

## Postgraduate Scholarship Information Sheet (Advert)

<b>Scholarship Project Title</b>	An Artificial Intelligence based approach for the Classification of Pediatric Heart Murmurs and Disease Diagnosis using Wireless Phonocardiography
<b>Advert Reference number</b>	<b>WD_2023_70_SPONS</b>
<b>Supervisor(s)</b>	Dr.Lizy Abraham(Walton Institute SETU Waterford) Dr. Bernard Butler( Walton Institute SETU Waterford)
<b>Research Group</b>	<i>Emerging Networks Laboratory</i>
<b>Department /School/Faculty</b>	<i>Department of Computing &amp; Mathematics</i>
<b>Duration</b>	48 Months
<b>Status: Full-time / part-time</b>	Full Time
<b>Funding information</b>	SFI_ IRC Pathways
<b>Value of the scholarship per year for four years</b>	Stipend: €22,000 Fees, up to a maximum of €5,750 Research costs- €2,000
<b>Closing date and time</b>	<b>May 22<sup>nd</sup> at 4pm Irish Time</b>
<b>Interview date</b>	<b>TBC</b>
<b>PhD commencement date</b>	<b>TBC</b>
<p><b>Project Key Words: Congenital heart disease, phonocardiogram, Artificial Intelligence</b></p> <p><b>Post summary</b></p> <p>Our project focuses on harnessing the power of Artificial Intelligence (AI) to analyze phonocardiogram (PCG) data for the early detection of congenital heart disease (CHD). By developing advanced AI algorithms, we aim to revolutionize the way CHD is diagnosed and managed, leading to better outcomes for patients.</p>	
<p><b>Person specification</b></p> <p><b>Qualifications</b></p> <p><b>Essential</b></p> <ul style="list-style-type: none"> <li>Honours Degree (minimum 2:1) in biomedical engineering, computer science, electrical/ electronics engineering, or a related field.</li> <li>Strong background in signal processing and machine learning.</li> </ul> <p><b>Desirable</b></p> <ul style="list-style-type: none"> <li><i>Proficiency in programming languages such as Python, R or MATLAB.</i></li> <li>Practical experience in simulation environments and Machine Learning libraries.</li> </ul>	

- *Experience with cardiovascular physiology or cardiology research.*
- *Experience with GUI development and web applications.*

## Knowledge & Experience

### Essential

- *Experience with machine learning techniques, including deep learning and neural networks.*
- *Strong analytical and problem solving skills.*

### Desirable

- *Previous research experience in healthcare or medical signal processing projects.*
- *Experience with data visualization tools.*
- *Familiarity with phonocardiogram data analysis and interpretation.*

## Skills & Competencies

### Essential

- Applicants whose first language is not English must demonstrate on application that they meet [SETU's English language requirements](#) and provide all necessary documentation. See Page 7 of the [Code of Practice](#)
- In order to be **shortlisted for interview**, you must meet the SETU English speaking requirements so please provide evidence in your application.

### Desirable

- *Excellent written and verbal communication skills.*
- *Willingness and motivation to learn and experience new theoretical and technological areas.*

## Further information

For any informal queries, please contact Lizy Abraham on email ([lizy.abraham@waltoninstitute.ie](mailto:lizy.abraham@waltoninstitute.ie)).

For queries relating to the application and admission process, please contact the Postgraduate Admissions Office [researchadmissions@setu.ie](mailto:researchadmissions@setu.ie) or telephone +353 (0)51 302883.

University Website <https://www.setu.ie/>

## Application procedure

Download the [Research Postgraduate Application Form from here](#) and return the completed application to [researchadmissions@setu.ie](mailto:researchadmissions@setu.ie) quoting **WD\_2023\_70\_SPONS** in the email subject line.

**Please note that paper submissions will not be accepted.**

**The University may decide to interview only those applicants who appear from the information they provided, to be the most suitable in terms of experience, qualifications and other requirements of the post.**

**The University will short-list and interview those applicants who provide the most suitable information in terms of experience, qualifications and other requirements relevant to the post.**

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