Curriculum Vitae - Prof. Felicity Jane Burt

Personal details

Name and surname: Felicity Jane Burt
Place of birth: Harare, Zimbabwe
Gender: Female
Address: Division of Virology (G23)
National Health Laboratory Service/ School of Pathology
Faculty of Health Sciences PO Box 339
University of the Free State Bloemfontein 9300
Telephone no: 051 401 3461 (w)
076 850 5160
E-mail: burtfj@ufs.ac.za
Identification no: 6212190665088

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

Period	Position	Place	Responsibility
Jan 2016-Dec 2026 **(current)**	Research Chair funded by the DST and administered by the NRF, South African Research Chairs Initiative (SARChI) for Vector-Borne and Zoonotic Pathogens Research	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	Division of Virology, NHLS and Faculty of Health Sciences, UFS	Responsibilities include managing all postgraduate activities within the Division of Virology. 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, NHLS, 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 research. 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, (e.g. 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.

I have 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 of 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 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

- **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.
- **Dr J Weyer**, Head of Centre for Emerging and Zoonotic Pathogens, National Institute for Communicable Diseases (NICD), Sandringham, Johannesburg. CCHFV research.
- **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.

Scientific advisory boards
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 expertise

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) (Institution only mentioned if not UFS)

Name of student (Institution if not UFS)	Degree / Title of dissertation / Thesis	Year completed
PS Seleka University of Witwatersrand	**MSc**: "Recombinant antigens for diagnosis of Crimean-Congo haemorrhagic fever (CCHF) infections "	2003
Rudo Ruth Samudzi	**MMedSc**: "Preparation of recombinant antigens for demonstrating antibody responses in patients with Crimean-Congo haemorrhagic fever virus infections"	2011
Catharina Elizabeth Combrinck	**MMedSc**: "Development of detection methods for human papillomaviruses associated with recurrent respiratory papillomatosis and characterization of associated strains"	2013
Azeeza Rangunwala	**MMedSc**: "Identification of antigen-specific serological cross-reactivity among survivors of Crimean-Congo Haemorrhagic fever"	2013
Shannon Lucrecia Smouse	**MMedSc**: "Identification of antigenic regions and linear B cell epitopes on yellow fever virus"	2013
Hermanus Albertus Hanekom	**MMedSc**: "Development of detection assays for sindbus virus and investigating in vitro infection of mammalian cells"	2013
Dominique Goedhals	**PhD**: "Immune responses to Crimean-Congo haemorrhagic fever virus and molecular characterization of viral isolates"	2014
Lehlohonolo Mathentheng	**PhD**: "Immunogenicity and serological applications of flavivirus EFIII proteins and multiplex RT-PCR for detecting novel southern African viruses"	2014
Natalie Viljoen	**MMedSc**: "Preparation and immunogenicity of a candidate replicon based yellow fever vaccine"	2014
Danelle Pieters	**MMedSc**: "Development of molecular and serological assays for diagnosis and surveillance of Crimean-Congo haemorrhagic fever virus"	2015
Tumelo Robert Sekee	**MMedSc**: "Molecular assays for detecting human papillomavirus in head and neck squamous cell carcinoma"	2016
Deborah Rethabile Damane	**MMedSc**: "Preparation of recombinant antigen for serological detection of African hantaviruses"	2017
Jan-G Vermeulen	**PhD**: "Preparation and in vitro characterisation of an anti-Tissue factor single chain variable fragment"	2017
Sabeehah Vawda	**MMedSc**: "Seroepidemiologic survey of Crimean-Congo haemorrhagic fever virus amongst healthy individuals in select risk groups in South Africa"	2018
Elisabeth Hendrika Bonnet	**MMedSc**: "The development and validation of a reverse transcription recombinase polymerase amplification assay for detection of flaviviruses"	2019
Atang Bulane	**PhD**: "Detection of human papillomavirus associated with head and neck cancer in archived tissues and novel biomarkers"	2019
Nicole Kennedy	**MMedSc**: "Development of in house assays for detection of Sindbis virus infections"	2019
Makgotso Golda Maotoana	**MMedSc**: "Characterization of T cell responses to the non-structural proteins of the M segment in survivors of Crimean-Congo haemorrhagic fever"	2019
Yuri Munsamy	**PhD-** "Characterisation of the human papillomavirus genome and p53 mutations in head and neck squamous cell carcinomas"	2019
Gert Ignatius du Preez Terblanche	**MMedSc**: "Identification of arboviruses circulating in mosquito populations in the Bloemfontein area, South Africa"	2019
Thomas Tipih	**PhD**: "Immunogenicity of Sindbis based replicons for Crimean-Congo hemorrhagic fever virus"	2019
Natalie Viljoen	**PhD**: "Innate immune signalling induced by Crimean-Congo haemorrhagic fever virus proteins in vitro"	2019
Matefo Millicent Litabe	**MMedSc**: "In vitro immune responses to Sindbis virus"	2020
Peter Mwangi	**PhD**: "Molecular characterization of rotavirus strains from pre- and post-vaccine introduction in South Africa"	2020
Corné Thuynsma	**MMedSc**: "Genetic analysis of human papillomavirus type 11 isolates from patients with recurrent respiratory papillomatosis treated at Universitas Academic Hospital"	2021
Cornelius Gerhardus van der Westhuizen	**MMedSc**: "Zoonotic diseases in high-risk populations in the Free State province, South Africa"	2021
Micah Dimaculangan	**MMedSc**: "Development and application of molecular assays for mosquito-borne alphaviruses in South Africa"	2021
Veerle Dermaux-Msimang University of Pretoria	**PhD**: "A One Health investigation of Rift Valley fever and Crimean-Congo haemorrhagic fever among animal workers and of biosecurity on livestock farms in central South Africa"	2021
Siewert Christiaan Wiid	**MMedSc**: "Molecular and serological evidence for the circulation of orthobunyaviruses and orthonairoviruses in South Africa"	2022
Nosipho Zanele Masoto	**MMedSc**: "Development of a rapid detection assay and screening of mosquitoes for arboviruses in South Africa"	2022

Nyiko Given Maswanganyi	**MMedSc**: "Expression of arbovirus antigens for preparing multiplex immunofluorescent platform for serology."	2023
Matefo Millicent Litabe	**PhD**: "Adaptive immune response in COVID-19 patients and innate immune modulation of SARS-COV-2"	2023

Students graduated summary:

Academic Level	Year graduated	Number of students	Total number of students
Honours / BTech	2008	3	27
	2009	2	
	2011	2	
	2012	2	
	2013	2	
	2014	2	
	2015	1	
	2017	1	
	2018	2	
	2019	2	
	2020	2	
	2021	2	
	2022	2	
	2023	2	
Masters	2003	1	22
	2011	1	
	2013	3	
	2014	1	
	2015	2	
	2016	1	
	2017	1	
	2018	1	
	2019	4	
	2020	1	
	2021	2	
	2022	3	
	2023	1	
Doctoral	2014	2	10
	2017	1	
	2019	4	
	2021	1	
	2022	1	
	2023	1	

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

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

Academic expertise

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 peer-reviewed journals (n = 104)

1. **Burt, F.J.,** Swanepoel, R., Braack, L.E.O. (1993) Enzyme-linked immunosorbent assays for the detection of antibody to Crimean-Congo haemorrhagic fever virus in the sera of livestock and wild vertebrates. *Epidemiology & Infection*; 111:547-557. doi: 10.1017/s0950268800057277.
2. **Burt, F.J.,** Leman, P.A., Abbott, J.C., Swanepoel, R. (1994) Serodiagnosis of Crimean-Congo haemorrhagic fever. *Epidemiology & Infection;* 113:551-562. doi: 10.1017/s0950268800068576.
3. **Muyembe, T., 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. *Lancet*; 345:1448. doi: 10.1016/s0140-6736(95)92640-2

4. Swanepoel, R., Leman, P.A**., Burt, F.J.,** Zachariades, N.A., Braack, L.E.O., Ksiazek, T.G., et al. (1996) Experimental inoculation of plants and animals with Ebola virus. *Emerging Infectious Diseases*; 2:321-325. doi: 10.3201/eid0204.960407.
5. **Burt, F.J.,** Spencer, D.C., Leman, P.A., 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. *Epidemiology & Infection*; 117:353-361. doi: 10.1017/s0950268800052687.
6. **Burt, F.J.,** Swanepoel, R., Shieh, W., Smith, J.F., Leman, P.A., Greer, et al. (1997) Immunohistochemical and in situ localization of Crimean-Congo hemorrhagic fever (CCHF) virus in human tissues and implications for CCHF pathogenesis. *Archives of Pathology & Laboratory Medicine*; 121:839-846.
7. Swanepoel, R., Leman, P.A., **Burt, F.J.,** Jardine, J., Verwoerd, D.J., Capua, I., et al. (1998) Experimental infection of ostriches with Crimean-Congo haemorrhagic fever virus. *Epidemiology & Infection*; 121:427-432. doi: 10.1017/s0950268898001344.
8. **Burt, F.J.**, Leman, P.A., Smith, J.F., Swanepoel, R. (1998) The use of a reverse transcription–polymerase chain reaction for the detection of viral nucleic acid in the diagnosis of Crimean–Congo haemorrhagic fever. *Journal of Virological Methods*; 70:129-137. doi: 10.1016/s0166-0934(97)00182-1.
9. Ksiazek, T.G., Rollin, P.E., Williams, A.J., Bressler, D.S., Martin, M.L., Swanepoel, R., et al. (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. *Journal of Infectious Diseases*; 179(Suppl 1):S177–87. doi: 10.1086/514321.
10. Tomori, O., Bertolli, J., Rollin, P.E., Fleerackers, Y., Guimard, Y., De Roo, A., et al. (1999) Serologic Survey among Hospital and Health Center Workers during the Ebola Hemorrhagic Fever Outbreak in Kikwit, Democratic Republic of the Congo, 1995. *Journal of Infectious Diseases*; 179(Suppl 1):S98–101. doi: 10.1086/514307.
11. Dunster, L., Dunster, M., Ofula, V.O., Beti, D., Kazooba-Voskamp, F., **Burt, F.J.**, et al. (2002) First documentation of human Crimean-Congo hemorrhagic fever, Kenya. *Emerging Infectious Diseases*; 8:1005-1006. doi: 10.3201/eid0809.010510
12. **Burt, F.J.**, Grobbelaar, A.A., Leman, P.A., Anthony, F., Gibson, G.V.F., Swanepoel, R. (2002) Phylogenetic relationships of southern African West Nile virus isolates. *Emerging Infectious Diseases*; 8:820-826. doi: 10.3201/eid0808.020027
13. Jupp, P.G., Kemp, A., Grobbelaar, A.A., Leman, P.A., **Burt, F.J.**, Alahmed, A.M., et al. (2002) The 2000 epidemic of Rift Valley fever in Saudi Arabia: mosquito vector studies. *Medical and Veterinary Entomology*; 16:245-252. doi: 10.1046/j.1365-2915.2002.00371.x
14. Paweska, J.T., **Burt, F.J.**, Anthony, F., Smith, S.J., Grobbelaar, A.A., Croft, J.E., et al. (2003) IgG-sandwich and IgM-capture enzyme-linked immunosorbent assay for the detection of antibody to Rift Valley fever virus in domestic ruminants. *Journal of Virological Methods*; 113:103-112. doi: 10.1016/s0166-0934(03)00228-3
15. Onyango, C.O., Ofula, V.O., Sang, R.C., Konongoi, S.L., Sow, A., De Cock, K.M., et al. (2004) Yellow Fever Outbreak, Imatong, Southern Sudan. *Emerging Infectious Diseases*; 10:1063-1068. doi: 10.3201/eid1006.030738
16. Onyango, C.O., Grobbelaar, A.A., Gibson, G.V.F., Sang, R.C., Sow, A., Swanepoel, R., **Burt, F.J.** (2004) Yellow Fever Outbreak, Southern Sudan, 2003. *Emerging Infectious Diseases*; 10:1668-1670. doi: 10.3201/eid1009.030727.
17. Venter, M., Myers, T.G., Wilson, M.A., Kindt, T.J., Paweska, J.T., **Burt, F.J.**, et al. (2005) Gene expression in mice infected with West-Nile virus strains of different neurovirulence. *Virology*; 342:119-140. doi: 10.1016/j.virol.2005.07.013
18. **Burt, F.J.**, Swanepoel, R. (2005) Molecular epidemiology of African and Asian Crimean-Congo haemorrhagic fever isolates. *Epidemiology & Infection*; 133:659-666. doi:10.1017/S0950268805003730
19. Paweska, J.T., **Burt, F.J.**, Swanepoel, R. (2005) Validation of IgG-sandwich and IgM-capture ELISA for the detection of antibody to Rift Valley fever virus in humans. *Journal of Virological Methods*; 124:173-181. doi: 10.1016/j.jviromet.2004.11.020
20. Bausch, D.G.; Nichol, S.T.; Muyembe-Tamfum, J.J.; Borchert, M.; Rollin, P.E.; Sleurs, H.; et al. (2006) Marburg hemorrhagic fever associated with multiple genetic lineages of virus. *New England Journal of Medicine*; 355:909-919. doi: 10.1056/NEJMoa051465
21. Swanepoel, R., Smit, S.B., Rollin, P.E., Formenty, P., Leman, P.A., Kemp, A., et al. (2007) Studies of reservoir hosts for Marburg virus. *Emerging Infectious Diseases*; 13:1847-1851. doi: 10.3201/eid1312.071115
22. Coetzee, P., Weyer, J., Paweska, J.T., **Burt, F.J.**, Markotter, W., Nel, L.H. (2008) Use of a molecular epidemiological database to track human rabies case histories in South Africa. *Epidemiology & Infection*;

136:1270-1276. doi: 10.1017/S0950268807009582

23. Heise, M.T., Whitmore, A., Thompson, J., Parsons, M., Grobbelaar, A.A., Kemp, A.,et al. (2009) An alphavirus replicon-derived candidate vaccine against Rift Valley fever virus. *Epidemiology & Infection*; 137:1309-1318. doi: 10.1017/S0950268808001696
24. Venter, M., **Burt, F.J.**, Blumberg, L., Fickl, H., Paweska, J.T., Swanepoel, R. (2009) Cytokine Induction after Laboratory-Acquired West Nile Virus Infection. *New England Journal of Medicine*; 360:1260-1262. doi: 10.1056/NEJMc0808647.
25. **Burt, F.J.**, Paweska, J.T., Ashkettle, B., Swanepoel, R. (2009) Genetic relationship in southern African Crimean-Congo haemorrhagic fever virus isolates: evidence for occurrence of reassortment. *Epidemiology & Infection*; 137:1302-1308. doi: 10.1017/S0950268808001878
26. Kondiah, K., Swanepoel, R., Paweska, J.T., **Burt, F.J.** (2010) A Simple-Probe® real-time PCR assay for genotyping reassorted and non-reassorted isolates of Crimean-Congo hemorrhagic fever virus in southern Africa. *Journal of Virological Methods*; 169:34-38. doi:10.1016/j.jviromet.2010.06.010
27. Mathengtheng, L., **Burt, F.J.** (2010) Development of a recombinant antigen and multiplex PCR for differentiation of tick-borne and mosquito-borne flaviviruses. *International Journal of Infectious Diseases*; 14:e48. doi: 10.1016/J.IJID.2010.02.1594
28. Samudzi, R.R., **Burt, F.J.** (2010) Gene optimization for expression of Crimean-Congo haemorrhagic fever viral nucleoprotein. *International Journal of Infectious Diseases*; 14:e47. doi: 10.1016/J.IJID.2010.02.1592
29. Smouse, S., Burt. F.J. (2010) Preparation of antigenically active recombinant yellow fever viral envelope domain III protein. *International Journal of Infectious Diseases*; 14:e47. doi: 10.1016/J.IJID.2010.02.1593
30. Seedat, R.Y., Thukane, M., Jansen, A.C., Rossouw, I., Goedhals, D., **Burt, F.J.** (2010) HPV types causing juvenile recurrent laryngeal papillomatosis in South Africa. *International Journal of Pediatric Otorhinolaryngology*; 74:255-259. doi:10.1016/j.ijporl.2009.11.016
31. Jones, P., Cordonnier, N., Mahamba, C., **Burt, F.J.**, Rakotovao, F., Swanepoel, R., et al. (2011) Encephalomyocarditis virus mortality in semi-wild bonobos (Pan panicus). *Journal of Medical Primatology*; 40:157-163. doi: 10.1111/j.1600-0684.2010.00464.x
32. **Burt, F.J.** (2011) Laboratory diagnosis of Crimean-Congo hemorrhagic fever virus infections. *Future Virology*; 6:831-841. doi: 10.2217/FVL.11.47
33. Grolla, A., Jones, S.M., Fernando, L., Strong, J.E., Ströher, U., Möller, P., et al. (2011) The use of a mobile laboratory unit in support of patient management and epidemiological surveillance during the 2005 Marburg outbreak in Angola. *PLoS Neglected Tropical Diseases*; 5:e1183. doi:10.1371/journal.pntd.0001183
34. Samudzi, R.R., Leman P.A., Paweska, J.T., Swanepoel, R., **Burt, F.J.** (2012) Bacterial expression of Crimean-Congo hemorrhagic fever virus nucleoprotien and its evaluation as a diagnostic reagent in an indirect ELISA. *Journal of Virological Methods*; 179:70-76. doi: 10.1016/j.jviromet.2011.09.023
35. **Burt, F.J.**, Rolph, M.S., Rulli, N.E., Mahalingam, S., Heise, M.T. (2012) Chikungunya: a re-emerging virus. *Lancet*; 379:662-671. doi: 10.1016/S0140-6736(11)60281-X
36. Combrinck, C.E., Seedat, R.Y., Randall, C., Roodt, Y., **Burt, F.J.** (2012) Novel HPV-6 variants of human papillomavirus causing recurrent respiratory papillomatosis in southern Africa. *Epidemiology & Infection*; 140:1095-1101. doi:10.1017/S0950268811001580
37. Combrinck, C.E., Seedat, R.Y., **Burt, F.J.** (2013) FRET-based detection and genotyping of HPV-6 and HPV-11 causing recurrent respiratory papillomatosis. *Journal of Virological Methods*; 189:271-276. doi: 10.1016/j.jviromet.2013.01.025
38. Seedat, R.Y., Combrinck, C.E., **Burt, F.J.** (2013) HPV associated with recurrent respiratory papillomatosis. *Future Virology*; 8:1-16. doi: 10.2217/FVL.13.31
39. **Burt, F.J.**, Samudzi, R.R., Randall, C., Pieters, D., Vermeulen, J., Knox, C.M. (2013) Human defined antigenic region on the nucleoprotein of Crimean-Congo hemorrhagic fever virus identified using truncated proteins and a bioinformatics approach. *Journal of Virological Methods*; 193:706-712. doi: 10.1016/j.jviromet.2013.07.055
40. Carroll, S.A., Towner, J.S., Sealy, T.K., McMullan, L.K., Khristova, M.L., **Burt, F.J.**, et al. (2013) Molecular evolution of viruses of the family Filoviridae based on 97 whole-genome sequences. *Journal of Virology*; 87:2608-2616. doi:10.1128/JVI.03118-12
41. **Burt, F.J.**, Goedhals, D., Mathengtheng, L. (2014) Arboviruses in southern Africa: are we missing something?. *Future Virology*; 9:993-1008. doi: 10.2217/FVL.14.87
42. **Burt, F.J.**, Chen, W., Mahalingam, S. (2014) Chikungunya virus and arthritic disease. *Lancet - Infectious Diseases*; 14:789-790. doi: 10.1016/S1473-3099(14)70869-2
43. Rangunwala, A., Samudzi, R.R., **Burt, F.J.** (2014) Detection of IgG antibody against Crimean-Congo

haemorrhagic fever virus using ELISA with recombinant nucleoprotein antigens from genetically diverse strains. *Epidemiology & Infection*; 142:2147-2154. doi:10.1017/S0950268813002987

44. Mathengtheng, L., **Burt, F.J.** (2014) Development of immunoassays for detection of flaviviruses in the Free State Province, South Africa. *International Journal of Infectious Diseases*; 21:456. doi: 10.1016/J.IJID.2014.03.1361
45. Viljoen, N., Heise, M., **Burt, F.J.** (2014) DNA-launched sindbis virus based replicon encoding the yellow fever virus ED-lll protein. *International Journal of Infectious Diseases*; 21:431. doi: 10.1016/J.IJID.2014.03.1309
46. Jelen, M.M., Chen, Z., Kocjan, B.J., **Burt, F.J.**, Chan, P.K.S., Chouhy, D.,et al. (2014) Global genomic diversity of Human Papillomavirus 6 based on 724 Isolates and 190 complete genome sequences. *Journal of Virology*; 88:7307-7316. doi: 10.1128/JVI.00621-14
47. Rangunwala, A., **Burt, F.J.** (2014) Identification of antigen-specific serological cross-reactivity among survivors of Crimean Congo haemorrhagic fever. *International Journal of Infectious Diseases*; 21:225. doi: 10.1016/J.IJID.2014.03.889
48. Smouse, S., Burt. F.J. (2014) Identification of linear B-cell epitopes in the capsid, NS4a and domain III region in the E glycoprotein of yellow fever virus. *International Journal of Infectious Diseases*; 21:326. doi: 10.1016/J.IJID.2014.03.1093
49. Goedhals, D., Bester, P.A., Paweska, J.T., Swanepoel, R., **Burt, F.J.** (2014) Next-generation sequencing of southern African CrimeanCongo haemorrhagic fever virus isolates reveals a high frequency of M segment reassortment. *Epidemiology & Infection*; 142:1952-1962. doi:10.1017/S0950268814000818
50. Mathengtheng, L., **Burt, F.J.** (2014) Use of envelope domain III protein for detection and differentiation of flaviviruses in the Free State province, South Africa. *Vector-borne and Zoonotic Diseases*; 14:261-271. doi: 10.1089/vbz.2013.1407
51. Goedhals, D., Bester, P.A., Paweska, J.T., Swanepoel, R., **Burt, F.J.** (2015) Comparative analysis of the L, M and S RNA segments of Crimean-Congo haemorrhagic fever virus isolates from southern Africa. *Journal of Medical Virology*; 87:717-724. doi: 10.1002/jmv.24079
52. Goedhals, D., Paweska, J.T., **Burt, F.J.** (2015) Identification of human linear B-cell epitope sites on the envelope glycoproteins of Crimean-Congo haemorrhagic fever virus. *Epidemiology & Infection*; 143:1451-1456. doi:10.1017/S0950268814002271
53. Weidmann, M., Avsic-Zupanc, T., Bino, S., Bouloy, M., **Burt, F.J.**, Chinikar, S., et al. (2016) Biosafety standards for working with Crimean-Congo haemorrhagic fever virus. *Journal of General Virology*; 97:2799-2808. doi: 10.1099/jgv.0.000610
54. Seedat, R.Y., Combrinck, C.E., Bester, P.A., Lee, J-Y., **Burt, F.J.** (2016) Determination of the complete genome and functional analysis of HPV6 isolate VBD19/10 from a patient with aggressive recurrent respiratory papillomatosis. *Epidemiology & Infection*; 144:2128-2135. doi: 10.1017/S0950268816000388
55. Jelen, M.M., Chen, Z., Kocjan, B.J., Hošnjak, L., **Burt, F.J.**, Chan, P.K.S., et al. (2016) Global genomic diversity of Human Papillomavirus 11 based on 433 Isolates and 78 complete genome sequences. *Journal of Virology*; 90:5503-5513. doi: 10.1128/JVI.03149-15
56. Atkinson, R., **Burt, F.J.**, Rybicki, E.P., Meyers, A.E. (2016) Plant-produced Crimean-Congo haemorrhagic fever virus nucleoprotein for use in ELISA. *Journal of Virological Methods*; 236:170-177. doi: 10.1016/j.jviromet.2016.07.025
57. **Burt, F.J.**, Chen, W., Miner, J.J., Lenschow, D.J., Merits, A., Schnettler, E., et al. (2017) Chikungunya virus: an update on biology and pathogenesis of this emerging pathogen. *Lancet - Infectious Diseases*; 17:e107-117. doi: 10.1016/S1473-3099(16)30385-1
58. Goedhals, D., Paweska, J.T., **Burt, F.J.** (2017) Long-lived CD8+ T cell responses following Crimean-Congo haemorrhagic fever virus infection. *PLoS Neglected Tropical Diseases*; 11:e0006149. doi: 10.1371/journal.pntd.0006149
59. Fritzen, A., Risinger, C., Korukluoglu, G., Christova, I., Hitzeroth, A.C., Viljoen, N., et al. (2018) Epitope-mapping of the glycoprotein from Crimean-Congo hemorrhagic fever virus using a microarray approach. *PLoS Neglected Tropical Diseases*; 12:e0006598. doi: 10.1371/journal.pntd.0006598
60. Vermeulen, J., **Burt, F.J.**, van Heerden, E., Cason, E., Meiring, M. (2018) Evaluation of in vitro refolding vs cold shock expression: Production of a low yielding single variable protein. *Protein Expression and Purification*; 151:62-71. doi: 10.1016/j.pep.2018.06.005
61. Sekee, T.R., **Burt, F.J.**, Goedhals, D., Goedhals, J., Munsamy, Y., Seedat, R.Y. (2018) Human papillomavirus in head and neck squamous cell carcinomas in a South African cohort. *Papillomavirus Research*; 6:58-62. doi: 10.1016/j.pvr.2018.10.006

62. Spengler, J.R., Bente, D.A., Bray, M., **Burt, F.J.**, Hewson, R., Korukluoglu, G., et al. (2018) Second international conference on Crimean-Congo hemorragic fever. *Antiviral Research*; 150:137-147. doi:10.1016/j.antiviral.2017.11.019

63. Vawda, S., Goedhals, D., Bester, P.A., **Burt, F.J.** (2018) Seroepidemiology survey of Crimean-Congo hemorrhagiv fever virus in selected risk groups, South Africa. *Emerging Infectious Diseases*; 24:1360-1363. doi: 10.3201/eid2407.172096

64. Badolo, A., **Burt, F.J.**, Daniel, S., Fearns, R., Gudo, E.S., Kielian, M.,et al. (2019) 3rd Tofo advanced study week on emerging and re-emerging viruses, 2018. *Antiviral Research*; 162:142-150. doi: 10.1016/j.antiviral.2018.12.015

65. Msimang, V., Thompson, P.N., Jansen van Vuren, P., Tempia, S., Cordel, C., Kgaladi, J.,et al. (2019) Rift Valley fever virus exposure amongst farmers, farm workers, and veterinary professionals in central South Africa.. *Viruses-Basel*; 11:140. doi: 10.3390/v11020140

66. Maes, P., Adkins, S., Alkhovsky, S.V., Avšič-Županc, T., Ballinger, M.J., Bente, D.A., et al. (2019) Taxonomy of the order Bunyavirales: second update 2018. *Archives of Virology*; 164:927-941. doi: 10.1007/s00705-018-04127-3

67. Abudurexiti, A., Adkins, S., Alioto, D., Alkhovsky, S.V., Avšič-Županc, T., Ballinger, M.J., et al. (2019) Taxonomy of the order Bunyavirales: update 2019. *Archives of Virology*; 164:1949-1965. doi: 10.1007/s00705-019-04253-6

68. Kuhn, J.H., Adkins, S., Alioto, D., Alkhovsky, S.V., Amaransinghe, G.K., Anthony, S.J., et al. (2020) 2020 taxonomic update for phylum Negarnaviricota (Riboviria: Orthornavirae), including the large orders Bunyavirales and Mononegavirales.. *Archives of Virology*; 165:3023-3072. doi: 10.1007/s00705-020-04731-2

69. Dimaculangan, M., Wiid, S.C., Bester, P.A., Sekee, T.R., **Burt, F.J.** (2020) A simple and rapid approach to prepare Sindbis and West Nile viral RNA controls for differentiation between positive samples and laboratory contamination.. *Journal of Virological Methods*; 278:113822. doi: 10.1016/j.jviromet.2020

70. Schmitt, C.A., Bergey, C.M., Jasinska, A.J., Ramensky, V., **Burt, F.J.**, Svardal, H., et al. (2020) ACE2 and TMPRSS2 variation in savanna monkeys (Chlorocebus spp.): Potential risk for zoonotic/anthroponotic transmission of SARSCoV-2 and a potential model for functional studies.. *PLoS One*; 15:e0235106. doi: 10.1371/journal.pone.0235106

71. Mutso, M., St John, J.A., Ling, Z.L., **Burt, F.J.**, Poo, Y.S., Liu, X., et al. (2020) Basic insights into Zika virus infection of neuroglial and brain endothelial cells.. *Journal of General Virology*; 101:622-634. doi: 10.1099/jgv.0.001416

72. Vermeulen, J., **Burt, F.J.**, van Heerden, E., Lategan du Preez, L., Meiring, M. (2020) Characterization of the inhibition mechanism of a tissuefactor inhibiting single-chain variable fragment: a combined computational approach.. *Journal of Molecular Modeling*; 26:87. doi: 10.1007/s00894-020-4350-7

73. Tipih, T., **Burt, F.J.** (2020) Crimean-Congo hemorrhagic fever virus: Advances in vaccine development.. *Bioresearch Open Access*; 12:137-150. doi: 10.1089/biores.2019.0057

74. Bulane, A., Goedhals, D., Seedat, R.Y., Goedhals, J., **Burt, F.J.** (2020) Human papillomavirus DNA in head and neck squamous cell carcinomas in the Free State, South Africa. *Journal of Medical Virology*; 92:227-233. doi: 10.1002/jmv.25556

75. Garrison, A.R., Alkhovsky, S.V., Avšič-Županc, T., Bente, D.A., Bergeron, É., **Burt, F.J.**, et al. (2020) ICTV Virus Taxonomy Profile: Nairoviridae.. *Journal of General Virology*; 101:798-799. doi: 10.1099/jgv.0.001485

76. Mathengtheng, L., Goedhals, D., Bester, P.A., Goedhals, J., **Burt, F.J.** (2020) Persistence of Crimean-Congo hemorrhagic fever virus RNA. *Emerging Infectious Diseases*; 26:385-387. doi: 10.3201/eid2602.191460

77. Kuhn, J.H., Adkins, S., Agwanda, B.R., Kubrusli, R.A., Alkhovsky, S.V., Amarasinghe, G.K., et al. (2021) 2021 Taxonomic update of phylum Negarnaviricota (Riboviria: Orthornavirae), including the large orders Bunyavirales and Mononegavirales. *Archives of Virology*; 166(12):3513-3566.. doi: 10.1007/s00705-021-05143-6

78. Makoah, N.A., Tipih, T., Litabe, M.M., Brink, M., Sempa, J.B., Goedhals, D., **Burt, F.J.** (2021) A systematic review and meta-analysis of the sensitivity of antibody tests for the laboratory confirmation of COVID-19. *Future Virology*; 10.2217/fvl-2021-0211. doi: 10.2217/fvl-2021-0211

79. Zaid, A., **Burt, F.J.**, Liu, X., Poo, Y.S., Zandi, K., Suhrbier, A., Weaver, S.C., Texeira, M.M., Mahalingam, S. (2021) Arthritogenic alphaviruses: epidemiological and clinical perspective on emerging arboviruses.. *Lancet - Infectious Diseases*; 21:e123-e133. doi: 10.1016/S1473-3099(20)30491-6

80. Ng, W.H., Tipih, T., Makoah, N.A., Vermeulen, J., Goedhals, D., Sempa, J.B., et al. (2021) Comorbidities in SARS-CoV-2 patients: a systematic review and meta-analysis.. *mBio*; 12:e03647-20. doi: 10.1128/*mBio*.03647-20

81. Munsamy, Y., Seedat, R.Y., Sekee, T.R., Bester, P.A., **Burt, F.J.** (2021) Complete genome sequence of a HPV31 isolate from laryngeal squamous cell carcinoma and biological consequences for p97 promoter activity. *PLoS One*; 16(8):e0252524. doi: 10.1371/journal.pone.0252524

82. Kuhn, J.H., Adkins, S., Agwanda, B.R., Kubrusli, R.A., Alkhovsky, S.V., Amarasinghe, G.K., et al. (2021) Correction to: 2021 Taxonomic update of phylum Negarnaviricota (Riboviria: Orthornavirae), including the large orders Bunyavirales and Mononegavirales. *Archives of Virology*; 166(12):3567-3579.. doi: 10.1007/s00705-021-05266-w

83. Tipih, T., Heise, M., **Burt, F.J.** (2021) Immunogenicity of a DNA-based Sindbis replicon expressing Crimean-Congo hemorrhagic fever virus nucleoprotein. *Vaccines*; 9(12):1491. doi: 10.3390/Vaccines9121491

84. Grobbelaar, A.A., Jardine, J., **Burt, F.J.**, Shepherd, A.J., Shepherd, S.P., Leman, P.A., et al. (2021) Mammarenaviruses of rodents in South Africa and Zimbabwe. *Emerging Infectious Diseases*; 27(12):3092-3102. doi: 10.3201/eid2712.211088

85. Msimang, V., Weyer, J., le Roux, C., Kemp, A., **Burt, F.J.**, Tempia, S., et al. (2021) Risk factors associated with exposure to Crimean-Congo haemorrhagic fever virus in animal workers and cattle, and molecular detection in ticks, South Africa. *PLoS Neglected Tropical Diseases*; 15:e0009384. doi: 10.1371/journal.pntd.0009384

86. Munsamy, Y., Seedat, R.Y., Sekee, T.R., Bester, P.A., van Jaarsveldt, D., **Burt, F.J.** (2021) Whole-genome sequence and comparative analysis of human papillomavirus type 18 isolated from a nasopharyngeal carcinoma from South Africa. *Microbiology Resource Announcement*; 10:e00630-21. doi: 10.1128/MRA.00630-21

87. Msimang, V., Rostal, M.K., Cordel, C., Machalaba, C., Tempia, S., Bagge, W., et al. (2022) Factors affecting the use of biosecurity measures for the protection of ruminant livestock and farm workers against infectious diseases in central South Africa. *Transboundary and Emerging Diseases*; Online ahead of print. doi: 10.1111/tbed.14525

88. Papa, A., Marklewitz, M., Paraskevopoulou, S., Garrison, A.R., Alkhovsky, S.V., Avšič-Županc, T.,et al. (2022) History and classification of Aigai virus (formerly Crimean-Congo haemorrhagic fever virus genotype VI). *Journal of General Virology*; 103(4). doi: 10.1099/jgv.0.001734

89. Isaguliants, M., **Burt, F.J.** (2022) Perspective technologies of vaccination: Do we still need old vaccines?. *Vaccines*; 10(6):891. doi: 10.3390/Vaccines10060891

90. Bonnet, E., van Jaarsveldt, D., **Burt, F.J.** (2022) Rapid reverse transcriptase recombinase polymerase amplification assay for flaviviruses using non-infectious in vitro transcribed RNA as positive controls. *Journal of Virological Methods*; 299:114351. doi: 10.1016/j.jviromet.2021.114351

91. Kennedy, N., Goedhals, S., Vawda, S., Bester, P.A., **Burt, F.J.** (2022) Sindbis virus antibody seroprevalence in Central Plateau populations, South Africa. *Emerging Infectious Diseases*; 28(10):2137-2139. doi: 10.3201/eid2810.211798

92. Litabe, M., van Vuuren, C., Bester, P.A., Goedhals, D., Potgieter, S., Frater, J., et al. (2022) Validation of laboratory developed serology assays for detection of IgG antibody to severe acute respiratory syndrome coronavirus 2 in the South African population. *Journal of Virological Methods*; 307:114571. doi: 10.1016/j.jviromet.2022.114571

93. Kuhn, J.H., Adkins, S., Alkhovsky, S.V., Avšič-Županc, T., Ayllón, M.A., Bahl, J., et al. (2022) 2022 taxonomic update of phylum Negarnaviricota (Riboviria: Orthornavirae), including the large orders Bunyavirales and Mononegavirales. *Archives of Virology*; 167:2857–2906. doi: 10.1007/s00705-022-05546-z

94. Maotoana, M.G., **Burt, F.J**. & Goedhals, D. (2023) Identification of T cell responses to the nonstructural glycoproteins in survivors of Crimean-Congo hemorrhagic fever in South Africa. Journal of Medical Virology 95:e29154. doi: 10.1002/jmv.29154

95. Kuhn, J.H., Abe, J., Adkins, S., Alkhovsky, S.V., Avšič-Županc, T., Ayllón, M.A., et al. (2023) Annual (2023) taxonomic update of RNA-directed RNA polymerase-encoding negative-sense RNA viruses (realm Riboviria: kingdom Orthornavirae: phylum Negarnaviricota). Journal of General Virology 104(8):001864. doi: 10.1099/jgv.0.001864.

96. Nemg Simo, F.B., **Burt, F.J**., Makoah, N.A. (2023) Chikungunya virus diagnosis: a review of current antigen detection methods. Tropical Medicine and Infectious Diseases 8(7):365. doi: 10.3390/tropicalmed8070365.

97. van der Westhuizen, C.G., **Burt, F.J**., van Heerden, N., van Zyl, W., Anthonissen, T., Musoke, J. (2023) Prevalence and occupational exposure to zoonotic diseases in high-risk populations in the Free State Province, South Africa. Frontiers in Microbiology 14:1196044. doi: 10.3389/fmicb.2023.1196044

98. Viljoen, N., **Burt, F**., Weyer, J. (2023) Coding-complete genome of human alphaherpesvirus 1 isolated from a case of fulminant hepatitis. Microbiology Research Announcements 12(10):e0035523. doi:

10.1128/MRA.00355-23.

99. Welch, S.R., Garrison, A.R., Bente, D.A., **Burt, F.J**., D'Addiego, J., Devignot, S., et al. (2024) Third international conference on Crimean-Congo hemorrhagic fever in Thessaloniki, Greece, September 19-21, 2023. Antiviral Research 225:105844. doi: 10.1016/j.antiviral.2024.105844.
100. Sekee, T.R., Bubuluma, R., van Jaarsveldt, D., Bester, P.A., **Burt, F.J.** (2024) Multiplex PCR method for MinION sequencing of Bagaza virus isolated from wild caught mosquitoes in South Africa. Journal of Virological Methods 327:114917. doi: 10.1016/j.jviromet.2024.114917.
101. Preiser, W., Venter, M., Page, N.A., Burt, F.J. (2024) The Southern African Society for Virology. S Afr J Infect Dis. Aug 30;39(1):672. doi: 10.4102/sajid.v39i1.672.
102. Makoah, N.A., Litabe, M.M., Simo, F.B.N., Maboho, K.K., **Burt, F.J.** (2024) Purification and characterization of soluble recombinant Crimean-Congo hemorrhagic fever virus glycoprotein Gc expressed in mammalian 293F cells. BMC Biotechnology 27;24(1):59. doi: 10.1186/s12896-024-00885-y.
103. Liu, X., Ng, W.H., Zusinaite, E., Freitas, J., Taylor, A., Yerragunta, V., et al. (2024) A single-dose intranasal live-attenuated codon deoptimized vaccine provides broad protection against SARS-CoV-2 and its variants. Nat Commun. 2024 Aug 26;15(1):7225. doi: 10.1038/s41467-024-51535-y.
104. Kuhn JH, Alkhovsky SV, Avšič-Županc T, Bergeron É, **Burt F**, Ergünay K, et al. ICTV Virus Taxonomy Profile: Nairoviridae 2024. J Gen Virol. 2024 Apr;105(4):001974. doi: 10.1099/jgv.0.001974.

Chapters in books (n = 9)

1. Swanepoel R., **Burt F.J**. Crimean-Congo haemorrhagic fever. In: Infectious Diseases of Livestock (eds JAW Coetzer, RC Tustin) 2nd Edition. Cape Town: Oxford University Press Southern Africa, 2004.
2. **Burt F.J**., Swanepoel R. Crimean-Congo hemorrhagic fever. In: Tickborne infections of humans. (eds JL Goodman, D Sonenshine, DT Dennis). Herndon: American Society for Microbiology, 2005.
3. **Burt F.J**., Paweska J.T., Swanepoel R. Crimean-Congo haemorrhagic fever in South Africa. In Crimean-Congo haemorrhagic fever. (eds C Whitehouse, O Ergonul) Springer Press. 2007.
4. Swanepeol R., **Burt F.J**. Flaviviruses of veterinary importance 3rd edition. Encyclopedia of Virology. (ed B Mahy, MHV van Regenmortel, C Calisher) Elsevier. 2008.
5. Swanepeol R., **Burt F.J**. Bunyaviridae . In Zoonoses (ed B Mahy) John Wiley and Sons. 2009.
6. **Burt F.J**., Goedhals D. Crimean-Congo haemorrhagic fever an emerging virus and reemerging pathogen. Submitted "Zoonoses: Infections affecting men and animals – A focus on public health aspects" Springer Publishers. (2015).
7. **Burt F.J**., Goedhals D. and Swanepoel, R. Crimean-Congo haemorrhagic fever.Anipedia online. 2021. Available from: https://www.anipedia.org/resources/crimean-congo-haemorrhagic-fever/1174.
8. Mirazimi, A., **Burt F**., Papa A., Crimean-Congo hemorrhagic fever virus and nairoviruses of medical importance. Encyclopedia of Virology 4th Edition, Elsevier 2021
9. **Burt, F.J.**, Goedhals, D. (2023) Crimean-Congo hemorrhagic fever virus, an emerging and re-emerging pathogen of public health concern. In: Sing, A. (eds) Zoonoses: Infections Affecting Humans and Animals. Springer, Cham . doi: 10.1007/978-3-030-85877-3_39-1

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 04 October 2024)

NRF rating for 2024-2028: B1

Productivity and impact of published work (h-indexes as on 04 October 2024):

Web of Science (ISI):	34	Scopus	36	Google Scholar:	42

The total number of citations retrieved from Scopus from 1993 to 2023 are 5057 (retrieved 04 October 2024).

Other interests

Horse riding
Gardening and garden design
Nature and the environment
Walking, jogging and hiking

Referees

Professor Heinz Feldmann MD
Chief, Laboratory of Virology
Chief Scientists of the RML BSL4 Laboratories
Associate Professor, Department of Medical Microbiology, University of Manitoba
Tel.: 1-406-375-7410; Fax: 1-406-375-7416
E-mail: feldmannh@niaid.nih.gov

Professor Roger Hewson
Scientific Lead VHFs & Arboviruses | Head WHO-CC (Special Pathogens)
Virology & Pathogenesis, Porton Down
Chief Scientific Advisor Group
UK Health Security Agency
E-mail: roger.hewson@phe.gov.uk
Tel: 01980612390 Mobile: +447917596222

Professor Ali Mirazimi PhD
Karolinska Institute,
Department of Laboratory Medicine (LABMED),
Clinical Microbiology
171 77Stockholm
Sweden
Tel code 52486071
E-mail: Ali.Mirazimi@folkhalsomyndigheten.se

Professor Jeffery Mphahlele PhD
Vice President Research
SAMRC
Tel 27 12 339 8630 082 885 0048
1 Soutpansberg Road | Pretoria| Gauteng
E-mail: Jeffrey.Mphahlele@mrc.ac.za

Professor R Swanepoel
Department of Veterinary Tropical Diseases
Faculty of Veterinary Science
University of Pretoria
Onderstepoort
Tel : +27 (0)12 529-8566
Cell : +27 (0)73 818-1815
Email: bob.swanepoel@up.ac.za

Janusz T. Paweska Prof. dr hab.
Head Centre for Emerging Zoonotic and Parasitic Diseases
National Institute for Communicable Diseases
A Division of the National Health Laboratory Service
Private Bag X4, Sandringham-Johannesburg, 2131
Modderfontein Road 1, Gauteng, South Africa
Tel: +2711 386 6382 (6336)
Mobile: +27 (0) 829088046
E-mail: januszp@nicd.ac.za