Physics Department

Dr. Malahayati, S.Si, M.Si

Position	Material Physics, Hydrogen storage in metal (Physics Department: Bachelor Degree of Electronic Engineering Study Programme; Bachelor Degree and Master Degree of Physics Study Programme

Academic Career	**Doctorate course**: Universitas Syiah Kuala (USK), Indonesia - Mathematics and Applied Science (2019 -2023) **Magister Course**: Universitas Gadjah Mada (UGM), Indonesia -Physics Department (2001-2003); **Bachelor Course**: Universitas syiah Kuala (USK), Indonesia - Physics Department (1994-1998)
Employment	Assistant Professor of Physics Dept., FMIPA, USK (2003 – present), Secretary of Bachelor Degree of Electronic Engineering Study Programme at Physics Dept., FMIPA, USK (2000- 2004), Secretary at Physics Dept., FMIPA, USK (2023-present), Head of fundamental Physics Laboratory at Physics Dept. FMIPA USK (2016)
Research and development projects (last 5 years)	Ekstraksi Silika (SiO2) dari Abu Sekam Padi sebagai Katalis pada Material Penyimpan Hidrogen Berbasis Magnesium Hidrida (MgH2)/penelitian Lektor/USK-PTNBH/35.000.000
Collaborations (last 5 years)	Study Pengaruh Penambahan Abu Sekam Padi Terhadap Kuat Tekan dan Porositas Beton Mutu Sedang, kerjasama dengan Dinas PUPR Aceh Analisis Sifat Fisis Dan Mekanis Beton Dengan Campuran Abu Terbang *(Fly Ash)* Sebagai Bahan *Additive* Pengganti semen Pada Campuran Beton Mutu Sedang kerjasama dengan Dinas PUPR Aceh
Patents and proprietary rights	
Selective Publications (last 5 years)	**1.** **Malahayati,** E Yufita, I Ismail, M Mursal, R Idroes, Z Jalil (2021) Hydrogen desorption properties of MgH2+ 10 wt% SiO2+ 5 wt% Ni prepared by planetary ball milling, *Bulletin of Chemical Reaction Engineering & Catalysis* 16 (2), 280-285 **2.** **Malahayati,** E Yufita, I Ismail, M Mursal, R Idroes, Z Jalil (2021) The effect of natural silica from rice husk ash and nickel as a catalyst on the hydrogen storage properties of MgH2, *Journal of Ecological Engineering* 22 (11) 3. Mursal, **Malahayati** (2020) Synthesis of TiO2-based photoelectrode and natural dye for dye sensitized solar cell (DSSC), *Journal of Physics: Conferences Series* 1882, 012006 4. Z Jalil, A Rahwanto, **Malahayati**, E Handoko, H Akhyar (2018) Hydrogen storage properties of mechanical milled MgH2-nano Ni for solid hydrogen storage material, *IOP Conference Series: Materials Science and Engineering* 432 (1), 012034 **5.** **Malahayati**, Ismail, Mursal, Z Jalil (2018) The use of silicon oxide extracted from rice husk ash as catalyst in magnesium hydrides (MgH2) prepared by mechanical alloying method, *Journal of Physics: Conference Series* 1120 (1), 012061 6. OU Rahayu, **Malahayati**, E Harnelly (2018) Study on Light Absorption of Natural Dye Extracted From Suji Leaf and Senduduk Fruit, *Journal of Aceh Physics Society* 7 (2), 106-109 **7.** **Malahayati,** K Abraha (2008) PENENTUAN KURVA DISPERSI TEORITIS POLARITON MAGNETIK PERMUKAAN DALAM BAHAN MAGNETOELEKTRIK, *BIMIPA* 16 (2), 41-50
Membership	Physical Society of Indonesia (PSI) (2020/2025)
External Link	https://fisika.usk.ac.id/malahayati-s-sim-si/