



D11 | 016 A cross-cultural approach to representations of nature in the pre-industrial era". A symposium dedicated to the memory of Adama Samassekou.

Tracks

Burns - Theatre 1

mardi, juillet 1, 2025

11:00 - 12:30

Burns, Theatre 1

Overview

Symposium talks

Sponsored by: Inter-Academic Symposium proposed by: International Academy of the History of Science (IAHS) Union Académique Internationale (UAI/IUA) International Science Council. Regional Focal Point for Asia and the Pacific (ISC) International Council for Philosophy and Human Sciences (CIPSH) Chinese Association for Science and Technology (CAST) Académie des Sciences d’Outre-Mer (Paris) Australian Academy of Sciences Royal Society Te Aparangi (New Zealand) Académie Africaine des Langues (Acalan)

Lead presenting author(s)

Dr Konstantinos Tampakis

Senior Researcher

National Hellenic Research Foundation

Vernacular science, local science and modern science: Beliefs about the sun, the weather and disease in 19th century Greece

Abstract - Symposia paper

While the development of a scientific community in Greece during the 19th century has received some historiographical consideration, the narratives include mostly scientific perspectives. The actual beliefs of the grand majority of the population remain unknown and undocumented. This paper is a first attempt to investigate such beliefs, based on the works of the pioneering Greek ethnographer Nikolas Politis (1852-1921), who created compilations of vernacular beliefs about the sun, the universe and ailment. These beliefs, the categories they employ and the way they are constructed will be compared with the narratives of the Greek scientists of the time.



Prof Catherine Jami

Director Of Research

CNRS

How Universal a Category is Nature? Reflections from Early Modern China (17th-18th centuries)

Abstract - Symposia paper

As is the case for ‘science’, ‘religion’, and other terms that define the categories of today’s academic disciplines, there is no single term equivalent to ‘nature’ (in the sense of ‘the external world in its entirety’, to follow the definition of the online Merriam-Webster dictionary) in Chinese sources prior to the twentieth century. This negative statement does not tell us anything about China. Instead, it illustrates the fact that searching Chinese sources for concepts forged in other times and places is not a fruitful approach if we want to uncover and understand the knowledge constructed in pre-industrial China.

In this paper, we will present a few terms found in Chinese sources of the seventeenth and eighteenth century that bear a ‘family resemblance’ (as defined by Wittgenstein) to ‘nature’. At that time, some elements of the early modern European sciences had been introduced into the Chinese scholarly literature by

Jesuit missionaries. By discussing what some of these terms covered, and the contexts in which they were used, we propose to show that knowledge relevant to the history of science can and did develop independently from a notion of 'nature'. This in turn suggests that we need to retrieve actors' categories if we want to pursue and bring together non-Eurocentric, global approaches to the knowledge and representations of their environment that human societies have constructed in the pre-industrial age.



Prof Xiaochun Sun

Dean

University of Chinese Academy of Sciences

Time as a way of thinking in ancient China

Abstract - Symposia paper

The Chinese conception of time is based on the cycle of natural change through the seasons, and on the celestial phenomena to which the Chinese paid so much attention. "To observe the phenomena and to tell the time", this is the fundamental way in which the Chinese ordered the universe into a harmonic cosmos. This way of thinking is reflected in, and applied to, all aspects of Chinese material and spiritual, social and political life. Farming and agriculture, healing and medicine, rituals and festivals, calendar making and astrology, all amounts to the management of time. Get time right means managing things well. The Chinese thinking and experiences are all bounded by time. It brought order to a seemingly chaotic succession of individual moments by tying them to the rhythmic eternity of the universe.



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Lead presenting author(s)

Dr Liu Yang

University of Chinese Academy of Sciences

Gnomon Shadow Measurement and Construction of Cosmological Models in Ancient China

Abstract - Symposia paper

Gnomon Shadow Measurement was a fundamental astronomical measurement in ancient China, being used for cosmological construction. The theory of Gaitian in the Zhoubi suanjing is based on the erroneous assumption that the sun's shadow changes “one cun for one thousand li” as the gnomon moves north and south. A new explanation has been proposed for the source of "one cun for one thousand li" hypothesis, explaining it with the observation of the sun with a sighting tube. Since the Han Dynasty, discussions on the structure and size of heaven and earth have become important research topics for astronomers. From the 3rd to the 6th century, although the theory of Huntian replaced the theory of Gaitian and became mainstream, the hypothesis of "one cun for one thousand li" was also questioned and challenged, this hypothesis was still used in the cosmological construction of the Huntian theory, betraying the contradictory attitude of astronomers on the issue of Gnomon shadow measurement. It was not until the Tang Dynasty when the astronomer Yi Xing conducted large-scale meridian measurements, linking the height of the North Pole with the length of the meridian, that the fallacy of "one cun for one thousand li" was finally eliminated.



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Lead presenting author(s)

Meixuan Hu

College of Humanities and Social Development, Nanjing Agricultural University

Exchange and Mutual Learning of GIAHS from the Perspective of a Community with a Shared Future for Mankind: Logic, Models, and Pathways

Abstract - Symposia paper

GIAHS (Globally Important Agricultural Heritage Systems) emerged and grew within the historical soil of human agricultural civilization, representing the wisdom and essence of agricultural civilizations that belong to all mankind. Against the backdrop of deepening agro-ecological crises worldwide and increasing external risks and challenges, addressing the "unprecedented changes" by solely relying on spontaneous resistance within individual civilizations against the irreversible intrusion of instrumental rationality on GIAHS is far from sufficient. Instead, it is imperative to break down "boundaries," facilitating the benign interaction of GIAHS elements and the exchange and mutual learning of protection and development experiences. Conducting exchanges and mutual learning of GIAHS globally possesses profound theoretical foundations, historical reasons, practical pain points, and a global perspective, demonstrating the organic unity of logical coupling, historical necessity, practical rationality, and era directivity. In terms of concrete practices, promoting exchanges and mutual learning of GIAHS requires adhering to the concept of cultural integration, enhancing the level of cross-regional cooperation mechanisms, valuing the transmission of Eastern farming wisdom, and actively exploring "natural solutions" for traditional agriculture explained through modern science and technology.

Dr Yuanhe Yang

College of Humanities & Social Development, Nanjing Agricultural University

Ancient people's ecological wisdom about tea planting in China

Abstract - Symposia paper

The agricultural production gave birth to the ancient Chinese ecological wisdom, and the worship of nature was the germ of the ancient Chinese ecological concept. This paper studies ancient Chinese tea books and finds that in a long period of historical time and space, the special tea tree planting technology in ancient China formed its own system through local selection, combination and dissemination, forming its own unique cultural structure, containing excellent ecological wisdom and reflecting the traditional ecological practice, which is different from the modern large scale platform tea plantation. The ecological wisdom of Chinese traditional tea planting is of great significance to the construction of ecological civilization and sustainable development in the world today.

Dr Zhiwei Wang

College of Humanities and Social Development, Nanjing Agricultural University

Knowledge Introduction and Practical Innovation: GIAHS Driving in Comprehensive Rural Revitalization

Abstract - Symposia paper

GIAHS originated in rural areas, and its systematism and versatility provide endogenous basis for driving comprehensive rural revitalization. The GIAHS drive for comprehensive rural revitalization has a profound theoretical foundation, historical reasons, realistic pain points and global vision, demonstrating the organic unity of logical coupling, historical necessity, realistic rationality and time-oriented. Based on the actual regional development, industrial level, resource conditions and other factors, various sites have formed a number of advanced models in the process of promoting GIAHS driven comprehensive rural revitalization, including ecological conservation, industrial stimulation, cultural cultivation, talent drive and organizational empowerment. Based on the internal mechanism and typical model of GIAHS-driven comprehensive rural revitalization, it is necessary to further promote the effectiveness, science and sustainability of GIAHS-driven comprehensive rural revitalization by means of mechanism empowerment, internal training and external introduction, technology enhancement and experience learning.



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11:00 - 12:30

Burns, Theatre 1

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Lead presenting author(s)



Dr Efthymios Nikolaidis

Emeritus Director Of Research?

National Hellenic Research Foundation

Folk beliefs about nature in Byzantium

Abstract - Symposia paper

The worldview of the Byzantine scholars is known through their works. It is the late ancient Greek worldview as it was described in Ptolemy's works. This worldview was also adopted by the Church following the Hexaemeron of Saint Basil (4th c.).

However, the common people and the lower clergy seem to have had a very different idea of the world and nature. It is a picture of the world that recalls that of the Christian topology of Kosmas Indicopleustes in the fifth century. It is a flat earth, surrounded by an ocean, and a sky either dome-shaped or flat. The natural phenomena are primarily due to the angels.

The beliefs of the common people about nature and its world can be deduced from the popular readings of that period, which were the Lives of the Saints. These short readings, which were circulated in many copies, are mainly in the form of a dialogue. A holy man answers the questions of a disciple. The content is primarily moralistic, but questions about nature are not lacking. Why it rains, why it snows, who throws the lightning, how the heavens are made, and much more. From the answers we infer both the idea of nature and the general worldview of the ordinary people of the Byzantine Middle Ages. In this paper we will try to reconstruct these popular views.



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Lead presenting author(s)

Chen Jiajin

Nanjing Agricultural University

Cost or Nutrition: Debate on Feed during the process of Modernization of Chinese Livestock and Poultry Industry on the First Half of the 20th Century

Abstract - Symposia paper

On the first half of the 20th century, there was a widespread debate on the utilization of feed in China’s livestock and poultry industry. The focus was whether the modernization of livestock and poultry industry should follow the principle of economy or nutrition. The former is a relic of traditional society, while the latter is a pioneering proposition of animal nutrition. This controversy originated from the theoretical circles, and basically achieved the consensus that nutrition is the first, then frustrated in the production circles, and got limited recognition and adoption in the political circles. During this period, many relevant scientific and social forces participated passively or actively, and finally reached a seemingly compromised consensus. The debate actually reflects obstacles in the process of China’s modernization, especially the constraints of economic cost.



Prof Luling Wei

Professor

South China Agricultural University

On the Traditional Usage of Wild Silkworms in South China

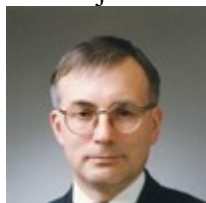
Abstract - Symposia paper

The ancient Chinese were pioneers in cultivating silkworms, including both domestic silkworms (**Bombyx mori**) and various wild silkworm species. While tussah (**Antherrea pernyi**) and toon silkworms (**Philosamia* spp.*) were used for silk production in northern China, southern China boasted a richer variety of wild silkworms, known as “mountainous silkworms.” These wild silkworms, such as Chinese tallow silkworm (**Attacus atlas**), chestnut silkworm (**Dictyoploca japonica**), and willow silkworm (**Actias selene**), fed on forest vegetation and required no human intervention, earning names like “yecan” (wild silkworm) or “tiancan” (natural silkworm). However, not all silkworms, such as fish line silkworms (**Saturnia pyretorum**), were used for silk weaving.

As demand for wild silk grew, forest-gathered cocoons proved insufficient, leading villagers to semi-domesticate wild silkworms. In Guangdong, Guangxi, and Hainan, silkworms were raised on cut branches of Chinese tallow trees, housed indoors to shield them from predators. Two notable centers of wild silk production were the Great Yunkai Mountain region and Meizhou (formerly Chengxiang County), where “Chengxiang wild silkworm silk” (*程乡茧绸*) became renowned for its quality.

Presenting author(s)

Mr Genjin Ni



Prof Dominique Barjot

Permanent Secretary

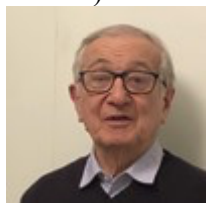
Academie des Sciences d'outremer

Representation of Nature in Pre-industrial Societies: The Contribution of the Overseas Academy of Sciences

Abstract - Symposia paper

The influence and international prestige of French science owes much to the activities of the five major academies of the Institut de France: The Académie des sciences d'outre-mer has a special place in the cross-cultural approach to representations of nature. It was founded in 1922 under the aegis of Albert Sarraut, then Minister for the Colonies, and on the initiative of the journalist and explorer Paul Bourdarie and the historian Gabriel Hanotaux, who were respectively its first Permanent Secretary and first President. Taking its profile from the legacy of the Geographical Societies of the 19th century, from the outset it benefited from the participation of some of the leading personalities of the time. Today, the Académie des sciences d'outre-mer has 275 members, including 100 full members and 100 correspondents in five interdisciplinary sections. Backed by an extremely rich library, focusing mainly on the former French overseas territories and the French-speaking world, it has, from the outset, been involved in a wide range of scientific and academic activities that have made, or continue to make, unparalleled contributions to the representation of nature in pre-industrial societies. It has included, and still includes, many botanists

(Raymond Dacary, Paul de Peyerhimoff), geologists and mineralogists (Alfred Lacroix), prehistorians (Yves Coppens, Henri de Lumley), often with a cross-disciplinary profile (Théodore Monod), as well as doctors (Alexandre Yersin, Eugène Jamot, Albert Calmette), soldiers, colonial administrators and diplomats, engineers and archaeologists (Jean Leclant), orientalists (Louis Massignon), geographers (Pierre Gourou) and historians (Hubert Deschamps, Robert Cornevin, and alii).



Prof Bruno Francois Gabriel Delmas

Emeritus Professor

Académie des sciences d'outre-mer

The French Committee of Fontes Historiae Africanae: achievements and projects

Abstract - stand-alone paper

The purpose of this paper is to report on the activities of the French Committee of the Fontes Historiae Africanae. Since 2019, the ‘Sources africaines’ collection of the Académie des sciences d'outre-mer has already published, in co-publication with Geuthner, five volumes of unpublished indigenous sources that are difficult for researchers to access: Philippe Beaujard, Traditions historiques du sud-est de Madagascar, 2019 ; Mohamed Diagayété, Barth à Tombouctou, 2019 ; Mustafa Alloush, Thierno Woûri Diallo Lâriya, Alfa Mamadou Lélouma, Bernard Salvaing, Écrire la guerre au Fouta-Djalon. Récits en vers arabes d’expéditions militaires au XIXe siècle, 2023; Silvia Neposteri (dir.), Voici l’histoire de nos ancêtres Anakara : le manuscrit arabico-malgache HB6, texte arabe transcrit, traduit et commenté par Silvia Neposteri; préface de Philippe Beaujard, 2023 ; Anne Regourd et Sana Mirza, Catalogue des manuscrits du Sherif Harar Municipal Museum. Les corans, 2024.



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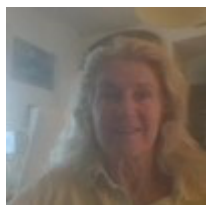
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Lead presenting author(s)



Dr Virginie Tilot

Research Scholar Academician

Academie des Sciences d Outremer, France

Traditional practices combined to science based management tools used for the governance of marine areas of the Pacific ocean

Abstract - Symposia paper

Traditional knowledge (TK) and practices have been developed from experience gained over centuries and adapted to the local culture and environment in the Pacific. Indigenous Peoples and Local Communities (IPLCs) consider themselves resource custodians, and principal rights holders rather than stakeholders, and may have their own customary decision-making processes leading at a regional level with the concept of oceanian sovereignty in the Pacific. TK has complemented science in the protection of biodiversity (development of the Nagoya Protocol, designation of EBSAs, ILBI/BBNJ instrument, IPBES assessments), as well as in climate action (Paris Agreement, New Zealand Climate Change Response (Zero Carbon) Amendment Act 2019), fisheries management (NOAA <https://voices.nmfs.noaa.gov>), mineral resources management (Inuit Circumpolar Council), damage compensation (Local Communities in China) and recently the high seas treaty (the agreement on Biodiversity Beyond National Jurisdiction) signed at the United Nations in June 2024. Also, the implementation plan for the UN Decade of Ocean Science for Sustainable Development defines “Ocean science” broadly to include “local and indigenous knowledge” alongside western science and “recognises, respects and embraces local and indigenous knowledge.” It is now commonplace that Island states of the Pacific have the obligation to incorporate TK into their national marine policies and the duty to consult and involve IPLCs in decision-making relating to offshore activities, as they would be directly affected by such activities or as an encroachment of their spiritual and cultural connection to the marine environment, including pertaining to the protection of culturally significant marine species that migrate through high seas water columns.

Prof Yong Lu

College of Humanities and Social Development, Nanjing Agricultural University

Geomorphic Changes, and Featured Agriculture in the Lixiahe River Region during the Ming and Qing Dynasties from the Perspective of Huanghuai Floods

Abstract - Symposia paper

During the process of the Yellow River's capture of the Huai River, Lixia River was the area that suffered the latest and most severe disaster. Based on statistical analysis and reconstruction of the spatiotemporal sequence of floods in the Huang Huai region, it was found that the evolution of floods in the Lixia River during the Ming and Qing dynasties went through five stages. Since the Zhengde period of the Ming Dynasty, floods have become normalized, reaching their peak during the Jiajing to Wanli period and the Kangxi period of the Qing Dynasty. However, similar disasters do not necessarily mean similar disasters. Overall, the lower limit of disasters in the Qing Dynasty was higher than that in the Ming Dynasty. From the perspective of ecological environment, the essence of the Huangdu Huai River disaster is the process of reshaping the natural landscape, which can be roughly divided into three evolution paths: lacustrine transformation in the Yunxi area, lacustrine transformation, and marshy transformation in the Yundong hinterland, as well as extensive coastal plain siltation. This new water town pattern constitutes a new resource and driving force for agricultural transformation, especially the rise of harvesting and water adapted agricultural production, which has alleviated the problem of low comparative efficiency in traditional agriculture. The Lixiahe case demonstrates that only by integrating the perspectives of disasters, environment, and agriculture can we dialectically understand the historical nature and direction of regional society.

Prof Hongjun Jiang

Professor

Inner Mongolia Normal University

Experimentation and Demonstration: An Analysis of the Changed Narrative Centre in the Translated Works of Physics in the Late Qing Dynasty

Abstract - Symposia paper

Abstract: My interest in this topic is understanding how despite using different styles of enquiry, the two knowledge systems can integrate through translation. (1.) After giving some background information (2.) on the time frame in which these treatises came to be, as well as on the translators and their work, I will: (3.) take the source treatises as a reference, extract the characteristics of translation focusing on the knowledge of experiment from their translations in Chinese; (4.) analyze the cognitive gap between the authors and the translators, using science as a reference; (5.) discuss the translators' understanding and reconstruction of the core concepts, “Li”理 and “ShiYan”实验, using Neo-Confucianism as the reference.

The research reveals that the narrative centre of the original work and the translated work have obviously shifted, but there are still some overlaps after translation. This shows that the two knowledge systems although different in style, are not strictly "incommensurable", therefore can be integrated by adopting appropriate strategies at an appropriate level, and that the translators' personal thoughts play a significant role in the process of this integration. It also shows

that the features in physics that were consistent with Neo-Confucianism were strengthened, and the factors that conflicted with it were excluded. The introduction of physics knowledge was the translators' active reconstruction process.