PSE 2010 – Conference Topics

1 Plasma and ion surface engineering ·

- **Advanced plasma and ion source technologies**
  - Pulsed plasmas,
  - HIPIMS,
  - Atmospheric plasma sources,
  - Ion implantation / Plasma immersion ion implantation,
  - New ion and plasma sources,
  - Industrial device technology
- **Properties of technological plasmas**
  - Plasma diagnostics / process control,
  - Plasma modelling
- **Plasma treatment and cleaning**
  - Plasma-surface interaction,
  - Plasma treatment of polymers,
  - Plasma sterilization and bio-functionalization,
  - Surface cleaning / plasma etching,
  - Ion and laser treatment

2 Deposition technologies

- **PVD**
  - Magnetron sputtering,
  - Vacuum arc deposition,
  - Plasma-activated evaporation ·
- **PECVD**
  - Low pressure plasma CVD,
  - Plasma polymerization,
  - Atmospheric pressure plasma CVD
- **Plasma diffusion treatment**
  - Plasma nitriding / carburizing,
  - Hybrid and duplex processes
- **Plasma spraying**
- **Ion-assisted deposition**
  - Ion beam deposition,
  - Ion beam sputtering
- **Coating of special geometries**
  - Large area deposition,
  - Coating of inner walls and complex geometries (trenches, holes, ..)

3 Films and coatings

- **Nano films**
  - Ultrathin films,
  - Multilayer films,
  - Nanocomposite films,

    - Nanostructures and nanoparticles
- **Protective and tribological coatings**
    - Tribological coatings,
    - Carbon-based films,
    - Corrosion-resistant coatings,
    - Barrier coatings
- **Functional coatings**
    - Optical coatings,
    - Conductive and photocatalytic oxides,
    - Films for photovoltaics,
    - Films with special electrical functions,
    - Films with special magnetic functions,
    - Films for biomedical applications

4 Properties and characterization of films and modified surfaces

- Structure and composition,
- Geometrical characterization (thickness, roughness)
- Mechanical properties,
- Internal stresses,
- Optical properties,
- Electric and magnetic properties