chitwan Valley, Nepal".
- Ninghua (Nathan) Wang, 2011, American Association of Geographers IGIF Student Paper Award for his paper "Analyzing crime displacement with a simulation approach".
- Ninghua (Nathan) Wang, 2011, scholarship of $1500 for attending the Santa Fe Institute Complex System Summer School.
- Sarah Wandersee, 2011, Women's Environmental Council (WEC) Scholarship for 2011, San Diego State University.
- Sarah Wandersee, 2011 ESRI Award for Human Geography Applications of GIS, presentation title: "Participatory mapping, GIS, and livelihoods of local people in a Chinese nature reserve".
- Ninghua Wang, 2010, Second Place Award in the Best Student Paper Competition at the 18th International Conference on Geoinformatics in Beijing, China, presentation title: "Analyzing spatial effects of hotspot policing with a simulation approach".
- Ninghua Wang, 2010, the McFarland Geography Scholarship, Department of Geography, San Diego State University.
- Sarah Wandersee, 2010, the NASA-MSU Professional Enhancement Award, sponsored by National Aeronautics and Space Administration (NASA) and Michigan State University (MSU).
- Sarah Wandersee, 2010, Margot Marsh Biodiversity Foundation grant "Documenting impacts of illegal mining on the Guizhou golden monkey, *Rhinopithecus brelichi*, in Fanjingshan National Nature Reserve, China", $12,000, 2009-2010.

INVITED CONFERENCE PARTICIPATION AND KEYNOTE LECTURES

- Invited panelist on Symposium on Data-Intensive Geospatial Understanding in the Era of AI and CyberGIS at the 2022 Association of American Geographers (AAG) annual meeting (virtual), February 27, 2022.
- Invited virtual speech entitled "Leveraging concurrent green efforts in the pandemic shadowed world" at the "International Symposium on the Dynamics of Integrated Socio-Environmental Systems: Implications for Natural Resource Management in Asia" on Nov 6, 2021 at University of North Carolina, Chapel Hill (Invited by Dr. Conghe Song, symposium organizer).
- Keynote speech entitled "Advancing agent-based complex systems science with data science and artificial intelligence" at the 16th annual Social Simulation Conference (at the Cracow University of Economics, Poland), September 20-24, 2021, organized by European Social Simulation Association (ESSA).

- Invited speech titled “Spillover effects among global green efforts in a COVID-19 spreading world” (invited, online talk). The International Forum on Big Data for Sustainable Development Goals, September 8, 2021, Beijing, China.
- Keynote speech entitled “The third way of doing science in agent-based complex systems”, presented at International Symposium on Social Simulation 2020, August 6, 2020, Wuhan, Huazhong Agricultural University, China.
- Invited seminar titled “Space-time data mining: theory, methodology, and applications”, presented (invited by Prof Yu Liu) at College of Earth and Spatial Sciences at Peking University, May 10, 2019, Peking University, Beijing.
- Invited seminar “Complex Human-Environment Systems: Commonalities and Uniquenesses” at the *First PKU-SDSU Forum on Spatial Data and Complex Human-Environment Systems* (March 27, 2019), Peking University, Beijing, China
- Invited seminar "Understanding and envisioning complex human-environment systems: A multi-scale integrated approach" as part of the *Geography and Environment Forum*, Peking University, December 1, 2018 (organized by PKU’s College of Urban and Environmental Sciences).
- Invited seminar “Spatial spillover effects and policy coordination”, presented on November 3, 2018 at *Modernization of Spatial Governance Forum*, School of Government, Peking University.
- Invited lectures at Peking University’s Overseas Scholar Program, entitled “Understanding and envisioning complex human-environment systems: A multi-scale integrated approach” (October 26, 2018) and “Agent-based models in social and human-environment sciences: Achievements, challenges, and policy implications” (November 2, 2018), at School of Government, Peking University.
- Invited lecture entitled "Payments for Ecosystem Services (PES): 1 + 1 < 2?" at the SDSU Discovery Slam (organized by Stephen Welter, SDSU Vice President for Research and Dean of Graduate Affairs), February 22, 2017.
- Invited lecture entitled “Agent-based modeling of the impact of social norms on PES effectiveness” for GEOG 694, Portland State University, March 5, 2015, 10:00 - 11:50 am, Cramer Hall 409, Portland, Oregon.
- Invited workshop on agent-based modeling for The American Society for Photogrammetry and Remote Sensing (ASPRS) PSU chapter, Portland State University, March 5, 2015, 2:00 - 3:30 pm, MCB 123, Portland, Oregon.
- Invited lecture (part of the IGERT program) entitled “Payments for ecosystem services: Always a path toward sustainability?” ESM 507, Portland State University, March 5, 2015, 4:00 - 5:00 am Portland, Oregon.
- Invited presentation “People, pandas, and tigers: Mutual influences crossing the border”, at the 2014 Outstanding International Scholar Award reception, March 6, 2014, Scripps Cottage, San Diego State University.
- Invited lecture “All is about time: Latent trajectory models for space-time analysis”, the 2nd International Conference on CyberGIS and Geodesign (CyberGIS’14) and Redlands, August 19-21, 2014.
- Invited poster “The Clock is Ticking for the Golden Monkeys” (An, L and S. Yang) to introduce the NSF Project *CNH: Impacts of Payments for Ecosystem Services in Coupled Natural and Human Systems,* September 11, 2013 (invited by SDSU President Elliot Hirshman, Vice President for Research Steve Welter, and Dean of College of Arts and Letters Paul Wong).
- Invited panelist (travel award from the Dr. Anne Chin’s NSF Grant) in the NSF-sponsored Workshop *Landscapes in the “Anthropocene”: Exploring the Human Connections*, University of Oregon, March 4-6, 2010.

- Guest lectures for the *Seminar in Development of Geographic Thought* (GEOG 701) at San Diego State University in 2005, 2006, 2007, 2008, 2013, 2016, and 2017.
- Guest lectures for GEOG 395 *Introduction to The Major* at San Diego State University from 2014 to 2022.
- Guest lectures for *Conservation Ecology* (BIOL 540) "understanding the impact of human activities on the Guizhou golden monkey habitat: A complex systems approach" at San Diego State University in 2009 and 2013.
- Invited colloquium at Department of Geography, University of California Santa Barbara: "Did the model or data lie to us? Pseudo-history survival analysis in LUCC", January 15, 2009, Santa Barbara, California.
- Invited participation in the Workshop on *Agent-Based Modeling of Complex Spatial Systems,* Santa Barbara, California, National Center for Geographic Information and Analysis, April 14-16, 2007 (workshop sponsor: Dr. Michael Goodchild).
- Invited participation in an NIH-supported Roadmap Workshop, May 17-19, 2006 in Honolulu at the East-West Center.
- Invited seminar "Exploring landscape complexity: patterns, processes, and dynamics" in 2006 at Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences.
- Invited investigator in an NIH-supported Roadmap Workshop, April 27-29, 2005, Chapel Hill at University of North Carolina (Co-organizers: Ronald Rindfuss and Steve Walsh). Topics: (1) the advantages and disadvantages of different modeling approaches in land-change science; (2) linking social and spatial data; and (3) developing a meta-data collection, integration, and analysis protocol to facilitate multi-site comparison, multi-disciplinary integration, and multi-level geospatial analysis.
- Guest lecture for the 2005 GIS day at San Diego State University in 2005 fall: "Human-environment complexity: What can GIS and agent-based modeling help with?"
- Guest lecture for the course *International Forestry* (FOR 450) at Michigan State University in 2002 fall: "Simulating spatio-temporal dynamics of households, forests, and their interactions in Wolong Nature Reserve for giant pandas".
- Guest lecture for the course *Ecological Problem Solving* (FW 364) (April 22, 2002): "Simulating demographic and socioeconomic processes on household level using STELLA".
- Guest lecture for the course *International Forestry* (FOR 450) at Michigan State University in 2001 fall: "Integrating socioeconomic, ecology, and computer modeling in habitat research and wildlife conservation—case study: simulating demographic and socioeconomic processes on household level and their impacts on giant panda habitats".

SERVICE

DEPARTMENT SERVICE

- Internal Resources Committee (2005 - 2006; 2008 – 2010; as chair 2010 – 2011; 2016-2018)
- Computing Committee (2017-2018, Chair)
- Speakers and Community Relations Committee (2005 – 2006; as chair 2006 – 2007)
- Speakers Committee (as chair 2013 - 2014)
- Personnel Committee (2014-2015; 2019-2020; 2020-2021; as chair 2021-2022)
- Master's Advising Committee member (2007- 2010)
- Curriculum Committee member and chair (2007- 2010; 2020-2021)
- Computing Committee member (2010–2013; 2014-2015) and chair (2016 – 2017)

- Student Outcomes Committee member (2010- 2011)

COLLEGE, UNIVERSITY, AND COMMUNITY SERVICE

- Founding director of Complex Human-Environment Systems (CHES) Center, an international research hub for integrating complex systems theory and human-environment science (2019-2023)
- Member of Research Committee, College of Forestry, Wildlife, and Environment at Auburn University
- Member of AI Executive Briefing Committee at Auburn University (for College of Forestry, Wildlife, and Environment)
- San Diego State University senator (elected; 2020-2023)
- Member of San Diego State University Research Council (2020-2023)
- SDSU Faculty Statutory Grievance Hearing Committee (ad hoc committee; 2017)
- SDSU Committee for the Master of Science in Big Data Analytics program (2015-2023)
- SDSU Student Research Symposium Committee (2008 – 2011)
- The College of Arts and Letters (CAL) Research Committee (2015-2016; 2019-2021)
- Member of the San Diego GIS force group (2005-2023)
- Advisor/Co-advisor of SDSU Chinese Students & Scholars Association, 2009-2018

SERVICE IN PROFESSIONALCOMMUNITIES

- President (2024-2026) of the International Association of Landscape Ecology - North America (IALE-NA).
- President-Elect (2023-2024) of the International Association of Landscape Ecology - North America (IALE-NA).
- Co-organizer and co-chair (with Conghe Song and Rong Zhang) of symposium titled “Model interactions between green initiatives, people, and the environment using a data science approach" at annual meeting of the International Association for Landscape Ecology--North American, April 1-5, 2024, Oklahoma City, Oklahoma.
- Councilor-at-large (elected) and member of the Executive Committee of the International Association of Landscape Ecology - North America (IALE-NA), 2020-2022.
- Committee member of the 2022 organizing committee of the International Association of Landscape Ecology - North America (IALE-NA) annual meeting (virtual).
- Co-organizer (with Conghe Song and Madeline M. Giefer) and co-chair of symposium (April 13, 2021) “Complexities in payments for ecosystem services programs" at annual (virtual) meeting of the International Association for Landscape Ecology--North American, April 12-15, 2021.
- Member of the host committee of the 2022 International Association of Landscape Ecology - North America annual meeting, Riverside, California (G. Darrel Jenerette, Janet Franklin, et al.).
- Co-organizer and co-chair of the First PKU-SDSU Forum on Spatial Data and Complex Human-Environment Systems (March 27, 2019), Peking University, Beijing, China.
- Co-organizer (with Eric Shook) and chair of Panel Session “Agent-based modeling: challenges and opportunities” (panelists: Steven M. Manson, Wenwu Tang, Dawn C. Parker, Tom Evans), 12:40 pm - 2:20 pm in Suffolk, Marriott, Boston, the 2017 Annual meeting of the Association of American Geographers, April 5, 2017, Boston, Massachusetts.
- Scientific Steering Committee member of The International Society for Ecological Modeling Global

Conference 2016 (8-12 May 2016, Baltimore, Maryland) and organizer of the symposium titled "Modeling human behaviors/decisions and their impacts on the environment".

- Scientific Advisory Board member of the GeoComputation 2015 Conference, May 20-23, 2015, Dallas, Texas, USA.
- Program Committee of the 23rd International Conference on Geoinformatics (Geoinformatics 2015), co-organized by China University of Geosciences and The International Association of Chinese Professionals in Geographic Information Sciences (CPGIS), June 19-21, 2015, Wuhan, China.
- Chair of Spatial Analysis and Modeling (SAM) Specialty Group (elected), the Association of American Geographers, 2012-2015.
- Program Committee of The Second International Conference on CyberGIS and Geodesign (CyberGIS'14) and invited presentation *All is about time: Latent trajectory models for space-time analysis*, Redlands, August 19-21, 2014.
- Invited panelist for Science with CyberGIS at the NSF-funded CyberGIS Project All-Hands Meeting on September 15-16, 2013, Seattle, Washington.
- Panelist in Session 4584: NSF IGERT, GK-12, PIRE, REU, and GDEP Grants: Strategies for successful proposals and projects that can boost your research and strengthen your department. The 2011Annual Meeting of the Association of American Geographers, April 12-16, 2011, Seattle, Washington.
- Co-organizer and co-chair of Sessions "Payments for Ecosystem Services: Paths toward Sustainability—I (2102) and II (2611)", April 10, 2013, The 2013 Annual meeting of The Association of American Geographers, Los Angeles, California.
- Organizer and speaker of 2011 The American Association for the Advancement of Science (AAAS) symposium "Mapping and disentangling human decisions in complex human-nature systems", Feb. 17-21, 2011, Washington, D.C.
- Judge for the Spatial Analysis and Modeling Specialty Group Student Paper Competition, Annual meetings for the Association of American Geographers, 2011-2015.
- Organizer of Session 5108 "Perspectives on Geographic Complexity I: Theory", April 19, 2008, The 2008 Annual meeting of The Association of American Geographers, Boston, Massachusetts.
- Chair of Session 5408 "Perspectives on Geographic Complexity III: Applications I—Land Use", April 19, 2008, The 2008 Annual meeting of The Association of American Geographers, Boston, Massachusetts.
- Chair of Session "Species in urban landscapes", April 10, 2007 the 22ndAnnual Symposium of the International Association for Landscape Ecology (IALE), US Chapter, Tucson, Arizona.
- Chair of Session "Habitat models", March 31, 2006 in the 21st Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter. San Diego, California.

EDITORIAL SERVICE

- Editorial Board Member of
    - *Annals of the American Association of Geographers*, the flagship journal in geography (2013-2018).
    - *International Journal of Geospatial and Environmental Research* (2013-2023).
    - *Ecological Modelling*, an international journal on ecological modelling and systems ecology (2013-present).
    - *The Journal of Artificial Societies and Social Simulation* (2020-present).
    - *Remote Sensing* (the Environmental Remote Sensing Section; 2022- present).
    - *Frontiers in Environmental Science* (as Associate Editor and Editorial Board Member;

Environmental Informatics and Remote Sensing Section; 2023-present).

- Member of the Editorial Board of book series (in Chinese):
  - *Fanjingshan Moss* (Yuanxin Xiong and Lei Shi, 2014; Guizhou Science and Technology Press).
  - *China's Fanjingshan Fungi* (Xingliang Wu et al., 2014; China Science and Technology Press).
  - *Chinese Medicinal Herbs in Fanjingshan* (Chuandong Yang, Lei Shi, and Xiaoping Lei, 2016; Guizhou Science and Technology Press).
  - *Birds at Fanjingshan* (Zhongfan Kuang, Kefeng Niu, 2017; Guizhou Science and Technology Press).
- Guest-editor of a special issue entitled "Mapping and disentangling human decisions in complex human-nature systems" for the journal *Ecological Modelling* (co-editor: David López-Carr; 2012).
- Guest-editor of a special issue entitled "Meeting grand challenges in agent-based complex systems" for the *Journal of Artificial Societies and Social Simulation (JASSS)* (co-editors: Volker Grimm, Billie L. Turner II, 2020).
- Guest-editor of a special issue entitled "Understanding complex human-environment systems: theoretical and application issues" for *Earth Interactions*, the Journal under American Meteorological Society (co-editors: Conghe Song and Dapeng Li; 2020-2021).
- Co-guest editor of a special issue "Biodiversity and ecosystem services in forest ecosystems and species biodiversity" in the journal *Sustainability* (with guest editor: Dr. Eve Bohnett; 2021).
- Co-guest editor of a special issue "Landscape Ecology in Remote Sensing" in the journal *Remote Sensing* (with guest editor: Dr. Jie Dai; 2021).
- Co-guest editor of a special issue "Political effects on biodiversity conservation policies" in the journal *Frontiers* (with guest editors Timothy Haas and Ralph Adler; 2022-2023)

SERVICE AS GRANT PROPOSAL REVIEWER AND PANELIST

National Geographic Society (2007); NSF Geography and Regional Science (GRS; now Geography and Spatial Science) and Anthropology Programs (2006 – 2010); The Managed Ecosystem Panel of USDA's National Research Initiative program (2007). The United Nations Environment Programme's Global Environment Outlook Series (Geo-5; 2011); NSF Geography and Spatial Science (GSS) program's Doctoral Dissertation Research Improvement Program (2011-2013), Hong Kong Research Grants Council (2010-2013), NSF Coupled Natural and Human (CNH) Program's Proposal Review Panel (2015), NSF Human-Environment and Geographical Sciences Program (HEGS) program's review panel (2022).

REVIEWER FOR TENURE OR PROMOTION

- University of Maryland (Department of Geographical Sciences; 2023)
- North Carolina State University (Departments of Parks, Recreation and Tourism Management; 2022)
- The University at Buffalo (Department of Geography; 2022)
- The University of Oklahoma (Department of Geography and Environmental Sustainability; 2021)
- Peking University (Institute of Ecology; 2020)
- Peking University Shenzhen Graduate School (School of Urban Planning and Design; 2018)
- University of Tennessee (Department of Geography; 2016)

- Virginia Polytechnic Institute and State University (also known as Virginia Tech; Department of Geography, 2016)
- University of Waterloo (School of Planning; 2015)
- The University of Texas at Dallas (School of Economic, Political and Policy Sciences; 2019)
- The University of Texas at Dallas (School of Economic, Political and Policy Sciences; 2014)

PAPER REVIEW FOR PEER-REVIEWED JOURNALS (alphabetical order)

Acta Ecologica Sinica; Annals of Association of American Geographers; Computers, Environment and Urban Systems; Ecological Economics; Ecological Modelling; Ecology and Society; Environmental Management; Environmental Modelling & Software; Environment & Planning B; GeoJournal; Geographical Analysis; International Journal of Geographical Information Science; International Journal of Geospatial and Environmental Research; International Regional Science Review; Journal of Artificial Societies and Social Simulation; Journal of Geographical Systems; Journal of Plant Ecology; Landscape Ecology; Photogrammetric Engineering and Remote Sensing; Plant Ecology; The Professional Geographer; PLOS ONE; Professional Geographer; Population and Environment; Stochastic Environmental Research & Risk Assessment; Proceedings of National Academy of Sciences of the United States of America; Sustainability; Land Use Policy; Spatial Cognition and Computation: An Interdisciplinary Journal; Agricultural Systems; Nature Sustainability

BOOK PROPOSAL REVIEW FOR PUBLISHERS

Higher Education Press (China)
Routledge | Taylor & Francis Group (United Kingdom)

Personal website

http://complexities.org/An

Group website at

http://complexities.org

http://scholar.google.com/citations?user=xlhmNeEAAAAJ&hl=en

https://www.researchgate.net/profile/Li_An