

UNIVERSITY OF PRETORIA

CURRICULUM VITAE: DINEO RAMATLO

1. BIOGRAPHICAL SKETCH

1.1 GENERAL INFORMATION										
Surname	Ramatlo									
First names	Dineo Anna Marry			ID Number						
Citizenship	South African			Title	Ms	Female	<input checked="" type="checkbox"/>	Male	<input type="checkbox"/>	
Place of birth	Pretoria			Date of birth			09 October 1991			
Population group	African	<input checked="" type="checkbox"/>	Coloured	<input type="checkbox"/>	Indian	<input type="checkbox"/>	White	<input type="checkbox"/>	Other <i>(Please specify)</i>	
Department	Mechanical and Aeronautical Engineering			Position			Lecturer			
Direct Telephone	012 420 2462			Direct Telefax						
E-mail	dineo.ramatlo@up.ac.za									
Date of appointment	01/01/2020			Permanent full-time			<input checked="" type="checkbox"/>	Temporary full-time		<input type="checkbox"/>

1.2 ACADEMIC QUALIFICATIONS OBTAINED				
Degree/ Diploma	Field of study	Higher education institution	Year	Distinctions
MEng	Mechanical Engineering	University of Pretoria	2016	Cum Laude
BEng (Hons)	Mechanical Engineering	University of Pretoria	2014	N/A
BEng	Mechanical Engineering	University of Pretoria	2013	N/A

1.3 WORK EXPERIENCE TO DATE		
Name of employer	Capacity and/or type of work	Period From (mm//yy to mm//yy)
CSIR	Masters Studentship	January 2015 – September 2016
CSIR	Doctoral Studentship	October 2016 – December 2016
CSIR	Researcher	January 2017 – December 2019
University of Pretoria	Lecturer	January 2020 - Present

2. TEACHING ACTIVITIES

2.1 Courses presented		
Course	Level (e.g. second year, Masters)	Self developed (Yes or No)
MSD 210 Dynamics	Second year	No
MPR 213 Programming and Information Technology	Second year	No

2.2 Other education and pedagogic courses presented		
Course	Year	Institution

3. TEACHING OUTPUTS

3.1 Educational publications and products

4. OTHER TEACHING CONTRIBUTIONS

4.1 Membership of national and international bodies

4.2 Visits to local and overseas universities as guest professor or lecturer in regard to teaching

4.3 Participation in national and international teaching associations, bodies, committees

5. POSTGRADUATE SUPERVISION

5.1 Supervision or co-supervision of students who have completed degrees				
Name of student	Degree ¹ /Title of dissertation/ thesis and date completed	Supervisor	Co-supervisor(s)	Duration of studies (years)

5.2 Current post-graduate students					
Name of student	Degree ² enrolled for and date of first registration	Project title	Supervisor	Co-supervisor(s)	Year of registration

6. RESEARCH FUNDING

6.1 Obtaining research funds (Optional)			
Origin of research funds	Title of research project or programme	Duration	Money allocated (R)
NRF Thuthuka Fund	Guided wave ultrasound monitoring	2020 - 2021	R280 000

¹ Indicate whether Honours, Masters research, Masters coursework with dissertation or Doctorate

² Indicate whether Honours, Masters research, Masters coursework with dissertation or Doctorate

7. RESEARCH OUTPUTS

7.1 Publications in peer-reviewed or refereed journals

Publications published in peer-reviewed or refereed journals

- 1.P. W. Loveday., C. S. Long and D. A. Ramatlo.; “Mode repulsion of ultrasonic guided waves in rails”, *Ultrasonics*, vol. 84, pg. 341-349, 2018. (Impact Factor=2.6)
- 2.D. A. Ramatlo., D. N. Wilke and P. W. Loveday.; “Development of an Optimal Piezoelectric Transducer to Excite Guided Waves in a Rail Web”, *NDT & E International Journal*, vol. 95, pg. 72-81, 2018. (Impact Factor=2.9)
- 3.C. S. Long., P. W. Loveday., D. A. Ramatlo and E. Andhavarapu.; “Numerical verification of an efficient coupled SAFE-3D FE analysis for guided wave ultrasound excitation”, *Finite Elements in Analysis and Design*, vol. 149, pg. 45-56, 2018. (Impact Factor=2.5)

Publications submitted to peer-reviewed or refereed journals_– In Press

- 4.D. A. Ramatlo., C. S. Long., P. W. Loveday and D. N. Wilke.; “A Modelling Framework for Simulation of Ultrasonic Guided Wave-Based Inspection of Welded Rail Tracks”, *Ultrasonics*, vol. xxx, pg. xxx-xxx, Accepted 23 June 2020. (Impact Factor=2.6)

7.2 Books and/or chapters in books

Provide full details, including full titles, names of all the authors, publishers, dates, page numbers etc. Specify your exact contribution to the book e.g. editorial role, co-author

7.3 Published full-length conference papers/keynote addresses

Provide full details of each publication, including full titles, names of all the authors, journals, dates, page numbers etc.

- 1.D. A. Ramatlo., D. N. Wilke and P. W. Loveday.; “Optimal Design of a Piezoelectric Transducer to Excite Ultrasonic Guided Waves”, *10th South African Conference on Computational and Applied Mechanics*, South Africa, 3-5 October 2016.
- 2.P. W. Loveday and D. A. Ramatlo; “Experimental Observation of Computed Ultrasonic Guided Wave Dispersion Phenomena”, *10th South African Conference on Computational and Applied*

Mechanics, South Africa, 3-5 October 2016.

- 3.D. A. Ramatlo., C. S. Long., P. W. Loveday and D. N. Wilke.; "SAFE-3D analysis of a piezoelectric transducer to excite guided waves in a rail web", in *Review of Progress in Quantitative Non-destructive Evaluation*, eds. D. E. Chimenti and L. J. Bond, (American Institute of Physics 1706, Melville, NY) 020005 (2016).
- 4.D. A. Ramatlo., D. N. Wilke and P. W. Loveday.; "Optimal Design of a Piezoelectric Transducer for Exciting Guided Wave Ultrasound in Rails", *43rd Annual Review of Progress in Quantitative Non-destructive Evaluation*, Georgia, 16-22 July 2016.
- 5.P. W. Loveday., D. A. Ramatlo and F. Burger; "Monitoring of Rail Track Using Guided Wave Ultrasound", *19th World Conference on Non-Destructive Testing*, Munich, 2016
- 6.P. W. Loveday., R. M. C. Taylor., C. S. Long and D. A. Ramatlo.; "Monitoring the Reflection from an Artificial Defect in Rail Track using Guided Wave Ultrasound", *44th Annual Review of Progress in Quantitative Non-destructive Evaluation*, Utah, 16-21 July 2017.
- 7.D. A. Ramatlo., P. W. Loveday., C.S Long and D. N. Wilke; "Estimation of probability of defect detection by combining simulated defect signatures with measured ultrasonic guided wave signals", *11th South African Conference on Computational and Applied Mechanics*, South Africa, 17-19 September 2018.
- 8.K. Dhuness., D. A. Ramatlo., C. S. Long and P. W. Loveday.; "Temperature Compensation for Ultrasonic Guided Wave Measurements", *11th South African Conference on Computational and Applied Mechanics*, South Africa, 17-19 September 2018.
- 9.C. S. Long., D. A. Ramatlo., and P. W. Loveday.; "Comparison between SAFE forced response and Abaqus/Explicit solutions of a rail excited at a cut-off frequency", *11th South African Conference on Computational and Applied Mechanics*, South Africa, 17-19 September 2018.

Conference papers accepted:

- 10.D. A. Ramatlo., C. S. Long., P. W. Loveday and D. N. Wilke.; "Guided wave ultrasound Modelling framework for simulation of features and defects in welded rail tracks", *47th Annual Review of Progress in Quantitative Non-destructive Evaluation*, Minneapolis, 26-30 July 2020.

7.4 Non-refereed publications or popular articles

Provide full details of each publication, including full titles, names of all the authors, journals, dates, page numbers etc.

7.5 Patents

Provide full details of provisional or full patents

7.6 Technical reports

Provide full details.

8. OTHER SCHOLARLY RESEARCH-BASED CONTRIBUTIONS

8.1 Participation in conferences, workshops and short courses - specify type of contribution

Provide full details of participation in national and international conferences etc

8.1.1 National

1. D. A. Ramatlo; "Fusing Simulated Defect Signatures with Experimental Measurements to Predict the Probability of Defect Detection in Rails", *6th CSIR Emerging Researchers Symposium*, South Africa, 28-29 June 2018.

8.1.2 International

1. Manfred Johannes and D. A. Ramatlo., "Advancing NDE Education for Future Engineers – A South African Perspective", *43rd Annual Review of Progress in Quantitative Non-destructive Evaluation*, Georgia, 16-22 July 2016. (Presented by D.A Ramatlo)

8.2 Teamwork and collaboration with others:

Other researchers (national and international)

1. Professor Philip Loveday – University of the Witwatersrand (2015 - Present)
2. Dr Craig Long – CSIR Manufacturing Cluster (2015 - Present)

Other research institutions (national and international)

1. University of the Witwatersrand
2. CSIR Manufacturing Cluster

Industry

8.3 Membership in national and international bodies

List all the scientific associations or societies to which you belong. Name your involvement, e.g. honorary member, founder member, full member, chairman, president, secretary

8.4 Visits to local and overseas universities or research institutes as guest professor or researcher

Details are required

9. ARTISTIC OUTPUTS (if applicable)

9.1 Provide full details of artistic outputs, including public reviews of work, coordinating reports by experts in the field, publisher, production company etc

10. MANAGEMENT AND ADMINISTRATIVE DUTIES

10.1 List your involvement in departmental activities (e.g. administrative functions), faculty (e.g. Faculty Committees) or other university activities.

MechEng Marketing Committee - 2020

11. COMMUNITY SERVICE OR PROFESSIONAL SKILLS

11.1 Outreach projects

(e.g. project titles, institutions and communities involved, etc.)

11.2 Professional service performed

(e.g. courses presented, lectures at professional associations/clubs, radio or TV appearances, outside expert or appointment committee, etc.)

11.3 Clinical service

(e.g. full detail of rank/level of joint appointment, level of clinical service rendering responsibilities, university administration and academic responsibilities, CPD involvement, clinical trials involvement, etc.)

11.4 Involvement with other universities/scientific institutions

(e.g. external examiner, editor of journal, advisory council, CSIR, SA Council for Scientific Professions)

11.5 Referee duties

(e.g. journals, dissertations/theses)

12. AWARDS AND SCIENTIFIC/SCHOLARLY RECOGNITION

12.1 Evaluation status as scientist/scholar

(e.g. NRF; first evaluation and date, subsequent evaluations and dates)

12.2 Research awards and prizes

1. NRF Thuthuka Grant. 2020-2021.
2. CSIR-MSM Best Masters Student. 2017.
3. Third Prize at the QNDE 2015 conference student poster competition. 2015.

12.3 Teaching awards and prizes

Full details are required

12.4 Artistic awards and prizes

Full details required