

BIOGRAPHY:

Born 15.05.1942. in Hvar. Croatia.

Education:

PhD(Sci), University of Zagreb/Physics, Solid State Physics, 1974, "Some electronic properties of concentrated Al-3d alloys".

Dipl.Eng.Phys., University of Zagreb/Physics, Nuclear Physics, 1966., "Mossbauerov effect".

Appointments:

1986- University of Zagreb, Faculty of science, Full Professor

1979-1986 University of Zagreb, Faculty of science, Associated Professor

1974-1979, University of Zagreb, Faculty of science, Senior Lecturer (Docent)

1972-1974, University of Zagreb, Faculty of science, Assistant Lecturer

1966-1972, Institute of Physics (Zagreb), Research Assistant

Professional, research, academic experience and achievements:

E. Babić was authored and coauthored about 300 scientific journal papers, 4 invited book chapters, 80 conference papers and 2 books. His work has been cited over 1500 times in scientific journals. He co-organized 2 international conferences and was invited speaker and session chair at 6 conferences. E. Babić is a member of the editorial board of journal FIZIKA A and referee for AIP and IOP scientific journals. He teaches two courses at undergraduate and two at doctoral studies at the Faculty of science, Zagreb. E. Babić was mentor for 22 Phd/M.sci. theses. As a visiting fellow/professor he worked for extended time periods at several universities (Genova, London, Strasburg, Nancy, Paris) and institutions (CSIRO, ISEM, EPFL). He was also head of Department of Physics in Zagreb and served/serves in several professional committees in Croatia and abroad.

E. Babić has been involved in research in solid state physics for over 40 years.

He was a leader of about 10 scientific projects in Croatia and two international projects. His main interest is in electronic transport and thermodynamic properties of metallic (including supersaturated alloys, metallic glasses and nanostructured alloys) and ceramic systems (mostly high temperature superconductors (HTS) and MgB₂), as well as the development of the experimental techniques. Some achievements of this work are:

The evidence for localized spin fluctuations in concentrated AL-3d alloys, observation of magnetic contribution to electrical resistivity of amorphous Ferro magnets, the evidence for strong ferromagnetism in amorphous Fe-Co-Ni base alloys, the correlation between the electronic structure and electronic and thermodynamic properties in amorphous Zr-3d alloys and phenomenological model for magnetization of soft ferromagnetic ribbons. For superconductors, he introduced a two-phase description of electromagnetic properties of ceramic HTS, percolative description of their critical currents, explained the influence of sheating on resistivity and I-V curves of superconducting wires,

proposed, verified and explained enhancement of electromagnetic properties of HTS and MgB₂ composite wires upon introduction of nanoscopic defects (fission tracks/nanoprecipitates). He was awarded “Ruđer Bošković” prize for scientific achievement in 1974.

Currently (from 2007.) he leads projects “Electromagnetic properties of nanostructured materials” and on UKF project “Enhancement of electromagnetic properties of MgB₂ superconductor by magnetic nanoparticle doping” performed jointly with University of Wollongong, Australia. Within the framework of UKF project a specialized laboratory (unique in Croatia) for the production of nanoparticles has been formed and equipped at the Department of Physics in Zagreb. Furthermore, the equipment for the production of superconducting MgB₂ wires has also been purchased and the first state of art superconducting wires were produced in Croatia (see www.phy.hr/~mgb2).