



## Marie Sklodowska-Curie ITN Early Stage Researcher

### Newcastle University - School of Electrical and Electronic Engineering

Full Time, Fixed term contract for 36 months.

Grade F: 26.829-31.076 (subject to exchange rate and dependant on circumstances as defined by funding body rules; see:

[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)

The School of Electrical and Electronic Engineering, is looking for a self-motivated Early Stage Researcher (ESR<sup>1</sup>) to undertake research and development on **Multiple composite layer modelling and characterisation using pulsed eddy current and eddy current pulsed thermography** within the EU H2020 Marie Sklodowska-Curie ITN NDTonAIR project ([www.ndtonair.eu](http://www.ndtonair.eu)). Successful applicant will also register for a PhD at the Newcastle University.

The “NDTonAIR” project (Training Network in Non-Destructive Testing and Structural Health Monitoring of Aircraft structures) is funded under the action: H2020-MSCA-ITN-2016- GRANT 722134

The “NDTonAIR” consortium involves Universities, Research Organisations and major European companies working on new Non-Destructive Testing (NDT) and Structural Health Monitoring (SHM) techniques for aerospace, of which both are key technologies. The goal is to train a new generation of scientists and engineers with a wide background of theoretical, numerical and experimental skills, capable of developing their research and entrepreneurial activities both in academy and industry and playing an active role in promoting the importance of quality inspection and structural monitoring in aerospace components.

The objective of the training programme is to provide the recruited researchers with an extensive and varied training on: (1) Fundamentals skills for NDT and SHM through participation in short-courses and seminars organized by the Consortium; (2) NDT and SHM Techniques for Aerospace through research training at host institutions and participation in internal and external Conferences; (3) Technology Transfer and Entrepreneurship through participation in short courses and seminars organized by the Consortium. The objective of the research programme is to consolidate and innovate current NDT and SHM techniques for Aircraft inspection by (1) investigating new physical phenomena and sensors; (2) developing analytical and numerical models to verify the results of inspection with material properties; (3) quantifying NDT techniques through their probability of detecting reference defects; (4) developing

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<sup>1</sup>See the following links as examples of Marie Curie ESR positions

<http://www.jobs.ac.uk/job/AUP658/marie-sklodowska-curie-itn-early-stage-researcher/>

<http://www.jobs.ac.uk/job/AUU061/marie-sklodowska-curie-itn-early-stage-researcher-post-in-multiscale-composite-material-damage-modelling/>

procedures for the automatic detection and classification of defects; (5) transferring these results to industry. The members of the Consortium will work together for realizing this training programme and scientific collaboration will be stimulated by secondment of the recruited researchers and it will be aimed at improving the integration and comparison of different NDT techniques.

In total 15 ESRs will be recruited and each of them will conduct research on a specific but closely related research area. This ESR at Newcastle University will be responsible for Multiple composite layer modelling and characterisation for CFRP composites using pulsed eddy current and eddy current pulsed thermography. Travel and working with Université de Nantes (France), Università di Perugia and MDP s.r.l. (Italy), and with RECENDT GmbH (Austria). A detailed description of the well-defined individual research project can be found in the NDTonAIR project ([www.ndtonair.eu](http://www.ndtonair.eu)). In addition to this, the ESR will also contribute to network-level research activities, technology and system integration, deliverables, event organisation and public engagement for dissemination and impact.

The ESR will be required to undertake PhD studies and must fulfil the requirements of the university's doctoral training programme. Candidates must be in possession of (or expected to obtain) a first class or a 2:1 degree in mechanical/aerospace/electronic engineering, applied mathematics/physics or a relevant discipline and have a sound background in non-destructive test and structural health monitoring. They will have opportunities to visit other network partners for secondments, and attend the research and training events of the network. All costs will be fully funded (100% employment) by the Marie Skłodowska-Curie Actions programme which also offers highly competitive and attractive salary and working conditions.

Applicants have to ensure compliance with the Marie-Curie mobility requirement: at the time of recruitment, you must not have lived in the UK for more than 12 out of the past 36 months. Short stays, such as holidays, are not taken into account. Candidates for ESR positions are expected to have less than 4 years of full-time equivalent research experience at the proposed start date of 1 October 2016 and have not been awarded a doctoral degree.

For further details of and discussions about the research project please contact Professor Gui Yun Tian on (00)44 191 2085151 or email [g.y.tian@ncl.ac.uk](mailto:g.y.tian@ncl.ac.uk).