

### 3. 国際ワークショップ 目次詳細 International Workshop

(所属・職名は2020年3月現在)  
(Affiliation and Department are correct as of March 2020)

(注1) : 新型コロナウイルスの影響で中止  
(注2) : 新型コロナウイルスの影響で2020年度に延期し実施  
(注3) : 新型コロナウイルスの影響で2020年度に延期し中止

研究代表者 Principal Investigator	所属機関 Affiliation	職名 Position	研究課題名 Project Title	頁 Page	備考 Remarks
Kazuo Shiokawa	Institute for Space-Earth Environmental Research, Nagoya University	Professor	VarSITI Summarizing Workshop	88	
Toru Terao	Kagawa University	Professor	International workshop on decadal challenges for the convincing climate projection and S2S scale prediction of Asian monsoon system	89	
Noriyuki Narukage	National Astronomical Observatory of Japan (NAOJ)	Assistant Professor	FOXSI data analysis workshop		(注3)

## VarSITI Summarizing Workshop

Kazuo Shiokawa (Center for International Collaborative Research (CICR), Institute for Space-Earth Environmental Research (ISEE), Nagoya University, Japan)

Katya Georgieva (Space Research and Technology Institute (SRTI), Bulgarian Academy of Sciences, Bulgaria)

VarSITI Summarizing Workshop was held as an ISEE/CICR international workshop in ISEE, Nagoya University on November 11-15, 2019. This workshop was designed to summarize the 5-year scientific achievements of the SCOSTEP's VarSITI (Variability of the Sun and Its Terrestrial Impact) program (<http://www.varsiti.org/>) of 2014-2018. Ten scientists (project co-leaders and working group leaders of VarSITI) were joined from Bulgaria, Canada, China, Croatia, Japan, New Zealand, and USA, and draft of five review papers were written. These review papers will be submitted to Progress in Earth and Planetary Science (PEPS) for the special issue of VarSITI.

During this workshop, Nat Gopalswamy, the former SCOSTEP President, presented glass plaques to Ms. Mai Asakura, Newsletter secretary of CICR/ISEE for recognition of 5-year editorial support of VarSITI Newsletter, and to Mr. Mitko Danov of SRTI, Bulgaria, for recognition of 5-year support of VarSITI website operation.



Participants of the VarSITI Summarizing Workshop

## **International workshop on decadal challenges in Asian monsoon process studies**

Toru Terao (Kagawa University)

### [Purpose]

Our objective of the workshop is to discuss about the publication of a review paper titled as "Decadal Challenges in Asian Monsoon Process Studies" from the Bulletin of the American Meteorological Society. This paper aims to clarify the challenge of the hydroclimate science in upcoming decade for two practical foci, the convincing and useful climate projection and S2S scale prediction of the Asian monsoon system. Here the Asian monsoon system includes all seasons including winter, and all Asiatic countries which are under the influence of the monsoon climate. These challenges correspond to that for the Asian Precipitation Experiment (AsiaPEX) which is the successor of the MAHASRI project. AsiaPEX is now under planning as a prospect RHP (Regional Hydroclimatological Project) under GEWEX framework.

### [Period and Place]

We hosted a workshop entitled 'International Workshop on Decadal Challenges in Asian Monsoon Process Studies' in 2-5 September 2020 in Nagoya University. International and Japanese researchers (25 in total, from 7 countries (China, India, Japan, Korea, Nepal, Netherland, USA, including 1 remote) participated in.

### [Results]

In this workshop, we clarified the key challenges that have to be addressed for above foci during the next decade. We discussed strategic research targets for the understanding of the Asian monsoon process to accomplish convincing climate projection and S2S scale prediction. Under this discussion, we suggested the plan for the process studies, modelling initiatives, and coordinate observation projects.

Two major topics, extremes and climate reconstruction, that are well-timed for upcoming decade, were discussed in detail. Extremes are already becoming a hot topic for adaptation to the climate change. It is expected to be exacerbated in near future because of the global warming, although the detection and prediction of the nature of extreme events are very challenging still now. This workshop suggested the key point to understand the mechanisms and to transfer knowledge to the public. Climate reconstruction has become a hot topic because of recent advancement of data rescue, and their utilization. So much undigitized data still exist in different places and media. Data rescue activity should be accelerated. Recent activities for climate reconstruction by reanalysis technology foster potential usability of rescued data. This workshop proposed some areas to be addressed using rescued data to reconstruct recent 200-year climate change.

Based on this discussion, we further concluded the expected abstract of the review paper. The abstract will be submitted very soon in this April.

In this paper, we will describe the overall significance of AsiaPEX project, which will attract global monsoon and hydroclimatological research community. It will present the societal impact of the AsiaPEX project such as disaster mitigation and SDGs (sustainable development goals) under the changing climate. It will further

discuss about the scientific challenges of the AsiaPEX project which are largely relevant to diverse hydroclimatological condition, complex topography, nonlinear land-atmosphere and multiscale interactions inherent to Asian hydroclimate system. Key issues and questions in the AsiaPEX will be stated clearly.

[Planned Publications]

Terao, T. and co-authors: AsiaPEX: Challenges and Prospects in Asian Precipitation Processes. *Bulletin of American Meteorological Society*.

Das, S. and co-authors: AsiaPEX South Asia: Precipitation and Hydrological Processes over the South Asian Land Mass. *International Journal of Climatology*.