Announcement of the PHITS Tutorial in Madrid, Spain 2024

Universidad Politécnica de Madrid

Venue:
Escuela Técnica Superior de Ingenieros Industriales
Calle José Gutiérrez Abascal, 2
28006 Madrid, Spain

https://www.industriales.upm.es

Dates: 12th to 15th March 2024

Deadline for registration: 19th February 2024

Registration Fee: Free

Language: English

Course contents:

1) Beginner course (Basic + exercise lectures), for people starting with PHITS
2) Intermediate course (Hands-on session + advanced lectures), for people with beginner diploma in PHITS

Maximum number of participants: 30 in the Beginner course, and 20 in the Intermediate course (accepted by order of registration and profile).

PHITS Lecturers:

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

Local organizers and lecturers in Monte Carlo Codes and applications:

Dr. Gonzalo García (UPM)   gf.garcia@upm.es   (queries and questions)
Dra. Nuria García (UPM)
Dr. Oscar Cabellos (UPM)
Dr. Eduardo Gallego (UPM)

Eligibility for participation: Open to everyone who has PHITS license

Admission to the course will be in order of registration, based on the profile of the candidates.

Registration link: https://forms.office.com/e/7W9GGZ4Q5V

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)

If you would like to attend the course, you have to obtain the PHITS license in prior to the registration to the course. It is free of charge, and the instruction to get the license is given below (https://phits.jaea.go.jp/howtoget.html). For persons belonging to an institute in Spain or other pre-approved countries listed on the website, we recommend to obtain the license via OECD/NEA databank because the approval process is much faster. After obtaining the PHITS license, please register to the course via the following link (https://forms.office.com/e/7W9GGZ4Q5V).

During the registration, you can freely select the beginner or intermediate course level, but we strongly recommend taking the beginner course if you have not experience and you have not taken the beginner PHITS course before.

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 taking 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), or by email with the local organizers at UPM, Dr. Gonzalo García, gf.garcia@upm.es
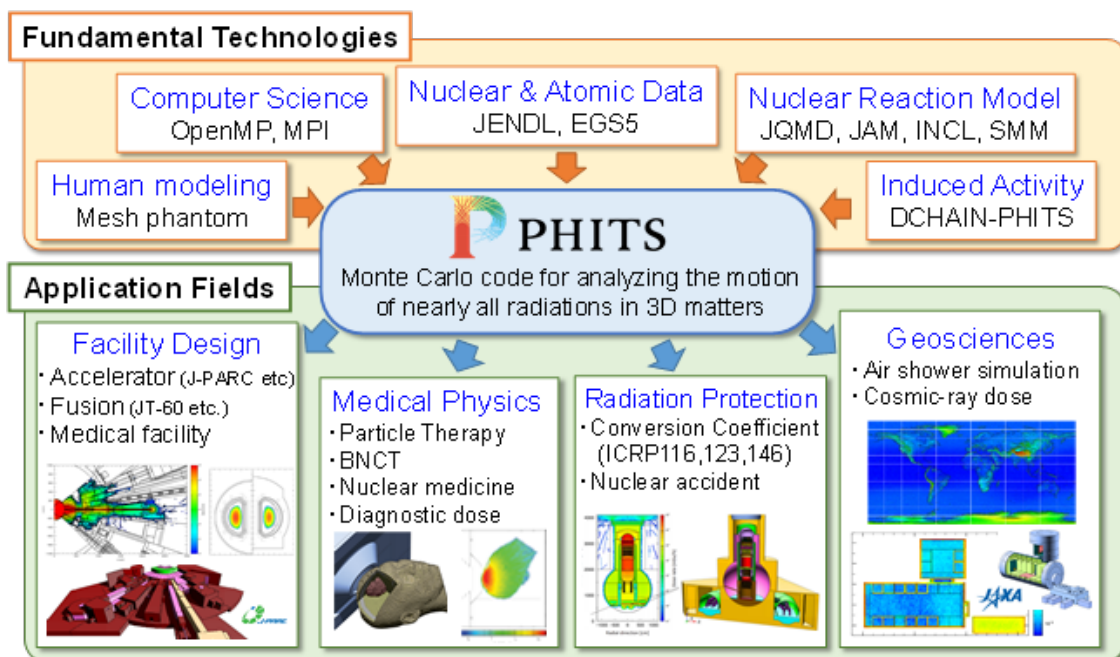
Overview of the PHITS code

Program

Tuesday, 12 March
10:30-11:00 Registration
11:00-11:15 Presentation of the Course (Remarks from local organizer and lecturers)
11:15-13:00 General Lectures in Monte Carlo Codes and applications
13:00-14:30 (lunch)*
14:30-16:00: Installation & introduction I
16:00-16:30: (coffee Break)
16:30-18:30: Basic Lecture I (geometry) / Exercise (stop α, β, γ-rays & neutron)

Wednesday, 13 March
9:00-10:30 Basic Lecture I (source) / Exercise (melt snowman)
10:30-11:00 (coffee Break)
11:00-13:00 Basic Lecture II (tally) / Advanced course (options)
13:00-14:30 (lunch)
14:30-16:00: Basic Lecture II (tally) / Hands-on session
16:00-16:30: (coffee Break)
16:30-18:30: Basic Lecture III (parameter setting) / Hands-on session

Thursday, 14 March
9:00-10:30 Basic Lecture III (parameter setting) / Advanced course (TBA)
10:30-11:00 (coffee Break)
11:00-13:00 Advanced Lecture (complicated source definition)
13:00-14:30 (lunch)
14:30-16:00: Exercise (stop α, β, γ-rays & neutron) / Hands-on session
16:00-16:30: (coffee Break)
16:30-18:30: Exercise (melt snowman)/Hands-on session
Social dinner: 20.30-22.30*

Friday, 15 March
9:00-10:30 Advanced course (script)
10:30-11:00 (coffee Break)
11:00-13:00 Q & A session
13.00-14.00 Farewell cocktail*

The contents of "Advanced course (TBA)" will be selected from "cosmicray", "detector", "shielding", "weightA", "weightB", "BNCT", "XrayTherapy", and "RT-PHITS" based on the participants' requests.

* For coffees and lunches, attendees can purchase a voucher directly at the Faculty Restaurant
** Social dinner and Farewell cocktail courtesy of the Organizers

Lecturers 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 50 corresponding-author ones, and they have been cited by more than 8,000 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, Geschellschaft 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.