

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	Welcome	
13h45	COMET + workshop Introduction	
14h	o Environmental' risks on space materials	E. Laurent CNES
14h30	o Introduction to LEO Environmental Constraints: Strategy for the Selection of External Satellite Materials	T. Gineste ADS
15h00	o Induced particulate contamination due to atomic oxygen erosion of polymers: is it a critical issue?	D. Faye CNES
15h30	o Assessing the Criticality of Synergistic Effects with Atomic Oxygen (AO): Materials-Related Issues	S. Duzellier ONERA
16h00	Coffee break	
16h30	o Impact of Plasma Propulsion on Satellite Surface Elements—Erosion, Contamination, and Associated Effects	M. Villemant ONERA
17h00	<i>Thematic discussion (erosion)</i>	
17h30	Closing	
31 March 2026		
9h00	o Materials outgassing: impact of environmental conditions.	A. Ghodh bani
9h30	o UV Aging of Contaminated Materials: Influence of Contaminant Deposit Morphology on Solar Absorptivity	D. Lansade CNES
10h	o Morphology of contaminant deposits: influence of surface roughness and chemical composition of materials	A. Zamo ONERA

10h30	o Experimental Assessment of Contamination-Repellent Coatings for Organic Molecular Contamination Mitigation on Spacecraft Sensitive Surfaces	A.Saverino TAS
11h00	Coffee break	
<i>11h30</i>	<i>Thematic discussion (contamination)</i>	
12h00	o ESA's materials test facilities for future space missions	A.Tighe ESA
12h30	Lunch	
14h00	o Polymers erosion by low energy heavy ions plasma, morphology changes and contamination risks.	L. Nicolas ONERA
14h30	o Numerical modelling of ion sputtering for space applications (metals, ceramics, polymers)	L. Chiabo ONERA
15h00	o Lunar dust and materials performance challenge (Panel discussion TBC)	JC Mateo-Velez, T. Pacaud ONERA
15h30	o End of life of spacecraft in LEO/VLEO : conditions of atmospheric re-entries and impact on design.	C. Puig ADS
16h	o Radiation shielding : Geopolymer an alternative to Lead-based materials	P. Jouanne TAS
16h30	Wrap-up and closing	