Raimondo Cecchini

Education.

• 19/01/2004, University of Bristol (Bristol, U.K.), PhD in Physics. Thesis title: "AFM study of metal electrodeposition on semiconductors and patterned electrodes".

• 23/10/1998, University of Bologna (Bologna, Italy), MSc Physics degree. Thesis title: "Fabrication of microstructures on Si and GaAs by electrodeposition and lithography".

Work and research experience.

• November 2020 – present. Institute for Microelectronics and Microsystems (CNR-IMM), Bologna unit (Italy). Researcher.

• January 2015 – October 2020. Institute for Microelectronics and Microsystems (CNR-IMM), Agrate Brianza unit (Italy). Post-doc/researcher. MOCVD growth and characterization of chalcogenide thin films and nanowires for phase change memories.

• October 2011 – December 2014. Institute for the Study of Nano-Structured Materials (ISMNCNR, Bologna, Italy). Post-doctoral researcher. Deposition and characterization of organic and metallic thin films by thermal evaporation and e-gun evaporation for spintronic devices.

• October 2010 – September 2011. Institute of Material Science of Seville (ICMSE-CSIC, Spain). Post-doctoral researcher. Sputter deposition of thin films, SEM, XRD and mechanical characterization (adhesion, residual stress) of nanostructured coatings and thin films.

• January 2007 – September 2010. Marche Polytechnic University (Ancona, Italy), Engineering Department, Metallurgy group, post-doctoral researcher. Characterization of thin films and protective coatings by SEM, AFM, XRD and nanoindentation; coatings thermal oxidation behavior.

• February 2004 – January 2007. STMicroelectronics (Agrate Brianza, Milano, Italy) Central R&D for non-volatile memories, process development engineer. Chalcogenide thin films deposition by sputtering for phase change memories, hardware and process audit and development.

Research interests and expertise.

• Thin films, coatings and nanostructures growth by electrodeposition, sputtering, thermal evaporation, electron-gun evaporation and MOCVD.

• Thin films, coatings and nanostructures characterization by AFM, SEM, XRD, TXRF and TEM.

• Thin films and coatings (nano)mechanical characterization by nanoindentation and scratch.

• Lithography, nano-patterning/nano-structuring.

• Phase change memories; spintronics; thermoelectric materials.