

EDITORIAL

Dear Staff & Students

I hope you are keeping well and safe during this extremely difficult time.

During these challenging times, we need to develop our resilience — meaning our ability to withstand adversity and recover after bad experiences. A resilient person still suffers the pain and stress of hardship, but has learned how to bounce back. The qualities of resilience are self awareness, mindfulness, a positive attitude, caring relationships and a sense of purpose. Nelson Mandela said 'Do not judge me by my success, judge me by how many time I fell down and got back up'.

Look out for your friends, colleagues and family members — make sure that they are coping as well.

Stay safe by strictly following the COVID protocols—wear your mask, sanitise and practice social distancing. Avoid indoor gatherings, including family get togethers. Vaccinated people must also adhere to the COVID protocols.

I wish you all the best.

Prof Daynia Ballot
Head of School



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A LOOK AT OUR STAFF ACHIEVEMENTS

Staff Promotions

Congratulations to:

Dr Langanani Mbodi with his appointment as Academic Head of Division, Gynae Oncology in the Department of Obstetrics and Gynaecology

Congratulations to Prof Mboyo-Di-Tamba Willy Vangu with his appointment as Assistant Head of School (Head of Cluster B) from the 1st of July 2021. (see page 2)

Congratulations to Dr Dina-Ruth Lulua, she is one of the Wits' Young Movers and Shakers in the 2021 Mail and Guardian Top 200 list of trailblazing young South Africans. (see page 2)



Welcome to:

Associate Professor Bruce Larson

Dr Mariza Tunmer

Honorary Senior Researcher

Honorary Lecturer

Dr Ansuyah Magan

Ms Bronwynn Stollarz

PROF MBOYO DI TAMBA WILLY VANGU



Professor Vangu has been appointed as Assistant Head of School from 01 July 2021.

Doctor MDTW Vangu is a Chief Specialist, Professor and Head of Nuclear Medicine at the University of the Witwatersrand for the CM Johannesburg Academic and CH-Baragwanath Academic hospitals. He is also the Head of the Department for Radiation Sciences at the University of the Witwatersrand. His academic qualifications are as follows: MD, MMed, MSc, PhD and has numerous publications, conferences and workshop proceedings as well as key-

note addresses locally and internationally. He also received a Certificate on Executive MBA of the University of Nebraska, USA and Certificate on Fundamentals of Clinical and Translational Research with the Harvard Catalyst educational Program (Harvard, USA).

He was the first to introduce and report on clinical positron emission tomography (PET) imaging in South Africa at the Donald Gordon Medical Centre (DGMC-Wits) in 2004.

He was a pioneer nuclear medicine physician in the country to introduce the use of radiolabelled antibodies in lymphoma with the use of Ytium-90 ibritumomab tiuxetan (Zevalin) at the DGMC in 2003. The same year he became the first to introduce "Peptide Receptor Radionuclide Therapy (PRRT)" to patients with neuroendocrine tumours using Indium-111 – DTPA – Octreotide as the PRRT was known then in 2003.

He wrote the business plan in 2005 for the first PET/CT imaging machine in CMJA Hospital and engaged the province with the then MEC of Health to significantly

alter the management of cancer patients in the public sector. He was again the first to introduce the Gallium-68 generator for specialised imaging with PET/CT in September 2010, the specialised "DOTATATE" that has becoming today a buzz word in oncology imaging and the same generator also being today used for prostate specialised imaging for PET/CT PSMA. Again in November 2011, he treated the first patient with Luthetium-177 DODATATE as one of the pioneers if not the first in the country to introduced innovative targeted therapy known as of PRRT.

He has occupied numerous academic and professional positions. He has supervised numerous MMed and several of PhD students and is currently the nuclear medicine physician who has supervised the largest number of registrars from entering the program to qualification (College of Nuclear Physicians) since nuclear medicine has been officially recognised as a speciality in the country in 1986. He has been promoting nuclear medicine teaching and education in the country, the African continent and internationally. He has received numerous awards and honours.

WITS' YOUNG MOVERS AND SHAKERS

Several staff, students and alumni are featured in the 2021 Mail and Guardian Top 200 list of trailblazing young South Africans.

The annual supplement recognises notable young people under the age of 35 making a positive impact in society. The Top 200 List is in its 15th year of showcasing South Africa's outstanding and accomplished young people in various fields including Education,

Well done to Dr Dina-Ruth Lulua!

As Head of the graduate entry medical programme year I&II at Wits University's Medical School, Dr Dina-Ruth Lulua was involved in the education and graduation of more than 300 new medical students in the past year – a significant accomplishment against the backdrop of the current pandemic. For her efforts, Dr Lulua was invited to join the board



of the Adler Museum of Medicine, which focuses on the history of health sciences in South Africa and supplements educational activities at the university by means of collections, research, teaching, exhibitions and publications. This appointment aligns

perfectly with Dr Lulua's career trajectory, as one of her biggest goals involves creating a holistic environment for black African students where they can create a sense of belonging and ownership within the medical fraternity. Her faith is her greatest

source of strength, and she has a few words of wisdom for those feeling lost: "Your life will change, ask for help, it will be okay."

Wits article: [2021-06 - Wits' young movers and shakers - Wits University](#)

FACULTY OF HEALTH SCIENCES PICKET ACTION - THE HEALTH CRISIS IN GAUTENG

School staff recently participated in the Faculty of Health Sciences Picket Action.

The Faculty raised concerns regarding the rapid decline of the health care system in Gauteng, particularly in the context of the closure of Charlotte Maxeke Hospital and the threat of the COVID-19 third wave.

The hospital closure prevents not only for those who require health care services, but also for those required to provide it.

Equally distressing is the impact this has had on the clinical training of undergraduate and postgraduate students. .

The Faculty noted that we were facing a humanitarian crisis in the midst of a global pandemic and that it was no longer acceptable.



47TH ANNUAL FACULTY AWARDS CEREMONY

Congratulations to our staff and students who received awards at the Faculty Awards Ceremony!

Congratulations!

BACHELOR OF CLINICAL MEDICAL PRACTICE (BCMP) PRIZE

BCMP I - Anastasia Despina Seindis

BCMP II - Lerato Rebecca Luba

BCMP III - Danielle Jessica de Magalhaes

PRESTIGIOUS POSTGRADUATE DEGREE AWARD

Dr Tendai Mabhandi (MMed) (one of three winners for the award)

Certificate of Commendation

Dr Euphrasia Makgatho (1st Runner-up MMed)

THE ANDREW TRUSCOTT MEMORIAL PRIZE

Yasmeen Bham

JOE VERIAVA BIOETHICS MEDAL

Dr Lesley Robertson

BRONZE MEDAL OF THE (GAUTENG BRANCH) OF SAMA

Nabeel Saloojee

GILBERT COTTRILL MEMORIAL (MSC) PRIZE

Daniel van Tonder

ALAN RUBENSOHN MEMORIAL AWARD

Muhammad Amod Carim

Rafaela Maria Andriana Halkas

DR CHARLES KYEYUNE MEMORIAL PRIZE

Gabriella Aliza Urdang

Ameer Khan

THE BONGANI MAYOSI STUDENT ACADEMIC PRIZE

Tafadzwa Tauraj Jeffry Kufazvinei

Tshegofatso Grace Senwelo



DEPARTMENT OF PSYCHIATRY NEWS



Congratulations to Dr Karishma Lowton, who passed her certificate in the subspecialty of Neuropsychiatry in the first semester examinations this year.



One of our Senior Psychiatrists, Professor Lesley Robertson was awarded the Joe Veriava Bioethics Medal at the Faculty Awards ceremony on 6 May 2021.

Lesley is a Clinical Head at the Sedibeng Region, where she works tirelessly to promote equitable access to services and medication for our psychiatric patients. A keen researcher into public mental health, Lesley serves on the Gauteng Pharmaceuticals and Therapeutics committee and has spearheaded novel ways of teaching and training psychiatry registrars in the district mental health region.

Lesley was recently promoted to Adjunct Professor in the School.



The Louis Franklin Freed prize for the best MMED student in 2020 has been awarded to Dr Yumna Minty.



A first year registrar in the department, Dr Ahmed Badat has launched "The Purple Couch: A Psychiatry Podcast".

He notes that: "Podcasts are an exciting new addition to the growing media sphere. They offer flexibility in terms of access and cover a wide variety of topics. Educational podcasts serve as a way to offer students information on demand. As someone who is also passionate about undergraduate medical education in mental health, I realised that

there may be a place for a South African psychiatry podcast, and hence 'Purple Couch: A Psychiatry Podcast was created'!

The podcast series intends to feature a different psychiatrist covering a topic of their interest with the aim of providing medical students a basic approach to the topic, so as to supplement their learning. The podcast is available on Anchor, Spotify, Pocket Casts and many other platforms".

The Inaugural BJVR memorial lecture entitled "BJVR - The streams that make the river" was held on the 28th April 2021 and delivered by Professor Arianne Janse Van Rensburg from the Wits School of Architecture.

JOURNEY AS A FEMALE SURGEON

The journey - becoming a female specialist surgeon and beyond (Boitumelo Phakathi)

Published Online: 5 Mar 2021 • <https://doi.org/10.18772/26180197.2021.v3n1a9> • <https://hdl.handle.net/10520/ejc-wjcm-v3-n1-a10>

As the Academic Head of the Department of Surgery I want to respond to this publication. The Department of Surgery at Wits believes that the experiences of female Surgeons must be acknowledged and it is our responsibility to ensure that the experiences of the author must be addressed in every Surgery Department. It is unacceptable that women are still experiencing such prejudice in the work place. We are disturbed that the training platform is still not able to accommodate all those who dream of becoming surgeons. The Department of Surgery at Wits has implemented many

initiatives aimed at addressing the disadvantages faced by women in Surgery. We have a gender equity committee, we have extended training programs for women who have recently become mothers and would like to take advantage of the extended program to remain at home for a longer period of time. Our mentorship programme and our selection criteria for specialist training has ensured that about 50% of our trainees are female. We value the contribution of our female colleagues who we believe add real value to the department and all the training and research endeavours that we undertake. We are richer because we are all members of the same Department.

Eradicating the types of prejudice that the author experienced during her training is a core value and intention of our depart-

ment. We recognise that while we profess to have made real progress in this, we still have more work to do and as a department we are committed to this. As such I believe it is important to highlight that the author did not train at Wits. While her current affiliation is as a joint appointee with CMJAH and Wits, I hope that none of our own female trainees would be able to relate similar experiences during their training in our Department without our intervention.

As a Department we are committed to equity, equality and reject discrimination of any type.

Prof Martin Smith

Academic Head of the Department of Surgery

WITS JOURNAL OF CLINICAL MEDICINE

The Wits Journal of Clinical Medicine is a peer-reviewed, Open Access scientific research journal published triennially, and was established to provide a forum to showcase scientific research from the School of Clinical Medicine at the University of Witwatersrand, Johannesburg as well as from other institutions nationally and internationally. Please note that Volume 3, Number 1, March 2021 is now available online.

The Wits Journal of Clinical Medicine is now PUBMED Central accredited!

Submissions are welcomed and the journal has a particular focus to encourage clinical and translational research especially from new academics, including students, registrars, fellows and junior consultants.

The Wits Journal of Clinical Medicine also provides a space where the various Departmental Research Day abstracts can be shared.

WJCM publishes original papers, review papers, case reports and letters to the editor. Send your manuscript to: rita.kruger@wits.ac.za

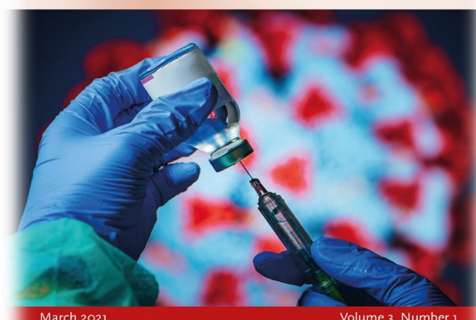
For more information, visit the official website of the journal: <https://journals.co.za/content/journal/wjcm>

Please click here to sign up for direct alerts on new articles and issues: <https://journals.co.za/registration/personal>

Prof Pravin Manga
(Editor)



Wits Journal of Clinical Medicine



March 2021

Volume 3 Number 1

GRADUATE STUDIES AND RESEARCH COMMITTEE

Dear Colleagues and Students

The GSRC Committee strives to promote postgraduate training and research, and to address barriers that limit the research output within the SOCM. We would like to draw your attention to the introduction of the School MMed Support Fund.

The MMED fund is generated from a rebate on the Registrar's bursary, the money is therefore specifically allocated to MMED support within the School. As the money is derived from council funds, the funds must be spent in the year and will not roll over.

The Head of School, Cluster heads and Senior Operations Manager (HOS group) will review the amount available at the start of the year and allocate a portion to the Graduate Studies and Research Committee to fund registrar conference attendance, publication fees and sundry research costs.

The balance of the funds will remain in the School account and will be managed by the HOS group for promoting research related activities in the School.

These may include, but are not limited to, funding Research Day, scientific editing of research submissions, assisting publication costs of other postgraduate students and research training. In order to prevent underspending, any unspent funds at the end of August will be reallocated to the different cluster heads.

MMed registrar application for funding for research in 2021 Eligibility:

- The MMED fund is intended to support MMED postgraduate research within the Wits SOCM. A successful individual may only be awarded funding once in a 2-year cycle.
- Applicants may only apply for funding if their MMED proposals have

been accepted by the departmental assessor group. The categories that will be funded will only include the following:

1. Conference registration
Up to a maximum of R4,000 (local) or R8,000 (international)
Proof of accepted abstract for a conference presentation is required.
2. Article processing charges
Publication fees (Acceptance of manuscript in a DoHET accredited journal).
Up to a maximum of R20,000 (depending on the IF of the journal).
Research-related funding to support an MMED project budget.
Up to a maximum of R25,000.
A detailed budget is required with the application.
This may include funding for blood tests, laboratory reagents and/or consumables but not equipment, stationary or laptops.

Distribution of the funding between the SOCM clusters:

The distribution of available funding between the SOCM clusters will directly reflect the size of each cluster. Applications for cluster-specific funding will be open to

registrars between January and September of each year. From October to December of each year, any unspent cluster funding will be pooled together for the SOCM clusters and distributed to successful registrar applications on a first-come-first-serve basis.

Approval of funding applications:

The approval of MMED funding applications will be managed by a SOCM Graduate Studies and Research sub-committee.

There will be four deadlines per annum (February, May, August, October). Each departmental representative serving on the SOCM GSRC will receive and screen applications from their Department for each round. Only eligible applications will be put forward by the departmental representative to the SOCM GSRC MMED fund sub-committee for final approval.

At any given time, this sub-committee will consist of two members from each cluster and a registrar representative from each cluster. The sub-committee has the discretion to increase the above amounts if there is available funding and if the additional amount is properly motivated by both student and departmental GSRC representative.

The office of the HOS will be notified of the successful applicants and will process the relevant documents.

Thank you
SOCM GSRC Committee

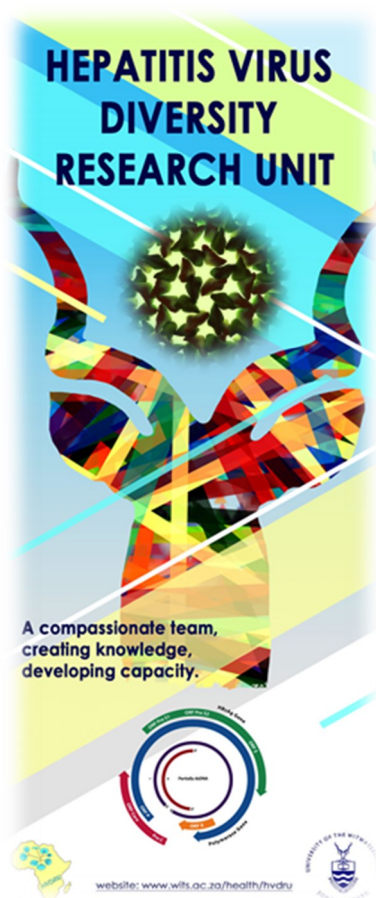


GSRC Co-Chairs (Left to Right):
Prof Sue Williams and Prof Ziyaad Dangor

RESEARCH ENTITIES IN THE SCHOOL

HEPATITIS VIRUS DIVERSITY RESEARCH UNIT - DEPARTMENT OF INTERNAL MEDICINE

DIRECTOR: PROFESSOR ANNA KRAMVIS



Established 14 years ago, originally as a research programme, the **Hepatitis Virus Diversity Research Unit (HVDRU)** is currently in its third quinquennium. The HVDRU is leading in cutting edge research on hepatitis viruses in sub-Saharan Africa (SSA). Although there is a successful vaccine against hepatitis B virus (HBV) infection, 16% of the world's chronic carriers reside in sub-Saharan Africa (SSA), with a correspondingly high incidence of hepatocellular carcinoma (HCC, liver cancer). On the subcontinent, HCC is the second leading cancer for men and the third for women, with average age-standardised incidence rate of 18.9 and 8.0 per 100,000 persons/year, respectively: <https://hrjournal.net/article/view/4046>

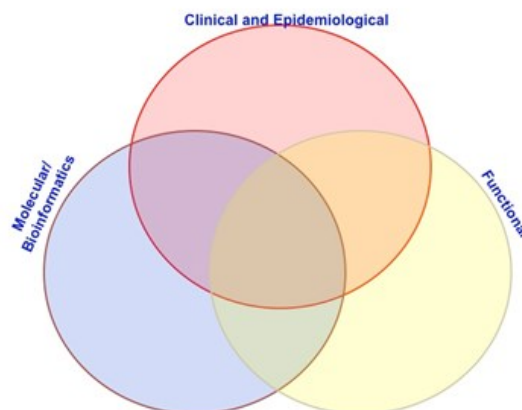
The research objective of the unit is the

study of sequence variation of hepatitis viruses, in particular of hepadnaviruses and hepatitis C virus, their functional characterization and their role in the clinical manifestation of liver disease. Our research falls into three areas:

clinical and epidemiological, functional in vitro characterization and development of **bioinformatics** tools necessary to study hepatitis viruses. Our research focus allows for training of postgraduate level students and researchers in the field of molecular virology and provides a much needed focus for the development of excellence in ideas and capacity. Molecular biology has been identified as a scarce skill by the National Research Foundation of South Africa.

Our research facilities were extensively renovated and refurbished between 2008 and 2009, using funding from the South African Medical Research Council and the University of the Witwatersrand. Our facilities include a shared Think Tank area for staff, post-doctoral research fellows and students, an adjoining office with discussion/meeting area for the HVDRU Director, an office area for our finance officer, a general laboratory, freezer storage, a DNA and RNA extraction area, a separate PCR room, a gel electrophoresis room, real-time PCR and PCR machines, a gel visualization and bio-imaging room and separate tissue culture area.

Our dictum is: **~a compassionate team, creating knowledge, developing capacity.**



A compassionate team

Currently our team consists of the Director, Professor Anna Kramvis, Senior Researcher, Dr Chien-Yu Chen, Research Associate (part-time): Dr Aurelie Deroubaix and Financial Officer (part-time), Ms Boipelo Kgosinkwe as staff. . Our current postgraduate complement consists of 1 post-doctoral fellow, 3 PhD and 1 Masters student. Although we are a relatively small unit, our team has always aspired to the Socratic method of teaching/learning promoting active learning, helping others to think for themselves, with strong interactions between members of the team. There is a knowledge flow from seniors to juniors and *vice versa*, initiating in others what we cannot initiate in ourselves, ensuring the development and continuity of knowledge and capacity.

Creating knowledge

Despite HBV infection being hyperendemic in SSA, 15 years ago information on HBV (sub)genotypes and their distribution in Africa was limited. Following an extensive review of the molecular epidemiology of HBV in Africa in 2007, it became evident that there

were a number of African countries for which there were no data. In collaboration with African researchers, the HVDRU team has undertaken to close some of the knowledge gaps and to expand the database of African HBV sequences. We have genotyped and molecularly characterized HBV isolated from carriers from South Africa, Kenya, Sudan, Namibia, Nigeria, Zimbabwe and Botswana. Our studies have shown that there is high diversity and a distinct geographical distribution of genotype/subgenotypes of HBV in Africa, which differs from the genotype distribution in regions outside Africa. . Thus studies carried out on strains circulating outside Africa cannot necessarily be extrapolated to Africa because genotype differences can affect both natural history, clinical consequences of the infection and response to antiviral and antitumour treatment modalities.

Subgenotype A1, originally identified and characterized by our team, circulates in southern eastern Africa and is the prevalent subgenotype of A found in Africa, (whereas subgenotype A2 predominates outside Africa). Together with our collaborators, we have carried out extensive phylogeographic analyses and shown that the trade and slave routes of the 9th to 19th centuries A.D. were responsible for the dispersal of subgenotype A1 from Africa to the Indian subcontinent and to Brazil. These phylogeographic analyses have shown that HBV can be used as a marker to trace human migrations. In a 2018 study, published in *eLife*, and receiving extensive media attention, Professor Kramvis and her Greek colleagues showed that genotypes A and D exhibit different patterns of dissemination, which could be traced from the stone age through neolithic to modern times. Last year we published the first phylogeographic analyses of the African genotype of HBV, E (Olubayo Ingasia et

al, 2020).

A case-control study showed that Africans infected with subgenotype A1 have a 4.5 higher risk of developing liver cancer than those infected with other subgenotypes and these patients develop cancer at an earlier age. This association of subgenotype A1 with liver cancer was confirmed in Indian patients from Kerala, intimating that the hepatocarcinogenic potential of this subgenotype is independent of host ethnicity. Using public databases we showed that between 1999 and 2015, HCC mortality rates increased with age, and were higher among black South Africans compared to whites in all age groups – with a peak black African-to-white mortality rate ratio of six in men and three in women at ages 30 – 39 years. These findings of disparities in different population groups, ages and sexes are important in informing national health and social development policies in South Africa and in SSA. Subgenotype A1 was the prevalent HBV strain in the HCC patients and was characterized by mutations in the basic core promoter and preS deletions, which after further investigation, may prove to be useful biomarkers for the propensity to develop HCC.

The high hepatocarcinogenic potential of A1 (see picture below) may be a result of its distinctive sequence characteristics. We have undertaken to relate its features to clinical outcome of disease. The presence of these variations/mutations in subgenotype A1, which can influence the expression of HBeAg and its immunomodulatory function, may be a sign of short-sighted evolution that is a strong counter-selection against HBeAg expression, which results in impaired replication but enhanced pathogenicity. Using elegant confocal microscopy and western blot experiments, a modulatory role of HBeAg and its precursors, with and without mutations was demonstrated (Deroubaix & Kramvis, 2021). This may be important in viral persistence and the ultimate development of HCC.

In order to test our hypotheses that the distinctive features of subgenotype A1 may be responsible for its high hepatocarcinogenic potential, replication competent plasmids of HBV subgenotype A1, A2 and D3, with authentic endogenous promoters have been constructed. We have recently completed the construction and characterization of a replication competent clone of the exclusively African

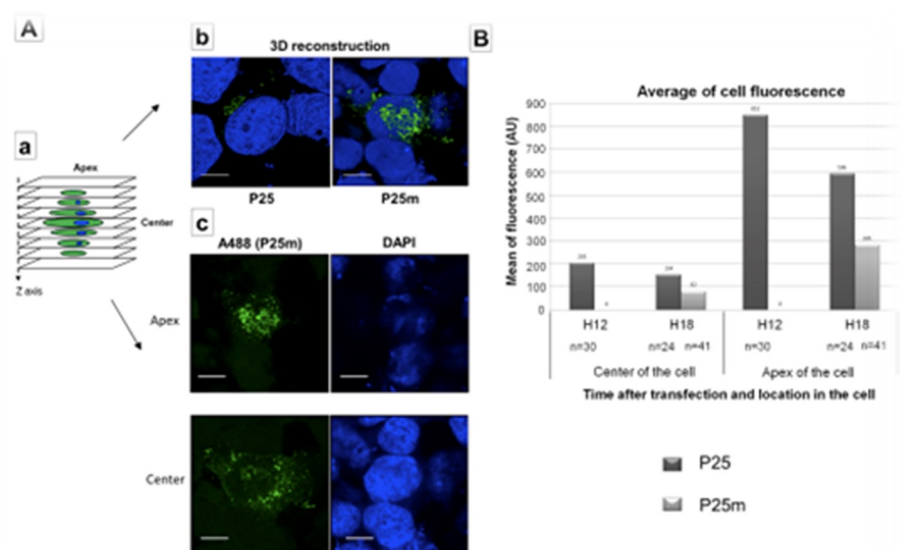


Figure 3. 3D representation and comparison of fluorescence intensity after expression of P25 vs P25m. (A) Cells from Fig. 1 were used to realize z-stacks by confocal microscopy. 30 cells (hour 12; 24 cells (hour 18 for P25) and 41 cells (hour 18 for P25m) were taken. (a) Z-stack representation. (b) Z-stacks of cells were taken with Airyscan and 3D reconstructions was performed with Zen software. It shows the localization of P25 and P25m at different angles, laterally for P25 and from the apex for P25m. Scale bars = 10 μ m. (c) An example of picture at the center and the apex for one cell transfected with P25m at 18 h after transfection. (D) The mean of fluorescence were measured for each cell in the plane at the center of the cell and at the apex of the cell. Dark grey, P25; light grey, P25m. n = number of transfected cells.

strain of HBV, genotype E. These are the first replication competent clones of African HBV strains, an important addition to the HBV toolbox for the study of the HBV lifecycle and the response of these strains to antiviral agents. A stable cell line expressing infectious HBV of subgenotypes A1 has been constructed. This cell line is critical for facilitating studies of the virus-host interactions and testing existing and new HBV compounds against this African strain of HBV.

A number of in-house bioinformatic tools – programmes geared to analyse sequences automatically rather than manually, have been developed, by the HVDRU team. This has sped up the process considerably and the tools are regularly used by team members and are available online without cost (<http://hvdr.bioinf.wits.ac.za/tools/>). This is important for resource limited countries, especially in Africa.

The HVDRU team has published over 65 publications, with h-index increasing from 16 at its inception to 34 in 2021.

Developing capacity

A picture is worth a thousand words! For as Pericles said: *“What you leave behind is not what is engraved in stone monuments, but what is woven into the lives of others.”*

Making a difference

All our alumni (represented in picture), are making a difference as academics, researchers, clinicians, patent lawyers, research coordinators, in technology transfer and in clinical trials working at the University of the Witwatersrand, University of Cape Town, Rhodes University, University of Stellenbosch, University of KwaZulu-Natal, Lan-cet Laboratories, National Institute of Communicable Diseases, Right to Care, African Research Institute, amongst others.

There is still much work to be done to reduce the burden of liver cancer on the sub-continent, therefore advocacy and international collaborations are very important. If

we wish to eliminate HBV infection by 2030 globally there is no room for complacency in Africa. Thus Professor Kramvis is actively involved in various organization in order to raise awareness and advocate for elimination. She is a member of the Governing Body of the International Collaboration to Eliminate Hepatitis B Virus (ICE-HBV), Member of ICE-HBV Virology, Chronic Hepatitis B Management in Resource-Limited Settings working groups and convener of the Biomarkers Group; the International Committee on Taxonomy of Viruses: *Hepadnaviridae* -2021 – 2023; the Hepatitis Transformative Scientific Group of the AIDS Clinical Trials Group (ACTG) and the recently established African Hepatopancreaticobiliary Cancers Consortium. Together with Professor Peter Revill of University of Melbourne, Australia, she organized a virtual ICE-HBV Biomarkers workshop. They are writing a roadmap paper plotting the way forward for the use of HBV biomarkers for surveillance, testing and treatment of patients and prognosis.

Between 2016 and 2020 members of the HVDRU team presented more than 25 times at national and international conferences and at least 10 invited lectures.

Professor Kramvis co-organized the following conferences:

HBV Biomarkers Workshop (Virtual): 5th and 12th October 2020 <https://ice-hbv.org/hbv-serum-biomarkers-workshop-programme-released/>

HIV & HBV Cure Forum: Towards an HIV Cure Unidad De Congresos Centro Medico Nacional Siglo XXI IMSS, Mexico City, Mexico July 20th – 21st, 2019

2017 International HBV Meeting on Molecular Biology of Hepatitis B Viruses, Omni Shoreham, Washington D.C., United States of America September 3rd – 7th, 2017.

China-South Africa Joint Research Program (JRP) Knowledge Interchange Symposium: Hepatitis in Africa: No room for complacency. University of the Witwatersrand, held at Olives & Plates Club & Conference Centre (Wits Club), Johannesburg, November 28th – 29th, 2016.

Research For Cure Academy organized by IAS; Wits Rural Facility, Bushbuck Ridge, South Africa November 7th – 9th, 2019.





HVDRU Team 2016

[Back row, left to right: Mr Khudani Nekhwevha^{MSc}, Ms Trodia Zitha^{MSc}, Ms Luicer Ingesia Olubayo^{PhD}, Dr Mukhlid Yousif^{PD}, Mr Daniel Mak^{MSc}/(^{PhD}), Ms Suzanne Wolhuter^{MSc}, Mr Daniel Sibelane^{MSc}. Front row, left to right: Dr Micah Onger^{WARF}, Dr Chien Yu Chen^R, Dr Nimisha Bhoola^{PD}, Professor Anna Kramvis, Dr Constance Wose-Kinge^{PD}, Dr Aurelie Deroubaix^R, Dr Trevor Bell^{PD}]^{MSc} Masters student; ^{PhD}PhD student, ^{PD}Post-doctoral fellow, ^{WARF}Wits African Residency Fellow, ^RResearcher

2020 to date HVDRU publications (in bold HVDRU team member):

Gerlich, W.H., Glebe, D., **Kramvis, A.**, Magnius, L.O. (2020) Peculiarities in the designations of hepatitis B virus genes, their products, and their antigenic specificities: a potential source of misunderstandings *Virus Genes* 56(2): 109 – 119.

Kramvis, A. (2020) Challenges for Hepatitis B Virus Cure in Resource-limited settings in sub-Saharan Africa. [Invited review] *Current Opinion in HIV and AIDS* 15 (3): 185 – 192.

Wose Kinge, C.N., Bhoola, N.H., Kramvis, A. (2020) *In vitro* Systems for Studying Different Genotypes/Subgenotypes of Hepatitis B Virus: Strengths and Limitations. *Viruses* 12(3) 353 (special issue of *Viruses*: "Hepatitis B Virus: from Diagnostics to Treatments").

Mak, D; Kramvis, A. (2020) Molecular characterization of hepatitis B virus isolated from Black South African cancer patients, with and without Hepatocellular

Carcinoma *Archives of Virology* 165 (8): 1815 – 1825.

Sartorius K., Swadling, L., An, P., Makarova, J., Winkler, C., Chuturgoon, A., **Kramvis, A.** The multiple roles of Hepatitis B Virus X Protein (HBx) dysregulated microRNA in Hepatitis B Virus-associated Hepatocellular carcinoma (HBV-HCC) and immune pathways. *Viruses* 17 (7):746, (Special Edition: Novel Concepts in Virology).

Razavi, H., Blach, S., Razavi-Shearer, D. Polaris Collaborators (**Kramvis, A**) (2020) The case for simplifying and using absolute targets for viral hepatitis elimination goals. *J Viral Hepat* 28:12–19 doi: 10.1111/jvh.13412.

Olubayo Ingasia, L.A., Kostaki, E-V, Paraskevis, D., **Kramvis, A.** (2020). Global and regional dispersal patterns of hepatitis B virus genotype E from and in Africa: A full-genome phylogenetic and phylogeographic approach. *PLoS ONE* 15 (10): e0240375.

Deroubaix A, Kramvis A. (2021). In vitro expression of precore proteins of hepatitis B virus subgenotype A1 is affected by HBcAg, and can affect HBsAg secretion. *Nature*. 11:8167.

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RESEARCHERS ID FACTORS CONTRIBUTING TO MORTALITY OF AFRICAN PATIENTS SEVERELY-ILL WITH COVID-19

25 May 2021 - Faculty Communications

A multi-country study examines the resources, comorbidities, and critical care interventions associated with Covid-19 deaths in critically ill Africans.

The Covid-19 pandemic has challenged countries worldwide and has highlighted the flaws of many healthcare systems that are suddenly overburdened, particularly as countries are faced with peaking transmission rates.

Africa currently has the highest death rate of adults who become critically ill after contracting Covid-19.

Data from a multicentre cohort African Covid-19 Critical Care Outcomes Study (ACCCOS) published in *The Lancet* on 21 May 2021 indicate how a lack of intensive care facilities and critical resources has contributed to a continental Covid-19 mortality rate of 48%, almost 20% higher than the global average.

Led by researchers from the University of the Witwatersrand and collaborating institutions, ACCCOS aims to bridge the evidence gap, identifying which human and hospital resources, underlying conditions and critical care interventions might be

associated with mortality or survival in over-18s admitted to Africa's intensive care units.

About the study

Titled Patient care and clinical outcomes for patients with Covid-19 infection admitted to African high-care or intensive care units (ACCCOS): a multicentre, prospective, observational cohort study, the research is the first of its kind to be carried out on the African continent, consolidating data of critically ill patients with suspected or confirmed Covid-19 infection.

University of Witwatersrand researchers Professor Mervyn Mer and Associate Professor Juan Scribante served as co-investigators in the study.

Based on information obtained from 3140 adults who were admitted to 64 hospitals across 10 countries in Africa in the period between May and December 2020, it suggests that high mortality may be partly explained by a shortage of critical care resources and underuse of those resources available.

The study found that Covid-19 related deaths amongst participating patients

who were admitted into critical care units during this period averaged at 48.2% compared to the 31.5% global average. Out of these participating patients, half died as a result of not being given oxygen and only 10% receiving renal dialysis despite a 68% accessibility by the participating hospitals.

Resources and skills shortfall

The data suggests the inadequacy linked to intensive care resources as well as human resources accounts for the critical shortfall of survival rate among the study population. This finding highlights the co-dependency between suitably skilled and/or specialised staff and available critical care resources such as advanced specialized machinery.

Although some participating hospitals were equipped with the necessary resources to treat patients, the research found that the underuse of basic resources that resulted in deaths in some cases was due to a lack of skills to operate such equipment.

Notwithstanding these challenges of low-resource settings, basic knowledge interventions such as monitoring blood oxygen

levels, providing dialysis and proning (turning patients on their front to improve breathing) could have potentially saved lives.

The scale of in-hospital deaths in African despite a good nurse to patient ratio emphasises the dire need for specialised staff.

“Health care system improvement, especially intensive care, is complex, takes time and needs a holistic, systemic approach rather than a quick fix. However, a short-term intervention that might contribute to better outcomes for critically ill Covid-19 patients is the more effective use of available resources by sharing lessons learnt from both low- and high-income countries” says Scribante.

Covid-19 and Comorbidities

The majority (61%) of the study population were men who presented few underlying

chronic conditions. Available participant data found that 51% of patients were hypertensive, 38% diabetic, 7.7% had HIV/AIDS, 7.7% chronic kidney disease and 7.7% had coronary artery disease.

These pre-existing conditions exposed affected patients (both men and women) to much higher risks of poor outcomes as they doubled and in some cases even tripled patients' risk of fatality.

Organ dysfunction associated with Covid-19 related deaths

It was also uncovered that patients who die have a high likelihood to have had a higher degree of organ dysfunction which required respiratory and cardiovascular support in intensive care. Although there are limited resources to facilitate the high demand, the use of Sequential Organ Failure Assessment [SOFA] can be used to guide physicians to determine the urgency of patients' admission for critical care at earlier stages. This would allow patients to be

on organ support to avoid further deterioration.

Professor Mer is the Head of Critical Care at the University of the Witwatersrand and Clinical Head of the Adult Multidisciplinary Intensive Care Unit at Charlotte Maxeke Johannesburg Academic Hospital (CMJAH). He was recently awarded the Absa Professional Excellence in Time of Covid Award for his role in equipping the hospital to battle the virus before it hit. Professor Scribante is the research manager in the Department of Anaesthesiology in the School of Clinical Medicine.

CENTRE OF PALLIATIVE CARE – SHORT COURSE

The Centre of Palliative Care presents a short course:

A Palliative Approach for Healthcare Professionals.

Date: 02-06 August 2021

COURSE AIM :

The aim is to introduce health care professionals to principles of palliative care, management of pain and common symptoms, managing psychosocial and spiritual. The aim is to introduce health care professionals to principles of palliative care, management of pain and common symptoms, managing psychosocial and spiritual is-

sues. Issues.

COURSE CONTENT

- Principles of Palliative Care
- Principles of paediatric Palliative Care
- Communication in Palliative Care
- Breaking bad news
- Pain assessment and management
- Medico-legal and ethical issues in palliative care
- Managing Common symptoms
- Palliative Care Emergencies

- Spirituality in Palliative Care
- Loss, grief and bereavement
- Managing Psychosocial issues
- Teamwork
- Caring for Carers

For more information please go to:

<https://wits-enterprise.co.za/c/a-palliative-approach-for-health-care-professionals>



HI THERE!

FACULTY OF HEALTH SCIENCES

Greetings from the #MakeADifference Crew and our recipients! We want to thank everybody who contributed to the campaign last year by pledging or donating food & toiletry items. Thanks to you, 200 students were able to access Care-Kits in 2020.

We're excited to experience this helpful enthusiasm throughout 2021, and it's been as simple as shopping for groceries at your nearest Woolworths store! So here's how it's done;

1. Sign up for a WRewards card, Woolies Store Card or Credit Card (in-store or online)
2. Simply head over to www.myschool.co.za
3. Link your card to your MySchool MyVillage My Planet profile
4. Choose "WITS Faculty of Health Sciences" as your beneficiary

Additionally, you can link your profile by contacting the Client Service Centre on 0860 100 445 or by email at cs@myschool.co.za.

'AN APPLE A DAY BRINGS A FUTURE HEALTHCARE WORKER YOUR WAY'



UPCOMING SCHOOL EVENTS

WITS SCHOOL OF CLINICAL MEDICINE

ANNUAL PRIZE GIVING AWARDS 2021

Please Join Us Online 31 August 2021 @ 16:00

Link of the Online Pre-recorded Event will be shared Ahead of the Event.



SCHOOL OF CLINICAL MEDICINE

BIENNIAL RESEARCH DAY

30 SEPTEMBER 2021 TIME: 07:30 - 18:00

KEYNOTE SPEAKERS • ORAL PRESENTATIONS • POSTER SESSIONS

VIRTUAL / HYBRID MEETING

CPD POINTS AVAILABLE

UNIVERSITY OF THE
WITWATERSRAND
JOHANNESBURG

CALL FOR ABSTRACTS

Submission Deadline

Date: 15 July 2021

Submit Online:

www.socmresearch.co.zaRegister online at www.socmresearch.co.za

SOCM MEETING DATES

Head of Department meeting

Date	Time	Venue
06/07/2021	15h00	Microsoft teams
17/08/2021	15h00	Microsoft teams
14/09/2021	15h00	Microsoft teams
05/10/2021	15h00	Microsoft teams
09/11/2021	15h00	Microsoft teams

SOCM EXCO Committee meeting

Date	Time	Venue
14/07/2021	13h00	Microsoft teams
08/09/2021	13h00	Microsoft teams
17/11/2021	13h00	Microsoft teams

SOCM Transformation Committee Meetings

Date	Time	Venue
22/07/2021	14h00	Microsoft teams
23/09/2021	14h00	Microsoft teams
25/11/2021	14h00	Microsoft teams

SOCM HR & Finance Committee Meetings

Date	Time	Venue
28/07/2021	10h30	Microsoft teams
25/08/2021	10h30	Microsoft teams
29/09/2021	10h30	Microsoft teams
27/10/2021	10h30	Microsoft teams
24/11/2021	10h30	Microsoft teams

SUBMISSION OF CONTENT

The newsletter will be published bimonthly and we welcome all content, staff (academic & professional) achievements, profiles, and student events and achievements. Photos are always welcome. Should you wish to submit any content for publication, kindly send it to: Rita.Kruger@wits.ac.za by 30 July 2021. (Please note that due to space restrictions content may be edited)