

Nathaniel W. Wilson BSc BSc(Hons) MSc PGCE CSML

Permanent Address: Province of Udine (UD), Italy, European Union

Place of Birth: Cape Town (South Africa)

Nationality: South African

Civil status: Married



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Profile

Science

Followed an initial academic pathway in natural sciences (bachelors – honours – masters) and obtained an MSc in Biochemistry (Stellenbosch University, South Africa). Lab experiences include rounds in molecular biology, steroid biochemistry, animal breeding, physiology ([publication 1](#)), and neuroscience. Experiences in medical education include medical curriculum research, clinical patient interactions, rural clinical rotation development, education research, and health economics ([publication 2](#), [publication 3](#)).

Leadership positions held: Medical Research Officer, Manager: Ukwanda (Centre of Rural Health) Postgraduate Research Lab

Teaching

A dedicated, talented, and career-focused teaching professional with experience in multicultural international settings. *Certifications:* PGCE (University of Nottingham, UK), CSML (Certificate in School Leadership and Management at Harvard University, USA), and subject-specific certifications for IBDP chemistry (CAT I), biology (CAT I), and physics (CAT II) as well as AP Physics C. Most recent appointments were held at prestigious international schools, viz. Udine International School (UIS, Italy), Yew Chung International School of Shanghai (YCIS), and Western International School of Shanghai (WISS).

Leadership positions held: Head of Middle & Secondary School (UIS), Head of Science (WISS), STEM Lead Teacher / STEM Project Consultant (SBETC), Boarding Housemaster & Assistant Boarding Housemaster (Malvern College Qingdao), House Leader (YCIS & SLBS), Pastoral Care Coordinator (SLBS), Football Coach (YCIS), and leader of other extracurricular activities (at various schools).

Subjects: chemistry, physics, biology, technology, design, STEM, life sciences, general sciences, etc.

Relevant Job skills

Data Science

Advanced Python, R, SQL, APIs, statistics, data sourcing, data entry, data manipulation, data analyses, presentations, reports, publications, etc.

Education

Curriculum planning (IBDP, AP, A-level, etc.), syllabus comparisons, science instruction, facilitating learning of theory & practical knowledge, assessment, moderation, teacher training, skills development, event planning, extracurricular development, educational goal setting, soft skills, pastoral care, educational management, lesson planning, observations, technological integration, feedback/reports, team development, promotion of general specialism skill sets, classroom management, etc.

Higher Education Training & Degrees

Natural Sciences – Stellenbosch University, South Africa

- 2005 MSc through thesis and research.
Title: [Effects of neutralising interleukin-6 on glucocorticoid-mediated adaptations to stress in rat skeletal muscle and liver](#).
Supervisors: Prof Kathryn Myburgh, Prof Ann Louw.
Examiners: Prof Janet Hapgood, Prof Brian R Walker (Edinburgh University). [Publication](#)
- 2001 BSc Hons Biochemistry (1-year postgraduate immersion).
Supervisor: Prof Ann Louw.
- 2000 BSc in Molecular Biology and Biotechnology
Majors: Biochemistry and Microbiology, add Psychology.

Certificates & Leadership Credentials in Education

- 2021 Certificate in School Management and Leadership (CSML), Harvard University, USA
2020 Postgraduate Certificate in Education (PGCE), University of Nottingham, United Kingdom

Professional Membership

- 2020- RDA, Research Data Alliance

Current Learning Activities

- 2023- Computer programming course (Python, Data Science, SQL, R, AI, machine learning, etc.)

Employment History

Aug 2022 – Jun 2023

Head of Middle & Secondary School at *Udine International School (UIS)*, Udine, Italy

Aug 2021 – Jul 2022

House Leader, Coach, and Teacher at *Yew Chung International School of Shanghai (YCIS)*, Shanghai, China

- Teacher of IBDP Biology HL + SL and IGCSE Biology
- Football Coach (Juniors U14) and House Leader (Green Dragons)

Aug 2020 – Jul 2021

HOD & IBDP/MYP Teacher at *Western International School of Shanghai (WISS)*, Shanghai, China

- Head of Secondary Science & Committee Member of Strategic Planning Group (5-year plan)
- Teacher of IBDP Physics and MYP Design
- Cello player, WISS Community Orchestra

Feb 2017 – Feb 2020

STEM Facilitator and Science Teacher at *Shanghai Brisbane Education & Technology Co. (SBETC)*, Shanghai, China

- Implemented MakerSpace Lab and STEM elective curriculum
- Teacher of AP Biology (Grade 10/Year 11), AP Chemistry (Grade 11/Year 12), and AP Physics (Grade 12/Year 13)
- STEM Lead Teacher and facilitator of teaching STEM integration to teachers

Aug 2016 – Jan 2017

Teacher and CAS Supervisor at *Wuxi No. 1 High School*, Wuxi, China

- Teacher of IB Chemistry and AP Physics
- CAS Activity Supervisor: Choir Conductor

Aug 2015 – Jul 2016

Teacher & House Leader at *Shanghai Liaoyuan Bilingual School (SLBS)*

- Teacher of High School Mathematics (Algebra 1, Algebra 2, and Geometry)
- House Leader (Dragons) & Interim Pastoral Care Coordinator

Aug 2013 – Jul 2015

Teacher and Administrator at *Malvern College Qingdao*, Qingdao, China

- Teacher of A-level Chemistry and IGCSE sciences (biology, chemistry, and physics)
- Assistant Boarding Housemaster (1st year) and Boarding Housemaster (2nd year)
- Football Coach, Coordinator of Young Enterprise Business Club Initiative, Sports Leadership Trainer

Aug 2012 – Jul 2013

part-time posts as instructor and tutor

- Physics Instructor for *New Pathway Education and Technology Group*
- Mathematics Instructor & Exams Task Team Member at *Monash University Foundation Year Programme*
- After-hours tutor for international school students at *Ultitutor* (privately owned business)

Jun 2011 – Jul 2012

ESL Teacher at *Disney English* Shanghai

Mar 2010 – Mar 2011

Teacher at *Yew Wah International Education School (YWIES)* Shanghai

- Teacher of A-level chemistry & pure mathematics

Nov 2008 – Nov 2009

ESL teacher at *Chungbuk-do Foreign Language Institute for Students (CBFLIS)* in Cheongju, South Korea

Apr 2007 – Oct 2008

Medical Research Officer at *Ukwanda Centre for Rural Health, Faculty of Medicine and Health Sciences (FMHS), Stellenbosch University (18-month contract)*

- Tasked with development of rural training platform for medical students at eleven different rural locations
- Conducting original research in medical education, including grant applications and ethics approval processes
- Serving on the MBChB Committee
- Contributing to local knowledge of epidemiological disease burden and other primary care indicators
- Helping to maintain positive relationship between the university and communities, etc.
- International publications

Jan 2007 – Mar 2007

Part-time HOD & Teacher at *Kuils River Technical High School*, Kuils River, Cape Town, South Africa

- Interim Head of Mathematics
- Grades 10-12/Years 11-13 Mathematics Teacher

Jan 2006 – Dec 2006

Grade Supervisor & Science Teacher at *Boston Private School*, Bellville, Cape Town, South Africa

- Grade 11/Year 12 Grade Supervisor & Sports Day Coordinator
- Grades 8-11/Years 9-12, Subjects: biology, chemistry, physics, mathematics

Jan 2005 – Dec 2005

Neuroscience Research Assistant at *Unit of Stress & Anxiety Disorders, Department of Medical Physiology, Faculty of Medicine and Health Sciences (FMHS), Tygerberg Medical Campus, Stellenbosch University*
(18-month contract)

- breeding of rats for research purposes
- experimental treatment of test subjects for effects of 6-hydroxydopamine, including administration of drugs and stereotaxis
- immunohistochemistry
- basic proteomics

2002-2003 (student stipend)

Supervising biochemistry practical sessions for 2nd and 3rd year undergraduates

1999-2000 (student stipend)

Assisting in routine science practical sessions for 1st year undergraduates

Administrative Experience (SUMMARY)

- 2020-2021 Head of Science at Western International School
- 2017-2020 STEM MakerSpace Facilitator and STEM elective course developer
- 2013-2015, 2016-2017, 2021-2022 House Leader / Boarding Housemaster pastoral roles
- 2012-2013 Examinations Task Team Member
- 2007-2008 Manager of Ukwanda Center for Rural Health's postgraduate office
- 2007 Interim Head of Mathematics (part-time)
- 2006 Grade Supervisor

Publications

Original Research

- Wilson NW, Bouhuijs PAJ, Conradie HH, et al. (2008). Educational value and enjoyment of a rural clinical rotation for medical students. *Rural and Remote Health* **8**: 999. Available at <https://search.informit.org/doi/pdf/10.3316/informit.468619245770182>
- Smith C, Wilson NW, Louw A, et al. (2007). Illuminating the interrelated immune and endocrine adaptations after multiple exposures to short immobilization stress by in vivo blocking of IL-6. *American Journal of Physiology - Regulatory, Integrative and Comparative Physiology* **292**(4): R1439-R1447. Available at <https://doi.org/10.1152/ajpregu.00602.2006>
- Wilson NW. (2005). Effects of neutralising interleukin-6 on glucocorticoid-mediated adaptations to stress in rat skeletal muscle and liver. MSc Thesis, Stellenbosch University. Available at <http://scholar.sun.ac.za/handle/10019.1/50333>

Reviews

- Wilson NW, Couper I, De Vries E, et al. (2009). A critical review of interventions to redress the inequitable distribution of healthcare professionals to rural and remote areas. *Rural And Remote Health* **9**: 1060. Available at <https://search.informit.org/doi/pdf/10.3316/informit.496326474031125>

Book or Course Material Contributions

- Wilson *et al* (2009) was included with permission in a book *Rural Medical Education: Practical Strategies* by Dr NN Ndwamatu at the Tshilidzini Hospital in South Africa
- Wilson *et al* (2009) was included with permission in the course *GENA 724: The Context of Rural Hospital Medicine* at the Dunedin School of Medicine, University of Otago, New Zealand

Referees (University-based)

- Prof Ben Marais, Sydney ID, Australia <https://www.sydney.edu.au/medicine-health/about/our-people/academic-staff/ben-marais.html> Tel: +61 2 9845 3433, Email: ben.marais@sydney.edu.au
- Prof William Daniels, Witwatersrand University (WITS), South Africa <https://www.wits.ac.za/physiology/> Tel: +27 11 717 2560/2704 , Email: william.daniels@wits.ac.za
- Prof Kathryn Myburgh, Stellenbosch University, South Africa <http://www.sun.ac.za/english/research-innovation/Research-Development/sa-research-chair-in-integrative-skeletal-muscle-physiology-biology-and-biotechnology> Tel: +27 21 808 3146, Email: khm@sun.ac.za
- Prof Ann Louw, Stellenbosch University, South Africa Tel: +27 21 808 5861/2, Email: al@sun.ac.za <http://www.sun.ac.za/english/faculty/science/biochemistry/research/louw-group>

Referees (Secondary Teaching)

- Mr. Andy Ridgway, Head of School, Udine International School, Italy, andy@everybodycounts.org.uk
- Mr. Curtis Young, Head of Science, Yew Chung International School of Shanghai, cjyoung@gmail.com
- Mr. Daniel Grover, Vice Principal, Shanghai Brisbane Education & Technology Company, grovergac@outlook.com Tel: +86 136 7178 7247