



Announcement of the PHITS Tutorial in Malaysia 2024

Place: Universiti Sains Malaysia Pulau Pinang (<https://www.usm.my/>)

Eligibility for participation: None (Open to everybody¹)

Course date: Oct. 7-9, 2024

Deadline for registration: Aug. 31, 2024 for new PHITS users
Sep. 30, 2024 for registered PHITS users

Registration Fee (including lunch & coffee): RM 800 for professionals
RM 500 for students

Language: English

Course contents: Beginner course or Intermediate + Medical application course

Maximum number of participants: 50 (accepted in order of registration)

Lecturer: Dr. Tatsuhiko Sato (Japan Atomic Energy Agency), Japan
Dr. Hiroshi Iwase (High Energy Accelerator Organization, KEK) Japan

Local organizer: Dr. Mohd Zahri Abdul Aziz (Universiti Sains Malaysia)
Dr. Nurul Hashikin Ab. Aziz (Universiti Sains Malaysia)

Registration page:

https://docs.google.com/forms/d/1I0XSMRGVH2UAJw_YTSb7zy6DHxUawDgZilO9jWky4nU/

PHITS is a general-purpose Monte Carlo particle transport simulation code developed under collaboration between Japan Atomic Energy Agency (JAEA) and several institutes all over the world. It can deal with the transport of nearly all particles over wide energy ranges, using several nuclear reaction models and nuclear data libraries. PHITS can support your research in the fields of accelerator technology, radiotherapy, space radiation, and in many other fields which are related to particle and heavy ion transport phenomena. See PHITS website in more detail. (<http://phits.jaea.go.jp>)

This tutorial will be held in prior to the 24th Asia-Oceania Congress of Medical Physics (AOCMP) and 22nd Southeast Asia Congress of Medical Physics (SEACOMP) (<https://www.aocmp2024.com/>), but it is not a part of the congresses. **Therefore, registration is separately required for attending this tutorial.** Participation of persons who do not attend AOCMP/ SEACOMP is also welcome.

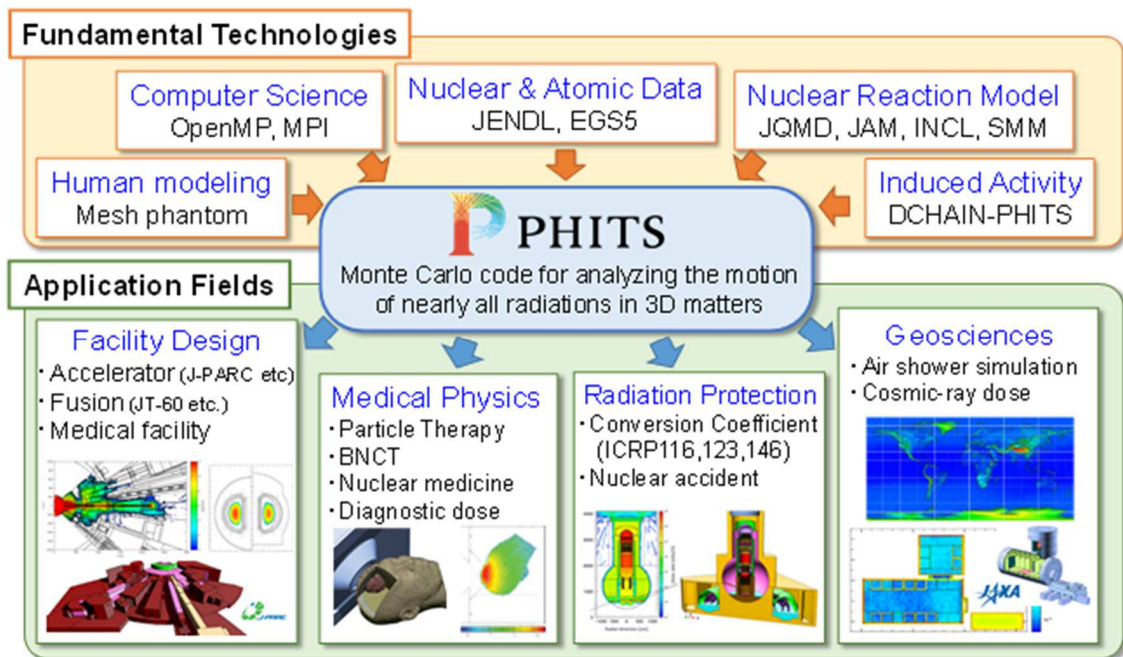
¹ If you obtained PHITS by attending PHITS course before 2019, you must apply the license again. Registration might be declined due to the capacity of the rooms for tutorial.

If you would like to attend the tutorial, **you must obtain the PHITS license before the course**. It is free of charge, and the instruction to get the license is given below (<https://phits.jaea.go.jp/howtoget.html>). It takes approximately a month for the approval process, and thus **the application form must be submitted by the end of August 2024 (the same as the registration deadline for new user)**. When you submit the application form, please select “Submission of application form” in the contact page of PHITS website and write “I would like to attend PHITS course in Malaysia 2024” in the message body. Please note that you must separately register to the course via registration page of this tutorial.

Attendees must bring a laptop PC with either Windows or Mac OS. There is no particular skill that should be learned in prior to attending the beginner course, but we recommend to take a brief look of PHITS tutorial video on YouTube to grasp the image of the tutorial contents.

<https://www.youtube.com/playlist?list=PLe8Wrr-sE8vy-ygWoAqWVrvK89PfxUFYO>

If you have any question about the course, please contact us via PHITS website (<https://phits.jaea.go.jp/contact/edit/en>).



Overview of the PHITS code

Tentative Program

Monday, 7 Oct

9:30-10:00: Registration

10:00-11:00: Installation & introduction I

11:00-11:15: (coffee Break)

11:15-12:00: Installation & introduction II
(lunch)

13:30-15:00: Basic Lecture I (geometry) / Exercise (stop α , β , γ -rays & neutron)

15:00-15:30: (tea break)

15:30-17:30: Basic Lecture I (source) / Advanced lecture (Script)

Tuesday, 8 Oct.

09:30-10:30: Basic Lecture II (tally) / Advanced lecture (options)

10:30-10:45: (coffee break)

10:45-12:00: Basic Lecture II (tally) / Advanced lecture (options)

(lunch)

13:30-15:00: Basic Lecture III (parameter setting) / Medical application (X-ray therapy)

15:00-15:30: (tea break)

15:30-17:30: Basic Lecture III (parameter setting) / Medical application (RT-PHITS)

Wednesday, 9 Oct.

09:30-10:30: Advanced Lecture (complicated source definition) / Hands-on session

10:30-10:45: (coffee break)

10:45-12:00: Exercise (stop α , β , γ -rays & neutron) / Hands-on session

(lunch)

13:30-15:00: Exercise (stop α , β , γ -rays & neutron) / Hands-on session

15:00-15:30: (tea break)

15:30-17:30: Exercise (melt snowman) / Hands-on session

Lecturer Profile

Name

Tatsuhiko Sato

Position/Organization

Research fellow / Japan Atomic Energy Agency
Specially appointed professor / Osaka University

Education and employment history

2001 Mar. Ph.D., Department of Nuclear Engineering, Kyoto University

2001 Apr. Researcher, Japan Atomic Energy Research Institute

2005 Oct. Researcher, Japan Atomic Energy Agency (due to re-organization)

2011 Oct. Principal Researcher, Japan Atomic Energy Agency

2018 Dec. – Specially appointed professor, Osaka University (Cross appointment contract)

2022 Apr. – Research fellow, Japan Atomic Energy Agency



Research area and outcomes

He is the principal investigator of the current PHITS development team. He also used the code by himself for cosmic-ray research and medical physics. He developed a model for estimating the terrestrial cosmic-ray fluxes for both solar quiet and storm periods based on the airshower simulation performed by PHITS. He also developed a model for estimating the therapeutic effects of charged particle therapy and boron neutron capture therapy based on the microdosimetric simulation performed by PHITS. He is a member of International Commission on Radiological Protection (ICRP) Committee 2 since 2017. He published more than 200 peer-reviewed papers including 51 corresponding-author ones, and they have been cited by more than 9,000 times (according to Google Scholar).

Name

Hiroshi Iwase

Position/Organization

Associate Professor / High Energy Accelerator Research Organization (KEK)

Education and employment history

2003 Mar. Ph.D., Department of Quantum Science and Energy Engineering, Tohoku University

2003 Apr. Postdoc, Gesellschaft fuer Schwerionnen Forschung (GSI)

2006 Oct. Assistant Professor, Radiation Science Center, KEK

2021 Apr. Associate Professor, Radiation Science Center, KEK



Research area and outcomes

He is a member of PHITS development team. His activity on PHITS was mainly in the period when RIKEN, GSI, and MSU were going to develop their own RI beam facility, and he contributed the use of PHITS in these research laboratories. In KEK he is involved in radiation safety and also SOKENDAI education. Presently his research themes are improving the photo-nuclear models and low energy heavy ion reactions in PHITS.