



Session description

- Chairpersons names: Prof. Dimitris Mataras – Prof. Costas Galiotis
- Affiliation: Department of Chemical Engineering – University of Patras
- Title of the session: Materials Surface Processing for Engineering applications
- Objectives: Materials surface processing, monitoring and characterization are key parameters for their successful implementation in engineering applications. The current session is mainly focused, but not strictly restricted, on materials used in automotive and aerospace industry. The specific industry has a persistent need for new or advanced materials with improved physicochemical, mechanical, and thermal properties together with new and advanced techniques for their characterization and in-situ monitoring of their performance. The current session aims to address the status and trends on preparation of advanced nanocomposite materials, new techniques for surface modification, deposition of coatings, improved methods for surface characterization and monitoring of materials failure mechanisms and failure.
The session addresses the following topics:
- Anticorrosive coatings, Thermal Barrier Coating, Emissive coatings, Radiation Shielding Coatings
 - Nanocomposites and mechanical properties
 - Surface restoration and repairing processes
 - In-situ monitoring of materials failure
 - Anti-icing / Self-cleaning materials - Hydrophobic/Hydrophilic surfaces
 - Lubricant coatings