

Prof Ryno Laubscher

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Short Bio

Prof Laubscher completed his PhD in Mechanical Engineering (specialising in computational fluid dynamics and artificial intelligence) at Stellenbosch University in 2016. From 2013-2017 he worked as a design and development engineer at John Thompson, a local renewable energy company. While at John Thompson, he specialised in numerical modelling of various combustion processes. From 2017-2018 he was employed as a senior R&D engineer at Enxio GmbH in Germany. From 2018-2021 he was appointed as the Energy Efficiency research chair at the University of Cape Town's Mechanical Engineering department. During his time at UCT he supervised numerous post graduate and industrial research projects which focussed on process-, computational fluid dynamics- and scientific machine learning-modelling of energy conversion processes.

Research Interests

Computational fluid dynamics, scientific machine learning and energy sciences.

Selected Publications

Simulation of multi-species flow and heat transfer using physics-informed neural networks

Physics of Fluids

R Laubscher

<https://doi.org/10.1063/5.0058529>

Application of generative deep learning to predict temperature, flow and species distributions using simulation data of a methane combustor

International Journal of Heat and Mass Transfer

R Laubscher, P Rousseau

<https://doi.org/10.1016/j.ijheatmasstransfer.2020.120417>

Numerical investigation on the impact of variable particle radiation properties on the heat transfer in high ash pulverized coal boilers through co-simulation

Energy

R Laubscher, P Rousseau

<https://doi.org/10.1016/j.energy.2020.117006>

Teaching

Fluid mechanics 244

Numerical fluid dynamics 414