

## SOUTH AFRICAN RESEARCH CHAIR IN PTSD

Hosted by Stellenbosch University, funded by the DSI and administered by the NRF

The South African Research Chair in PTSD is in its 14th year of existence having been established in 2008. This year started off with the hope of returning to the *new normal*. However, this was not to be, and we have continued to adapt and together make it through a pandemic that still looms large.

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## CONGRESS REPORTS

### SIRG SoNetAt Attachment from a Social Neuroscience perspective: A Virtual Conference

The virtual conference was hosted by the Special interest research group of Social Neuroscience and Human Attachment, supported by SEAS (Society of Emotion and Attachment Studies). This was a mini conference of the hybrid International Attachment Conference (IAC). Attachment researchers from many different backgrounds were brought together to discuss the latest developments from a social neuroscience perspective. Symposia sessions were divided into (i) Attachment in Pre-school; (ii) Stressful Events, Cortisol Reactivity and Attachment; (iii) Attachment and Relationships, Caregiving Beliefs, Co-regulation, Synchrony and Priming; (iv) Attachment in High-Risk Sample and Clinical Applications; and (v) Attachment and Touch. Tanya’s paper was selected for a symposia presentation and was presented in the session dealing with stressful events. She presented data from a study that was conducted in Belgium titled: Children’s Secure Base Script as Buffer in the Relationship between Stress and Depressive Symptoms. Overall, the conference presentations updated the current knowledge of neurobehavioral aspects of attachment in all age groups.

*Tanya van Aswegen, PhD Candidate*



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## 15<sup>th</sup> World Congress on Biological Psychiatry

This was an excellent congress, covering a wide array of subject matter, from basic to clinical sciences. A range of educational sessions, including machine learning for biological psychiatry and understanding and designing imaging studies were presented by experts in the field. Plenary lectures were given by Nobel Laureate Prof Thomas Sudhof (Synaptic mechanisms driving schizophrenia pathogenesis), Prof Myrna Weisman (Interpersonal psychotherapy – A global reach), Prof Robin Murray (Cannabis: the good, the bad, and the mad) and Prof Kristen Brennand (Stem cells in mental disorders: new understanding and treatment).

The sessions comprised several interesting symposia, and as usual the only downside was trying to select which symposium to attend! Fortunately, the content is available on-demand for a short period of time, enabling us to go back and revisit symposia, or perhaps to listen to the symposia that we missed the first time around. Many of the SARChI members were involved in presenting or chairing symposia. Prof Seedat chaired a symposium entitled *PTSD-focused eHealth interventions*, with co-chair Prof Miranda Olff (Amsterdam UMC). Two Stellenbosch University researchers presented talks in this session: Dr Leigh van den Heuvel (*Preliminary efficacy of a mental health self-management mApp for PTSD in clinicians during COVID-19*) and Ms Erine Brocker (*Feasibility and acceptability of a clinician monitored PTSD coach intervention: Findings from two pilot randomised controlled trials in a resource constrained setting*). Prof Sian Hemmings was invited to present in the symposium entitled *Update in women's mental health*, where she presented recent work from her group: *Genome wide differently methylated genes associated with PTSD in female rape survivors*

Sian Hemmings, Senior Researcher

## 8<sup>th</sup> International Human Microbiome Consortium Congress 2021

The official opening of the 8<sup>th</sup> International Human Microbiome Consortium Congress 2021 held on the 27th of June 2021, celebrated the growth and development in the field and highlighted the importance of microbiome research. This highly anticipated, three-day event attracted over 700 delegates, representing researchers, postgraduate students, as well as clinicians and industry professionals, to their fully digital platform.

Three virtual auditoriums hosted presentations encompassing clinical-translational science, basic science and methods-related research themes. Within thematic sub-categories, prominent microbiome scientists and researchers disseminated their novel research and clearly delineated their contributions to the greater overall understanding of the microbiome and its mechanisms. Panels were held to gauge the opinions of leading researchers, clinical and industry professionals on a variety of topics that may influence the trajectory of human microbiome research and therapeutic applications. The audience was also able to pose questions to the speakers directly through the use of the platform's Q&A feature.

Ms Natasha Kitchin, a SARChI PhD candidate within the Department of Psychiatry, shared her research investigating the composition of the maternal and infant gut microbiome in Fetal Alcohol Spectrum Disorders (FASD) in the form of an e-Poster presentation entitled 'An exploration into the gut microbiota in Fetal Alcohol Spectrum Disorders'. "Whilst I was given an opportunity to represent work done in my Honours, under the title of "The maternal vaginal microbiome: 'An investigation into its influence in the development of Fetal Alcohol Spectrum Disorders', in the same format".

Following conference proceedings on the 27th and 28th of June, delegates were given the opportunity to experience the city of Barcelona by participating in a virtual guided tour of the Gaudí and Gastronomical routes, which offered the exploration of the architectural stylings of Antoni Gaudí and visitation of Sant Antoni's market. The awarding of Nature's "The Global Grants for Gut Health Best Paper" honours individuals responsible for the best abstracts emerging from each of the three overarching research themes, preceded the closing of the congress on the 29th of June.

Despite being held virtually, the 8th International Human Microbiome Consortium Congress 2021 was a well-organised, fully immersive event that achieved the aim it set out for itself; to bring together an international audience to share, discuss, celebrate and draw inspiration from the latest advancements in human microbiome research. "Participation in



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the event aided in the expansion of my knowledge and understanding of microbiota's involvement in host health and enabled me to disseminate my research to a diverse viewership through an e-Poster presentation. I look forward to physically attending the 9th International Human Microbiome Consortium Congress 2022 and sharing more of my work in Kobe, Japan next year".

*Lauren Martin (MSc student)*

## INVITED CONTRIBUTIONS, AWARDS, AND NOMINATIONS

We celebrate the achievements of our esteemed colleagues who received awards, nominations, or were invited as guest speakers by other institutions.

### Tanya van Aswegen



Congratulations to Tanya who placed second in the FameLab Institutional round for 2022. Additionally, she won a science pitch competition in conjunction with Innovation Exchange Amsterdam (IXA) and Vrije-Universiteit (VU) Amsterdam. In her presentation for FameLab, Tanya spoke about the attachment relationship between a mother and child within the context of mental health. This research is important because it highlights the need for cross-cultural research of theories that pertain to mental health and child development.

Tanya said it was wonderful to participate in the FameLab heat because it gave her "the ability to think outside of the 'jargon box' and bring my family and friends on this journey with me ... The FameLab competition has given us a different and new platform to feel part of a greater scientific community, not only to share our passion for science but get talking again. I would encourage every researcher to participate in training for science communication, because, in the end we want to be advocates and educators in science."

 Stellenbosch University Postgraduate Office  
Well done to the top three winners of SU's FameLab science communication institutional competition for FameLab's 2022 cycle 🎉 🏆

### Helena Kuivaniemi

Prof Kuivaniemi was an invited speaker at an Implementation Research Workshop in 2021 organised by Prof. Oye Gureje from the University of Ibadan, Ibadan, Nigeria. The 3-day workshop was attended by 37 Nigerian physicians, most of whom were psychiatrists. Topics covered at the workshop ranged from Research Design and Implementation Strategies, to Funding and Research Ethics. Via Zoom, Prof Kuivaniemi presented three talks: (i) General grant writing tips; (ii) Summary on new Wellcome Trust opportunities with an emphasis on mental health; and (iii) NIH opportunities on brain neuroscience/psychiatric research. All 3 presentations were very well received, and she answered questions from workshop participants.

### Georgina Spies

Dr Spies was selected as part of the AIDS 2022 Abstract Mentor team. (24<sup>th</sup> International AIDS Conference 29 July–2 August 2022, Montreal, Canada). The Abstract Mentor Programme (AMP) was introduced almost 20 years ago. The programme continues to support less experienced and early-career researchers to improve their abstracts before submission. The AMP increases the chance of their work being accepted for presentation at IAS-convened conferences. This programme specifically targets researchers from resource-limited settings who otherwise lack access to opportunities for rigorous mentoring in research and writing. As a mentor, Dr Spies will support less experienced and early-career researchers to improve their abstracts before submission to the AIDS 2022 Conference.

## Thomas Rust

Thomas was awarded the HW Truter Bursary in May 2021. Additionally, he won the Wimmy Data Science in Healthcare competition together with his friend Liam Gourlay-Smith, a BEngHons Mechanical Engineering student from the University of Pretoria. The competition was hosted by healthcare tech start-up Wimmy, Stellenbosch University's Department of Psychiatry, Anglo-American and AxioVR. Thomas and his team presented a study design that aimed to test the reliability of a virtual reality system to categorise claustrophobia patients from healthy controls amongst a sample of mine workers.

## Alberta SJ van der Watt

Alberta was awarded the South African Medical Research Council Bogani Mayosi Scholarship to conduct her PhD, titled: *"The trauma of non-marital romantic relationship breakups among emerging adults: Associations with posttraumatic stress symptoms and underlying neural circuitry"*. The study entails four phases including a mass online survey, functional magnetic resonance imaging (fMRI), and qualitative interviews. Her supervisors are Prof Soraya Seedat, Prof Elmien Lesch, and Dr Annerine Roos.

## CONGRATULATIONS TO OUR PhD GRADUATES

### Jani Nothling: *Psychosocial and epigenetic risk and protective factors associated with PTSD post-rape.*

Compared to other trauma types, rape is associated with a high risk of developing posttraumatic stress disorder (PTSD). Women are at an increased risk of developing PTSD and are more frequently victims of sexual assault. PTSD is a complex, multifactorial disorder and an array of demographic, trauma-related, psychological, and genetic putative risk and protective factors mediate or contribute to the development and course of the disorder. Putative risk and protective factors for PTSD commonly investigated in previous studies conducted in rape-exposed samples include demographic factors; rape-/assault-related factors; and psychological factors. Genetic and epigenetic studies predominantly focused on genes associated with the central nervous system, the endocrine system, and the immune system. Few studies have comprehensively investigated demographic and psychological risk and protective factors for PTSD in a prospective, longitudinal design, beyond 3-months post-rape, and in low- to medium-income countries. Prior to this study, there were no known epigenome-wide association studies (EWASs) investigating differential methylation in relation to PTSD in (1) an African population and (2) a sample of rape-exposed women exclusively and no known studies investigating longitudinal change in the hypothalamic-pituitary-adrenal (HPA) axis associated candidate gene FKBP5 binding protein (*FKBP5*) in relation to PTSD in a sample of rape-exposed women. In her study she investigated the demographic, rape/assault-related, psychological, genetic (*FKBP5*) and epigenetic (epigenome-wide differential methylation) risk and protective factors associated with the development and course of PTSD symptoms over six months. Self-report measures and blood collection was completed at baseline (within 20 days after the rape), 3-months and 6-months post-rape as part of the Rape Impact Cohort Evaluation (RICE) study. The RICE study sample consisted of 852 Black African rape-exposed women between the ages of 16 and 40 years from a low socio-economic background.

Jani's study found that baseline demographic, rape/assault-related and psychological protective factors were not significant predictors of PTSD symptoms over time. Baseline depression and rape stigma were significant psychological risk factors for the development and course of PTSD post-rape. One intergenic CpG site (cg01700569) was differentially methylated in relation to PTSD status at 3-months post-rape on a genome-wide level. Thirty-four differentially methylated regions were identified and included a region in the HPA-axis-associated adenylate cyclase activating polypeptide 1 (*ADCYAP1*) gene and the neuroendocrine-associated brain-specific serine/threonine-protein kinase 2 (*BRSK2*) gene. A decrease in PTSD symptom score from baseline to 3-months was also correlated with an increase in *ADCYAP1* methylation from baseline to 3-months post-rape. Decreased *FKBP5* methylation was a predictor of increased



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PTSD symptoms scores at 3-months and 6-months post-rape. High childhood trauma and the CC genotype of *FKBP5* rs1360780 resulted in decreased *FKBP5* methylation and increased PTSD scores at baseline.

The study builds on existing knowledge, highlighting risk factors for the development and course of PTSD in rape-exposed women. Methylation findings also build on the existing literature base regarding the role of epigenetics in PTSD, although the genome-wide finding implicating differential methylation of *BRSK2* in the development of PTSD is a novel finding in humans. The study provides evidence that a combination of psychological and biological factors impact on the symptom trajectory of PTSD and that both should be considered when designing and implementing interventions for the treatment of PTSD post-rape.

### Melanie Marx: *Hormones in hair as possible predictive biomarkers of posttraumatic stress symptoms in women who have been raped.*



This longitudinal study was the first to investigate neurohormones (cortisol, cortisone, testosterone, dehydroepiandrosterone and progesterone) concentrations in hair in relation to posttraumatic stress symptom severity (PTSS), over a six-month period in rape-exposed women early on after rape and in rape-unexposed women. Pre-trauma hair hormone concentrations were not predictive of post-rape PTSS; however, other predictors of three-month PTSS severity were identified, namely depression and cumulative and perceived stress. This study suggests that trauma- and mental health-related characteristics early after rape may be more robust indicators of PTSS trajectories than neurohormonal characteristics.

Commenting on her PhD journey, Dr Marx said: “It was definitely the most challenging journey I have ever completed, with a lot of lows and highs. The climb to the top of the PhD Mountain was strenuous, with a lot of obstacles and difficult weather. One word that describes this journey best: Perseverance”.

## WELCOME TO NEW TEAM MEMBERS!

During 2021, we welcomed quite a number of new members to the SARChI team.

### Dominique Eugene



Dr Dominique Eugene was born in Haiti and raised in New Jersey. She has a PhD in Clinical Psychology, is a Licensed Marriage and Family Therapist, a Registered Play Therapist and Supervisor, a Certified Trauma Specialist, and an Infant-Family and Early Childhood Mental Health Specialist in California. She is a recipient of the Harvard University, Boston University, Northwestern University, and University of New Mexico (HBNU) Consortium Fogarty Global Health Fellowship and is the Institute for Social Innovation Fellow at Fielding Graduate University. As an HBNU Fellow, this coming year (under the guidance of Prof. Seedat) will be spent in the SARChI program at Stellenbosch University conducting research on women offenders of intimate partner violence with history of childhood maltreatment and PTSD. While she waited for approval to travel to Cape Town, she worked in Central Bay California at the Monterey County Behavioural Health, Children’s System of Care. She also teaches graduate level courses, is a critical incident consultant and engages in countless other activities related to mental health equity. Prior to working in California, she lived and worked in rural Japan. Before Japan, she worked as an academic counsellor, a community-based mental health therapist, as well as a bilingual school counsellor in New York City and New Jersey.



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### Kristina Korte



Dr Kristina J. Korte, PhD, is an instructor and licensed clinical psychologist at Massachusetts General Hospital and Harvard Medical School and a Research Associate at the Harvard T.H. Chan School of Public Health. Dr Korte's clinical work and research focuses on understanding the nature and treatment of anxiety disorders, post-traumatic stress disorders (PTSD), and co-occurring substance use disorders. The overarching aim of her research is to reduce the global burden of these disorders through the implementation and dissemination of evidence-based treatments for use in low and middle-income countries. Dr Korte is currently a Fulbright U.S. Scholar in the SARChI program at Stellenbosch University and was recently awarded a K01 International Research Scientist Development Award (IRSDA) from the National Institute of Health's Fogarty International Centre for her work on the adaptation of a brief transdiagnostic treatment for anxiety disorders and PTSD for use in South African primary care clinics.

### Philippa Taitz

Philippa is a 21-year-old BSc Human Life Sciences graduate at Stellenbosch University. She thoroughly enjoys genetics and is grateful to have the opportunity to do a genetics research project as part of the SARChI team. Her Honours project title is "Identification of maternal DNA methylation biomarkers for FASD". Her project is an exploratory investigation to identify maternal DNS methylation (DNAm) biomarkers that predict FASD risk in infants. She aims to do this by analysing samples from the pregnant mothers.



### Rachel Ince

Rachel is a BSc Genetics, Human Anatomy and Physiology graduate from the University of Cape Town. She joined the SARChI team as an Honours student in Molecular Biology and Genetics. Her research project is titled "Genetic contributions to anxiety sensitivity in the context of childhood trauma". She is particularly interested in the genetics and heritability of neuropsychiatric disorders such as anxiety and depression. After completing her Honours, she aims to travel and get work experience for a year, before continuing with her Masters in Human Genetics.



### Catherine Lohrentz

Catherine completed her BSc Human Life Sciences (with Psychology) at Stellenbosch University. She joined the SARChI team as a BSc Honours student. Her research project is titled "The role of oxytocin receptor gene variants in appetitive aggression: A study in a South African population". After completing her BSc Honours, she aims to continue with her MSc. For MSc, her project aims to investigate the association between the stress-response, assessed during a virtual reality paradigm, and methylation of FKBP5 in healthy control participants. This study will be used to confirm the validity of a locally developed virtual reality paradigm in eliciting a stress response and establish a baseline methylation profile for HPA-axis functioning in a non-clinical South African cohort.





## Kayleigh Filton



Kayleigh Filton obtained a BSc in Medical Bioscience in 2020 from the University of the Western Cape. She also obtained a Postgraduate Diploma in E-Skills Development from said institution in 2021, earning magna cum laude distinction. She was part of an application development team that created an augmented reality mobile application as part of her

postgraduate research project. The aim of the application was to assist anatomy students in learning the musculoskeletal and nervous anatomy of the human limbs. She joined the Neuropsychiatric Genetics research group in October 2021 as an intern employed by the Human Sciences Research Council and the Department of Science and Innovation, in the hopes of expanding her skill set of laboratory techniques and experience in the research and development sector.

## Thomas Rust

Thomas Rust graduated with BSc Honours (Genetics) from Stellenbosch University in 2020. He joined the Neuropsychiatric Genetics Research Group earlier this year as an MSc student. His research investigates how epigenetic variation of the oxytocin receptor (*OXTR*) gene interacts with anxiety proneness and structural neuroimaging measures in the context of childhood trauma among South African adolescents.



## Daniëlle Jansen van Rensburg



Daniëlle completed her BSc degree in Behavioural Genetics at the University of the Free State in 2017. She completed her Honours degree, cum

laude, in BSc Behavioural Genetics at the University of the Free State under the supervision of Mrs Z. Murray. "My research focussed on the influence of diet and sport participation on the expression of the serotonergic system of male juvenile delinquents to determine if those environmental factors can be used as management strategies for aggression". Daniëlle joined the Neuropsychiatric Genetics Research Group at the beginning of 2021 as an MSc student. For her MSc, she will be investigating the association between miRNA in whole blood and anxiety sensitivity (AS) in adolescents with variable exposure to childhood trauma. Differentially expressed miRNAs will be identified in the high-AS and low-AS, through miRNA-sequencing. This study will contribute to the identification of modifiable risk factors that can be a target for underlying mechanisms in people who are at risk for AS.



## A SUSTAINABLE CONFERENCE IN THE SPIRIT OF UBUNTU



For many decades, scientists and researchers have travelled all over the globe to present their work at conferences. And yes, conferences have forever been a great excuse to see different parts of the world, enjoy the free goodies, and have a great time! Understandably, the carbon footprint of in-person academic conferences has increasingly become a concern especially in terms of [air travel](#). Notably, a conference attendee could have emitted as much as [three tonnes](#) of carbon dioxide to attend an international conference. However, the wastefulness of exhibitor stands, and free goodies seems to have slipped off the radar. Let's be honest,

how many congress bags, pens, and writing pads do we really need?!

With the onset of COVID-19, millions of people were required to make drastic changes to their lives to help contain the impact of the virus. Among those changes, scientific conferences of every type and size were forced to cancel, postpone, or go [virtual](#) to protect public health. While a full-on virtual conference may cut conference-related carbon emissions by up to [99%](#), there are some downsides. Other than the obvious onset of [Zoom fatigue](#) and practical [difficulties](#), one should not overlook the fact that conferences are well known for creating much needed [jobs](#). So, where to from here?

My recent attendance of the [South African Society of Psychiatrists' congress](#) in October 2021 in the wonderful Drakensberg – yes, I must confess, the setting is one of the main reasons I wanted to go – presented with what may be a balanced solution. Besides from the hybrid format (lessening the travel carbon footprint), the event organisers, [Londocor](#), conceived the idea of wooden stands for the exhibitors which were converted to classrooms for the local [Amahlubi Secondary School](#). Additionally, exhibitors were required to ensure that all furniture at the exhibition stands and the free goodies (including congress bag, notepads and pens, umbrellas, activity items at the exhibition stands, etc.) were sustainable (e.g., made from recycled material) and useable for school children. Congress attendees were also asked to bring donations of clothes, sanitary products, towels, blankets etc. Consequently, not only was Mr. Petros Dlamini (School Principal) presented with three sustainable classrooms (bungalows) to the approximate value of R 1.5 million; he was also presented with a mountain of goods. There was not a dry eye at the Congress Dinner! At the Congress Dinner, we were also reminded by Mrs Priya Balakisten from [Champagne Sports Resort](#), of the job opportunities created and the local staff's elation to be back at work. While the party-side of the dinner was started by the [Drakensberg Boys Choir](#), I realised that throughout the conference, there was a general spirit of "happy to be back" among attendees hungry for some social interaction.

We may never know the answer: in-person, virtual, or hybrid? Yet, we do know that the answer should not be at the cost of local communities (especially in developing countries) or the social and emotional health of attendees. Sustainability, in its truest form, includes the spirit of Ubuntu.



*Berte van der Watt, PhD Candidate*



## GUEST SPEAKERS

This year, we hosted various guest speakers at our online SARChI meetings.

### South African Adolescence Sleep Intervention (SAASI) study team

The South African Adolescence Sleep Intervention (SAASI) study team, a SARChI study, hosted Prof Melissa Milanak who gave a keynote lecture titled *“Well-being in the workplace and whole person health”* on 25<sup>th</sup> November, and Prof Cherie Armour who gave a keynote lecture titled *“Building a biopsychosocial model of risk and resilience to PTSD in those exposed to armed conflict in Colombia”* on 26<sup>th</sup> November.



#### Cherie Armour

Professor Cherie Armour is a Professor of Psychological Trauma and Mental Health in the School of Psychology at Queens University Belfast, and Director of the Research Centre for Stress Trauma and Related Conditions (STARC). Prof Armour is Principal Investigator on several large-scale multi-year research grants and has published extensively (>150) in the field of Psychotraumatology and Mental Health. A new and exciting line of research enquiry relates to the underpinning mechanisms explaining the relationship between sleep and mental health outcomes such as PTSD. Prof Armour holds several leadership positions in the field of traumatic stress studies. She is the immediate past President of the UK Psychological Trauma Society and remains on the board as the Chair of the European Society for Traumatic Stress Studies conference. She is also on the

board of Directors of the International Society of Traumatic Stress Studies. Prof Armour holds a number of editorial positions on prestigious journals such as the Journal of Traumatic Stress Studies and Trauma, Research, Practice and Policy; and is also a long-standing Associate Editor of the European Journal of Psychotraumatology.

#### Melissa Milanak

Prof. Melissa Milanak is a licensed clinical psychologist and an Assistant Professor in the Education and Training Division and Clinic Coordinator for the Sleep and Anxiety Treatment and Research Program (SATRP) as well as the Director of Development & Alumni Relations and Associate Director of Continuing Education in the Department of Psychiatry and Behavioural Sciences at MUSC. Her current work focuses on the nature of, aetiology, and treatment of PTSD and comorbid sleep disorders as well as examining how sleep can play a role in the onset, maintenance, and/or prevention of PTSD. She also has conducted significant research examining the relationship between PTSD symptoms factors and the processing of emotional information, both in the USA as well as in Northern Ireland. Prof. Milanak specializes in providing evidence-based treatments (e.g., Cognitive Behavioural Therapy) for sleep disorders including insomnia and anxiety disorders and has significant clinical experience providing treatment for anger management and other emotional processing/regulation issues. Prof. Milanak supervises clinical trainees in the SATRP, supervises PGY-3's in CBT techniques, is the Assistant Director of Resident CBT Training, and serves as one of the Faculty Advisors for the Medical Student Psychiatry Interest Group.



## Andrew Wooyoung Kim



Dr Kim presented on “*Psychological legacies of intergenerational trauma under South African apartheid: Maternal prenatal stress, infant birth outcomes, and adolescent psychiatric morbidity in Soweto, South Africa*” Dr Kim is a biological and medical anthropologist,

Research Fellow at Massachusetts General Hospital, and an Honorary Lecturer in the Faculty of Health Sciences at the University of the Witwatersrand. He earned his B.S. in Anthropology and Human Biology at Emory University, received his PhD in Biological Anthropology at Northwestern University. His research integrates anthropological, biological, and epidemiological approaches to understand how historical trauma produces mental health inequities in historically marginalized communities. Dr Kim’s current work examines the intergenerational effects of political violence under South African apartheid on stress physiology and psychiatric outcomes and in second and third generation children. Through a collaboration with the Department of Psychiatry at the University of the Witwatersrand and the South African Depression and Anxiety Group, he is also running a study on the perceptions, experiences, and mental health impacts of COVID-19 in tertiary psychiatric hospitals and communities in Johannesburg.

## JP Fouche



Dr J Fouche presented on “*Applied Structural Equation Modelling: An Intro*”. He is a postdoctoral fellow in the SAMRC Genomics and Brain Disorders Extramural Unit at Stellenbosch University’s Department of Psychiatry. His research interests include examining the MRI neuroimaging correlates of brain structure and function in psychiatric disorders. His previous work at the

University of Cape Town focused on the structural brain connectome of children living with HIV, as well as the white matter microstructure of patients with OCD, social anxiety, and HIV. He has been part of several ENIGMA-consortia that focus on the mega- and meta-analysis of brain imaging data across numerous sites in the world. Currently he is working with Prof. S Seedat and Prof. S Hemmings from the Stellenbosch Department of Psychiatry on a large cohort of people with PTSD and metabolic syndrome and investigating the association with brain structure, brain aging and epigenetics.

## RESEARCH OUTPUTS

Despite the continuing challenges, this has been a productive year. Here are some of the presentations and publications by the SARChI team members this year:

### Publications

- Bröcker, E., Louw, K. A., Hewett, M., Burger, H., Felix, R., De Koker, P., Rossouw, J., & Seedat, S. (2021). A collaborative and evolving response to the needs of frontline workers, patients, and families during the COVID-19 pandemic at Tygerberg Hospital, Western Cape Province, South Africa. *South African Medical Journal*, 111(5), 405-408. <http://www.samj.org.za/index.php/samj/article/view/13236>
- Denckla, C. A., Lee, S.Y., Rockli, K., Spies, G., Vasterling, J., Subramanian, S.V., & Seedat, S. (2021). Patterning of Individual Variability in Neurocognitive Health Among South African Women Exposed to Childhood Maltreatment. *Scientific Reports*, 11(1): 6669. <https://pubmed.ncbi.nlm.nih.gov/33758246/>
- Ginton, L. M., Vuong, E., Lake, M. T., Nhapi, R. T., Zar, H. J., Yrriahho, S., & Stein, D. J. (2021). Investigating pupillometry to detect emotional regulation difficulties in post-traumatic stress disorder. *The World Journal of Biological*



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- Psychiatry*. [Advanced online publication]  
<https://www.tandfonline.com/doi/abs/10.1080/15622975.2021.1935316>
- Jörns-Presentati, A., Napp, A. K., Dessauvagie, A. S., Stein, D. J., Jonker, D., Breet, E., Charles, W., Swart, R. L., Lathi, M., Suliman, S., Jansen, R., van den Heuvel, L., Seedat, S., & Groen, G. (2021). The prevalence of mental health problems in sub-Saharan adolescents: A systematic review. *PLoS One*, 16(5): e0251689. <https://pubmed.ncbi.nlm.nih.gov/33989357/>
- Kalungi, A., Kinyanda, E., Womersley, J., Joloba, M. L., Ssembajjwe, W., Nsubuga, R. N., Kaleebu, P., Levin, J., Kidd, M., Seedat, S., & Hemmings, S. M. J. (2021). TERT rs2736100 and TERC rs16847897 genotypes moderate the association between internalizing mental disorders and accelerated telomere length attrition among HIV+ children and adolescents in Uganda. *BMC Medical Genomics*, 14(1), 15. <https://doi.org/10.1186/s12920-020-00857-z>
- Kalungi, A., Womersley, J., Kinyanda, E., Joloba, M. L., Sembajjwe, W., Nsubuga, R. N., Seedat, S., & Hemmings, S. M. J. (2021). The 5-HTTLPR-rs25531 S-A-S-A Haplotype and Chronic Stress Moderate the Association Between Acute Stress and Internalizing Mental Disorders Among HIV+ Children and Adolescents in Uganda. *Frontiers in Genetics*, 12. <https://doi.org/10.3389/fgene.2021.649055>
- Nöthling, J., Abrahams, N., Toikumo, S., Suderman, M., Mhlongo, S., Lombard, C., Seedat, S., & Hemmings, S. M. J. (2021). Genome-wide differentially methylated genes associated with posttraumatic stress disorder and longitudinal change in methylation in rape survivors. *Translational Psychiatry*, 11: 594. <https://www.nature.com/articles/s41398-021-01608-z>
- Rossouw, J., Yadin, E., Alexander, D., & Seedat, S. (2021). Long-term follow-up of a randomised controlled trial of prolonged exposure therapy and supportive counselling for post-traumatic stress disorder in adolescents: A task-shifted intervention. *Psychological Medicine*. [Advance online publication]. <https://pubmed.ncbi.nlm.nih.gov/32758312/>
- Seedat, S., & Rondon, M. (2021). Women's wellbeing and the burden of unpaid work. *BMJ*, 374: n1972. <https://www.bmj.com/content/374/bmj.n1972>
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## Conference presentations

- Chifamba, L., Martin, L., Seedat, S., Hemmings, S., & Womersley, J. (2021, August). *Examining the influence of childhood trauma and (epi) genetic variation in brain-derived neurotrophic factor on anxiety sensitivity*. [Oral presentation] SASHG Young Researchers' Forum, online.
- Denckla, C. A., Lee, S.Y., Rockli, K., Spies, G., Vasterling, J., Subramanian, S.V., & Seedat, S. (2021, Oct 20-24). *Patterning of Individual Variability in Neurocognitive Health Among South African Women Exposed to Childhood Maltreatment*. [Poster presentation]. 20<sup>th</sup> National Congress of the South African Society of Psychiatrists African, Drakensberg, South Africa.
- Du Plessis, M., Swart, P.C., Womersley, J.S., Kuchenbaecker, K., Van den Heuvel, L., Seedat, S., Hemmings, S.M.J. (2021, October). *Methylation quantitative trait loci associated with PTSD in a South African population*. [Virtual symposium] World Congress of Psychiatric Genetics.
- Kitchin, N., Womersley, J.S., Engelbrecht, A., Marais, A.S., de Vries, M.M., May, P.A., Seedat, S., & Hemmings, S.M.J. (2021, October). *The microbiotas influence in the development of Foetal Alcohol Spectrum Disorders*. [Multiple presentations]:
- (i) 2021 World Congress of Psychiatric Genetics;
  - (ii) Microbiome Virtual International Forum; and
  - (iii) 17<sup>th</sup> International Society for Computational Biology Student Council Symposium.
- Kitchin, N., Womersley, J.S., Engelbrecht, A., Marais, A.S., de Vries, M.M., May, P.A., Seedat, S., & Hemmings, S.M.J. (2021, April). *An exploration into the gut microbiota in Foetal Alcohol Spectrum Disorders*. [Multiple presentations]:

- (i) MIT Microbiome Symposium;
  - (ii) International Conference on Microbiota-Gut-Axis conference;
  - (iii) International Human Microbiome Consortium 8th Congress;
  - (iv) Microbiome Interactions in Health and Disease Virtual Conference;
  - (v) The Microbiome: From Mother to Child Keystone symposium; and
  - (vi) Gastronomists Global 2021.
- Martin, LC., Kitchin, N., Marais, AS., de Vries, MM., May, PA., Seedat, S., & Hemmings, SMJ. (2021, April). *The maternal vaginal microbiome: An investigation into its influence in the development of FASD*. [Multiple presentations]:
- (i) MIT Microbiome Symposium;
  - (ii) International Conference on Microbiota-Gut-Axis conference;
  - (iii) International Human Microbiome Consortium 8th Congress; and
  - (iv) The Microbiome: From Mother to Child Keystone symposium.
- Martin, LC., Kitchin, N., Marais, AS., de Vries, MM., May, PA., Seedat, S., & Hemmings, SMJ. (2021, October). *Species-level profiling of the maternal vaginal bacteriome using full-length 16S rRNA amplicon sequencing with application to FASD*. [Multiple presentations]:
- (i) 2021 World Congress of Psychiatric Genetics; and
  - (ii) Microbiome Interactions in Health and Disease, online.
- Martin, LC., Kitchin, N., Marais, AS., de Vries, MM., May, PA., Seedat, S., & Hemmings, SMJ. (2021, January). *The maternal vaginal microbiome: An investigation into its influence in the development of FASD*. [Oral & poster presentation]
- Roomaney, A., Womersley, JS., Swart, PC., du Plessis, S., van den Heuvel, L., Seedat, S., & Hemmings, SMJ. (2021, October) *The effects of dopamine-related genetic variants on reward-related neuronal imaging in healthy participants: an imaging genetics study*. [Poster presentation] World Congress of Psychiatric Genetics (WCPG) Virtual conference.
- Roomaney, A., Womersley, JS., Swart, PC., Spies, G., Seedat, S., & Hemmings, SMJ. (2021, June). *Childhood trauma and genetic variation in the DAT 40-bp VNTR contribute to HIV-associated neurocognitive disorders*. [Online free communication presentation] World Congress of Biological Psychiatry Virtual Congress.
- Spies, G., Huss, J., Motswage, O., Seedat, S., & Eichenberg, C. (2021, Oct 20-24). *Attitudes of patients and mental health professionals towards Serious Games in Psychotherapy*. [Poster presentation] 20<sup>th</sup> National Congress of the South African Society of Psychiatrists African, Drakensberg, South Africa.
- Swart, PC., Womersley, JS., van den Heuvel, LL., Hemmings, SMJ., Emsley, R., Carr, J., Seedat, S., & Du Plessis, S. (2021, October). *Genetic variation in the 5-HTTLPR and reward processing: A neuroimaging genetics study*. [Poster presentation] World Congress of Psychiatric Genetics (WCPG) Virtual conference.
- Van der Watt, A. S. J., Kidd, M., Roos, A., Lesch, E., & Seedat, S. (2021, Oct 20-24). *Traumatic stress symptoms in romantic relationship breakups and DSM-5 defined traumas: An attachment theory approach to a case-case-control analysis*. [Paper Presentation]. 20<sup>th</sup> National Congress of the South African Society of Psychiatrists, Drakensberg, South Africa.
- Womersley, JS., Chifamba, LV., Martin, L., Hemmings, SMJ., & Seedat, S. (2021, October). *Investigating childhood trauma, (epi)genetic variation in the brain-derived neurotrophic factor gene and anxiety sensitivity in South African adolescents*. European Congress of Neuropsychopharmacology, virtual conference.
- Xulu, KR., Womersley, JS., Sommer, J., Hinsberger, M., Kidd, M., Elbert, T., Weierstall, R., Kaminer, D., Malan-Müller, S., Seedat, S., & Hemmings, SMJ. (2021, May). *Telomere length is associated with posttraumatic stress disorder but not appetitive aggression in trauma-exposed men*. [Poster presentation] European Society for Neurochemistry, online.

## FARE THEE WELL SISTER IRENE

This year, we said farewell to Sister Irene Mbanga who has been part of the SARChI team since 2013. The farewell was attended both in-person and virtually, with tributes by Dr Jaco Rossouw, Prof Robin Emsley, Prof Dana Niehaus, Dr Sharain Suliman, Ms Retha Smit, Sister Letitia Hintsho, and Prof Soraya Seedat. Sister Irene noted the following:

*“Being part of the SARChI Team was a new experience for me. I didn’t know what to expect. I joined the Team in January 2013 and left in June 2021. It was a very fruitful experience, with unlimited opportunities to learn, to travel and to meet different people in different places. There was never a shortage of projects to take part in and the opportunities for travel were always available. I would never have travelled to Zambia and Latvia if it were not for the SARChI project. I will never forget the overseas visits to Professors and Doctors who presented many lectures and research results from all over the world. I wish to thank Professor Soraya Seedat for her outstanding leadership style and her undying enthusiasm for research, making her one of the world’s leading researchers of all time. Thank you for making me a part of this team for the past eight years.”*



*Compiled by Berte van der Watt and Tanya van Aswegen, with a special thank you to Vanessa Jones for their assistance.*