



## Environmental Factors

Environmental factors are all forms of physical, chemical or other influences on the object under examination, stemming mainly from the direct or indirect surroundings during production, shipping and operation.

From the point of view of the object under investigation, it is initially irrelevant whether the environmental influences are of natural origin (e.g. earthquake), or of a technical nature (e.g. vibration and shock during transport).

Environmental engineering is an interdisciplinary engineering or scientific field, working on a very wide scale. Its methods of operation comprise the following steps:

- Determining environmental factors
- Simulating environmental effects under controllable conditions
- Assessing the interaction between environment and object

Environmental engineering aims to optimize products for their application. Environmental tests are designed to ensure that a product is sufficiently tested, but not over-tested. Economic considerations play a large part in environmental simulations. Expenditure for technical products to obtain environmental qualifications is normally offset by better quality and greater reliability.



The Joint Undertaking is the European Union's leading research and innovation program for transforming aviation towards a sustainable and climate-neutral future.

Pulling together the best talent and capabilities of the private and public sectors and developing cutting-edge technologies, and making these available for a transformational leap in aircraft performance in the 2030s, the new Clean Aviation Joint Undertaking will pave the way towards the EU's ambition of climate neutrality by 2050.

Operating at the center of a broad and diverse eco-system of players across Europe ranging from the aeronautical community, pioneering SMEs, research establishments and academia, it acts as a hub for new ideas and bold innovations.

As a European public-private partnership, Clean Aviation pushes aeronautical science beyond the limits of imagination by creating new technologies that will significantly reduce aviation's impact on the planet, enabling future generations to enjoy the social and economic benefits of air travel far into the future.

The Clean Aviation Joint Undertaking builds on the success of the Clean Sky Joint Undertaking program, which will continue to run until 2024. Clean Sky will deliver more than 34 flagship demonstrators, more than 106 other demonstrators contributing to the flagship demonstrators, and more than 1000 technologies by the end of the program.



Program

## Conference on Environmental Testing and Engineering in Aerospace

ILA, Berlin, 5-6. June, 2024

Impact Testing | Corrosion Testing  
Hybrid Electric Aircraft | EMC and EMR  
Weathering



The 81st CEEES Meeting will be held in conjunction with the Internationale Luftfahrtausstellung ILA Berlin, Germany, 5<sup>th</sup>-6<sup>th</sup> June 2024. The ILA is a trade fair focused on aviation and space, and includes conferences on specific aviation and space topics. "Testing and Engineering in Aerospace" on 6<sup>th</sup> of June in the ILA conference area. The conference is planned to be in-person.

The organization is supported by the national association for environmental testing in Germany, Gesellschaft für Umweltsimulation GUS e.V..

### Organizing Committee

**Karl-Friedrich Ziegahn**, Gesellschaft für Umweltsimulation GUS e.V. and Karlsruhe Institute of Technology KIT (GERMANY)

**Thomas Reichert and Sabine Aref**, Fraunhofer ICT and Gesellschaft für Umweltsimulation GUS e.V., (GERMANY)

**Giulio D'Emilia**, CEEES President, Department of Industrial and Information Engineering and Economics, University of L'Aquila, L'Aquila and A.I.V.E.LA (ITALY)

**Paul Grillberger**, CEEES Vice President, Österreichisches Forschungsinstitut OFI, and Österreichische Gesellschaft für Umweltsimulation ÖGUS (AUSTRIA)

**Antonella Gaspari**, Politecnico di Bari - Department of Mechanics, Mathematics and Management DMMM and A.I.Ve.La (ITALY)

**Patrycja Perrin**, Association pour le développement des sciences et techniques de l'environnement, ASTE, (FRANCE)

Registration is necessary for participation please fill in the following form (see next page).

### Conference Chairman

**Thomas Reichert**, Fraunhofer ICT and Gesellschaft für Umweltsimulation GUS e.V., (GERMANY)



### 81<sup>st</sup> CEEES Meeting, June 5th - 6th 2024, Berlin

HELMHOLTZ Geschäftsstelle (2. OG), SpreePalais am Dom, Anna-Louisa-Karsch-Straße 2, 10178 Berlin and ILA Berlin, Messestraße 1, 12529 Schönefeld (Berlin)

#### Registration form

Please send your registration form to: [secretariat@gus-ev.de](mailto:secretariat@gus-ev.de)

Company name

Given name

Family name

Address

Country

Phone

E-mail

VAT number

Please indicate below which parts of the meeting you will attend.

#### Program

##### Wednesday, June 5th, 2024

HELMHOLTZ Geschäftsstelle (2. OG), SpreePalais am Dom, Anna-Louisa-Karsch-Straße 2, 10178 Berlin

1.00 pm – 3.00 pm CEEES Technical Meeting € 20,-

3.30 pm – 5.30 pm CEEES General Assembly

7.30 pm CEEES Gala Dinner € 80,-

##### Thursday, June 6th, 2024

ILA Berlin, Messestraße 1, 12529 Schönefeld (Berlin)\*

Hall 6, Conference room "Neptune"

10.15 am – 1.00 pm Conference on € 100,-

Environmental

Testing and Engineering

in Aerospace

\*An additional ticket is needed for entrance to the trade fair.

### Program

10:15 Welcome and introduction  
Thomas Reichert, Fraunhofer ICT, Pfingsttal, Germany  
Giulio D'Emilia, CEEES, University of L'Aquila, Italy  
Karl-Friedrich Ziegahn, GUS, KIT, Germany

10:30 P 1 Structural testing of Outer Wing Box with LRI and TP-ISC technologies  
Blanca de Nicolás Urrutia, Airbus Defence and Space  
Isabel Martín Hernando, FIDAMC, Getafe, Spain

10:55 P 2 Aircraft materials and structures impact testing – Environmental test conditions and damage assessment challenges  
Manuel Gomez, Nelson Matos, Margarida Pinto  
ISQ Instituto de Soldadura e Qualidade, Porto Salvo, Portugal

11:20 P 3 Efficient and High-fidelity Full Wave Methods for Electromagnetic Interaction Problems on Large Platforms  
Giulio Antonini, University of L'Aquila, Italy

11:55 P 4 Transitioning from full-scale A/C to a drone EMC testing program  
Hugo Tavares, Nelson Matos, Margarida Pinto  
ISQ Instituto de Soldadura e Qualidade, Porto Salvo, Portugal

12:20 P 6 Hygrothermal Ageing Effects on the Mechanical Behaviour of 3D-Printed Thermoplastic Composite Structure  
Antonios G. Stamopoulos,  
University of L'Aquila, L'Aquila, Italy  
Jonathan Glinz, Sasha Senck,  
University of Applied Sciences Upper, Wels, Austria

12:45 Closing Remarks