



UPO UNIVERSITÀ DEL PIEMONTE ORIENTALE
DIPARTIMENTO DI SCIENZE E INNOVAZIONE TECNOLOGICA

EVENTI DiSIT

Seminario | Seminar

20-07-2023

10:00-13:00

Aula B303

Aerogels: synthesis, characterization and applications

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The term aerogel is used to describe a family of open porous solids that can be fabricated from a wide variety of basematerials e.g. inorganic oxides, carbon, biopolymers, synthetic polymers. Aerogels are highly porous and consist of an open-cell pore network. Their main characteristics are high specific surface area (500–1200 m² g⁻¹), high porosity (80–99.8%), low density (~0.003–0.5 g cm⁻³), low thermal conductivity (0.005–0.1 W/mK), ultra-low dielectric constant ($k = 1.0$ – 2.0) and low refraction index (~1.05). Relying on these characteristics, the main research directions for the applications of aerogels are as follows: i) thermal and electrical insulation for industrial applications; ii) high performance adsorbents for gas separation and for environmental remediation; iii) catalysts and catalyst supports; iv) drug delivery systems, and scaffolds for tissue engineering and regenerative medicine. For these reasons, aerogels are currently one of the most extensively researched porous materials.

EVENTO APERTO A:

Teachers, Research Fellows, Postdoctoral researcher, PhD students, Students, external UNIUPO people

SEMINARIO IN LINGUA: English

