

COMET MAT

New environmental constraints for space materials: how can we anticipate tomorrow's needs?

30-31 march 2026 ONERA Toulouse

30 March 2026	
13h-13h45	Workshop welcome
13h45	COMET + workshop Introduction
14h	o Environmental' risks on space materials
14h30	o Introduction to LEO Environmental Constraints: Strategy for the Selection of External Satellite Materials
15h00	o Induced particulate contamination due to atomic oxygen erosion of polymers: is it a critical issue?
15h30	o Assessing the Criticality of Synergistic Effects with Atomic Oxygen (AO): Materials-Related Issues
16h00	Coffee break
16h30	o Impact of Plasma Propulsion on Satellite Surface Elements—Erosion, Contamination, and Associated Effects
17h00	<i>Thematic discussion (erosion)</i>
17h30	Closing
31 March 2026	
9h00	o Materials outgassing: impact of environmental conditions.
9h30	o UV Aging of Contaminated Materials: Influence of Contaminant Deposit Morphology on Solar Absorptivity
10h	o Morphology of contaminant deposits: influence of surface roughness and chemical composition of materials
10h30	o Experimental Assessment of Contamination-Repellent Coatings for Organic Molecular Contamination Mitigation on Spacecraft Sensitive Surfaces
11h00	Coffee break
11h30	<i>Thematic discussion (contamination)</i>
12h00	o ESA's materials test facilities for future space missions
12h30	Lunch
14h00	o Polymers erosion by low energy heavy ions plasma, morphology changes and contamination risks.
14h30	o Numerical modelling of ion sputtering for space applications (metals, ceramics, polymers)
15h00	o Lunar dust and materials performance challenge (Panel discussion TBC)
15h30	o End of life of spacecraft in LEO/VLEO : conditions of atmospheric re-entries and impact on design.
16h	o Radiation shielding : Geopolymer an alternative to Lead-based materials
16h30	Wrap-up and closing