



Irwandi, S.Si, M.Si, Ph.D

Position	Computational Physics, Geoscience, STEM (Physics Department: Bachelor Degree of Electronic Engineering Study Programme; Bachelor Degree and Master Degree of Physics Study Programme)
-----------------	---

Academic Career	<p>Doctorate course: Università di Trieste, Italy - Neo-Deterministics Seismic Hazard (2014 -2016);</p> <p>Magister Course: Institut Teknologi Bandung (ITB), Indonesia- Physics Department (2003-2005);</p> <p>Bachelor Course: Universitas syiah Kuala (USK), Indonesia - Physics Department (1994-1998)</p>
Employment	Assistant Professor of Physics Dept., FMIPA, USK (2024 – present), Head of Bachelor Degree of Electronic Engineering Study Programme at Physics Dept., FMIPA, USK (2000- 2004), Head of STEM research center, USK (2018-present)
Research and development projects (last 5 years)	<ol style="list-style-type: none"> 1. Removing subject segregation and gender bias in STEM by enabling makerspace and FabLab access in university/British Council 2024 2. Integrating ISLE in Integrated Science Instruction to Improve Science Teacher's Abilities on STEM Education/PEER-USAID 2018-2022 3. Development of IoT-based STEM Learning Modules and Biomedical Application by Using the IMAGy Device/MF 2024 4. Downstreaming and Commercialization of IMAGy-Based STEM Learning Practical Tools Products/MF 2023 5. Interdisciplinary Development of STEMC Modules Using Electromagnetic Key Concepts to Support the 2022 Curriculum for the Success of the Merdeka Belajar Program/P3KA USK 2022
Collaborations (last 5 years)	<ol style="list-style-type: none"> 1. International Islamic University Malaysia (IIUM) 2. Science and Technology Unit, Kochi University, Japan 3. National Research Institute of Astronomy and Geophysics, NRIAG, Egypt 4. Institut Teknologi Bandung (Bandung, Indonesia) 5. Universiti Sains Malaysia (Malaysia)
Patents and proprietary rights	<p>Copyright EC002023126275: Shaking Table Stewart Platform with IMAGy</p> <p>Copyright EC002023126275: Mind Mapping Of Geotechnics, From The Earthquakes To The Owner Of The Building</p>
Selective Publications (last 5 years)	<ol style="list-style-type: none"> 1. Irwandi, Zulfakriza, Muzli, Hassan, H.M. and Okubo, M., (2025). Seismic Hazard for Regional-Scale Sumatra Island Based on Realistic Physical Computation of Seismic Wave Propagation. <i>Journal of Geoscience, Engineering, Environment, and Technology</i>, 10(02). 2. Fathiya Nufus, Irwandi, Syahrin Nur, Evendi (2022) Study of ISLE-BASED STEM Approaches and Models in Its Use for Teacher Professionalism Development in Geometric Optical Case Studies, <i>Jurnal Penelitian Pendidikan IPA</i>, 8, 681-686, 2460-2582). 3. Irwandi (2021) Application of neodeterministic seismic hazard analysis to Sumatra, <i>Earthquakes and Sustainable Infrastructure</i>, 1(1), 601-615, 978-0-12-823503-4. 4. Abdul Halim, Elmi Mahzum, Muhammad Yakop, Irwandi, Lilia Halim (2021) The Impact of Narrative Feedback, E-Learning Modules and Realistic Video and the Reduction of Misconception, <i>Education Science</i>, 11, 158, 2227-7102. 5. A. Halim, Soewarno Soewarno, Elmi Elmi, Zainuddin Zainuddin, I. Huda, Irwandi (2020) The Impact of the E-Learning Module on Remediation of Misconceptions in Modern Physics Courses, <i>JPPPF (Jurnal Penelitian dan Pengembangan Pendidikan Fisika)</i>, 6, 203-216, 2461-1433. 6. Muksin Umar, Klaus Bauer, Muzli Muzli, Trond Ryberg, Irwandi, Masturiyono Masturiyono, Michael Weber (2019) AcehSeis project provides insights into the detailed seismicity distribution and relation to fault structures in Central Aceh, Northern Sumatra, <i>Journal of Asian Earth Sciences</i>, 171, 20-27, 1367-9120. 7. Muzli Muzli; Muksin Umar; Andri Dian Nugraha; Kyle Edward Bradley; Sri Widiyantoro; Kemal Erbas; Philippe Jousset; Supriyanto Rohadi; Irwandi Nurdin; Shengji Wei (2018) The 2016 Mw 6.5 Pidie Jaya, Aceh, North Sumatra, Earthquake: Reactivation of an Unidentified Sinistral Fault in a Region of Distributed Deformation, <i>Seismological Research Letters</i>, 89, 1761-1772, 1938-2057.
Membership	<p>Physical Society of Indonesia (PSI) (2020/2025)</p> <p>Indonesia Association of STEM Education (PPSTEMI)</p>
External Link	https://fisika.usk.ac.id/irwandi-s-si-m-siph-d/