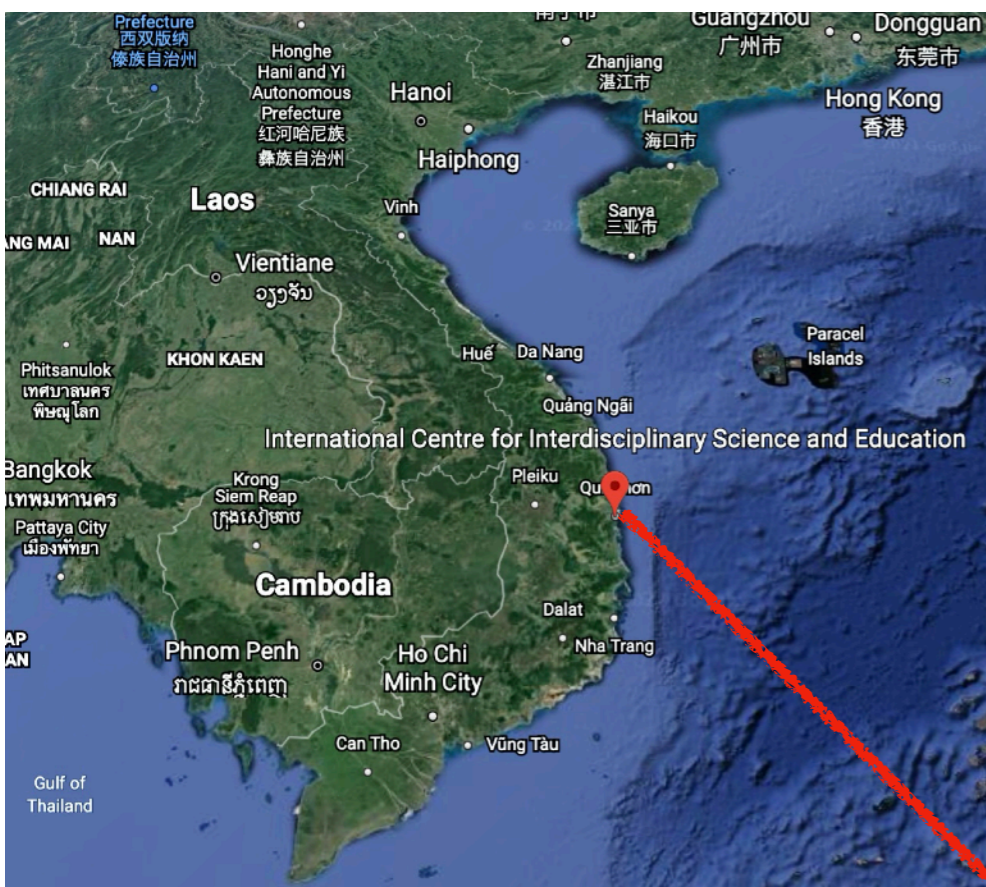


Neutrino Group IFIRSE, ICISE



<http://ifirse.icise.vn/nugroup/>



Google Earth: <https://bit.ly/3sUkBsM>

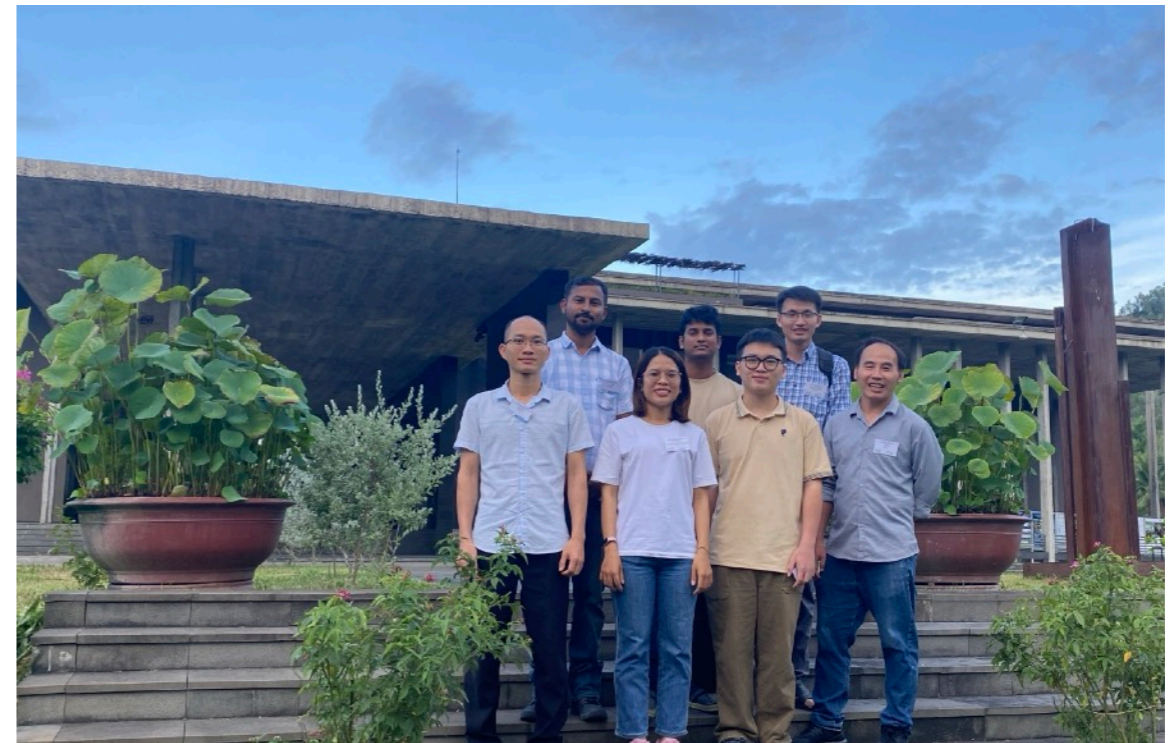
A science and education urban area is emerging



Quy Hoa Scientific and Educational Urban Area

Who are we?

July 2017



Core group members of Japan side

- **T.Nakaya (Kyoto Univ.): scientific group leader**
- Atsumu Suzuki (Kobe Univ.)
- Yuichi Oyama (KEK)
- Makoto Miura (Kamioka, ICRR, Tokyo)
- Jennifer Thomas (UCL, UK)

International Advisory Committee

- M. Nakahata (Kamioka, ICRR, Tokyo, JP)
- T. Kobayashi (KEK, JP)
- Karol Lang (The Univ. of Texas at Austin, USA)
- Jacques Dumarchez (LPNHE- Univ. of Paris, FR)
- Boris Kayser (Fermilab, USA)

- **Dr. Son Cao (IFIRSE)**
- **MSc. Quyen Phan (IFIRSE, 2nd-yr. Ph.D student)**
- **Other affiliated members**
 - **Dr. Ngoc Tran (Kyoto Univ.)**
 - **Asso. Prof. Van Nguyen (IOP, VAST)**
 - **Dr. Ankur Nath (Tezpur Univ., India)**
 - **Dr. Tran Nam (Boston Univ., US, g-2 exp.)**
 - **Dr. Truong Nguyen (Univ. of California, Davis, US, mu2e exp.)**

We were saddened to learn Boris's passing. We admire his works and deeply thank to his support.



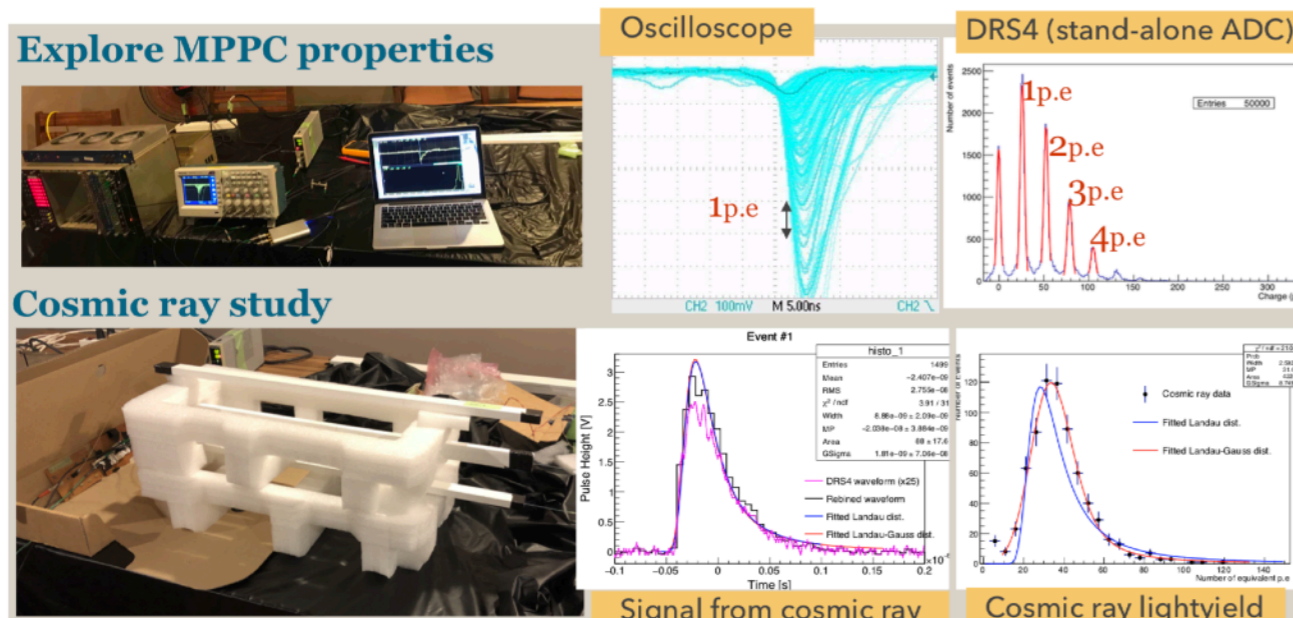
NEUTRINO is our 

**Hopefully you can understand why we love
NEUTRINO from this school!**

What are we doing?

Work as an international collaboration

- **T2K** (Oc. 2017~) an international accelerator-based long-baseline neutrino experiment in Japan (~500 collaborators from 65 institutes of 12 countries)
 - Neutrino Event Generator, Neutrino Oscillation Analysis
- **WAGASCI** (now part of T2K) (Feb. 2018~) a neutrino-nuclei interaction-focused experiment in Japan,
 - **Detector construction (our students are working directly with Japanese and other colleague)**
- **Super-Kamiokande** (Jun. 2021~) to search for the diffuse supernova neutrinos and proton decay



Build the lab at ICISE:

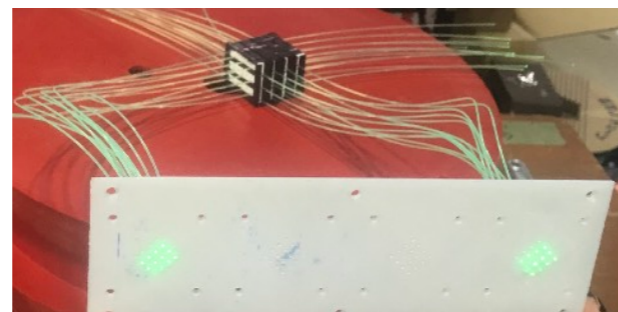
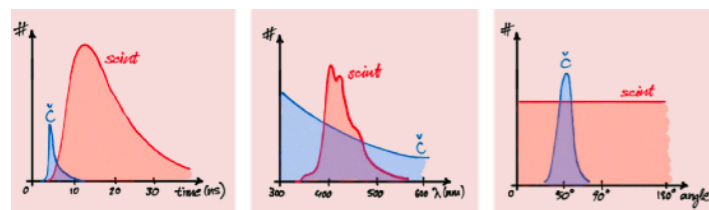
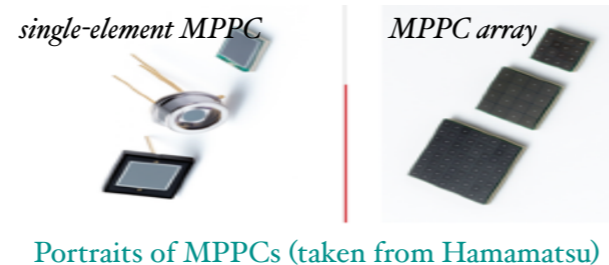
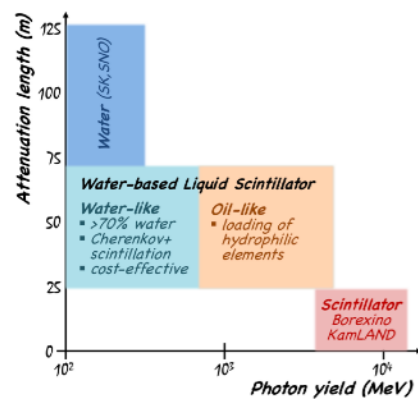
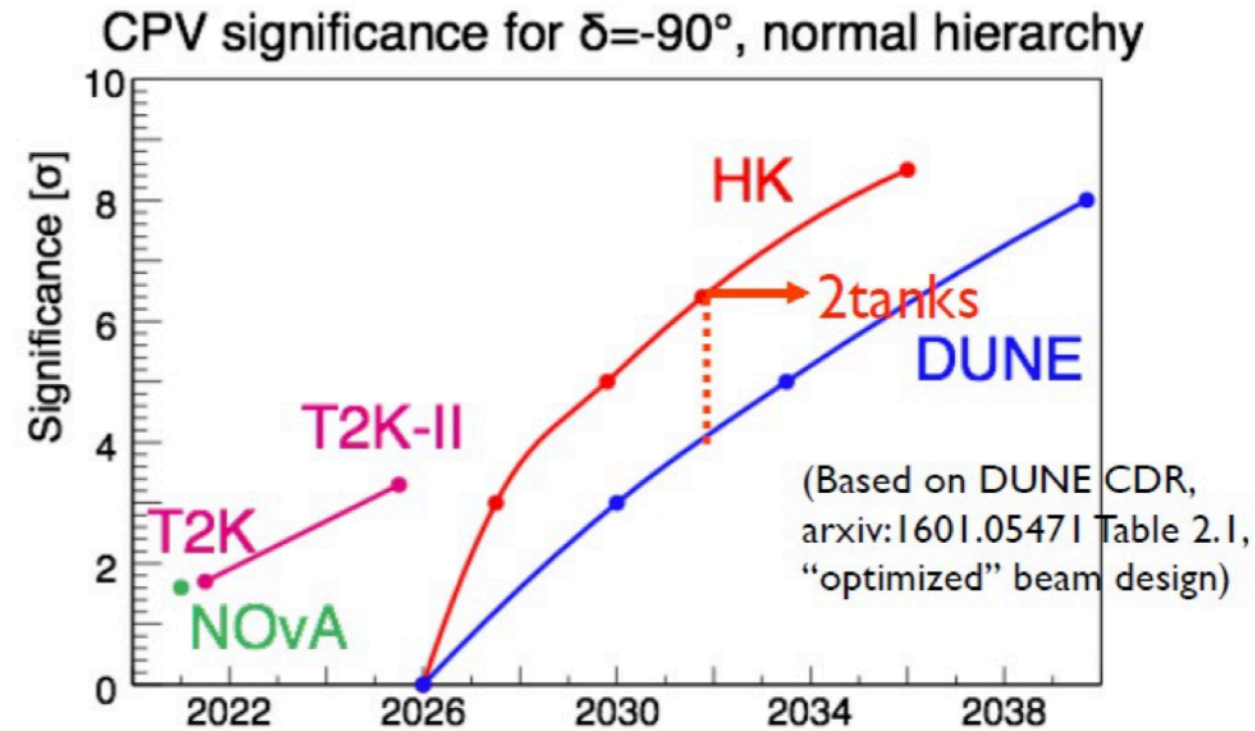
- Advance the single-photon sensitive sensor with the the plastic scintillators
- Detector prototypes for the cosmic ray measurements and other applications

- Organize annually *Vietnam School on Neutrinos (2023 is the 7th in the series)* to **train and encourage students and young researchers working on neutrino physics**
- Host the *International Symposium on Neutrino Frontiers (2018)*
- *Host the*

The path forward

International collaboration work

- **Keep working with T2K and Super-K experiment**
 - CP violation, neutrino mass ordering, and other unknown via the neutrino oscillation measurements
 - Search for diffuse supernova neutrinos and proton decay
- **Aim to join Hyper-Kamiokande experiment in the near future**
 - Effectively 8 times larger than Super-Kamiokande, will start operation from 2027
 - Along with data analysis, we may want to work on PMT or microPMT



Lab development

- Photosensor, eg. Multi-pixel Photon Counter, (micro)PMT
- Scintillator materials, eg. Water-based Liquid scintillator
- Lab test bench, detector prototype

Thank you for listening!
We hope to work with you on this interesting particle.

ICISE internship

<https://ifirse.icise.vn/nugroup/internship/index.html>