## Masters by Research Scholarship Ad

### Research Opportunity In:
Faculty of Applied Science, Engineering & Technology

### Title of Proposed Research Degree Project:
*MSc by Research -- Digital pathology in Lung Cancer: Utilising customised image segmentation and quantification software to uncover diagnostic and prognostic relevant clues in tissue architecture*

### Description:
Lung cancer is the leading cause of cancer-related death worldwide. Artificial intelligence and advancing image analysis software programs may help the medical field in progressing subtype characterisation of tumour types and help identify optimum treatment paths at a case by case level. Histo-pathology is the analysis of tissue to identify or determine changes due to a disease. Morphological inspection of tumour tissue under a microscope is the gold standard in evaluating pathology and classifying tumour stage and prognosis. To progress this process to a precision medicine reality, digitalisation of tumour images and computational analysis can help. This study will use a customised, state-of-the-art, computational morphologic analysis to quantify early stage lung tumour tissue structure and identify key prognostic features. This project will employ technical programming skills and scientific methodology. The selected candidate will learn how to develop and apply state of the art computational image software to the segmentation and quantification of tumour tissue images to ultimately quantify and score features of interest to cancer diagnosis and prognosis. The research conducted, and useable systems developed, within this project can be applicable to a wider range of pathological assessment. You will receive a broad range of training and there will be opportunities present work from this studentship at regional or national conferences. You will join an exciting endeavour in providing solutions to improve cancer prognosis and diagnosis.

### Scholarships Condition:
Funded by the Graduate Research Office – **Postgraduate Fees for a period up to two years full-time and a stipend**

### Requirements of Candidate:
- **Level 8 Honours Degree** in an appropriate field of study is essential (disciplines to include: computing, technology, bio-informatics, software development, and related science and engineering degrees) (Grade 1:1 degree preferable, applications considered with a Grade 2:2 or higher with relevant experience),
- Experience of advanced research and relevant work experience
- Commitment to a 24-month programme of study and research full-time
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<tr>
<th><strong>Contact:</strong></th>
<th>Informal Research Enquiries should be directed to Dr. Claire Meaney, Email: <a href="mailto:Claire.meaney@lit.ie">Claire.meaney@lit.ie</a></th>
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<tbody>
<tr>
<td><strong>Deadline for applications:</strong></td>
<td>14th October 2019</td>
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<tr>
<td><strong>Application Process:</strong></td>
<td>Application forms to be emailed to the Graduate Studies and Research Office, LIT. Email: <a href="mailto:graduatestudies@lit.ie"> graduatestudies@lit.ie</a></td>
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<td>For queries on application process please contact: <a href="mailto:graduatestudies@lit.ie"> graduatestudies@lit.ie</a></td>
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- Self-motivated with an ability to be self-directed in much of their own work
- Able to plan work over longer periods and have strong writing and analytical skills
- Interest in pursuing a career in academia and/or research
- Interest in pursuing postgraduate studies in areas related to programming, computing, technology (diagnostic and treatment technology), bio-informatics, biology, software development, and biomedical research.