


PhD position 10: Microstructure Informed Modelling and AI for Reliability Predictions	
	
Employers	
Dr Stoyan Stoyanov (lead supervisor) from University of Greenwich (UOG) in London, UK and Dr Suzanne Castello (industry supervisor) from Materials Consultancy Services (MCS Ltd.) in Edinburgh, UK are looking for a PhD candidate to join a three-year research training within the EU-funded MCSA industrial doctorate MIRELAI . You will be enrolled in the PhD programme at the University of Greenwich (UOG) for the full project duration (36 months).	
Project description	
A new micro-structure informed reliability prediction approach for microelectronics package designs and assembly interconnects based on: 1) Combination of state-of-the-art metrology and failure characterization methods at MCS with expertise in physics-of-failure modelling and machine learning at UOG. 2) Diagnosis of the assembly's current health and prognosis of how material degradation and damage in the electronics assemblies will progress over time.	
International mobility	
As a PhD candidate, you will be employed for 18 months each by UOG and MCS, respectively. During the placement at UOG, you will also undertake a 1-month placement at TU Chemnitz , supervised by Prof. Bernhard Wunderle.	
Requirements	
Specific Eligibility Criteria on the Horizon Europe: Marie Skłodowska-Curie (MSCA) programme apply, including the mobility rule and PhD rules. Applicants of any nationality are welcome.	
Additional requirements	
<ul style="list-style-type: none"> • Degree (<i>E</i>): 1st Class or 2nd class, First Division (Upper Second Class) honours degree or a taught master's degree with a minimum average of 60% in all areas of assessment (UK or UK equivalent) in a relevant area. • Background: numerical modelling and machine learning (<i>E</i>), scientific programming (e.g. MATLAB, Python) (<i>E</i>), physics-based modelling/ experience with FEM and simulation (e.g. with ANSYS) (<i>D</i>), electronics packaging and assembly (<i>D</i>), material behaviour/material degradation and material characterisation/experimental testing (<i>D</i>) • English language proficiency certificate(s) (for applicants from non-majority English speaking countries) (<i>E</i>): <ul style="list-style-type: none"> ▪ IELTS: at least 6.5 overall with a minimum of 6.0 in all elements of the test, or an equivalent UK VISA and Immigration secure English Language Test, OR ▪ TOEFL: at least 87 overall with no less than 18 in Reading, 17 in Listening, 20 in Speaking and 17 in Writing is required. Unless the previous degree, above, was taught in English and obtained in a majority English speaking country, e.g. UK, USA, Australia, New Zealand, etc, as recognised by the UKBA. <p><i>E</i>= essential, <i>D</i>= desirable</p>	
The monthly support and benefits	
<ul style="list-style-type: none"> • The successful candidate will benefit from a wide range of postgraduate development opportunities and training modules offered to PhD students at UOG, and access to physical and digital library content (e.g. IEEE Xplore). • The successful candidate will benefit from an international scientific network of academic and industrial partners with research excellence in microelectronics reliability, experimental characterisation, and simulation approaches. • Personalised career development plans will be established to support the needs of the PhD candidate. • The PhD candidate will receive an attractive salary in accordance with the MSCA regulations. The financial package will include: 1) Living allowance of €3,400 (UK correction coefficient 1.369 applies), 2) Mobility allowance of €600, and 3) Family allowance (€660, UK correction coefficient 0.75 applies), if applicable. These monthly allowances will be converted to British Pound using the exchange rate of £1: €1.160354. The exact (net) salary will be confirmed upon appointment and is dependent on UK local tax, pension contribution, social and health insurance regulations. <p><i>Disclaimer: This position will be funded by UK Research and Innovation within the framework of the Horizon Europe guarantee funding.</i></p>	
Application	
Required documents:	Complete applications in English should include: <ul style="list-style-type: none"> • CV and copy of diploma • Letter of motivation • Letter of recommendation (2 references) • English language proficiency certificate(s) (for applicants from non-majority English speaking countries)

Selection process:	<ul style="list-style-type: none"> • Our selection procedure for PhD position is open, transparent, merit-based and in line with the principles set out in the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers • The application dossier to be submitted as a single PDF file to s.stoyanov@gre.ac.uk by 10-04-2023. Please indicate in the subject line: 'MIRELAI: PhD position 10 - your name' • Pre-selected candidates will be invited for interviews by 15-04-2023. Unsuccessful applicants will not receive any notification.
Application deadline:	10-04-2023
Expected start date:	The individual PhD project is set to start between 01-05-2023 and 01-07-2023
Contact person for enquiries:	Dr Stoyan Stoyanov Email address: s.stoyanov@gre.ac.uk Phone: +44 (0)20 8331 8520

* The CV must be signed by the candidate and has to bear the following sentence concerning the management of the candidate's personal data: *"The undersigned Name and Surname authorizes the management of his/her personal data contained in the application documents as foreseen by the European Regulation 2016/679 and the UK General Data Protection Regulation (UK GDPR), tailored by the Data Protection Act 2018, on the protection of natural persons with regard to the processing of personal data and the free movement of such data and declares to be aware of the rights of the data subject as listed in Chapter III of the aforementioned European Regulation and UK GDPR"*.