

**PUBLIC LECTURES, MARCH 10, 2012**

**Preservation of Cultural Heritage by Science and Technology: Experience from the 3.11 Earthquake and Tsunami and Flood in Florence**

This was a program of lectures held by CNEAS, with support from the Istituto Italiano di Cultura-Tokyo, at the Sendai Chamber of Commerce and Industry on 10 March 2012. The event was held in conjunction with "Spirit of Tohoku University," Tohoku University's one-year anniversary commemoration of the Great East Japan Earthquake, inviting overseas researchers connected with the university for a program dedicated to recovery from the disaster.

Many historic buildings and cultural properties were lost in the tsunami at the time of the March 2011 Earthquake and great effort has been invested in their salvage and restoration. Like Japan, Italy is a nation of volcanic eruptions and earthquakes and is known for its active research for the preservation of cultural treasures from natural disasters. Following the tremendous

damage resulting from the flooding of the Arno River in 1966, Florence has become a city with a great accumulation of experience in the preservation of cultural treasures. For these lectures, associate professor Massimiliano Pieraccini, of the University of Florence, with which Tohoku University has an academic exchange agreement, was invited to speak. He presented specific examples of ways science and technology have been mobilized for the preservation of cultural treasures. After introducing his research conducted at the University of Florence relating to preservation of cultural artifacts that began following 1966 flooding in Florence, he spoke about the case, in which he himself was involved, of using radar to explore the theory that another painting was hidden beneath a work Battle of Anghiari by Leonardo da Vinci.

Kaori Fukunaga of the National Institute of Information and Communications Technology (NICT) talked about the study and repair of early Renaissance paintings at the Uffizi Gallery in Florence using terahertz waves that are midway between the wavelength of electronic waves and light. Motoyuki Sato introduced the electronic

wave technology being used at CNEAS for archaeological site preservation and in protection against fires and disaster mitigation. Akihiro Kaneda and Yosei Kozuma of the Nara National Research Institute for Cultural Properties reported on cases of the application of technology for preservation of cultural properties in Japan.



**From the Director**

Seventeen years have now passed since the founding of CNEAS. In October 1981, I took two years off from university to study in Ulaanbaatar, in what was then called the Mongolian People's Republic. What I witnessed there was the different world of the Soviet socialist system from ours and the Mongolian people at that time were full of confidence in the future of socialism. Then in June 1989, while I was studying in Beijing, I was a witness to the Tiananmen Square Incident. That incident, it seems to me, which coincided with the visit to China of Soviet leader Mikhail S. Gorbachev, was symbolic of the history that would follow. The tragedy at Tiananmen Square may have been one of the labor pains from which Northeast Asia was born.

The spasms kept up after that for quite some time. When I visited Mongolia in the summer of 1993, socialism had become a ruin. Mongolia after its recovery quickly established deepened relations with Japan and is now one of the most pro-Japan countries in the world. Japan's relations with Russia as well have been gradually improving.



**SYMPOSIUM, FEBRUARY 23, 2013**

**Folk Performing Arts and Festivals in Local Reconstruction: The Impact of the Great East Japan Earthquake Disaster on Intangible Folk Cultural Assets**

The CNEAS 2012 fiscal year Symposium, co-sponsored by Tohoku Gakuin University and the Tohoku University Faculty of Letters with support from the Yomiuri Shinbun and the Kahoku Shinpo newspapers, was held at Tohoku University's Sakura Hall on the Katahira campus in Sendai. Based on a survey of intangible cultural assets affected by the March 2011 disaster, it discussed local recovery efforts from the viewpoint of folk performing arts and festivals.

The results reported at the symposium, drawn from a Miyagi-prefecture commissioned project, "Survey of Intangible Folk Cultural Assets Affected by the Great East Japan Earthquake," included the influence of the disaster on festivals, kagura shrine dances, and annual events in the communities in the disaster zone, as well as the cur-

rent state of their recovery.

Session 1 of the symposium opened with an explanation of the purpose of the symposium and report of the survey by Professor Hiroki Takakura. This was followed by reports on the affected folk cultures and recovery efforts by researchers in charge of different regional areas: Professor Hiroki Okada (Kobe University) from the viewpoint of



cultural anthropology; Professor Toshiaki Kimura (Tohoku University) from the viewpoint of religious studies; Professor Akira Kikuchi (Kyoto University) from the viewpoint of folklore studies; Ai Numata (Tohoku Gakuin University) from the viewpoint of students, and Ryusuke Kotani (Miyagi prefecture) from the viewpoint of local government administration.

In Session 2, which was moderated by Tohoku Gakuin University professor Nobuhiro Masaoka, discussion followed comments offered by Kensaku Kikuchi (Agency for Cultural Affairs, currently in charge of folk culture administration), Saburo Saito (Miyagi Prefecture, Yamamoto-cho Board of Education), and Masaki Numakura (in charge of the music at the Hakusan shrine on Oshika peninsula, Miyagi prefecture). The discussions lively exchanged among the researchers, the local administration, and the local representative. The symposium drew considerable public interest and was attended by an audience of more than 160. The exhibits set up at the symposium venue, explaining the survey process and showing the areas surveyed by each research team, drew the interest of many who attended.

**People**

**Division of Russian and Siberian Studies  
TERAYAMA Kyosuke**

Professor  
*Soviet-Russian history, Japanese-Russo/Soviet relations*  
In order to gain an in-depth understanding of the development of Stalin's regime, I study and investigate Soviet border areas (the Far East, Mongolia, Sinkiang, Finland and Poland) in the interwar period (1918-1939), especially from the point of view of mobilization of human and natural resources, so as to prepare for prospective future war against the Japan. I am also engaged in research on censorship policy in the former Soviet Union.

**TAKAKURA Hiroki**  
Professor  
*Social anthropology, Siberian and Arctic studies, disaster studies*  
My research in progress concerns

the cultural adaptation of Siberian local communities to climate change, focusing on indigenous knowledge of the river ice ecology. Another topic is related to applied visual anthropology and exhibition, bridging people at home with people at field sites. After the 3.11 Tohoku Earthquake, I began documentation projects on the intangible cultural heritage of local communities based on applied disaster anthropology.

**SHIOTANI Masachika**  
Assistant Professor  
*Russian economic history, modern Russian economy*  
During the nineteenth century, Russia imported steam engine technology and applied it to industry and the transportation system, including steam locomotives and steamships. I am investigating how steam engine technology transformed trade between Russia and Asia. I am also interested in con-

temporary business practices in Russia.

**Division of Mongolian and Central Asian Studies  
KURIBAYASHI Hitoshi**

Professor  
*Philological studies of Mongolian, comparative studies of Mongolian*  
In the eighteenth century, during the Qing dynasty, massive polyglot Manchu dictionaries were compiled one after the other. My research investigates the characteristics of Mongolian words and phrases included in such dictionaries as Wuti Qingwenjian [Pentaglot Mirror of Qing Languages].

**OKA Hiroki**  
Professor  
*Mongolian history, Asian history*  
My research explores the social and administrative structures established in Mongolia during the Qing dynasty (seventeenth to early twen-

The Mongolia to which I traveled for study seemed very far away thirty years ago. But today, we can visit both Mongolia and China without visas to have discussion with our research collaborators there. I couldn't help thinking of the difference from the distance I had felt two or three decades before.

Northeast Asia's cultural diversity will never fade, no matter how accessible the region becomes — the stylish European-style townscapes of Siberia, the nomadic lifestyle of the peoples of the Mongolian steppes, the bustle of China's great metropolises, the Chinese farmers who live as if an integral part of the land. In places where such diverse cultures meet, friction is bound to occur, but diversity is essence of this region; Northeast Asia is emerging not into homogeneity but as based on diversity, and that is the event that takes place and we are seeing. Today we enjoy an environment in which we can consider the problems that arise from that diversity together with local researchers and residents of various parts of the region. This is a truly exciting and momentous development.

**Professor OKA Hiroki**

tieth centuries). The recent focus of my work is on re-examining the historiography of Mongolian scholars in and after the socialist era and also on Qing dynasty policy on Mongolia in the seventeenth century.

**YANAGIDA Kenji**  
Associate Professor  
*Russian linguistics, sociolinguistics*  
New language varieties may appear due to use of multiple languages and language contact. I am engaged in observation of the changes taking place in the Russian language in this region, along with its decreased status in the multilingual society of Central Asia.

**Division of Chinese Studies  
ASUKA Jusen**  
Professor  
*Environmental and energy policy, international cooperation*  
Design of institutional arrange-

ments in Japan and other countries for tackling climate change is the focus of my research. This work is intended to produce research that will directly contribute to specific policy proposals or policy formulation based on quantitative discussion.

#### ISOBE Akira

Professor  
*Chinese literature, East Asian publishing culture*  
The aim of my research is to portray the reality of the court theater of the Qing period and its influence on Chinese and other cultures in Asia. I also seek to show how, in the course of its formative process, Chinese court theater was incorporated into local theater.

#### SEGAWA Masahisa

Professor  
*Cultural anthropology, South China study*  
My recent research topics are: (i) the process through which Chinese lineages (zongzu) have been restored and how they have changed with the advent of the twenty-first century; (ii) changes in the academic, as well as popular discourse concerning Hakka Chinese; (iii) recorded genealogies of the She, Yao, Lee and other Chinese minorities, and their ethnic identity.

#### UENO Toshihiro

Associate Professor  
*Modern Chinese history, Chinese ethnology*

My research mainly focuses on the Chinese frontier area inhabited by various non-Han ethnic groups, and on the historical process of the area's integration into mainland China (the Han-Chinese area) and reorganization in the early and mid-twentieth century toward the multiethnic state. By studying related documents that are increasingly being made available, I aim to clarify the historical background of ethnic problems in modern China.

#### Division of Japanese and Korean Studies ISHII Atsushi

Associate Professor  
*International relations, science and technology studies*  
My current research focuses on whaling politics, science and technology studies, and the social and political aspects of carbon capture and storage. I am also participating in a large research project on international fisheries governance focusing on explaining state behavior and negotiation outcomes, regime effectiveness, and institutional interaction.

#### Division of Regional Ecosystem Studies CHIBA Satoshi

Professor  
*Ecology and evolution, conservation biology*  
The research in my laboratory is focused on understanding the mechanisms that regulate biolog-

ical diversity on various spatial and temporal scales. I use insect, amphibian, crustacean, land and marine mollusk, and trematode parasite, and other organism model systems to clarify the evolutionary origins of biological diversity in Northeastern Asia.

#### SHIKANO Shuichi

Associate Professor  
*Microbial ecology, system ecology*  
Molecular phylogenetic analysis of the composition and changes of microorganism communities in lakes, wetlands, and other aquatic ecosystems is the main subject of my research. I also analyze the structure of the food web supporting higher consumers in the lakes and wetlands of western Siberia.

#### Division of Geochemistry ISHIWATARI Akira

Professor  
*Geology, petrology*  
My research on geochemical cycles and the dynamics of solid Earth (earthquakes, volcanoes, plate tectonics, etc.) focuses on rock obtained from drilling into the ocean floor as well as on ophiolites, which are remnants of the ancient oceanic crust uplifted to land by orogenic processes.

#### HIRANO Naoto

Associate Professor  
*Petrology and volcanology, tectonics*  
“Petit-spot” volcanoes — unknown volcanoes until recently — can be found throughout the Far East-

ern region and on the sea floor of the Pacific Ocean. Little is known about how they were formed. My research focuses on the relationship between the origin of these volcanoes and plate-tectonic movements.

#### GOTO Akio

Assistant Professor  
*Physical volcanology, physical properties of magma*  
Volcanic eruptions differ greatly from one volcano to another, and their controlling factors are not clearly known. To clarify these factors, I measure the physical properties of magma, conduct experimental simulations of volcanic eruptions, and observe actual eruptions.

#### MIYAMOTO Tsuyoshi

Assistant Professor  
*Geology of volcanoes, petrology of volcanic rocks*  
The history of the volcanic eruptions of Mt. Paektu on the China-North Korea border has been the subject of my research for several years. My particular interest is in the relationship between volcanic eruptions and historical events.

#### Division of Environmental Information Science KUDOH Jun-ichi

Professor  
*Environmental informatics, digital image recognition*  
Research at the Kudoh Laboratory focuses on solutions for the environmental problems of Far East-

ern Russia and Siberia using data obtained by satellite. We have been cooperating internationally with the Russian Academy of Sciences in research on forest fire problems, which are closely related to carbon dioxide emissions, and in development of visualization methods for air pollution and Asian dust.

#### Division of Geoscience and Remote Sensing SATO Motoyuki

Professor  
*Ground Penetrating Radar (GPR), microwave remote sensing*  
By applying electromagnetic waves to measurement-making, I developed the advanced landmine imaging system (ALIS) for use in humanitarian demining projects. In tests performed in the minefields of Cambodia, ALIS detected more than 80 mines since 2009 and we have shown its high performance. I am also developing microwave remote sensing methodologies using GPR, space-borne, airborne, and ground-based Polarimetric Synthetic Aperture Radar (Pol-SAR) for environmental observations, as well as for detection, mitigation, and prevention of natural disasters.

#### TAKAHASHI Kazunori

Assistant Professor  
*Ground penetrating radar (GPR)*  
Observing subsurface conditions is an important task in dealing with many environmental issues. My research seeks to develop and provide tools to probe the sub-

face in a non-destructive manner by means of electromagnetic methods. My current interest is the use of GPR in the identification of soil properties.

#### KOYAMA Christian Naohide

Research Fellow  
*Radar remote sensing*  
My major focus of research interest is earth observation and quantitative geophysical parameter estimation by means of polarimetric synthetic aperture radar (PolSAR). Currently, I am participating in a NICT project on the development of ground-based sensors for the non-destructive inspection of damaged buildings.

#### LIU Hai

Research Fellow  
*Non-destructive testing*  
My research topic is imaging and quantitative characterization of subsurface targets and structures using electromagnetic waves. Applications include utility detection, archaeological investigation, disaster mitigation, etc.

#### Department of the Uehiro Tohoku Historical Materials Research

#### ARATAKE Kenichiro

Associate Professor  
*Japanese history*  
My main area of research is the economic history of Japan in the eighteenth and nineteenth centuries. This includes not only study of old documents (komonjo), but extensive fieldwork and interviews

across Japan to reconstruct a substantive image of early modern Japanese Society.

#### TAKAHASHI Yohichi

Assistant Professor  
*History of travel in early modern Japan*  
In early modern Japan (from the seventeenth through the nineteenth century), people of every class were able to travel everywhere, though movement was by foot, and might take several months. The purpose of my study is to clarify the historic characteristics of travel by analyzing old travel journals and diaries.

#### Department of Research Projects TAKIZAWA Katsuhiko

Research Fellow  
*Religious studies*  
My research explores the religious situation in present-day Mongolia, especially focusing on the influx of Evangelical Christianity following the collapse of the socialist system. I have attempted to illuminate the resilience and transformation of Mongolian society by analyzing this phenomenon as a historical consequence of the long-term religious repression during the socialist period.

#### INAZAWA Tsutomu

Research Fellow  
*Cultural anthropology, South China study*  
My recent research topic is on the ethnicity of the nomadic people

of South China. The focus of my research is on the ethnic categories that have been re-formed through the settlement policy of socialist era.

#### TATSUMI Yukiko

Research Fellow  
*Russian history, cultural history*  
Various kinds of periodicals appeared in the late-nineteenth century Russian empire. I explore the relationship between state and society by analyzing imperial policies on the media, periodicals, and their readership in those days.

#### Department of Research Coordination KIM Hyeon-Jeong

Assistant Professor  
*Comparative study of community governance in East Asia*  
The concept of community governance generally refers to community participation, social engagement, community membership, and decision-making in public matters. My areas of interest are in how community governance has been practiced and manifested, how residents get involved in community matters, and how the voluntary sector is formed and functions in community governance in Japan and South Korea.

## Publications

### CNEAS MONOGRAPH SERIES

Research results of CNEAS joint research projects and individual projects, irregular publication.

46. *Written Mongolian and Written Manchu Indices to the Dagur Vocabulary*, ed. Hitoshi Kuribayashi, 2012.
47. *Chinese Word-Index to the Secret History of the Mongols*, ed. Hitoshi Kuribayashi, 2012.
48. *Written Mongolian Index to the Baoan Vocabulary*, ed. Hitoshi Kuribayashi, 2012.
49. *The Report on the Culture of Court Theatre during the Qing Dynasty*, ed. Akira Isobe, 2012.



### CNEAS REPORT

A series for such purposes as timely reports from symposiums, cataloguing references, and promotion of exchange with national and

international researcher communities (since 2010)

3. *Passing on Our Historical Heritage to the Future*, eds. Arata Hirakawa and Daisuke Sato 2012.
4. *Reviving the Memory of the Streets of Old Sendai: The History of Toricho, Tsutsumi-machi, and the Kitayama area*, ed. Arata Hirakawa, 2012.
5. *2011 Fiscal Year Report of Documentation Project for "Investigation of the Damage to Folk Cultural Assets from the Great East Japan Earthquake and Tsunami"*, eds. Hiroki Takakura, Katsuhiko Takizawa and Nobuhiro Masaoka, 2012.
6. *Mengwen Daogang: Mongolian-Chinese-Manchu Trilingual Dictionary of 1851*, ed. Hitoshi Kuribayashi, 2012.
7. *Research Collaborations among Institutes: Proceeding of Symposium organized by the Section of Humanity and Social Sciences in the Director Council of University Research Institute and Center*, eds. Motoyuki Sato and Hiroki Takakura, 2012.



8. *Shamanism as a Physical Practice*, eds. Ryuta Kikuya and Katsuhiko Takizawa, 2013.

### CNEAS BOOKS

A new series published for the purpose of sharing the results of our research with general public, published by Tohoku University Press since 2011.

1. *Nomads of Siberia and Africa: Livelihoods with domestic animals in the Arctic and the Desert*, Hiroki Takakura and Toru Soga, 2011.
2. *Linkage of earth in Northeast Asia*, Akira Ishiwatari and Yukio Isozaki, 2011.
3. *Suspended Transportation and Isolated Region*, Makoto Okumura, Junko Fujiwara, Kyoko Ueda and Daisuke Kamiya, 2013.



### NORTHEAST ASIAN MONOGRAPH SERIES

This commercially published series presents scholarly monographs

in Northeast Asian regional studies aimed at specialists, general readers, and university students. By appealing to a readership not only in Northeast Asian studies but more broadly among scholars and the academic community in related fields, the series is intended to raise awareness in society about the potential of scholarship opened up by the field of Northeast Asian area studies.

1. *An Anthropological Study on the Images of Ethnic Group in Contemporary China*, ed. Masahisa Segawa, Kyoto: Showado, 2012.
2. *Arctic pastoralist Sakha: Ethnography of evolution and micro-adaptation in Siberia*, Hiroki Takakura, Kyoto: Showado, 2012.
3. *Religion in Contemporary China: A Ethnography of Belief and Societies*, eds. Yukihiro Kawaguchi and Masahisa Segawa, Kyoto: Showado, 2013.

