Dr. Saumi Syahreza, S.Si., M.Si

Physics Department

Position	Fundamental of Physics, Remote Sensing, Geographic Information System, Design Electronics and Instrumentation, Sensor and Transducer, Electronics, Algorithms and Programming, Meteorology and Climatology (Master Degree of Physics Study Programme),, Geographic Information System for Disaster Management (Master Degree of Disaster Information Management Programme)

Academic Career	**Doctorate Course:** Remote Sensing of Environmental Studies from the School of Physics, Universiti Sains Malaysia (2015); **Magister Course**: Master of Science in Physics Instrumentation from Institute Technology Bandung (ITB) (2005); **Bachelor Course**: Bachelor of Science (B.Sc) in Computational Physics at Unsyiah (2001)
Employment	Head of Fundamental Physics Laboratory at Physics Dept. FMIPA USK (2007-2008); Head of Electronics and Instrumentation Laboratory at Physics Dept. FMIPA USK (2008-2010) and (2018-2024); Coordinator for Hydrometeorological Disaster Mitigation and Climate Change at TDMRC USK (2017-2025); Head of Physics Department at at Physics Dept. FMIPA USK (202-2028)
Research and development projects (last 5 years)	1. Utilization of Oxbow-Lake for Flood and Drought Resilience as Nature-Based Solution (NbS) using Geo-AI in Krueng Keureuto Watershed/ Strategic Research Collaboration Grant-Directorate of Research and Community Service / IDR 130,000,000/2024-2025 2. Formulation of disaster risk models (Drought and Forest and Land Fires) in financing and insurance of State Property (BMN) and Regional Property (BMD) risks throughout Indonesia based on scenarios of various types of hazards / RISPRO Funding/ Indonesia Endowment Fund for Education Agency (LPDP)/ IDR 2,2 Milyar/2022-2024 3. Development of a Machine Learning-Based Heavy and Extreme Monthly Rainfall Prediction Model for Flood Disaster Mitigation in Aceh Province: Case Study of North and South Districts/ Research Grant-USK PTNBH / IDR40,000,000/2022-2023 4. Detection and Monitoring of Active Fault Zones in Northern Aceh, Indonesia Based on InSAR Time Series for Earthquake Disaster Management and Mitigation/Research Grant-USK PTNBH / IDR30,000,000/2020-2021 5. Design of Flood Disaster Monitoring System Based on Wireless Sensor Network with Data Exploration Method Based on Big Data Analysis/ Collaborative research-DP2M/Ubudiyah University/IDR200,000,000/2018-2020
Collaborations (last 5 years)	1. Expert Staff/Consultant in Preparation of Preparation of Contingency Plan Documents on Controlling and Overcoming Forest and Land Fires in Aceh Singkil District / Aceh Singkil Disaster Management Agency / 2025 2. Expert Staff/Consultant in Preparation of Academic Manuscript and Draft Qanun of Aceh Singkil Regency on the Implementation of Forest and Land Fire Management /Aceh Singkil Disaster Management Agency / 2024-2025. 3. Expert Staff/Consultant in Preparation of Academic Manuscript and Draft Qanun of Aceh Singkil Regency on the Implementation of Disaster Management /Aceh Singkil Disaster Management Agency / 2024-2025. 4. Instructor in Development of Dashboard Covid-19/ Aceh Provincial Health Service/ Pemerintah Aceh / 2020-2021. 5. Expert Staff of Hydrometeorological Hazard ac Climate Change in Feasibility Study of Flood Mitigation in Trumon, South Aceh /Aceh Disaster Management Agency / 2019-2020
Patents and proprietary rights	Simple Paten (Paten Sederhana): IDS000009604/Alat terapi Inframerah untuk Gangguan Sendi Rahang (equipment design); Copyright Patent (Hak Cipta): EC00202525418 /Geo-dashboard Oxbow Retention Pond Of Keureuto River (computer programs); EC00202522613/Decision Support System SupeRISKa (computer programs)
Selective Publications (last 5 years)	1. Farhan, A., Syukri, M., Syahreza, S., & Hidayat, T. (2025). Analysis of extreme weather hazards in Aceh Besar Regency, Indonesia, using a geospatial approach. *Ecological Engineering & Environmental Technology (EEET)*, *26*(5). 2. Hajashafira, C., Muksin, U., & Syahreza, S. (2024, July). Comparison between NDVI and InSAR data coherence in deformation analysis caused by the 2022 Pasaman earthquake. In *IOP Conference Series: Earth and Environmental Science* (Vol. 1373, No. 1, p. 012005). IOP Publishing. 3. Arfah, M., Tanjung, M., Syahreza, S., & Hartati, D. V. (2022, June). Analysis of seawater intrusion into groundwater in the coastal area of Durung Village, Aceh Besar Regency, Aceh Province, Indonesia. In *Journal of Physics: Conference Series* (Vol. 2243, No. 1, p. 012076). IOP Publishing. 4. Agroho, F. L., Syahreza, S., & Sugiyanto, D. (2021, May). Analysis of the rainfall event in 2018-2019 using the air stability index method at the Meteorological Station of Sultan Iskandar Muda Banda Aceh. In *Journal of Physics: Conference Series* (Vol. 1882, No. 1, p. 012023). IOP Publishing. 5. Muhajir, M., Ismail, N., Syahreza, S., & Simanjuntak, A. V. (2021). Pemutakhiran Zona Musim (ZOM) Provinsi Aceh Menggunakan Data Blending Berbasis Non-Hirarki K-Means Clustering. *Jurnal Fisika Flux: Jurnal Ilmiah Fisika FMIPA Universitas Lambung Mangkurat*, *18*(1), 35-41.
Membership	1. Physical Society of Indonesia (PSI) (2020/2025) 2. Malaysian Remote Sensing Society(MRSS) 3. Pan Ocean Remote Sensing (PORSEC)
External link	https://fsd.usk.ac.id/ssyahreza/