金沢大学
古代文明・文化資源学研究所
要覧 2022

Kanazawa University
Institute for the Study of Ancient Civilizations and Cultural Resources
Bulletin 2022

Contents

Greeting from the Director

The Institute for the Study of Ancient Civilizations and Cultural Resources of Kanazawa University was established on April 1 of this present year with the ambitious objective of becoming a world-leading research institute. It boasts a new interdisciplinary research style that combines Paleogenomics with Archaeology and Cultural Resource Studies, which by themselves are already the strength of Kanazawa University. It is also the first research institute in the history of Kanazawa University to be originated from the Institute of Human and Social Sciences and to involve the entire university.

Some research institutes and centers in Japan already study ancient civilizations. These institutes and centers, however, focus only on one specific ancient civilization that flourished in a specific area. In contrast, Kanazawa University decided that the best course of action would be for this institute to study ancient civilizations of all over the world. This is because we believe that having a global perspective that grasps social and cultural diversity is the most necessary and most important competence in our present society. In the Institute for the Study of Ancient Civilizations and Cultural Resources, world leading researchers who study ancient civilizations from all over the world will develop large-scale excavations in sites considered to be in the Center and in the Periphery of academic studies, including World Heritage Sites. Our aim is to elucidate the history of humankind and, at the same time, improve ourselves through friendly competition. We intend to use science, medicine and technology –Paleogenomics included— as a skewer that connects studies of all the ancient civilizations. In this way, the traditional notion that archaeology is only part of the humanities will be left behind and a true integration of the humanities and the sciences will be achieved. This will in turn give way to a new approach to the study of ancient civilizations.

More than two years have passed since the COVID-19 pandemic cast a gloomy shadow over the world. When the sanitary situation finally seemed to be improving, an atrocious war began in Ukraine. Nobody knows what may happen tomorrow; the world now finds itself confused with no prospects for a better future. Under these circumstances, what significance does the study of ancient civilizations have? Humanity has faced similar situations countless times in the past, and we must learn from those events. Environmental disruption, plagues, and wars caused by human beings have happened incessantly throughout the history of ancient civilizations. We who live in the present world have an obligation to learn from those ancient civilizations in order to build a better sustainable society for the future. The members of this institute will at all times conduct research knowing that their studies are inextricably linked to modern society.

Through its three divisions: Archeology, Archaeological Sciences, and Cultural Resource Studies, the Institute for the Study of Ancient Civilizations and Cultural Resources will endeavor to answer the three fundamental questions that Paul Gauguin left us: "Where do we come from? What are we? Where are we going?"

We thank you all in advance for supporting the activities of the Institute.

NAKAMURA, Seiichi
Director,
Institute for the Study of Ancient Civilizations and Cultural Resources






About us

【Background of the Establishment of the Institute for the Study of Ancient Civilizations and Cultural Resources】

For decades, the opportunity to study Archaeology and Cultural Resource Management has been one of the advantages of enrolling at Kanazawa University. Currently, Kanazawa University aims to establish a 'Next-Generation Archaeology,' emerging from the integration of arts and sciences with conventional archaeology. Accordingly, the Center for the Study of Ancient Civilizations and Cultural Resources was removed from the College of Human and Social Sciences in order to be integrated into a joint education and research institution at the University from 1 April 2022.

【Aims of the Institute】

1. The institute combines Archaeology and Cultural Resource Studies with the innovation of Paleogenomics. We aim to establish an international research institution for the study of ancient civilizations through the integration of the arts and the sciences.

2. The institute will create an international network for the survey, research, conservation, and maintenance of the integrity of the world's heritage. We intend to sustain the institute with contributions both from Japan and from other SDGs.

【Research Activity Plans of the Institute】

1. Working toward this objective, starting from 2022 the Institute will employ young or mid-career researchers. We plan to acquire and retain brilliant human resources.

2. Since 2022, the institute has been promoting international cooperation with well-known foreign universities and institutes. Moreover, we plan to create human resource training programs for young researchers.

3. The institute has made arrangements for substantial scientific research funding and will contribute with research papers to high-impact international academic journals.

4. Furthermore, researchers who belong to the institute will contribute to society by presenting their work in the various research programs.

Management organization

NAKAMURA Seiichi	Director, Institute for the Study of Ancient Civilizations and Cultural Resorces
ADACHI Takuro	Subdirector, Institute for the Study of Ancient Civilizations and Cultural Resorces

Institute Advisor

SEKI Yuji	Professor Emeritus, National Museum of Ethnology
TSUNEKI Akira	Professor Emeritus, University of Tsukuba

Research organization (as of August 1, 2022)

Archaeology section

Leader: ADACHI Takuro

[Full-time Staff]

ADACHI Takuro	(Professor, Institute for the Study of Ancient Civilizations and Cultural Resources)
FUJII Sumio	(Specially Appointed Professor, Institute for the Study of Ancient Civilizations and Cultural Resources)
UESUGI Akinori	(Specially Appointed Associate Professor, Institute for the Study of Ancient Civilizations and Cultural Resources)
KUME Shogo	(Specially Appointed Assistant Professor, Institute for the Study of Ancient Civilizations and Cultural Resources)

[Concurrent Staff]

KAWAI Nozomu	(Professor, Institute for Frontier Science Initiative)
ODAKA Takahiro	(Associate Professor, Institute of Liberal Arts and Science)

[Visiting Professor]

KOJIMA Yoshitaka	(Professor Emeritus, Kanazawa Gakuin University)
KOBAYASHI Masashi	(Professor, Hokuriku Gakuin University)
KOYANAGI Yoshiki	
QIN Xiaoli	(Professor, Institute for Archaeological Science, Fudan University)

[Visiting Associate Professer]

TOKUNAGA Risa	(Part-time Lecturer, Sophia University)

[Visiting Fellow]

TAKAHASHI Kazumitsu	(JSPS Research Fellow PD)
HIGO Tokihisa	(JSPS Research Fellow PD)
YAMAGUCHI Yuji	(Assistant Professor, Research Institute for the Dynamics of Civilizations, Okayama University)

YAMAFUJI Masatoshi	(Senior Researcher, Department of Imperial Palace Sites Investigations, Nara National Research Institute for Cultural Properties)
WADA Koichiro	(Kokusai Bunkazai Co., Ltd./Non-profit organization “The world of Cultural Heritage”)
GARCIA FERNANDEZ, Maria Gudelia	(Lecturer, Kagawa Univerisity)
JAMISON, Gregg M.	(Associate Professor, University of Wisconsin-Milwaukee at Waukesha)

Archaeological Sciences section

Leader: GAKUHARI Takashi

[Full-time Staff]

GAKUHARI Takashi	(Assistant Professor, Institute for the Study of Ancient Civilizations and Cultural Resources)
SASAKI Yuka	(Specially Appointed Associate Professor, Institute for the Study of Ancient Civilizations and Cultural Resources)

[Concurrent Staff]

SATO Takehiro	(Assistant Professor, Graduate School of Medical Sciences)

[Visiting Professor]

UCHIYAMA Junzo	(Researcher, Sainsbury Institute for the Study of Japanese Arts and Cultures)
KIKUCHI Hiroki	(Professor, Department of Archaeology and Museology, Lanzhou University)

[Visiting Associate Professer]

NAKAGOME Shigeki	(Assistant Professor, Trinity College Dublin)

[Visiting Fellow]

ABE Yoshinari	(Assistant Professor, Tokyo Denki University)
IIZUKA Yoshiyuki	(Senior Research Scientist, Institute of Earth Sciences, Academia Sinica (Taipei)/ Visiting Fellow, Fundamental Science of Civilizations Research Core, Research Institute for the Dynamics of Civilizations, Okayama University)
ISHIYA Koji	(Researcher, National Institute of Advanced Industrial Science and Technology)
ITAHASHI Yu	(Assistant Professor, University of Tsukuba)
KITAGAWA Chiori	(Ägyptologisches Seminar, Freie Universität Berlin, Mitglied)
SPEIDEL Leo	(University College London, Francis Crick Institute PD)
GOYAL, Pankaj	(Scientific Assistant, Deccan College Post-Graduate and Research Institute)

Cultural Resources section

Leader: TANIGAWA Ryuichi

[Full-time Staff]

NAKAMURA Seiichi (Professor, Institute for the Study of Ancient Civilizations and Cultural Resources)

[Concurrent Staff]

TANIGAWA Ryuichi (Associate Professer, Institute for Frontier Science Initiative)

[Visiting Professer]

YAMAGATA Mariko (Specially Appointed Professor, Rikkyo University)

[Visiting Associate Professer]

ISHIMURA Tomo (Head, Audio-Visual Documentation Section, Department of Intangible Cultural Heritage, Tokyo National Research Institute for Cultural Properties)

ICHIKAWA Akira (Postdoctral Associate, Department of Anthropology, University of Colorado Boulder / Colraborative Researcher, Research Center for Cultural Heritage and Texts, Nagoya University)

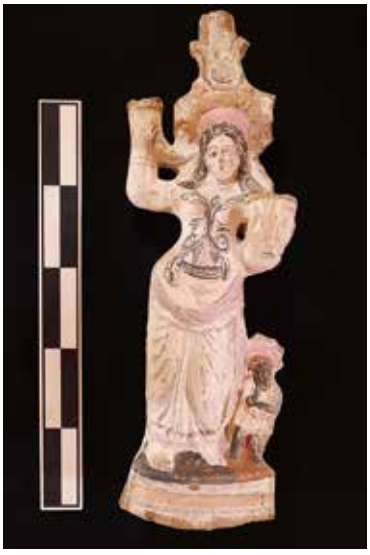
MURANO Masakage (Curator, The Museum of Kyoto)

[Visiting Fellow]

GOKITA Makiha (Visiting Researcher, Tokyo National Research Institute for Cultural Properties)

KOTEGAWA Hirokazu (National Autonomous University of Honduras)

NOGUCHI Atsushi (Part-time Lecturer, School of Cultural and Social Studies / Director, the Japanese Archaeological Association)



Research topics of full-time / concurrent staffs

【Archaeology section】

ADACHI Takuro

(Professor, Institute for the Study of Ancient Civilizations and Cultural Resources)

Specialty: Near Eastern Archaeology

＜Research Activities＞

My research topics relate to pastoral and transhumance nomads during the Neolithic period and the Iron Age in West Asia. I have been studying shell ornaments from the Neolithic period. My research objective is to clarify the down-the-line-exchange of shell ornaments during the Neolithic period in West Asia. I am also interested in determining the functions of the ceramic spoons of the Chalcolithic period. Although unearthed from settlement sites, they have been recently discovered in ritual sites from the desert area. Because I hypothesize that ceramic spoons were used for the dietary intake of baby foods, I aim to compare the Chalcolithic ceramic spoons of West Asia with the Prehistoric ceramic spoons of Europe. I am also studying bronze weapons. Although I am focused on studying bronze spear heads found in West Asia, I will conduct further research on bronze clubs. I am also studying the origin of Iranian pastoral nomads in the Iron Age. While I have been conducting typological research on Iron Age pottery in Iran, I will henceforth analyze the scientific research on prehistoric dairy products.

＜Recent publications＞

・Adachi, T. and S. Fujii (2022), "Chalcolithic Ceramic Spoons from Ḥarrat al-Juḥayra 1 and 2, Southern Jordan". *Studies in the History and Archaeology of Jordan XIV*, Amman: Department of Antiquities.

・Adachi, T. (2019.2), "A Chronological Division of the Iron Age III Period at the Tappe Jalaliye in Giran, Northern Iran". In: S. Nakamura, T. Adachi, and M. Abe (eds.), *Decades in Deserts: Essays on Near Eastern Archaeology in honour of Sumio Fujii*, pp.319-322, Rokuichi Shobo, Tokyo.

・Adachi, T. and S. Fujii (2018.4), "Shell Ornaments from the Bishri Cairn Fields: New Insights into the Middle Bronze Age Trade Network in Central Syria". *Proceedings of the 10th International Congress on the Archaeology of the Ancient Near East*, pp.239-246, Harrassowitz Verla.

・Adachi, T. and S. Fujii (2018.3), "Wadi Hedaja 1 and 2: A Chronological Assessment Based on Unearthed Artifacts". *al-Rafidan* 39: 55-69.

FUJII Sumio

(Specially appointed professor, Institute for the Study of Ancient Civilizations and Cultural Resources)

Specialty: Near Eastern Archaeology

＜Research Activities＞

Our research objective lies in tracking the formation process of tribal societies that consistently characterize the late prehistoric to modern Near East. Toward this goal, we have been conducting archaeological research in the three fields outside the Fertile Crescent: the al-Jafr Basin in southern Jordan (1995~), the Bishri mountain range in central Syria (2007~2011) and the Tabuk Plateau in northwestern Saudi Arabia (2007~).

The investigations have targeted the key five millennia spanning from the Pre-Pottery Neolithic B (when domestic sheep and goats were first introduced to the arid margin) to the Early Bronze Age (when full-fledged tribal society is supposed to have been established). The excavated sites total some forty, which range in content from an agro-pastoral outpost in the Pre-Pottery Neolithic B (Photo 1), through an open-air sanctuary in the Late Neolithic (Photo 2) and a farming and pasturing settlement in the Chalcolithic (Photo 3), to a small pasturing camp in the Early Bronze Age (Photo 4). The series of research outcomes has enabled us to outline the long sequence from the beginning of pastoral nomadism to the appearance of initial tribal society.

Huge urban sites such as Ur and Babylon are not the only cultural heritage in the ancient Near East; there still exist innumerable nomads' sites outside the Fertile Crescent. Although not always enjoyable, we would like to continue hard work in desert.

＜Recent publications＞

・Fujii, S. (2022), "Harrat Juhayra 202 and the Jordanian Badia Early PPNB: Fresh perspective on the PPNA/PPNB transition in the southern Levant". In: Nishiaki, Y. et al. (eds.), *Tracking the Neolithic in the Near East: Lithic Perspectives on its Origins, Development and Dispersals*, pp.341-356, Leiden: Sidestone Press.

・Fujii, S., al-Mansoor A. A., et al. (2021), "Excavations at Wadi Sharma 1: New insights into the Hijaz Neolithic, North-western Arabia". In: M. Luciani (ed.), *The Archaeology of the Arabian Peninsula 2: Connecting the Evidence*, pp. 15-42, Vienna: Austrian Academy of Sciences.

・Fujii, S. (2020), "Late Neolithic cultural landscape in the al-Jafr Basin, southern Jordan: A brief review in context". *Studies in Ancient Art and Civilization* 24:13-32.

・Fujii, S. (2020), "Pastoral nomadization in the Neolithic Near East: Review from the Viewpoint of social resilience". In: Y. Nara and T Inamura (eds.), *Resilience and Human History: Multidisciplinary Approaches and Challenges for a Sustainable Future*, pp. 65-83, Singapore: Springer.

UESUGI Akinori

(Specially appointed associate professor, Institute for the Study of Ancient Civilizations and Cultural Resources)

Specialty: South Asian Archaeology

＜Research Activities＞

I have been conducting archaeological research in different parts of South Asia, mainly in India and Pakistan, to better understand how the 'South Asian cultural sphere', characterized by cultural unity and diversity, made its shape in history. The time range of my research covers a long term between 4000 BCE and 1000 CE including the Chalcolithic, Bronze, Iron Ages, Early Historic and Early Medieval periods.

The Indus Civilization (2600 BCE – 1900 BCE), the earliest urban society in South Asia, the Ganga Civilization (1000 BCE – 600 CE), the Iron Age/Early Historic urbanization in North India, and the Iron Age culture in the Indian Peninsula are the focus of my ongoing projects. I am studying these historical entities in terms of the interregional interaction network that sustained the developments of those highly complex societies, using stylistic and technological approaches to their material culture. I am also running research projects in Bahrain to better understand the connections between South Asia and the Middle East.

Archaeological research in South Asia, encasing diverse ethnic groups and cultural traditions, can provide essential clues and insights to our understanding of ancient civilizations characterized by socio-cultural complexity and diversity.

＜Recent publications＞

・Uesugi, A. (2020), "Stone Beads from Taxila". *Ancient Pakistan* 30: 1-22.

・Uesugi, A., Ambily C.S., Ajit Kumar, Rajesh S.V. and Abhayan G.S. (2019), "A Study on the Ceramic Sequence in the Megalithic Culture of Kerala". *Man and Environment* 44(1): 21-32.

・Uesugi, A., Ambily C.S., Ajit Kumar, Abhayan G.S. and Rajesh S.V. (2019), "Stone Beads from Megalithic Burial at Niramakulam, Kerala". In: Rajesh S.V., Abhayan G.S., P. Nayar and E.R. Ilahi (eds.), *Human and Heritage: An Archaeological Spectrum of Asiatic Countries (Felicitation to Professor Ajit Kumar)*, pp. 1-22, New Bharatiya Book Corporation, Delhi.

・Uesugi, A. (2019), "A Note on the Interregional Interactions between the Indus Civilization and the Arabian Peninsula during the Third Millennium BCE". In: S. Nakamura, T. Adachi, and M. Abe (eds.), *Decades in Deserts: Essays on Near Eastern Archaeology in honour of Sumio Fujii*, pp.337-355, Rokuichi Shobo, Tokyo.

・Uesugi, A. (ed.) (2018), *Current Research on Indus Archaeology*. Research Group for South Asian Archaeology, Archaeological Research Institute, Kansai University, Osaka.

KUME Shogo

(Specially appointed assistant professor, Institute for the Study of Ancient Civilizations and Cultural Resources)

Specialty: Central Asian Archaeology

＜Research Activities＞

My research focuses on the emergence of agropastoralism in the mountainous and foothill zone of Kyrgyzstan and Uzbekistan. My current field projects include Mol Bulak, a nomadic campsite in the Tien Shan mountains in Kyrgyzstan and a large sedentary village of Dalverzin in the Fergana Valley in Uzbekistan, focusing on the transition to food producing economy in the 2nd Millennium BC in the regions from the viewpoints of environmental adaptation, cultural exchange, and human migration.

Before Central Asia, my fieldwork was based in the Near East, concentrated on the study of developments of agropastoralism during the 8th-7th Millennium BC at Tell Seker al-Aheimar in northeastern Syria and origins of tribal communities during the 3rd Millennium BC at Tell Ghanem al-'Ali in north Syria.

＜Recent publications＞

・Kume, Shogo (2021), "Scientific analysis of animal, plant and human remains from early agro-pastoral sites in eastern Central Asia". In: Kaoru Imamura (ed.), *Environmental adaptation and pastoralism*, Studies on Pastoral Society in Central Asia 3, pp. 1-3, Laboratory of Cultural Anthropology, Faculty of Contemporary Social Studies, Nagoya Gakuin University, Nagoya (in Japanese).

・Kume, Shogo (2021), "Dalverzin". In: Embassy of Uzbekistan in Japan (ed.), *Silk Road archaeological sites in Uzbekistan*, pp. 14-15, Embassy of Uzbekistan in Japan/Ministry of Tourism and Sports, Uzbekistan, Tokyo (in Japanese).

・Kume, Shogo (2021), "East is East, and West is West?: archaeology of cultural encounters between East and West in Eurasia". The Ancient Orient Museum (ed.), *ORIENTE* 63: 13-16 (in Japanese).

KAWAI Nozomu

(Professor, Institute for Frontier Science Initiative)

Specialty: Egyptology, Egyptian Archaeology

＜Research Activities＞

I am studying the New Kingdom of Ancient Egypt's history and culture from archaeological and documentary perspectives. Specifically, I am interested in the history and culture of the period from the reign of Tutankhamun after the Amarna Period of the 18th Dynasty of the New Kingdom to the reign of Ramesses II of the 19th Dynasty. I have participated in excavations of tombs from the New Kingdom at sites such as Thebes (present-day Luxor) and Saqqara. Recently, I have been conducting archaeological research on artifacts such as Tutankhamun's chariot as part of the JICA's (Japan International Cooperation Agency) Grand Egyptian Museum Joint Conservation Project with Egypt's Ministry of Tourism and Antiquities. Since 2016, I have been investigating the New Kingdom cemeteries at Saqqara, which has been under-explored compared to the New Kingdom Necropolis at Thebes, where research has been conducted energetically. In 2019, we discovered the first catacombs (underground mass burial tombs) from the Roman Period at Saqqara. Accordingly, we began studying the burial customs and funerary beliefs during the Roman Period in Egypt.

＜Recent publications＞

・Kawai, Nozomu (2021), "A newly discovered Roman catacomb at North Saqqara: Recent results and future prospects". In: Miroslav Bárta, Filip Coppens, Jaromír Krejčí (eds.), *Abusir and Saqqara in the year 2020*, pp. 331-346, Prague: Charles University, Faculty of Arts, Prague 2021.

・Kawai, Nozomu (2021), "Exploring the New Kingdom Tombs at North Saqqara: Preliminary results of the Archaeological Survey at North Saqqara. The 2016 and 2017 seasons". In: Miroslav Bárta, Filip Coppens, Jaromír Krejč (eds.), *Abusir and Saqqara in the year 2020*, pp. 245-262, Prague: Charles University, Faculty of Arts, Prague 2021.

・Kondo, Jiro and Nozomu Kawai (2021), "Japan" . In: Andrew Bednarski, Aidan Dodson, and Salima Ikram (eds.), *A History of World Egyptology*, pp. 439-447, Cambridge: Cambridge University Press.

・Kawai, Nozomu, Yasushi Okada, Takeshi Oishi, Masataka Kagesawa, Akiko Nishisaka, Hussein Kamal (2020), "The Ceremonial Canopied Chariot of Tutankhamun (JE61990 and JE60705): A Tentative Virtual Reconstruction". *CIPEG Journal: Ancient Egyptian & Sudanese Collections and Museums* 4:1-11.

ODAKA Takahiro

(Associate Professor, Institute of Liberal Arts and Science)

Specialty: Near Eastern Archaeology

＜Research Activities＞

Since 1996, I have participated in several archaeological field projects in Near Eastern countries such as Syria, Turkey, Azerbaijan, Jordan, Iran, Saudi Arabia, and currently, Iraqi Kurdistan. My research focuses on the process from early farming society to civilized urban society, which stimulated the formation of the ancient Near Eastern world.

Currently I am directing the Zagros Piedmont Prehistoric Project that includes excavations at Shakar Tepe and Shaikh Marif in the Shahrizor Plain, Iraqi Kurdistan, and studies of prehistoric materials collected from northern Iraqi sites. Particularly through ceramic studies, I am trying to identify the multilayered spatiotemporal framework between Neolithization and Urbanization by considering ecological environments, subsistence economy, and human mobility.

I hope that these activities provide a basis for comparative study of ancient civilizations all over the world by empirically tracing the formation process of the Mesopotamian Civilization, the oldest civilization emerged approximately 5000 years ago.

＜Recent publications＞

・Odaka, T., and O. Nieuwenhuyse (2022), “Halaf Pottery in the East End: Insights from Tell Begum, Iraqi Kurdistan”. *Orient* 57: 113-124.

・Odaka, T. (2021), “Neolithic Potsherds from Tell Hassuna: The Collection of the University Museum, the University of Tokyo”. In: R. Özbal, M. Erdalkıran, and Y. Tonoike (eds.), *Neolithic Pottery from the Near East: Production, Distribution and Use*, pp.169-179, Istanbul: Koç University Press.

・Odaka, T., O. Maeda, K. Shimogama, Y. S. Hayakawa, Y. Nishiaki, N. A. Mohammed and K. Rasheed (2020), “Late Neolithic in the Shahrizor Plain, Iraqi Kurdistan: New excavations at Shakar Tepe, 2019”. *Neo-Lithics* 20: 53-57.

・Odaka, T., O. Nieuwenhuyse, and S. Mühl (2019), “From the 7th to the 6th Millennium BC in Iraqi Kuridistan: A Local Ceramic Horizon in the Shahrizor Plai”. *Paléorient* 45(2): 67-83.

・Odaka, T. (2019), “Neolithic Potsherds from Matarrah, Northern Iraq: The Collection of the University Museum, the University of Tokyo”. In: S. Nakamura, T. Adachi, and M. Abe (eds.), *Decades in Deserts: Essays on Near Eastern Archaeology in honour of Sumio Fujii*, pp.251-260, Rokuichi Shobo, Tokyo

【Archaeological Sciences section】

GAKUHARI Takashi

(Assistant professor, Institute for the Study of Ancient Civilizations and Cultural Resources)

Specialty: Ancient Molecular Biology, Archaeozoology, Equine Science

＜Research Activities＞

Since 2006, we have been conducting molecular genetics and isotope ecology research on human and animal bones excavated from archaeological sites. In 2016, we found that the domestic horses used during the construction of Fujiwara-kyo, the ancient capital, were relocated from inland eastern Japan, and that the tribute horses were supplied to the Imperial Court from the remote pastoral region, which was recorded in the Taiho Ritsuryo Code. In 2017, we obtained the first whole genome sequence from Jomon human bones (Ikawazu shell mound) in the Japanese archipelago and proposed a new hypothesis on the origin of the Jomon people through comparative genome analysis with continental populations. Currently, we are developing new methods to obtain whole DNA sequence from bones excavated at archaeological sites and practicing its application, and are compiling databases of genome information for human and animal bones (horses, dogs, etc.) from the Jomon, Yayoi, and Kofun periods in the Japanese archipelago for each period and region. By integrating isotope, genome, morphology, and archaeological data, we are creating a new academic field, "Archaeology by Science," which challenges the hypothesis testing and academic legacy in previous archaeology that has been proposed up to now.

We are studying on ancient civilizations and marginal zones in China, Korea, Russia, Honduras, Jordan, Saudi Arabia, Egypt, Oman, Mongolia, Kyrgyzstan, Uzbekistan, Kazakhstan, Ukraine, India, and Iran.

In recent years, we have been further accumulating genomics data of human remains excavated from archaeological sites in the Japanese archipelago, and have shown that the Japanese genome is mostly composed of three ancestral lineage elements, and proposed the "Japanese triple structural model" as the first international joint research in the world. In addition, we are also conducting genome analysis of human bones excavated from the Copan site of the Maya civilization, to reconstruct the kinship, marriage system, and hierarchical system of the people who formed the civilization, and are practicing "Archaeology by Science."

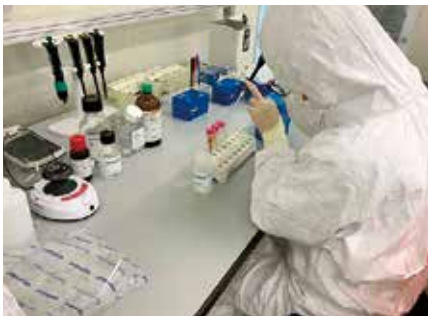
Furthermore, we are developing a new platform for automated analysis of paleogenomic data for next-generation archaeology. In order to make paleogenomics a tool that can be handled as easily as radiocarbon dating, we have installed an automated pretreatment robot for multi-sample processing, a next-generation sequencer, a portable pretreatment system for on-site analysis, and a portable next-generation sequencer in our laboratory, and are focusing on creating a new archaeology system for the next 10 years.

＜Recent publications＞

・Cooke, Niall,..., Takashi Gakuhari, Shigeki Nakagome (2021), “Ancient genomics reveals tripartite origins of Japanese populations”. *Science Advances* 7(38).

・Gakuhari, Takashi, Shigeki Nakagome, ..., Hiroki Oota (2020), “Ancient Jomon genome sequence analysis sheds light on migration patterns of early East Asian populations”. *Communications Biology* 3(1).

・McColl, Hugh, Fernando Racimo, Lasse Vinner, Fabrice Demeter, Takashi Gakuhari, ..., Eske Willerslev. (2018), “The prehistoric peopling of Southeast Asia”. *Science* 361(6397): 88-92.



SASAKI Yuka

(Specially appointed associate professor, Institute for the Study of Ancient Civilizations and Cultural Resources)

Specialty: Environmental archeology, Archaeobotany

＜Research Activities＞

My research focuses on the history of the relationship between humans and plants: how humans selected, used, and modified the plant resources around them. In the Japanese archipelago having rich forest resources, people not only obtained food from forest resources, but also materials to make structures, wooden products, braided products, and lacquerware, for example, since the Jomon period. Besides, in some areas people are known to have created artificial vegetation around their settlements after about 8000 years ago to make plant resources more accessible.

To study the history of such human-plant interactions, we should firstly examine the archaeological remains and artifacts and situate them in space and time. Secondly, by using the analyses of natural science, we should identify plant remains themselves and reconstruct the surrounding natural environment. These results can then be discussed together with the chronology of the archaeological artifacts. To examine plant remains used by past humans as resources, we have analyzed a large number of plant remains, such as seeds, fruits, and leaves, identified tree species anatomically and pottery impressions by the replica method, and analyzed carbonized plant remains attached to pottery. Moreover, to reconstruct the past technological knowledge, we are conducting experiments to restore past products with materials and plants revealed through natural science analysis and ethnoarchaeological research in collaboration with museums and archaeological research institutes. Through experiments using native fruits such as elderberry, we have discovered new aspects of past utilization of plant resources. Through the production of woven baskets and other products, we have discovered various aspects of past technology that cannot be understood through observation of artifacts alone.

The Institute also hopes to find new research fields by collaborating with archaeologists and researchers of natural science from various periods and regions as well as with local researchers working with buried cultural properties.

＜Recent publications＞

・Noshiro S., Sasaki Y., Murakami Y. (2021), “Importance of Quercus gilva for the prehistoric periods in western Japan”. *Japanese Journal of Archaeology* 8(2): 133-156.

・Noshiro, S., Sasaki, Y., Kobayashi, K., Suzuki, M., Nishida, I. (2019), “Material selection and weaving techniques for the oldest basketry in Japan T found at the Higashimyou site, Saga Prefecture”. *Journal of Archaeological Science: Reports* 23: 12-24.

・Sasaki, Y., Noshiro, S. (2018), “Did a cooling event in the middle to late Jomon periods induce change in the use of plant resources in Japan?”. *Quaternary International* 471: 369-384.

・Gyoung-Ah Lee, G. W. Crawford, Li Liu, Xingcan Chen, Yuka Sasaki, Xuexiang Chen (2011), “Archaeological soybean (Glycine max) in East Asia: Does size matter?”. *PLos One* 6(11): e26720.

SATO Takehiro

(Assistant professor, Graduate School of Medical Sciences)

Specialty: Molecular Anthropology

＜Research Activities＞

I am working on clarifying human population history in Northeast Asia and surrounding regions using genomic data. Especially, I consider that paleogenomics, which enable us to directly obtain genomic information of ancient people, is a powerful technique for understanding past demographic events. Recently, I am conducting genome analysis of ancient human bones excavated from the stratum of the prehistoric Okhotsk cultural period in Rebun Island which is located in northern Hokkaido, and the strata of Neolithic period to late Medieval around Lake Baikal.

I am also engaged in searching for genetic polymorphisms associated with morphological traits of human by genome-wide association study (GWAS). Genotype information of polymorphisms associated with soft tissue phenotypes such as eyelid morphology, hairiness, or skin color, would enable us to infer such features of ancient individuals, which cannot be restored from bone morphology. In addition, it is possible to verify whether a phenotype of interest had undergone natural selection in the past or not, by evaluating the diversity of genomic regions around polymorphisms associated with the phenotype.

By utilizing the methods described above, I would like to clarify past migration and admixture events in Northeast Asia and evolutionary process of the acquisition of phenotypes frequently observed in Northeast Asian populations.

＜Recent publications＞

・Sato, Takehiro, Noboru Adachi, Ryosuke Kimura, Kazuyoshi Hosomichi, Minoru Yoneda, Hiroki Oota, Atsushi Tajima, Atsushi Toyoda, Hideaki Kanzawa-Kiriyama, Hiromi Matsumae, Kae Koganebuchi, Kentaro K Shimizu, Ken-ichi Shinoda, Tsunehiko Hanihara, Andrzej Weber, Hirofumi Kato, Hajime Ishida (2021), "Whole-genome sequencing of a 900-year-old human skeleton supports two past migration events from the Russian Far East to northern Japan". *Genome Biology and Evolution*. DOI: 10.1093/gbe/evab192

・Nomura, Akihiro, Takehiro Sato, Hayato Tada, Takayuki Kannon, Kazuyoshi Hosomichi, Hiromasa Tsujiguchi, Hiroyuki Nakamura, Masayuki Takamura, Astushi Tajima, Masa-aki Kawashiri (2021), "Polygenic risk score for low-density lipoprotein cholesterol and familial hypercholesterolemia". *Journal of Human Genetics*. DOI: 10.1038/s10038-021-00929-7

・Sato, Takehiro, Shigeki Nakagome, Chiaki Watanabe, Kyoko Yamaguchi, Akira Kawaguchi, Kae Koganebuchi, Kuniaki Haneji, Tetsutaro Yamaguchi, Tsunehiko Hanihara, Ken Yamamoto, Hajime Ishida, Shuhei Mano, Ryosuke Kimura, Hiroki Oota (2014), "Genome-Wide SNP Analysis Reveals Population Structure and Demographic History of the Ryukyu Islanders in the Southern Part of the Japanese Archipelago". *Molecular Biology and Evolution* 31: 2929–2940. DOI: 10.1093/molbev/msu230

・Sato, Takehiro, Razhev Dmitry, Tetsuya Amano, Ryuichi Masuda (2011), " Genetic features of ancient West Siberian people of the Middle Ages, revealed by mitochondrial DNA haplogroup analysis". *Journal of Human Genetics* 56: 602-608. DOI: 10.1038/jhg.2011.68

【Cultural Resources section】

NAKAMURA Seiichi

(Director/Professor, Institute for the Study of Ancient Civilizations and Cultural Resources)

Specialty: Maya Archaeology, Cultural Resources Studies

＜Research Activities＞

I specialize in the study of the Maya Civilization at its peak, which is known as the classic period (Circa A.D. 250-900). Unlike the ancient civilizations of the old continent, the Maya civilization of the classic period were never unified politically, and it is said that 60 to 70 kingdoms existed from the south of Mexico to the west of Honduras. These kingdoms have left their traces in various places in the form of ancient city ruins and during the latter 23 years of my 39-year research career since I first came to Honduras, I have conducted research mainly on sites that are registered as World Heritage sites. Currently, I am conducting research on the Maya Site of Copan in Honduras (registered in 1980 as a cultural heritage) and the Tikal National Park in Guatemala (registered in 1979 as a mixed heritage site).

My research at Copan aims to elucidate the history of the dynasty through interdisciplinary research. For example, cosmic ray muons are used to search for royal tombs as well as examining a burial that is believed to be that of a king through stable isotope analysis and genome analysis. According to the established theory based on the interdisciplinary research of epigraphy, archaeology, iconography, physical anthropology, and isotope chemistry; it was said from the late 1980s to 2000s that the Copan dynasty was founded in 426/427 AD by an outsider, Yax K'uk Mo' who is related to Caracol (Belize) and Tikal (Guatemala). It is believed that Yax K'uk Mo' is the individual buried in the stone chamber tomb called Hunal, which was found by a research group of the museum of the University of Pennsylvania. While European and American researchers have built an elaborate history of the Copan dynasty based on this theory, I aim to verify the founding date of the dynasty by shedding light on the yet mysterious first half of the dynasty's history by using the primary data I have collected through my excavations as well as the results obtained from interdisciplinary research.

On the other hand, at the Tikal National Park, Guatemala, I conduct a comparative study of the Tikal Dynasty during the founding period of the Copan Dynasty. In Tikal, I have been conducting research jointly with the Tikal National Park since 2012 in the North Acropolis area of the urban center. Currently, we are focusing on the restoration and conservation of structure 5D-35, and archaeological excavations are limited to the preliminary excavations that come with these activities. However, even in small-scale excavations we have been able to obtain significant results such as the discovery for the first time in 28 years of a fragment of a stella which is inscribed with maya glyphs.

Moreover, in coordination with JICA and the Agency for Cultural Affairs we are focusing on achieving the objectives established in the SDGs through the practical implementation of cultural resource studies. One of such activities is the weekly online training program for the residents of the six communities that surround Tikal. Community residents together with the local government and counterpart government agencies think how their livelihoods can be improved by utilizing the cultural and natural resources of the world mixed heritage site. The other activity is a training program that teaches the tridimensional measurement method

and how to use the data gathered which is necessary to conduct surveys, record, restore and conserve archaeological sites. These online programs are conducted with simultaneous English-Spanish translation. This opens the programs to the entire Latin American region and consequently, people from numerous countries in Latin America participate.

Although it is currently suspended due to the new Corona pandemic, internship programs and cross-cultural experience workshops were carried out in both Tikal and Copan until 2018. I cannot help but hope that the Corona pandemic will soon be over and that the international exchange activities will resume in Tikal and Copan.

＜Recent publications＞

・Nakamura, Seiichi, Melvin Fuentes, Masahiro Ogawa, Carlos Carbajal (2021), *PROARCO Ⅱ : Objectives, Justification, and Preliminary Results (Kanazawa Cultural Resource Studies 28)*, Seiichi Nakamura (ed.), Center for the Ancient Civilizations and Cultural Resources, Kanazawa University.

・Nakamura, Seiichi (2021), "Some issues concerning the classic rulership at Copan of Maya Civilization". In *Archaeology in the Hokuriku region and the World*, pp. 319-322. (in Japanese)

・Nakamura, Seiichi (2021), "Utilization of cultural heritage and regional society" (2-20), "Searching for the ancient America by Japanese researchers" (17-5). In *Cultural Encycropidia of Latinamerica*, Maruzen, Tokyo. (in Japanese, co-author)

・Suzuki, Shintaro, Seiichi Nakamura and Douglas Price (2020), "Isotopic proveniencing at Classic Copan and in the southern periphery of the Maya Area: A new perspective on multi-ethnic society". *Journal of Anthropological Archaeology* 60: 1-17.

・Nakamura, Seiichi (2020), "International cooperation project utilizing archaeological sites in Central America: Case studies in Guatemala and Honduras". *In Cultural Heritage and SDGs II – What is told now in the world?*, pp. 32-45. Japan Consortium for International Cooperation in Cultural Heritage.

・Nakamura, Seiichi (2020), *Proyecto Arqueológico Copán (PROARCO): Investigaciones Arqueológicas en los Grupos 9L-22 y 9L-23, Copán, Honduras, Vol.3 (Kanazawa Cultural Resource Studies 25)*, Seiichi Nakamura (ed.), Center for the Ancient Civilizations and Cultural Resources, Kanazawa University.

TANIGAWA Ryuichi

(Associate professer, Institute for Frontier Science Initiative)

Specialty: Architectural History

＜Research Activities＞

Modern Asian architectural and urban history with an emphasis on the relationship between Japan and other Asian countries.

＜Recent publications＞

・Tanigawa, Ryuichi and Dmitry Kuznetsov (2021), “North Korea's urban planner Kim Jeong-hui: An elucidation and analysis of his career before the Korean Armistice (1953)”. *Journal of Architecture and Planning* 86(781): 1103-1113, Architectural Institute of Japan.

・Tanigawa, Ryuichi and Dongchun Seo (2020), “Architecture teachers during the early days of North Korea: Between liberation from Japanese colonial rule and the establishment of a socialist state”. *Japan Architectural Review* 4(1): 155-167, Architectural Institute of Japan.

・Tanigawa, Ryuichi (2019), “Electrical Engineer Kazuo Morita and Hydropower – History before the development of colonial Korea-“. *Journal of JSCE* 7(1): 91-99, Japan Society of Civil Engineers.

Acquired research funds (as of August 1, 2022)

Grants-in-Aid for Scientific Research(KAKENHI) Program

(Only Funds conducted as Principal Investigator)

Grant-in-Aid for Transformative Research Areas (A) – Planned

GAKUHARI Takashi	Development and Application of a Platform for Paleogenomics
SASAKI Yuka	Morphological study of plant and animal impressions on pottery

Grant-in-Aid for Scientific Research (S)

NAKAMURA Seiichi	Elucidating the Dynamics of the Copan Dynasty in the Maya Civilization through Paleogenomics
FUJII Sumio	The Origin of the Tribal Society in the Near East: Comprehensive Study of the Pre- and Proto-historic Nomadic Cultures in the Arabian Peninsula

Grant-in-Aid for Scientific Research (A)

GAKUHARI Takashi	New development of utilization of museum materials created by New Paleo Genomics
KUME Shogo	The Formation of the Proto-Silk Roads: Integrated Research on Early Exploitation of Mountainous Areas in Central Asia

Grant-in-Aid for Scientific Research (B)

ADACHI Takuro	The West Asian Urbanization and the Prehistoric Nomadic Trades
UESUGI Akinori	Dynamism of the Indus Civilzation: Multidisciplinary Studies on Craft Production
KAWAI Nozomu	North Saqqara New Kingdom Necropolis Research Project
SASAKI Yuka	Analysis of the technical knowledge of the Jomon people deduced from the material plants and weaving techniques of mats left as pottery impressions
SATO Takehiro	Elucidation of the human population history in boundary area between East Asia and Siberia based on ancient genome analysis
TANIGAWA Ryuichi	A multidimensional reconstruction of North Korean architectural and urban history based on critical examination

Grant-in-Aid for Scientific Research (C)

ODAKA Takahiro	Material Culture During the Reorganization of Early Farming Society in the Near East

Grant-in-Aid for Scientific Research on Innovative Areas (Research in a proposed research area) – Publicly

ADACHI Takuro	Urbanization of West Asia and prehistoric nomadic trade
ODAKA Takahiro	Eastern Boundary of Mesopotamia in the Process of Urbanization

Other research funds (Only Funds conducted as Principal Investigator)

UESUGI Akinori	The Japan Society for the Promotion of Science (JSPS), Bilateral Programs (Joint Research) : " Relationship Between Urban Development and Pastoral Society in the Inner Arid Area of the Arabian Peninsula during the Bronze Age (Joint research project with Department of Prehistoric and Historical Archaeology, University of Vienna)
NAKAMURA Seiichi	JICA Partnership Program: "Project for the Development of Human Resources and Support of Self-Organization in the Tikal National Park Tourist Corridor"
NAKAMURA Seiichi	Networking Core Centers for International Cooperation on Conservation of Cultural Heritage Project of the Agency for Cultural Affairs: "Human resource development project in Central America on three-dimensional documentation of Maya cultural heritage and utilization of three-dimensional documentation data"

Visiting Faculty Members and Visiting Fellows: Grant-in-Aid

Grant-in-Aid for Scientific Research (B)

NAKAGOME Shigeki	Population genomics of Jomon: elucidating adaptive evolution in ancient hunters and gatherers and its legacy in modern populations

Grant-in-Aid for Scientific Research (C)

IIZUKA Yoshiyuki	Non-invasive lithological study for prehistorical stone artifacts: Transition of stone materials in prehistory
UCHIYAMA Junzo	Zooarchaeological research on social-ecological impacts of the Kikai-Akahoya super volcanic eruption, 7,300 years ago
KITAGAWA Chiori	Study on canids and felids from ancient Egypt: analyses of osteomorphology and palaeogenomics
KOJIMA Yoshitaka	Basic study on the chronology of the relics excavated from the Bohai Kingdom (698-926) site in the Russian Primorye region
KOYANAGI Yoshiki	Empirical study of bronze farming tools in the area of Wu, Yue "吳越".
TOKUNAGA Risa	Early Islamic Routes in the Hijaz: A Study through Rock Graffiti
MURANO Masakage	Public Archaeological Research for Developing School Museums: Focusing on Schools in Kyoto Prefecture

Grant-in-Aid for Early-Career Scientists

HIGO Tokihisa	Exporing Maaty in Ancient Egyptian Book of the Dead

Grant-in-Aid for JSPS Fellows

HIGO Tokihisa	A Study of Ancient Egyptian Funerary Literature: A Commined Approach to the Middle Kingdom Coffins

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