



Dr Michael Owen

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Short Bio

Dr Owen is a senior lecturer and NRF Y1 rated researcher in mechanical engineering, specializing in heat transfer and fluid dynamics. He has been involved in research relating to the performance and operation of large scale mechanical draft air-cooled steam condensers (ACCs) for power plant applications since 2007.

After completing his PhD Engineering at Stellenbosch University in 2013 he spent time travelling abroad and has been working in academia at Stellenbosch University's Department of Mechanical and Mechatronic Engineering since 2015. He teaches at undergraduate and postgraduate level and conducts research in power plant cooling systems (wet, dry and hybrid), solar thermal energy, fundamental heat transfer and fluid dynamics.

Research Interests

Energy systems, renewable energy, heat transfer, fluid dynamics, industrial heat exchangers.

Selected Publications

A numerical analysis of windscreen effects on air-cooled condenser fan performance

Applied Thermal Engineering

A. Venter, J. Muiyser, M. Owen

<https://doi.org/10.1016/j.applthermaleng.2020.116416>

A validated discretized thermal model for application in bare tube evaporative coolers and condensers

Applied Thermal Engineering

J. du Plessis, M. Owen

<https://doi.org/10.1016/j.applthermaleng.2020.115407>

An experimental investigation of pressure drop during partial condensation of low pressure steam

ASME Journal of Thermal Science and Engineering Applications

J. du Plessis, M. Owen

<https://doi.org/10.1115/1.4046516>

An experimental investigation of the air-side pressure drop through a bare tube bundle

ASME Journal of Thermal Science and Engineering Applications

J. du Plessis, M. Owen

<https://doi.org/10.1115/1.4044425>

Experimental investigation of the effect of perimeter windscreens on air-cooled condenser fan performance

Applied Thermal Engineering

S. Marincowitz, J. Muiyser, M. Owen

<https://doi.org/10.1016/j.applthermaleng.2019.114395>

The Antifouling Effects of Copper-Oxide Filler Incorporated Into Paint-Based Protective Films Applied to Steam Surface Condenser Tubes

ASME Journal of Thermal Science and Engineering Applications

H. Reuter, M. Owen, J. Goodenough

<http://dx.doi.org/10.1115/1.4039354>

A numerical investigation of vapor flow in large air-cooled condensers

Applied Thermal Engineering

M. Owen, D. Kröger

<https://doi.org/10.1016/j.applthermaleng.2017.08.026>

Experimental evaluation of the temporal effects of paint-based protective films on composite fouling inside admiralty brass and titanium steam surface condenser tubes

Applied Thermal Engineering

H. Reuter, M. Owen, J. Goodenough

<https://doi.org/10.1016/j.applthermaleng.2017.07.196>

Enhancing turbine output at dry-cooled power plants using a hybrid (dry/wet) dephlegmator

Heat Transfer Engineering

M. Owen, D. Kröger, H. Reuter

<https://doi.org/10.1080/01457632.2016.1217050>

Contributors to increased fan inlet temperature at an air-cooled steam condenser

Applied Thermal Engineering

M. Owen, D. Kröger

<https://doi.org/10.1016/j.applthermaleng.2012.07.045>

An investigation of air-cooled steam condenser performance under windy conditions using computational fluid dynamics

ASME Journal of Engineering for Gas Turbines and Power

M. Owen, D. Kröger

<https://doi.org/10.1115/1.4002277>

The effect of screens on air-cooled condenser performance under windy conditions

Applied Thermal Engineering

M. Owen, D. Kröger

<https://doi.org/10.1016/j.applthermaleng.2010.07.017>

Teaching

Heat Transfer A414

Mechanical Design 444

Thermo-fluid Dynamics 344

Advanced Heat Transfer 813