

# DESIGNING OUR LANDSCAPE WITH NATURE

**Lab. Landscape Architecture** Prof.: Shibata, S., Assoc. Prof. Fukamachi, K.  
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We are studying the theory and technology for landscape conservation and creation. This comprehensive area includes not only academic theory but also technological application and practical proposal. It is important to contribute to the related domains such as park administration, environmental policy, city planning and re-vegetation projects. The landscapes of our interest are increasingly diversified such as from gardens and parks, with traditional landscape architecture, to urban areas and secondary forests (*satoyama*).

## Explore Principles in Environmental Design

We have been studying past and present landscapes (e.g. gardens, *satoyama* or town streets) in order to find design principles of the beauty or amenity, interactions between behaviors and space and relationship to social activities, based on historical, social, psychological and physiological points of view.



## Conservation and Wise Use of Nature

We are studying states of wildlife species and habitats in immediate natural environments and consider the future of harmonized landscape with human activities.



## Development of Green Technology

We are developing technologies for growing healthy vegetation in severe conditions such as slopes, rooftops and walls and for diagnosing vitality of vegetation based on scientific data and pursuing integration of established vegetation with regional ecosystem.



## Keywords

*landscape design, landscape planning, landscape ecology, nature conservation and restoration, satoyama, re-vegetation technology, amenity*

## Recent Publications

Academic Year 2011 (April 2011 - March 2012)

### Books

**Shibata, S., Fukamachi, K., Imanishi, J. and others:**

United Nations University Institute of Advanced Studies, Committee of Japan *Satoyama-Satoumi* Assessment Eds., *Satoyama-Satoumi: blessings of nature and lives of people.*, Asakura Shoten, Tokyo, 201pp., (Cluster assessment authors), 2012 (in Japanese)

**Shibata, S., Fukamachi, K., Imanishi, J. and others:**

Duraiappah, A. K., Nakamura, K., Takeuchi, K., Watanabe, M. and Nishi, M. ed. 'Satoyama-Satoumi Ecosystems and Human Well-Being: Socio-Ecological Production Landscapes of Japan'. United Nations University Press. Tokyo. 480pp. (Cluster assessment authors)

### Review

**Shibata, S.:**

Earthquake and tsunami from the view of connectivity of hilltop, human and ocean and the volunteer support, *Environmental Conservation*, 26, 12-22, 2012 (in Japanese)

### Original papers

**Abe, Y., Shibata, S., Oku, H and Fukamachi, K:**

Preparation and distribution of dwarf bamboo leaves in Kyoto City. *Journal of Forest Science*, 93(6), 270-276, 2011 (in Japanese)

**Nishimura, T., Nishikawa, H., Hamabata, E., Fujii, S., Fukamachi, K., Morimoto, Y.:**

Relation between frequency of reed-land management and vegetation change around Lake Nishino. *Journal of the Japanese Institute of Landscape Architecture* 75(5); 435-440, 2012 (in Japanese)

**Fukamachi K, Miki Y, Oku H, Miyoshi I.:**

Distribution of isolated trees and hedges in a Satoyama landscape on the west side of Lake Biwa in Shiga Prefecture, Japan: A case study from the viewpoint of biocultural diversity. *Landscape Ecology and Ecological Engineering* 7(2) 195-206, 2011

**Fujii, M., Fukamachi, K., Morimoto, Y., Oku, H.:**

Study of morphology and ritual organization committees of the traditional event "Kyoto Gozan-Bonfire". *Journal of the Japanese Institute of Landscape Architecture* 75(5); 587-592, 2012 (in Japanese)

## Recent Publications

**Imanishi, A., Imanishi, J., Kawase, N. and Natuhara, Y.:**

Environmental conditions of the habitat of *Gentiana thunbergii* (G. Don) Griseb. in paddy-field areas in the south-eastern area of Siga Prefecture, Japan Landscape Research, 75(5), 419-422, 2012 (in Japanese)

**Sasaki, T., Imanishi, J., Fukui, W., Tokunaga, F. and Morimoto, Y. :**

Fine-scale replication and quantitative assessment of forest vertical structure using LiDAR for forest avian habitat characterization. Forest Science and Technology, accepted. 2012

**Kang, N., Imanishi, J., Fukamachi, K. and Morimoto, Y. :**

A study of spatial form and landscape characteristics in the Oguraike wetland during the Edo period based on Japanese poetry. Journal of Environmental Information Science 40(5), 101-110. 2012

**Imanishi, A., Imanishi, J., Matsumoto, H., Morimoto, Y. and Natuhara, Y.:**

The propagule banks of the drained sites and remnant wetlands in the Ogura-ike area of Kyoto, Japan: Implications for restoration. Journal of Environmental Information Science 40(5), 119-128. 2012

**Matsumoto, H., Imanishi, A., Imanishi, J., Susaki, J., Morimoto, Y. and Natuhara, Y.:**

The effects of relative elevation on wetland plant distribution at a fallow paddy field in Oguraike drained land, Environmental Information Science, 25, 227-232, 2011 (in Japanese)

**Song, Y., Maki, M., Imanishi, J. and Morimoto, Y.:**

Voxel-based estimation of plant area density from airborne laser scanner data. The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, XXXVIII-5/W12, ISPRS Workshop Laser Scanning 2011, August 29-31, 2011, Calgary, Canada. 2011

**Imanishi, J., Okugawa, H., Kim, H., Iida, Y., Morimoto, Y., Yamanaka, K. and Kojima, T.:** Tree health assessment of *Cerasus* species during the flowering season: a case study of Japanese mountain cherry (*Cerasus jamasakura* (Siebold ex Koidz.) H. Ohba var. *jamasakura*) in Yoshinoyama, Nara Prefecture, Japan, Journal of the Japanese Society of Revegetation Technology, 37(1), 9-14, 2011 (in Japanese)

**Ioki, K., Imanishi, J., Sasaki, T., Song, Y.K. and Morimoto, Y.:**

Vegetation mapping of urban secondary forest using airborne laser scanning in Kyoto city, Japan. Proceedings of the Third International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2011) and SECOTOX Conference, 1049-1054. 2011

**Imanishi, A., Kaneko, S., Isagi, Y., Imanishi, J., Natuhara, Y. and Morimoto, Y.:**

Development of microsatellite markers for *Euryale ferox* (Nymphaeaceae), an endangered aquatic plant species in Japan. American Journal of Botany, e233-e235. 2011

## Recent Publications

### Reports

**Shibata, S.:**

Contact with bamboo, Tentomushi (UC Card Magazine 2011, April), 43(4), 18-21, 2011

**Shibata, S.:**

Bamboo –present condition of bamboo use for gardens-, Royal Horticultural Society, Japan Magazine (2011, November), 259, 2-7, 2011

**Imanishi, J., Sugita, S. and others:**

Kyoto City and Kyoto University of Art and Design eds. Survey report on non-designated cultural property gardens in Kyoto City Vol. 1: Survey on gardens around Okazaki and Nanzenji area, 196 pp., 2012 (in Japanese)

**Matsumoto, H., Imanishi, A., Imanishi, J. and Morimoto, Y.:**

Actual vegetation in the Oguraike drained land and the surrounding area: Implications for restoration. Landscape Ecology and Management 16(2); 79-88, 2012 (in Japanese)

**Imanishi, J. and others:**

Yoshinoyama Sakura Research Team ed. Research report on flowering cherry trees at Yoshinoyama from 2008 to 2011, 184pp. 2011 (in Japanese)

**Song, Y., Imanishi, J. and Morimoto, Y.:**

Use of airborne laser scanning data for the assessment of tree condition. Proceedings of the 32nd Asian Conference on Remote Sensing "Sensing for Green Asia", TS6-3 Natural Resources-1, October 3-7, 2011, Taipei, Taiwan (Republic of China). 2011

**Shinohara, A., Yoshida, A., Yamanaka, K., Morimoto, Y., Imanishi, J., Kojima, T. and Yoneda, M.:**

Study on chemical characteristics of soil in Gorobei-chaya area of Mt. Yoshino and simulation of its future status. Journal of the Japanese Society of Revegetation Technology; 37(1), 225-228. 2011 (in Japanese)

**Tanahashi, W., Yoshida, A., Yamanaka, K., Morimoto, Y., Imanishi, J., Kojima, T. and Yoneda, M.:**

The soil in the growing area of *Armillaria* spp. and the biocontrol in Mt. Yoshino. Journal of the Japanese Society of Revegetation Technology; 37(1), 221-224. 2011 (in Japanese)

**Uehara, S., Morimoto, Y., Shimizu, K.:**

Development of large-scale irrigated agricultural lands and change of delta vegetation in lower Ili river. Oasis Resion Research Report; 9(1), 59-76, Research Institute for Humanity and Nature, 2012 (in Japanese)

## Recent Publications

**Iwata Y, Fukamachi K, Morimoto Y.:**

Public perception of the cultural value of Satoyama landscape type in Japan. *Landscape Ecology and Ecological Engineering* 7(2) 173-184, 2011

**Horiuchi M, Fukamachi K, Oku H.:**

Reed community restoration projects with citizen participation: an example of the practical use of Satoyama landscape resources in Shiga Prefecture, Japan. *Landscape Ecology and Ecological Engineering* 7(2) 217-222, 2011

**Fukamachi K, Morimoto Y.:**

Satoyama management in the twenty-first century: the challenge of sustainable use and continued biocultural diversity in rural cultural landscapes. *Landscape Ecology and Ecological Engineering* 7(2) -, 2011

**Fukamachi K, Oku H, Miyoshi I, Tabuchi A:**

Experimental study for conservation of satoyama landscape through repairing old timber houses on the Tango Peninsula, Kyoto (1) New trend of the conservation activities of traditional houses *Proceedings of the Wood Culture and Science Kyoto 2011*, 180-181, 2011

**Tabuchi A, Yamawa A, Fukamachi K, Oku H, Miyoshi I.:**

Experimental study for conservation of satoyama landscape through repairing old timber houses on the Tango Peninsula, Kyoto (2) Evaluation of structural characteristics of a earth-walled storehouse *Proceedings of the Wood Culture and Science Kyoto 2011*, 182-185, 2011

**Murakami Y, Oku H, Sakuma D, Horiuchi M, Inomoto T, Fukamachi K, Yokoyama M, Sugiyama A, Osumi K, Yumoto T, Mechtild Mertz:**

Wood Use Inferred from a Farmhouse in the Tango Peninsula, Japan. *Proceedings of the Wood Culture and Science Kyoto 2011*, 186-187, 2011

**Fukamachi K, Oliver R, Oku H.:**

Sacred Groves in a Japanese Satoyama Cultural Landscape: A Scenario for Conservation. The 8th World Congress of the International Association for Landscape Ecology: landscape ecology for sustainable environment and culture *Proceedings*, p150, 2011