

**HUDA AKKAYA**

Nationality: Turkish

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About me	I'm a physics engineer with experience in the field of in materials science, semiconductor physics, and sol-gel coating techniques, Secondary ion mass spectrometry, Chemical gas sensor. Throughout my studies, I have worked in the production of different kind of materials in a clean room, usually using the sol-gel system.
Work experience	<p>February 2024 – Present CNR-ISSMC, Faenza Ph.D. student in Material Science and Technology As part of the project "Synthesis, Characterization, and Modelling of Thin Multifunctional Ceramic Coatings for Industrial Applications," my main tasks include modifying the chemical and physical properties of material surfaces to control wetting behavior, designing and developing advanced coatings and deposition techniques for hierarchically structured micro/nanostructures, and developing suitable materials for industrial and environmental applications. Development of multilayer thermochromic coatings on different kind of glass substrates.</p> <p>August 2023 - October 2023 Institute of Materials for Electronics and Magnetism (IMEM), Parma, Italy Erasmus Ph.D. student My main task is to synthesize MoS₂ two-dimensional material using Chemical Vapor Deposition (CVD) technique to understand its mechanical and electronic properties.</p> <p>October 2019 – February 2024 Photonics Application and Research Center, Ankara, Turkey Project Engineer As main responsibility, I have performed Secondary Ion Mass Spectrometry (SIMS) measurements for five years. Performing optical analysis of the materials developed within the scope of the project, analyzing the crystals to be developed and performing the tasks assigned in other R&D activities carried out. I took an active role in the microfabrication and characterization of hydrogen gas sensors. In this project "Production of Porous Glass by Leaching Process Using HF and H₂SO₄ Acids," I etched glass using acid mixtures to achieve the optimal pore size suitable for optical filter applications.</p>
Education	<p>2024 – Present Doctor of Philosophy – Ph.D. in Material Science and Technology (XXIX Cycle 2024-2027)</p> <p>2019-2022 Graduation M.Sc. degree in Physics, Ankara, Turkey Applied Solid State Physics Gazi University Thesis title: "Production of Nb₂O₅ thin films in different thicknesses by sol-gel coating method and their H₂ sensor applications. Also, within the scope of the thesis; I produced thin films of different thicknesses (1,2 and 3 layers) and investigated the effect of thickness on the sensing mechanism of the sensor. I also investigated the effect of rotational speeds on the thickness of thin films. Investigation of optical and morphological properties of MgZnO thin films produced by sputtering at different annealing temperatures. Main Courses: Sol-gel coating system, Crystal Upsizing Techniques, Advanced Solid-State Physics, Advanced Solid-State Physics</p> <p>2012-2017 Graduation – B.Sc. degree in Engineering Physics Hacettepe University Main Courses: Physics and Technology of Semiconductor, Materials Science, Thin Film Techniques and Applications, Optics and applications Advanced Solid-State Physics</p>
Publications	DOI: 10.1007/s10854-023-10339-4
Languages	Turkish: mother tongue; English: C1; Italian: A1
Skills	Microsoft Office and all main digital tools. Origin, Sigma plot Microfabrication, SIMS, Data analysis, CVD, Sol-gel coating system