

# LI AN

Professor of Geography

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## HIGHER EDUCATION

- Ph.D., Systems Modeling, 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.

## POSITIONS

- Professor (tenured), Department of Geography, San Diego State University (SDSU), 2013 - present
- Founding director, Complex Human-Environment Systems (CHES) Center jointly sponsored by San Diego State University (USA) and Peking University (China), 2019-present
- Associate Professor (tenured), Department of Geography, San Diego State University, 2009 - 2013
- Assistant Professor, Department of Geography, San Diego State University, 2005 - 2009
- Adjunct Professor, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, 2008 - present
- Postdoctoral Research Fellow, University of Michigan, Ann Arbor, Michigan, 2003 - 2005

## RECENT PROGRESS HIGHLIGHTS

1. Lead PI of USA National Science Foundation Award “CNH-L: People, Place, and Payments in Complex Human-Environment Systems” (\$1,450,000, 2018-2022).
2. Founding director (SDSU side) of Complex Human-Environment Systems (CHES) Center. CHES is an international research hub for integrating complex systems theory and human-environment science. The CHES Center is jointly sponsored by San Diego State University (operated by College of Arts and Letters) and Peking University (operated by College of Urban and Environmental Sciences).

3. 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.
4. Advisor of 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". PI (PhD student): Jie Dai (17-EARTH17F-337).
5. Awardee (as lead-PI) of NSF project "ABM'17: The usefulness, uselessness, and impending tasks of agent-based models in social, human-environment, and life sciences" (BCS-1638446; 2016-2018).
6. 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. Reprinted in Handbook of Applied System Science (Routledge Handbooks) 1st Edition by Zachary P. Neal (Editor), 2016.
7. Editorial Board Member of
  - a. *Annals of the American Association of Geographers*, the flagship journal in geography (2013-2018).
  - b. *International Journal of Geospatial and Environmental Research* (2013-present).
  - c. *Ecological Modelling*, an international journal on ecological modelling and systems ecology (2013-present).
8. 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.
9. 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).
10. 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.
11. Chair of Spatial Analysis and Modeling (SAM) Specialty Group (elected), the Association of American Geographers in 2012-2015.
12. Guest-editor of a special issue entitled "Mapping and disentangling human decisions in complex human-nature systems" for the journal *Ecological Modelling* in 2012.
13. 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) in 2018-2019.
14. The NSF Project on understanding micro human-environment interaction (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>).
15. 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

## RESEARCH PROFILE

### OVERALL RESEARCH GOALS

Research focuses on understanding, envisioning, and planning of complex human-environment systems for improved sustainability, justice, and equality. Complexity theory, landscape ecology, geographic information science, cyber-infrastructure theory and technology, big data science, and other

relevant domain knowledge (e.g., sociology, demography) leverage theoretical and methodological support toward this goal.

### SPECIFIC INTERESTS AND ACTIVITIES

1. Revealing dynamics and mechanisms of complex human-environment systems through international, interdisciplinary, and inter-scale (local to global scale, short to long term, lower to upper level) research.
2. Performing hazard analysis for improved planning (e.g., preparedness, envisioning), management (e.g., response, mitigation), and recovery (trajectory representation, simulation).
3. Exploring pathways toward improved biodiversity, ecosystem services, and human health through better human-environment planning and management.
4. Developing a digital, high performance (big data friendly, parallel or clouds computing enabled, and web-based), and 4-dimensional (x, y, z, time) holographic methodology to facilitate geospatial representation, visualization, animation, space-time analysis and computation, and micro-level simulation of various complex human-environment processes.
5. Understanding the past, present, and future of landscapes and dwellers on them in the context of socio-political and environmental challenges.
6. Establishing and maintaining various CHES research, education, and outreach networks.

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

- PI of 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, 2018-2022.
- 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 (PhD candidate): Jie Dai. 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, Elena Irwin, Sigrunn Eliassen). 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”). 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 a 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”. 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 “S12-S212 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):

1. Gawron, J. Mark, A. Dodge, M. Tsou, B. Spitzberg, and **Li An** (in press). Linguistically guided community discovery. *Big Data & Society*.
2. 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.
3. Wang, C., H. Wang, J. Pi, and **L. An** (accepted). A Park Recommendation Algorithm based on User Reviews and Ratings. *International Journal of Performability Engineering*.
4. 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.

5. 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.
6. 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.
7. 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>
8. 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.
9. **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>).
10. 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.
11. 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.
12. 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).
13. 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>
14. **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.
15. 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.
16. 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
17. 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*.
18. **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.
19. 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.
20. 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.

21. 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>.
22. 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/>
23. Spitzberg, B., M.H. Tsou, **L. An**, D. Gupta, and J.M. Gawron (2013). The Map is not which territory? Speculating on the geospatial diffusion of ideas in the Arab Spring of 2011. *Studies in Media and Communication* 1(1): 101-115.
24. Tsou, Ming-Hsiang, J. Yang, D. Lusher, S. Han, B. Spitzberg, J. M. Gawron, D. Gupta, and **L. An** (2013). 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 2012 AutoCarto Conference Special Issue. *Cartography and Geographic Information Science* 40(4): 337–348. <http://dx.doi.org/10.1080/15230406.2013.799738>.
25. Tsou, M.H., I.H. Kim, S. Wandersee\*, D. Lusher, **L. An**, B. Spitzberg, D. Gupta, J. Gawron, J. Smith, J.A. Yang, and S. Y. Han (2013). Mapping ideas from cyberspace to realspace: visualizing the spatial context of keywords from web page search results. *International Journal of Digital Earth*7(4): 316-335 (Special Issue on Analytical Geospatial Digital Earth). DOI: 10.1080/17538947.2013.781240.
26. **An, L.**, D. López-Carr (2012). Editorial: Understanding human decisions in coupled human-nature systems. *Ecological Modelling* 229(24): 1-4.
27. **An, L.** (2012). Modeling human decisions in coupled human and natural systems: review of agent-based models. *Ecological Modelling* 229(24): 25-36.
28. Wandersee, S.M.\*, **L. An**, D. López-Carr, Y. Yang (2012). Perception and decisions in modeling coupled human and natural systems: a case study from Fanjingshan National Nature Reserve, China. *Ecological Modelling* 229(24): 37-49.
29. Chen, X., F. Lupi, **L. An**, R. Sheely, A. Viña, J. Liu. (2012). Modeling the effects of social norms on enrollment in payments for ecosystem services. *Ecological Modelling* 229(24): 16-24.
30. Aitken, S.C., and **L. An** (2012). Figured worlds: Environmental complexity and affective ecologies in Fanjingshan, China. *Ecological Modelling* 229(24): 5-15.
31. **An, L.**, D. G. Brown, J. Nassauer, and B. Low (2011). Variations in development of exurban residential landscapes: Timing, location, and driving forces. *Journal of Land Use Science*.6 (1): 13–32.
32. **An, L.**, and J. Liu (2010). Long-term effects of family planning and other determinants of fertility on population and environment: agent-based modeling evidence from Wolong Nature Reserve, China. *Population and Environment* 31:427–459.
33. He, G., M. Colunga, S. Bearer, **L. An**, M. Linderman, S. Zhou, J. Huang, S. Gage, Z. Ouyang, J. Liu (2009). Spatial and temporal patterns of fuelwood collection in a nature reserve: implications for panda conservation. *Landscape and Urban Planning* 92(1): 1-9.
34. **An, L.**, and D. G. Brown (2008). Survival analysis in land-change science: integrating with GIScience to address temporal complexities. *Annals of Association of American Geographers* 98(2): 323-344.
35. Rindfuss, R. R., B. Entwisle, S. J. Walsh, **L. An**, D. G. Brown, P. Deadman, T. P. Evans, et al (2008). Land use change: Complexity and comparisons. *Journal of Land Use Science* 3(1): 1-11.
36. Parker, D. C., B. Entwisle, R. R. Rindfuss, L. K. VanWey, S. M. Manson, E. Moran, **L. An**, P. Deadman, T. Evans, M. Linderman, and G. Malanson (2008). Case studies, cross-site comparisons, and the challenge of generalization: Comparing agent-based models of land-use change in frontier regions. *Journal of Land Use Science* 3(1): 41-72.

37. Bearer, S. L., M. Linderman, J. Huang, **L. An**, G. He, and J. Liu (2008). Effects of fuelwood collection and timber harvesting on giant panda habitat use. *Biological Conservation* 141(2): 385-393.
38. Brown, D. G., D.T. Robinson, J.I. Nassauer, and **L. An**, S.E. Page, B. Low, W. Rand, M. Zellner, R. Riolo, and J.J. Taylor (2008). Exurbia from the bottom-up: confronting empirical challenges to characterizing a complex system. *GeoForum* 39(2): 805-818.
39. Viña, A., S. Bearer, X. Chen, G. He, M. Linderman, **L. An**, H. Zhang, Z. Ouyang, and J. Liu (2007). Temporal changes in connectivity of giant panda habitat across the boundaries of Wolong Nature Reserve (China). *Ecological Applications* 17(4): 1019-1030.
40. **An, L.**, G. He, Z. Liang, and J. Liu (2006). Impacts of demographic and socioeconomic factors on spatio-temporal dynamics of panda habitats. *Biodiversity and Conservation* 15: 2343-2363.
41. Linderman, M., **L. An**, S. Bearer, G. He, Z. Ouyang, and J. Liu (2006). Interactive effects of natural and human disturbances on vegetation dynamics across landscapes. *Ecological Applications* 16(2): 452-463.
42. **An, L.**, M. Linderman, J. Qi, A. Shortridge, and J. Liu (2005). Exploring complexity in a human-environment system: an agent-based spatial model for multidisciplinary and multi-scale integration. *Annals of Association of American Geographers* 95 (1): 54-79.
43. Linderman, M., **L. An**, S. Bearer, G. He, Z. Ouyang, and J. Liu (2005). Modeling the spatio-temporal dynamics and interactions of households, landscapes, and giant panda habitat. *Ecological Modelling* 183(1): 47-65.
44. Linderman, M., S. Bearer, **L. An**, Y. Tan, Z. Ouyang, and J. Liu (2005). The effects of understory bamboo on broad-scale estimates of giant panda habitat. *Biological Conservation* 121 (2005) 383-390.
45. Linderman, M., J. Liu, J. Qi, Z. Ouyang, **L. An**, J. Yang, and Y. Tan (2004). Using artificial neural networks to map the spatial distribution of understory bamboo from remote sensing data. *International Journal of Remote Sensing* 25 (9): 1685-1700.
46. **An, L.**, A. Mertig, and J. Liu (2003). Adolescents' leaving parental home in Wolong Nature Reserve (China): psychosocial correlates and implications for panda conservation. *Population and Environment: A Journal of Interdisciplinary Studies* 24 (5): 415-444.
47. **An, L.**, F. Lupi, J. Liu, M. Linderman, and J. Huang (2002). Modeling the choice to switch from fuelwood to electricity: implications for giant panda habitat conservation. *Ecological Economics* 42(3): 445-457.
48. Ouyang Z., Z. Li, J. Liu, **L. An**, H. Zhang, and Y. Tan (2002). The recovery processes of giant panda habitat in Wolong Nature Reserve, Sichuan, China. *Acta Ecologica Sinica* 22: 1840-1849 (in Chinese with English abstract).
49. **An, L.**, J. Liu, Z. Ouyang, M. Linderman, S. Zhou, and H. Zhang (2001). Simulating demographic and socioeconomic processes on household level and implications for giant panda habitats. *Ecological Modelling* 140: 31-49.
50. Liu, J., M. Linderman, Z. Ouyang, and **L. An** (2001). The pandas' habitat at Wolong Nature Reserve -- response. *Science* 293: 603-605.
51. Liu, J., M. Linderman, Z. Ouyang, **L. An**, J. Yang, and H. Zhang (2001). Ecological degradation in protected areas: the case of Wolong Nature Reserve for giant pandas. *Science* 292: 98-101.

PEER-REVIEWED BOOK CHAPTERS (\*Graduate students advised by Li An):

1. 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.

2. **An, L.**, and J. Dai (2017). Space time analysis. In H. Lin, X. Shi, X. Ye, and Y. Guan (Editors): *Frontiers in Geographic Information Science* (in Chinese). Advanced Education Press: Beijing.
3. **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).
4. **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.
5. Aitken, S.C., **L. An**, S. Allison, and S. Yang (2016). Nature's legacy: Children, development and urban access in Fanjingshan, China. Chapter prepared for Murnaghan, A.M.F., and L.J. Shillington (editors): *Children, Nature, and Cities*. Ashgate Publishing Ltd.
6. Weeks, J.R., D. Stow, and **L. An** (2016). Demographics, health drivers & impacts on land cover and land use change in Ghana. Chapter for Stephen J. Walsh (ed.), *Remote Sensing Applications for Societal Benefits* (Comprehensive Remote Sensing Vol. 9), Elsevier.
7. Liu, J., V. Hull, W. Yang, A. Viña, **L. An**, N. Carter, X. Chen, W. Liu, Z. Ouyang, and H. Zhang (2016). Lessons from local studies for global sustainability. Book chapter (#18) in Liu et al.: *Pandas and People: Coupling Human and Natural Systems for Sustainability*. Oxford, UK: Oxford University Press.
8. 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, Z. Ouyang, W. Xu, and H. Zhang (2016). Human-nature interactions over distances. Book chapter (#17) in Liu et al.: *Pandas and People: Coupling Human and Natural Systems for Sustainability*. Oxford, UK: Oxford University Press.
9. Chen, X., W. Yang, V. Hull, **L. An**, T. Dietz, K. Frank, F. Lupi, and J. Liu (2016). Social capital and social norms shape human-nature interactions. Book chapter (#11) in Liu et al.: *Pandas and People: Coupling Human and Natural Systems for Sustainability*. Oxford, UK: Oxford University Press.
10. Carter, N., **L. An**, and J. Liu (2016). Cross-site synthesis of complexity in coupled human and natural systems. Book chapter (#16) in Liu et al.: *Pandas and People: Coupling Human and Natural Systems for Sustainability*. Oxford, UK: Oxford University Press.
11. Gupta, D. K., B. Spitzberg, M.H. Tsou, **L. An**, and J. M. Gawron (in press). Of mining and mine fields revolution in paradigms of data analysis and interpretation. In L. Fenstermacher (ed): *Countering Violent Extremism: A Multidisciplinary Perspective*. Maxwell AFB, AL: Air University Press.
12. 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>
13. Aitken, S. C., **L. An**, S. Wandersee, and Y. Yang (2014). Renegotiating local values: The case of Fanjingshan Reserve, China (book chapter). In Cathrine Brun, Piers Blakie and Mike Jones (editors): *Unravelling Marginalisation, Voicing Change: Alternative Geographies of Development*. Aldershot: Ashgate Press.
14. Zvoleff, A.\*, **L. An**, J. Stoler, and J. R. Weeks (2013). What if neighbors' neighborhoods differ? The influence of neighborhood definition on health outcomes in Accra. Book chapter for *Spatial Inequalities: Health, Poverty and Place in Accra, Ghana* (editors John R. Weeks, Allan G. Hill), Springer.
15. 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.



16. **An, L.**, M. Linderman, Guangming He, Z. Ouyang, and J. Liu (2011). Long-term ecological effects of demographic and socioeconomic factors in Wolong Nature Reserve (China). In *Human Population: Its Influences on Biological Diversity* (Richard P. Cincotta, and L. J. Gorenflo, eds., Springer-Verlag).
17. Liu, J., **L. An**, S. S. Batie, S. Bearer, X. Chen, R. E. Groop, G. He, Z. Liang, M. A. Linderman, A. G. Mertig, Z. Ouyang, J. Qi, H. Zhang, S. Zhou (2005). Beyond Population Size: Examining intricate Interactions among Population Structure, Land Use, and Environment in Wolong Nature Reserve (China). In: *Population, Land Use, and Environment – Research Directions* (report of the National Research Council, Barbara Entwisle and Paul Stern, editors, The National Academies Press, Washington, D.C.; pages 217-237).
18. Liu, J., Z. Ouyang, M. Linderman, **L. An**, S. Bearer, and G. He (2003). A new paradigm for panda research and conservation: Integrating ecology with human demography, behavior, and socioeconomics. In *Giant Pandas: Biology and Conservation* (Donald G. Lindburg and Karen Baragona, eds., University of California Press, Berkeley).
19. Liu, J., **L. An**, S. Batie, R. Groop, Z. Liang, M. Linderman, A. Mertig, Z. Ouyang, and J. Qi (2002). Human impacts on land cover and panda habitat in Wolong Nature Reserve: linking ecological, socioeconomic, demographic, and behavioral data. In *People and the Environment: Approaches for Linking Household and Community Surveys to Remote Sensing and GIS* (Jeff Fox, Vinod Mishra, Ron Rindfuss, and Steve Walsh, eds., Kluwer Academic Publishers).

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

1. Gupta, D., B. Spitzberg, M. Tsou, M. Gawron, **L. An** (2015). Revolution in social science methodology and pitfalls. International Studies Association's 56<sup>th</sup> Annual Convention, February 18th-21st, 2015, New Orleans, Louisiana. [http://www.isanet.org/annual\\_convention](http://www.isanet.org/annual_convention).
2. 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.
3. Wang, N.\*, and **L. An** (2012). Use GeoSimulation data to assess the inferential power of statistics. GIScience 2012, September 18-21, 2012, Columbus, Ohio.
4. **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.
5. **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.
6. 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.
7. 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.
8. 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 (\*Graduate students advised by Li An):

1. **An, L.**, V. Grimm, B.L. Turner II (in review). Editorial: Meeting grand challenges in agent-based models. *The Journal of Artificial Societies and Social Simulation (JASSS)* Special issue.
2. **An L.**, J. Mak, S. Yang, R. Lewison, D. A. Stow, H. L. Chen, W. Xu, L. Shi, W. Zhang, Y. H. Tsai al. (in review). Cascading impacts of payments for ecosystem services in complex human-environment systems. *The Journal of Artificial Societies and Social Simulation (JASSS)* Special issue.
3. **An, L.**, C. Battle, R. Lewison, J. Dai, N. Carter, J. Karki, and A. Zvoleff (in revision). Sex-specific habitat suitability models for *panther tigris* in Chitwan National Park, Nepal. Intended for *Journal of Applied Ecology*.
4. Xu, W., S. Pimm, A. Du, Y. Su, X. Fan, **L. An**, J. Liu, and Z. Ouyang (in review). Transforming protected area management in China. *Trends in Ecology and Evolution*.
5. Manson, S., **L. An**, K. C. Clarke, A. Heppenstall, J. Koch, F. Morgan, D. O'Sullivan, B. Runck, E. Shook, and L. Tesfatsion (in review). Methodological issues of spatial agent-based models. *The Journal of Artificial Societies and Social Simulation*.
6. Yost, A. \*, **L. An**, R. Bilsborrow, L. Shi, X. Chen, and W. Zhang (in review). Linking concurrent payments for ecosystem services in a Chinese nature reserve. *Ecological Economics*.
7. Tsai, Y.\*, D. Stow, H. Chen, R. Lewison, L. Shi, and **L. An** (in review). Monitoring land-cover and land-use dynamics including afforestation and built developments in Fanjingshan National Nature Reserve. *Applied Geography*.
8. Chen, H.L., R.L. Lewison, **L. An**, Y.H. Tsai, D. Stow, L. Shi, and S. Yang (in review). Assessing the effects of payments for ecosystem services programs on forest structure and species biodiversity. *Journal of Environmental Management*.
9. Chen, H.L., R.L. Lewison, **L. An**, S. Yang, L. Shi, W. Zhang (in review). Effects of payments for ecosystem services programs on human activity and wildlife diversity in montane forests of China. *Forest Ecology and Management*.
10. Tang, W., V. Grimm, L. Tesfatsion, E. Shook, D. Bennett, **L. An**, Z. Gong, and X. Ye (in review). Code reusability and transparency of agent-based modeling: perspectives and challenges. *Annals of Association of American Geographers*.
11. Ligmann-Zielinska, A., D. Parker, D. Robinson, E. J. Du, Y. Liu, **L. An**, M. Cenek, N. Arbab, N. Magliocchia, P. Siebers, P. Jankowski, R. Paudel, S. Li, U. Berger, V. Radchuk, V. Grimm, and X. Ye (in review). "One size DOES NOT fit all". A roadmap to effective sensitivity analysis of agent-based models using common and frontier approaches. *The Journal of Artificial Societies and Social Simulation*.
12. Dai, J., S. Yang, R. Bilsborrow, L. Shi, W. Zhang, M. Wang, and **L. An** (in review). Neighborhood impacts on household out-migration from Fanjingshan National Nature Reserve, China. *Geographical Analysis*.

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

1. **An, L.**, M. Tsou, T.P. Evans, B. Spitzberg, J. Dai\*, N. Wang\*, et al. (in preparation). Perception of global warming: impact of change in climate.
2. **An, L.**, J. Liu, R. Lewison, H. Chen, S. Yang\*, L. Shi, H. Chen, W. Xu, Z. Ouyang, and W. Zhang (in preparation). Invisible link among concurrent payments for ecosystem services: A global challenge.
3. **An, L.**, et al. (in preparation). Agent-based models in social, ecological, and social-ecological systems: Achievements, challenges, and future directions.

4. Wang, S., **L. An**, J.Y. Kang, D. Yin, et al. (in preparation). Scalable agent-based modeling in the era of big data, cyberGIS, and machine intelligence.
5. Mysicka, S., **L. An**, J. Kuhnova, O. Dolezal, H. Tomaskova, R. Cimler, and D. Cimr (in preparation). Political violence in contemporary China: Future development using the system dynamics.
6. **An, L.**, A. Nara, K. Huang, G. He, D.A. Stow, and J.R. Weeks (in preparation). Unpacking space-time dynamics from multi-time (non-longitudinal) spatial data.
7. Shih, H., D. Stow, **L. An**, et al. (in preparation). Addressing spatial autocorrelation in space-time analysis: A case study of Southeastern Ghanaian women's body mass index.
8. Yabiku, S.T., A. Sullivan, A. York, Q. Zhao, J.E. Glick, S.J. Hall, D.J. Ghimire, and **L. An** (in preparation). Drivers of prohibited natural resource collection in a protected area invaded by the mile-a-minute weed (*Mikania micrantha*).

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

[None for now]

**PRESENTATIONS** (As single or 1<sup>st</sup>-author)

Available upon request.

**PAST HONORS & AWARDS** (By 2009)

- 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.
- 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).

**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), US Chapter

- The International Association of Chinese Professionals in Geographic Information Sciences (CPGIS; lifetime member)

## TEACHING AND MENTORING

### COURSES

1. Quantitative Methods in Geographic Research (GEOG 585; Upper Division Undergraduate and Graduate Course)
2. Spatial Data Analysis (GEOG 385; Lower Division Undergraduate Course)
3. Landscape Modeling and Simulation (GEOG 780; Graduate Course)
4. Landscape Ecology (GEOG 506, previously GEOG 596; Upper Division Undergraduate and Graduate Course)
5. Geographic Information Science (GEOG 104; Lower Division Undergraduate Course)
6. Understanding the Chinese World (AS 150; Lower Division Undergraduate Course; team-teaching with about other colleagues)

### ADVISING

- Postdoctoral fellows: Dr. Hsiang Ling Chen (co-advisor: Dr. Rebecca Lewison, SDSU Department of Biology)
- Ph.D. students: Sarah Wandersee (2013), Alex Zvoleff (2013), Ninghua Wang (2013), Shuang Yang, Jie Dai (current), Huijie Zhang (current).
- M.S. students: Susan Whitford (2008), Jennifer Vaughan (2010), Kristin Meseck (2013), Curtis Battle (2016), Judy Mak (2018), William Orihuela, Jeanne Patton (co-advised with John O’Leary), Alexandra Yost.
- 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, Yihui Wang (SDSU Ecology).
- As M.S./M.A. 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), Julia Smith (Biology), Kylie Curtis (Biology).

### INVITED CONFERENCE PARTICIPATION AND GUEST LECTURES

- 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 2<sup>nd</sup> 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 2017.
- 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).
- Master’s Advising Committee member (2007- 2010).
- Curriculum Committee member (2007- 2010).
- Computing Committee member (2010–2013; 2014-2015) and chair (2016 – 2017).
- Student Outcomes Committee member (2010- 2011)

### COLLEGE, UNIVERSITY, AND COMMUNITY SERVICE

- SDSU Faculty Statutory Grievance Hearing Committee (ad hoc committee; 2017)
- SDSU Committee for the Master of Science in Big Data Analytics program (2015-present)
- SDSU Student Research Symposium Committee (2008 – 2011)
- The College of Arts and Letters (CAL) Research Committee (2015-2016)
- Chinese Study Institute, SDSU College of Arts and Letters
- Member of the San Diego GIS force group
- Advisor/Co-advisor of SDSU Chinese Students & Scholars Association, 2009-present.

### SERVICE IN PROFESSIONAL COMMUNITIES

- 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 23<sup>rd</sup> 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 2011 Annual 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 22<sup>nd</sup> Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter, Tucson, Arizona.
- Chair of Session “Habitat models”, March 31, 2006 in The 21<sup>st</sup> Annual Symposium of the International Association for Landscape Ecology (IALE), US Chapter. San Diego, California.

## EDITORIAL SERVICE

- Member of the Editorial Board of the *Annals of the American Association of Geographers*, the flagship journal in geography (2013-2018).
- Member of the Editorial Advisory Board of *Ecological Modelling*, an international journal on ecological modelling and systems ecology (2013-present).
- Member of the Editorial Board of *International Journal of Geospatial and Environmental Research* (2013-present).
- Member of the Editorial Board of book series (in Chinese): *Fanjingshan Moss* (YuanxinXiong 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* (Chuangdong 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* (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)* (2018-2019).

#### 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).

#### REVIEWER FOR TENURE OR PROMOTION

- 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; 2014)

#### PAPER REVIEW FOR PEER-REVIEWED JOURNALS (alphabetical order)

Acta Ecologica Sinica, Annals of Association of American Geographers, Computers, Environment and Urban Systems, 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 Geographical Systems, Journal of Plant Ecology, Landscape Ecology, Photogrammetric Engineering and Remote Sensing,



Plant Ecology, PLOS ONE, Professional Geographer, Population and Environment, Stochastic Environmental Research & Risk Assessment, Proceedings of National Academy of Sciences

BOOK PROPOSAL REVIEW FOR PUBLISHERS

Higher Education Press (China)