

# 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	468
Paper title	Reservoir Computing for Predicting Chaotic Dynamical Systems
Corresponding Author Name & Surname:	Taheer Jooma Abbajee
Corresponding Author Email Address:	taheerjooma@gmail.com

## Section B: For Students & Supervisors

Supervisor Name & Surname:	Keegan Anderson, Muaaz Bhamjee, Maria Vivien Visaya
Supervisor Email Address:	kdanderson@uj.ac.za, muaaz.bhamjee@up.ac.za, mvvisaya@uj.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	✓	
2. I have proof-read the manuscript	✓	
3. I am satisfied that the manuscript is written in appropriate English and is sufficiently free of grammatical and spelling errors	✓	
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	✓	
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	✓	

Student Name & Surname: Taheer Jooma Abbajee      Signature: T. Jooma      Date: 2025-07-29

Supervisor Name & Surname: Keegan Anderson      Signature: Anderson      Date: 2025-07-29

## 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	Prof S Motsa (UKZN)	motsas1@ukzn.ac.za
Suggested reviewer #2	Prof M Gandhi (UP)	manjunath.gandhi@up.ac.za
Suggested reviewer #3	Prof DN Wilke (Wits)	daniel.wilke@wits.ac.za.

## Section D: Declaration of Novelty and Use of AI

### How is this submitted manuscript scientifically novel?

This research contributes to the understanding of machine learning for dynamical systems, by demonstrating that reservoir computing can accurately replicate key dynamical properties beyond simple time-series prediction. Specifically we have showed that data driven reservoir models, when applied to time-series from the logistic, sine and Hénon maps, can learn and preserve key dynamical properties (fixed points, correlation maps, Lyapunov exponents) that were not explicitly contained in the training data.

**Please see the Author Guidelines for the AI use policy.**

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

No AI used in the generation of the manuscript.

## Section E: Plagiarism

	Yes
I am aware that plagiarism detection software may be used on my manuscript.	<input checked="" type="checkbox"/>