

Information on Postgraduate Research Scholarship - Ref: N/A			
Faculty:	Engineering and Science	School:	Science
Lead supervisor:	Dr Shaobo Zhou, Associate Professor of Nutrition and Health		
Project title:	Investigation into the antiepileptic efficacy and mechanism of combination vitamin D and <i>Ganoderma Lucidum</i> polysaccharides		
Project Description: (500 words)	<p>Epilepsy, caused by abnormal firing of neurons in the brain, affects 50 million people globally [1]. Almost one-third of epileptic patients do not respond well to antiepileptic drugs, and their side effects are associated with cognitive impairment, psychiatric problems, and recurrent epileptic adverse reactions [2, 3]. Vitamin D deficiency is common [4, 5] and exists in up to 86.8% of epileptic patients with 14 years of history of epilepsy [6]. Vitamin D has demonstrated cellular proliferation and Ca^{2+} homeostasis regulation [7]. <i>Ganoderma Lucidum</i> has been shown to have various benefits in enhancing health. In our studies, <i>Ganoderma Lucidum</i> polysaccharides [8] and ganoderic acid A (another component of <i>Ganoderma Lucidum</i>) [9] could improve the epileptic behavior in animal models and <i>in vitro</i> studies (10, 11). However, more research is required to verify its application value. As vitamin D is essential for children's skeletal development and improves calcium homeostasis which is essential to manage the epilepsy, thus we assume there will be high application value for the combination of vitamin D and <i>Ganoderma Lucidum</i>, especially on the <i>Ganoderma Lucidum</i> polysaccharides (GLP) (8, 11), in the management of calcium deficiency and enhancement the antiepileptic effect.</p> <p>Based at the School of Science at the University of Greenwich (Medway campus), the successful candidate will join a diverse community of researchers. The research training for the student will be divided into two main areas:</p> <ol style="list-style-type: none"> 1. Technical training <ol style="list-style-type: none"> a. Practical training on experimental design, cell culture skills, extracts of polysaccharides, epileptic assessment etc needed. b. Students will be guided, encouraged, and supported in applying to external technical training courses relevant to the project. 2. Research communication and impact <p>Training and mentoring focusing on communicating research output (such as peer- reviewed publications and conferences) and potential impact will be provided to complement additional training provided as part of the University of Greenwich doctoral training organised by the university's Research & Enterprise Training Institute (RETI).</p> 		
Duration	3 years, Full-Time Study		
Bursary available (subject to satisfactory performance):			
The funding will cover annual salary stipend and home fees only. Applicants who will incur international fees are welcome to apply but they must show that they can supplement the difference between UK and international fees in their application.			
Person Specification of Essential (E) or Desirable (D) requirements:			

Criteria:	E or D
<i>Education and Training:</i>	
a first- or upper-class Honours degree or equivalent and/or MSc in Nutrition, neuroscience, biomedical science, pharmaceutical sciences/pharmacy or closely related disciplines at merit or better with minimum of 60% in all areas of assessment for Taught MSc degrees.	E
For those whose first language is not English and/or if from a country where English is not the majority spoken language (as recognised by the UKBA), a language proficiency score of at least IELTS 6.5 (in all elements of the test) or an equivalent UK VISA and Immigration secure English Language Test is required, if your programme falls within the faculty of Engineering and Science a language proficiency score of at least IELTS 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 is required. Unless the 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.	E
<i>Experience & Skills:</i>	
<ul style="list-style-type: none"> • Previous experience of undertaking research (e.g. undergraduate or taught master's dissertation) 	E
<ul style="list-style-type: none"> • Prior research using cell culture and molecular technology 	D
<i>Personal Attributes:</i>	
<ul style="list-style-type: none"> • Understands the fundamental differences between a taught degree and a research degree in terms of approach and personal discipline/motivation 	E
<ul style="list-style-type: none"> • Able to, under guidance, complete independent work successfully 	E
<i>Other Requirements:</i>	
<ul style="list-style-type: none"> • This scholarship may require Academic Technology Approval Scheme approval for the successful candidate 	E
Closing date for applications:	midnight UTC on 30/06/2024
For further information contact:	Dr Shaobo Zhou (s.zhou@greenwich.ac.uk)

Making an application:

- Please read this information before making an application. Information on the application process is available at: <https://www.gre.ac.uk/research/study/apply/application-process>. Applications need to be made online via this link. No other form of application will be considered. All applications must include the following information. Applications not containing these documents will not be considered.
 - Your personal statement as to why you are applying (including project title in the personal statement section)
 - a CV including 2 referees *
 - academic qualification certificates/transcripts and IELTS/English Language certificate if you are an international applicant or if English is not your first language or you are from a country where English is not the majority spoken language as defined by the UK Border Agency *

*Upload to the qualification section of the application form. Attachments must be a PDF format.

Before submitting your application, you are encouraged to liaise with the Lead Supervisor on the details above. Submitting a detailed research proposal along with your application will potentially increase the chance of being shortlisted.

Post is open until 30th June but may be filled earlier if a suitable candidate is found.

Funding Notes

This 3-year studentship to commence in October 2024 but flexibility with respect to the start date is possible. The funding will cover annual salary stipend and home fees only. Applicants who will incur international fees are welcome to apply but they must show that they can supplement the difference between UK and international fees in their application.

References

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[9] Wei Pang, Shuqing Lu, Rong Zheng, Xin Li, Shunbo Yang, Yuxia Feng, Shuqiu Wang, Jin Guo and **Shaobo Zhou***, Effect of ganoderic acid A on calcium-sensing receptor expression and MAPK pathway in epileptic rats. *BioMed Research International*, 2022

[10] Wang SQ, Li XJ, Qiu HB, Jiang ZM, Simon M, Ma XR, Liu L, Liu JX, Wang FF, Liang YF, Wu JM, Di WH, **Shaobo Zhou**. Anti-epileptic effect of Ganoderma lucidum polysaccharides by inhibition of intracellular calcium accumulation and stimulation of expression of CaMKII α in epileptic hippocampal neurons. *PLoS ONE* 2014; 9(7): e102161.

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