Purpose: Advert for PhD in Neurosciences, by Dissertation with African Brain Child

We are offering a PhD research project in Neuroscience by dissertation for a suitably qualified candidate, hosted in the African Brain Child Research Initiative (ABC - UCT Division of Neurosurgery and Neuroscience Institute), a multi-disciplinary research group focused on clinically translational research, and all staff and students work across the clinical and research domains. ABC was awarded the 2024 National Research Foundation Science Team of the Year Award and has received multiple prestigious grants including a Wellcome Trust Discovery grant, the Harry Oppenheimer fellowship and a South African Medical Research Council Extra-Mural Unit on Discovery Neuroscience in Children.

Call for Application:

We invite applications for a PhD candidate to join our research program focused on advancing knowledge in brain physiology. This project forms part of the objectives of our SAMRC/UCT Discovery Neuroscience in Children Research Unit: Advancing Understanding and Treatment of Acute Brain Conditions, which aims to strengthen neuroscience capacity in South Africa to promote brain health and address a wide range of high-burden brain-related conditions.

Studying the brain remains one of medicine's greatest challenges: diagnoses are often delayed, prognostication is imprecise, and brain function is particularly difficult to interrogate in children. Currently, advanced imaging studies are frequently limited by the need for sedation, anaesthesia, or exposure to radiation. To address these critical gaps, our Unit will employ non-invasive imaging technologies to define biomarkers of function and prognosis in children with acquired brain injury using high-density diffuse optical tomography functional near-infrared spectroscopy (HDOT-fNIRS). This cutting-edge, wearable technology uses multiple channels of near-infrared light to measure brain activity by detecting changes in blood oxygenation in the activated cortex, offering excellent spatial and temporal resolution. ABC is uniquely positioned to lead the implementation of this transformative technology in children to advance our understanding of function in the developing brain. The student is expected to recruit patients, collect study data, conduct data analyses, prepare data for dissertation and publication, and contribute to general research-related activities within the ABC group.

University of Cape Town, Neuroscience Institute
Groote Schuur Hospital, J Block, F-Floor

Red Cross War Memorial Children's Hospital
ICH Building, 6th Floor, University of Cape Town

www.africanbrainchild.com | abc@uct.co.za | +27 (0)21 658 5335

Conditions:

The successful incumbent will be required to register for full-time study and must comply with the University's approved policies, procedures, and practices for the postgraduate sector. Successful candidates may not hold scholarships and salaried/full-time employment concurrently but will be permitted to take up part-time employment (specified maximum hours per week).

Value and tenure:

Funding of R230 000 for this project is available for one PhD student. Applications for further funding as per UCT prescribed funding limits will be supported. Funding carries no fringe benefits and is available for full-time study.

Academic criteria:

We welcome applications from candidates with backgrounds in neuroscience, biomedical engineering, computer science, cognitive science, medical physics, brain imaging or related disciplines. Applicants should have a strong interest in brain development and functional research. Experience in neuroimaging (e.g., fNIRS, EEG, MRI), quantitative data analysis, programming (e.g. R, Python, or MATLAB), or working with developmental or clinical populations are required. Applicants will need to demonstrate competency, as well as relevant and meritorious research or work experience. Applicants should be South African citizens or already hold a valid student visa for South Africa.

Application requirements and selection process:

Please send through a letter of application stating your areas of expertise and research interests as well as a full CV, copies of academic transcripts, and the names and contact details of 2 referees. Eligible and complete applications will be considered by a selection committee within the Paediatric Neurosurgery Unit.

Closing date for applications:

All positions are available to commence study by latest February 2027.

Contact details for submission of applications and for enquiries:

Please send all applications to Dr Jill Combrinck at j.combrinck@uct.ac.za by closing date 15 November 2026.

The University of Cape Town reserves the right to disqualify ineligible, incomplete and/or inappropriate applications. The University of Cape Town reserves the right to change the conditions of award or to make no awards at all.