

GRADUATE RESEARCH ASSISTANTSHIPS IN DEVELOPING COUNTRIES

Graduate Research in Disease Modelling, Buea University, Cameroon



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CONTEXT

In Cameroon, I have witnessed first-hand the structural barriers that hinder research and graduate training: Limited funding, unreliable electricity supply, high cost of internet connectivity, inadequate computing infrastructure, limited mobility, etc forcing talented students to delay their research or abandon academic careers. The IMU CDC GRAID Grant effectively addressed these barriers as it provided flexible, targeted support to the above-named graduate students beneficiaries. All have been focused and three of the five have completed their studies successfully.

CDC SUPPORTED ACTIVITY

With support from the IMU-CDC, I was able to implement the GRAID program at the University of Buea for the period 2019/2020 to 2023/2024 academic years. Financial support to PhD and MSc students covering tuition fees, laptop purchases for research, internet connectivity, conference registration and participation, stationery, power banks/portable generators, accommodation and subsistence, health insurance, solar panels to mitigate electricity shortages, etc.

IMPACT

The GRAID program has had a profound impact on our department and the students we serve by transforming research capacity through targeted support. Students were able to completed their research without prolonged interruptions, gained access to laptops and internet enabled computational work, data analysis, and thesis writing, and participate in conferences allowing them to develop presentation skills and build professional networks. Through these networks, students connected with researchers at national and international conferences. The ability to develop supportive peer network emerged among PhD students, strengthening our local research culture. Access to stable internet meant we could have weekly zoom meetings with the International Partners and other collaborators.

Three of students completed their PhDs and MScs on schedule despite difficult conditions. The PhD graduates are now pursuing postdoctoral positions and research grants, with three of them already employed as faculty in University of Bamenda, Cameroon. The program contributed to a more vibrant and productive research environment in our department, and resulted in publications in high impact journals and high quality papers. The mathematics program at the University of Buea has thus become more visible.

OUTCOMES AND ACHIEVEMENTS

Measurable Results of the GRAID Program

- Students supported: Multiple PhD and MSc students across the 2019/2020 to 2023/2024 academic years
- PhD completions: Successful completions; graduates now pursuing postdoctoral positions and research grants
- Infrastructure: Laptops and solar panels acquired, enabling continuous research despite frequent electricity shortages
- Conference participation: Students attended national and international conferences, presenting their research and building professional networks
- Research outputs: Completed PhD theses; research papers in progress; new research proposals developed
- Local capacity: Strengthened research culture and a supportive peer network among graduate students in the department
- Papers: (Bime et. al. 2022 , Ngwa et al 2023, Girma et al 2025). Under preparation: Nforba et. al., Njongwe et al, Bime et al.



A PERSONAL REFLECTION FROM THE PRINCIPAL INVESTIGATOR

As someone who has worked in mathematics in Cameroon for many years, I have seen too many talented students struggle not because of a lack of ability, but because of circumstances beyond their control. The GRAID program gave our students the stability they needed to focus on their research. It allowed them to dream bigger, work consistently, and complete their PhDs. If such support continues, it will empower a new generation of African mathematicians to lead research, build collaborations, and contribute to solving global challenges through mathematics.

This program has shown me that targeted, flexible funding for graduate students in developing countries can be one effective investments in building lasting mathematical capacity. Mathematicians from less developed countries can overcome structural barriers and also contributions to the global research effort.

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