



## Dr. Ir. Muhammad Isa, S.Si., M.Si

<b>Position</b>	Geophysics, Electronic and Instrumentation, Geothermal and Volcanology (Physics Department: Bachelor Degree of Electronic Engineering Study Programme; Bachelor Degree and Master Degree of Physics Study Programme; Geophysics Engineering Study Programme)
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<b>Academic Career</b>	<p><b>Doctorate Course:</b> University of Science Malaysia, Penang, Malaysia (2010-2014)</p> <p><b>Magister Course:</b> Geophysics from Gadjah Mada University (2002-2005)</p> <p><b>Bachelor Course:</b> Physics of Syiah Kuala University (1993-1998)</p>
<b>Employment</b>	Senior Lecturer of Physics Dept., FMIPA, USK (2023 – present), Head of Bachelor Degree of Geophysics Engineering Study Programme at earth engineering Dept., FT, USK (2021- 2022); Head of fundamental Physics Laboratory at Physics Dept. FMIPA USK (2007-2009); Head of Laboratory of Seismology and Dynamics of the Earth's Crust at Geophysics Dept. FT USK (2022-present)
<b>Research and development projects (last 5 years)</b>	<ol style="list-style-type: none"> <li>1. Penentuan Potensi Panas Bumi Jaboi, Sabang Dengan Pendekatan Teknik Overlay Berdasarkan Analisa Data Geosains Dan Data Satelit Yang Terintegrasi research Grant-DRPM/IDR110,000,000/2017-2018</li> <li>2. Disain,Pengembangan Dan Pembuatan Alat Geometry Normalized Electromagnetic System (Gnes) Pada Aplikasi Early Warning System Untuk Tanah Longsor, Pendeteksi Cacat Logam Dan Anomali, research Grant-USK-PNBP/IDR122,000,000/2027</li> <li>4. Pemetaan Sistem Hydrothermal Dangkal Pada Manifestasi le Jue Dan le Suum Gunung Api Seulawah Agam Berdasarkan Inversi 3d Data VLF-EM dan Electrical Resistivity/ research Grant-USK PTNBH/IDR90,000,000/2022</li> <li>5. Pemetaan sistem hidrothermal dangkal pada gunungapi Jaboi untuk pengembangan dan evaluasi geothermal berdasarkan Inversi 3D data VLF-EM dan Electrical Resistivity, Research Grant-DP2M/IDR138,500,000/2022</li> <li>6. Perancangan Needle Probe berbasis Arduino untuk estimasi model distribusi suhu bawah permukaan gunung api Seulawah Agam research Grant-USK PTNBH/IDR32,000,000/2021</li> <li>7. Ekplorasi dan monitoring aktivitas thermal pada gunung api Seulawah Agam menggunakan multi-source satellite research Grant-USK PTNBH/IDR70,000,000/2020</li> </ol>
<b>Collaborations (last 5 years)</b>	<ol style="list-style-type: none"> <li>1. Joint research with the Meteorology and Geophysics Agency (BMKG) in the field of geophysics 2022 - present</li> <li>2. Joint research and student internships with the Ministry of Energy and Mineral Resources (ESDM) of Aceh Province, 2024 to present</li> </ol>
<b>Patents and proprietary rights</b>	<p>Books:</p> <ol style="list-style-type: none"> <li>1. <b>Nazli</b>, 2022, <i>Geofisika Arkeologi</i>, Banda aceh, Syiah Kuala University Press, 978-623-264-680-3/978-623-264-681-0.</li> <li>2. <b>Muhammad Isa, dkk</b>, 2021, <i>Aceh 2021 Sumber Daya Alam dan Politik</i>, Banda Aceh, Bandar Publishing, 987-623-7936-85-5.</li> <li>3. <b>Muhammad Isa</b>, 2020, <i>Vulkanologi</i>, Universitas Syiah Kuala , USK Press, ISBN: 978-623-264-147-1 ISBN: 978-623-264-148-8 (P).</li> <li>4. <b>Muhammad Isa</b>, 2018, <i>EKSPLORASI ENERGI PANAS BUMI</i>, Universitas Syiah Kuala , USK Press, 987-602-5679-41-4.</li> </ol> <p>Patents: 2020, HKI Buku Eksplorasi Energi Panas Bumi, 000176328, Banda Aceh, Indonesia.</p>
<b>Selective Publications (last 5 years)</b>	<ol style="list-style-type: none"> <li>1. Vahreza, A., Isa, M., &amp; Zaini, N. (2024). Analysis of the Distribution of Carbon Monoxide Gas and Nitrogen Dioxide Gas and Urban Heat Island (UHI) Based on Multi-Temporal Satellite Data During the Implementation of the Covid-19. <i>Jurnal Penelitian Pendidikan IPA</i>, 10(9), 6790-6797.</li> <li>2. Isa, M., &amp; Sugiyanto, D. (2024). Analysis of Mineral Types, Density, and Porosity in the Lam Teuba Formation Using Infrared Spectroscopy Method. <i>Jurnal Penelitian Pendidikan IPA</i>, 10(SpecialIssue), 24-30.</li> <li>3. Marwan, M., Isa, M., Idroes, R., Nursyafira, N., Idris, S., Yanis, M., ... &amp; Paembonan, A. Y. (2023). Geoelectrical model of geothermal spring in le Jue Seulawah deriving from 2D VLF-EM and DC resistivity methods. <i>Journal of Applied Engineering Science</i>, 21(1), 59-69.</li> <li>4. Abdullah, F., Yanis, M., Vahreza, A., Isa, M., &amp; Zaini, N. (2022). Pemetaan potensi geothermal Seulawah Agam berdasarkan data DEMNAS dan Landsat 8. <i>Indonesian Journal of Applied Physics</i>, 12(2), 151.</li> <li>5. Yanis, M., Zaini, N., Novari, I., Abdullah, F., Dewanto, B. G., Isa, M., ... &amp; Abdurrahman, A. (2023). Monitoring of heat flux energy in the northernmost part of Sumatra Volcano using Landsat 8 and meteorological data. <i>International Journal of Renewable Energy Development</i>, 12(1), 55.</li> </ol>
<b>Membership</b>	<ol style="list-style-type: none"> <li>1. Member of the <a href="#">Indonesian Geophysics Association</a> (HAGI)</li> <li>2. Member of the <a href="#">Indonesian Physics Association</a> (PSI)</li> <li>3. Member of the Indonesian association of Geophysical Education (APPGI)</li> </ol>
<b>External Link</b>	<a href="https://fsd.usk.ac.id/muhammadisa/">https://fsd.usk.ac.id/muhammadisa/</a>