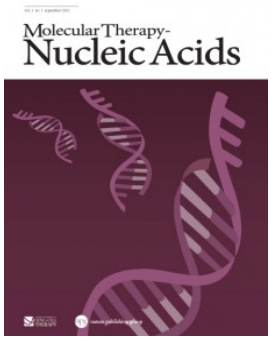
CELEBRATES SCIENCE

APRIL 2017

THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL INFORMATION SERVICES DIVISION

TOP 5 ARTICLES

Director: Prof Patrick Arbuthnot



Article:

Maepa MB, **Ely A**, Grayson W, **Arbuthnot P**. Sustained inhibition of HBV replication in vivo after systemic injection of AAVs encoding artificial antiviral primary microRNAs. Molecular Therapy - Nucleic Acids. 2017 Apr 13.
DOI: 10.1016/j.omtn.2017.04.007
Impact Factor: 6.392

Summary:

Chronic infection with Hepatitis B Virus (HBV) remains a problem of global significance and improving available treatment is important to prevent life-threatening complications arising in persistently infected individuals. HBV is susceptible to silencing by exogenous artificial intermediates of the RNA interference (RNAi) pathway. However, toxicity of Pol III cassettes and short duration of silencing by effectors of the RNAi pathway may limit anti-HBV therapeutic utility. To advance RNAi-based HBV gene silencing, mono- and trimeric artificial primary microRNAs (pri-miRs) derived from pri-miR-31 were placed under control of the liver-specific modified murine transthyretin promoter. The sequences, which target the X sequence of HBV, were incorporated into recombinant hepatotropic self-complementary Adeno-Associated Viruses (scAAVs). Systemic intravenous injection of the vectors into HBV transgenic mice at a dose of 1×10^{11} per animal effected significant suppression of markers of HBV replication for at least 32 weeks. The pri-miRs were processed according to the intended design, and intrahepatic antiviral guide sequences were detectable for 40 weeks after the injection. There was no evidence of toxicity, and innate immunostimulation was not detectable following the injections. This efficacy is an improvement on previously reported RNAi-based inhibition of HBV replication and is important to clinical translation of the technology.

Director: Prof Shabir Madhi

Article:

Madhi SA, **Koen A**, **Jose L**, Moreira M, **van Niekerk N**, **Cutland C**, François N, Ruiz-Guiñazú J, Yarzabal JP, Borys D, Schuerman L. Immunization with 10-valent pneumococcal non-typeable Haemophilus influenzae protein D conjugate vaccine (PHiD-CV) according to different schedules in infants in South Africa: A phase III trial. Expert Review of Vaccines. 2017 Apr 20.
DOI: 10.1080/14760584.2017.1321990
Impact Factor: 3.555

Summary:

Background: Limited clinical data exists to assess differences between various infant pneumococcal conjugate vaccine schedules. In this trial, we evaluated immunogenicity of the 10-valent pneumococcal non-typeable Haemophilus influenzae protein D conjugate vaccine (PHiD-CV) administered using 3 different immunization schedules in HIV unexposed-uninfected infants in South Africa.

Methods: In this phase III, open, single-center, controlled study (clinicaltrials.gov: NCT00829010), 300 infants were randomized (1:1:1) to 1 of 3 PHiD-CV schedules: 3-dose priming and booster (3 + 1); 3-dose priming without booster (3 + 0); or 2-dose priming and booster (2 + 1). The booster was administered at 9-10 months of age. immune responses were assessed up to 21 months after primary vaccination.

Results: Post-priming antibody levels tended to be lower in the 2 + 1 group. At 6 months post-priming, antibody concentrations and opsonophagocytic activity titers were within similar ranges after 2- or 3-dose priming. Robust increases were observed pre- to post-booster in the 3 + 1 and 2 + 1 groups.

Conclusions: PHiD-CV was immunogenic when administered in different schedules. Post-booster responses suggest effective immunological priming with both 2- and 3-dose primary series and support administration of the booster dose at 9-10 months of age.

Director: Prof Michael Pepper

Article:

Jackson CS, **Durandt C**, Janse van Rensburg I, Praloran V, Brunet de la Grange P, **Pepper MS**. Targeting the aryl hydrocarbon receptor nuclear translocator complex with DMOG and Stemregenin 1 improves primitive hematopoietic stem cell expansion. Stem Cell Research. 2017 Apr 20.

DOI: 10.1016/j.scr.2017.04.007

Impact Factor: 3.494

Summary:

Culture conditions used for the expansion of hematopoietic stem and progenitor cells (HSCs and HPCs, collectively HSPCs) should ideally favor the self-renewal of long-term HSCs. At 20% O2, the synthesis of HIF-1α is balanced by its hydroxylation and proteasomal degradation. This favors HSPC differentiation, but can be prevented by culturing CD34+ cord blood cells in the presence of dimethyloxaloylglycine (DMOG). This differentiation may also be reduced by culturing the cells in the presence of Stemregenin 1, an antagonist of the Aryl hydrocarbon Receptor (AhR). The objective of this study was to investigate how hypoxia, DMOG and Stemregenin 1 might affect the expansion of HSPCs with the aim of identifying optimal conditions for expansion in culture. It was found that DMOG decreased proliferation but was effective in preserving the number of cells in the primitive hematopoietic sub-populations in vitro. The effect of DMOG was similar to hypoxia, although differences were observed with regard to the side population and CD34+ sub-populations. Stemregenin 1 on the other hand increased the size of the primitive as well as the other HSC sub-populations. The use of Stemregenin 1 with DMOG increased the proportion of primitive HSCs to 3.54% compared to 2.61% for Stemregenin 1 alone. In vivo engraftment studies confirmed these findings and showed that fewer cells (3710) are required for long-term engraftment when HSCs are grown in Stemregenin 1 together with hypoxia than in Stemregenin 1 under conditions of normoxia (13430).

Director: Dr Johan Louw

Article:

Dludla PV, Essop MF, **Gabuza KB**, **Muller CJ**, **Louw J**, **Johnson R**. Age-dependent development of left ventricular wall thickness in type 2 diabetic (db/db) mice is associated with elevated low-density lipoprotein and triglyceride serum levels. Heart and Vessels. 2017 Apr 9.
DOI: 10.1007/s00380-017-0978-3
Impact Factor: 3.434

Summary

Diabetic cardiomyopathy (DCM) is a disease of heart muscle that remains one of the leading causes of death in diabetic individuals. Shifts in substrate preference resulting in aberrant serum lipid content and enlarged left ventricular wall thickness are well-established characteristics associated with the development of DCM. As underlying mechanisms driving the onset of the DCM remain relatively unclear, this study sought to characterize age-dependent development of left ventricular (LV) wall thickness in diabetic (db/db) mice. Such data were compared with low-density lipoprotein (LDL) and triglyceride serum levels to assess whether any correlation exists between the parameters here investigated. For methods, db/db mice together with nondiabetic controls (n = six per group) were monitored from the age of 6-16 weeks. Mice were terminated each week to measure body weights, heart weights, liver weights, tibia length, and fasting plasma glucose levels. Heart tissues were stained with haematoxylin and eosin to measure LV wall and interventricular septum thickness together with an assessment of myocardial remodeling. Serum was collected weekly and used to measure LDL and triglyceride levels. Results showed that db/db mice presented significantly increased body weights, liver/body weight, and fasting plasma glucose levels from the age of 6-16 weeks. They further displayed a marked enlargement of LV wall and interventricular septum thickness from the age of 11 weeks, while increased heart weight/tibia length was recorded only from week 16. From week 11, the LV wall and interventricular septum thickness results corresponded with cardiac remodeling and raised LDL and triglyceride serum levels. In summary, age-dependent development of LV wall thickness in db/db mice is partially associated with increased LDL and triglyceride levels, elucidating a potential pathophysiological mechanism.

Director: Prof Catherine Mathews

Article:

Lewin S, Hendry M, Chandler J, Oxman AD, Michie S, Shepperd S, Reeves BC, Tugwell P, Hannes K, Rehfuess EA, Welch V, McKenzie JE, Burford B, Petkovic J, Anderson LM, Harris J, Noyes J. Assessing the complexity of interventions within systematic reviews: Development, content and use of a new tool (iCAT-SR). BMC Medical Research Methodology. 2017 Apr 26;17(1):76. DOI: 10.1186/s12874-017-0349-x
Impact Factor: 3.295

Summary

Background: Health interventions fall along a spectrum from simple to more complex. There is wide interest in methods for reviewing 'complex interventions', but few transparent approaches for assessing intervention complexity in systematic reviews. Such assessments may assist review authors in, for example, systematically describing interventions and developing logic models. This paper describes the development and application of the intervention Complexity Assessment Tool for Systematic Reviews (iCAT_SR), a new tool to assess and categorise levels of intervention complexity in systematic reviews.

Methods: We developed the iCAT_SR by adapting and extending an existing complexity assessment tool for randomized trials. We undertook this adaptation using a consensus approach in which possible complexity dimensions were circulated for feedback to a panel of methodologists with expertise in complex interventions and systematic reviews. Based on these inputs, we developed a draft version of the tool. We then invited a second round of feedback from the panel and a wider group of systematic reviewers. This informed further refinement of the tool.

Results: The tool comprises ten dimensions: (1) the number of active components in the intervention; (2) the number of behaviours of recipients to which the intervention is directed; (3) the range and number of organizational levels targeted by the intervention; (4) the degree of tailoring intended or flexibility permitted across sites or individuals in applying or implementing the intervention; (5) the level of skill required by those delivering the intervention; (6) the level of skill required by those receiving the intervention; (7) the degree of interaction between intervention components; (8) the degree to which the effects of the intervention are context dependent; (9) the degree to which the effects of the interventions are changed by recipient or provider factors; (10) and the nature of the causal pathway between intervention and outcome. Dimensions 1-6 are considered 'core' dimensions. Dimensions 7-10 are optional and may not be useful for all interventions.

Conclusions: The iCAT_SR tool facilitates more in-depth, systematic assessment of the complexity of interventions in systematic reviews and can assist in undertaking reviews and interpreting review findings. Further testing of the tool is now needed.

1. INTRAMURAL RESEARCH UNITS

Alcohol, Tobacco and Other Drug

1. **Parry CDH**, **Rich E**, Van Hout MC, Deluca P. Codeine misuse and dependence in South Africa: Perspectives of addiction treatment providers. South African Medical Journal. 2017 Apr 25.
DOI: 10.7196/SAMJ. 2017.v107i5.12242
Impact Factor: 1.731

Biomedical Research and Innovation Platform

1. **Dludla PV**, Essop MF, **Gabuza KB**, **Muller CJ**, **Louw J**, **Johnson R**. Age-dependent development of left ventricular wall thickness in type 2 diabetic (db/db) mice is associated with elevated low-density lipoprotein and triglyceride serum levels. Heart and Vessels. 2017 Apr 9.
DOI: 10.1007/s00380-017-0978-3
Impact Factor: 3.434

2. **Dias S**, Hemmings S, **Muller C**, **Louw J**, **Pheiffer C**. MicroRNA expression varies according to glucose tolerance, measurement platform, and biological source. BioMed Research International. 2017 Apr 26.
DOI: 10.1155/2017/1080157
Impact Factor: 2.476

Biostatistics

1. Gordon L, Schwellnus M, **Swanevelder S**, **Jordaan E**, Derman W. Recent acute prerace systemic illness in runners increases the risk of not finishing the race: SAFER study V. British Journal of Sports Medicine. 2017 Apr 12.
DOI: 10.1136/bjsports-2016-096964
Impact Factor: 6.557

2. Ganie Y, Aldous C, **Balakrishna Y**, Wiersma R. The spectrum of ovotesticular disorders of sex development in South Africa: A single-centre experience. Hormone Research in Paediatrics. 2017 Apr 3.
DOI: 10.1159/000466693
Impact Factor: 1.844

3. Kamwi JM, Kaetsch C, Graz FP, Chirwa P, **Manda S**. Trends in land use and land cover change in the protected and communal areas of the Zambezi region, Namibia. Environmental Monitoring and Assessment. 2017 Apr 28.
DOI: 10.1007/s10661-017-5934-2
Impact Factor: 1.687

Centre for Tuberculosis

1. **Dippenaar A**, **Parsons SDC**, **Miller MA**, Hlokwe T, **Gey van Pittius NC**, Adroub SA, Abdallah AM, Pain A, **Warren RM**, Michel AL, **van Helden PD**. Progenitor strain introduction of Mycobacterium bovis at the wildlife-livestock interface can lead to clonal expansion of the disease in a single ecosystem. Infection, Genetics and Evolution. 2017 Apr 13.
DOI: 10.1016/j.meegid.2017.04.012
Impact Factor: 2.885

2. **Uren C**, Henn BM, Franke A, Wittig M, **van Helden PD**, **Hoal EG**, **Moller M**. A post-GWAS analysis of predicted regulatory variants and tuberculosis susceptibility. PLoS ONE. 2017 Apr 6;12(4):e0174738.
DOI: 10.1371/journal.pone.0174738
Impact Factor: 2.806

3. Oyenihi AB, **Chegou NN**, Oguntibeju OO, Masola B. Centella asiatica enhances hepatic antioxidant status and regulates hepatic inflammatory cytokines in type 2 diabetic rats. Pharmaceutical Biology. 2017 Apr 27.
DOI: 10.1080/13880209.2017.1318293
Impact Factor: 1.916

4. Omodanisi EI, Aboua YG, **Chegou NN**, Oguntibeju OO. Hepatoprotective, antihyperlipidemic, and anti-inflammatory activity of moringa oleifera in diabetic-induced damage in male wistar rats. Pharmacognosy Research. 2017 Apr-Jun;9(2):182-7.
DOI: 10.4103/0974-8490.204651
Impact Factor: None

5. Lumkwana D, du Toit A, **Kinnear C**, Loos B. Autophagic flux control in neurodegeneration: Progress and precision targeting-Where do we stand? Progress in Neurobiology. 2017 Apr 3.
DOI: 10.1016/j.pneurobio.2017.03.006
Impact Factor: 13.217

Gender and Health

1. Fulu E, Miedema S, Roselli T, McCook S, Chan KL, Haardörfer R, **Jewkes R**; UN Multi-country study on Men and Violence study team. Pathways between childhood trauma, intimate partner violence, and harsh parenting: Findings from the UN Multi-country study on men and violence in Asia and the Pacific. Lancet Global Health. 2017 Apr 7.
DOI: 10.1016/S2214-109X (17)30103-1
Impact Factor: 17.686

2. **MacHisa MT**, Christofides N, **Jewkes R**. Mental ill health in structural pathways to women's experiences of intimate partner violence. PLoS ONE. 2017 Apr 06;12(4):e0175240.
DOI: 10.1371/journal.pone.0175240
Impact Factor: 2.806

3. **Gibbs A**, Washington L, **Willan S**, Ntini N, Khumalo T, Mbatha N, **Sikweyiya Y**, **Shai N**, **Chirwa E**, Strauss M, Ferrari G, **Jewkes R**. The stepping stones and creating futures intervention to prevent intimate partner violence and HIV-risk behaviours in Durban, South Africa: Study protocol for a cluster randomized control trial, and baseline characteristics. BMC Public Health. 2017 Apr 20; 17(1):336.
DOI: 10.1186/s12889-017-4223-x
Impact Factor: 2.265

4. **Namy S**, **Carlson C**, **O'Hara K**, **Nakuti J**, **Bukuluki P**, **Lwanyaaga J**, **Namakula S**, **Nanyunja B**, **Wainberg ML**, **Naker D**, **Michau L**. Towards a feminist understanding of intersecting violence against women and children in the family. Social Science & Medicine. 2017 Apr 27.
DOI: 10.1016/j.socscimed.2017.04.042
Impact Factor: 2.797

Health Systems

1. Hamilton E, Bossiky B, Ditekemena J, Esiru G, Fwamba F, **Goga AE**, Kieffer MP, Tsague LD, van de Ven R, Wafula R, Guay L. Using the PMTCT cascade to accelerate achievement of the global plan goals. Journal of Acquired Immune Deficiency Syndromes. 2017 Apr 12.
DOI: 10.1097/QAI.0000000000001325
Impact Factor: 3.935

2. Sherman GG, Mazanderani AH, Barron P, Bhardwaj S, Niit R, Okobi M, Puren A, Jackson DJ, **Goga AE**. Toward elimination of mother-to-child transmission of HIV in South Africa: How best to monitor early infant infections within the prevention of Mother-To-Child Transmission program. Journal of Global Health. 2017 Apr 12;7(1):010701.
DOI: 10.7189/jogh.07.010701
Impact Factor: 2.707

3. **Lewin S**, Hendry M, Chandler J, Oxman AD, Michie S, Shepperd S, Reeves BC, Tugwell P, Hannes K, Rehfuess EA, Welch V, McKenzie JE, Burford B, Petkovic J, Anderson LM, Harris J, Noyes J. Assessing the complexity of interventions within systematic reviews: Development, content and use of a new tool (iCAT-SR). BMC Medical Research Methodology. 2017 Apr 26;17(1):76.
DOI: 10.1186/s12874-017-0349-x
Impact Factor: 3.295

4. Toews I, Booth A, Berg RC, **Lewin S**, Glenton C, Munthe-Kaas HM, Noyes J, Schroter S, Meerpohl JJ. Further exploration of dissemination bias in qualitative research required to facilitate assessment within qualitative evidence syntheses. Journal of Clinical Epidemiology. 2017 Apr 20.
DOI: 10.1016/j.jclinepi.2017.04.010
Impact Factor: 4.978

Non-Communicable Disease

1. Nyaaba GN, Stronks K, de-Graft Aikins A, **Kengne AP**, Agyemang C. Tracing Africa's progress towards implementing the Non-Communicable Diseases Global action plan 2013-2020: A synthesis of WHO country profile reports. BMC Public Health. 2017 Apr 5; 17(1):297.
DOI: 10.1186/s12889-017-4199-6
Impact Factor: 2.265

2. Pefura-Yone EW, Balkissou AD, Poka-Mayap V, Fatime-Abaicho HK, Enono-Edende PT, **Kengne AP**. Development and validation of a prognostic score during tuberculosis treatment. BMC Infectious Diseases. 2017 Apr 8; 17(1): 251.
DOI: 10.1186/s12879-017-2309-9
Impact Factor: 2.768

3. Lekoubou A, Nkoke C, Dzudie A, **Kengne AP**. Recurrent stroke and early mortality in an urban medical unit in Cameroon. Journal of Stroke and Cerebrovascular Diseases. 2017 Apr 14.
DOI: 10.1016/j.jstrokecerebrovasdis.2017.03.031
Impact Factor: 1.517

4. Thomas B, Matsushita K, Abate KH, Al-Aly Z, Arnlov J, Asayama K, Atkins R, Badawi A, Ballew SH, Banerjee A, Barregard L, Barrett-Connor E, Basu S, Bello AK, Bensenor I, Bergstrom J, Bikbov B, Blosser C, Brenner H, Carrero JJ, Chadban S, Cirillo M, Cortinovis M, Courville K, Dandona L, Dandona R, Estep K, Fernandes J, Fischer F, Fox C, Gansevoort RT, Gona PN, Gutierrez OM, Hamidi S, Hanson SW, Himmelfarb J, Jassal SK, Jee SH, Jha V, Jimenez-Corona A, Jonas JB, **Kengne AP**, Khader Y, Khang YH, Kim YJ, Klein B, Klein R, Kokubo Y, Kolte D, Lee K, Levey AS, Li Y, Lotufo P, El Razek HMA, Mendoza W, Metoki H, Mok Y, Muraki I, Muntner PM, Noda H, Ohkubo T, Ortiz A, Perico N, Polkinghorne K, Al-Radaddi R, Remuzzi G, Roth G, Rothenbacher D, Satoh M, Saum KU, Sawhney M, Schottker B, Shankar A, Shlipak M, Silva DAS, Toyoshima H, Ukwaja K, Umesawa M, Vollset SE, Warnock DG, Werdecker A, Yamagishi K, Yano Y, Yonemoto N, Zaki MES, Naghavi M, Forouzanfar MH, Murray CJL, Coresh J, Vos T. Global cardiovascular and renal outcomes of reduced GFR. Journal of the American Society of Nephrology. 2017 Apr 13.
DOI: 10.1681/asn.2016050562
Impact Factor: 8.966

South African Cochrane Centre

1. Nimpa Mengouo M, Ndze VN, Baonga F, Kobela M, **Wiysonge CS**. Epidemiology of rubella infection in Cameroon: A 7-year experience of measles and rubella case-based surveillance, 2008-2014. BMJ Open. 2017 Apr 7; 7(4): e012959.
   DOI: 10.1136/bmjopen-2016-012959
   Impact Factor: 2.369

2. Naude CE, **Durao S**, Harper A, **Volmink J**. Scope and quality of Cochrane reviews of nutrition interventions: A cross-sectional study. Nutrition Journal. 2017 Apr 7;16(1):22.
   DOI: 10.1186/s12937-017-0244-7
   Impact Factor: 3.211

2. EXTRAMURAL RESEARCH UNITS

Antiviral Gene Therapy

1. **Maepa MB**, **Ely A**, Grayson W, **Arbuthnot P**. Sustained inhibition of HBV replication in vivo after systemic injection of AAVs encoding artificial antiviral primary MicroRNAs. Molecular Therapy - Nucleic Acids. 2017 Apr 13.
   DOI: 10.1016/j.omtn.2017.04.007
   Impact Factor: 6.392

2. Mattar CNZ, Gil-Farina I, Rosales C, Johana N, Tan YYW, McIntosh J, Kaeppel C, **Waddington SN**, Biswas A, Choolani M, Schmidt M, Nathwani AC, Chan JKY. In utero transfer of adeno-associated viral vectors produces long-term factor IX levels in a cynomolgus macaque model. Molecular Therapy. 2017 Apr 24.
   DOI: 10.1016/j.ymthe.2017.04.003
   Impact Factor: 6.688

Bioinformatics Capacity Development

1. Beiswanger CM, Abimiku Al, Carstens N, **Christoffels A**, de Vries J, Duncanson A, du Plessis M, Giovanni M, Littler K, Mulder N, Troyer J, Wideroff L. Accessing biospecimens from the H3Africa consortium. Biopreservation and Biobanking. 2017 Apr 01; 15(2): 95-8.
   DOI: 10.1089/bio.2017.0008
   Impact Factor: 1.698

2. Bendou H, Sizani L, Reid T, Swanepoel C, Ademuyiwa T, Merino-Martinez R, Meuller H, Abayomi A, **Christoffels A**. Baobab laboratory information management system: Development of an open-source laboratory information management system for biobanking. Biopreservation and Biobanking. 2017 Apr 04; 15(2): 116-20.
   DOI: 10.1089/bio.2017.0014
   Impact Factor: 1.698

Child and Adolescent Lung Health

1. Whittaker E, **Nicol M**, **Zar HJ**, Kampmann B. Regulatory t cells and pro-inflammatory responses predominate in children with tuberculosis. Frontiers in Immunology. 2017 Apr 25; 8: 448.
   DOI: 10.3389/fimmu.2017.00448
   Impact Factor: 6.429

2. **Zar HJ**, **Vanker A**, **Gray D**, Zampoli M. The African pediatric fellowship training program in pediatric pulmonology: A model for growing African capacity in child lung health. Annals of the American Thoracic Society. 2017 Apr 1; 14(4): 500-4.
   DOI: 10.1513/AnnalsATS.201612-953PS
   Impact Factor: None

Developmental Pathways for Health

1. **Prioreschi A**, Brage S, Westgate K, **Norris SA**, **Micklesfield LK**. Cardiorespiratory fitness levels and associations with physical activity and body composition in young South African adults from Soweto. BMC Public Health. 2017 Apr 5;17(1): 301.
   DOI: 10.1186/s12889-017-4212-0
   Impact Factor: 2.265

Drug Discovery and Development

1. Okombo J, Singh K, Mayoka G, Ndubi F, Barnard L, Njogu PM, Njoroge M, Gibhard L, Brunschwig C, Vargas M, Keiser J, Egan TJ, **Chibale K**. Antischistosomal Activity of Pyrido[1,2-a] benzimidazole Derivatives and Correlation with Inhibition of beta-Hematin Formation. ACS Infectious Diseases. 2017 Apr 25.
   DOI: 10.1021/acsinfecdis.6b00205
   Impact Factor: 3.600

2. Paquet T, Le Manach C, Cabrera DG, Younis Y, Henrich PP, Abraham TS, Lee MCS, Basak R, Ghidelli-Disse S, Lafuente-Monasterio MJ, Bantscheff M, Ruecker A, Blagborough AM, Zakutansky SE, Zeeman A-M, White KL, Shackleford DM, Mannila J, Morizzi J, Scheurer C, Angulo-Barturen I, Martínez MS, Ferrer S, Sanz LM, Gamo FJ, Reader J, Botha M, Dechering KJ, Sauerwein RW, Tungtaeng A, Vanachayangkul P, Lim CS, Burrows J, Witty MJ, Marsh KC, Bodenreider C, Rochford R, Solapure SM, Jiménez-Díaz MB, Wittlin S, Charman SA, Donini C, Campo B, Birkholtz L-M, Hanson KK, Drewes G, Kocken CHM, Delves MJ, Leroy D, Fidock DA, Waterson D, Street LJ, **Chibale K**. Antimalarial efficacy of mmv390048, an inhibitor of plasmodium phosphatidylinositol 4-kinase. Science Translational Medicine. 2017 Apr 26; 9(387): 9735.
   DOI: 10.1126/scitranslmed. aad9735
   Impact Factor: 16.796

Hypertension and Cardiovascular Disease

1. Veerabhadrappa P, **Schutte AE**. Blood pressure with nitrate exposure: Back-to-basics with fresh fruits and vegetables. American journal of hypertension. 2017 Apr 19.
   DOI: 10.1093/ajh/hpx061
   Impact Factor: 3.541

2. Reitsma MB, Fullman N, Ng M, Salama JS, Abajobir A, Abate KH, Abbafati C, Abera SF, Abraham B, Abyu GY, Adebiyi AO, Al-Aly Z, Aleman AV, Ali R, Al Alkerwi Aa, Allebeck P, Al-Raddadi RM, Amare AT, Amberbir A, Ammar W, Amrock SM, Antonio CAT, Asayesh H, Atnafu NT, Azzopardi P, Banerjee A, Barac A, Barrientos-Gutierrez T, Basto-Abreu AC, Bazargan-Hejazi S, Bedi N, Bell B, Bello AK, Bensenor IM, Beyene AS, Bhala N, Biryukov S, Bolt K, Brenner H, Butt Z, Cavalleri F, Cercy K, Chen H, Christopher DJ, Ciobanu LG, Colistro V, Colomar M, Cornaby L, Dai X, Damtew SA, Dandona L, Dandona R, Dansereau E, Davletov K, Dayama A, Degfie TT, Deribew A, Dharmaratne SD, Dimtsu BD, Doyle KE, Endries AY, Ermakov SP, Estep K, Faraon EJA, Farzadfar F, Feigin VL, Feigl AB, Fischer F, Friedman J, G/hiwot TT, Gall SL, Gao W, Gillum RF, Gold AL, Gopalani SV, Gotay CC, Gupta R, Gupta R, Gupta V, Hamadeh RR, Hankey G, Harb HL, Hay SI, Horino M, Horita N, Hosgood HD, Husseini A, Ileanu BV, Islami F, Jiang G, Jiang Y, Jonas JB, Kabir Z, Kamal R, Kasaeian A, Kesavachandran CN, Khader YS, Khalil I, Khang Y-H, Khera S, Khubchandani J, Kim D, Kim YJ, Kimokoti RW, Kinfu Y, Knibbs LD, Kokubo Y, Kolte D, Kopec J, Kosen S, Kotsakis GA, Koul PA, Koyanagi A, Krohn KJ, Krueger H, Defo BK, Bicer BK, Kulkarni C, Kumar GA, Leasher JL, Lee A, Leinsalu M, Li T, Linn S, Liu P, Liu S, Lo L-T, Lopez AD, Ma S, El Razek HMA, Majeed A, Malekzadeh R, Malta DC, Manamo WA, Martinez-Raga J, Mekonnen AB, Mendoza W, Miller TR, Mohammad KA, Morawska L, Musa KI, Nagel G, Neupane SP, Nguyen Q, Nguyen G, Oh I-H, Oyekale AS, Pa M, Pana A, Park E-K, Patil ST, Patton GC, Pedro J, Qorbani M, Rafay A, Rahman M, Rai RK, Ram U, Ranabhat CL, Refaat AH, Reinig N, Roba HS, Rodriguez A, Roman Y, Roth G, Roy A, Sagar R, Salomon J, Sanabria J, de Souza Santos I, Sartorius B, Satpathy M, Sawhney M, Sawyer S, Saylan M, Schaub MP, Schluger N, **Schutte AE**, Sepanlou SG, Serdar B, Shaikh MA, She J, Shin M-J, Shiri R, Shishani K, Shiue I, Sigfusdottir ID, Silverberg JI, Singh J, Singh V, Slepak EL, Soneji S, Soriano JB, Soshnikov S, Sreeramareddy CT, Stein DJ, Stranges S, Subart ML, Swaminathan S, Szoeke CEI, Tefera WM, Topor-Madry R, Tran B, Tsilimparis N, Tymeson H, Ukwaja KN, Updike R, Uthman OA, Violante FS, Vladimirov SK, Vlassov V, Vollset SE, Vos T, Weiderpass E, Wen C-P, Werdecker A, Wilson S, Wubshet M, Xiao L, Yakob B, Yano Y, Ye P, Yonemoto N, Yoon S-J, Younis MZ, Yu C, Zaidi Z, El Sayed Zaki M, Zhang AL, Zipkin B, Murray CJL, Forouzanfar MH, Gakidou E [GBD 2015 Tobacco Collaborators]. Smoking prevalence and attributable disease burden in 195 countries and territories, 1990–2015: A systematic analysis from the global Burden of Disease Study 2015. The Lancet. 2017 Apr 05.
DOI: 10.1016/S0140-6736(17)30819-X
Impact Factor: 47.831

Immunology of Infectious Disease

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4. RESEARCH CENTRES

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Intramural

- Burden of Disease
- Environment and Health
- HIV Prevention
- Office of AIDS
- Office of Cancer
- Office of Malaria
- Office of Tuberculosis
- Violence, Injury and Peace

Extramural

- Common Epithelial Cancer
- Diarrhoeal Pathogens
- Gynaecological Cancer
- Health Services to Systems
- Herbal Drugs
- HIV/TB Pathogenesis and Treatment
- Human Genetics
- Medical Imaging
- Molecular Mycobacteriology
- Prospective Gastrointestinal Cancer
- Receptor Biology
- Rural Public Health and Health Transition

Research Centres

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- Centre for Basic and Translational Human TB Research
- Centre for Tuberculosis Biomarker-Targeted Intervention
- Clinical and Community HIV-Tuberculosis Research Collaborating Centre
- TB Free through Research and Innovation
- Tuberculosis Collaborating Centre for Child Health (TB-CHILD)
- Tygerberg SAMRC Collaborating centre for HIV Laboratory Research
- UCT Collaborating Centre for Optimising Antimalarial Therapy in South Africa
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