International Symposium
MORIOKA 2013
国際シンポジウム　盛岡

Global Forest Products Marketing and Forest Certification in A Green Economy
グリーン経済における林産物のマーケティングと森林認証

Date: March 28, 2013, 13:00-17:10
Venue: Iwate University, JAPAN

日時: 2013年3月28日（木）13:00～17:10
会場: 岩手大学（岩手県盛岡市上田3-18-8）

Invited Speakers:
Dr. Richard Vlosky (Louisiana State University, US)
Mr. Florian Kraxner (IIASA, Austria)
Dr. Toshiaki Owari (The University of Tokyo, Japan)
Dr. Takuya Takahashi (The University of Shiga Prefecture, Japan)
Dr. Ikuo Ota (Ehime University, Japan)

Organizers:
Japan Society of Forest Planning
Risk Analysis Research Center,
Institute of Statistical Mathematics

Co-Organizers:
IUFRO Unit 5.10.00
Wood Utilization Systems Forum

森林計画学会
大学共同利用機関法人 情報・システム研究機構 統計数理研究所 The Institute of Statistical Mathematics
IUFRO
木材利用システム研究会 Environment Marketing Policy

International Symposium MORIOKA 2013:
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Co-Organizer : International Union of Forest Research Organizations (IUFRO) Unit 5.10.00
Wood Utilization Systems Forum

President Shigejiro Yoshida, Ph. D. (Kyusyu Univ.)

Committee Members Naoto Matsumura, Ph. D. (Mie Univ.)
Masayoshi Takahashi, Ph. D. (FFPRI-Hokkaido)
Atsushi Yoshimoto, Ph. D. (ISM)
Nobuya Mizoue, Ph. D. (Kyusyu Univ.)
Toshiaki Owari, Ph. D. (The Univ. of Tokyo)
Masashi Konoshima, Ph. D. (Univ. of the Ryukyus)

At the United Nations Rio+20 Conference in June 2012, green economy* was considered as one of the important tools for achieving sustainable development. Because forests form a foundation of a green economy, forest sector can play a key role to shift the trend. Forest certification is recognized as a promising development for greening the forest sector. This symposium focuses on providing a synthesis of scientific research on forest products marketing and forest certification worldwide to discuss strategies and challenges of the forest sector in a green economy.

*an economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities (UNEP, 2011)

国際シンポジウム in 盛岡:
グリーン経済における
林産物のマーケティングと森林認証

日時：2013 年 3 月 28 日
13:00-17:10

場所：岩手大学　学生センターA 棟「G1 大」

主催：森林計画学会
統計数理研究所 リスク解析戦略研究センター

共催：International Union of Forest Research Organizations (IUFRO)
木材利用システム研究会

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吉本 敦（統計数理研究所）
溝上 展也（九州大学）
尾張 敏章（東京大学）
木島 真志（琉球大学）

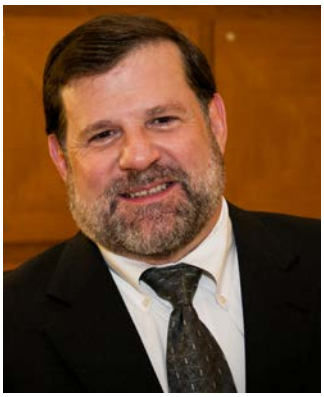
2012 年 6 月に開催されたリオ+20 では、グリーン経済*が持続可能な発展を達成するための重要な手段として認められた。森林はグリーン経済の基礎であり、グリーン経済への移行には森林セクターが主要な役割を担う。森林認証は、森林セクターのグリーン化を図る上での有望なツールと見なされている。本シンポジウムでは、林産物のマーケティングと森林認証に関する国内外の研究成果を総合し、グリーン経済の下で森林セクターが取るべき戦略や解決すべき課題について議論する。

*環境へのリスクと生態学的な稀少性を大幅に減少させつつ、人々の厚生と社会的公正を改善する経済（UNEP, 2011）

Program : March 28 (Thu)

Chair : Atsushi Yoshimoto, Institute of Statistical Mathematics

12:30 - 13:00	**Registration**
13:00 - 13:05	**Opening Remarks** - Shigejiro Yoshida, Kyusyu University
Session 1	Coordinator : Toshiaki Owari, The University of Tokyo
13:05 - 13:50	**Conducting Certification Market Research** Richard Vlosky Louisiana State University, United States
13:50 - 14:35	**Global Forest Management Certification – Thoughts about Its Future** Florian Kraxner International Institute for Applied Systems Analysis, Austria
14:35 - 15:00	**Break**
Session 2	Coordinator : Masashi Konoshima, University of the Ryukyus
15:00 - 15:30	**Forest Certification in Marketing: A Review** Toshiaki Owari The University of Tokyo, Japan
15:30 - 16:00	**Who Are the Winners and Losers in Forest Certification? Diffusion of Forest Certification in Japan and around the World** Takuya Takahashi University of Shiga Prefecture, Japan
16:00 - 16:30	**Forest Certification, Traceability, and "Green" Housing: Achievements of Yusuhara Forest Owners' Cooperative** Ikuo Ota Ehime University, Japan
16:30 - 17:00	**Open Discussion** - Coordinator : Toshiaki Owari, The University of Tokyo
17:00 - 17:10	**Closing Remarks** - Atsushi Yoshimoto, Institute of Statistical Mathematics



Session 1: 13:05-13:50

Richard Vlosky

Professor & Director
Louisiana Forest Products Development Center, Louisiana State University Agricultural Center, Baton Rouge, Louisiana, USA

Conducting certification market research

Public concern for the environment has grown during the last few decades, both in developed and developing countries. As a result, environmental issues are beginning to take center stage in global economic and trade policy discussions. Forest Certification, a process that attempts to identify products from well-managed forests and indicate how well a product is environmentally adapted, is a contemporary example of how social interests have influenced differentiating goods and services based on environmental considerations. A credible certification program should be designed to evaluate the integrity of the producer's claim and the authenticity of product origin. In order to provide the necessary information to the final consumer, there are two essential components of any certification scheme; forest management certification and product certification. Product certification includes a process, also known as "chain of custody" certification, which tracks timber from forest to final consumer through various production phases of the supply chain such as transportation, storage, processing, and distribution.

Since its inception nearly 20 years ago, environmental certification has become an important issue in the wood products industry. Consumers, corporate shareholders, local communities, and other stakeholders increasingly demand assurances that the production of goods conforms to minimum standards of social and environmental responsibility. Consumers and business customers in the wood supply chain often express their concerns about the ethical behavior of companies by means of ethical buying and consumer behavior. Forest certification is intended to give these and other stakeholders a credible guarantee that the product they purchase comes from "environmentally friendly" sources.

This presentation will include a brief discussion of certification, some theoretical frameworks that have guided research in various settings, certification research design and methodologies, and examples of studies conducted by the author.

Keywords: certification, research, methodology, forest products, forest management

Richard Vlosky is Director of the Louisiana Forest Products Development Center and Crosby Land and Resources Endowed Professor in Forest Sector Business Development at the Louisiana State University Agricultural Center in Baton Rouge.

He received his Ph.D. in Wood Products Marketing at Penn State University, an M.S. in International Forest Products Trade from the University of Washington and a B.S. in Natural Resources and Forest Management from Colorado State University.

His areas of research and consulting include: biofuels/bioprocessing & bioenergy, domestic and international forest products marketing and business development, certification & green marketing, eBusiness and eCommerce.

He has authored or co-authored over 135 refereed publications, 13 book chapters and 3 books.

Dr. Vlosky has made over 350 presentations on a variety of topics in the U.S. and 25 countries.

Dr. Vlosky previously was: Vice President Sales and Marketing, Optical Data Systems, Inc., Vancouver , B.C.; General Manager, Bar Tech International Coding Systems, Inc., Vancouver , B.C.; Product Line Marketing and Planning Manager, Plum Creek Timber Co, Seattle , WA . and; Database Manager, Center for International Trade in Forest Products (CINTRAFOR) at the University of Washington , Seattle , WA.

Dr. Vlosky is Sector Leader-Wood Products for the Louisiana Institute for Biofuels and Bioprocessing (LIBBi), and member of the Board of Directors for the Louisiana Forestry Association. Internationally, he is Immediate Past-Team Leader for the Team of Specialists for Sustainable Forest Products-United Nations Economic Commission for Europe/FAO in Geneva and United States representative for the International Union of Forest Research Organizations (IUFRO) Research Group on Forest Products Marketing and Business Development.

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Session 1: 13:50-14:35

Florian Kraxner

DI, Deputy Program Leader

Ecosystems Services and Management (ESM) Program, International Institute for Applied Systems Analysis (IIASA), AUSTRIA

Global forest management certification – Thoughts about its future

Florian KRAXNER[1*], Anders Lunnan[2], Kentaro AOKI[1,3], Sabine FUSS[1], Franziska ALBRECHT[1], Jue YANG[4], Yoshiki YAMAGATA[4], Toshiaki OWARI[5]

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By 2013 about 10% of the global forest area has been certified by one of the major schemes. During the past 2 decades, forest management certification developed from a pure marketing tool towards an instrument that might help fighting illegal logging and hence contribute to REDD activities. Moreover, forest certification serves meanwhile as a template for a couple of other certification efforts for commodities such as sustainable biofuels or palm oil. However, the increase of certification slowed from exponential to linear growth during the past decade and from a global point of view we find a rather uneven split of the total certified area. In contrast to the original idea of forest certification, the majority of certified forest area did not develop in the tropics or the southern part of the hemisphere. Only 10% of the globally certified forest area can be found in the southern hemisphere and 90% is located on the northern half of the globe. This article aims at providing a detailed spatiotemporal overview of the development of forest certification and chain of custody certification. GIS methodology is used to analyse and visualize original as well as meta data from the certification schemes over the past 2 decades in order to identify drivers of certification and derive an outlook on a potential future development including the assessment of the potential of forest certification to contribute to avoiding deforestation. First results indicate that key parameters for the future development are seen in the governance of i.e. tropical countries as well as in supporting activities such as the European FLEGT initiative or on the legislative side the LACEY Act of the US. On the other hand, the consumers in developed and especially in the BRICS countries will have a strong influence on the future success and growth rate of forest certification.

Keywords: forest management certification, chain of custody certification, spatiotemporal analysis, GIS, global data analysis;

Florian Kraxner has been Deputy Program Leader of IIASA's Ecosystems Services and Management (ESM) Program since 2011, following a period as Acting Deputy Leader of the former Forestry Program (FOR) since July 2009. He was appointed IIASA's official representative to the International Environmental Science Initiative SCOPE and IIASA Coordinator of the UK Policy-Science Activity FORESIGHT in 2009. Mr. Kraxner has been coordinator of IIASA's EU Projects INSEA for Carbon Sequestration Potentials, GEO-BENE for Benefits through Global Earth Observation and CC-TAME for Climate Change & Terrestrial Adaptation & Mitigation in Europe.

Since 2006 he has also been a visiting researcher at the National Institute for Environmental Studies (NIES) in Japan, where he is working on integrated biomass for bioenergy projects in various Japanese Eco-Model Cities.

Mr. Kraxner joined IIASA in 2001 as participant of the YSSP program and re-joined in 2004 to work on modeling in land-use and land-use change and forestry.

He graduated in forestry with a specialization in mountain risk engineering and watershed management from BOKU-University in Vienna, where he was employed from 2000 to 2004 as coordinator for the international master courses as well as being responsible for the development of higher education courses in the Forestry and Natural Resources Management Sectors.

As a university lecturer at various international universities, Mr. Kraxner has gathered unique skills in teaching subjects linked to socio-economics in forestry, forest policy, bioenergy and forest fires. Since 2000 he has further been working in the fields of forest products certification and public opinion on the forest sector inter alia for the EFI Project Centre Innoforce, as well as for the Ministerial Conference on the Protection of Forests in Europe (MCPFE/Forest Europe) and as a consultant for FAO and UNECE. His research activities comprise socio-economics in forestry, forest policy, REDD+, bioenergy, and BECCS. He is author of over 50 peer-reviewed and popular press articles and book chapters.

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Session 2 15:00-15:30

Toshiaki Owari

Associate Professor
The University of Tokyo, JAPAN

Forest certification in marketing: A review

Forest certification has emerged since the early 1990s as a market-based instrument for promoting sustainable forest management. It ensures that forests are managed in accordance with a set of standards considered environmentally appropriate, socially beneficial, and economically viable. According to the UNECE/FAO Forest Products Annual Market Review 2011-2012, the area of certified forests worldwide totaled 385.5 million ha or 9.6% of the world's forests. The potential supply of certified forest products has grown proportionally with the area certified; in 2012, it was estimated at 468.6 million m^3 or 26.5% of global roundwood supply, although only a part is actually traded as certified forest products throughout the wood-processing chain. Products originating from certified forests can be verified through a 'chain of custody' system that provides the ability to track them from the forest to the final product. The number of chain of custody certificate holders has been steadily increasing, and nearly 32 thousand certificates had been issued worldwide as of May 2012.

An increasing number of studies have examined forest certification since the mid-1990s. Related articles published in international scholarly journals come to more than 200, of which a considerable number were contributed by forest products marketing researchers. Several authors have provided literature reviews on the schemes and costs/benefits of forest certification. In this presentation, I aim to further synthesize the accumulated knowledge concerning forest certification and certified forest products within the forest products marketing arena. To identify relevant journal papers I conducted electronic searches with digital databases, including Web of Science, Science Direct, SpringerLink, and Google Scholar. I also collected literature by using lists of references in related articles.

Certification research was initially published in late 1990s in North America and Europe, and subsequently surveyed in Latin America, Asia and Africa. In forest products marketing, certification studies can be broadly divided into two categories; suppliers' perspectives and customers' perspectives. Suppliers of certified forest products include landowners, primary and value-added wood producers, merchants, etc.. Most studies have examined prevailing experiences and perceptions of suppliers, including adoption levels and costs/benefits of forest certification. Customers of cer-

tified forest products can be further divided into two groups; business customers (architects, builders, retailers, etc.) and final consumers. In North America, ‘improving company image’ was the most important reason for retailers to buy/sell certified forest products. “Willingness-to-pay premiums” for certified forest products have been a major research topic from the perspective of final consumers, and the methods used are contingent valuation and conjoint analyses. Actual consumer behavior was measured in the United States through an experimental approach. Some researchers identified a consumer segment with environmental preference.

Keywords: certified forest products, forest certification, forest products marketing, literature review

Dr. Toshiaki Owari graduated from Hokkaido University in 1993 and earned his PhD in forest science at the University of Tokyo in 2000. He was Instructor/Assistant Professor of forest management and engineering at Hokkaido University between 1997–2006. During 2003–2004, he was at the University of Helsinki, Finland, to study forest products marketing and forest certification. He published a paper entitled “Strategies, functions and benefits of forest certification in wood products marketing: perspectives of Finnish suppliers” in 2006, which was selected four times as Elsevier Top 25 Hottest Articles of the journal *Forest Policy and Economics*. He became Lecturer at the University of Tokyo in June 2006 and was appointed as Associate Professor in September 2012. He is currently Assistant Director at the University of Tokyo Hokkaido Forest, Visiting Associate Professor at the Institute of Statistical Mathematics, Editorial Board of the Journal of Tropical Forestry and Environment, and Deputy Coordinator of IUFRO Unit 5.10.00 (Forest products marketing and business management).

[Selected publications]

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12. Owari, T. (2004) Marketing environment of structural lumber in Japan. Scandinavian Forest Economics, 40: 319-328

Session 2 15:30-16:00

Takuya Takahashi

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Who are the winners and losers in forest certification? Diffusion of forest certification in Japan and around the world

Nearly thirty years after the launch of the Forest Stewardship Council (FSC) in 1993, the trend of forest certification has become increasingly popular around the world. However, the diffusion pattern of forest certification observed so far is uneven at the global and country levels. Almost 10% of the world's forests are certified under one of the major forest certification schemes, and 26.5% of industrial wood in the world is supplied by certified forests. While the target was originally tropical forests, in practice, forest certification is more common in temperate and boreal forests; while a half of certified forests are located in North America and a quarter in the European Union/ European Free Trade Association (EU/EFTA) countries, only 2% of tropical forests are certified. I would like to argue that this uneven pattern is an indication of the beneficiaries of forest certification to date. In this presentation, I analyze the diffusion patterns of forest certification from three different perspectives, namely, a country level analysis for Japan and Canada, a global level analysis, and a theoretical analysis.

The first study I review (Takahashi, 2011) investigated the diffusion patterns of two forest certifications, namely that of the FSC, which is a major international forest certification scheme, and that of the Sustainable Green Ecosystem Council (SGEC), a domestic certification scheme created in Japan. The diffusion rates of both certifications were examined for 47 Japanese prefectures. Accidental factors such as the existence of leaders, the formation of networks comprised of key persons, and accumulation of relevant knowledge, were found to be important. Certification diffusion rates were positively correlated with timber production levels/forest management activities, even though the relationship was weak. The diffusion rates for the SGEC certification were found to exhibit a weak positive correlation with the export ratios of sawn timber to other prefectures. Traditionally successful forestry regions showed resistance against forest certification.

The second study (Takahashi, van Kooten and Vertinsky, 2003) examined the diffusion patterns of forest certification among forest

products companies in Canada. A questionnaire survey was conducted in order to understand to what extent forest products companies were willing to pursue forest certification. The following factors were found to be associated with the levels of involvement in forest certification by forest products companies: dependency on export to foreign markets (positive relationship), secure long-term holding or access to forest resource (positive relationship), scale of firms (positive relationship), and characteristics of local communities (the more populated, the more aggressive).

The third study (van Kooten, Nelson and Vertinsky, 2005) analyzed the types of countries that pursued forest certification most actively at the time. Potential relationships between certification rates and socioeconomic variables for each country were reviewed. Economic variables such as dependency on export of forest products to foreign markets, as well as social variables such as literacy rates and social status of women, were identified as factors correlated with certified forest areas.

The above-mentioned studies provide several indications about who benefits from the forest certification movement. First, export-oriented producers pursue forest certification. Second, producers with capabilities or networks enabling sustainable forest management, or the demonstration of the same, pursue forest certification aggressively. These types of producers are expected to pursue forest certification as they are encouraged by economic incentives. In terms of economics, forest certification creates “economic rent” that accrues to producers with certain conditions. In other words, they are the apparent “winners” in forest certification. This leads to the question: who are the “losers?” The typical losers appear to be domestically oriented producers who do not have the capability to practice or demonstrate sustainable forest management. However, such a deduction may be misleading because the consumers and the environment are missing in the above discussion. In my presentation, I will utilize certain theories to answer this conundrum.

Keywords: forest certification, diffusion, price premium

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Professor Takahashi is Associate Professor at the School of Environmental Science of The University of Shiga Prefecture located in Hikone City in Japan. He obtained his Ph.D. in Resource Management and Environmental Studies from the University of British Columbia, Canada. He graduated from Kyoto University with a Bachelor of Agriculture degree. His research interests involve forest policy and planning and corporate environmentalism. He currently serves as a member of the editorial boards of the following academic journals: *Journal of Forest Research*, *Journal of Water and Environmental Issues*, and *Corporate Social Responsibility and Environmental Management*.

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Session 2 16:00-16:30

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Forest certification, traceability, and "green" housing : Achievements of Yusuhara Forest Owners' Cooperative

Majority of the forest in Japan is in private hands, and small-scale as well as dispersed ownership pattern is the distinguished feature of private forestlands. The role of forest owners' cooperative has been very important under such situation. There are about 700 forest owners' cooperatives all around the country and over 1.5 million households are joining as a member of the cooperative in the area on which their forest located.

Yusuhara Forest Owners' Cooperative (YFOC) is one of 25 cooperatives in Kochi Prefecture. Yusuhara Town is located in the middle of Shikoku Mountain Range with about 3,800 people. Annual precipitation reaches to 2,600mm and geographic and climate conditions are suitable for forest growth. This leads to 21,511ha or 91.0% of total land area of the town as dense forest. About 83.8% of the forest is privately owned and most of the forest owners or their family members belong to the YFOC.

YFOC received its forest management certification from the Forest Stewardship Council (FSC) in 2000. YFOC is recognized as the resource manager of its members' forests, and they were the first organization to gain such certification in Japan. They were re-certified in 2005 and 2010 successfully. The area of FSC certified forest was 2,249 within that 1,206ha belonged to 94 private owners at the beginning i.e. in 2000, but with the continuous efforts of adding the certified forestland, the area of private forest in FSC pool became 13,547ha with 1,589 owners in 2011.

A positive effect of FSC came soon. It was in the social aspect in and out of YFOC. Newspapers, business magazines and even local TVs came to Yusuhara and reported this outstanding accomplishment of being certified by FSC. It was new in Japan and it was astonishing in such a small remote town. Employees of YFOC, especially forest workers, changed their view of forestry. Most of them used to think that forestry is a 3K job; Kitsui, Kitanai, and Kiken; which meant physically hard, dirty and dangerous kind of work. However, after having certified they became proud of their job, because YFOC was recognized as one of the world renowned environmentally sound forest managing organizations. They were strongly mo-

tivated. Forest management practices with environmentally sound manner has been improving year by year since then.

Positive effects in economic aspect came slowly but steadily. YFOC runs a sawmill and has been producing construction poles, beams, boards and other materials for housing since 1995. The main objective of the sawmill was to purchase and process members' logs for facilitating timber production in the town. Majority of the sawmill products were sold to either timber auction market or wholesalers. However, within a few years after YFOC got FSC certification, house builders in urban areas, such as Kochi City and Osaka City, asked them to provide certified timber, and the number of such builders increased gradually.

Most of such house builders were dealing with eco-oriented healthy wooden houses. Interviews with several such builders in Kochi and Osaka by the author clarified that major reasons why those builders requested FSC timber directly from YFOC were 1) traceability of timber distribution, 2) environmentally sound products, and 3) price advantage by skipping intermediate distribution channels.

Sales of the YFOC sawmill increased as the portion of direct deal with urban house builders expanded. In 1999, 41% of their products went to wholesalers and 37% to timber auction market, on the contrary, only 17% went to local house builders. However, in 2006, 71% of their products shipped to house builders, mostly to urban areas, and the portion of wholesalers and auction market were 14% and 10% respectively. Because the average selling price of timber was higher in case of shipping directly to house builders, total sales and profit of YFOC sawmill increased. The situation has been continuing from then on, and YFOC expanded their sawmill capacity, especially drying and molding facilities, in recent years.

This kind of positive effect is different from price premier of certified timber products. It is unexpected, but might be a happy miscalculation for YFOC. "Green" housing is the key to this event. Healthy housing without having sick house syndrome is one origin of this movement, and traceability of wood materials with mental satisfaction of using environmentally sound natural resources is the other origin. The example of YFOC suggests us that forest certification has an enough potential to be a tool for facilitating eco-oriented movements such as "green" housing in Japan and other countries as well.

Keywords: Eco-oriented house builder, environmentally sound forest management, Forest Stewardship Council, group certification, timber distribution channel

Dr. Ikuo Ota is a professor of the Department of Forest Resources at Ehime University since 2012. He was grown up at Kyoto and Shiga prefectures in his youth, and graduated from Hokkaido University with majoring physics in 1984. After getting Ms degree in Biomedical Engineering at Hokkaido University, he joined Matsushita Electric Co. Ltd. between 1986.and 1989. He went to the USA for studying forestry, and got Ms in forest resources at Oregon State University in 1992. He continued to study forest policy and economics at Kyoto University as an assistant professor and accomplished his Ph.D. in 1999. He moved to Ehime University as an associate professor in 2004 and has been teaching and researching international forest policy and related subjects. As a faculty in charge of university forest, he also teaches how to prune trees and how to harvest timber by chainsaw as well as ordinary lectures and seminars in classes.

Professor Ota is active in IUFRO since 1990s. He co-chaired the research groups of "small-scale forestry (3.08.00)" and "forestry and rural development in industrialized countries (6.11.02)" for ten years, and is a constant participant of the group of "forest law and environmental legislation (9.06.00)." His major field of study is state owned forest management in developed and developing countries, history of forest policy and management in the USA, Japan and some other countries, activities of forest owners' cooperatives, and forest certification issues in Japan. He has won the Japanese Forest Society Award in 2002.

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