



RICHARD NKHOMA (PhD, MSc, BSc (Hons), BSc)

Profession	Engineer
Gender	Male
Ethnic Group	Black
Language	English
Desired job location	Willing to re-locate locally and internationally
ID No:	NHBS313H

Contact Details

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Google scholar	https://scholar.google.com.au/citations?user=w7hNx0oAAAAJ&hl=en
Residential Location	Chigumula Viphya, Blantyre, Malawi

Profile

A dynamic and highly driven Mechanical Engineer with 20 years experience. Excellent Operations Management, Process Engineering, Mechanical Engineering and Metallurgical Engineering skills in the areas of problem identification & solution generation, critical thinking & analyses, design & implementation, machine installation & commissioning and maintenance. Worked in various industries, such as manufacturing, dairy, production, fabrication and welding and Education. Enthusiastic to commence a career in any process, mechanical or metallurgical industry. Eager to learn new skills and meet new challenges in a dynamic work environment.

Education

2013 University of Pretoria Ph.D (Metallurgy)
2010 University of Pretoria M.Sc. Mechanical Engineering
2005 University of Pretoria B.Sc. (Hons) Mechanical Engineering
2001 University of Malawi B.Sc. Mechanical Engineering

Areas of Expertise

<ul style="list-style-type: none"> • Mechanical and Process Engineering • Mechanical/physical metallurgy • CAPEX, SOW, SOP, CAR, DoEs, RCA PFMEA • 3D Modelling: SolidWorks/AutoCAD/Inventor/Solid Edge/3Ds Max/Revit • Air Conditioning • Cold rooms and general refrigeration • Project management • Abaqus • Pumps • Modelling and simulation • Programming using MatLab • SHEQ • Manufacturing processes • Commissioning • Pneumatics and hydraulics • Casting 	<ul style="list-style-type: none"> • Logistics • Machining • Fabrication and welding • Engineering drawing • Control systems • Knowledge of electro-mechanical systems • Management of tenders and contractors • TPM • Design and manufacture • Fault finding and maintenance • Data collection and analysis • Vibration analysis • Management/Leadership • Lean Manufacturing • Statistical process control and variation reduction • ERP: QMuzik and SAP HANA
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Computer Skills

<ul style="list-style-type: none">• Solidworks• Autodesk AutoCAD/Revit/3Ds Max/Inventor• MatLab• Solid Edge• Website development using Joomla (CMS) and Dreamweaver• Turbo-c• Abaqus• Q-basic• Deform 3D• Teamcentre	<ul style="list-style-type: none">• Microsoft Office 2021 packages• Internet surfing• Latex• Thermo-Calc• ProCast• PLM
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Career History

1.	OCT 2020 – CURRENT
Company : Malawi University of Science and Technology	
POSITION – LECTURER	
Responsibilities	
<ul style="list-style-type: none">• Presenting sound academic teaching and learning practices to engineering students in line with curriculum• Participating or leading if necessary, curriculum development• Compiling and maintaining quality study and practical guidelines, subject files and other learning materials• Conducting in research and innovation activities linked to the industry• Leading and participate in community engagement projects• Participating in departmental, faculty and institutional initiatives• Liaising with industry regarding practical training, advisory committee meeting, industry visits and other related activities• Supervising Masters, 3rd and 5th year design projects.	

2.	JAN 2015–MAY 2020
Company : Rheinmetall-Denel Munition	
POSITION – EXECUTIVE MANAGER: PROCESS ENGINEERING	
Responsibilities	
<ul style="list-style-type: none">• Deputising the Head of Site – Boksburg Operations Site• Technical responsible for hot forging press, quench and temper heat treatment plant, over 60 CNC machines, banding/crimping presses, welding robot and spot welding machine among others.• Managing all aspects of manufacturing and core support functions• Responsible for achieving all production and key manufacturing KPIs targets• Leading Process Engineering Department's winning team of Engineers• Delivering high-end process engineering services to the business – including concept design, project management, process changes and modifications to existing processes, plant and capital equipment.• Responsible for product support and process support by determining process capacities and bottlenecks.• Preparing project plans (i.e. charter and schedule) to ensure delivery of project objectives on time and within budget.• Developing and implementing contingency plans for capacity/productivity increases.• Working with Maintenance, Production and Quality Departments to develop and implement process improvements• Leading engineering activities in the areas of design, optimisation and trouble-shooting of new processes and improvements in existing processes• Leading the technical transfer of new products from Product Development Team to high volume product commercialisation• Managing processes and responsible for maintaining up-to-date and accurate documentation such as route sheets, stage drawings, product manufacturing instructions, PCDL, FOI etc.• Troubleshoot complex manufacturing process performance issues; provide technical guidance to team members• Owning processes under scope of responsibility by initiating, coordinating and enforcing project, operational and personnel policies and procedures• Initiating, implementing, and managing Continuous Improvement efforts,• Leading Root Cause Analysis investigations, Lean and Six Sigma initiatives and leading projects that improve efficiency and/or reduce operation expenses• Continuously focusing on production efficiency, identifying causes of downtime and proactively identifying opportunities for improvement in product quality and productivity while driving out cost	

- Participating in objective setting, project planning, and review of plant performance
- Maintaining professional and technical knowledge by attending to educational activities, reviewing professional publications, establishing personal networks and benchmarking state-of-the-art practices
- Responsible for departmental performance measurement & management
- I am a Materials Review Board Chairperson
- Responsible for Configuration Management of the site including ECPs GCPs, TCPs, RTIs, NCRsetc.

3. FEB 2014 – DEC 2015

Company : Rheinmetall-Denel Munition

POSITION : SENIOR METALLURGICAL ENGINEER

Responsibilities

- Lead in the investigations on failure and metallurgical data analysis.
- Writing accurate and persuasive technical reports detailing causes and corrective actions associated with analysis of data and issues
- Provide material recommendations for new product development and to meet customer and/or industry requirements.
- Provide technical expertise for issues associated with the engineering, procurement, and use of raw material.
- Disposition of material on non-conformance issues.
- Analyse production and material limitations as well as the standardization of manufacturing specifications when required.
- Providing metallurgical control support for product and process activities relative to forgings.
- Leading new product launch and qualification activities with global customer base.
- Coordinating and conducting assigned development programs leading to improved products and processes.
- As directed, develops and maintains QA programs, specifications, procedures, and equipment to meet customer specification and quality requirements.
- Interfaces with customer representatives on products and metallurgical quality issues.
- Monitoring and interfacing with outside suppliers for compliance to stated requirements. Includes assigning, determining and providing for corrective actions as required.
- Acting as project manager for multifunctional teams on process improvement activities and new product qualifications.
- Implementing and supporting continuous improvement and stability activities such as Process Management.
- Manage the overall design of process flow sheets, plant layouts, material handling systems, manpower requirements, equipment procurement and material utilization.
- Develop and manage metallurgical operations and work practices that maximize operational efficiencies.
- Improve plant operating performance, reduce waste and delays, promote cost reductions, and achieve a high level of operating efficiency.
- Evaluate current and potential processing methods.
- Monitor and analyse key metallurgical performance indicators of process operations and recommend corrective actions to the operations team.
- Manage metallurgical and chemical engineering activities working with the operations team and external consultants.
- Create and distribute monthly metallurgical and engineering reports.
- Work within cross-functional teams and coach, mentor supervise and lead direct reports.
- Interference with all other functions within the organization, customers, suppliers, and third party agencies on quality and raw material related issues.
- Maintain a safe and efficient workenvironment

4. AUG 2011 – DEC 2013

Company : University of Pretoria

POSITION : TEACHING ASSISTANT

Modules : Control Systems, Dynamics, Computing, Mechanical Metallurgy, Materials Science

Responsibilities

- Reporting to the Module Lecturer.
- Tutoring 4th year, 3rd year 2nd and 1st year undergraduate students.
- Responsible for marking assignments and entering grades onto the system.
- Responsible for formulating and uploading homework assignments onto the online blackboard.

Achievements

- Reduced the workload for Lecturers considerably.
- Seeking permanent employment because this is part-time.

5.	DEC 2001 –JUL 2011
Company : University of Malawi	
POSITION : LECTURER IN MECHANICAL ENGINEERING	
Responsibilities	
<ul style="list-style-type: none"> • Presenting sound academic teaching and learning practices to engineering students in line with curriculum • Participating or leading if necessary, curriculum development • Compiling and maintaining quality study and practical guidelines, subject files and other learning materials • Participating in research and innovation activities linked to the industry • Leading and participate in community engagement projects • Participating in departmental, faculty and institutional initiatives • Liaising with industry regarding practical training, advisory committee meeting, industry visits and other related activities • Supervising 3rd and 5th year design projects. 	
Reason for wanting to leave	
<ul style="list-style-type: none"> • Better career prospects and seeking further growth in career. 	

6.	2008–2011
Company : University of Malawi	
POSITION : HEAD OF MECHANICAL ENGINEERING DEPARTMENT	
Responsibilities	
<ul style="list-style-type: none"> • Providing sound leadership and to manage the department in line with University strategic goals and standards. • Ensuring that the University facilities (Laboratory and Machine shop Equipment) available in the department are well managed, maintained and serviced accordingly. • Managing both normal class and examination activities timetables. That is creating the timetables and ensuring that they are being implemented effectively by academic members of staff and at the same time being followed accordingly by students. • Developing new curricular for new courses or revising the current one to reflect new issues arising in the academic arena. • Recruiting new members of staff to fill any shortfalls in staffing if present – so the Head of Department is basically involved in informing University Management about the situation and conduct the interviewing process together with management. • Conducting annual and ad hoc budgeting of the department, to ensure smooth operations of the department. • Chairing departmental and faculty meetings. • Reporting annual department activities to the University Management. • Communicating to students, members of staff and Management any relevant information that may be of great importance to them. • Sourcing external examiners to regulate departmental curricular and academic activities. • Cost control. • Involved in consultancies and community outreach programmes. • Involved in the teaching of undergraduate courses • Supervising 3rd and 5th year design projects. • Conducting staff performance appraisals (both academic and support staff) 	

7.	JAN 2005 – DEC 2006
Company : University of Pretoria	
POSITION : TEACHING ASSISTANT	
Modules : Control Systems	
Responsibilities	
<ul style="list-style-type: none"> • Reporting to the Module Lecturer. • Tutoring 4th year undergraduate students. • Responsible for marking assignments and entering grades into the system. 	
Achievements	
<ul style="list-style-type: none"> • Reduced the workload for Lecturers considerably. 	
Reason for wanting to leave	
<ul style="list-style-type: none"> • Returned home to Malawi after finishing the first part of my studies. 	

8.	JAN 2001 – DEC 2001
Company : Dairibord Malawi	
POSITION : PLANT ENGINEER IN TRAINING	
Responsibilities	
<ul style="list-style-type: none"> • Evaluating problems encountered by section in respect of infrastructure support and implement • Monitoring sub-assembly life, failure analysis and condition monitoring in conjunction with the team. • Using information to drive the efficiency and effectiveness of the maintenancesystem. • Developing, coaching and training subordinates. • Maintaining safety and maintenance standards. • Doing execute administrative duties • Fleet management. • Compiling and managing an all-inclusive budget based on planned schedules. • Cost control. • Logistics and inventory control. • Driving condition based proactive maintenance actions. • Creating and maintaining a safe and healthy working environment. • Planning short and medium term activities. • Driving renewal and continuous improvements objectives • Involved in boiler operations and maintenance. • Involved in the applications and assessment of job cards system. • Carried out first parade checks. • Investigating and implementing best practices in maintenance and operation of equipment. 	

- Departmental staff performance appraisal.

Reason for leaving

- Seeking further growth in career.

9.	APPRENTICE Unilever South East Africa (Mw) Ltd Jan 2000 – May 2000
10.	APPRENTICE Brown and Clapperton (MW) Ltd Jan1999 – Apr1999
11.	APPRENTICE Medicines Sans Frontiers Jan 1998 – Mar 1998

Publications

1. R. C. K. Nkhoma, C. W. Siyasiya, and W. E. Stumpf, "Hot workability of AISI 321 and AISI 304 austenitic stainless steels," *Journal of Alloys and Compounds*. Volume 595, doi: 10.1016/j.jallcom.2014.01.157, 15 May 2014, Pages 103–112.
2. R. C. K. Nkhoma, C. W. Siyasiya, and W. E. Stumpf, "Constitutive Modelling of Mill Loads during Hot Rolling of AISI 321 Austenitic Stainless Steel," *International Journal of Materials Research*, <http://www.hanser-elibrary.com/doi/abs/10.3139/146.111093>, doi: 10.3139/146.111093, Jun 2014.
3. R. C. K. Nkhoma, CW Siyasiya and WE Stumpf, "Hot Working Characteristics of AISI 321 in Comparison to AISI 304 Austenitic Stainless Steel". *The Southern African Institute of Mining and Metallurgy: Ferrous and Base Metals Development Network Conference, 15 to 17 October 2012, Magaliesburg, South Africa, ISBN 978-1-920410-33-9. (published conference proceeding - 2012)*
4. Annan, K. A., Nkhoma, R., Siyasiya, C., & Mostert, R. (2021). Failure analysis of thin cast A357-T6 centre shell induced by casting defect. *Materials Today: Proceedings*.
5. Nkhoma, R., Annan, K. A., & Siyasiya, C. (2021). Effect of adding Cr, Ni and Mo on quench and temper microstructure and mechanical properties of a Si-Mn spring steel. *Materials Today: Proceedings*.
6. Annan, K. A., Nkhoma, R. C., & Ngomane, S. (2021). Resistance spot welding of a thin 0.7 mm EN10130: DC04 material onto a thicker 2.4 mm 817M40 engineering steel. *Journal of the Southern African Institute of Mining and Metallurgy*, 121(10), 549-556.
7. Ngonda, T., Nkhoma, R. and Falayi, T. (2023), "Work-integrated learning placement in engineering education: a comparative contextual analysis of public universities in Malawi, Namibia and South Africa", *Higher Education, Skills and Work-Based Learning*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/HESWBL-02-2023-0040>
8. Nkhoma, R., & Falayi, T. (2023). Reflections on the post COVID-19 teaching and learning: Lessons from the emergency transition to online learning at two African universities Tiyamike Ngonda Cape Peninsula University of Technology, South Africa. *International Journal of Education and Development using Information and Communication Technology*, 19(1), 139-151.
9. Ngonda, T.; Nkhoma, R.; Ngonda, V. Perceptions of Solar Photovoltaic System Adopters in Sub-Saharan Africa: A Case of Adopters in Ntchisi, Malawi. *Energies* 2023, 16, 7350. <https://doi.org/10.3390/en16217350>

Professional Bodies

1. Engineers Australia Professional Member – membership number is EA 5914549
2. Engineering New Zealand Member – membership number is 1159242
3. SAIMM
4. Malawi Institution of Engineers

Professional Strengths

- Strong leadership, planning, organising and monitoring abilities and an efficient time-manager.
- Able to manage multiple projects simultaneously in a team environment.
- Track record for meeting timelines and meeting expectations.
- Respond quickly to changing situations; and work well under pressure while maintaining individual team effectiveness.
- Able to cope with ambiguity, contradiction, stress and uncertainty.
- Willing to learn and adapt to changing environments.
- A critical thinker - strong analytical skills; accurate and probing.
- Able to communicate orally, in writing, or via electronic means, in a manner appropriate to the audience.
- Proven leadership skills involving managing, developing and motivating teams to achieve their objectives.
- Focused, self-motivated and target driven; determined to succeed.
- Excellent report-writing skills.

Referees

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