

Host Prof Shoji Yuen, Graduate School of Informatics, Nagoya University

The fellowship expanded the previous collaboration with the host on binary session types design and implementations in the functional programming language, OCaml. During this fellowship, we worked on the design and implementation of *multiparty* session types on which I was awarded the POPL Most Influential Paper Award in 2018. Our approach enables fully-static verification and implementation of the whole protocol, from the protocol specification to the process implementations, to happen in the same language. During this fellowship, we finished the design and a core part of the implementation; we also started to formalise the design as a mathematical model and prove the correctness. Since this is a huge project spawning from a model to implementations to benchmarks, we have been continuing collaborations to finalise the work after my fellowship. I did a follow up visit to Nagoya University from 21st December to 31st December 2019 for this purpose.

During the fellowship, I visited Kyoto, Tohoku, Keio and Waseda Universities as well as the National Institute of Informatics located in Chiyoda, Tokyo and gave either a seminar or lectures. At each place I met many young researchers and students. Also, I met several developers including Fujitsu and Tezos. It was a very busy and productive summer. The host provided the best research environments, for which I thank Prof. Shoji Yuen very much.