



# LLEWELLYN H. CUPIDO

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MECHANICAL / FOUNDRY ENGINEER // MATERIAL SCIENCE RESEARCHER

## ABOUT ME

**Nationality:** South African

**Date & Place of birth:**  
17/01/1983 Windhoek, Namibia

**ID Number:** 8301175777089

*"I am God-fearing and humble, yet self-confident..."*

*Aut Viam Inveniam Aut Faciam*

## SKILLS

### Professional Skills

- SolidWorks ●●●●○
- Thermo-Calc ●●●●○
- ABAQUS ●●●○○
- MAGMASOFT ●●●○○
- MS Office ●●●●○
- Python ●●○○○

### Personal Skills

- Creativity ●●●●○
- Adaptability ●●●●○
- Teamwork ●●●○○
- Management ●●●○○
- Leadership ●●●●○

## WORK EXPERIENCE

**Junior Lecturer 2019 –**

**Department of Mechanical & Mechatronics Engineering, Stellenbosch University**

- assist students with projects and dissertational experiments and guide to bridge the gap between mechanical and metallurgical knowledge

**Research Engineer 2015 – 2018**

**Metals Technology Laboratory, CPUT**

- provide service to the foundry industry through process optimisation, mechanical design and heat treatment & microstructural analysis
- assist students with projects and dissertational experiments and guide to bridge the gap between mechanical and metallurgical knowledge

**Mechanical Technician 2007 – 2009**

**SASOL Synfuels, Gas Reforming Plant (Secunda, SA)**

- general & shutdown maintenance technical support and to ensure mechanical integrity
- mechanical projects & CAD updates

**Technical Auditor 2006 – 2007**

**SASOL Synfuels (Secunda, SA)**

- conduct audits on the various units of the plant with regards to the mechanical integrity inline with international standards

## ACADEMIC QUALIFICATIONS

**PhD (candidate) 2019 -**

**Stellenbosch University**

**MTech. Mechanical Engineering 2015**

**Cape Peninsula University of Technology**

Dissertation: Experimental and Numerical Investigation of Heat Treatment of Al-Si-Cu Alloys

**MSc. Foundry Engineering 2014**

**AGH University of Science and Technology (Krakow, Poland)**

**BTech. Mechanical Engineering 2011**

**Cape Peninsula University of Technology**

## HOBBIES



# RESEARCH EXPERIENCE

## R&D Projects

Project Title	Beneficiary	Status
Microsegregation modelling and simulation of a rotor shaft casting.	Shanghai Dian Ji University in association with Shanghai Electric Company	Completed Nov 2016
Corrosion of Speciality Steels.	Eskom Koeberg Nuclear Power Station	Completed Nov 2017
Process Optimisation for Sandcasting of boiler stoker conveyor link.	John Thompson	Completed Nov 2016
Design of gate valve in accordance with ASME B16.34 and API 600 standards.	Eskom (SA localisation potential)	Completed Jan 2018
Investigation of Submarine Hull Integrity under Corrosion Thinning	DESUP ARMSCOR	In Progress 2019 – 06/2020
Effect of Radiation Heating from Spent Nuclear Fuel on the Microstructure and Mechanical Strength of 2205 Duplex SS	Eskom Koeberg Nuclear Power Station (part of PhD research)	In progress 2018 -

## Conferences

- Cupido L.H. and Mahomed N., Experimental and Numerical Investigation of Solute Transport during Solidification and Heat Treatment of AK64-type Al-Si-Cu Cast Alloy, AFSA International Aluminium Conference, Cape Town, South Africa, March 2016. [peer reviewed]
- Cupido L.H. and Mahomed N., Microsegregation behaviour during Solidification and Heat Treatment of AK64 type Al-Si-Cu Sand Cast Alloy, Metal Casting Technology Station (MCTS) Colloquium, September 2015 [non-peer reviewed]
- Cupido L.H., Mahomed N. and Zak, P., Experimental and Numerical Investigation of Heat Treatment of Al-Si-Cu Alloys, SA Symposium of Metal Casting Technology, Cape Town, November 2014. [non-peer reviewed]

## Journal Publications

1. Cupido L.H., Zak P., Mahomed N., Lelito J., Piwowarski G. and Krajewski W., **Experimental and Numerical Investigation of Solute Transport during Solidification and Heat Treatment of AK64-type Al-Si-Cu Sand Cast Alloy**, *Archive of Metallurgy and Materials*, V60, No. 3, 2015. [2 citation]

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## REFERENCES

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### LEROSH SINGH (section leader, SASOL)

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### EUGENE ERFORT (CPUT Adaptronics AMTL: Operations Manager)

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