

# Research and Daily life in Quy Nhon

Tran Van Ngoc

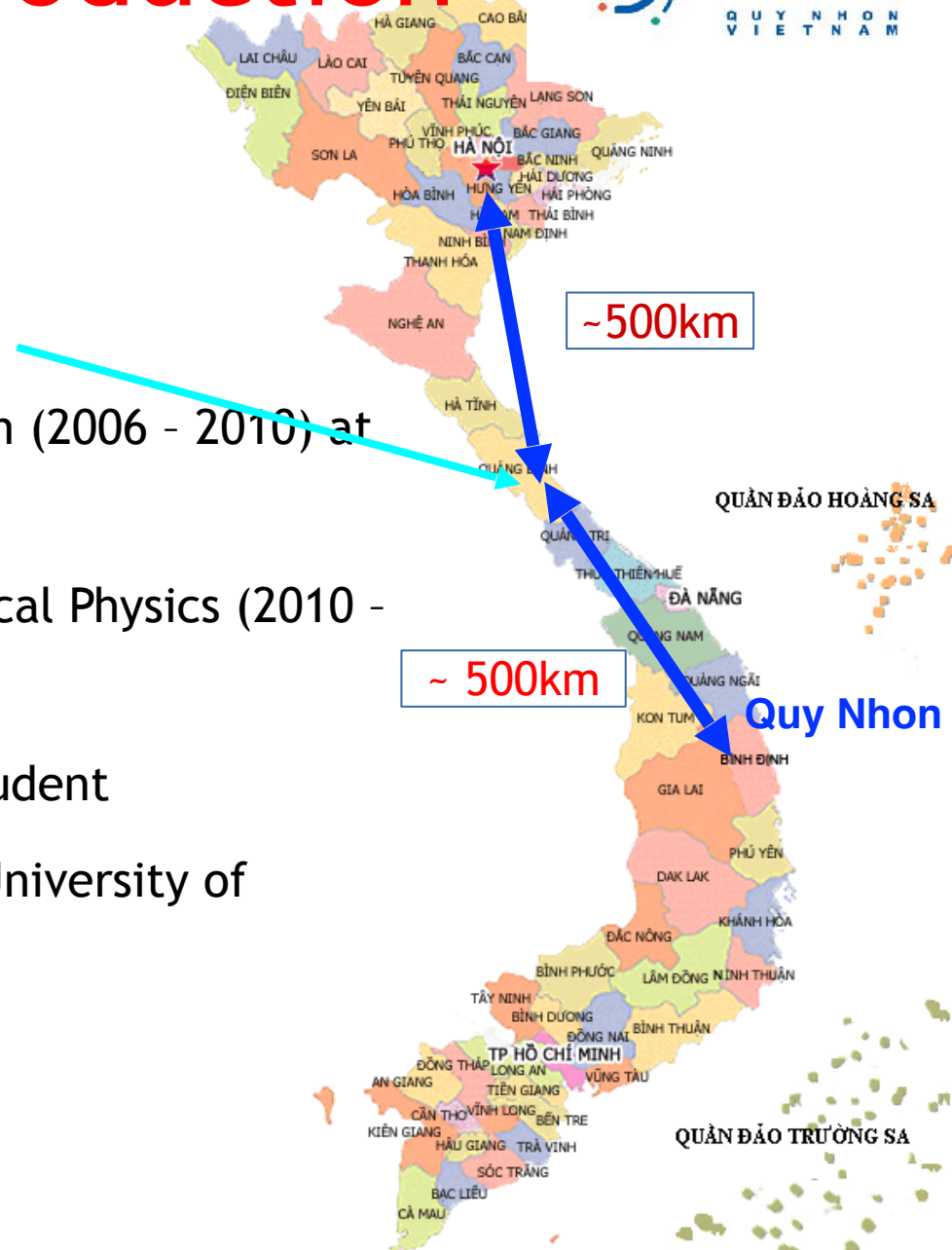
Vietnam neutrino group  
IFIRSE-ICISE

VSON6, 11 July 2022

# Self-introduction

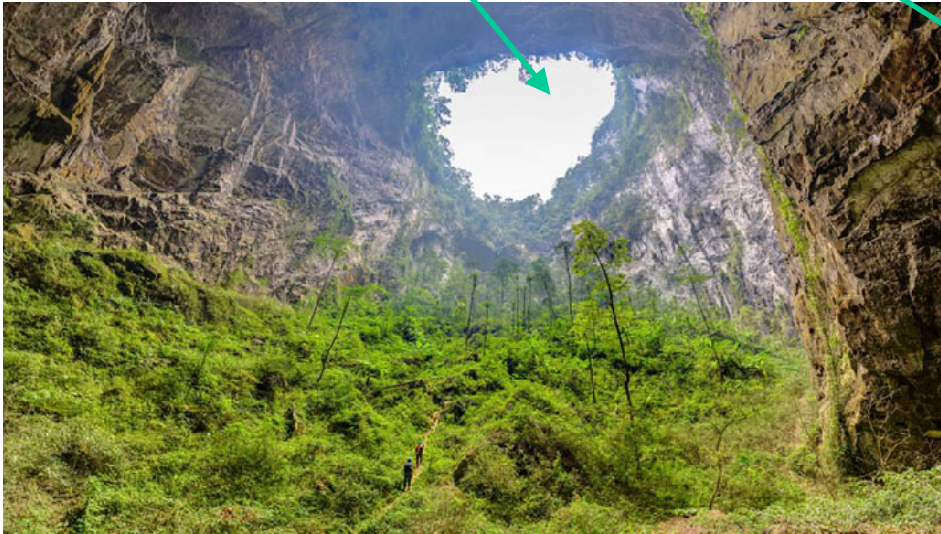


- Fullname: **Tran Van Ngoc**
- Hometown: **Quang Binh** Province
- **Bachelor**: Advanced Physics Program (2006 - 2010) at Hue university
- **Master**: Theoretical and Mathematical Physics (2010 - 2012) at Hue university
- Worked at IFIRSE: Oct. 2017 PhD student
- **4th year PhD** student at Graduate University of Science and Technology in Hanoi
- **T2K collaborator** since Apr. 2018



# Self-introduction

- Quang Binh: place of birth
- “the kingdom of caves”
- **Paradise cave:**
- **Soon Dong:** the world largest cave





# Research at IFIRSE

- Astronomy & environment groups Hardware
- Neutrino physics group Software

My office

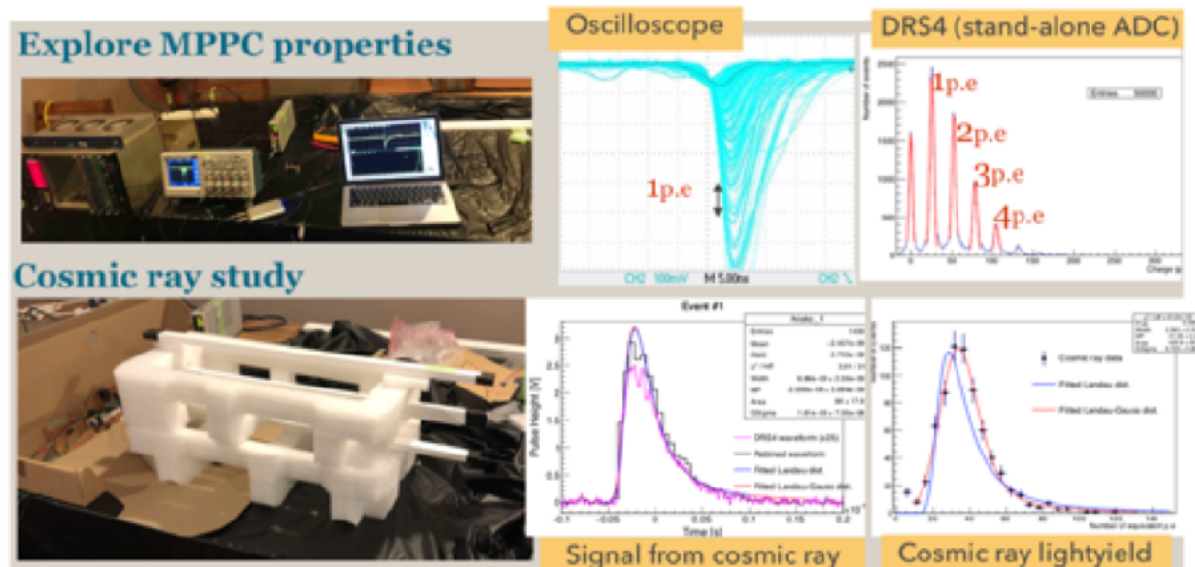


Institute For Interdisciplinary Research in Science and Education  
(IFIRSE, ICISE, Quy Nhon)



# Research at IFIRSE

- Hardware:
- MPPCs & circuit boards
- DRS4 evaluation board V5
- Plastic scintillators
- ....

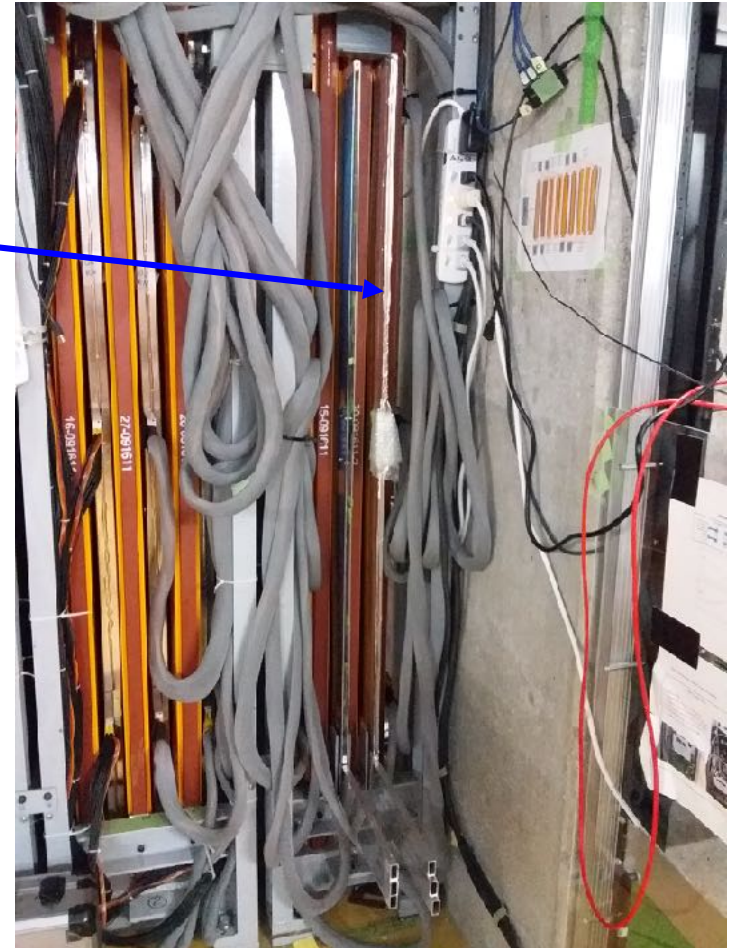


# Research at IFIRSE

- Hardware work at J-PARC:  
Construct [new tracker](#) for  
BabyMIND of the T2K-WAGASCI



Inside near detector building of T2K  
experiment, March - June 2019



# Research at IFIRSE



PHYSICAL REVIEW D **103**, 112010 (2021)

➤ Software: ROOT, GENT4, NEUT, ...

➤ GLoBES (General Long Baseline Experiment Simulator): CP violation, Mass hierarchy, CPT violation

## Physics potential of the combined sensitivity of T2K-II, NO $\nu$ A extension, and JUNO

S. Cao<sup>1,2,\*</sup>, A. Nath<sup>3,\*</sup>, T. V. Ngoc<sup>1,4†</sup>, Ng. K. Francis<sup>3</sup>, N. T. Hong Van<sup>5</sup>, and P. T. Quyen<sup>1,4</sup>

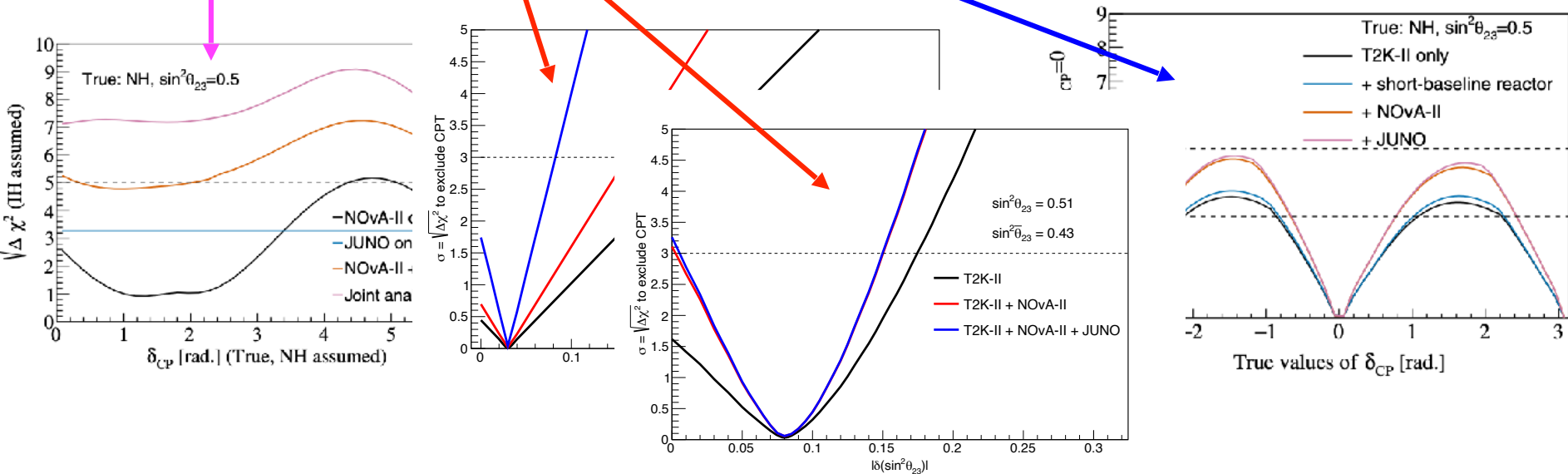
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<sup>4</sup>Graduate University of Science and Technology, Vietnam Academy of Science and Technology, Hanoi 10000, Vietnam

<sup>5</sup>Institute of Physics, Vietnam Academy of Science and Technology, Hanoi 10000, Vietnam





# Research at IFIRSE

## ➤ INGRID event rate simulation

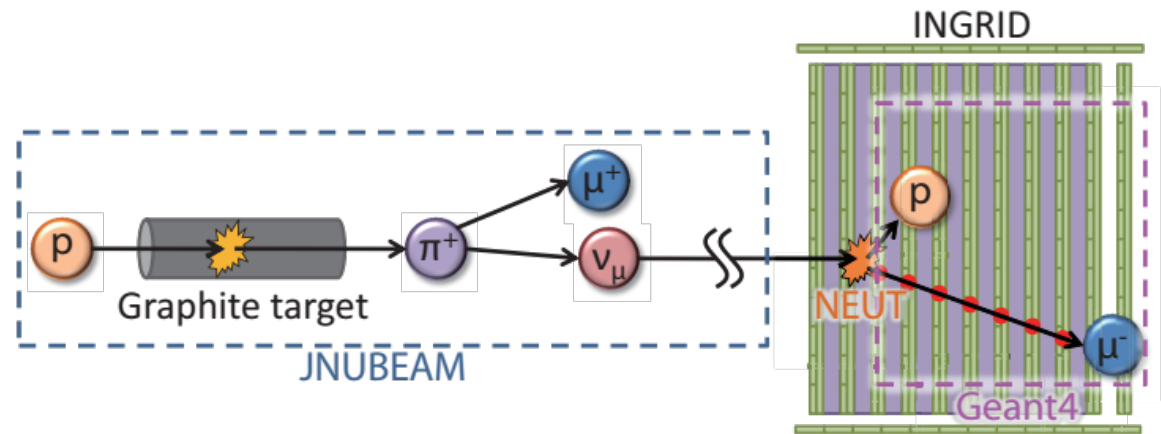
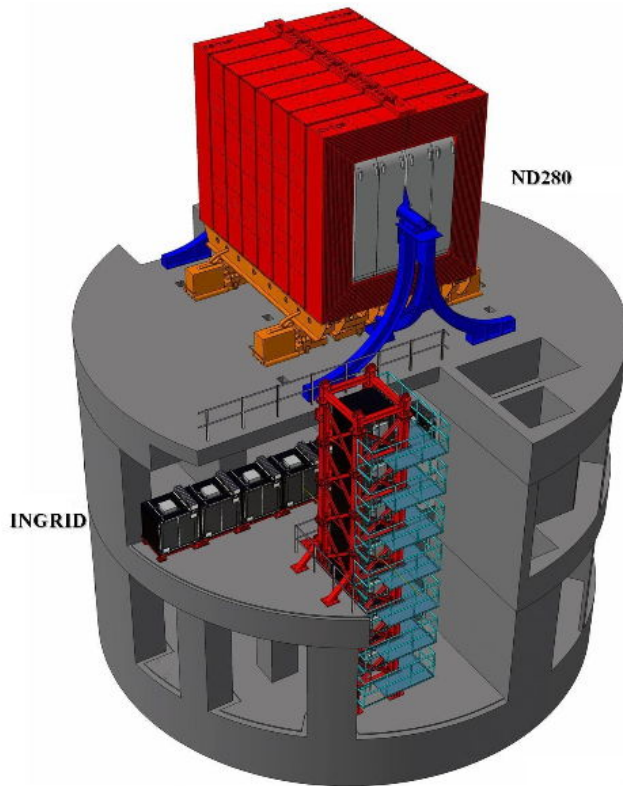
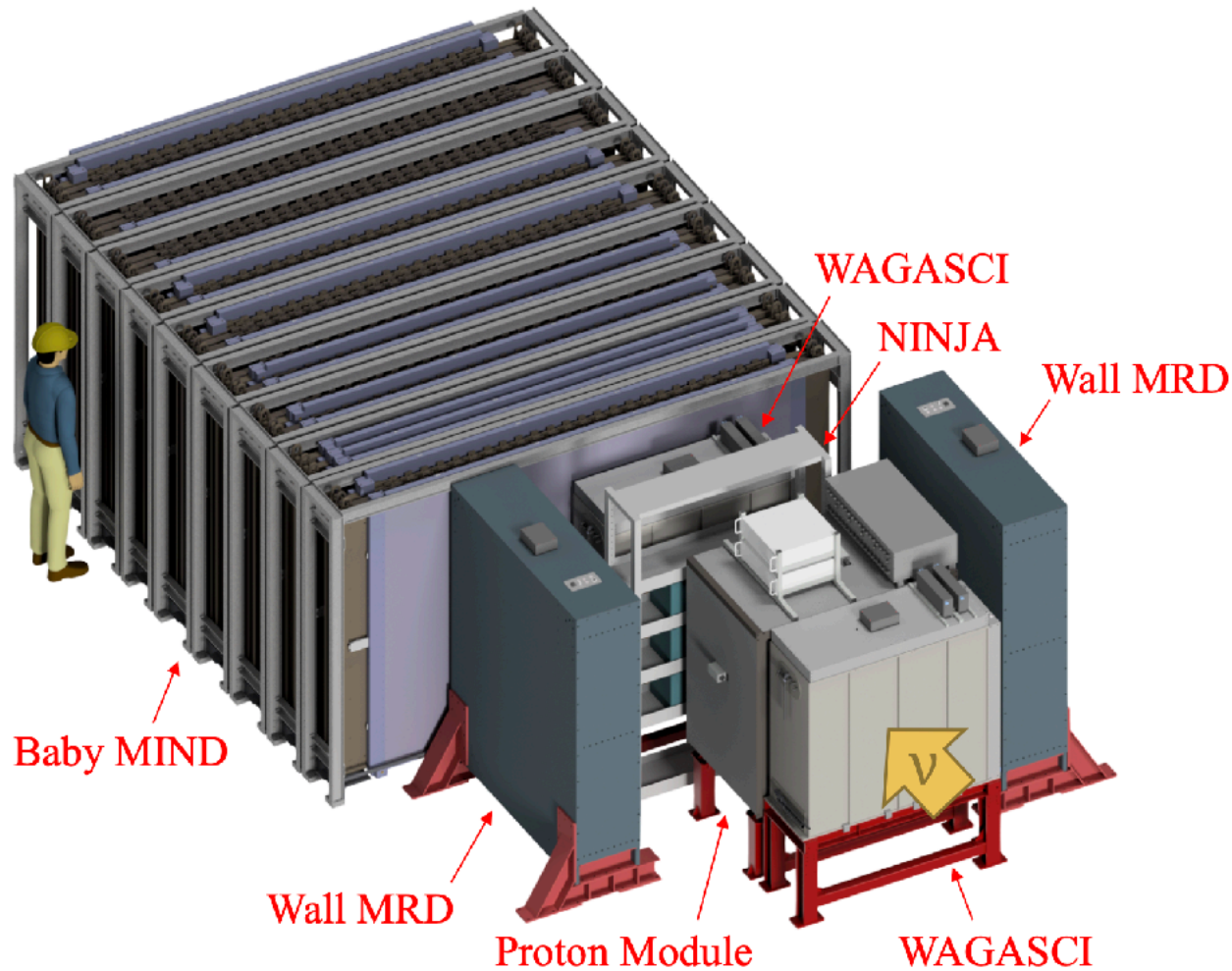


Figure 2.1: INGRID MC overview

# Research at IFIRSE

- Neutrino interaction at WAGASCI: neutrino Xsec on H<sub>2</sub>O and CH



# Daily life in Quy Nhon





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- Friendly local people
- Free fresh air
- Free fresh fruits
- Fresh sea foods
- Peaceful place to live and do research
- Go swimming, hiking, fishing, ...





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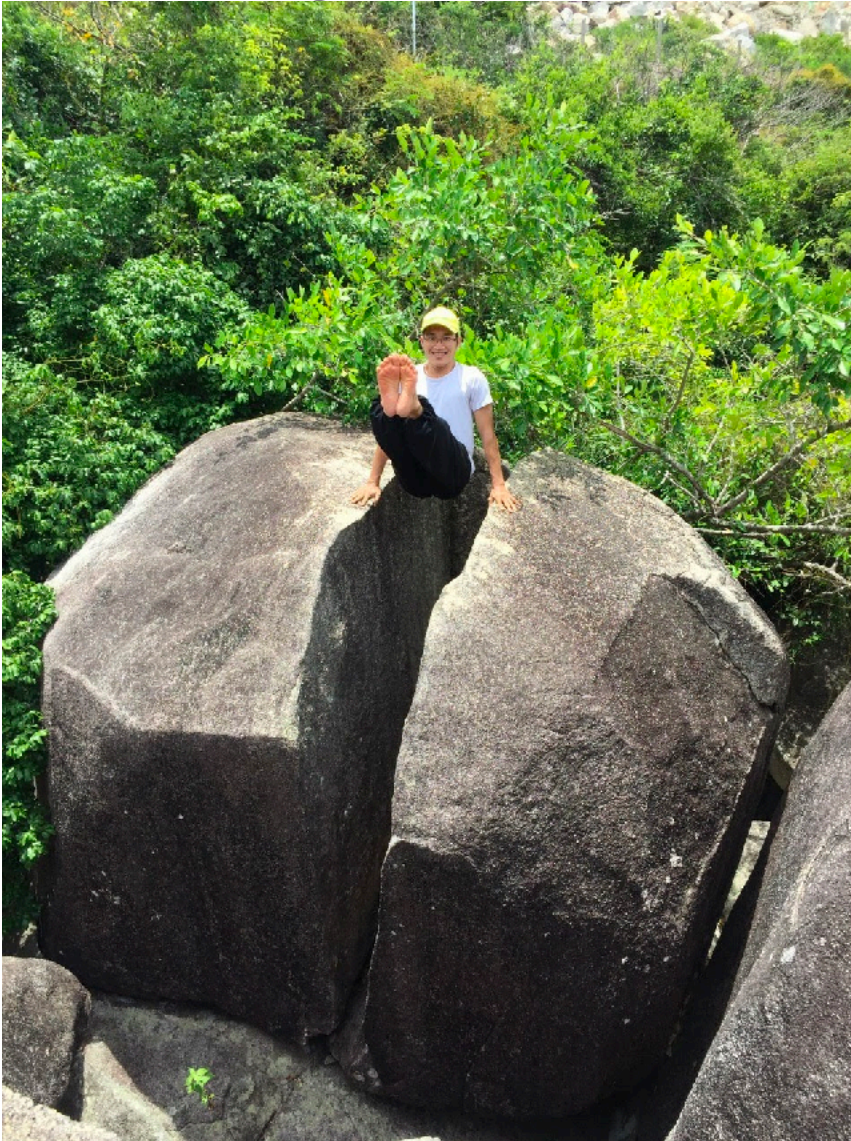


# Daily running route





# Hiking & rock mountain climbing





Thank you very much for your  
attention!

Welcome to Quy Nhon!