

## Marie Skłodowska-Curie Early Stage Researcher - PhD position

at the Prof. K. Baršauskas Ultrasound Research Institute,  
Kaunas University of Technology, Lithuania  
in the frame of the Marie Skłodowska-Curie European Training Network:

### NDTonAIR: Training Network in Non-Destructive Testing and Structural Health Monitoring of Aircraft structures

EU call: H2020-MSCA-ITN-2016 - [www.ndtonair.eu](http://www.ndtonair.eu)

**Title of the ESR-PhD Research Project:** Evaluation of the bonding quality using different NDT techniques: ultrasonic, EM and thermography.

**Abstract:** Current tendencies in non-destructive testing are that more and more complicated objects must be inspected. In most cases it requires combination of several inspection methods and only merged together inspection data obtained by all of them enable to detect damages in the component. The project aims are: (1) to create numerical models enabling investigation of propagation of ultrasonic waves, electromagnetic waves and thermal propagation through the joints with different bonding or adhesion conditions or material states; (2) to carry out experimental investigations and to determine the regularities of ultrasonic and electromagnetic techniques and thermal characters through the joints with different level of adhesion and material state; (3) to carry out experiments by comparing different techniques, including pulsed eddy current, thermography for investigations of the quality of stress condition.

**Expected results:** (1) numerical models for investigation of the joints with different type and level of adhesion in the bonding; (2) estimation of the UT measurements to detect “weak” bonding; (3) comparison and fusion where possible of three NDT techniques in the estimation of the quality of the joints.

**Job description and eligibility criteria:** The PhD position is in the PhD School of Electric and Electronic Engineering and Measurement Engineering. The research topic is in the field of ultrasonic measurements and nondestructive testing, a background in acoustic, electrical and electronical engineering is requested. Additional skills in signal and data processing using MATLAB as well capability to work with data acquisition systems are desirable. Appropriate competencies in English speaking and writing are mandatory. The research activity will be performed at the Prof. K. Baršauskas Ultrasound Research Institute of Kaunas University of Technology, but also during periods of secondment at other partners of the consortium are planned (Universite De Nantes – France, University of Newcastle Upon Tyne – UK, COTESA GmbH – Germany).

The successful candidate will be therefore eager to move in other countries during the project.

**In addition, the successful candidate will satisfy at the time of the recruitment (1<sup>st</sup> February 2017) the following mandatory characteristics:**

- having not more than 4 years (full-time equivalent) of equivalent research experience (i.e. working as researcher after obtaining your master’s degree);
- having not been awarded a title of PhD;
- having not resided or carried out her/his main activity in Lithuania for more than 12 months in the last 3 year.

**Starting Date:** 1<sup>st</sup> February 2017      **Duration:** 36 months

**Deadline of the application:** 31<sup>th</sup> December 2016: 31<sup>th</sup> December 2016

**Annual Salary:**

1. Living allowance € 27280
2. Mobility allowance € 7200
3. Family allowance € 3000 (depends on status on 1<sup>st</sup> February 2017).

**Salary is a gross amount including employer and employee all taxes according to MSCA ITN rules.**

For more info about salary calculation, the requisites for family allowance and more details on the employment conditions, please see the H2020 rules:

[http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016\\_2017/main/h2020-wp1617-msca\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-msca_en.pdf)

[http://ec.europa.eu/research/participants/data/ref/h2020/other/guides\\_for\\_applicants/h2020-guide-appl16-msca-itn\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/other/guides_for_applicants/h2020-guide-appl16-msca-itn_en.pdf)

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