

Thomas Kehagias

Current Position: Professor of Electron Microscopy and Structural Properties of Solids, Department of Condensed Matter and Materials Physics, School of Physics, AUTH (2016-). Email: kehagias@auth.gr / Webpage: <http://elmiclab.web.auth.gr/>

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Studies: Ph.D. in Solid State Physics “ A study of the structure and defects of Oxide-Dispersion-Strengthened (ODS) superalloys” (School of Physics, AUTH, 1991), B.Sc. in Physics (School of Physics, AUTH 1985).

Research Expertise: Characterization of the structural properties of condensed matter at the nanoscale via Transmission Electron Microscopy techniques (TEM-HRTEM-STEM) and their interrelation with the physical properties of materials. *In particular:* Structural characterization of semiconductor films grown on various substrates for photonic and microelectronic applications. Interfaces and mechanical properties of 0D, 1D and 2D nanostructures, i.e., quantum dots, nanowires, and quantum wells. Determination of the chemical composition of nanostructures by energy dispersive X-ray spectroscopy (EDXS) and STEM high-angle annular dark field (HAADF) imaging. Nanostructure of metallic nanoparticles, metallic alloys, ultra-thin films, and magnetic multilayers for spintronic applications. Hybrid soft matter conductive nanostructures and drug carriers.

Projects & Research Activities: Scientist in charge or in charge of collaborating group in 3 projects, principal researcher in 24 projects financed or co-financed by EU and national resources, supervisor/co-supervisor of 7 Ph.D. theses and 12 M.Sc. theses, evaluator of research projects, member of national and international scientific societies. Principal organizer of 1 conference, member of 3 organizing and program committees, more than 235 research papers/announcements presented in 116 conferences and schools, 11 invited talks in conferences, workshops, institutes & public events, 3 best poster awards.

Bibliometric Data: *h*-index = 26 (Scopus), 144 publications in peer reviewed international journals, 2430 citations (Scopus), 2 chapters in international scientific books, 4 highlighted, featured, or invited papers in peer-reviewed journals, guest editor of 3 international scientific volumes, member of the editorial board of the “Materials” international journal, reviewer in 19 journals, author of educational material.

Selected Recent Publications:

1. P. Ziogas, (...), T. Kehagias, (...), A.P. Douvalis, Intriguing prospects of a novel magnetic nanohybrid material: Ferromagnetic FeRh nanoparticles grown on nanodiamonds, *Metals* **12**, 1355 (2022).
2. L. Scheuer, (...), Th. Kehagias, (...), E.Th. Papaioannou, THz emission from Fe/Pt spintronic emitters with L1₀-FePt alloyed interface, *iScience* **25**, 104319 (2022).
3. Th. Kehagias, (...), E. Th. Papaioannou, Magnetization reversal and dynamics in epitaxial Fe/Pt spintronic bilayers stimulated by interfacial Fe₃O₄ nanoparticles, *Materials* **14**, 4354 (2021).
4. N.D. Bikiaris, (...), T. Kehagias, (...), S.G. Nanaki, Dissolution enhancement and controlled release of paclitaxel drug via a hybrid nanocarrier based on mpeg-pcl amphiphilic copolymer and fe-btc porous metal-organic framework, *Nanomaterials* **10**, 2490 (2020).
5. A. Jamnig, (...), T. Kehagias, (...), K. Sarakinos, 3D-to-2D morphology manipulation of sputter-deposited nanoscale Silver films on weakly interacting substrates via selective Nitrogen deployment for multifunctional metal contacts, *ACS Applied Nano Materials* **3**, 4728-4738 (2020).
6. D. Karfaridis, ..., Th. Kehagias, ..., G. Vourlias, Influence of the Pt thickness on the structural and magnetic properties of epitaxial Fe/Pt bilayers, *Thin Solid Films* **694**, 137716 (2020).