# Paper Submission Form - SAIP2025 Proceedings

**Sections A, C, D, and E must be completed by all authors (including students) who submit papers. Section B is compulsory for students who submit manuscript(s).**

## Section A: Paper Submission Information

| | |
|---|---|
| Paper/Abstract ID | 259 |
| Paper title | Simulation and Image Reconstruction for a Low-Cost PET Detector Concept |
| Corresponding Author Name & Surname: | Jemma Bagg |
| Corresponding Author Email Address: | bggjem001@myuct.ac.za |

## Section B: For Students & Supervisors

| | |
|---|---|
| Supervisor Name & Surname: | Dr James Keaveney |
| Supervisor Email Address: | james.keaveney@uct.ac.za |

**For this paper, the supervisor must agree/disagree with the following statements.**

| | | Yes | No |
|---|---|---|---|
| 1. | I am aware that the above-mentioned paper is being submitted for possible publication in the Proceedings of the SAIP Conference. I am satisfied that the presented work is that of the listed authors. I hereby give consent to the submission | X | |
| 2. | I have proof-read the manuscript | X | |
| 3. | I am satisfied that the manuscript is written in appropriate English and is sufficiently free of grammatical and spelling errors | X | |
| 4. | I am familiar with the required manuscript format ("House Style"), and I am satisfied that this manuscript meets the criteria. I am aware that manuscripts not conforming with House Style may be desk rejected | X | |
| 5. | I am satisfied that the scientific content of this manuscript is of sufficient standard for it to be considered for publication in the Proceedings of the South African Institute of Physics Conference Proceedings | X | |

**Student Name & Surname:** .....Jemma Bagg.............. **Signature:** .............*Jemma*.............…...… **Date:** ....31/07/2023........

**Supervisor Name & Surname:** ......Dr James Keaveney..............….. **Signature:** ..............................…........ **Date:** ....31-07-2025......….....

## Section C: Suggested Reviewers

**Obtaining the two referee reports necessary for DHET subsidy is an onerous task.**

**Please provide the names and contact details of three qualified South African and/or international referees. Referees should have a PhD and expertise in the relevant area of Physics. Do not recommend referees who have co-authored a work with any of the authors on the manuscript within the past five (5) years. Manuscripts without three recommended referees may be subject to desk rejection.**

| Suggested Reviewers in your Research Field (Both local & international) | | |
|---|---|---|
| | **Reviewer Names & Surname** | **Reviewer's Email Address(es)** |
| Suggested reviewer #1 | Dr Tom Leadbeater | tom.leadbeater@uct.ac.za |
| Suggested reviewer #2 | Dr Matthew Spangler-Bickell | matthew.spangler-bickell@gehealthcare.com |
| Suggested reviewer #3 | Dr Julia Lynn Gonski | julia.gonski@cern.ch |

# Section D: Declaration of Novelty and Use of AI

**How is this submitted manuscript scientifically novel?**

This study is novel as it contributes to the bigger goal of developing a low-cost PET detector. All of the methods that were described, ranging from GATE based simulation and realistic brain phantom integration to custom image reconstruction and machine learning enhancements, are applied specifically in the context of evaluating and improving the low-cost PET system performance.

**How was AI used in the generation of this manuscript?**

AI tools were used for help with structuring and grammar checking for improved readibility. No text was directly generated and all scientific content, interpretations and conclusions were developed by the author.

# Section E: Plagiarism

| | Yes |
|---|---|
| I am aware that plagiarism detection software may be used on my manuscript. | X |