Name: Dr. Mohd Idzat bin Idris
Nationality: Malaysia
Sex: Male
Date of Birth: August 1, 1987
Marital Status: Married
Email Address: idzat@ukm.edu.my
Designation: Associate Professor
(National University of Malaysia, UKM)

Educational background:

Apr 2013 – Sept 2016	Doctor of Engineering, Department of Nuclear Engineering, Graduate School of Science and Engineering, Tokyo Institute of Technology, Japan
Oct 2011 – Sept 2012	Master of Science (Radiation and Nuclear Safety), Faculty of Science and Technology, The National University of Malaysia
Apr 2007 – Mac 2011	Bachelor of Engineering (Nuclear), Department of Energy Science and Engineering, Kyushu University, Japan

Working experience:

July 2024 - current	Associate Professor, Nuclear Science Program, UKM
Oct 2016 – August 2024	Senior Lecturer, Nuclear Science Program, UKM
2012 – Mac 2013	Researcher, Department of Applied Physics, UKM
June - Sept 2011	Radiation protection technician, GSM Consultancy, Malaysia

Achievements:

Professional Membership

1. Professional Technologist (Nuclear and Radiological Technology)
2. Graduate Engineer in the Board of Engineering, Malaysia (Nuclear)
3. Radiation Protection Officer (Level 1 & 3)
4. National Radiation Safety Committee

Award

1. Gold Award in Selangor Innovation & Creativity Exposition 2018 (SLICE 18)
2. Silver Price in Seoul International Invention Fair 2020

Post:

1. Deputy Director, Professional UKM (current)
2. Radiation Protection Officer, UKM (current)
3. Coordinator, Master of Industrial Safety Management.
4. Deputy Chairman, Secretariat for Occupational Safety and Health at Faculty of Science and Technology, National University of Malaysia.

Teaching Course:

Fundamental of Nuclear Science
Physics Reactor
Nuclear Physics
Nuclear Law
Radiation Processing Laboratory
Radiation Protection Principal
Nuclear and Environmental Engineering
Radioactive Waste Management
Nuclear Instrumentation Laboratory
Atomic Physics
Introduction to Thermal Hydraulics
Nuclear Instrumentation and Reactor Technology
Radiation Safety Management
Intervention for Public Protection
Nuclear Fuel Cycle
Nuclear Emergency and Preparedness

Supervision:

PhD: 7 students
Master by Research: 5 students
Master by Coursework: 9 students
Undergraduate: 26 students

H-index and citation

H-index: 10
Citation: 408
WOS/ISI: 18 publications
Corresponding author: 14

Consultant:

1. Subject Matter Expert in Technical Working Group on SMR Pre-feasibility Study, MyPower, Ministry of Energy Transition and Water Transformation (PETRA).
2. Pre-feasibility study of TNB Nuclear Power Transition to Meet Net Zero 2050, Tenaga Nasional Berhad.
3. Fellowship Program, International Nuclear Science and Technology Academy (INSTA), International Atomic Energy Agency (IAEA)
4. Feasibility Study on the Development of a 30 MeV Cyclotron for Medical Application in Malaysia, Nuclear Malaysia Agency.
5. The Feasibility Study of the Development of a New Multi-purpose Research Reactor (MPRR), Nuclear Malaysia Agency.
6. Evaluation And Monitoring Study of Naturally Occurring Radionuclide Material Concentration and Radiological Impact Assessment at Lanthanide Mining Site in Mukim Kenering, Perak, Institute Darul Ridzuan.

Publication:

1. Nasuha Ahmad, **Mohd Idzat Idris**, Mugahed Amran, Azimah Hussin, Julia Abdul Karim, Norazreen Masenwat, Raizal S. M. Rashid, Mohd Syukri Yahya. (2025). Radiation-Induced Damage to Concrete Biological Shielding Materials: A State-of-The-Art Review. Jurnal Kejuruteraan. 97 - 135
2. Fathyah Whba, Faizal Mohamed, Rawdah Whba, **Mohd Idzat Idris**, Noramaliza Mohd Noor, Mohamad Khiari Bin Mahmood. (2024). Synthesis and characterization of cellulose nanocrystals/Gd2O3 nanocomposite as a dual-mode contrast agent for MRI via gamma-ray irradiation. – Radiation Physics and Chemistry. 1-13.
3. Nadin Jamal Abualroos, **Mohd Idzat Idris**, Haidi Ibrahim, Muhammad Izzat Kamaruzaman, Rafidah Zainon. Physical, mechanical, and microstructural characterisation of tungsten carbide based polymeric composites for radiation shielding application. *Scientific Reports (Nature)*. 2024.
4. Fathyah Whba, Faizal Mohamed, **Mohd Idzat Idris**, Mohd Syukri Yahya. Surface Modification of Cellulose Nanocrystals (CNCs) to Form a Biocompatible, Stable, and Hydrophilic Substrate for MRI. *Applied Sciences.* 2023.
5. Muhammad Abdullah Rahmat, Aznan Fazli Ismail, Nursyamimi Diyana Rodzi, Eli Syafiqah Aziman, Syazwani Mohd Fadzil, Norsyahidah Mohd Hidzir, **Mohd Idzat Idris**, Irman Abdul Rahman, Faizal Mohamed. A window into the future: case study of long-term radiological risk modelling posed by unregulated mining waste repurposing activities. *Environmental Monitoring and Assessment*. 2023.
6. Hassan Mohamed, Anas Muhamad Pauzi, Nasuha Ahmad, Nashihah Ab Karim, Mimi Nur Umaira Idham Wazir, Che Nor Aniza Che Zainul Bahri, **Mohd Idzat Idris**. Natural radioactivity analysis and radiological impact assessment from a coal power plant. *International Journal of Radiation Research.* 2023

7. Fathyah Whba, Faizal Mohamed, **Mohd Idzat Idris.** Evaluation of physicochemical and biocompatibility characteristics of gadolinium oxide nanoparticles as magnetic resonance imaging contrast agents. **Radiation Physics and Chemistry**. 2023.
8. **Mohd Idzat Idris**, Katsumi Yoshida, Toyohiko Yano. Radiation damage analysis in SiC microstructure by transmission electron microscopy. *Nuclear Engineering and Technology*. 2022
9. Muhd Afiq Hizami Abdullah, Raizal Saifulnaz Muhammad Rashid, Mugahed Amran, Farzad Hejazii, N. M. Azreen, Roman Fediuk, Yen Lei Voo, Nikolai Ivanovich Vatin, **Mohd Idzat Idris**. Recent Trends in Advanced Radiation Shielding Concrete for Construction of Facilities: Materials and Properties. Polymers. 2022.
10. Recycle Glass Waste as a Host for Solidification of Oil Sludge. Nur Syuhada Izzati Ruzali, Syazwani Mohd Fadzil, Wooyong Um, **Mohd Idzat Idris**, Rohyiza Baan. Sains Malaysiana. 2022.

Research project:

1. Investigation on Thorium Extraction Efficiency from Solvent D2EHPA and Aliquat-336 and Cost Determination Of ThO2 Production from Monazite.
2. Study on the Design of Actinide Inventory and Fission product for Homogeneous, sbu, and Duplex Thorium Fuel Study on Monte Carlo Simulation for Optimization Of Neutron Shielding Concrete In TRIGA PUSPATI Reactor.
3. Assessment of Biological Concrete Degradation of the Malaysian Nuclear Agency's TRIGA PUSPATI Reactor due to Neutron Irradiation
4. Analysis of Naturally Occurring Radionuclide Concentration in Soil, Sediment and Water at Manjung Power Station, Perak.
5. Nuclear Security Application Methodology in Designing the Effectiveness Of Physical Protection Systems.
6. Comparison of exposure dose rates from irradiated fuel using experimental methods and Monte Carlo simulation methods at the TRIGA PUSPATI Reactor, Malaysian Nuclear Agency.
7. Resistance of Barium Mullite Ceramic Radiation Shield at different fire temperatures.
8. Data Profiling For 1MW RTP Safety Related Parameters With Alarm Response and Root Cause For Fuzzy Deterministic Modelling.
9. Mechanistic Study of Y-90 as a Result of Neutron Irradiation Potential Radiotherapeutic Agents.
10. The First Repository for NORM Waste Disposal In Malaysia.
11. Study on Water Content in Soil Using Cosmic Ray Neutron Sensor.