

PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Science
Supervisors	Principal supervisor: Dr Qiuchen Dong (XJTLU) Co-supervisor: Professor Lifeng Ding (XJTLU) Co-supervisor: Professor Rui Yang (XJTLU) Co-supervisor: Professor Gita Sedghi(UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project, Fees-only (world-wide students)
Project Title	An Array of Electrodeposited Metal Oxides in Microfluidic-based carbohydrates detection and its tuning in Nernstian constant
Contact	Please email qiuchen.dong@xjtlu.edu.cn with a subject line of the PhD project title. The principal supervisor's profile is linked here: https://scholar.xjtlu.edu.cn/en/persons/QiuchenDong

Requirements:

The candidate should have a first class degree, or a master's degree (or equivalent qualification), in chemistry, materials science and related areas. A focus in electrochemistry of prior research experience would be a plus in the application.

Evidence of good spoken and written English is essential. The candidate should have an IELTS score of 6.5 or above, if the first language is not English. This position is open to all qualified candidates irrespective of nationality.

Degree:

The student will be awarded a PhD degree from the University of Liverpool (UK) upon successful completion of the program.

Funding:

The PhD studentship is available for three years subject to satisfactory progress by the student. The award covers tuition fees for three years (currently equivalent to RMB 99,000 per annum). It also provides up to RMB 16,500 to allow participation at international conferences during the period of the award. The scholarship holder is expected to carry out the major part of his or her research at XJTLU in Suzhou, China. However, he or she is eligible for a research study visit to the University of Liverpool up to six months, if this is required by the project.

Project Description:

Diabetes has extended in a more ubiquitous manner among developed and developing countries. It is of great importance in monitoring the blood glucose level accurately in a continuous and real-time manner. Non-enzymatic-based glucose sensor has been extensively studied, especially metal oxides-based materials. Whereas its selectivity among different saccharides is still not well explored nor its sensing mechanism. Therefore, this project aims to develop a microfluidic-based system that integrates metal oxides-based materials in the microchannel to differentiate carbohydrates by electrochemical oxidation onset potential and isotope-based oxidation mechanism study in revisiting the exact sensing mechanism along with an *in-situ* pH monitoring. The local pH change matters for the sensing mechanism studies, considering the transformation of glucose, fructose, and mannose in basic conditions.

For more information about doctoral scholarship and PhD programme at Xi'an Jiaotong-Liverpool University (XJTLU), please visit

<https://www.xjtlu.edu.cn/en/admissions/global/entry-requirements/>

<https://www.xjtlu.edu.cn/en/admissions/global/fees-and-scholarship>

How to Apply:

Interested applicants are advised to email qiuchen.dong@xjtlu.edu.cn the following documents for initial review and assessment (please put the project title in the subject line).

- CV
- Two formal reference letters
- Personal statement outlining your interest in the position
- Certificates of English language qualifications (IELTS or equivalent)
- Full academic transcripts in both Chinese and English (for international students, only the English version is required)
- Verified certificates of education qualifications in both Chinese and English (for international students, only the English version is required)
- PDF copy of Master Degree dissertation (or an equivalent writing sample) and examiners reports available