

Keynote Lecture

Self-lubricating coatings – solution for near frictionless contacts?

Name: Albano Augusto Cavaleiro Rodrigues de Carvalho

Nationality: Portuguese

Born: Tondela, Portugal at 21st May 1958

Scientific degrees:

2002 – Aggregation, Materials Science, Faculty of Sciences and Technology of Coimbra University.

1990 – PhD, Materials Science, Faculty of Sciences and Technology of Coimbra University.

1986 – MSc, Materials and Fabrication Processes, University of Porto.

1981 – BSc, Mechanical Engineering, Faculty of Sciences and Technology of Coimbra University.

Actual position:

Full Professor in Materials Science of the Mechanical Engineering Department of the Faculty of Sciences and Technology of Coimbra University (DEM-FCTUC), since May 2005.

- Vice-Director (area of Research Centres and Projects) of FCTUC since January 2010

- Head of the research group “Surface Engineering Group” of the “Centre for Mechanical Engineering of the University of Coimbra” since 2009.

- Head of the “Surface Modification Unit” in the “IPN - Instituto Pedro Nunes” (Institute of interface between the University and Industry with an enterprises incubator) from 2006

- Head of the Laboratory LED&Mat in IPN from July 2011.

Main research areas:

Materials and Surface Engineering, Structural transformations, Deposition and characterization of thin films, Tribology, Nanocrystalline materials, Electrolytes Fuel Cells, Biomaterials.

Other research areas:

Hard coatings, Mechanical characterization of thin films (depth sensing indentation), Corrosion and oxidation behaviour of thin coatings, Self-lubricating coatings.

Participation in R&D projects:

Participation in more than 30 research projects from which was responsible in more than 20. Now is leading 2 national funded projects and is responsible at Portugal for 3 international projects from the 7th Framework Programme of EU. Companies are integrated in the consortiums of these projects.

Other activities:

- Supervising: 14 Post Docs (9 concluded), 10 PhDs (6 concluded) and 15 MSc students
- Projects reviewer for national funding agencies in different countries: Switzerland, Czech Republic, France, Hong Kong, Romania, Hungary
- Referee of several papers of the following journals: “Applied Physics Letters”; “Scripta Materialia”, “Plasma Processing & Polymers”; “Surface and Coatings Technology”, “Vacuum”, “Applied Surface Science”, “Materials Science Forum”, “Thin Solid Films”, “Key Engineering Materials”, “Advanced Engineering Materials”, “Journal of Vacuum Science & Technology A”, “Journal of the Serbian Chemical Society”, “Nanotechnology”, “Acta Materialia”, “Journal of European Physics – D”, “Journal of Applied Physics”, Materials Chemistry and Physics.

Publications

More than 200 papers published from which about 190 in international journals of SCI. About 1500 citations and H index: 20.