

## Student Challenge at the 12<sup>th</sup> International Symposium on NDT in Aerospace

### New Deadline for Student Challenge: May 15, 2020

In the second edition of the NDT Student Challenge, your team (2-4 students) detects and characterizes flaws in an additively manufactured metal part. The organizers will provide the test specimens which have been characterized before to guarantee the similarity of each sample.

Keeping the high academic level and popularity of last year's Student Challenge has led the organizers to perform a pre-selection of the participating teams. The teams are therefore asked to submit a proposal describing the methods potentially to be used and the general approach to be taken, which will then decide upon which of the applying teams will be selected. Although not being a must, X-ray Computer Tomography will be considered as a reference while the application of alternative methods like Ultrasound, Thermography and Eddy Current is very much encouraged and will possibly achieve a higher rank in the rating.

Once a team has been selected all measurements should be properly documented (paper, recordings, diagrams, video, etc.) such that the NDT methods applied and the consecutive evaluation procedure proposed can be well presented at the 12th International Symposium on NDT in Aerospace due in Williamsburg/VA, USA on October 6 to 8, 2020. The teams will have to present their results in a special session and the presentations held and papers submitted will be evaluated based on predefined evaluation criteria by an interdisciplinary and independent jury. Some of the evaluation criteria are given below and further will be made available to the teams in due course in case of need.

To guarantee an equality and hence fairness of the challenge, the test specimens have been designed by members of the organizing team and will be manufactured and quality controlled centrally through the organizers such that all specimens contain the same type of artificial defects before shipping them out.

### Evaluation criteria:

The criteria upon which the challenge and hence the successful winner will be decided are the following:

- NDT techniques to be used including their combinations starting from computer tomography and leading to techniques beyond state-of-the-art
- Location and sizing of the artificial flaws
- Potential for automation in inspection including technology readiness level in view of industrial application
- Robustness of the technique proposed (i.e. probability of detection);
- Quantified cost and speed of the inspection;
- Presentation of the inspection approach (clarity & style);
- Paper submitted for the symposium.

## Procedure:

**NEW - Until May 15, 2020:**

Deadline for the proposals to be submitted at <http://www.ndt2020.utcd Dayton.com/index.html> from teams eager to participate in the NDT Student Challenge 2020.

May 29, 2020:

Teams to be informed regarding acceptance and test specimens to be shipped to the addresses provided by the accepted teams.

September 11, 2020

Submission of full paper

October 2019:

12th International Symposium on NDT in Aerospace Symposium in Williamsburg, Virginia: Presentations of the different solutions in a special session and award ceremony at the social event of the symposium

## The aim of this challenge:

With this challenge, we want to encourage and honor students to apply, invent and present their ideas to an international community coming from academia, authorities, industries and research organizations. Besides we aim for increasing the participation of students to international scientific symposia and to provide them with a platform for their future career as well as deepening their interest into the field of aerospace and NDT.

## The Jury:

The jury will be well selected being composed of members who should not have a conflict of interest with the teams presenting. The members will have a background in aerospace and/or NDT and represent the following communities:

- Academia (professor or lecturer)
- Industry representative with AM or aerospace background
- Industry representative with NDT background
- PhD Student (< 30 years old)

Representatives from research organizations are considered as academia.

Female participation will be encouraged.

### Cost:

At least two team members have to register for the symposium. No registration, travel and accommodation cost will be covered initially. The prize for the winning team will have a value of 1,650 US\$ and will serve as a deduction of the team's participation cost at the symposium (registration fees, accommodation, travel).

### Rules:

Every team consists of at least two and no more than four students (PhD students included, student card or enrolment certificate required). No student is allowed to be older than 30 years. Two members of the team have at least to register for the symposium to present the results at the 12th International Symposium on NDT in Aerospace in Williamsburg/VA, USA

The teams are welcome to seek technical and financial support from industries and research organizations.

### Questions:

If you have questions about the NDT in Aerospace Student Challenge please contact:

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