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Challenges in greener aviation: the hybrid-electric solution

TU Delft, the Netherlands

November 9th - 13th, 2020

MSc and PhD students

PIPISTREL Compact Dynamics DLR Deutsches Zentrum für Luft- und Raumfahrt German Aerospace Center ulm university universität uulm H2FLY TUDelft POLITECNICO MILANO 1863 University of Maribor

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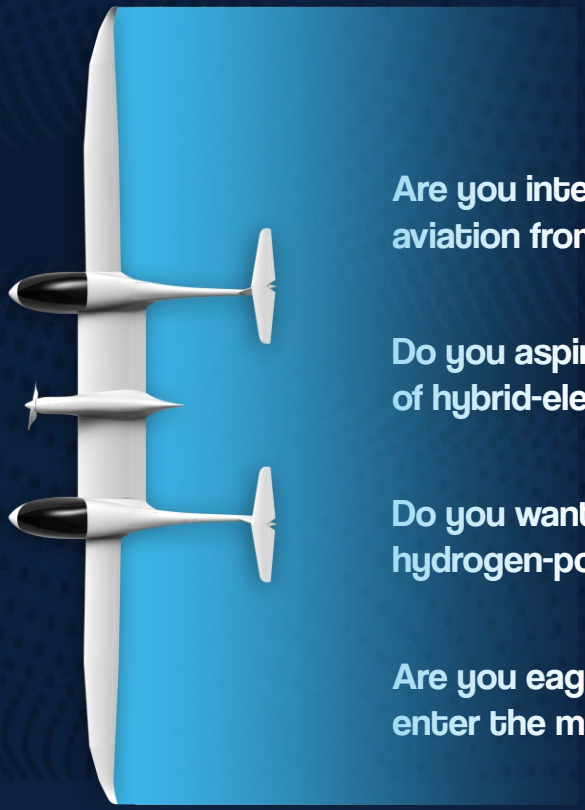

Are you interested in learning about the future of more sustainable aviation from the leaders in electric flight?

Do you aspire to deepen your knowledge about practical challenges of hybrid-electric flight?

Do you want to discover the technology behind the most powerful hydrogen-powered aircraft ever?

Are you eager to give your contribution so that sustainable aircraft enter the market?

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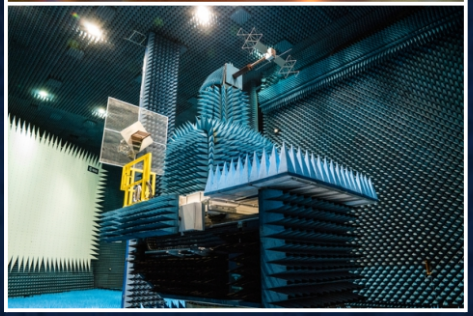

You will have the opportunity to learn from aeronautical and system engineering experts working in the MAHEPA project, plus the chance to visit ESA's European Space Research and Technology Centre (ESTEC).

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Programme

INTRODUCTION TO MORE SUSTAINABLE AVIATION AND INITIAL AIRCRAFT SIZING

Operating requirements and key performance indicators for hybrid-electric aircraft

Conceptual design of hybrid-electric powered aircraft

Novel approaches to safety assessment and regulation perspectives

SUSTAINABLE AVIATION: SYSTEM- AND COMPONENT-LEVEL PERSPECTIVES

Electrical machines: design principles and main aspects

Fuel cell systems: technological features and sizing criteria

Innovative thrust generation devices and aerodynamic integration

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Programme

SUSTAINABLE AVIATION: MAKING IT REAL AND ITS SOCIETAL IMPACT

Production of more sustainable aircraft: integration aspects

The role of flight tests: from test definition to data analysis

Market implementation of hybrid-electric aircraft

Ground infrastructure investments for operation of hybrid-electric aircraft

TEAM WORK

Aircraft category identification at varying operating requirements

Component identification and sizing

Market assessment of hybrid-electric air transportation

Note: Field trip and other social activities will be defined upon completion of the selection process.

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Who should attend?

- MSc and PhD students in aeronautical, mechanical, electrical, and other industrial engineering courses;
- Students who are interested in innovation. Mandatory requirements: basic knowledge of Matlab, minimum English proficiency corresponding to CEFR B2 level.

How to apply?

Fill out the registration form.

Applicants will receive a confirmation e-mail with a prompt to send in:

- CV (with personal information, preferably Europass CV);
- transcript of records and degree certificate (with description of local grading system);
- letter of recommendation confirming mandatory skills for attending MAHEPA Autumn School, signed by a supervising professor;
- a short motivation letter for participation (max. 1 page).

Deadline for applications!

Submit your application by Tuesday, 30th June 2020.

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ACCOMMODATION

We have prepared a shared hostel for all participants

Right in the heart of the historic centre of Delft you can find Hostel Delft, located along a beautiful canal, so all places of interest are in a walking distance (the Market square with the Church and Old Town Hall are literally around the corner). In the communal lounge room you will find a good place to relax, meet new friends, watch a movie or cook a nice meal. Outside you will find a very spacious roof top terrace, where you can socialize and enjoy the city life.

Voldersgracht 17, Delft, Netherlands

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ADMISSION INFORMATION

- Applications will be evaluated by a committee following the order in which they are received.
- The number of participants is limited to **20 students**, who will be selected according to predefined criteria.
- The students will receive a confirmation e-mail with further information after the selection process is finished.
- Participants will be provided with a Certificate of Completion of the MAHEPA Autumn School.
- The participants shall comply with all the regulations applicable to the Delft University of Technology (TU Delft).
- Participants are responsible for their own insurances (civil liability, accident and health insurance) during their stay at the Delft University of Technology (TU Delft).

COST REIMBURSEMENT

Accommodation, meals and field trip costs will be covered by the MAHEPA Consortium.

Further information can be found at:

Sara Chiba info@mahepa.eu https://mahepa.eu MAHEPA project mahepa4 MaHePa4