

## ACADEMIC CURRICULUM VITAE

Hané Sadie-Van Gijsen

### PERSONAL DETAILS

**Name:** Hanél Sadie-Van Gijsen

**Nationality:** South African

**SA ID number:** 7801030008084

**Qualifications:** BSc (cum laude) - University of Stellenbosch (US) (December 1997)

BSc Hons (Biochemistry) (cum laude) - US (December 1998)

MSc (Biochemistry) (cum laude) – US (December 2001)

PhD (Biochemistry) – US (April 2006)

PhD thesis title: Transcriptional regulation of the mouse gonadotropin-releasing hormone receptor gene in pituitary gonadotrope cell lines

**Laboratory skills:** Animal studies, mammalian cell culture (including primary cultures from fat and bone), molecular biology (DNA, RNA, protein analyses), gene expression analyses, cell staining and image analysis.

**Additional training:** Training course in the handling of research animals (rats), to perform para-veterinary procedures including feeding, weighing, oral gavage, intraperitoneal injection and euthanasia (May 2018).

### STUDENT AWARDS

Honours for Student Leadership, University of Stellenbosch, 2003

Academic Honours, University of Stellenbosch, 2004

### EMPLOYMENT HISTORY

Current: Senior researcher (4/8), Division of Medical Physiology, Dept of Biomedical Sciences, Faculty of Medicine and Health Sciences, University of Stellenbosch

January 2015 – December 2017: Senior lecturer/senior researcher (4/8), Dept of Medicine, Faculty of Medicine and Health Sciences, University of Stellenbosch

February 2011 – December 2014: South African Medical Research Council (SAMRC)-supported researcher (MRC Career Development Award), Dept of Medicine, Faculty of Health Sciences, University of Stellenbosch

January 2006 – September 2010: Post-doctoral research fellow, Dept of Medicine, Faculty of Health Sciences, University of Stellenbosch

### FELLOWSHIPS

MRC 4-year Career Fellowship (2011 – 2014)

NRF Innovation Fund Post-doctoral fellowship (2008 – 2010)

Claude Leon Foundation Post-doctoral fellowship (2006 – 2007)

### UNDERGRADUATE TEACHING

Replacement lecturer for 3<sup>rd</sup> year Physiology module (bone biology) - 2010

## STUDENT SUPERVISION RECORD (2015-2020)

4 Honours students, 1 MSc student (co-supervisor), 2 PhD students (co-supervisor)

## POPULAR MEDIA PUBLICATIONS

- Opinion piece on the evidence for the usefulness of tea in glycemic control (emanated from our systematic review listed below):

<https://www.health24.com/Diet-and-nutrition/News/opinion-can-tea-really-lower-your-blood-sugar-20201020>

- Newspaper article on the dangers and lack of efficacy of the hCG diet:

<https://www.timeslive.co.za/ideas/2020-11-17-this-quack-diet-is-a-waste-of-money-and-potentially-harmful-doctors/>

## PUBLICATIONS IN INTERNATIONAL PEER-REVIEWED JOURNALS

- Kotzé-Hörstmann LM, Ayele B, Bedada DT, Johnson R, Mabasa L, Shabalala S, **Sadie-Van Gijsen H**. The effect of a green Rooibos (*Aspalathus linearis*) extract on metabolic parameters and adipose tissue biology in male Wistar rats fed different obesogenic diets. Submitted for publication November 2020

- **H Sadie-Van Gijsen**: Is adipose tissue the fountain of youth? The impact of adipose stem cell aging on metabolic homeostasis, longevity and cell-based therapies. Invited chapter for Advances in Experimental Medicine and Biology, accepted for publication 2020.

- LM Kotzé-Hörstmann, **H Sadie-Van Gijsen** 2020 The modulation of glucose metabolism by leaf tea constituents – a systematic review of recent clinical and pre-clinical findings. J Agric Food Chem 68:2973-3005.

- **H Sadie-Van Gijsen**, LM Kotzé-Hörstmann, B Huisamen 2020 An *in vivo/ex vivo* study design to investigate effects of chronic conditions and therapeutic compounds on adipose stem cells in animal models. Invited chapter, Methods Mol Biol 2138:101-118.

- **H Sadie-Van Gijsen** 2019 The regulation of marrow fat by vitamin D: molecular mechanisms and clinical implications. Invited review, Current Osteoporosis Reports 17(6):405 – 415

- E Booyesen, **H Sadie-Van Gijsen**, SM Deane, WF Ferris, LMT Dicks 2019 The effect of vancomycin on the viability and osteogenic potential of bone-derived mesenchymal stem cells. Probiotics Antimicrob Proteins 11(3):1009 – 1014

- **H Sadie-Van Gijsen** 2019 Adipocyte biology: it is time to upgrade to a new model. J Cell Physiol 234(3):2399 – 2425

- FA Jacobs, **H Sadie-Van Gijsen**, M van de Vyver, WF Ferris 2016 Vanadate impedes adipogenesis in mesenchymal stem cells derived from different depots within bone. Published in August 2016 as part of a Special Research Topic on Marrow Adipose Tissue for Frontiers in Endocrinology.

doi: 10.3389/fendo.2016.00108. Also included in a Frontiers eBook in August 2017

<http://journal.frontiersin.org/researchtopic/4088/pdf>

- WA Vieira, **H Sadie-Van Gijsen**, WF Ferris 2016 Free fatty acid G-protein coupled receptor signaling in M1 skewed white adipose tissue macrophages. Cell Mol Life Sci. 73: 3665 – 3676

- M Sanderson, **H Sadie-Van Gijsen**, FS Hough, WF Ferris 2015 The role of MKP-1 in the anti-proliferative effects of glucocorticoids in primary pre-osteoblasts. PLoS ONE 10(8):e0135358 (**awarded the SEMDSA (Society for Endocrinology, Metabolism and Diabetes of South Africa) Award for the best original publication in the field of Endocrinology and Metabolism during 2015**)
- **H Sadie-Van Gijsen**, FS Hough, WF Ferris 2013 Determinants of bone marrow adiposity: The modulation of peroxisome proliferator-activated receptor- $\gamma$ 2 activity as a central mechanism. Bone 56:255 – 265
- **H Sadie-Van Gijsen**, NJ Crowther, FS Hough, WF Ferris 2013 The interrelationship between bone and fat: from cellular see-saw to endocrine reciprocity. Cellular and Molecular Life Sciences 70:2331 – 2349
- **H Sadie-Van Gijsen**, W Smith, EF du Toit, J Michie, FS Hough, WF Ferris 2012 Depot-specific and hypercaloric diet-induced effects on the osteoblast and adipocyte differentiation potential of adipose-derived stromal cells. Molecular and Cellular Endocrinology 348:55 – 66 (**awarded the Sanofi – Aventis Osteoporosis Award for the best original article published in the field of osteoporosis during 2011, and the SEMDSA Award for the best original publication in the field of Endocrinology and Metabolism during 2011**)
- **H Sadie-Van Gijsen**, NJ Crowther, FS Hough, W Ferris 2010 Depot-specific differences in the insulin response of adipose-derived stromal cells. Molecular and Cellular Endocrinology 328:22 – 27 (**awarded the SEMDSA prize for the best basic science research article published during 2010**)
- A Kotitschke, **H Sadie-Van Gijsen**, C Avenant, S Fernandes, JP Hapgood 2009 Genomic and non-genomic cross-talk between the gonadotropin-releasing hormone receptor and glucocorticoid receptor signalling pathways. Molecular Endocrinology 23:1726 – 1745
- J Hapgood, **H Sadie**, W van Biljon, K Ronacher 2005 Regulation of expression of mammalian gonadotrophin-releasing hormone receptor genes. Journal of Neuroendocrinology 17: 619 – 638
- **H Sadie**, G Styger and J Hapgood 2003 Expression of the mouse gonadotropin-releasing hormone receptor gene in  $\alpha$ T3-1 gonadotrope cells is stimulated by cyclic 3',5'-adenosine monophosphate and Protein Kinase A, and is modulated by Steroidogenic Factor-1 and Nur77. Endocrinology 144:1958 – 1971

#### **PRESENTATIONS AT LOCAL CONFERENCES (LAST 5 YEARS)**

- **Oral presentation** at the 1<sup>st</sup> Conference of Biomedical and Natural Sciences and Therapeutics (CoBNeST), October 2018, Stellenbosch, South Africa: Treatment of periprosthetic joint infection: what we can learn from work in bone-derived stem cells. Elzaan Booysen, **Hanéel Sadie-Van Gijsen (presenting author)**, Jonike Dreyer, William Ferris, Marina Rautenbach, Leon MT Dicks
- **Oral presentation** at the 17<sup>th</sup> NOFSA (National Osteoporosis Foundation of South Africa) congress, March 2018, Cape Town, South Africa: Adipocytic differentiation of proximal femur-derived mesenchymal stem cells is characterized by the expression of brown fat genes and is modulated by glucocorticoids *in vitro*. FA Jacobs, **H Sadie-Van Gijsen**, WF Ferris
- **Oral presentation** at the 17<sup>th</sup> NOFSA congress, March 2018, Cape Town, South Africa: The effect of vancomycin and a novel antibiotic on the osteoblastic differentiation of rat femur-derived mesenchymal stem cells. E Booysen (presenting author), **H Sadie-Van Gijsen**, J Dreyer, M Rautenbach, LMT Dicks
- Oral presentation at the 17<sup>th</sup> NOFSA congress, March 2018, Cape Town, South Africa: Bone stem cell biology and bone marrow fat: an update. **H Sadie-Van Gijsen**

- **Oral presentation** at the 45th PSSA (Physiology Society of Southern Africa) congress, August 2017, Pretoria, South Africa: The effects of two high-fat diet formulations and a Green Rooibos tea extract on *in vivo* adiposity and *ex vivo* function of cultured adipose-derived stromal cells. **H Sadie-Van Gijsen H**, SE Smit, MA Van Vuuren, B Huisamen
- **Oral presentation** at the 52<sup>nd</sup> SEMDSA (Society of Endocrinology, Metabolism and Diabetes of South Africa) congress, May 2017, Johannesburg, South Africa: The effects of two high-fat diet formulations and a Green Rooibos tea extract on *in vivo* adiposity and *ex vivo* function of cultured adipose-derived stromal cells. **H Sadie-Van Gijsen H**, SE Smit, MA Van Vuuren, B Huisamen, W Ferris (abstract published in Journal of Endocrinology, Metabolism and Diabetes of South Africa (JEMDSA) 2017 22(1):22-23)
- **Oral presentation** at the 51st SEMDSA congress, April 2016, Cape Town, South Africa: Coffee or tea: Could your daily "cuppa" be beneficial for weight-loss? **H Sadie-Van Gijsen**, CJF Muller, J Louw, WF Ferris (abstract published in JEMDSA 2016 21(1):11)
- **Oral presentation** at the 51st SEMDSA congress, April 2016, Cape Town, South Africa: Glucocorticoids reduce the cell viability of MSCs derived from the proximal femur but not from bone marrow of rats. FA Jacobs (presenting author), **H Sadie-Van Gijsen**, M van de Vyver, WF Ferris (abstract published in JEMDSA 2016 21(1):11-12)
- **Oral presentation** at the 50<sup>th</sup> SEMDSA congress, April 2015, Bloemfontein, South Africa: Adipose depot-specific differences in cyclic nucleotide signalling during adipogenesis. **H Sadie-Van Gijsen**, E Andrag, WF Ferris (presenting author) (abstract published in JEMDSA 20(1):24)
- **Oral presentation** at the 16th National Osteoporosis Foundation of South Africa (NOFSA) congress, October 2014, Johannesburg, South Africa: On the pathogenesis of anti-retroviral drug – induced bone disease in a rat model. MM Conradie (presenting author), E Andrag, **H Sadie-van Gijsen**, M van de Vyver M, FS Hough (abstract published in JEMDSA 19(3):S4)
- **Oral presentation** at the 16<sup>th</sup> NOFSA congress, October 2014, Johannesburg, South Africa: Characterization of mesenchymal stem cell populations from rat femur. FA Jacobs (presenting author), M van de Vyver, **H Sadie-Van Gijsen**, FS Hough, WF Ferris (abstract published in JEMDSA 19(3):S5)
- **Invited speaker presentation** at the 16<sup>th</sup> NOFSA congress, October 2014, Johannesburg, South Africa: Stem cell biology and bone: the fat : bone axis.
- **Oral presentation** at the International Conference on Tissue Engineering and Regenerative Medicine, August 2014, Pretoria, South Africa: The impact of visceral adiposity of the donor animal on the differentiation potential of rat adipose-derived stromal cells. **H Sadie-Van Gijsen**, FS Hough, WF Ferris
- **Invited speaker presentation** at the South African Society of Biochemistry and Molecular Biology (SASBMB) Congress, July 2014, Goudini, South Africa: Using stem cells as a model to study disease.
- **Poster presentation** at the 49<sup>th</sup> SEMDSA congress, 11 – 13 April 2014, Durban, South Africa: The insulin-mimetic agent, vanadate, impedes lipid accumulation in adipose-derived stem cells. FA Jacobs (presenting author), **H Sadie-Van Gijsen**, WF Ferris (awarded best basic science poster presentation) (abstract published in JEMDSA 19:34 (2014))

#### **INTERNATIONAL CONFERENCE PRESENTATIONS (LAST 5 YEARS)**

- **Poster presentation** at the 3<sup>rd</sup> Bone Marrow Adiposity (BMA2017) meeting, August 2017, Lausanne, Switzerland: Adipocytic differentiation of proximal femur-derived mesenchymal stem cells is characterised

by the expression of brown fat genes and is modulated by glucocorticoids *in vitro*. FA Jacobs, **H Sadie-Van Gijzen**, WF Ferris (presenting author)

- **Poster presentation** at the 2<sup>nd</sup> Bone Marrow Adiposity (BMA) meeting, 25-26 August 2016, Rotterdam, The Netherlands: Vanadate reduces adipocytic differentiation of mesenchymal stem cells derived from different regions within the rat femur. FA Jacobs (presenting author), **H Sadie-Van Gijzen**, M van de Vyver, Ferris WF

- **Poster presentation** at the International Society for Stem Cell Research (ISSCR) meeting, June 2015, Stockholm, Sweden: Rat proximal femur MSCs readily differentiate into adipocytes, with lipid accumulation regulated by different pathways from those of subcutaneous adipose-derived stem cells. FA Jacobs, **H Sadie-van Gijzen**, M van de Vyver, WF Ferris (presenting author)

- **Poster presentation** at the European Calcified Tissue Society and International Bone and Mineral Society Joint Meeting, April 2015, Rotterdam, The Netherlands: The impact of visceral adiposity and tumour necrosis factor-alpha expression on the osteogenic differentiation potential of rat adipose-derived stromal cells. **H Sadie-Van Gijzen**, WF Ferris.

## **OTHER ACADEMIC ACTIVITIES**

### **National:**

MSc thesis internal examiner, Faculty of Health Sciences, University of Stellenbosch

MSc thesis external examiner, University of Johannesburg

South African National Research Foundation (NRF) grant application reviewer / panel member

SAMRC grant application reviewer

Member of the Society of Endocrinology, Metabolism and Diabetes of South Africa (SEMDSA)

Member of the Physiology Society of Southern Africa (PSSA)

### **International:**

#### **Manuscript reviewer for:**

Experimental Cell Research (impact factor 3.3), PPAR Research (IF 4.1), Differentiation (IF 3.0), Cell Proliferation (IF 5.0), Journal of Cellular Physiology (IF 4.5), Bioscience Reports (IF 2.5), Endocrine, Metabolic & Immune Disorders-Drug Targets (IF 1.1), Biochimie (IF 3.4), Archives of Physiology and Biochemistry (IF 2.575).

## **REFERENCE**

For a reference or any other queries, please contact Prof Hans Strijdom (my current line manager and Head of Division) at 021-938-9387 or e-mail [jgstr@sun.ac.za](mailto:jgstr@sun.ac.za).