CURRICULUM VITAE

John Geoffrey Woodland

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EDUCATION AND RESEARCH EXPERIENCE

Research Officer (August 2023 to present)
with Professor Kelly Chibale and Dr Susan Winks, Holistic Drug Discovery and Development (H3D) Centre, University of Cape Town

In my current role, I support the work at the Holistic Drug Discovery and Development (H3D) Centre at the University of Cape Town by contributing to chemical biology and medicinal chemistry aspects of malaria drug discovery projects, supervising postgraduate students in the academic research group of Professor Kelly Chibale, and supporting the H3D Foundation's capacity-strengthening initiatives across the continent. I am also part of the inaugural cohort of Fellows of the Institute of Infectious Disease and Molecular Medicine (IDM).

Junior Research Fellow: Chemical Biology (February 2021 to July 2023)
with Professor Kelly Chibale, Holistic Drug Discovery and Development (H3D) Centre, University of Cape Town

I conducted research on chemical biology and medicinal chemistry aspects of malaria drug discovery; specifically, mode-of-action studies and target deconvolution of hit compounds active against the human malaria parasite (*Plasmodium falciparum*), the medicinal chemistry optimisation of noncovalent and covalent inhibitors of *Plasmodium* kinases, and the integration of machine learning into workflows at the H3D Centre to reduce compound attrition rates. I co-supervised postgraduate students, mentored postdoctoral fellows and delivered lectures on medicinal chemistry and drug discovery.

Postdoctoral Research Fellow: Medicinal Chemistry (January 2019 to January 2021)
with Professor Kelly Chibale, Holistic Drug Discovery and Development (H3D) Centre, University of Cape Town

For two years, I designed and synthesised potential drug leads for malaria through an integrated medicinal chemistry approach, as part of a project that was jointly funded by the Strategic Health Innovation Partnerships (SHIP) of the South African Medical Research Council (SAMRC) and the Medicines for Malaria Venture (MMV).

Postdoctoral Research Fellow: Biochemistry (October 2016 to October 2018)
with Professor Janet Hapgood, Department of Molecular and Cell Biology, University of Cape Town

As part of a project entitled "Combination treatment for protection against HIV-1 and pregnancy", my work contributed towards elucidating the role of hormonal contraceptives in HIV acquisition and their mechanisms of cell signalling via steroid receptors. I developed expertise in mammalian tissue culture in BSLII and BSLII+ facilities, metabolite profiling via LC-MS, *in silico* molecular docking and immunofluorescence. Other responsibilities included chairing a weekly seminar series for postgraduate students.

UNIVERSITY

2012 to 2016: PhD, Department of Chemistry, University of Cape Town, supervised by Professors Timothy Egan and Roger Hunter
Title: Insights into the mechanism of action of quinoline antimalarials against *Plasmodium falciparum* revealed by novel fluorescent analogues and chemical proteomics (see bit.ly/3hQ8M0J)
During my postgraduate career, I was a tutor and demonstrator for all the major undergraduate chemistry courses at UCT. I assisted with numerous open days and co-wrote and co-directed three plays about chemistry for schoolchildren with titles such as *Harry Potter and the Molecule of Doom*. In 2014 I was the chief co-organiser of the SACI/RSC Western Cape Young Chemists' Symposium, an event for local postgraduates in the chemical sciences.

2011: BSc(Hons), Department of Chemistry, University of Cape Town *(First Class)*

2007 to 2010: BSc specialising in Chemistry and Biochemistry, University of Cape Town *(Dean's Merit List 2009–2010)*

SCHOOL

2006: A-Levels in Chemistry, Mathematics and English Literature as Claude Brown Organ Scholar at Bishops

1993 to 2005: Grade 0 to Grade 12 at Diocesan College (Bishops) in Cape Town. In my final year, I was elected a College Prefect and Head of the Chapel Choir. Other relevant high school awards included First Place in the Mintek Science Quiz (2005) and Gold Awards at the Young Scientists' Expo (2002) and the UCT Mathematics Competition (2001)

SELECTED SCIENTIFIC PUBLICATIONS (Google Scholar / ORCID iD 0000-0001-6273-5596)

Original research articles (selected)

1 **The ATM Kinase Inhibitor AZD0156 is a Potent Inhibitor of *Plasmodium* Phosphatidylinositol 4-Kinase (PI4Kβ) and is an Attractive Candidate for Medicinal Chemistry Optimisation Against Malaria.** John G. Woodland*, Dina Coertzen*, Kathryn J. Wicht, [...] Lauren B. Coulson, Lyn-Marié Birkholtz and Kelly Chibale, *Angewandte Chemie International Edition*, 2025, e202425206. doi.org/10.1002/anie.202425206 (*These authors contributed equally to this work)

2 **Cell-Based Progression of Spiroindoline Phenotypic Hits Leads to the Identification of Compounds with Diverging Parasitological Profiles against the Human Malaria Parasite *Plasmodium falciparum*.** Jean Dam, Grant A. Boyle, André Horatscheck, John G. Woodland, [...] Gregory S. Basarab and Kelly Chibale, *Journal of Medicinal Chemistry*, 2025, **68**, 10156–10172. doi.org/10.1021/acs.jmedchem.5c00302

3 **Synthesis and SAR Studies of Acyl-Thiourea Platinum(II) Complexes Yield Analogs with Dual-Stage Antiplasmodium Activity.** Fatima-Zahra Ishmail, Dina Coertzen, Sizwe Tshabalala, Meta Leshabane, Shante da Rocha, Mathew Njoroge, Liezl Gibhard, Lyn-Marie Birkholtz, John G. Woodland, Timothy J. Egan, Kathryn J. Wicht and Kelly Chibale, *ACS Medicinal Chemistry Letters*, 2025, **16**, 428–435. doi.org/10.1021/acsmedchemlett.4c00545

4 **First fully-automated AI/ML virtual screening cascade implemented at a drug discovery centre in Africa.** Gemma Turon*, Jason Hlozek*, John G. Woodland, Kelly Chibale and Miquel Duran-Frigola, *Nature Communications*, 2023, **14**, 5736. doi.org/10.1038/s41467-023-41512-2

5 **Differential metabolism of clinically-relevant progestogens in cell lines and tissue: Implications for biological mechanisms.** Salndave B. Skosana, John G. Woodland, [...] Donita Africander, Karl-Heinz Storbeck and Janet P. Hapgood, *Journal of Steroid Biochemistry and Molecular Biology*, 2019, **189**, 145–153. doi.org/10.1016/j.jsbmb.2019.02.010

6 **Chemical proteomics and super-resolution imaging reveal that chloroquine interacts with *Plasmodium falciparum* multidrug resistance-associated protein and lipids.** John G. Woodland, Roger Hunter, Peter J. Smith and Timothy J. Egan, *ACS Chemical Biology*, 2018, **13**, 2939–2948. doi.org/10.1021/acschembio.8b00583

7 **Shining new light on ancient drugs: Preparation and subcellular localisation of novel fluorescent analogues of *Cinchona* alkaloids in intraerythrocytic *Plasmodium falciparum*.** John G. Woodland, Roger Hunter, Peter J. Smith and Timothy J. Egan, *Organic & Biomolecular Chemistry*, 2017, **15**, 589–597. doi.org/10.1039/C6OB02110G
★ This article was featured on the cover of *Organic & Biomolecular Chemistry* and was identified as a "2017 Hot Article"

Viewpoint articles (selected)

1 ***Bheka Thina* ("Look At Us"): The Emergence of an Integrated Drug Discovery Ecosystem in South Africa.** John G. Woodland, Clint G. L. Veale and Kelly Chibale, *ACS Medicinal Chemistry Letters*, 2026. doi.org/10.1021/acsmedchemlett.6c00071

2 **Chemistry as a Catalyst for Transforming the Health and Wealth of South Africa.** Clinton G. L. Veale*, John G. Woodland*, Kathryn J. Wicht and Kelly Chibale, *Angew. Chem. Int. Ed.*, 2025, **64** (2), e202419681. doi.org/10.1002/anie.202419681

3 **Fostering drug discovery and development in Africa.** Susan Winks, John G. Woodland, Goonaseelan 'Colin' Pillay and Kelly Chibale, *Nature Medicine*, 2022, **28**, 1523–1526. doi.org/10.1038/s41591-022-01885-1

Other article types (selected)

1 *Review:* **From Parasite to Pill: Harnessing Biology for Breakthroughs in Antimalarial Drug Discovery.** John G. Woodland, Mariana Laureano De Souza, Ferdinand W. Ndubi, Christabel N. Hikaambo and Kathryn J. Wicht, *Cold Spring Harbor Perspectives in Medicine*, 2026. doi.org/10.1101/cshperspect.a041858

2 *Book chapter:* **Another decade of antimalarial drug discovery: New targets, tools and molecules.** John G. Woodland, André Horatscheck, Candice Soares de Melo, Godwin A. Dziwornu and Dale Taylor, *Progress in Medicinal Chemistry*, 2024, **63**. doi.org/10.1016/bs.pmch.2024.08.001

3 *Editorial:* **Tips for Getting Your Manuscript Accepted into *ACS Medicinal Chemistry Letters*.** John G. Woodland and Kelly Chibale, *ACS Medicinal Chemistry Letters*, 2024, 15 (3), 316–317. doi.org/10.1021/acsmedchemlett.4c00059

4 **Quinine fever.** John G. Woodland and Kelly Chibale, *Nature Chemistry*, 2022, **14**, 112. doi.org/10.1038/s41557-021-00872-2

5 **Provisional Patent Application SA 2013/05171.** T. J. Egan, R. Hunter and J. G. Woodland, "Fluorescent Sensors for Haem"

SCIENTIFIC CONFERENCE PRESENTATIONS, AWARDS AND COMPETITIONS

1 **2020: Poster Prize** at the symposium "Imaging Africa", University of Cape Town
2 **2019: Oral Presentation** at the international symposium "Malaria Research: Crossing Boundaries", Stellenbosch University
3 **2018: Royal Society of Chemistry Inspirational Member Award** "for his positive impact through his plays promoting the chemical sciences, and ensuring that the performances were accessible to children from all parts of the local community" (see bit.ly/2Mozg8r for an article describing the award and rsc.li/2OaXt3Z for the official citation)
4 **2017:** Identified as a "Healer" in **Mzansi's 100 of 2017: Top 100 Inspiring and Aspiring Leaders** (see bit.ly/2wappAs)
5 **2015: National Winner** at the **Young Spectroscopists' Symposium** held at Stellenbosch University
6 **2014: First Prize** in the flash talk category at the **SACI-ACS Binational Organic Chemistry Conference** in Stellenbosch
7 **2013: First Place** in the **Falling Walls Lab 2013** in Johannesburg followed by **Third Place** in the **Falling Walls Young Innovator of the Year 2013** competition in Berlin, Germany, which resulted in an invitation to deliver an oral presentation at the **Falling Walls Conference** in Berlin, billed as "The International Conference on Future Breakthroughs in Science and Society"
8 **2013: Second Place** in the inaugural **FameLab South Africa** ("Pop idols for scientists") in Grahamstown, South Africa

PROFESSIONAL MEMBERSHIPS

1 **Member of the Royal Society of Chemistry (MRSC)** since 2018 (Membership Number 469857)
★ I joined the Royal Society of Chemistry in 2013 and am currently Chair of the South Africa (South) Local Section
2 **Member of the South African Chemical Institute** since 2012 (Membership Number 10574)

SCIENCE ENGAGEMENT

I am passionate about bridging the gap between science and the South African public. As a postgraduate student, I was enthusiastically involved with the UCT Department of Chemistry's outreach programme (see above). I deliver public talks (such as for the global "Pint of Science" initiative, see bit.ly/2muMKbP) and my articles for a general audience have been published in *Chemistry World*, *Mail & Guardian* and *Daily Maverick*.

MUSICAL ACTIVITIES, AWARDS AND QUALIFICATIONS

VOX Cape Town: Founder and Artistic Director (July 2015 to present)

In 2015 I founded VOX Cape Town, an innovative choral collective comprising approximately 35 singers that has become well known for its imaginative programming, collaborations, new South African music and performances in distinctive spaces across Cape Town. As its Founder and Artistic Director, I am responsible for shaping its artistic vision, programming, collaborations and creative development. With over 100 performances to date, the group is also registered as a non-profit organisation (197-784 NPO) to ensure its sustainability.

Fine Music Radio 101.3 FM: Broadcaster (May 2006 to present)

I am a volunteer broadcaster at Fine Music Radio, a community radio station. My contributions include the broadcasts of the Cape Town Philharmonic Orchestra's symphony concerts from the Cape Town City Hall, for which I also share the pre-concert talks.

Previously—UCT Choir: Musical Director (January 2010 to December 2012)

For three years I trained and conducted the UCT Choir, the most diverse ensemble on campus. During that time, the UCT Choir recorded four CDs and embedded itself in the musical life of the university. Notable performances included singing for Sir David Attenborough and the Prince of Wales. In 2012, the UCT Choir embarked on a national tour to the Eastern Cape. Outreach initiatives included weekly choral tutoring at Sinethemba Secondary School in Crossroads.

1 Winner of the **South African Radio Award in the Best Community Music Show** category (2022)
2 Awards for the University of Cape Town Choir under my leadership: **Best University Choir** in the National Finals of the ATKV-Animato Choir Competition (2012) and **Most Outstanding Senior Choir** in the Cape Town Eisteddfod (2012)
3 **Licentiate of Trinity College London (LTCL) in Organ Performance** with Distinction (2007)
4 Qualifications from the Associated Board of the Royal Schools of Music (ABRSM): **Theory of Music Grade 8** with Distinction (2006), **Organ Grade 8** with Distinction (2005) and **Piano Grade 8** with Distinction (2004)

RECREATIONAL ACTIVITIES

I have completed the **Cape Town Marathon** (42.2 km: 2026), four **Cape Town Cycle Tours** (109 km: 2008–2010, 2014), three **Two Oceans Half-Marathons** (21.1 km: 2010, 2011, 2013) and the **Ultra-Trail Cape Town** (35 km: 2024)