S-18 – Mathematics and mathematics education in East- and Southeast Asia in pre-colonial and colonial eras

East Asia Commission

Organizers:
1) Alexei Volkov, (National Tsing-Hua University, Taiwan), alexei.volkov@gmail.com
2) Ta Duy Phuong, (Institute of Mathematics, Vietnam Academy of Science and Technology, Vietnam), tdphuong@math.ac.vn
3) Viktor FREIMAN, (University of Moncton, Canada), viktor.freiman@umoncton.ca

Abstract:
The proposed panel is devoted to two markedly different periods in the history of mathematics and mathematics education in East- and Southeast Asia: (1) the period of systems of traditional education that existed in some countries (e.g., Vietnam) till the late 19th century, and (2) the period of intensive introduction of Western textbooks and teaching methodologies, which in some cases (e.g., Japan) overlapped with the former period. The term “colonial” in the title of the symposium is ambiguous: in the cases of nations which were actually colonized, in particular, the countries of Southeast Asia (French Indochina, Burma, etc.) it should be taken literally, while in other cases (China, Japan) it is used in its chronological meaning, i.e. to refer to the temporal limits of the introduction of Western practice(s) of mathematics education. One can argue that in both cases the implementation of Western curricula and methodologies shared a number of common features; in particular, the introduction of the Western mathematical concepts required a creation of brand-new mathematical terminology, while the procedures of mathematical instruction were radically modified. To fully understand the scale and the structure of the changes that occurred in the colonial period, it is necessary to discuss them in their historical and socio-cultural context; this is the reason why the panel also welcomes papers devoted to mathematics education of pre-colonial era.

The organizers welcome papers devoted to the following topics:
• traditional mathematics and mathematics education in East- and Southeast Asia, i.e., China, Korea, Japan, Vietnam, Laos, Cambodia, Burma/Myanmar, Malaysia, Indonesia, as well as countries and polities that historically existed on the territory of these modern countries (e.g., Champa, Sri-Vijaya, Xixia, etc.);
• the processes of transition from the “traditional” model of mathematics education to “Western” one, in particular, the creation of mathematical terminology and didactical approaches (e.g., creation of new mathematical terms by Xu Guangqi and Matteo Ricci; transition from ‘problem-oriented’ style to ‘proof-oriented’ approach in geometry instruction, etc.)
• social history of the implementation of the Western models (e.g., establishment of schools by missionaries and colonial governments in French Indochina, Burma, etc.);
• the modes of functioning of the ‘colonial’ and ‘Western-style’ mathematics instruction in East- and Southeast Asia, in particular, actual practices of teaching and learning resulting from negotiation between local and Western didactical traditions;
• comparison with the introduction of the Western mathematics education to countries outside of the region (e.g., Russia, India, etc.) that can shed additional light on the processes that took place in the region.
**Keywords:** History of mathematics and mathematics education – Pre-colonial and colonial education – East Asia (China, Japan, Korea) – Southeast Asia (Vietnam, Cambodia, Laos, Thailand, Myanmar) – Introduction of Western mathematics education to Russia.

**Participants:**
- Sakdinee Rattana
- Viktor Freiman, Alex Volkov
- Ta Duy Phuong, NGUYEN Van Hong
- Sethykar Sam An
- Cousin Marion
- Rosalie Hosking
- Charlotte Pollet
- Alexei Volkov