CURRICULUM VITAE

MARI VAN DE VYVER

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PERSONAL INFORMATION

Title: Dr
Surname: van de Vyver (Maiden: Linström)
First name: Mari
Nationality: South African
Date of Birth: 1985 -04-23
Place of Birth: Bethlehem, South Africa
Gender: Female

Current position: Senior Researcher. Division of Clinical Pharmacology, Faculty of Medicine & Health Sciences (FMHS), Stellenbosch University.

FIELD OF STUDY, MAJOR RESEARCH TOPICS, SCIENTIFIC INTEREST

I am a senior researcher with >30 publications in accredited peer-reviewed scientific journals; I have co-authored x3 book chapters; and >26 conference abstracts (16 national and 10 international conferences); and served as a guest editor for an international scientific journal (Biochimie, Elsevier). I have been a NRF Y-rated researcher since 2019 with expertise in Experimental pharmacology, Endocrinology (obesity & diabetes), physiology, stem cells & regenerative medicine and have successfully supervised >30 postgraduate students.

My research is focused on elucidating cellular and molecular therapeutic targets in chronic inflammatory and metabolic conditions.

Specific focus areas include:
(1) mesenchymal stem cell impairment/dysfunction in diabetes and evaluating the effectiveness of potential preventative/restorative agents.
(2) Dysregulated healing responses in chronic diabetic wounds and the optimization of therapeutic approaches.

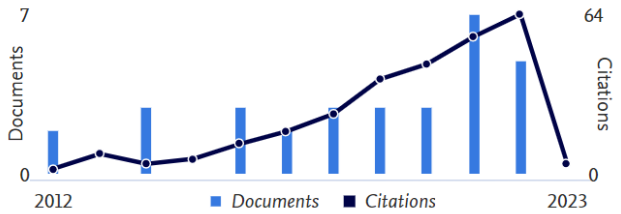
Research studies involve a variety of models both preclinical and clinical and utilizes stem cells, immortalized cells, primary cells, murine and rodent models of obesity/diabetes, zebrafish as well as specific cohorts of patients. This enables our unit to bridge-the-gap between the laboratory and clinical setting to do translational research.

NRF rating: Y (2019-2023)
Number of peer-reviewed publications: 34
Book Chapters: 3

Citations: 278; **h-score:**10; (source: Scopus)
Citations: 254; **h-score:** 10; (source: Web of Science)
Citations: 406; **h-score:**12; **i10-index:** 14 (source: Google Scholar)

Reviewer for International Scientific Journals: 13
Editorial roles for international Scientific Journals: 1

Document & citation trends



Source: Scopus

PROFESSIONAL CAREER / EMPLOYMENT HISTORY

2019-current **Senior Researcher**
(2021- current) Division of Clinical Pharmacology, Department of Medicine, Stellenbosch University

- Primary Investigator (PI): Stem cells & Regenerative Medicine Research Group.
- Lead research group within unit including acquisition of grant funding, research project management, management and expansion of research capacity and facilities, specifically the BSL2 cell culture and GMO labs.
- Lecture: BSc Hons Clinical Pharmacology, theory & lab rotation.
  Postgraduate diploma in toxicology: Stem cells & Drug discovery
- Line-Manager: Lab manager, cell culture facilities
- Responsible for lab accreditation and compliance with Health & Safety regulations: Cell culture labs; Zebrafish lab; analytical pharmacology labs.

(2019- 2020) Department of Medicine, Stellenbosch University

- Primary Investigator (PI): Established a research niche: Stem cells & Regenerative Medicine.
- Director of all research activities within the group, including acquisition of grant funding, project management, management and expansion of research capacity and facilities.
- Lecture: BSc Hons Medical Physiology, theory & lab rotation
- Line-Manager: Lab manager

2019: Maternity leave (4 months)

2016-2018: **Researcher** (3-year contract). Division of Endocrinology, Department of Medicine, Stellenbosch University
2013-2016: **Postdoctoral Researcher**. Division of Endocrinology, Department of Medicine, Stellenbosch University

2012: Maternity leave (6 months)

2010-2012: **Completed PhD Degree** (within 3 years, whilst performing duties described below)

Lecturer: Human Biology (2 x 6-month contracts) 2011-2012
Department of Medical Biosciences, University of the Western Cape

- Compiled and taught tutorials/practical's (30 students/group) and lectures (250 students/lecture) to 1st and 2nd year undergraduate nursing students.
- Provided guidance and support to struggling previously disadvantaged students.
- Performed administrative duties pertaining to teaching: course administration, setting and marking of exams; handling of student queries; managing difficult situations involving socio-economic circumstances of students.
- Restructured course work: Updated course content to incorporate latest research/knowledge relevant to field of study and restructured order of topics taught. Changes approved by UWC Nursing Higher Education.

Part-time lecturer. 2010-2012 Department of Physiological sciences,
Stellenbosch University.

- Teach undergraduate practical session. Compiled content and student assessments.
- Compiled course content and taught muscle physiology (80 students/lecture) and practical sessions (20 students/group). Specialist section: Nutrition; Exercise VO2max; Lactate threshold) to final year BSc students. Course duration: 4 weeks.
- Setting of undergraduate final exam questions and assessment thereof.

2009: **Problem based learning Facilitator**. Department of Human Biology, University of Cape Town

- Problem based learning: Facilitated case study discussions to small group (10 students/group) of 1st year MBChB students.
- Provided mentorship and guidance to 1st year medical students regarding course work Taught students to think critically and how to translate studies to clinical setting.

2008: Maternity leave (6 months)

2007 – 2009: **Completed structured MPhil degree**.

2006: **Clinical Research Assistant**. Pharmaceutical company: Farmovs / PAREXEL

- Performed the Quality control of Case Report Forms (CRF's) – phase II clinical trials.

2004 – 2006: **Completed BSc degree**

TERTIARY EDUCATIONAL QUALIFICATIONS: CONTINUED PROFESSIONAL DEVELOPMENT/COURSES & QUALIFICATIONS

Degrees:
2010 – 2013 **PhD Physiological Sciences.** Stellenbosch University
2007-2009 **MPhil Exercise Physiology.** Stellenbosch University
2004-2006 **BSc Human Biology.** University of the Free State

Higher education short courses:
2019 **Evaluation & Examination of postgraduate work**. Centre for higher adult education, Stellenbosch University
2018 **Framework for Integrative methodology**. Centre for higher adult education, Stellenbosch University
2015 **Strengthening Postgraduate Supervision** (NQF8). Stellenbosch University (SU) & Department of Higher Education (DHE) & Netherlands organization for international cooperation in higher education (NUFFIC)
2011 **Problem based learning facilitation**. University of Cape Town

Research related short courses:
2022 **Health & Safety representative**, Dynamikos
2022 **Fiji ImageJ Image analysis.** CAF, Stellenbosch University
2020 **Laboratory Health & Safety Practices**. Quality First Academy (Pty) Ltd
2017 **Project management for the research team**. Stellenbosch University
2018 **Bio-banking** (NQF8). StellMed, Stellenbosch University
2015 **Fundamentals of Grant writing workshop**. Stellenbosch University
2013 **Ethics and care of animals in research.** University of Cape Town
2012 **Phlebotomy**. University of Cape Town
2011 **Flow cytometry**. BD training centre, Stellenbosch University
2010 **Fluorescence Live Cell Imaging Microscopy**. Stellenbosch University
2006 **Good Clinical Practice**. Farmovs, Parexel

HONOURS, AWARDS, PRIZES, SCIENTIFIC, TEACHING AND SCHOLARLY RECOGNITION

Personal awards:

2022: **Cover page**: Biochimie. May 2022. Special Issue: Regeneration in Health and Disease.
2021: **Cover page:** Stem Cells & Development Journal Volume 30. December 2021. Special Issue: Adipose stem cells & Therapies. International Federation of adipose tissue therapeutics. (IFATS) Mary Ann Liebert publishers.
2019: **Publication award:** Best Diabetes related research publication. Society for Endocrinology Metabolism and Diabetes in South Africa (SEMDSA).
2016-2019: **Mentee:** Early Career Academic Development Program, Stellenbosch University.
2017: **Scientist travel award**: Society for Endocrinology Metabolism and Diabetes in South Africa (SEMDSA).
2016: **Best Oral Presentation award**: 51st Conference of the Society for Endocrinology Metabolism and Diabetes in South Africa.
2015: **Best Oral Presentation award**: 50th Conference of the Society for Endocrinology Metabolism and Diabetes in South Africa.

Awards received by students (main supervisor):

2022: **Best Oral Presentation award**: Awarded to MSc student (S. Govender) at the Annual Conference of the Society for Endocrinology Metabolism and Diabetes in South Africa.
2021: **Best Poster Presentation award**: Awarded to MSc student (M. Maartens) at the Annual Conference of the Society for Endocrinology Metabolism and Diabetes in South Africa.
2021: **Special Mention: Innovative method**. Awarded to PhD student (K Boodhoo) at the Annual Physiological Society of Southern Africa (PSSA) conference.
2019: **Best innovative method award**: Awarded to MSc student (K. Boodhoo) at the Annual Physiological Society of Southern Africa (PSSA) conference.

SCHOLARSHIPS AND BURSARIES RECEIVED

2007-2008: National Research Foundation (NRF) Grant-holder linked MSc bursary.
2010-2012: National Research Foundation (NRF) Grant-holder linked PhD bursary.
2013-2015: Postdoctoral fellowship: Faculty of Medicine & Health Sciences, Stellenbosch University.

GRANTS AND RESEARCH FUNDING RECEIVED

Awarded as primary investigator:

Ongoing:

2022-2023: **Scientist research Grant: SEMDSA.** Research project funds for PhD project (M Maartens). Total award R260 000
2022-2024: **National Research Foundation Research Development Grants for Y-Rated Researchers** Total award R299 680
2021-2022: **Medical Research council (MRC), Self-initiated research grant**. Total award R384 000

Completed:

2021: **Harry Crossley foundation**. Total award R93 804 (3 student projects)
2020: **Harry Crossley foundation**. Total award R81 657 (3 student projects)
2019-2020: **Central Analytical Facility** (CAF, SU) & Zeiss. Research project funds and MSc student bursary for fluorescent microscope-based project. Total Award: R100 000 (project funding). R100 000 bursary funding.
2019-2020: **South African Sugar Association**. (External funds). Self-initiated research grant. Total award R97 134.
2019: **Harry Crossley foundation**. Total award R130 000 (4 student projects)
2019: **National Research Foundation (NRF), Knowledge Interchange & Collaboration**. Visiting scientist, international speaker travel grants for hosting flow cytometry workshop. Total award R50 000.
2017-2019: **National Research Foundation Competitive Support for unrated researchers**. Total award R1.92 million (incl. grant-holder linked postgraduate student bursaries)
2017-2019: **Medical Research council (MRC), Self-initiated research grant**. Total award R550 000.
2017: **FMHS Early career research funding**. Total award R147 740
2016: **ERC Early career research support**, Division of Research development, SU. Total award R25 000
2015-2016: **South African Sugar Association**. (External funds). Self-initiated research grant. Total award R90 000.

INDUSTRY CONTRACT RESEARCH:

Awarded as primary investigator:

2022 NextBiosciences. Contract #S007545. Wound healing study investigating the efficacy of novel therapeutic interventions using a mouse model of chronic diabetic wounds. Total award: R388 000

MEMBERSHIP OF NATIONAL AND INTERNATIONAL SCIENTIFIC AND TEACHING SOCIETIES, ASSOCIATIONS BODIES AND COMMITTEES

Active roles:

National:

2021-2022 **Local Conference Organizing committee**: Society for Endocrinology Metabolism and Diabetes in South Africa (SEMDSA) Portfolio: Scientific Program as well as Abstract review.

2016-2020 **Executive committee: Society for Endocrinology Metabolism and Diabetes in South Africa** (SEMDSA). Portfolio: Basic Science. Purpose: To promote scientific research in the respective fields of endocrinology, metabolism and diabetes through the establishment of numerous awards and funding opportunities with a focus on "from bench-to-bedside and back".

2018: **Invited Session Chair:** COBNesT conference. First Conference of Biomedical and Natural Sciences and Therapeutics. Spier, October 2, 2018

2017: **Scientific committee:** International Congress of Tissue Engineering and Regenerative Medicine (ICTERM) (2017).

International:

2018: **Member of the Program organizing committee**: International Congress on Endocrinology (ICE2018). Cape Town, South Africa, 1-4 December 2018.

2018: **Invited Chair: Symposium session**. International Congress on Endocrinology (ICE2018). Cape Town, South Africa, 1-4 December 2018.

Membership:

National:

- Society of Endocrinology Metabolism and Diabetes of South Africa (SEMDSA) (2013-ongoing)
- Physiological Society of Southern Africa (PSSA) (2007-2013).

International:

- International Federation of adipose tissue therapeutics (IFATS) (2021-ongoing)
- International society for stem cell research (ISSCR) (2017-ongoing)

MEMBERSHIP OF INSTITUTIONAL SCIENTIFIC AND TEACHING COMMITTEES

FMHS:

Ongoing:

- **Research Ethics Committee: Biosafety & Environmental Ethics** (REC:BES). Full voting member. (2022-)
- **Division of Clinical Pharmacology**, Academic review panel for postgraduate research proposals (2022-)
- **Department of Medicine, Human Resources committee.** (2023-)
- **Department of Medicine, Research committee**. (2019-)
- **Health & Safety Representative:** Department of Medicine, 3rd Floor, Clinical building. (2022-)
- **Health & Safety Officer,** Experimental Pharmacology Unit, Division of Clinical Pharmacology, Department of Medicine. (2021-)
- **PhD Proposal Evaluation committees**: Faculty of Medicine and Health Sciences (FMHS), Stellenbosch University (SU). Nominated to serve on the evaluation committee for proposed PhD projects. (ad hoc)

Completed:

- 2016-2019: **Invited speaker and panel member**: 'Writing a successful NIH Research Grant: A round table discussion'. 28 September 2016 and 15 July 2017. Hosted by Research Development and Support, FMHS, Stellenbosch University (SU). NIH compliance. In 2016, I was identified as the only researcher in the faculty that has ever submitted an NIH application for an animal study and was therefore invited to present a section on animal ethics – NIH compliance.
- 2017-2019: **First aid and Health & Safety officer**, Department of Medicine
- 2015-2016: **Member of Branch committee**: Academic portfolio and chairperson of the Tygerberg postdoctoral society (Tygerberg PDS). Contributed to the writing / editing of the postdoc policy accepted at Stellenbosch University 2016 as well as the writing of the constitution of the Tygerberg PDS branch.

REGISTRATION WITH PROFESSIONAL COUNCIL

Not applicable

RESEARCH EVALUATION AND RATING

NRF Rating: Y category (awarded 2019-2023)
Scopus h-index: 10

RESEARCH OUTPUTS

Publications:

1. van de Vyver M 2023 Immunology of chronic low-grade inflammation: relationship with metabolic function. *The Journal of Endocrinology* JOE-22-0271. (doi:10.1530/JOE-22-0271) *(Invited Authoritative Review)*
2. Ramklowan DSH, Snyman C, van de Vyver M & Niesler CU 2022 Establishment of fibroblast and myofibroblast phenotypes for use in in vitro co-culture models. *Biochimie* S0300-9084(22)00283-8. (doi:10.1016/j.biochi.2022.10.017) *(MSc student, first author)*
3. Hall DR & van de Vyver M 2022 Transabdominal cerclage during pregnancy: A retrospective single operator series over a quarter century. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*. (doi:10.1002/ijgo.14426)
4. Niesler CU & van de Vyver M 2022 Editorial: Regeneration in Health and Disease. *Biochimie* **196** 121–122. (doi:10.1016/j.biochi.2022.03.009) *(Editorial)*
5. van de Vyver M, Idensohn PJ & Niesler CU 2022 A regenerative approach to the pharmacological management of hard-to-heal wounds. *Biochimie* **196** 131–142. (doi:10.1016/j.biochi.2022.01.006) *(Invited Review)*
6. Boodhoo K, de Swardt D, Smith C & van de Vyver M 2022 Ex vivo tolerization and M2 polarization of macrophages dampens both pro- and anti-inflammatory cytokine production in response to diabetic wound fluid stimulation. *Biochimie* **196** 143–152. (doi:10.1016/j.biochi.2021.12.009) *(PhD student, first author)*
7. Mentoor I, Engelbrecht A-M, van de Vyver M, van Jaarsveld PJ & Nell T 2021 The paracrine effects of adipocytes on lipid metabolism in doxorubicin-treated triple negative breast cancer cells. *Adipocyte* **10** 505–523. (doi:10.1080/21623945.2021.1979758)

8. Maartens M, Kruger MJ & van de Vyver M 2021 The Effect of N-Acetylcysteine and Ascorbic Acid-2-Phosphate Supplementation on Mesenchymal Stem Cell Function in B6.C-Lepob/J Type 2 Diabetic Mice. *Stem Cells and Development* **30** 1179–1189. (doi:10.1089/scd.2021.0139)) *(MSc student, first author)*
9. van de Vyver M, Boodhoo K, Frazier T, Hamel K, Kopcewicz M, Levi B, Maartens M, Machcinska S, Nunez J, Pagani C *et al.* 2021 Histology Scoring System for Murine Cutaneous Wounds. *Stem Cells and Development* **30** 1141–1152. (doi:10.1089/scd.2021.0124) *(Collaborative: International. PI, lead & corresponding author: International collaboration – 3 continents, 5 Universities)*
10. Paulsen C, Hall DR, Mason D, van de Vyver M, Coetzee A & Conradie M 2020 Observations on Glucose Excursions With the Use of a Simple Protocol for Insulin, Following Antenatal Betamethasone Administration. *Frontiers in Endocrinology* **11** 592522. (doi:10.3389/fendo.2020.592522)
11. Van der Made, van de Vyver M, Conradie, Conradie-Smit M. Prevalence and Etiology of Hyperthyroidism in patients with Hyperemesis Gravidarum in the Cape Winelands, South Africa. JEMDSA. 2020; 1-8 https://doi.org/10.1080/16089677.2020.1831740
12. Boodhoo K, Vlok M, Tabb DL, Myburgh KH & van de Vyver M 2021 Dysregulated healing responses in diabetic wounds occur in the early stages postinjury. *Journal of Molecular Endocrinology* **66** 141–155. (doi:10.1530/JME-20-0256) *(MSc student, first author)*
13. Ollewagen T, Myburgh KH, van de Vyver M & Smith C 2021 Rheumatoid cachexia: the underappreciated role of myoblast, macrophage and fibroblast interplay in the skeletal muscle niche. *Journal of Biomedical Science* **28** 15. (doi:10.1186/s12929-021-00714-w)
14. Wessels A, Coetzee A, Mason D, Hall D, van de Vyver M & Conradie M 2020 Utility of in-hospital post-delivery fasting plasma glucose to predict postpartum glucose status in women with hyperglycaemia first detected in pregnancy: A prospective cohort study. *PloS One* **15** e0239720. (doi:10.1371/journal.pone.0239720)
15. van de Vyver M, Powrie YSL & Smith C 2021 Targeting Stem Cells in Chronic Inflammatory Diseases. *Advances in Experimental Medicine and Biology* **1286** 163–181. (doi:10.1007/978-3-030-55035-6_12) *(Invited Review)*
16. Mehrbani Azar Y, Niesler CU & van de Vyver M 2020 Ex vivo antioxidant preconditioning improves the survival rate of bone marrow stem cells in the presence of wound fluid. *Wound Repair and Regeneration: Official Publication of the Wound Healing Society [and] the European Tissue Repair Society* **28** 506–516. (doi:10.1111/wrr.12815) *(PhD student, first author)*
17. Mehrbani Azar Y, Kruger MJ, de Swardt D, Maartens M, Seboko AM, Ferris WF & van de Vyver M 2020 Model for Studying the Effects of Chronic Metabolic Disease on Endogenous Bone Marrow Stem Cell Populations. *Methods in Molecular Biology (Clifton, N.J.)* **2138** 119–134. (doi:10.1007/978-1-0716-0471-7_6) *(PhD student, first author)*
18. Niesler CU, van de Vyver M & Myburgh KH 2019 Cellular regenerative therapy for acquired noncongenital musculoskeletal disorders. *South African Medical Journal = Suid-Afrikaanse Tydskrif Vir Geneeskunde* **109** 58–63. (doi:10.7196/SAMJ.2019.v109i8b.13860)
19. Coetzee A, van de Vyver M, Hoffmann M, Hall DR, Mason D & Conradie M 2019 A comparison between point-of-care testing and venous glucose determination for the diagnosis of diabetes mellitus 6-12 weeks after gestational diabetes. *Diabetic Medicine: A Journal of the British Diabetic Association* **36** 591–599. (doi:10.1111/dme.13903)
20. Coetzee A, Beukes A, Dreyer R, Solomon S, van Wyk L, Mistry R, van de Vyver M. The prevalence and risk factors for diabetes mellitus in healthcare workers at Tygerberg hospital, Cape Town, South Africa: a retrospective study. JEMDSA 2019:1-6 DOI: 10.1080/16089677.2019.1620009
21. Jacobs FA, van de Vyver M & Ferris WF 2019 Isolation and Characterization of Different Mesenchymal Stem Cell Populations from Rat Femur. *Methods in Molecular Biology (Clifton, N.J.)* **1916** 133–147. (doi:10.1007/978-1-4939-8994-2_13)
22. Seboko AM, Conradie MM, Kruger MJ, Ferris WF, Conradie M & van de Vyver M 2018 Systemic Factors During Metabolic Disease Progression Contribute to the Functional Decline of Adipose Tissue-Derived Mesenchymal Stem Cells in Reproductive Aged Females. *Frontiers in Physiology* **9** 1812. (doi:10.3389/fphys.2018.01812) *(MSc student, first author)*
23. Mehrbani Azar Y, Green R, Niesler CU & van de Vyver M 2018 Antioxidant Preconditioning Improves the Paracrine Responsiveness of Mouse Bone Marrow Mesenchymal Stem Cells to Diabetic Wound Fluid. *Stem Cells and Development* **27** 1646–1657. (doi:10.1089/scd.2018.0145) *(PhD student, first author)*
24. Kruger MJ, Conradie MM, Conradie M & van de Vyver M 2018 ADSC-conditioned media elicit an ex vivo anti-inflammatory macrophage response. *Journal of Molecular Endocrinology* **61** 173–184. (doi:10.1530/JME-18-0078) *(postdoc, first author)*
25. van de Vyver M 2017 Intrinsic Mesenchymal Stem Cell Dysfunction in Diabetes Mellitus: Implications for Autologous Cell Therapy. *Stem Cells and Development* **26** 1042–1053. (doi:10.1089/scd.2017.0025)
26. Conradie MM, van de Vyver M, Andrag E, Conradie M & Ferris WF 2017 A Direct Comparison of the Effects of the Antiretroviral Drugs Stavudine, Tenofovir and the Combination Lopinavir/Ritonavir on Bone Metabolism in a Rat Model. *Calcified Tissue International* **101** 422–432. (doi:10.1007/s00223-017-0290-3)
27. Jacobs FA, Sadie-Van Gijsen H, van de Vyver M & Ferris WF 2016 Vanadate Impedes Adipogenesis in Mesenchymal Stem Cells Derived from Different Depots within Bone. *Frontiers in Endocrinology* **7** 108. (doi:10.3389/fendo.2016.00108)
28. van de Vyver M, Niesler C, Myburgh KH & Ferris WF 2016 Delayed wound healing and dysregulation of IL6/STAT3 signalling in MSCs derived from pre-diabetic obese mice. *Molecular and Cellular Endocrinology* **426** 1–10. (doi:10.1016/j.mce.2016.02.003)

29. van de Vyver M, Engelbrecht L, Smith C, Myburgh KH. Neutrophil and monocyte responses to downhill running: Intracellular contents of MPO, IL-6, IL-10, pstat3, and SOCS3. Scand J Med Sci Sports. 2016 Jun;26(6):638-47. doi: 10.1111/sms.12497.
30. van de Vyver M & Myburgh KH 2014 Variable inflammation and intramuscular STAT3 phosphorylation and myeloperoxidase levels after downhill running. *Scandinavian Journal of Medicine & Science in Sports* **24** e360-371. (doi:10.1111/sms.12164)
31. van de Vyver M, Andrag E, Cockburn IL & Ferris WF 2014 Thiazolidinedione-induced lipid droplet formation during osteogenic differentiation. *The Journal of Endocrinology* **223** 119–132. (doi:10.1530/JOE-14-0425)
32. Durcan PJ, Conradie JD, Van deVyver M & Myburgh KH 2014 Identification of novel Kirrel3 gene splice variants in adult human skeletal muscle. *BMC Physiology* **14** 11. (doi:10.1186/s12899-014-0011-3)
33. van de Vyver M & Myburgh KH 2012 Cytokine and satellite cell responses to muscle damage: interpretation and possible confounding factors in human studies. *Journal of Muscle Research and Cell Motility* **33** 177–185. (doi:10.1007/s10974-012-9303-z)
34. Macaluso F, Brooks NE, van de Vyver M, Van Tubbergh K, Niesler CU & Myburgh KH 2012 Satellite cell count, VO(2max) , and p38 MAPK in inactive to moderately active young men. *Scandinavian Journal of Medicine & Science in Sports* **22** e38-44. (doi:10.1111/j.1600-0838.2011.01389.x)

Book chapters published:

1. Azar YM, Kruger MJ, de Swardt D, Maartens M, Seboko AM, Ferris WF, van de Vyver M. Chapter 2: Model for Studying the Effects of Chronic Metabolic Disease on Endogenous Bone Marrow Stem Cell Populations. Series: Methods Molecular Biology: Dietary Models for Studies on Maximising Healthspan: Protocols and Methods. Methods Mol Biol. 2020;2138:119-134. doi: 10.1007/978-1-0716-0471-7_6. *(PhD student, first author)*
2. Jacobs FA, van de Vyver M, Ferris WF. Chapter 13: Isolation and Characterization of Different Mesenchymal Stem Cell Populations from Rat Femur. Series: Methods Molecular Biology Volume 1916, Book Title/Subtitle: Pre-Clinical Models / Techniques and Protocols. 2018 ISBN 978-1-4939-8993-5
3. Jacobs FA, Sadie-Van Gijsen H, van de Vyver M, Ferris WF. Bone marrow adipose tissue: Formation, function and impact on health and disease. Chapter 2: BMAT origins and development. Frontiers in Endocrinology. 2017. ISBN 978-2-88945-245-3.

Published conference abstracts:

National:

1. S Govender (presenting author), M Kruger, R Johnson, M van de Vyver. The therapeutic efficacy of Ascorbic acid 2 phosphate, N-acetylcysteine and Metformin against diabetes mellitus associated cellular senescence. Congress of the Society for Endocrinology, metabolism and Diabetes of South Africa (SEMDSA), Sept 2022. AWARD: Best oral presentation.
2. M Maartens (poster presentation), M Vlok, M van de Vyver. Proteomic analysis: The effect of antioxidant supplementation on bone marrow derived mesenchymal stem cells in diabetes. Congress of the Society for Endocrinology, metabolism and Diabetes of South Africa (SEMDSA), Sept 2022.
3. M Maartens (presenting author), M Kruger, M van de Vyver. Antioxidant supplementation as protective strategy against stem cell dysfunction in type 2 diabetes. Congress of the Society for Endocrinology, metabolism and Diabetes of South Africa (SEMDSA), March 2021. AWARD: Best poster presentation.
4. A Seboko (presenting author), J Hellig, W Ferris, M Conradie, E Pretorius, M Conradie. M van de Vyver. An investigation into the effects of type 2 diabetes associated systemic inflammation on mesenchymal stem cell function in Black South African Women. 52nd Congress of the Society for Endocrinology, metabolism and Diabetes of South Africa (SEMDSA), 4-7 May 2017, Johannesburg, South Africa. (Abstract published in JEMDSA 2017; 22(1):12-13)
5. van de Vyver M (presenting author), Niesler C, Myburgh KH, Ferris WF. Obesity-associated type 2 diabetes can have detrimental effects on the ability of mesenchymal stem cells (MSCs) to aid tissue regeneration. 51st Congress of the Society for Endocrinology, metabolism and Diabetes of South Africa (SEMDSA), 14-17 April 2016, Cape Town, South Africa. (Abstract published in JEMDSA 2016 21 (1) pg 9-10). AWARD: Best oral presentation.
6. van de Vyver M (presenting author), Niesler C, Myburgh KH, Ferris WF. The influence of obesity-associated type 2 diabetes on the migration capacity of bone marrow-derived mesenchymal stem cells (bmMSCs). 50th Congress of the Society for Endocrinology, metabolism and Diabetes of South Africa (SEMDSA), 17-19 April 2015, Bloemfontein, South Africa. (Abstract published in JEMDSA 2015 20 (1) pg 27). AWARD: Best oral presentation.
7. Conradie R (presenting author), Andrag E, Sadie-van Gijsen H, van de Vyver M, Hough S. On the Pathogenesis of anti-retroviral drug-induced bone disease in a rat model. 16th NOFSA congress, 23-26 October 2014, Johannesburg, South Africa (Abstract published in JEMDSA 2014 19(3) (Suppl) p. S5)
8. FA Jacobs (presenting author), M van de Vyver, H Sadie-Van Gijsen, FS Hough, WF Ferris. Characterization of mesenchymal stem cell populations from rat femur. 16th NOFSA congress, 23-26 October 2014, Johannesburg, South Africa (Abstract published in JEMDSA 2014 19(3) (Suppl) p. S5)

9. Cockburn I (presenting author), van de Vyver M, Andrag E, WF Ferris. The effects of TZDs on the osteogenic differentiation potential of primary adipose derived mesenchymal stem cells. 49th Congress of the Society for Endocrinology, metabolism and Diabetes of South Africa (SEMDSA) 2014, Pietermaritzburg. (Abstract published in JEMDSA 2014 19(3) (Suppl) p. S5)

International:

10. Kathryn H. Myburgh, (presenting author, FACSM), Lize Engelbrecht, Jana Wurz, Carine Smith, M van de Vyver. Myeloperoxidase Response to Eccentric Exercise Is Not Limited to Neutrophils. American College of Sports Medicine 61st Annual Meeting, 5th World Congress on Exercise is Medicine and World Congress on the Role of Inflammation in Exercise, Health and Disease. 2014 Orlando, Florida. (Abstract published in Medicine & Science in Sports & Exercise: May 2014 - Volume 46 - Issue 5S - p 710–712, doi: 10.1249/01.mss.0000451252.64821.4d)
11. Myburgh, Kathryn H. (presenting author, FACSM); Macaluso, Filippo; Brooks, Naomi; van de Vyver, M; van Tubbergh, Karen; Niesler, Carola. VO2Max Correlates with Pax7+ Cell Count in Vastus Lateralis Muscle of Recreationally Active, Untrained Subjects. Skeletal Muscle Cell Signalling, 2011 June (Abstract published in: Medicine & Science in Sports & Exercise. 43(5) (Suppl 1):414-415, May 2011. DOI: 10.1249/01.MSS.0000401142.08888.4d)

Other oral and Poster Presentations at national and international conferences:

National:

1. Seboko AM, van de Vyver M. miRNA signature of impaired diabetic mesenchymal stem cells. PSSA 2021. Virtual
2. Boodhoo K, Smith C, van de Vyver M. Ex vivo tolerization and M2 polarization of macrophages. PSSA 2021. SPECIAL MENTION AWARD: Innovative method.
3. Benecke RM, Van de Vyver M, Harvey B, Smith C. The Role of Trace Amine Associated Receptor 1 (TAAR1) as a Neuroinflammatory Target in Psychiatric Disorders. Annual (virtual) conference of the South African Neuroscience Society. November 2020.
4. Boodhoo K, Vlok MN, Myburgh KH, van de Vyver M. Comparison of wound healing dynamics in an acute and newly developed chronic wound model using neutral endopeptidase, an inhibitor of substance P. PSSA 2019, August 2019. AWARD: Best Innovative method
5. van de Vyver M (presenting author), R Green, CU Niesler, YM Azar. Antioxidant preconditioning improves the paracrine responsiveness of bone marrow mesenchymal stem cells to diabetic wound fluid. COBNEST Spier 8-10 October 2018
6. van de Vyver M, Smith C, Engelbrecht L (presenting author), Myburgh KH. Response of peripheral blood mononuclear cells to pro- and anti-inflammatory interleukins after downhill running. Microscopy Society of Southern Africa (MSSA), Stellenbosch University, December 2014
7. van de Vyver M (presenting author), Niesler C, Myburgh KH, Ferris WF. The implications of low level inflammatory conditions on the ability of mesenchymal stem cells to aid tissue regeneration. Indian Ocean Rim Muscle Colloquium (IORMC) 24-26 January 2016
8. van de Vyver M (presenting author), Andrag E, Cockburn I, Ferris W.F Thiazolidinedione's and Wnt signalling in primary mesenchymal stem cells. International Conference on Tissue Engineering and Regenerative Medicine (ICTERM). 27 - 31 August 2014, Tshwane University of Technology Africa
9. Jacobs A, van de Vyver M, Sadie-van Gijsen H, Ferris WF (presenting author). Characterizations and comparison of Mesenchymal stromal cells isolated from three depots within bone. International Conference on Tissue Engineering and Regenerative Medicine (ICTERM). 27 - 31 August 2014, Tshwane University of Technology Africa

International:

10. Azar YM (presenting author), van de Vyver M. Stem cell therapy for diabetic wounds: Ex vivo antioxidant treatment enhance the anti-inflammatory paracrine responsiveness of bone marrow mesenchymal stem cells to promote healing. ICE 2018, 1-4 December, Cape Town, South Africa.
11. Kruger MJ, Conradie M, Conradie MM, van de Vyver M. Anti-inflammatory macrophages from metabolic syndrome patients are primed to produce a bigger inflammatory response. ICE 2018, 1-4 December, Cape Town, South Africa
12. van de Vyver M (presenting author), Lanz KW, Myburgh KH. Impact of bone marrow derived mesenchymal stem cell conditioned media on the migration of C2C12 myoblasts: Influence of obesity. International society for stem cell research (ISSCR) 2017 Annual Meeting, Boston, Massachusetts, USA, 14-17 June 2017.
13. Ferris WF (presenting author), van de Vyver M, Cockburn I, Andrag E. TZD induced lipid accumulation concomitantly with osteoblastic differentiation in primary mesenchymal stromal cells. Keystone Symposia meeting on: Lipid Pathways in Biology and Disease. 2014 Royal Dublin Society, Dublin, Ireland.
14. KH Myburgh (presenting author), P Durcan, M van de Vyver, K Goetsch, CU Niesler. Muscle biopsy and HSk cell analysis for Pax7 and fusion protein, Kirrel. Advances in Skeletal Muscle Biology in Health and Disease Conference, March 5-7, 2014, University of Florida.
15. Durcan PJ (presenting author), van de Vyver M, Reeves C, Myburgh KH. Do humans and flys share the same molecular mechanisms in regulating muscle cell fusion events. 42nd European Muscle Conference, 2013, Amsterdam, Netherlands.

16. Myburgh, KH (presenting author) and van de Vyver, M. Eccentric exercise: A model for testing sensitivity to inflammation and regenerative capacity of skeletal muscle. European Muscle Conference, 2012, Rhodes, Greece.
17. van de Vyver M (presenting author), Myburgh KH. Needle muscle biopsies, super-imposed on eccentric exercise: no effect on circulating markers of damage. 75th European College of Science in Sports (ECSS). 2010, Antalya, Turkey.

KEYNOTE LECTURES:

OPENING KEYNOTE: IFATS2023 Washington DC, USA. 5 October 2023 (International Federation of Adipose Therapeutics and Science.

Other invited oral presentations:

National:

1. van de Vyver M. The use of live cell-imaging to study cellular dynamics in wound healing. Central Analytica Facility, STIAS, Stellenbosch Institute for Advances Studies. Microscopy Symposium 14 April 2022 (Invited speaker)
2. van de Vyver M. Non-communicable diseases: Diabetes beyond the pandemic. 2nd Postdoctoral Conference of Southern Africa. 12 Nov 2021, Virtual (Invited speaker)
3. van de Vyver M. The undesired effects of obesity-associated type 2 diabetes on mesenchymal stem cell functionality. Flagship Stem cell meeting, University of Pretoria, 21 August 2015. (Invited speaker)
4. van de Vyver M. Stem cell impairment in chronic inflammatory conditions and its implications for autologous cell therapy. Workshop on Stem cell science and Applications, African Academy of Sciences/ Hosted in Stellenbosch by STIAS 27th June – 1 July 2016. (Invited speaker)
5. van de Vyver M. Intrinsic mesenchymal stem cell dysfunction in obesity and pre-diabetes. Flagship conference on Stem cell research and therapy, University of Pretoria, 26 October 2017. (Invited speaker)

International:

6. van de Vyver M. Flow cytometry applications in various research models. Flow cytometry workshop: International Society for the Advancement of Cytometry (ISAC). 2017 Cape Town, South Africa. (Invited speaker)

ORGANISATIONAL ACTIVITIES

International conference organization:

- 2018: Member of the Program organizing committee: International Congress on Endocrinology (ICE2018). Cape Town, South Africa, 1-4 December 2018.

National conference organization:

- 2023: Local organizing committee: Biosafety Symposium. Cape Town, South Africa
- 2022: Local organizing committee: Society of Endocrinology Metabolism and Diabetes South Africa (SEMDSA). Annual conference.
- 2020: Member of the local organizing committee: Society of Endocrinology Metabolism and Diabetes South Africa (SEMDSA). Responsible for speaker invitation for basic science parallel session. April 2020, Durban, South Africa.

Workshop organization:

- 2016: Grant writing workshop: Tygerberg, Postdoctoral society.
- 2017-2019: Member of the Organising committee: Flow cytometry workshop: International Society for the Advancement of Cytometry (ISAC) (2017 and 2019). Hosting of 8 International speakers/ experts in cytometry during 3-day workshop.

JOURNAL EDITORIAL POSTS

2021-2022: **Guest Editor**. Biochimie. Special Issue: Regeneration in Health & Disease. (Elsevier journal, impact factor 3.6)

REVIEWER FOR SCIENTIFIC WORK

International peer-reviewed journals:

- Biochimie (Impact factor 3.6)
- Burns & Trauma (Impact Factor 5.099)

- Journal of wound care (Impact factor 2.6)
- Inflammopharmacology (Impact factor 3.4)
- Stem cells & Development (Impact factor 3.77)
- Molecular and Cellular Endocrinology (Impact factor 3.8)
- Lasers in surgery and medicine (Impact factor 3.2)
- Exercise Science & Sports Reviews (Impact factor 4.259)
- Oxidative Medicine & Cellular Longevity (Impact factor 4.9)
- Molecular Biology Reports (Impact factor 1.8)
- Current clinical Pharmacology (Impact factor 0.55)
- Stem cells International (Impact factor 3.9)

National peer-reviewed journals:

- South African Medical Journal (Impact factor 1.325)

Research grant proposals:

- 2016-2022 Harry Crossley Review panel.
- 2019 NRF CSUR application (Submitted by Dr S Riedel)
- 2018 SEMDSA PhD Research award. Co-ordinated the review process (11 applications)

Rating applications reviewed:

- 2018: NRF Rating application (Submitted by Dr S Naidoo)

Adjudication panel:

- 2020: SEMDSA publication award
- 2019-2022: HD Brede award for postgraduate research in Infectious disease (FMHS, SU)

Reviewer for conference abstracts:

- 2022: SEMDSA Annual congress (SEMDSA2022), Cape Town, South Africa, 8-11 September 2022.
- 2020: SEMDSA Annual congress (SEMDSA2021), Durban, South Africa, 21 March 2021
- 2018: International Congress on Endocrinology (ICE2018). Cape Town, South Africa, 1-4 December 2018

MEDIA COVERAGE

- 2021: International Press release: SPOT wound score. https://www.genengnews.com/news/assessing-wound-healing-via-a-new-scoring-system/. Quote from Editor-in-Chief (Stem Cells & Development, Prof Graham C Parker): "…Represents a truly international effort to advance the robust and accurate assessment of wound healing." This study developed and statistically validated a scoring system based on parameters in each phase of healing.

- 2020: "The daily Vox", 3 September 2020, journalist: Fatima Moosa: Here's What You Need To Know About Collagen
- 2017: Vivus Innovation: Stem cell research gets 'boost' from NRF
- 2016: Vivus Excellence: Stem cell researcher elected to SEMDSA committee

EXAMINER FOR COURSES, THESES, DISSERTATIONS

Moderator for courses:

2022: External moderator: BSc Genetics Module. GENE3764. University of the FreeState, Bloemfontein.
2019-2022: External moderator: BSc Hons Biochemistry, Cell Biology & Methods in Cell Biology. BIOC701 P1 University of Kwazulu-Natal.

Examiner for theses, Dissertations:

(MSc thesis n=10; PhD thesis n=6)	
Internal	**External**
MSc thesis:	**MSc thesis:**
J Lovett (MSc 2016) (SU, Supervisor: Prof Myburgh)	C Venter (MSc 2017) (UKZN, Supervisor: Prof Niesler)
(MSc 2022) (SAMRC, Supervisor: Prof R Johnson) – student must still submit	A Brown (MSc 2017) (UCT, Supervisor: Prof S Kidson)
Maia (MSc 2022) (SU, Supervisor Prof Mybrugh - student must still submit	LT Altman (MSc 2018) (UP, Supervisor: Prof M Pepper)
	K Chetty (MSc 2020) (UFS, Supervisor: Dr G Marx)
	Stefan Valentin (MSc 2020) (NHLS, WITS, Supervisor: Dr C Padoa)
	S Grobelaar (MSc 2021) (UP, Supervisor: M Pepper)
	M Janse van Rensburg (MSc 2022) (UJ, Supervisor: H Abrahamse)
	M Petzer (MSc 2022) (UP, Supervisor: W Cordier) –
PhD thesis:	**PhD thesis:**
R Adams (PhD 2019) (SU, Supervisor: Prof C Smith)	K Kallmeyer (PhD 2019) (UP, Supervisor: Prof M Pepper)
Clare Kimani (PhD 2022) (SU, Supervisor: Prof C Muller) – student must still submit	MA Gbadamosi (PhD 2021) (UKZN, Supervisor: Dr B Tlou)
	A Dare (PhD 2021) (UKZN, Supervisor: Dr A Nadar)
	A Pieterse (PhD 2022) (UP, Supervisor: Dr R Anderson) –

POSTGRADUATE STUDENT SUPERVISION

Current postgraduate students:

Name	Degree	Title	Starting date	Supervision	Co-supervisor
PhD students:					
1. P Dhanraj	PhD Internal Medicine	Eicosanoids as potential therapeutic targets in diabetic wounds	2022	90%	Dr M Vlok
2. M Maartens	PhD Pharmacology	N-acetylcysteine and ascorbic acid-2-phosphate incorporated hydrogels as autologous stem cell delivery system for the treatment of diabetic wounds.	2021	90%	Dr M Vlok
3. K Boodhoo	PhD Internal Medicine	The combined use of tolerized anti-inflammatory macrophages and MSCs as therapeutic strategy for the treatment of non-healing diabetic wounds	2020	90%	Prof C Smith
MSc students:					
4. K Gilbert	MSc Pharmacology	Drug interaction between Metformin & antioxidants	2022	100%	
5. L Homu	MSc Pharmacology	Ex vivo study assessing the effect of various pharmaceuticals on the acute phase hemostasis and inflammatory response in diabetes mellitus	2022	100%	
6. C Mouton	MSc Pharmacology	The effect of Trace amines on fibroblast migration	2022	50%	Prof C Smith

Graduated students:

Name	Degree	Title	Completion date	Supervision	Co-supervisor
PhD students:					
1. YM Azar *(international)*	PhD Internal Medicine	An investigation into the effects of ex vivo anti-oxidant treatment on the regenerative potential of MSCs following prolonged exposure to a pathological micro-environment associated with diabetes mellitus in vivo	Dec 2019	95%	Prof Niesler (UKZN)
2. AM Seboko	PhD Internal Medicine	MicroRNA signature of healthy vs impaired diabetic mesenchymal stem cells as biomarker for autologous stem cell therapy.	Dec 2021	95%	Dr Scholefield (CSIR)
3. Rohan Benecke	PhD Physiological sciences	Comparative assessment of neurological vs. metabolic inflammatory maladaptation as reflected in skin fibroblasts	Dec 2022	Prof C Smith (SU)	30%

MSc students:					
1. N Passerin d'Entreves	MSc Physiological sciences	The dose and time dependent effects of HGF on Myf5, MyoD and miR31 expression in Quiescent primary human myoblasts	Dec 2017	Prof K Myburgh (SU)	10%
2. AM Seboko	MSc Medical Physiology	Stem cell impairment associated with type 2 diabetes mellitus: Investigating the effects of obesity associated inflammation on MSC function	Dec 2017	95%	Prof Ferris; Dr Lopes (SU)
3. K Boodhoo CUM LAUDE	MSc Physiological sciences	A comparison of the wound healing dynamics in an acute and newly developed chronic wound model using Neutral endopeptidase, an inhibitor of Substance P	Apr 2020	90%	Prof Myburgh (SU)
4. L Nkonka	MSc Human Genetics	Gene expression profiling of type 2 diabetes associated genes In individuals from the Free State	Apr 2020	Dr G Marx (UFS)	10%
5. M Maartens CUM LAUDE	MSc Medical Physiology	Combined N-acetylcysteine (NAC) / ascorbic acid-2-phosphate (AAP) supplementation as preventative measure against stem cell impairment in type 2 diabetes.	Apr 2021	95%	Dr E Marais (SU)
6. S Matyesini	MSc Medical Physiology	Using TIRF and STORM in tandem to investigate adherence and migration patterns in stem cells	Dec 2021	70%	Ms L Engelbrecht (CAF); Dr D van Vuuren
7. C Jangano CUM LAUDE	MSc Molecular biology	Evaluation of the migratory potential/chemotactic properties of Myeloid Derived Suppressor Cells (MDSC) in the context of human M.tb infection	Apr 2022	Dr N du Plessis	30%
8. D Ramklowar	MSc Biochemistry	Intercellular Communication between Fibroblast Phenotypes, Macrophages and Myoblasts during Cellular Migration	Apr 2022	Prof CU Niesler (UKZN)	10%
9. S Govender CUM LAUDE	MSc Medical Physiology	The Therapeutic Efficacy of Ascorbic Acid 2 Phosphate, N-Acetylcysteine and Metformin Against Diabetes Mellitus Associated Cellular Senescence	Mar 2023	95%	Prof R Johnson (MRC)
BSc Hons students:					
1. K Lanz	BSc Hons Physiological sciences	Impact of bone marrow derived MSC conditioned media on the migration of C2C12 myoblasts: Influence of obesity and age	2016	60%	Prof Myburgh (SU)
2. R Green	BSc Hons Medical Physiology	Determination of the satest, non-toxic dosages of N-acetylcysteine and ascorbic acid-2-phosphate as potential agents to counteract MSC impairment	2017	100%	
3. M Maartens	BSc Hons Medical Physiology	The paracrine function of mesenchymal stem cells to promote wound healing in diabetic conditions	2018	100%	
4. C Jangano	Bsc Hons Molecular biology	Evaluation of the migratory potential/chemotactic properties of Myeloid Derived Suppressor Cells (MDSC) in the context of human M.tb infection	2019	Dr N Burger (SU)	5%
5. S Govender	BSc Hons Medical Physiology	The effect of Pluronic hydrogel on MSC viability	2020	100%	
6. M van Heerden	BSc Hons Pharmacology	Investigating the possible repurposing of Neprilysin (NEP) inhibitors for the treatment of diabetic wounds	2021	95%	Dr M Kruger
7. L Williams	BSc Hons Pharmacology	Improving hydrogel as a drug delivery system and assessing whether incorporating antioxidants will improve cell proliferation	2021	100%	
10. G Stead	Hons Pharmacology	The causative effect of diabetes-associated SASP on developmental defects in zebrafish	2022	70%	Prof C Smith (SU)
11. R Lambane	Hons Pharmacology	The impact of imidacloprid on intracellular calcium signaling	2022	100%	
12. S Augustine	Hons Pharmacology	The effect of Metformin and Prednisone treatment on intracellular calcium signaling	2022	100%	

Postdoctoral research fellows:

Name	Year	Funded by:	Position after completion of postdoc fellowship
M Kruger	2017-2018	FMHS	Lab manager, Dept of Medicine, SU
D de Swardt	2018-2019	NRF	Flowcytometry application specialist, CAF, SU
Y Powrie	2020-2021	NRF	Lab manager, UCT

Career progression of graduated PhD students:

Name	Year Graduated	Position taken after completion of PhD
YM Azar	2019	Postdoc at Karolinska Institute, Sweden
A Seboko	2021	Medical writer, ApotheCom, MEDiSTRAVA
R Benecke	2022	Data analyst, SU

TEACHING ACTIVITIES

Postgraduate teaching:

- 2021-ongoing: BSc Hons Pharmacology. Lectures in Laboratory Health & Safety; Stem cells & drug discovery, dose calculations, animal research ethics
- 2022-ongoing: Postgraduate diploma in toxicology: Lecture in Stem cells & drug discovery
- 2015-ongoing: Supervision of postgraduate students (refer to tables above)
- 2018-2020: Medical Physiology BSc Hons course: Lecture on Stem cell biology; Co-ordinate 1-week laboratory rotation, during which hons students learn essential research techniques within the Stephen Hough Research Laboratories.

Prior undergraduate teaching experience:

- 2011-2012: Lecturer: Human Biology, Dept Biomedical sciences, UWC (2 x 6-month contracts).
- 2010-2012: Part-time lecturer: Physiology, Dept Physiological sciences, SU (2 x 1-month contracts)
- 2009: Problem based learning facilitator: MBChB students, Dept Human Biology, UCT

SELECTED COLLABORATIONS

Stellenbosch University Collaborations:

Ongoing co-investigator roles:

- Prof D Hall: Division of Obstetrics & Gynecology. Part of multidisciplinary research team. My role as co-investigator is assistance with data analysis and interpretation on various clinical research studies. (2018 -)
- Prof C Smith: Division of Clinical Pharmacology. Joint publications and grant applications. (2019-)
- Ms L Engelbrecht: Central Analytical Facility, CAF. Joint publications and student supervision (2019-)
- Dr N Burger: Division of Molecular Biology. Joint student supervision. (2019-)
- Drs A Coetzee, M Conradie: Division of Endocrinology. Joint publications and supervision (2016-)

Other collaborations:

- Dr M Vlok & Prof D Tabb: Central analytical Facility & Biostatistics unit. Proteomics work (2019)
- Prof B Huisamen: Division of Medical Physiology. I provided patient based PBMC samples for MSc project (2017).
- Prof KH Myburgh: Department of Physiological Sciences. Joint publications, grant applications and student supervision (2013-2019)
- Drs T Nell & AM Engelbrecht: Department of Physiological Sciences. I provided technical support an insight into study design for MSc project. (2017-2018)

National Collaborations:

- T Idensohn: Clinicare Wound clinic, University of the FreeState (UFS). Joint publications and grant applications.
- Prof CU Niesler: University of KwaZulu Natal (UKZN). Joint publications, grant applications and student supervision. (2016-ongoing)
- Dr J Scholefield: CSIR Pretoria. Joint grant applications and student supervision. (2018-ongoing)
- Dr G Marx: University of the FreeState (UFS). Joint student supervision (2018-2019)

International Collaborations:

- Prof JM Gimble (h-index 98, citations 45934). Obatala Sciences Inc & Tulane University, New Orleans. Joint publications (2019-ongoing).

Other – joint project: SPOT wound score

- Prof. B Gawronska-Kozak & team: Institute of Animal reproduction and Food Research, Polish Academy of Sciences, Olsztyn Poland.

- Dr B Levi & team: Department of Surgery, University of Texas Southwestern Medical Center, Dallas, Texas, USA
- Dr T Frazier & team: Obatala Sciences Inc. New Orleans, USA

COMMUNITY SERVICE, OUTREACH PROJECTS AND MEMBERSHIP OF COMMUNITY AND CULTURAL SOCIETIES AND COMMITTEES

- 2018: Diabetes Awareness Day. Together with the Division of Endocrinology, Stellenbosch University (SU) screened 350 nursing staff members at Tygerberg hospital and gave them feedback and counselling on their individual risk for developing type 2 diabetes.
- 2017: Scientific Advisor for the Institute for Sport and Exercise Medicine (ISEM): In collaboration with Prof. EW Derman, I contributed to the development of a community-based lifestyle intervention project, FMHS, Stellenbosch University (SU).
- 2013-2017: Eskom Science Expo for young scientists (2013-2017): Guidance to learners in the Western Cape, in preparation for regional Expo (Grade 7-12). Judge at the regional Expo.

ADMINISTRATIVE, LEADERSHIP AND MANAGEMENT SKILLS AND ACTIVITIES

Leadership:

Ongoing:

- Leader of the Stem cells & Regenerative Medicine research group. Primary investigator on multiple grants. (>R4 million over a period of 8 years) (since 2016-).
- Health & Safety. Responsible for leading team of between 5-10 health&safety representatives, first aid officers, fire marshals within the Department of Medicine (2022-).

Previous:

- Executive committee: Society for Endocrinology Metabolism and Diabetes in South Africa (SEMDSA). Portfolio: Basic Science. Purpose: To promote scientific research in the respective fields of endocrinology, metabolism and diabetes through the establishment of numerous awards and funding opportunities with a focus on "from bench-to-bedside and back". (2016-2020)
- Postdoctoral society, Tygerberg committee: Academic portfolio and chairperson of the Tygerberg postdoctoral society (Tygerberg PDS). Contributed to the writing / editing of the postdoc policy accepted at Stellenbosch University 2016 as well as the writing of the constitution of the Tygerberg PDS branch. (2015-2016).

Management & Administrative:

- 2022-ongoing: Research ethics committee: Biosafety, SU.
- 2018-2019: Management of the Department of Medicine Research Laboratories, SU.
- 2016-ongoing: Primary Investigator (awarded grants)
- 2015-ongoing: Cost point & financial management of awarded grants
- 2015-ongoing: All administrative duties related to postgraduate student research projects

SABBATICALS AND VISITS TO LOCAL AND INTERNATIONAL INSTITUTIONS

International:

2017 University of Massachusetts, USA. Visited colleague (Dr W Vieira) and did a 1-day lab visit whilst attending the ISSCR conference.

REFERENCES

- Prof C Smith, Division of Clinical Pharmacology, Stellenbosch University E-mail: csmith@sun.ac.za
- Prof H Reuther, Department of Medicine, Stellenbosch University E-mail: hr@sun.ac.za