

January 20, 2020

RE: Recruitment information

To Whom It May Concern,

I understand that you specialise in matching engineering opportunities and professionals. My background includes the pursuit of a Masters in Mechanical Engineering and at present, I am concluding my PhD with the Advanced Manufacturing Laboratory at the University of Cape Town, in South Africa. Over these periods, I have accumulated over 6 years of mechanical engineering research related experience and I am currently exploring my opportunities for the next stage of my career in mechanical engineering, or mechanical engineering research and I was hopeful that you might know of an opportunity that I would be a good fit for.

I have attached my resume which includes all the pertinent details of my qualifications and career highlights. I feel my greatest value lies in my product development, prototyping and mechanical engineering strengths. For this reason, I am targeting jobs that will allow me to leverage those abilities and become an asset to a growth-focused organisation.

Contributions to my studies, and this field at-large, revolve around my essential prototyping and mechanical engineering talents. I have developed strong innovation abilities and fostered a reputation as a key contributor through critical thinking and leadership skills. As a team player, I am collaborative with peers, searching for ways to integrate valuable insights. Through these qualities, I have confidence in my ability to facilitate positive change, collective effort and I am eager to enter the professional sphere and apply my newfound qualifications and knowledge to the job.

I would appreciate speaking with you at your earliest convenience and discussing the possibility of partnering with you in my career pursuits. Feel free to give me a call or send an email to schedule a time we can talk. I will look forward to hearing from you.

Sincerely,

Kerry-Anne Airey

www.linkedin.com/in/kerry-anne-airey-9866927b

Kerry-Anne Airey

Contact

Phone

+27726592646

Skype

kerryanneairey

E-mail

kerryanneairey@gmail.com

Visa Eligibility

UK Ancestral Visa

Professional experience

2016-05 - Head of Laboratory

Current *Advanced Manufacturing Laboratory ("AML"), Cape Town, WC*

- Gathered requirements for 10 BSc, MSc & PhD projects and organized laboratory equipment and advised on project approach
- Developed proposals for 5 academic projects outlining project scope, resourcing, personnel and timelines.
- Provided technical direction on 15 student projects and initiatives to other engineers, designers, and technicians.

2016-05 - Engineering Senior Tutor

2019-11 *Mechanical Engineering Department, Cape Town, WC*

2019-09 - Tutored Reassessment Programme "TRP" - Senior Tutor

2019-10

Mechanical Engineering Department, Cape Town, WC

2013-01 - Engineering Tutor

2016-05 *UCT, Cape Town, WC*

- Conducted tutorial services for students to provide academic support in various engineering courses:
 - Project Management 2014;2016;
 - Experimental Methods 2013-2014;
 - Advanced Manufacturing; and
 - Nanotechnology 2013-2014,2019
- Graded assignments according to strict institutional policies and upheld guidelines for academic integrity while disciplining plagiarism and cheating accordingly.
- Invigilated exams [2013 – 2019]

2010-03 - Registration Data Capturer

2019-03 *UCT, Cape Town, WC*

- Reviewed and updated 100 student information and registration datasets on faculty database per day of registration.
- Corrected data entry errors to prevent later issues such as duplication or data degradation.

2018-01 - Engineering Faculty Receptionist (Temp)

2019-02 *UCT, Cape Town, WC*

- Directed incoming calls to internal personnel and departments, routing to best-qualified entity to respond to callers' needs.
- Answered 25-40 inquiries and resolved or escalated issues to faculty management to ensure Student/Parent satisfaction.

2015-05 - Department of Science and Technology Internship

2016-05

DST, Cape Town, WC

Kerry-Anne

Airey

PhD Candidate

Contact

Address

7 Madison Road
Claremont, Cape Town,
WC, 7708

Phone

+27726592646

Skype

Kerry-anneairey

E-mail

kerryanneairey@gmail.com

LinkedIn

www.linkedin.com/in/kerry-anne-airey-9866927b

Skills & Software

Advanced: MS Office;
Röders RFM600 Milling
Machine, DEWESoft DAQ,
SolidWorks



Excellent

Proficient: SPSS Statistics,
ProEngineer, AutoCAD,
Project Management



Very Good

Elementary: FEA, ANSYS,
Java, MATLAB, HSM Works



Good

Languages

English (native), Afrikaans
(proficient)

Interests

- Provided data processing support for 3 Electrical Engineering MSc Projects
- Advised on mechanical engineering aspects of electrical generator design

Education

2016-05 - **Ph.D.: Mechanical Engineering**

Current

University Of Cape Town - Cape Town

- Thesis: "Research endeavours on discrete machining for controlling the severe plastic deformation (SPD) in Titanium Alloys through the application of a new Modular Assisted Machining (MAM) system"
- Design, Development and prototyping of engineering modules
- Ti6Al4V feed-stock for expansion of manufacturing techniques
- Development of Independent Research Capacity

2013-07 - **Master of Science: Engineering, Mechanical Engineering**

2015-05

University Of Cape Town - Cape Town

- Dissertation: 'Towards the development of an Intelligent Poly Crystalline Diamond Clock Testing System and Prediction of Product Performance'
- Development of an accelerated wear testing protocol to improve the quality control protocols for industrial diamond inserts used in the oil and gas drilling industry.
- Recipient of National Research Foundation Innovation Scholarship; admittance to the Golden Key Society

2007-02 - **Bachelor of Science: Engineering, Mechanical Engineering**

2013-05

University Of Cape Town - Cape Town

- Final Year Project Report: Re-sharpening of PCD/PCBN Tool/Inserts supplied by Ford SA with the development of a force-controlled grinding technology.
- Developed a more controlled grinding protocol to resharpen diamond inserts used to machining grey cast iron and aluminium engine blocks, with consideration given to re-introducing the same profile as the original insert geometry.

SCUBA; DIY; Adventurous Trips; Crafting; Reading; Mentoring

Funding Awards

- NRF Innovation PhD [2017, 2018, 2019];
- NRF Innovation Masters [2015, 2016];
- Eskom Scholarship [2007 - 2011].

Volunteer

- Mentor - Fuller Hall, UCT, AML, Cape Town, WC [2008-2019]
- Open Day Volunteer UCT, Cape Town, WC [2018-2019]
- University Flat Representative Fuller Hall, UCT, Cape Town, WC [2008-2009]
- ESKOM Science Expo Volunteer ESI, Durban, KZN [2007]

Additional Publications

Conferences:

Engineering Simulation Conference: AIREY, K.-A. LOBMEYER, L.; VILAKAZI, N.; KUPPUSWAMY, R.; HOFFMANN, A.; "Analysis of a Software Simulation of Discrete Machining applied to Milling using ANSYS Software modulated assisted machining supported milling application on Titanium". Engineering Simulation Conference 2018, September 2018c Stellenbosch, South Africa.

2007-12 - **Student Engineering Training: Mechanical Engineering**
2011-12

University Of Cape Town - Cape Town

- 2008 Student Engineering Training I. CPUT, Engineering Department, Cape Town
- 2010 Student Engineering Training II. SAPPI Cape Kraft, Eng Dept, Cape Town
- 2011 Student Engineering Training III. UCT, Department of Mechanical Engineering

2002-01 - **IEB Senior Certificate**

2006-12 *St Mary's DSG - Kloof, KZN*

Publications:

Book Chapter:

Kuppuswamy, R., Airey, K-A.; 2018; "Intelligent PCD Tool Testing and Prediction of Performance"

in the main book

"Precision Product-Process Design and Optimization", Singapore

Journals:

Kuppuswamy, R., Airey, K-A, Sardikmen, H.; 2015; Micro-grinding characteristics of polycrystalline diamond tool; Int J Advanced Manufacturing Technology; Vol 76; pp. 161-171

Kuppuswamy, R., Airey, K-A, Bower, D., Sardikmen, H.; 2014; Influence of Wheel-Work Interface Force on Micro-grinding of Poly-Crystalline Diamond Tool; Int J Advanced Manufacturing Technology; Vol 76; pp. 161-171

Airey, K-A., 2013, MEC4061F Project No. 29: Re-sharpening of PCD/PCBN Tool/insert supplied by Ford SA with a development of a force-controlled grinding technology, University of Cape Town, Cape Town, South Africa.

References:

Provided on request

DST-UNESCO Engineering Week: Student Conference 2018: AIREY, K.-A. LOBMEYER, L.; KUPPUSWAMY, R.; HOFFMANN, A.; "Analysis of a Software Simulation of Discrete Machining applied to Milling using ANSYS Software modulated assisted machining supported milling application on Titanium".

UNESCO Engineering Week: Student Conference, September 2018b Belville, South Africa. – Winner: "Best Oral Presentation" for Mechanical, Manufacturing, Materials and Biomedical Engineering Conference: SAIMEchE, showcasing postgraduate research at local universities 2018: AIREY, K.-A. LOBMEYER, L.; KUPPUSWAMY, R.; HOFFMANN, A.; "Development of a Discrete Machining Device Applied to Titanium Milling and Simulated using ANSYS Software.". Mechanical, Manufacturing, Materials and Biomedical Engineering Conference: SAIMEchE, November 2018, Belville, South Africa.

Airey K-A., Kuppuswamy R., Sithebe H., Saridikmen H., Digital Extraction of Polycrystalline Diamond (PCD) Insert Behaviour using a Clock Testing Method, 2015 UCT Postgraduate EXPO, Cape Town, Western Cape, South Africa

Competitions:

Airey, K-A., Polycrystalline Diamond (PCD): An Accelerated Approach to Achieving Quality, 2015 Nationals IOM3: Young Person's Lecture Competition, Pretoria, South Africa

3 Minute Thesis: AIREY, K.-A. "Good Vibrations- A solution to Titanium Machining". 3MT: 3 Minute Thesis, September 2018a Cape Town, South Africa.