Announcement of the PHITS Tutorial in Indonesia 2025

Place: Physics department room, UIN Maulana Malik Ibrahim, Malang (East Java), Indonesia Eligibility for participation: None (Open to everybody[1])
Course date: 15-20th June, 2025
Deadline for registration: 16th May, 2025 for new PHITS users
2nd June, 2025 for registered PHITS users
Maximum number of participants: 50 (accepted in order of registration)
Registration Fee: Free
(For lunch and coffee break during 5 days will be charged IDR. 750.000 per participant)
Language: English
Course contents: Basic course
Lecturer: Dr. Tatsuhiko Ogawa (Japan Atomic Energy Agency), Japan
Local organizer:

- Prof. Yohannes Sardjono (National Research and Innovation Agency of Indonesia (BRIN))
- Mr. Rasito (National Research and Innovation Agency of Indonesia (BRIN))
- Prof. Mokhamad Tirono (Islamic State University Maulana Malik Ibrahim (UIN))
- Dr. Imam Tazi (Islamic State University Maulana Malik Ibrahim (UIN))

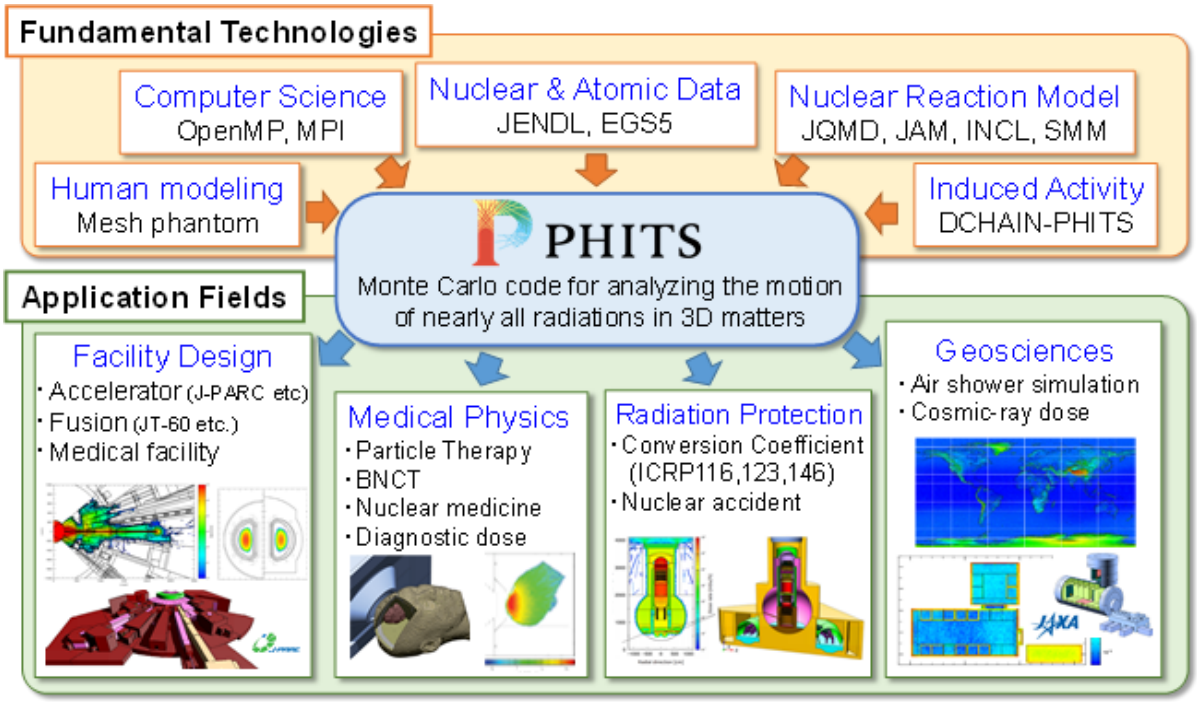
PHITS is a general-purpose Monte Carlo particle transport simulation code developed under collaboration between Japan Atomic Energy Agency (JAEA) and several institutes all over the world. It can deal with the transport of nearly all particles over wide energy ranges, using several nuclear reaction models and nuclear data libraries. PHITS can support your researches 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 license of the latest version

[1] Attendees must obtain the PHITS license in prior to the course. Registration might be declined due to the capacity of the rooms for tutorial.

of PHITS. 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 so that the application form must be submitted to JAEA by 16th May 2025. 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 Indonesia 2025" in the message body. If you have already obtained the PHITS license, please select "PHITS tutorial registration" in the contact page of PHITS website, and write "I would like to attend PHITS course in Indonesia 2025" in the message body.

Attendees must bring a laptop PC with either Windows or Mac OS. During the course, they will learn the basic usage of PHITS such as the construction of 3D geometry and the definition of source particles and tallies. There is no particular skill that should be learned in prior to attending the basic course, but we recommend to take a brief look of PHITS tutorial video on YouTube to grasp 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

Sunday, 15th June 2025

Time	Topic
18:00-20:00	Pre-course meeting for determining the course details by JAEA, Dr. Tatsuhiko Ogawa with Senior Lecturer FST UIN Malang, Prof. M. Tirono, Dr. Imam Tazi, Mr. Tri Kustono Adi, Senior Researcher PRTKMMN BRIN, Prof. Yohannes Sardjono, Mr. Gede Sutresna Wijaya and Mr. Isman Mulyadi Triatmoko, PHITS Tutorial in Indonesia 2025 committee, and all participants.

Monday, 16th June 2025

Time	Topic
08:00-8:30	Registration and Welcome Speech by Dean of Faculty Sciences and Technology (FST) UIN and Head of Research Center for Nuclear Safety, Metrology and Nuclear Quality Technology (PRTKMNN) BRIN
08:30-09:00	Opening ceremony by the Chancellor of the State Islamic University of Maulana Malik Ibrahim Malang
09:00-09:30	Current Status and Future Plan of Cancer Therapy in Indonesia by Directorate General of Health Services, Ministry of Health Indonesia
09:30-10:00	Current Status and Future Plan of Cyclotron for Boron Neutron and Capture Therapy (BNCT) and Proton Beam Therapy (PBT) in The World by General Manager Medical System Sales Group, Sumitomo Heavy Industries, Ltd., Japan, Dr. Yoshihito Kameda
10:00-10:30	Installastion PHITS Codes and check **Coffee break**
10:30-11:00	Current Status and Future Plan of Cancer Therapy Facility at Dharmais of National Cancer Center Hospital (RSKN Dharmais) by President Director of RSKN Dharmais
11.00-11:30	Current Status and Future Plan of Radiodiagnostic and Radiotherapy in Rumah Sakit Islam Surabaya by President Director Rumah Sakit Islam Surabaya
11:30-12:00	Question and Answer by Moderator from Lecturer FST UIN Malang, Mr. Tri Kustono Adi
12:00-13:00	**Lunch**
13:00-16:00	Basic Lecture I (Geometry & Source) by JAEA, Dr. Tatsuhiko Ogawa

Tuesday, 17th June 2025

Time	Topic

08:00-10:00	Basic Lecture II (Tally) by JAEA, Dr. Tatsuhiko Ogawa
10:00-10:15	**Coffee break**
10:15-12:00	Basic Lecture II (Tally) by JAEA, Dr. Tatsuhiko Ogawa
12:00-13:00	**Lunch**
13:00-15:00	Basic Lecture III (Parameter Setting) by JAEA, Dr. Tatsuhiko Ogawa

Wednesday, 18th June 2025

Time	Topic
08:00-09:00	Basic Lecture III (Parameter Setting) by JAEA, Dr. Tatsuhiko Ogawa
09:00-10:00	Advanced Lecture (Complicated Source Definitions) by JAEA, Dr. Tatsuhiko Ogawa
10:00-10:15	**Coffee break**
10:15-11:00	Advanced Lecture (Complicated Source Definitions) by JAEA, Dr. Tatsuhiko Ogawa
11:00-12:00	Exercise (stop α, β, γ-rays & neutron) by JAEA, Dr. Tatsuhiko Ogawa
12:00-13:00	**Lunch**
13:00-15:00	Exercise (stop α, β, γ-rays & neutron) by JAEA, Dr. Tatsuhiko Ogawa

Thursday, 19th June 2025

Time	Topic
08:00-08:30	Radiation Safety for Cancer Therapy by Senior Researcher PRTKMNN BRIN, Mr. Gede Sutresna Wijaya
08:30-09:00	Radiation Safety for Cosmic Ray Dose, by Senior Researcher PRTKMNN BRIN, Mr. Isman Mulyadi
09:00-10:30	Simulation Alpha Particle of Radon for Earth Quake Detection by Senior Researcher PRTKMNN BRIN, Mr. Fendi Nugroho
10:30-10.45	**Coffee break**
10:45-12:00	Exercise (Melt Snowman by Proton Beam) by Research Fellow, JAEA, Tatsuhiko Ogawa
12:00-13:00	**Lunch**

13:00-15:00	QA Session, Research Fellow, JAEA, Tastuhiko Ogawa, Senior Researcher PRTKMMN BRIN, Prof. Yohannes Sardjono, and Lecturer FST UIN Mrs. Utiya Hikmah
15.00-16.00	Closing Remarks by Dean of FST UIN and Head of Research Center for Nuclear Safety, Metrology and Quality Technology (PRTKMNN) BRIN

Friday, 20th June 2025

Time	Topic
09:00-14:00	Technical Visit to Radiodiagnostic and Radiotherapy Center in Malang Public Hospital

Lecturer Profile

Curriculum Vitae

SURNAME, first name	M Male/Female
Tatsuhiko OGAWA	
Date of birth （A.D, month, day） A.D. 1984 July 29th （age: 33）	Nationality Japanese

A.D	month	Education
2003	3	High School at Otsuka, University of Tsukuba Graduation
2003	4	Tokyo Institute of Technology Faculty of Science Entrance
2007	3	Tokyo Institute of Technology Faculty of Science Department of Physics Graduation
2007	4	University of Tokyo School of Engineering Department of Nuclear Engineering and Management Entrance
2009	3	University of Tokyo School of Engineering Department of Nuclear Engineering and Management Master Degree (Engineering)
2012	3	University of Tokyo School of Engineering Department of Nuclear Engineering and Management Ph.D (Engineering)
		Work experience
2010	1	European Organization for Nuclear Research (CERN) Visiting Researcher（Jan.~Mar.）
2010	4	Japan Society for Promotion of Science Research Fellow (DC) (A.D. 2010～2011)
2012	4	Japan Atomic Energy Agency Post-doctoral fellow （A.D. 2012～2014）
2015	4	Japan Atomic Energy Agency Tenured researcher （A.D. 2015～ Present）
2019	12	French Commission of Atomic Energy and Alternative Energies Visiting researcher （A.D. 2019～ 2020）

Research Projects

Activation of concrete in accelerator shielding (https://doi.org/10.1016/j.nimb.2011.05.031, https://doi.org/10.1016/j.nimb.2011.11.008)

Ion-induced fragmentation cross section measurement (https://doi.org/10.1016/j.nimb.2013.01.031)

Fragmentation cross section calculation by statistical multi-fragmentation model (https://doi.org/10.1016/j.nima.2013.04.078)

Gamma de-excitation modeling in PHITS (https://doi.org/10.1016/j.nimb.2014.02.007)

Kinematic correlation recovery of cross-section based transport (https://doi.org/10.1016/j.nima.2014.06.088)

Heavy-ion reaction model JQMD improvement (https://doi.org/10.1103/PhysRevC.92.024614, https://doi.org/10.1103/PhysRevC.98.024611)

Application of JQMD for nuclear matter's equation of state (https://doi.org/10.1103/PhysRevC.97.034625, https://doi.org/10.1103/PhysRevC.100.044617)

Application of track structure calculation (https://doi.org/10.1371/journal.pone.0202011, https://www.mdpi.com/2412-382X/7/1/7)

Development of track structure calculation model for PHITS (https://doi.org/10.1038/s41598-021-01822-1)

Improvement of French fission model FIFRELIN (https://doi.org/10.1140/epja/s10050-022-00800-z)

For more details, please see https://researchmap.jp/saopjWiONyzbZVqhRCdF?lang=en