The 6th Asia-Pacific Conference on Philosophy of Science

Location: Kyoto, Japan

Venue: Faculty of Letters, Main Building,

Kyoto University (Lecture Room 7)

Dates: September 10 and 11, 2016

Registration: no registration required

Participation fee: free

Sponsored by:
Center for Applied Philosophy and Ethics (CAPE),
Graduate School of Letters, Kyoto University
http://www.cape.bun.kyoto-u.ac.jp/

How to get there

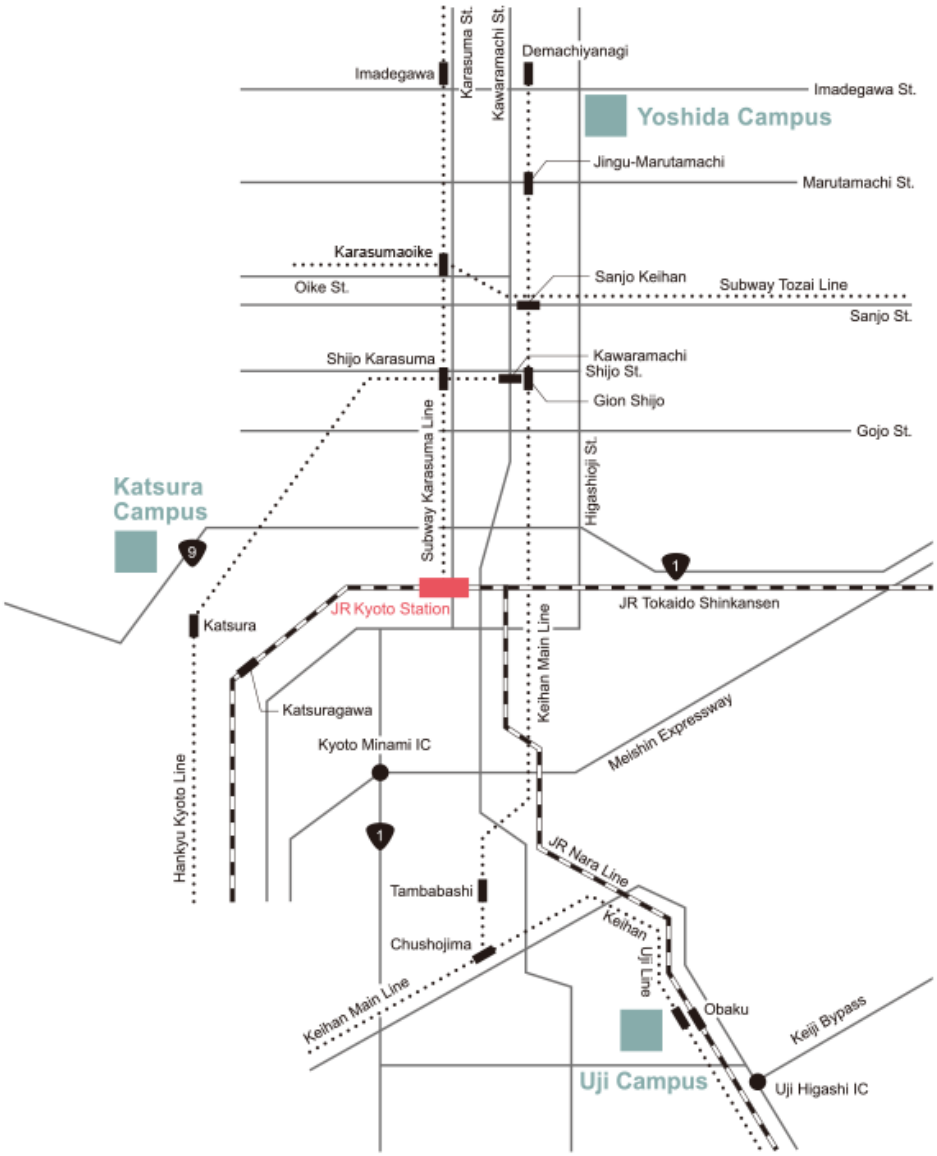
Basically see the direction at Kyoto University web site.
http://www.kyoto-u.ac.jp/en/access/

The Faculty of Letters Main Building is located in “Yoshida Campus”. The general map of Yoshida campus is the following:
http://www.kyoto-u.ac.jp/ja/access/campus/yoshida/images/map_yoshida1503.jpg

Within Yoshida Campus, the building is in “Main Campus.” No. 8 of the following campus map.
http://www.kyoto-u.ac.jp/en/access/yoshida/main.html

From Kansai International Airport to Japan Railway (JR) Kyoto Station, Take JR Airport express “Haruka.”
http://www.westjr.co.jp/global/en/travel/shopping/access/train.html

Though the official direction says that from JR Kyoto Station you should take City Bus 206, this is generally a bad idea in weekends because numerous sightseers use this line. For a better ride, take City Bus No. 17 (to Kinrin Shako) and get off at “Hyakumanben” stop, or simply take a taxi to “Kyoto University main entrance.”



Location of Yoshida Campus (upper side of the map)

Map of main campus of Yoshida Campus, Kyoto University

Our venue is building 8, the main building of Faculty of Letters

History of the Conference

In February 21-22 of 2011, there held a small meeting called “The Japan-Korea Workshop on Philosophy of Science”, at Kyoto University. In the previous year, the organizer, Tetsuji Iseda, was invited to give a talk at the Korean Society for the Philosophy of Science (KSPS), and realized that a more close interaction will benefit both Japanese and Korean philosophers of science, which resulted in the organization of the event.

The event was successful and soon followed up by a more official event by KSPS, The First East Asian Philosophy of Science Workshop, with attendants from Korea, Japan and Taiwan. The conference became a regular event. From the third conference, friends from Malaysia started to take part in, and hosted the fourth. The details of the past events are:

1 The First East Asia Philosophy of Science Workshop
Hanyang University, Seoul, Republic of Korea, July 2, 2011
2 The Second East Asia Philosophy of Science Workshop
Miyazaki Station KITEN Building, Convention Room, Miyazaki-shi, Miyazaki, Japan, November 12, 2012
3 The Third East Asia Conference on the Philosophy of Science
National Tsing-Hua University, Hsinchu, Taiwan, October 3-4, 2013
4 The Fourth East Asia & Southeast Asia Conference on the Philosophy of Science 2014
Institut Latihan Islam Malaysia (ILIM), Bangi, Selangor, Malaysia, November 5-6, 2014
Main theme “Indigenization of Knowledge and Intercivilizational Dialogue”
5 The Fifth East-Asian and Pacific Conference on Philosophy of Science
Seoul National University, Seoul, Republice of Korea, August 25-26, 2015
Main theme “The Philosophy of Science and the Science-Technology Civilization in the 21st Century”

This conference is the sixth of the series, and back to the place of its origin (in a sense). As a new attempt, we have two philosophers of science from mainland China as presenters. Now the conference series has its own website. Please visit it.
http://philsci.or.kr/eng/html/sub04_01.asp

Schedule

September 10

10:00-10:15
Opening Address: Tetsuji Iseda(Kyoto University, Japan)

Session 1　10:15- 11:55
Chair: Tetsuji Iseda

10:15- 11: 00
1 PARK, Ilho (Chonbuk National University, Korea)
Epistemic Optimism: Credences and Accuracy

11:10- 11:55
2 Takehiro Aiba（Hokkaido University, Japan）
Does effect size really help frequentism?

Lunch

Session 2　13:30-15:10
Chair: Shahidan Radiman
13:30- 14:15
3 Hsiao-Fan Yeh (National Chung Cheng University, Taiwan)
Interactivities in the Internal Contexts of Mechanisms

14:25-15:10
4 Xiang Huang　(Fudan University, China)
Understanding the Cognitive Modes of Scientific Practices—A Review on Marx Wartofsky's Historical Epistemology

break

Session 3 15:30-18:05
Chair: Wei Wang
15:30 -16:15
5 RHEE, Young E　(Kangwon National University, Korea)
Is the Self an Illusion?

16:25-17:10
6 Hidenori Suzuki (Nagoya University, Japan)
Management and Authorship

17:20-18:05
7 Mohammad Alinor Abdul Kadir (Academy of Civilizational Studies, Malaysia)
Metaphysical Concept of Logic

Dinner

September 11

Session 4 10:00- 11:40
Chair: Jun Otsuka
10:00- 10: 45
8 Shahidan Radiman (Universiti Kebangsaan Malaysia, Malaysia)
Some thoughts on science , universality and guiding principles

10:55-11:40
9 Insok Ko (Inha University, Korea)

Patiency as an Essential Part of Agency

Lunch
Session 5 13:00- 14:40
Chair: RHEE, Young E
13:00-13:45
10 Wei Wang (Tsinghua University, China)
Methodological individualism and collectivism in the social sciences

13:55- 14:40
11 Hsien-I Chiu* and Hsiang-Ke Chao (National Tsing Hua University, Taiwan) (*presenter)
Confirmation of Climate Models

Session 6 15:00-16:40
Chair: Mohammad Alinor Abdul Kadir
15:00-15:45
12 Min OuYang (Department of Philosophy, Chung-Cheng University, Taiwan)
Anti-realism and the Species Problem

15:55-16:40
13 Jun Otsuka (Graduate School of Humanities, Kobe University, Japan)
A model-theoretic approach to the species problem

16:40-16:50
Closing note: Tetsuji Iseda

End of the conference

ABSTRACTS

September 10
Session 1　Chair: Tetsuji Iseda
10:15- 11: 00
1 PARK, Ilho　(Chonbuk National University, Korea)
Epistemic Optimism: Credences and Accuracy

This paper is intended to formulate and justify some versions of epistemic optimism. In particular, I will formulate what will be called Credence-based Optimism and Accuracy-based Optimism, and practically justify them using diachronic Dutch book arguments. This paper is structured as follows: Section 2 is devoted to formulating and justifying what I will call Credence-based Optimism. In Section 3, I point out a difficulty of such optimism and attempt to formulate and justify another kind of epistemic optimism, Accuracy-based Optimism. Lastly, I will compare these kinds of optimism with other epistemic norms like (General) Reflection in Section 4. In doing so, we can ascertain the theoretical status of the epistemic optimism in question.

11:10- 11:55
2 Takehiro Aiba（Hokkaido University, Japan）
Does effect size really help frequentism?

In recent years, many researchers have recognized risks in using P-values. Open Science Collaboration (2015) pointed out that as many as 40% of psychological research are not reproducible. There is a journal which even forbids the use of P-value. Under such circumstances, American Psychological Association proposed researchers should not pay too much attention to P-value, and instead report effect size (ES) and confidence interval (CI).

In this talk, I will consider whether ES could make a coherent statistics of frequentism. Two problems are important. One is that their purposes are different between P-value and ES. P-value is a kind of likelihood when one supposes a null hypothesis is true. Traditional statistics which is based on frequentism aims to give a judgement whether a null hypothesis is acceptable or not according to P-value. However, ES does not contribute to making such a decision. In consequence, the new paradigm of frequentism would be weaker than thought from the philosophical and practical point of view.

Another problem is that the interpretation of ES is not clear at all. At the very beginning, it is not clear whether the term "effect size" is adequate to the amount to which it is supposed to correspond. In order to say that ES precisely measures the size of effect, many presuppositions should be made (e.g. there is no sampling error, nuisance parameter, and so on). But in fact, those presuppositions are very hard to be satisfied.

In the upshot, I will argue that ES is an incomplete quantification of the truthfulness of hypotheses which should be worse than Bayesian statistics.

Sesion 2　Chair: Shahidan Radiman
13:30- 14:15
3 Hsiao-Fan Yeh (National Chung Cheng University, Taiwan)
Interactivities in the Internal Contexts of Mechanisms

The new mechanistic philosophers, Stuart Glennan, defines that mechanisms to be “the interaction of a number of parts, where the interaction between parts can be characterized by direct, in variant, change-relating generalizations” (2002: S344)
while Peter Machamer, Lindley Darden, and Carl Craver characterizes mechanisms as “entities and activities organized such that they are productive of regular changes from start or set-up to finish or termination conditions” (2000: 3). Which, interactions or activies, is more adequate to characterize mechanisms? James Tabery suggests that the combined concept, “interactivity” can take advantage of both of them. In this paper, I take Tabery’s concept of “interactivity,” exploring interactivities in the internal contexsts of mechanisms. I argue the following three points: (i) All activities are interactivities occurring in the internal contexts of mechanisms, which consist of entities and other interactivies. (ii) Interactivies can be positive or negative, depending on the internal contexts of mechanisms. (iii) The distinction between entities as activators or as repressors is important. Activators engage with positive interactivies, while repressors with negative. A case study of prokaryotic transcription is used to illustrate the three points.

14:25-15:10
4 Xiang Huang　(Fudan University, China)
Understanding the Cognitive Modes of Scientific Practices—A Review on Marx Wartofsky's Historical Epistemology

Historical epistemology is a newly developed approach advocated by some

contemporary scholars such as Peter Galison, Arnold Davidson, Lorraine Daston, Hans-Jorg Rhenberger etc. It aims to understand the epistemic norms or standards such as representation, objectivity, truth, evidence, etc., inside the historical contexts in which they are invented, accepted and developed. However, not all of these scholars share the same understanding of what the historical epistemology is. They take for granted that Marx Wartofsky's theory of historical epistemology based on a notion of practice provides a good starting point for developing this new approach. Wartofsky's theory contends that, as our cognitive modes of scientific practices evolve, a satisfactory theory of scientific knowledge is inevitably historical. Its arguments are original and persuasive, but also suffer from some serious problems. This paper argues that contemporary cognitive sciences and philosophy of science centered on practices are rich in resources to solve the problems that Wartofsky's theory confronts.

Session 3　Chair: Wei Wang
15:30 -16:15
5 RHEE, Young E　(Kangwon National University, Korea)
Is the Self an Illusion?

Recently, from the neuroscientific camp, we have heard the arguments that there is no self or that the self is an illusion (F. Crick, and T. Metzinger). They emphasize that there is no neuroscientific findings for supporting the existence of the Self. But it is one thing to say that we don't have any empirical evidence for the self and it is another to say that there is no the self. We need to consider why those sceptics have failed in discriminating between them. The self is a construct of our narrative, so it is not isolated only in the head but is interpersonally and historically (J. Brunner, D. Dennett, A. Damasio, and E. Thompson). I suggest a notion of narrative self from the point of radical enactivism

16:25-17:10
6 Hidenori Suzuki (Nagoya University, Japan)
Management and Authorship

The problem of scientific authorship (what it should be) is often argued in the context of research ethics. And there it is common to connect authorship and contribution or accountability, such as "gift authorship" as a scientific misconduct.

The orthodox view can be countered (at least to some extent), though. First, conditions of each field should be taken into account. In the field of high energy physics, which I am mainly concerned with, there is division of labor by hundreds or thousands of people in an experiment, so it is impracticable to require accountability for all aspects of the work for any member. Second, too much "noble" demanding will impede promotion of research and progress of science by limiting the participation of researchers to a project and

increasing workload of scientists.

Recognizing these objections, I argue that the connection of authorship and contribution or accountability is desirable even in the viewpoint of quality of knowledge production (both for a research group and wider community) and that a system design for authorship is needed.

17:20-18:05

7 Mohammad Alinor Abdul Kadir (Academy of Civilizational Studies, Malaysia)

Metaphysical Concept of Logic

One of the fundamental methodology to develop the Eastern Logic such as Hindu Logic, Buddhist Logic, Islamic Logic and many other Cultural Logic, is to compare it with what the Western achieved in studying Logic. In more than two millennia, the Greek and the European achieved in developing what we call Classical Logic and Mathematical/Symbolic Logic. Some studies showed that even all of Hindu, Buddhist and Islamic Logics have some concept of Mathematical Logic, but not as formal as what Boole achieved in 1864 with what we now knows as Boolean Logic, applicable to computer sciences. There is other methodology to compare both Logics, i.e. through the subject of Metaphysics which include Ontology and Epistemology. This is what we want to discuss here, by studying some of the writings by Heidegger on Metaphysics, Epistemology, Ontology, Logic and Thinking.

September 11
Session 4 Chair: Jun Otsuka
10:00- 10: 45
8 Shahidan Radiman (Universiti Kebangsaan Malaysia, Malaysia)
Some thoughts on science, universality and guiding principles

It is normal practice that frontier science need guiding principles and philosophy to go forward. “Naturalness” is one example in high energy physics as “Anthropic Principles” in Cosmology. But science as an overall knowledge corpus is not confined to the hard sciences. In fact the sciences can be thought of beads in a closed string, albeit like the one used in Islam as an instrument of zikr (remembrance of God). For e.g. we can write it as Cosmology- Theoretical Physics –Condensed Matter –Economics –Sociology – Language and Literature – Theology- Cosmology. Typically we need “connector scientists” to make new breakthrough e.g. Einstein or Witten connecting Physics and Mathematics (tensors) , Sufi masters connecting Theology and Literature , Econophysicists connecting Condensed Matter with Economics and so on. At the centre of this connected chain or beads is Philosophy (in the string of beads analogy it becomes the “mantra”) . Philosophy gave Quantum Mechanics for e.g. many quantum interpretations with Bohmian Mechanics now opening new research areas in trajectory-based modelling provided by almost exact fluid analogy. Even the field of open quantum systems which started vigorously in quantum biological problems (photosynthesis, avian compass, human vision) is now gaining new breakthrough areas in understanding nuclear reactions , plasmas and cosmology. Many of these new areas depends on appropriate applications of Master equations (e.g. Lindblad type) with specific dissipative mechanism and decoherence. It is not long before people began to thought out about the role of entanglement, especially those involving many-body systems like in nuclear (nucleon-containing) systems. Symmetry principles began to be relaxed due to experimental evidence e.g. unitarity. The

quantum-classical divide has always been respected as shown by Bell's Theorem partner in the classical domain being the Leggett-Garg inequality but there are cases where this divide is not clear, as is the case with quantisation methods and problems in higher dimensions and complex topologies (where Morse theory apply). Time entanglement is another area of interesting development.

In this paper we will give a brief review and critical analysis on recent progress in the various sub-areas of quantum entanglement, higher dimensions and emergent space-time as paradigm shifters guiding experiments with theories in high energy physics and gravitation. The implication of these research and development on other disciplines are pointed out e.g. the idea of holography, Boltzmann brains etc. The philosophy and guiding principles behind these pursuits will be elucidated where possible.

10:55-11:40

9 Insok Ko (Inha University, Korea)

Patiency as an Essential Part of Agency

Is a driverless car an agent? How about a humanoid robot equipped with higher-level AI? Agency is considered a necessary condition for moral and legal responsibility. What makes an entity an agent? In other words, what is the condition for an entity, whether a human being, an animal, or a robot, to be qualified as having agency? What about patiency? I will analyze this pair of questions, which shall appear to be entangled inseparably together, and make some suggestions about the answer. The core idea is that patiency is an essential part of agency. In other words: No patient, no agent. In order for a physical system to be qualified as an agent, it should first prove itself to be a unified patient system. I will discuss some realistic necessary conditions for making such a patient system.

Session 5 Chair: RHEE, Young E
13:00-13:45
10 Wei Wang (Tsinghua University, China)
Methodological individualism and collectivism in the social sciences

The debate of individualism and collectivism has been a central issue in the philosophy of social science for decades. The paper will focus on methodological individualism and collectivism in the social sciences. On the one hand, methodological individualism, especially the method of game theory, is dominant in social inquiries; on the other hand, many schools such as network theory, structural sociology, sociological realism, and neofunctionalism in sociology insist methodological collectivism. Borrowing researches in the philosophy of mind, Keith Sawyer proposes nonreductive individualism (NRI) which accepts that only individuals exist, but rejects methodological individualism. Appealing to non-reductive arguments in the philosophy of biology, the author argues for methodological pluralism, which tries to integrate methodological individualism and collectivism in the social sciences.

13:55- 14:40
11 Hsien-I Chiu* and Hsiang-Ke Chao (National Tsing Hua University, Taiwan) (*presenter)
Confirmation of Climate Models

Model simulations have been playing a very import role in climate science since the 1950s. But climate models have been criticized for being illusory and misleading because of problems of uncertainties in simulation. There are three different views on the confirmation of climate models at last: (1)models as a fiction can not been confirmed;(2)models which represented aspects of the world for specific purposes can be confirmed by model fit, variety of

evidence, and independent support for aspects of the world; (3) there is no simple, general principle that can be applied to determine what is likely to be observed if a model is adequate-for-purpose, but today's climate models can provide plausible quantitative estimates for some quantities/variables.

According to our analysis and the study of scientific practices, this paper argues that it is very hard to confirm simulation models, but they are evaluable. Simulation models are representational tools to capture the parts of reality under limited conditions.

Session 6 Chair: Mohammad Alinor Abdul Kadir
15:00-15:45
12 Min OuYang (Department of Philosophy, Chung-Cheng University, Taiwan)
Anti-realism and the Species Problem

The general argument for scientific realism is that realism is the best explanation for the success of science. In this paper, I shall argue that this might not be the case for the modern practice of species division in biology. I first argue that species cannot be directly observed as an integral whole and need to be identified via theorization. Due to the theory-ladenness of individuating species and the plethora of existing species definitions, I argue that an anti-realist explanation for the practical development of identifying species in biological science might be better than a realist one, because the former dissolves problems arising from the latter in the species problem while allowing meaningful theoretical and practical applications. Therefore, species taxa might better be treated as mind-dependent rather than mind-independent entities. Consequently, scientific realism might not be a generally applicable position, especially in soft sciences.

15:55-16:40
13 Jun Otsuka (Graduate School of Humanities, Kobe University, Japan)
A model-theoretic approach to the species problem

It is a common intuition that all living creatures are organized into distinct classes we call species. What species really are, however, has been one of the most vexed questions in the philosophy of biology since the time of Darwin. Are species natural kinds, sets, or historical individuals? Do species exist, i.e., do they have an ontological status independent of individual organisms that constitute them? How do we demarcate one species from another? To address

these questions, I propose a model-theoretic approach to the species problem, according to which biological species are scientific models. Various species concepts are then understood as models of different theories, such as the first order predicate logic, probability theory, or the causal graph theory. The approach makes it explicit that the species problem is not a metaphysical exercise or conceptual analysis, but rather is and should be grounded on our best theory of what the biological world is like. On this ground and the recent advance in the evolutionary developmental biology (Evo-Devo), I support the causal concept of species, arguing that species are best understood as models of the causal graph theory.

Additional abstract (the first author could not attend the meeting, but sent us the abstract)

Fuzzy Logic and Quantum Measurement Formulation

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Quantum mechanics plays a fundamental role in physics for describing the universe. It goes back to more than two centuries ago when a wave theory of light was proposed by Hooke, Huygens and Euler. Quantum mechanics foundations started with Max Planck who based his attention on problem of black body radiation in 1900, and was interpreted realistically by Einstein in 1905. Review of the theory development, shows us the successful story, but we cannot ignore that some questions remained unsolved regarding the fundamental features of this theory. One of the most important of them is the so-called measurement problem; has been a source of endless speculation. In fact, the measurement problem has been raised based on the superposition principle. The Von Neumann model of quantum measurement have provided the standard setting for the exploration of the role of observers. In fact, the measurement problem has been focused on discussions of the interpretation of quantum theory since the 1920's in standard form, but the concept leads to some conceptual difficulties. In this regard, during the past two decades, Zurek developed a new theory of measurement for removing the non-clarified aspects of the Von Neumann measurement theory. The key idea promoted by him, is the insight that the realistic quantum systems are not only ever isolated, but also they interact continuously with the surrounding environment. In this manner, all the above are based on the Aristotle binary logic which always leads us to draw the line between opposites, A or not A. On the other hand, recently, the idea of Fuzzy sets was introduced by Lotfi A. Zadeh in 1965 and the Fuzzy logic was developed later by Zadeh in 1975 which states that the universe is not black and white but is gray; a continues range between black and white and everything is a matter of degree. The above description highlight that the gray universe is consistent with reality. In this article, we give a more realistic picture of the quantum measurement theory based on the fuzzy logic and the gray uiverse. Indeed, we have proposed an improvement to Zurek quantum measurement theory based on the fuzzy logic and fuzzy set theory.