



Dr. Haitao Li(1968-), male, a native of Rongcheng City of Shandong Province, Associate Professor of Institute of Geographic Science and Natural Resources Research(IGSNRR), Chinese Academy of Sciences(CAS); Executive Council Member of China Chapter, International Society for the Advancement of Emery Research (ISAER); Member of Ecological Society of China; Member of China Society of Ecological Economics; Editorial Board Member of International Journal of Nonlinear Sciences and Numerical Simulation (2007-2010); Office Director, Department of Biosciences and Geosciences, Academic Divisions, Chinese Academy of Sciences(2004); Head, Jigongshan Forest Ecosystem Research Station of Jigongshan National Nature Reserve(2002-2005); Vice Director, Committee of Photobiology and Photochemistry, China Illuminating Engineering Society(2008-).

Earlier in 1999, he contacted Prof. H.T. Odum for studying emergy. His very early emergy research, *Energy evaluation and assessment of sustainability of the eco-economic system of Xinjiang*, published In 2003, has been cited 192 times in China. Since 2000, co-authored with Prof. Maochao Yan, he has published more than ten frequently cited papers using emergy method in the leading Chinese journals. From 2010 to 2012, worked with Prof. Jiquan Chen of Michigan State University, he undertook a NASA funded program *Interactive Changes of Ecosystems and Societies on the Mongolian Plateau: from Coupled Regulations of Land Use and Changing Climate to Adaptation*(NASA NNX09AM55G), analyzed the resource and economic structure and trade status of the inner Mongolian region based on emergy synthesis. From 2012 to 2015, he undertook a National Science-Technology Supporting Program of China, *Internet-of-Things based monitoring and management for recycled resources*, and applied an improved emergy analysis to evaluate the efficiency and sustainability of end-of-life vehicle recycling enterprises. In 2016, worked with Prof. Mark Brown, they were funded by CAS President's International Fellowship Initiative (PIFI) of Chinese Academy of Sciences to conduct a research plan, *An emergy-based International comparison of resource use and its relation to economic growth*.

During the past twenty years, cooperating with Prof. Maochao Yan, he has been addressing himself to stimulating the development and application of emergy theories in China in order to “bridge the gap” of understanding between societies and nature. As one of the first batch of the emergy researchers in China, together with Maochao Yan, his main effort is to work toward the general acceptance and broad application of the concepts of emergy and transformity for decision-making in China. To this end he is making efforts to promote the exchange of information on research related to emergy and take other actions that may facilitate the advancement of knowledge and understanding about emergy and transformity within human minds. Emergy and transformity are fundamental thermodynamic quantities derived from the fifth law of thermodynamics otherwise known as the law of energy hierarchy (Odum, 1996). The fifth law, in turn, follows from the fourth law or maxi maximum empower principle (Lotka, 1922; Odum 1996). Progressive movement toward maximizing empower (emergy per unit time) was proposed by Odum (1996) as the decision criteria that guides the evolution of all systems. These ideas have recently been placed on the strong mathematical footing (Giannantoni, 2000) necessary for a general physical theory to be valid and widely accepted. The potential powers of these ideas are to: (1) increase our understanding of natural and social systems on all scales of hierarchical organization, (2) to improve decision-making for society, (3) to work for the betterment of the world. However, these ideas are not yet generally known or understood by many individuals. The mission of ISAER should be to do more work for promoting emergy research in the future, and educate more people about emergy theory and all the above emergy-based ideas for a better world.

Professional Profile:

02/2001- : Associate Professor, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China.

11/2009-11/2011: Visiting Scientist, Department of Environmental Sciences, The University of Toledo, Toledo, Ohio, USA.

01/2007- : Adjunct Professor, International Center for Ecology, Zhejiang Forestry University.

09/1997-02/2001: Associate Professor, School of Forest Resources and Environment, Beijing Forestry University, Beijing, China.

11/1999-12/2000: Visiting Research Fellow(Sponsored by Chinese Scholarship Council and Professor F. Stuart Chapin III.) , Institute of Arctic Biology, University of Alaska , Fairbanks, Alaska, USA.

09/1995-09/1997: Post-Doctoral Research Fellow, School of Forest Resources and Environment, Beijing Forestry University, Beijing.

07/1991-07/1992: Lecturer, Section of Biostatistics, Department of Biological Basic Course, Xinjiang Agricultural University, Urumqi, Xinjiang, China.

Education:

09/1995-09/1997: Post-Doctoral Fellow, Institute: School of Forest Resources and Environment, Beijing Forestry University, Beijing, China. Major: Forest Ecology.

07/1992-08/1995: Ph.D. Institute: Institute of Botany, Chinese Academy of Sciences, Beijing, China. Major: Plant Ecology.

08/1988-06/1991: M.S.

Institute: Xinjiang Institute of Ecology and Geography(Formerly Xinjiang Institute of Biology, Pedology and Desert research), Chinese Academy of Sciences, and Xinjiang University, Urumqi, Xinjiang Province, China. Major: Plant Ecology.

07/1984-08/1988: B.S. Institute: Department of Biology, Xinjiang University, Xinjiang, China. Major: Biology.

Teaching Experience:

Ecology (undergrad, in Beijing Forestry University, 1996-1999)

Urban Ecology(grad, in Beijing Forestry University,1998) Meteorology (grad, in Beijing Forestry University,1997-1999) Forestry(grad, in Beijing Forestry University,1997-1999)

Introduction to Environmental Sciences(grad, in Beijing Forestry University,1999) Internship for Forestry(grad, in Graduate School of CAS, since 2007)

Professional Service:

Reviewers for Annals of Botany(English, SCI journal), Journal of Cleaner Production(English, SCI journal), Environmental Toxicology and Pharmacology(English, SCI journal), Journal of Natural Resources(Chinese), Journal of Environmental Sciences(Chinese), Journal of Glaciology and Geocryology (Chinese), Acta Phytocologica Sinica(English), Journal of Integrative Plant Biology(English, SCI journal) and Journal of Photobiology and Photochemistry(English, SCI journal).

Selected Professional Publications:

Journal Papers

1. Pan, Y.X., *Li, H.T. 2016. Sustainability evaluation of end-of-life vehicle recycling based on emergy analysis: a case study of an end-of-life vehicle recycling enterprise in China. *Journal of Cleaner Production*. 22:219-227(In English). (Corresponding author).
2. Pan, Y.X., *Li, H.T. 2015. Trace elements in scalp hair from potentially exposed individuals in the vicinity of the Bayan Obo mine in Baotou, China. *Environmental Toxicology and Pharmacology*. 40(3):678-685(In English). (Corresponding author).
3. Chen, L., *Li, H.T., Zhu, L.P. 2014. Evaluation of Agro-ecosystem development and cost-benefit analysis of returning farmland to forest based on the emergy theory in Yimeng mountain. *Chinese Journal of Agricultural Resources and Regional Planning*. 35(1):82-88. (in Chinese with English summary).
4. Chen, L., *Li, H.T., Zhu, L.P. 2014. Emergy assessment of mountain agricultural ecosystem: A case of Mengyin county. *Journal of Arid Land Resources and Environment*. 50(1):66-71. (in Chinese with English summary).
5. Chen, G.Y., *Li, H.T., Liang, T. 2013. The relationship between industrial waste discharge and economic growth in Shanxi, China. *Resources Science*. 35(6):1184-1193. (in Chinese with English summary). (Corresponding author).
6. Chen, G.Y., *Li, H.T., Liang, T. 2013. A Test on Relationship between Economic Growth and Environmental Pollution in Inner Mongolia. *Journal of Natural Resources*. 27(11):1845-1859. (in Chinese with English summary). (Corresponding author).
7. Zhu, L.P., *Li, H.T., Chen, J.Q., John, R., Liang, T., Yan, M.C. 2012. Emergy-based sustainability assessment of Inner Mongolia. *J. Geogr. Sci*. 22(5): 843-858. (In English).(Corresponding author).
8. Zhu, L.P., *Li, H.T., Bouldin, J., John, R. Yan, M.C., Liang, T. 2012. Emergy-based environmental accounting: Evaluation of Inner Mongolia Autonomous Region. *Acta Ecologica Sinica*.32(2):74-88 (In English).(Corresponding author).
9. Liao, Y.C., Li, H.T., Yan, M.C. 2006. Emergy Evaluation for Sustainability of Jiangxi Ecological-Economic System. *World Sci-Tech R&D*. 28(2):101-107. (in Chinese with

English summary).

10. **Li, H.T.**, Han, X.G. and Wu, J.G. 2006. Variant Scaling Relationship for Mass-Density Across Tree-Dominated Communities. *Journal of Integrative Plant Biology*, 48(3): 268–277. (in English).
11. **Li, H.T.**, Han, X.G. and Wu, J.G. 2005. Lack of Evidence for 3/4 Scaling of Metabolism in Terrestrial Plants. *Journal of Integrative Plant Biology*. 47 (10): 1173–1183. (in English).
12. **Li, H.T.**, Yang, L.C. and Yan, M.C. et al. 2005. Valuation and Dynamic Modeling of the Biomass of Forest Vegetation in the Jigongshan Mountain Natural Reserve. *Resources Science*.27(4):154-159. (in Chinese with English summary).
13. Yan, M.C., Yang, L.C. and **Li,H.T.** 2004. A Study on the Biomass and Live Carbon Storage of the Forest Vegetation in the Jigongshan Mountain Natural Reserve. *Journal of Henan Forestry Science and Technology*. 24(4):1-6. (in Chinese with English summary).
14. **Li, H.T.**, Xia, J. and Shen, W.Q. et al. 2003. Validating the Solar Radiation Estimation of Mountain Microclimate Simulation Model in Subtropical Mountainous Region of China. *Journal of Mountain Science*. 21(5):537-541. (in Chinese with English summary).
15. **Li, H.T.**, Liao, Y.C., Yan, M.C., Hu, D. 2003. Emery evaluation and assessment of sustainability on the eco-economic system of Xinjiang. *Chinese Journal of Geographical Sciences*. 58(5):765-772.
16. **Li, H.T.**, Shen, W.Q. and Liu, Q.J. et al. 2003. On the Study of Carbon Cycle in Wetland Ecosystems. *Jiangxi Science*. 21(3):160-167. (in Chinese with English summary).
17. **Li, H.T.**, Liao, Y.C. and Yan, M.C. 2003. Emery Analysis on the Ecological - economic System of Jiangxi Province. *Acta Agriculturae Universitatis Jiangxiensis*, 25(1):93-98. (in Chinese with English summary).
18. **Li, H.T.**, Yan, M.C. and Shen, W.Q. et al. 2001. Study on Emery Evaluation and Sustainable Development of Ecological-Economics Systems of Xinjiang. *Arid Land Geography*.24(4):289-296. (in Chinese with English summary).
19. **Li, H.T.**, Yan, M.C. and Shen, W.Q. 2001. Sustainable development and ecological economics. *Acta Agriculturae Universitatis Jiangxiensis*. 23(3):410-415. (in Chinese with English summary).
20. Yan, M.C., **Li, H.T.** and Shen,W.Q. 2001. Feasibility research and assessment of regional eco-economic project. *Acta Agriculturae Universitatis Jiangxiensis*. 23(3):416-420. (in Chinese with English summary).
21. Yan, M.C., **Li, H.T.** and Cheng, H. et al. 2001. Emery analysis and assessment of main products of agriculture, forestry, animal husbandry and fishery in China. *Journal of Beijing Forestry University*. 23(6):66-69. (in Chinese with English summary).
22. Yan, M.C. and **Li, H.T.** 2001. Emery Perspectives on the Pattern of Economy and Consumption of the USA. *World Sci-Tech R & D*. 23(3): 59-65. (in Chinese with English summary).

Books:

Yu, G.R., **Li,H.T.** and Wang, S.Q.(eds) 2003. *Global Change, Carbon Cycle and Storage in Terrestrial Ecosystems*. China Meteorological Press, Beijing. 460 pp. (in Chinese with English summary).

Consultation Report:

Consultation team member and co-author, *The Report on the Issue of AIDS Prevention and Cure in China*, submitted by Chinese Academy of Sciences to State Council of the People's Republic of China. March, 2004.