Curriculum Vitae

Personal details

Name and surname: Felicity Jane Burt
Place of birth: Harare, Zimbabwe
Gender: Female
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Education and Qualifications:

Institution and Location	Degree	Year
Alexandra Park Primary School, Harare, Zimbabwe. Queen Elizabeth High School, Harare, Zimbabwe.	School leaving qualification: Associated Examining Board, O, M and A levels (Matric Exemption)	1982
University of Witwatersrand, Johannesburg, South Africa	BSc	1983
University of Witwatersrand, Johannesburg, South Africa	BSc (Honours) (Biochemistry)	1984
University of Witwatersrand, Johannesburg, South Africa	MSc (Physiology)	1988
University of Witwatersrand, Johannesburg, South Africa	PhD (Medical Virology) Thesis title: Diagnosis, pathogenesis and epidemiology of Crimean-Congo haemorrhagic fever virus	1998

Employment history

Date	Position	Place	Responsibility
Jan 2016-current	Research Chair funded by the DST and administered by the (NRF), South African Research Chairs Initiative (SARChI) for Vector- borne and Zoonotic Diseases.	Division of Virology NHLS and Faculty of Health Sciences, University of the Free State (UFS)	Holder of Research Chair and responsible for research activities in the Division of Virology
March 2006-present	Professor from 2016 Medical Scientist, acting HOD (May 2022 –current)	Division of Virology NHLS and Faculty of Health Sciences, UFS	Responsibilities include managing all postgraduate activities within the department. I am principal investigator and head of two research groups, responsible for conceptualising, managing and supervising research programs.

Oct 1988-Feb 2006	Specialist Scientist	Special Pathogens Unit (SPU), NICD, N H L S , Johannesburg.	The SPU is now known as the Centre for Emerging Zoonotic and Parasitic Diseases. Responsibilities included second in charge of the SPU, responsible for the diagnosis and investigation of viral haemorrhagic fevers (VHF), arboviruses and rabies in southern Africa; responsible for the diagnostic laboratory in SPU and the Arbovirus Unit, confirmation of international outbreaks of VHF and submitting results to World Health Organization and partners; principle investigator for grant applications and managing research projects; publication of research and presentation of research at conferences, development and implementation of molecular and serological diagnostic assays including preparation of reagents and validation of assays for diagnostic purposes, training of new staff, accreditation of Arbovirus Diagnostic Laboratory with SANAS.
Feb 1985-Sept 1988	Medical Scientist	Serum and Vaccine Department, South African Institute for Medical Research, Johannesburg.	Responsibilities included preparation and purification of hyperimmune antiserum, establishment of Quality Control Laboratory and preparing related Standard Operating Procedures

Brief profile

I am currently the holder of a South African Research Chair in vector-borne and zoonotic pathogens. The work of the Research Chair is to investigate medically significant vector borne and zoonotic viruses. The research activities of the Chair include establishing a metagenomics platform for virus discovery and improve molecular and serological tools for diagnosis and detection of known and novel vector borne pathogens; to genetically characterize novel pathogens and determine genetic relationships between novel and existing vector-borne and zoonotic pathogens; to investigate host immune responses (innate and adaptive) against selected pathogens of medical significance in South Africa, (eg CCHFV), and to understand immune correlates of protection that contribute to development of novel treatment and vaccines and establish a drug discovery programme for arboviral/zoonotic viruses.

I am a virologist with expertise in viral haemorrhagic fevers (VHF) and arboviruses. I have investigated associations between genotype and virulence, immune profiling, identifying immune correlates of protection and evaluation of candidate vaccines. Studies on molecular epidemiology contribute to our knowledge and understanding of how viruses circulate and are maintained in nature, their endemicity and factors that play a role in outbreaks. Genetic diversity is important for development of molecular assays and vaccine development. Identifying immune correlates of protection plays a role in development of novel vaccines. While employed at the National Institute for Communicable Diseases in Johannesburg (1988-2006) I was involved in the diagnosis and investigation of outbreaks of VHF and arboviruses. This included outbreaks of CCHFV that occurred annually in South Africa; filovirus outbreaks in other regions of Africa (Ebola DRC 1995, SA1996, Uganda 2000, Marburg DRC 1999) and RVFV in Saudi Arabia 2000. I have developed in house serological and molecular assays that were used as tools for identification of outbreaks, as well as tools for surveillance. I contributed to training scientists on serological techniques during the RVFV outbreak in Saudi Arabia (2000). I have now established a research group at the University of the Free State and National Health Laboratory Service in Bloemfontein, and I train postgraduate students and postdoctoral fellows in arbovirus research and surveillance, with a One Health approach to zoonotic diseases.

Prof Burt has more than 30 years' experience in research, diagnosis and investigation of viral haemorrhagic fevers and arboviruses in Africa, including Crimean-Congo haemorrhagic fever (CCHF), Rift Valley fever (RVF), yellow fever, and the formidable Ebola and Marburg viruses. I have extensive experience in handling biosafety level 3 pathogens and was responsible for the establishment of a biosafety level 3 facility for zoonotic pathogens at the University of the Free State. I previously handled select agents of arboviral and zoonotic origin within the confines of a maximum security laboratory (biosafety level 4 laboratory) situated at the National Institute for Communicable

As a result of my publications and contributions to the field, I am recognized internationally in the field of viral haemorrhagic fevers and arboviruses.

Research Groups

SARChI, Vector borne and zoonotic viruses research group

Principal Investigator and group leader for the "Vector borne and zoonotic viruses research group". Research focuses on characterizing humoral and cellular immune responses in patients with Crimean-Congo haemorrhagic fever (CCHF) virus infections; preparation of recombinant antigens for development of diagnostic assays for diagnosis of CCHF, detection and differentiation of flaviviruses, identification of novel viral pathogens and arboviruses and evaluation of vaccines for CCHF, yellow fever and Rift Valley fever viruses.

I am involved in all relevant academic duties and member of management team for the Division of Virology. I am responsible for publication of research findings in international journals, and presentation of results at international and local conferences.

Principal investigator for grant applications for funding for research projects
Management of NHLS intern medical scientist training programs in both the Division of Virology.
Establishing research collaborations, within the National Health Laboratory Services (NHLS), University of the Free State (UFS), and with national and international collaborators.

Current collaborators

Vector-borne virus group:

Prof A Mirazimi, Karolinski Institute, Stockholm.
Prof S Mahalingham, NHMRC Senior Research Fellow (SRF) and Professor of Virology, Institute for Glycomics, Griffith University, Queensland, Australia.
Prof M Heise, Department of Microbiology and Immunology, Carolina Vaccine Institute, University of North Carolina. CCHFV, RVF and yellow fever vaccine project.
Prof J Paweska, Head of Centre for Emerging and Zoonotic Pathogens, National Institute for Communicable Diseases (NICD), Sandringham, Johannesburg. CCHFV research.
Dr J Weyer, Centre for Emerging and Zoonotic Pathogens, National Institute for Communicable Diseases (NICD), Sandringham, Johannesburg. Hantavirus and arenavirus project.
Dr N Avenant, Department of Mammalogy, Bloemfontein National Museum and Centre for Environmental Management, Faculty of Natural and Agricultural Sciences, UFS. Mammal collection for zoonotic surveillance and discovery.
Prof D Goedhals, PathCare Vermaak, Pretoria

Study trips

May-July 1996: Infectious Disease Pathology Activity, Division of Viral and Rickettsial Diseases, Center for Disease Control and Prevention (CDC), Atlanta, Georgia, USA. Completed project on immunohistochemical and *in situ* localization of Crimean-Congo hemorrhagic fever in human tissues and implications for CCHF pathogenesis.

Member of international outbreak response teams for investigation of viral haemorrhagic fever outbreaks

1. **Democratic Republic of the Congo, 1995.** Member of international team investigating outbreak of Ebola virus in Kikwit, Democratic Republic of the Congo.

2. **Saudi Arabia, September, 2000.** Travelled to Saudi Arabia as a member of a team of scientists from the Special Pathogens Unit to set up laboratory facilities for testing livestock sera for evidence of Rift Valley fever infection. Responsible for training of the Saudi Arabian laboratory staff to perform the tests. Successfully tested in excess of 7000 livestock sera in 3 weeks.

3. **Uganda, November, 2000.** Member of international team investigating outbreak of Ebola virus in Gulu, Uganda.

Professional registration, member of scientific advisory boards, committee membership, expert committees

Professional registration
Registered with Health Professions Council South Africa as Medical Biological Scientist, category: Medical Virologist. Registration no MW0002720

Scientific advisory boards
Current memberships
Member of the International Scientific Advisory Board for The Lancet, Infectious Diseases,
Member of the International Scientific Advisory Board for Southern African Centre for Infectious Diseases Surveillance (SACIDS).
Member of Scientific Advisory Board for Polio Research Foundation, (grant funding for Virology), Sandringham, Johannesburg.

Previous memberships
Member of International Scientific Advisory Board for Global Research Collaboration for Infectious Disease Preparedness (2016-2019)

International Committee
Member of the Advisory Council for International Society on Crimean-Congo haemorrhagic fever
Member of international advisory committee for taxonomy of *Bunyaviridae* family
Invited member of *Bunyaviridae* family advisory group for the current World Health Organization (WHO) led effort to prioritize diseases of epidemic and pandemic threat
Invited member of *Toganviridae* family advisory group for the current World Health Organization (WHO) led effort to prioritize diseases of epidemic and pandemic threat

Expert committees
Member of Department of Health One Health Forum and member of Expert Committee for Zoonotic Diseases.
Member of Virology Expert Committee (while acting HOD)

Editorial Boards
Editor Journal of Virological Methods
Associate editor Virology Journal
Guest associate editor Frontiers in Virology
Guest co-editor Vaccines Special Issue Perspective technologies of vaccination and immunotherapy

UFS Committees
Chair of University of the Free State Three Schools of Medicine: Research and Postgraduate Committee.
Member of the Health Sciences Research Ethics Committee.
Member of the Health Sciences Research Ethics Exco Committee
Member of the School of Pathology Exco Committee.
Member of the Environment and Biosafety Research Ethics Committee
Previously Head of the UFS COVID-19 Task Committee during pandemic

NHLS
Member of the PathRed 2023 Scientific Organising Committee

Academic experience

Teaching and training of students

Prior to 2006 I was employed at the National Institute for Virology (now the National Institute for Communicable Diseases) for 17 years where I was involved in detection and investigation of outbreaks of viral haemorrhagic fevers and arboviruses in Africa and therefore not involved in postgraduate training, teaching or supervision of students.

2020 – to date: responsible for establishment and managing of DALRRD and NDOH compliant biosafety level (BSL) 3 laboratory
2010 – to date: responsible for postgraduate science degrees offered by the Division of Virology.
2010 – to date: responsible for establishing and implementing guidelines for the training of intern medical scientists. This is a two year internship that qualifies students to register with the Health Professions Council South Africa (HPCSA).
2006 – 2009: Module leader: 3rd year Medical Microbiology, Faculty of Health Sciences, UFS, Mechanisms of Disease
2006 – 2009: Module leader: 3rd year Medical Microbiology, Faculty of Health Sciences, UFS, Pathogenic Microorganisms
2007 – 2014: Course co-ordinator: BMedSc Honours,
2007 – 2014: Module leader for BMedSc Honours module Current Topics in Virology
2004 – 2005: Lecturer: Diploma Tropical Medicine and Hygiene, University of the Witwatersrand, Topic Arboviruses

Postgraduate supervision completed, (MMedSc and above only) Year completed, degree, university (if not UFS), and topic

2003: MSc, University of the Witwatersrand, Recombinant antigens for diagnosis of Crimean-Congo haemorrhagic fever (CCHF) infections
2008 – 2009: Postdoctoral student. Profiling and characterizing immune responses to CCHF infections.
2011 MMedSc student, preparation of recombinant antigens for Crimean-Congo haemorrhagic fever viral nucleocapsid for defining immune responses in survivors
2013: MMedSc, antigenic cross reactivity of isolates of CCHF virus
2013: MMedSc, epitope discovery, identification of immunodominant linear B cell epitopes of yellow fever virus
2013: MMedSc, characterization of human papilloma virus in laryngeal tissue
2013: MMedSc, cytokine responses to Sindbis virus infection
2014: PhD, memory T cells responses in survivors of CCHFV
2014: MMedSc, replicon based candidate yellow fever vaccine
2015: MMedSc, molecular and serological assays for CCHFV
2015: PhD, epidemiology of flaviviruses in southern Africa and West Nile vaccine development
2016: MMedSc, human papillomaviruses in head and neck cancers
2017: MMedSc Hantaviruses in southern Africa
2017: PhD: recombinant protein expression and folding
2018: MMedSc, seroepidemiology survey amongst healthy at risk group individuals in South Africa
2019: MMedSc, RT-RPA for detection of flaviviruses
2019: MMedSc, in house assay development for detection of Sindbis virus infections
2019: MMedSc, T cell responses in survivors of CCHFV infection
2019: MMedSc, arboviruses in mosquito population in Bloemfontein
2019: PhD, human papillomaviruses in head and neck cancers in archived tissue
2019: PhD, human papillomavirus genome and p53 mutations in head and neck cancers
2019: PhD, immunogenicity of Sindbis based replicon for CCHFV
2019: PhD, innate immunity induced by CCHFV proteins in vitro
2020: MMedSc, in vitro immune responses to Sindbis virus
2020: PhD, rotavirus pre- and post-vaccine introduction
2021: MMedSc, zoonotic diseases in high-risk populations in the Free State province
2021: MMedSc, genetic analysis of human papillomavirus type 11 with recurrent respiratory papillomatosis
2022: PhD (University of Pretoria) A one health investigation of Rift Valley fever and CCHF fever in animal workers and biosecurity on livestock farms in central South Africa
2023: MMedSc molecular and serological evidence for the circulation of orthobunyaviruses and orthonairoviruses in South Africa
2023: MMedSc development of a rapid detection assay and screening of mosquitoes for arboviruses in South Africa

Students graduated:

Academic Level	Year graduated	Number of students	Total number of students
Honours / BTech	2008	3	25
	2009	2	
	2011	2	
	2012	2	

	2013	2	
	2014	2	
	2015	1	
	2017	1	
	2018	2	
	2019	2	
	2020	2	
	2021	2	
	2022	2	
Masters	2003	1	20
	2011	1	
	2013	3	
	2014	1	
	2015	2	
	2016	1	
	2017	1	
	2018	1	
	2019	4	
	2020	1	
	2021	2	
	2023	2	
Doctoral	2014	2	10
	2017	1	
	2019	4	
	2020	1	
	2022	1	
	2024	1	

Students currently being supervised:
Honours: 1
Masters: 1
Doctoral: 4
Postdoctoral: 2

Students currently being co-supervised
Masters: 4
Doctoral: 2

External examiner postgraduate degrees:

Ad hoc: Frequent external examiner for the following institutions:
University of Cape Town, University of Pretoria, Rhodes University, Stellenbosch University, University of Witwatersrand, University of the North West, University of KwaZulu-Natal, University of Zambia

Referee for international scientific journals:

Ad hoc: Frequent referee for following journals for publications on topics related to arboviruses and viral haemorrhagic fevers. Including but not limited to: Journal of Virological Methods, Emerging Infectious Diseases, Scandinavian Journal of Infectious Diseases, Antiviral Research, Future Virology, Vaccine, Clinical and Vaccine Immunology Infection, Genetics and Evolution Clinical Microbiology and Infection, Expert Review of Anti-infective Therapy, The Lancet, The Lancet Infectious Diseases, Virus Research, Epidemiology and Infection

Referee for granting bodies:

Ad hoc: Referee for applications for projects in the field of arbovirology, viral haemorrhagic fevers and medical virology for the following granting bodies:
The Medical Research Council (MRC), South Africa National Research Foundation, Wellcome Trust, National Health Laboratory Services Research Trust, Pasteur Institute

Research grants awarded (2006-)

2006: Awarded two year research grant from the Polio Research Foundation (PRF). Title of research project: Genetic characterization of the M gene of southern African isolates of Crimean-Congo haemorrhagic fever virus

2006: Awarded three year research grant from the PRF.

Title of research project: Investigation to determine the presence of previously unidentified tick-borne viruses as human pathogens in Africa

2007: Awarded an NHLS Research Trust grant to investigate human papilloma viruses in children with recurrent laryngeal papillomas.

2008: Awarded an MRC three year grant to investigate T cell responses in survivors of CCHF

2008: Co investigator on grant awarded by National Institutes for Health NIAID to investigate Rift Valley fever vaccines.

2008: Awarded an NHLS Research Trust grant to investigate recombinant antigens for differentiation between tick borne and mosquito borne flaviviruses

2008-2010: Awarded three year Major Impact research grant from the PRF.

Title of research project: Host immune response in survivors of CCHF infection and evaluation of candidate vaccines.

2009: Awarded research funding from the UFS Academic Cluster Funding for baculovirus expression of arboviral antigens

2009: Awarded an NHLS Research Trust grant to investigate B cell epitopes, yellow fever virus

2010: Awarded an NHLS Research Trust grant to investigate cytokine expression from Sindbis infected macrophages

2013: awarded NHLS Research Trust grant to investigate novel assays for CCHFV

2013-2015: awarded PRF research grant for developing stable cell lines

2013: School of Medicine funding for hantavirus discovery

2012-2016 NRF incentive funding for rated researchers

2014-2016 NRF competitive funding for rated scientists, human papilloma viruses associated with head and neck cancers

2014 UFS interdisciplinary funding awarded for two projects, hantavirus studies and CCHF antigen preparation project.

2014: NHLS Research Trust hantavirus project.

2015: NHLS Research Trust, Pathology award, strategies for arbovirus vaccines

2015: PRF research grant for CCHF studies

2015-2017: NRF SA Sweden collaboration

2016-2020: DST/NRF South African Research Chair Initiative, SARChI chair. Awarded at Tier 1 level.

2018-2020: PRF research funding

2020: awarded NHLS Research Trust Grant

2020: awarded NHLS Pathology Grant

2020: awarded Technology Innovation Agency, South Africa funding

2021-2025: DST/NRF South African Research Chair Initiative, SARChI chair. Renewed and awarded at Tier 1 level.

2022-2024: PRF research funding

Publications in international peer reviewed journals

1. Burt FJ, Swanepoel R, Braack LEO. (1993). Enzyme-linked immunosorbent assays for the detection of antibody to Crimean-Congo haemorrhagic fever virus in the sera of livestock and wild vertebrates. *Epidemiol Infect;* 111:547-557.

2. Burt FJ, Leman PA, Abbott JC, Swanepoel R. (1994). Serodiagnosis of Crimean-Congo haemorrhagic fever. *Epidemiol Infect;* 113:551-562.

3. Muyembe-Tamfum JJ, Kipasa M (on behalf of the International Scientific and Technical Committee and WHO Collaborating Centre for Haemorrhagic Fevers). (1995). Ebola haemorrhagic fever in Kikwit, Zaire. International Scientific and Technical Committee and World Health Organziation Collaborating Centre for Haemorrhagic Fevers [letter]. *The Lancet* 345:1448.

4. Burt FJ, Spencer DC, Leman PA, Patterson B, Swanepoel R. (1996). Investigation of tick-borne viruses as pathogens of humans in South Africa and evidence of Dugbe virus infection in a patient with prolonged thrombocytopenia. *Epidemiol Infect*; 117: 353-361.

5. Swanepoel R, Leman PA, Burt FJ, Zachariades NA, Braack LEO, Ksaizek TG, Rollin PE, Zaki SR, Peters CJ. (1996). Experimental inoculation of plants and animals with Ebola virus. *Emerg Infect Dis*; 2: 321-325.

6. Burt FJ, Swanpoel R, Shieh W-J, Smith JF, Leman PA, Greer PW, Coffield LM, Rollin PE, Ksiazek TG, Peters CJ, Zaki SR. (1997). Immunohistochemical and *in situ* localization of Crimean-Congo hemorrhagic fever in human tissues and implications for CCHF pathogenesis. *Arch Pathol Lab Med*; 121: 839-846.

7. Burt FJ, Leman PA, Smith JF, Swanepoel R. (1998). The use of a reverse transcriptase-polymerase chain reaction for the detection of viral nucleic acid in the diagnosis of Crimean-Congo haemorrhagic fever virus. *J Virol Methods*; 70: 129-137.

8. Swanepoel R, Leman PA, Burt FJ, Jardine J, Verwoerd DJ, Capua I, Brückner GK, Burger WP. (1998) Experimental infection of ostriches with Crimean-Congo haemorrhagic fever virus. *Epidemiol Infect;* 121: 427-432.

9. Tomori O, Bertolli J, Rollin PE, Guimard Y, De Roo A, Fleerackers Y, Feldmann H, Burt F, Swanepoel R, Killian S, Khan AS, Tchioko K, Bwaka M, NDambe R, Peters CJ, Ksiazek TG. (1999). Serological survey among hospital and health center workers during the Ebola hemorrhagic outbreak in Kikwit, Democratic Republic of Congo, 1995. *J Infect Dis;* 179(Suppl 1): S98-S101.

10. Ksiazek TG, Rollin PE, Williams AJ, Bressler DS, Martin ML, Swanepoel R, Burt FJ, Leman PA, Khan AS, Rowe AK, Mukunu R, Sanchez, A, Peters CJ. (1999). Clinical virology of Ebola hemorrhagic fever (EHF): virus, virus antigen, and IgG and IgM antibody findings among EHF patients in Kikwit, Democratic Republic of the Congo, 1995. *J Infect Dis;* 179(Suppl 1): S177-S187.

11. Dunster L, Dunster M, Ofula V, Beti D, Kazoomba-Voskop F, Burt F, Swanepoel R, DeCock KM. (2002). First documentation of human Crimean-Congo hemorrhagic fever, Kenya. *Emerg Infect Dis;* 8: 1005-1006.

12. Burt FJ, Grobbelaar AA, Leman PA, Anthony FS, Gibson GVF, Swanepoel R. (2002). Phylogenetic relationships of southern African West Nile virus isolates. *Emerg Infect Dis;* 8: 820-826.

13. Jupp PG, Kemp A, Grobebbelaar A, Leman P, Burt FJ, Alahmed AM, Almujalli D, AlKhames M, Swanepoel R. (2002). The 2000 epidemic of Rift Valley fever in Saudi Arabia: mosquito vector studies. *Med Vet Entomol,* 16: 245-252.

14. Paweska JT, Burt FJ, Anthony FA, Smith SJ, Grobbelaar AA, Croft JE, Ksiazek TG, Swanepoel R. (2003). IgG-sandwich and IgM-capture enzyme-linked immunosorbent assay for the detection of antibody to Rift Valley fever virus in domestic ruminants. *J Virol Methods;* 113: 103-112.

15. Onyango CO, Grobbelaar AA, Gibson GVF, Sang RC, Sow A, Swanepoel R, Burt FJ. (2004). Yellow fever outbreak in southern Sudan, 2003. *Emerg Infect Dis;* 10:1668-1670.

16. Onyango, C. O., Ofula, V. O., Sang, R. C., Konongoi, S. L., Sow, A., De Cock, K. M., Tukei, P.M., Okoth, F.A., Swanepoel, R., Burt, F.J., Waters, N. C., Coldren, R.L. (2004). Yellow fever outbreak, Imatong, southern Sudan. *Emerg Infect Dis*, 10:1063-1068.

17. Paweska JT, Burt FJ, Swanepoel R. (2005). Validation of IgG and IgM-capture ELISA for the detection of antibody to Rift Valley fever virus in humans. *J Virol Methods;* 124:173-181.

18. Venter M, Myers TG, Wilson MA, Kindt TJ, Paweska JT, Burt FJ, Leman PA, Swanepoel R. (2005). Gene expression in mice infected with West Nile virus strains of different neurovirulence. *Virology;* 342: 119-140**.**

19. Burt FJ, Swanepoel R. (2005). Molecular epidemiology of African and Asian Crimean-Congo haemorrhagic fever isolates. *Epidemiol Infect;* 133: 659-666.

20. Bausch DG, Nichol ST, Muyembe-Tamfum JJ, Borchert M, Rollin PE, Sleurs H, Campbell P, Tshioko FK, Roth C, Colebunders R, Pirard P, Mardel S, Olinda LA, Zeller H, Tshomba A, Kulidri A, Libande ML, Mulangu S, Formenty P, Grein T, Ksiazek T, Zaki S, Smit S, Leman PA, Burt FJ, Kemp A,

Swanepoel R. (2006). An outbreak of Marburg hemorrhagic fever associated with multiple genetic lineages of virus, Democratic Republic of the Congo, 1998-2000," *N Engl J Med;* 355: 909-919.

21. Swanepoel R, Smit SB, Rollin PE, Formenty P, Leman PA, Kemp A, Burt FJ. Grobbelaar AA et al., (2007). Marburg virus reservoir host studies. *Emerg Infect Dis;* 13: 1847-1851.

22. Coetzee P, Markotter W, Paweska JT, Burt FJ, Weyer J, Nel LH. (2008). Use of a molecular epidemiological database to track human rabies case histories in South Africa. *Epidemiol Infect;* 136: 1270-1276.

23. M. Heise, A. Whitmore, J. Thompson, J. Paweska, K. Madric, L. White, A Grobbelaar, A Kemp, R. Swanepoel, Burt FJ. (2009). An alphavirus replicon derived candidate vaccine against Rift Valley fever virus. *Epidemiol Infect;* 137: 1309-1318.

24. Burt FJ, Paweska JT, Ashkettle B, Swanepoel R. (2009). Genetic relationship among southern African Crimean-Congo haemorrhagic fever virus isolates and evidence for occurrence of reassortment. *Epidemiol Infect;* 137: 1302-1308.

25. Venter M, Burt FJ, Blumberg L, Fikl H, Paweska J, Swanepoel R. (2009) Cytokine induction following laboratory acquired West Nile virus meningo-encephalitis. *New Engl J Med;* 360: 1260-1262.

26. Kondiah K, Swanepoel R, Paweska JT, Burt FJ. (2010). A Simple-Probe real-time PCR assay for genotyping reassorted and non-reassorted isolates of Crimean-Congo hemorrhagic fever virus in southern Africa. *J Virol Methods;* 169: 34-38.

27. Seedat RY, Thukane M, Jansen AC, Rossouw I, Goedhals D, Burt FJ. (2010). HPV types causing juvenile recurrent laryngeal papillomatosis in South Africa. *Int J Pediatr Otorhinolaryngo;* 74: 255-259.

28. Grolla A, Jones SM, Fernando L, Strong JE, Ströher U, Möller P, Paweska JT, Burt F, Pablo Palma P, Sprecher A, Formenty P, Roth C, Feldmann H. (2011). The use of a mobile laboratory unit in support of patient management and epidemiological surveillance during the 2005 Marburg Outbreak in Angola. *PLoS Negl Trop Dis;* 5: e1183.

29. Jones P, Cordonnier N, Mahamba C, Burt FJ, Rakotovao F, Swanepoel R, André C, Dauger S, Bakkali Kassimi L. (2011). Encephalomyocarditis virus mortality in semi-wild bonobos (Pan panicus). *J Med Primatol;* 40: 157-163.

30. Burt FJ. (2011). Laboratory diagnosis of Crimean–Congo hemorrhagic fever virus infections. *Future Virology*; 6: 831-841.

31. Combrinck CE, Seedat RY, Randall C, Roodt Y, Burt FJ. (2012). Novel HPV-6 variants of human papillomavirus causing recurrent respiratory papillomatosis in southern Africa. *Epidemiol Infect;* 140: 1095-1101.

32. Samudzi RR, Leman PA, Paweska JT, Swanepoel R, Burt FJ. (2012). Bacterial expression of Crimean-Congo hemorrhagic fever virus nucleoprotein and its evaluation as a diagnostic reagent in an indirect ELISA. *J Virol Methods;* 179: 70-76.

33. Burt FJ, Rolph M, Rulli NE, Mahalingam S Heise MT. (2012). Chikungunya: a re-emerging virus. *The Lancet*. 379: 662-671.

34. Carroll S, Towner J, Sealy T, McMullan L, Khristova M, Burt F, Swanepoel R, Rollin P, Nichol S. (2013). Molecular evolution of viruses of the family Filoviridae based on 97 whole genome sequences. *J Virol;* 87: 2608-2616.

35. Combrinck CE, Seedat RY, Burt FJ. (2013). FRET-based detection and genotyping of HPV-6 and HPV-11 causing recurrent respiratory papillomatosis. *J Virol Methods;* 189: 271-276.

36. Seedat R, Burt FJ, Combrinck C. (2013). Human papillomavirus associated with recurrent laryngeal papillomatosis. *Future Virology*. 8: 1-16.

37. Burt FJ, Samudzi RR, Randall C, Pieters C, Vermeulen J, Knox CM. (2013). Human defined antigenic region on the nucleoprotein of Crimean-Congo haemorrhagic fever virus identified using truncated proteins and a bioinformatics approach. *J Virol Methods*. 193: 706-712.

38. Rangunwala A, Samudzi RR, Burt FJ. (2014). Detection of IgG antibody against Crimean-Congo haemorrhagic fever virus using ELISA with recombinant nucleoprotein antigens from genetically diverse strains. *Epidemiol Infect*. 142:2147-2154.

39. Goedhals D, Paweska JT, Swanepoel R, Bester PA, Burt FJ. (2014). Next generation sequencing of southern Africa Crimean-Congo haemorrhagic fever virus isolates reveals a high frequency of M segment reassortment. *Epidemiol Infect* 142(9):1952-62.

40. Mathengtheng L, Burt FJ. (2014) Use of envelope domain III protein for detection and differentiation of flaviviruses in the Free State province, South Africa. *Vector Borne Zoonotic Dis* 14: 261-271.

41. Jelen MM, Chen Z, Kocjan BJ, Burt FJ, et al. (2014) Global genomic diversity of human papillomavirus type 6 (HPV6) based on 724 isolates and 190 complete genome sequences. *J Virol.* 1;88(13):7307-7316.

42. Burt FJ, Chen W, Mahalingham S. (2014) Chikungunya virus and arthritic disease: mechanism and potential risk factor for severe disease. (Commentary) *Lancet Infect Dis*; 14:789-790.

43. Burt FJ, Goedhals D, Mathentheng L. (2014) Arboviruses in southern Africa: are we missing something? *Future Virology*. 9(11):993-1008.

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Chapters in Books

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Significant recent international and national conferences and workshops (2005-)

Oral presentation. Studies of Crimean-Congo haemorrhagic fever. Mini colloquium. 21 July 2005. Rocky Mountain Laboratories, NIAID, Hamilton, Montana.

Poster presentation: Molecular epidemiology of African and Asian Crimean-Congo haemorrhagic fever isolates. XIII International Congress of Virology, San Francisco, July 2005

Oral presentation. M. Heise, A. Whitmore1, J. Thompson1, J. Paweska, K. Madric1, L. White1, R. Swanepoel, F. Burt. An alphavirus replicon derived candidate vaccine against Rift Valley fever virus. International Meeting on

Emerging Diseases and Surveillance. Austria, 23-25 Feb 2007.

Speaker at the Tick-borne Flavivirus Research Symposium, Rocky Mountain Laboratories, Hamilton, Montana, US, 14-16 October 2007. Tick borne viruses as human pathogens in South Africa.

Oral and poster presentations: XIV International Congress of Virology, Turkey, Aug 2008.

Three poster presentations at the International Infectious Diseases Conference, Miami, Mar 2010. Presented by postgraduate students. Codon optimization of CCHF viral nucleoprotein gene (Samudzi and Burt); Preparation of antigenically active yellow fever viral envelop domain III protein (Smouse and Burt); Multiplex RT-PCR for detection and differentiation of mosquito and tick-borne flaviviruses (Mathengtheng, Samudzi and Burt).

Attended and presented ArboZoonet, Morocco 2010, France 2011

Invited speaker CCH-Fever and Arbo-Zoonet Joint course on Diagnostic Tuesday 4th September 2012 University Medical Center Göttingen, Department of Virology Göttingen. Serological detection of Crimean-Congo haemorrhagic fever virus. Presented at CCHFV workshop ArboZoonet, Germany 2012.

Poster presentation at the International Meeting on Emerging Disease (IMED), “Immune responses against an alpha virus replicon derived candidate vaccine against Crimean-Congo haemorrhagic fever virus” in Vienna, Austria on 1-3 November 2014.

Invited speaker, Oral presentation at First International Conference on Crimean-Congo haemorrhagic fever virus. “34 years of Crimean-Congo haemorrhagic fever in South Africa.” Greece 13-14 Feb 2015.

Co-author on numerous poster presentation at the Pathology Research and Development Congress (PATHRED) at Emperors Palace in Johannesburg on 15-16 April 2015.

Oral presentation at “WAKA HPV Africa Symposium” at Southern Sun OR Tambo, Johannesburg, S.A. 28-29 May 2015. “Detection of human papilloma virus in head and neck squamous cell carcinomas.”

Poster presentations at Virology Africa, Cape Town, 1-3 Dec 2015.

Presentation at NRF STINT SA-Sweden kickoff workshop, Stockholm, 10 February 2016.

Organised workshop titled: “Development of diagnostics and therapeutics for CCHFV 2018” during 6-7 Dec 2018 at the University of the Free State. This was attended by Prof A Mirazimi and 2 post-doctoral fellows from the Karolinska Institut in Sweden, 2 visiting scientists from the National University of Singapore, 1 visiting scientist from the University of Copenhagen, 8 post graduate students, one post-doctoral fellow and 4 staff members of the Division of Virology; many of whom presented and shared their expertise in the respective fields.

Organised workshop titled: “Crimean-Congo haemorrhagic fever: detection diagnosis and tick vectors workshop” during 3-4 Dec 2019 at the University of the Free State. The workshop was presented by Mr Deon Bakkes and Miss Dikeledi Matloa from the Agricultural Research Council, Johannesburg. This was attended by Prof A Mirazimi from the Karolinska Institut in Sweden and a group of 11 which consisted of post graduate students, post-doctoral fellows and staff members of the Division of Virology and the Department of Zoology and Entomology from the University of the Free State.

Contribution towards research on Crimean-Congo haemorrhagic fever virus in Africa:
CCHFV Africa 2023 Conference, a platform for African researchers

The CCHFV Africa 2023 conference was conceptualised, organised and hosted by Professor Felicity Burt from the Division of Virology at the University of the Free State and NHLS and Professor Ali Mirazimi from the Department of Laboratory Medicine at Karolinska Institut, the Public Health Agency and National Veterinary Institute, Sweden. Professor Burt and Professor Mirazimi have collaborated for many years on Crimean-Congo haemorrhagic fever virus (CCHFV) and conceived the idea to host a conference which allowed participants from low resource countries in Africa to attend.
CCHFV is a tick-borne zoonosis found in Africa, Asia, eastern and southern Europe, the Balkans and the Middle East. The virus is listed as one of the priority pathogens for research and vaccine development by the World Health Organization due to significant public health implications and the absence of efficacious treatment. The distribution of CCHFV correlates with that of the primary vector of the virus, ticks belonging to the genus *Hyalomma*. The distribution of these ticks has, in recent years, expanded to regions where conditions are

favourable for the species to establish endemnicity. Hence there is growing concern that this virus has the potential to emerge and spread to new geographic regions.
The CCHFV Africa 2023 conference was the first of its kind with an aim to create a platform for African researchers to showcase their research and interact with colleagues to establish collaborations and open communication to further the preparedness capacity for CCHF outbreaks in Africa. The meeting would not have been possible without the support from the Defence Threat Reduction Agency (DTRA) who partnered with the UFS in supporting CCHF research and biosurveillance efforts in South Africa, the Region and the African Continent. The conference, held on 3-4 May 2023 in Cape Town, was attended by participants from 16 countries which included 12 countries in Africa, and participants from the United States, Sweden, Turkey and France. African countries that were represented included South Africa, Uganda, Kenya, Tanzania, Cameroon, Mozambique, Tunisia, Central Africa Republic, Senegal, Benin Republic, Burkina Faso and Gabon. In addition representatives from DTRA and the European Research Infrastructure on Highly Pathogenic Agents (erinha) attended the meeting. Oral presentations provided evidence of the virus circulating in multiple countries with potential to cause human infections. The presence of this virus emphasizes the urgent need to build diagnostic and surveillance capacity for CCHFV and other arboviral disease with potential to cause outbreaks throughout Africa.

One outcome was the establishment of a CCHFV Africa Committee chaired by Prof Burt and comprised of 15 members representing 12 countries in Africa and providing a platform for sharing and discussing CCHFV research.

Productivity and impact of published work (rating and h indexes accessed September 2024)

2024-2028: NRF Rated Scientist B1 rating

Productivity and impact of published work (h-indexes as on 03 March 2022):

Web of Science (ISI):	34	Scopus	34	Google Scholar:	42

I currently have >100 publications/documents (first, senior or coauthored) in international peer reviewed scientific journals with a total of 8123 citations (Google scholar retrieved 2 October 2024).