Conference Presentation (Scholarly Development Support Application Form)

Boston is committed to supporting personal staff development. To facilitate the processes of securing support for a range of development opportunities, including financial assistance and/or reward, please complete this form.

Applicants are to use a new application form for each scholarly activity. For example, suppose an applicant is planning on attending a conference and submit a paper to a journal for publication. In that case, the applicant must use the application form for each activity (i.e., one for the conference attendance and one for the journal publication).

All applications will be considered by the relevant functionaries, including the Academic Head and/or the Research Committee and/or relevant line-manager. The budgetary parameters for each academic cycle will determine the outcome for each application.

NB: This application form is informed by and has as its point of reference the *Research Management Policy* (BCCPP023). All applicants are to familiarise themselves with the Policy and its stipulations.

1. Date of Application

9/26/2025

2. Name & Surname *

Paul Jideani

3. Email Address *

paulj@boston.co.za

4. Please identify your staff category. *

○ Faculty

◉ AQM

○ Academic Support (Library, Registrar Administration, HESAs)

○ Administrative Support

○ APDU (QA Practitioners)

○ Senior Management

5. Please indicate your line-manager: *

Dr Kyra Boshoff

Conference Attendance and Presentation

Please provide details for the conference at which you are presenting. Only use this section if you are **attending** the conference and **presenting** at the conference.

6. Name of conference *

Southern African Conference for Artificial Intelligence Research (SACAIR 2025)

7. Organiser of conference *

CAIR

8. Do you know the conference dates? *

◉ Yes

◯ No

9. From what date? *

12/1/2025

10. To what date? *

12/5/2025

11. Are you presenting at the conference *

Yes ∨

12. If you are presenting at the conference, please provide the approved abstract (which must include paper title, name of the researcher, institutional affiliation, and the abstract) *

Interpreting the complex and multifactorial risk factors driving Cholera outbreaks remains a critical challenge for public health, particularly across diverse environmental and socio-economic contexts. This paper presents an integrated agentic framework that combines explainable machine learning (ML), statistical analysis, and a language model-powered question-answering system to support Cholera risk interpretation and public health decision-making. Using a multi-country dataset spanning 2000–2025, the framework applies three interpretable ML models, Explainable Boosting Machines (EBM), Natural Gradient Boosting (NGBoost), and TabNet, to predict Cholera incidence based on environmental, socio-economic, and infrastructural variables. In parallel, statistical methods including Pearson and Spearman correlation, and multivariate linear regression are used to validate and quantify associations between predictors and disease outcomes. A LangChain-powered agent, implemented with LangGraph, is integrated into the system to interpret model outputs, analyse tabular results, and generate expert-like responses to natural

13. Please upload the acceptance letter or email from the organisers indicating your participation in the conference. (Non-anonymous question ⓘ) * 🕮

📄 Acceptance email_Paul Jideani.pdf

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