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African scientist's directory: <https://africanscientists.africa/business-directory/sharma/>

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SUMMARY/PERSONAL STATEMENT

I have comprehensive research knowledge and experience (>15 years) in human genetics and multi-omics-based research, evidenced by my qualifications and research outputs. The last 15 years have allowed me to further build on my expertise where I specifically focused on evaluating the epidemiology and determinants of non-communicable diseases, identification, and validation of new population-specific molecular targets for disease prognosis, diagnosis, and novel therapeutic development.

My work experience includes employment at the University of Cape Town (South Africa) as a research officer and the University of the Western Cape as a Post-Doctoral research fellow under the Thuthuka / National Research Foundation (NRF) grant holder link bursary, the National Research Foundation Freestanding and Department of Science and Technology (Nanotechnology Innovation Centre (NIC) /Department of science and technology (DST)/MINTEK- funded) postdoctoral fellowships.

Since 2020, I am involved in the SAMRC's wastewater program on SARS-CoV-2. As a senior scientist wastewater surveillance and research programme (WSARP), I am responsible for developing methods for monitoring the non-infectious SARS-CoV-2 RNA, the fragments of the virus that causes COVID-19 in the wastewater, optimizing new experimental lab assays, and exploring the complex and new concepts in the SAMRC wastewater Surveillance and Research Programme. I have established a protocol for variant testing SARS-CoV2 from wastewater.

My passion to train others led me to become the lead laboratory trainer and have trained many research scientists from historically disadvantaged universities within South Africa in implementing WSARP for identifying COVID-19 hotspots. I have trained researchers in mitochondrial bioenergetics using the Seahorse instrument.

Currently, in my capacity as a senior scientist, I am managing two multidisciplinary projects: (1) Investigating genetic variants that contribute towards uncontrolled hypertension (UHTN) and (2) Investigating the role of various phytochemicals in preventing cardiovascular dysfunction.

This research can aid in the development of novel drug targets or new drugs that can prevent cardiotoxicity. The hypertension research will provide unique insights into understanding the role of genetics in the disease pathophysiology and finally move from a "one dose fits all" approach to personalized medicine.

During my postdoctoral fellowship, I was involved in various projects that allowed me to acquire extensive experience in investigating the molecular basis of diseases and mastering essential molecular biology techniques. Additionally, along with building experimental work experience (DNA, RNA, protein extractions, RT-PCR, western blot, cell biology techniques) in human genetics and MassARRAY SNP genotyping, I have gained various data analytics skills using statistical and bioinformatics tools. Examples include the identification of potential drug targets of hypertension using bioinformatics methods (paper published), and molecular gene targets as well as shared molecular pathways between obesity and autism that could be used to develop therapies for autistic obese individuals (paper published). In a recent publication (paper published 2020), univariate and multivariate logistic regression analyses were performed to identify significant predictors of hypertension in an African population.

I have published 30 peer-reviewed articles, of which seven are first-authored. Using this as leverage I was able to contribute to the writing of several successful grant applications (Strategic Health Innovation partnership grant (SHIP-RFA-01-2019; around USD 200,000, National Thuthuka funding, USD14000,

DST/MINTEK funding, USD 20, 000, National Research Foundation Bilateral grant; USD 14000, UMSAEP; USD 6,000). I have successfully mentored (>20) postgraduate students at a historically disadvantaged university as well as supervised 6 postgraduate students. Through my prior research experience, I have not only learned to manage my work in a collaborative environment but also made me understand the intricacies of the research work.

The years of experience in diverse research fields have enriched my understanding of disease biology from various perspectives and enhanced my capability to devise and execute multidisciplinary projects. I would like to implement this experience to devise new strategies and develop new technologies/methodologies that will accelerate human genetics research efforts further to mitigate the burden of non-communicable diseases.

EDUCATIONAL QUALIFICATIONS

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| 2021 , Bioinformatics course | Introduction to Bioinformatics course (H3A BioNeT), Pan African Bioinformatics network for H3 Africa. |
| 2010 , Ph.D. | Human Genetics, Guru Nanak Dev University, India Dissertation: Obesity and Associated Factors in School Going Children of Amritsar. |
| 1999 , B.Ed. | Bachelor of Education (D.A.V College, Amritsar, India). |
| 1998 , M.Sc. (Hons) | Department of Human Genetics, Guru Nanak Dev University, Amritsar, Punjab, India Thesis: 'Growth and Feeding Practices of Punjabi Infants. |
| 1996 , B.Sc. (Hons) | Department of Human Genetics, Guru Nanak Dev University, Amritsar, Punjab, India. |

RESEARCH LEADERSHIP

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| National and International recognition | Executed multidisciplinary research projects in India, the USA, and South Africa. 30 research publications in peer-reviewed journals |
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Editorial activities**Associate Editor:** Frontiers in Endocrinology.**Review Editor:** Frontiers in Human and Genetics**Research topics under editing****Frontiers in Endocrinology (impact factor, IF: 3.7)**

“Advances in Research of the Cardiovascular Disease Continuum: Endocrine Aspects of Disease Pathophysiology, Risk Predictors, Therapeutics, and Management of Diabetes and Hypertension Volume II.” Advances in Research of the Cardiovascular Disease Continuum: Endocrine Aspects of Disease Pathophysiology, Risk Predictors, Therapeutics, and Management of Diabetes and Hypertension Volume II | Frontiers Research Topic (frontiersin.org)

Peer Reviewer for Professional Journals

International journal of environmental research and public health Impact Factor (IF: 3.39)

Mutation Research (IF: 2.8)

Genetic Testing and Molecular Biomarkers (IF: 2.0)

Scientific Reports (IF: 5.13)

Frontiers in Genetics (IF: 4.5)

Genes (IF: 4)

African Health Sciences (IF: 0.84)

Panel Reviewer for Funding Agencies

SAMRC Research Strengthening and Capacity Development Funding Opportunity for Selected South African Universities (RCD- 2021)

National Research Foundation Thuthutka program 2016

Cancer Association of South Africa (CANSA, 2016-2017)

External Reviewer

Academic staff promotion applications reviewer Wits University, South Africa.

Examiner for Masters and Ph.D. thesis.

Professional Affiliations

South African Society for Biochemistry and Molecular Biology (2021-present)

Human Variome Project Consortium (2021-present)

The Organization for Women in Science for the Developing World (OWSD) (2021-present)

South African Society of Human Genetics (2021-present)

Capacity development**Wastewater Research Surveillance Program for SARS-CoV2**

Supervised and trained students and research scientists invariant testing, SARS-COV2-19 PCR analysis, across various universities of South Africa (University of Fort Hare, University of Uizululand, University of Free State, Nelson Mandela University, Safeko Makgatho university of health sciences, University of Venda) Supervision and mentorship of postgraduate students

Capacity building in multiple research projects conducted at the University of the western cape, University of Cape Town (South Africa), and Guru Nanak Dev University in India.

Training, supervision, and mentorship to various postgraduate students

COMMUNITY OUTREACH

Wastewater Surveillance and Research Programme (SAMRC, SA)

I am involved with the SAMRC wastewater Surveillance and Research Programme that monitors the non-infectious SARS-CoV-2 RNA, the fragments of the virus that causes COVID-19. This can be used as an early indicator of COVID-19 case trends within a community. The results of the levels of SARS-CoV-2 viral RNA in the wastewater indicate the level of COVID-19 infection within communities.

We inform the relevant municipal stakeholders by sending weekly updates on the levels of SARS-CoV-2 viral RNA in wastewater.

The data obtained also loaded onto the public-facing WSARP dashboard on the SAMRC's website – which is accessible to everyone online.

Media Reports/Press Releases

The research is also translated through the publication of popular science articles and newsletters. Our WSARP is featured in the GloPID-R newsletter 17th Edition- January 2022 as well as the African Alliance's podcast series on COVID-19 in July 2021.

WSARP media statements have been reported in the print media, radio, and television, by local, national, and international outlets as given below.

<https://ewn.co.za/2021/03/08/how-wc-health-authorities-use-sewage-to-identify-covid-cases-in-communities>

<https://youtu.be/Met92ya2qbQ?t=205>

<https://www.samrc.ac.za/wbe/news.html>

Genetics of Autism

(University of Western Cape, South Africa)

The main aim of this project was to establish a database on the prevalence and nature of Autism in South Africa, expanding the existing information and further strengthening existing support and educational programs for parents with children with autism in South Africa and Namibia.

Various presentations were done in the schools to spread awareness in the community about the role of Genetics in Autism and its treatment.

Knowledge was also given regarding the early identification of early biomarkers and their role in the management of Autism

Obesity and Associated Factors in School Going Children of Amritsar

Guru Nanak dev University, India

Awareness among the school children (>2000) about healthy diet patterns and lifestyles

Knowledge of research output was translated to school authorities.

School authorities implemented new policies including healthy lunch menus in the school canteens

Prevalence of obesity in the urban middle class of Punjab

Guru Nanak dev University, India

Awareness was created in the community regarding various health risks associated with obesity

The public had also been made aware of the various contributing factors to obesity.

EMPLOYMENT/PROFESSIONAL EXPERIENCE

Feb 2020-Present

Senior Scientist and Project Manager

Biomedical Research and Innovation Platform, (BRIP)
South African Medical Research Council,
Cape Town,
South Africa

Role: Senior Scientist

Responsibilities

COVID-19 Response team
Training of staff and postgraduate students for quantitative real-time polymerase chain reaction (qRT-PCR) in wastewater surveillance of COVID-19 program. Managing Wastewater surveillance research program workflow at the Biomedical Research and Innovation platform and across multiple sites in various universities in South Africa

Coordinating, training, and processing the mitochondrial bioenergetics and hypertension workflow.

Development, evaluation, and implementation of new methods in Molecular Biology. Developing standard operating procedures (SOPs).

Ensuring compliance, awareness, and attention to ethical matters, risk management, reagent management, and sample storage.

To maintain assets of seahorse equipment.

Capacity Development: To supervise and train students in seahorse workflow, variant testing, SARS-COV2-19 PCR analysis, and management of hypertension project.

Build national and international collaborations with other universities.

Research outputs in ISI rated journals

Submission of grant applications and funding management

Unit citizenship

Research Project 1: Wastewater program on SARS-CoV-2

Research Project 2: Elucidating inter-individual genetic variation in the development of uncontrolled hypertension - the role of individualized drug therapy

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| | | for a sub-Saharan African population. (USD 2,00,000). Role in the project: Co-Investigator. Research Project 3: Coenzyme Q10, as an antioxidant prophylactic, attenuates Doxorubicin-induced cardiotoxicity in an in vitro H9c2 cell model. Role in the project: Co-Investigator. |
| July 2018-Feb 2020 | Research Officer Division of Dermatology, Department of Medicine, Groote Schuur Hospital, University of Cape town, South Africa | Research Project: Computational drug repurposing for keloid disease using Gene Expression Signature-Based Approach. Role in the project: Senior Research scientist Responsibilities: Experimental work (To isolate primary keloid fibroblast (KFb) and normal skin fibroblast (NFb) from tissue biopsies and get cells ready for experiments) To perform experiments using the xCELLigence Real time cell analyzer (RTCA) Analyzer for proliferation and cytotoxicity screening with the treatment of short-listed drugs. Knowledge and skills transfer to researchers. Presentation of results to stakeholders. Capacity development. Submission of Grant applications to funding agencies. |
| June 2017- June 2018 | Postdoctoral Research Fellow Department of Biotechnology Faculty of Natural Sciences, University of Western Cape, South Africa | Research Project 1: Nanotechnology-based therapeutics approaches for the treatment of cancer. Role in the project: Postdoctoral Researcher Research Project 2: Evaluating the anticancer activity of Gold Nanoparticles synthesized from Honey Bush using the green synthesis method. Role in the project: Visiting Research Scientist, Green Nanotechnology Centre, University of Missouri, Columbia, USA |
| Jan 2013 – Dec 2016 | Postdoctoral Research Fellow , Department of Biotechnology, University of the Western Cape, Cape Town (South Africa) | Research Project: Development of nanotechnology-based therapeutic approaches to treat HIV (NRF Free Standing Postdoctoral Fellowship). Role in the project: Post-Doctoral Research Scientist. |
| Jan 2012-Dec 2013 | Postdoctoral Research Fellow , Department of Biotechnology, University of the Western Cape (UWC), Cape Town (South Africa). | Research Project: Genetics of Autism and Protein Biomarker development for Autism. Nanotechnology Innovation Centre/Department of science and technology/MINTEK- funded; USD20000). Role in the project: Post-Doctoral Research Scientist. |

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| Sept 2010-Dec 2012 | Post-doctoral Research Fellow and Project Manager in an SA-Namibia collaborative project University of Western Cape Cape Town South Africa | <p>Research Project 1: Establishment of the infrastructure for the identification of autism in Namibian individuals and molecular studies of autism in Namibian and South African individuals (NRF-funded; USD14000) Role in the project: Project Manager</p> <p>Research Project 2: Genetics of Autism in South African individuals. Role in the project: Postdoctoral Research scientist.</p> |
| Sept 2001- Feb 2009 | Research Fellow, Department of Human Genetics, Guru Nanak Dev, University, Amritsar, Punjab (India) | <p>Research Project 1: Obesity and Associated Factors in School Going Children of Amritsar. Role in the project: Ph.D. researcher.</p> <p>Research Project 2: Obesity in Urban Middle Class of Punjab (India) Role in the project: Project Fellow.</p> |
| Jan 2000- Aug 2001 | Technician, Centre for Genetic Disorders, Guru Nanak Dev University, Amritsar, Punjab (India) Research Fellow, Department of Human Genetics, Guru Nanak Dev University, Amritsar, Punjab (India). | <p>Role: Lab Technician (Molecular Biology Lab)</p> <p>Responsibilities: Blood sample collection. and their storage management. Extraction and Quantification of DNA from collected blood samples. Managing the Molecular Biology Laboratory</p> |

AWARDS/INCOME GENERATION

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| 2003-2006 | USD 2600 | Project Fellowship Funded by University Grants Commission, India. |
| 2012-2013 | USD 14000 | Nanotechnology Innovation Centre/Department of Science and Technology/MINTEK- award, South Africa |
| 2013-2016 | USD 40000 | Freestanding Postdoctoral Research Fellowship (USD; Funded by National Research Foundation, South Africa. |
| 2017 | USD 6000 | UMSAEAP (University of Missouri South Africa Education Program) Award Research Visit Grant for visiting the University of Missouri, USA. |
| Contribution to Research Grants | USD 13000/year | National Research Foundation Thuthuka Development grant. |
| | USD 14000/year | NRF joint research grant under South African Namibia. research partnership program bilateral agreement |
| | USD 1500/year | University Research grant. |

TECHNICAL EXPERTISE

Molecular Biology Techniques

1. Wastewater Epidemiology: SARS-CoV2 RNA detection, quantification, and variant identification (alpha variant, beta variant, and delta variant), early warning system for COVID pandemic in South Africa, South African Surveillance system link).
2. Deoxyribonucleic acid (DNA) and Ribonucleic acid (RNA) extraction, Primer design, quantitative real-time polymerase chain reaction (qRT-PCR), Single nucleotide polymorphism (SNP) genotyping, MassArray genotyping analysis, population genomics, Hardy-Weinberg equilibrium, and haplotype analysis, utilizing various bioinformatics and statistical methods (univariate and multivariate logistic regression analysis), for genome-wide association studies (GWAS), population genomics and personalized medicine. Proficient in interpreting and using an analysis of large genomic and epidemiology datasets in REDCap.
3. DNA, RNA, (Mouth swabs, semen samples, blood, tissue, and wastewater samples), and protein extractions from cells and urine samples.
4. Mitochondrial cellular bioenergetics using Agilent Seahorse instrument.
5. Agarose gel electrophoresis, Polyacrylamide gel electrophoresis
6. Designing of Primers with various software.
7. Conventional endpoint polymerase chain reaction (PCR)PCR and Real-time PCR (Syber green and Taqman assays), Digital PCR.
8. Expertise in taking Anthropometric measurements (infants, children, and adults).
9. Bioinformatics tools such as KEGG, DAVID, and Ingenuity Pathway Analysis (IPA, Qiagen) Pathway analysis (working knowledge) for RNA seq data analysis and identification of molecular targets for disease prognosis and diagnosis and drug selection.
10. DNA sequencing (working knowledge).
11. DNA Sequence Analysis.
12. DNA Cloning Experiments.
13. Western Blotting.

Tissue culture techniques

1. Primary cells and cell lines culturing.
2. xCELLigence real-time cell analysis.
3. Various viability/proliferation assays in 96 well plate format.
4. Migration assays.
5. Flow Cytometry.

Nanotechnology techniques

1. Gold and Silver nanoparticle synthesis.
2. Characterization of nanoparticles using UV-Vis, Zeta-sizer.
3. Evaluation of nanoparticles by Transmission Electron Microscopy (TEM).

Other specialized training received

1. Training and Workshops at the University of Missouri (MU), USA.
2. Chemical management online training.
3. Laboratory safety.
4. Basic Training for Animal Care and Use at MU DOT training test.

5. Hands-on training (Introduction to laboratory safety, Introduction to biosafety, ACQA/OAR Rodent Handling Workshops).

TEACHING EXPERIENCE AND CAPACITY DEVELOPMENT

Courses Taught (Undergraduate level)

The University of the Western Cape, Cape Town, South Africa.

2012-2016 Demonstrator and Tutor (BTN217, Introduction to biomolecules).

2014-2018 Introduction to Biomolecules (BTN217), (2nd year B pharmacy students; >100 students).

2012-2016 Demonstrator and Tutor (BTN 223, Biochemistry 1).

Courses Taught (Post Graduate Level)

At University of the Western Cape, Cape Town, South Africa

2017 Green Nanotechnology Module (Master' Nanoscience students)

2015 Drug Discovery pipeline module (Master's Nanoscience)

At Guru Nanak Dev University, Amritsar, India

2005-2006 Genetics of Growth postgraduate students (M.Sc. Hons. Part-1)

Every course is evaluated by the students, and I have received high scores consistently for my courses.

ACADEMIC ADVISING

2024

M.Sc: GraduatedX3 (Stellenbosch University)

2023

MSc: Graduated X1 (University of the Western Cape)

2022

Ph.D.: 1

M.Sc.: 3

Honors: 1

Students Graduated:

Honours: 6

Dissertation Supervision (Doctoral Student)

Sihle Ebhram Mabidha, Doctoral Student (South African Medical Research Council, South Africa 2022)

Dissertation Title: Inter-individual Genetic Variation and the Development of Hypertension in a Xhosa African population of Eastern Cape, South Africa. (Graduated, UWC)

Dissertation Supervision (Masters Student)

Sharnay Naidoo, master's Student, (South African Medical Research Council, South Africa 2021)

Dissertation Title: Role of Ubiquinolin in attenuating Dox-induced cardiotoxicity.

Hannah Fokkens, master's Student, (South African Medical Research Council, South Africa 2022)

Dissertation Title: To utilize whole genome sequencing (WGS) and transcriptome sequencing (RNA-Seq) to identify the novel host genetic mechanisms associated with TRH in a black South African cohort specifically

Anelisiwe Mbengashe, master's Student, (South African Medical Research Council, South Africa 2022).

Dissertation Title: Investigation of the gene expression in 3T3-L1 cells exposed to citrate-capped AuNPs. (Graduated UWC)

Dissertation Supervision (Hons Student)

Saffeen Khalil Khan, (Hons Student, University of the Western Cape, South Africa 2017)

Dissertation Title: Investigating the anticancer properties of mangiferin-capped gold nanoparticles in the human prostate cancer cell line, PC3.

Mishka Sedres, (Hons Student, University of the Western Cape, South Africa 2016)

Dissertation Title: Investigating the antibacterial and cytotoxicity effects of silver nanoparticles synthesized from African Potato (*Hypoxis hemerocallidea*).

Victoria Matambo, (Hons Student, University of the Western Cape, South Africa 2015).

Dissertation Title: Validation of Breast Cancer Biomarkers By RT-qPCR and Sequencing.

Zaynab Noordien, (Hons Student, University of the Western Cape, South Africa 2014)

Dissertation Title: The Associational Analysis of Two SNPs of the CNTNAP2 Gene with Autism in the South African Population.

Lauran Jacobs, (Hons Student, University of the Western Cape, South Africa 2014)

Dissertation Title: Associational Analysis of two SNPs of the SHANK3 gene with Autism in the South African population.

Advisor to MSc and Ph.D. students at SAMRC, South Africa

Others (the University of Western Cape and Guru Nanak Dev University, India)

During my Postdoctoral Fellowship at the University of Western Cape, I mentored and supervised >15 postgraduate students (Masters, Ph.D., and Postdoctoral), however, due to the university regulations I was not given official supervision).

During my Ph.D. in India, I trained 10 master's students and 2 Ph.D. students. I was involved in their laboratory training, guidance in the analysis of data, and thesis writing (I was not given official co-supervision as per university rules at the time).

PUBLICATIONS

First Author publications: 9

Co-Author publications: 21

Book Chapter: 1

1. **Sharma J.R., et al (2024).** No Association between AGT Gene Polymorphisms with Hypertension in a South African Population (Article). In press (Diabetes, Metabolic Syndrome and Obesity)
2. **Sharma J.R., Dlodla PV, Dwivedi G, Johnson R.** Measurement Tools and Utility of Hair Analysis for Screening Adherence to Antihypertensive Medication. *Global Heart*. 2023 Mar 22;18(1)
3. **Sharma, J.R., Sibuyi, N.R.S., Fadaka, A.O., Meyer, S., Madiehe, A.M., Katti, K. and Meyer, M., 2023.** Anticancer and Drug-Sensitizing Activities of Gold Nanoparticles Synthesized from *Cyclopia genistoides* (Honeybush) Extracts. *Applied Sciences*, 13(6), p.3973.

4. Mahlangeni, N., Street, R., Horn, S., Mathee, A., Mangwana, N., Dias, S., **Sharma, J.R.**, Ramharack, P., Louw, J., Reddy, T. and Surujlal-Naicker, S., 2023. Using Wastewater Surveillance to Compare COVID-19 Outbreaks during the Easter Holidays over a 2-Year Period in Cape Town, South Africa. *Viruses*, 15(1), p.162.
5. Nkambule, S., Johnson, R., Mathee, A., Mahlangeni, N., Webster, C., Horn, S., Mangwana, N., Dias, S., **Sharma, J.R.**, Ramharack, P. and Louw, J., 2023. Wastewater-based SARS-CoV-2 airport surveillance: key trends at the Cape Town International Airport. *Journal of Water and Health*.
6. Mabhida, S.E., Muhamed, B., **Sharma, J.R.**, Apalata, T., Nomatshila, S., Mabasa, L., Benjeddou, M., Masilela, C., Ziqubu, K., Shabalala, S. and Johnson, R., 2022. Methylenetetrahydrofolate Reductase Polymorphism (rs1801133) and the Risk of Hypertension among African Populations: A Narrative Synthesis of Literature. *Genes*, 13(4), p.631: A Meta-analysis.
7. Johnson, R., **Sharma, J.R.**, Ramharack, P., Mangwana, N., Kinnear, C., Viraragavan, A., Glanzmann, B., Louw, J., Abdelatif, N., Reddy, T. and Surujlal-Naicker, S., 2022. Tracking the circulating SARS-CoV-2 variant of concern in South Africa using wastewater-based epidemiology. *Scientific Reports*, 12(1), pp.1-12.
8. Sangweni, N.F., Dlodla, P.V., Chellan, N., Mabasa, L., **Sharma, J.R.** and Johnson, R., 2021. The Implication of Low Dose Dimethyl Sulfoxide on Mitochondrial Function and Oxidative Damage in Cultured Cardiac and Cancer Cells. *Molecules*, 26(23), p.7305.
9. Street, R., Mathee, A., Mangwana, N., Dias, S., **Sharma, J.R.**, Ramharack, P., Louw, J., Reddy, T., Brocker, L., Surujlal-Naicker, S. and Berkowitz, N., 2021. Spatial and temporal trends of SARS-CoV-2 RNA from wastewater treatment plants over 6 weeks in Cape Town, South Africa. *International journal of environmental research and public health*, 18(22), p.12085.
10. Mabhida, S.E., Mashatola, L., Kaur, M., **Sharma, J.R.**, Apalata, T., Muhamed, B., Benjeddou, M. and Johnson, R., 2021. Hypertension in African Populations: Review and Computational Insights. *Genes*, 12(4), p.532.
11. **Sharma, J.R.**, Mabhida, S.E., Myers, B., Apalata, T., Nicol, E., Benjeddou, M., Muller, C. and Johnson, R., 2021. Prevalence of hypertension and its associated risk factors in a rural black population of Mthatha town, South Africa. *International Journal of Environmental Research and Public Health*, 18(3), p.1215.
12. Badmus, J.A., Ekpo, O.E., **Sharma, J.R.**, Sibuyi, N.R.S., Meyer, M., Hussein, A.A. and Hiss, D.C., 2020. An Insight into the Mechanism of Holamine-and Funtumine-Induced Cell Death in Cancer Cells. *Molecules*, 25(23), p.5716.
13. Majoumouo, M.S., **Sharma, J.R.**, Sibuyi, N.R., Tincho, M.B., Boyom, F.F. and Meyer, M., 2020. Synthesis of biogenic gold nanoparticles from terminalia mantaly extracts and the evaluation of their in vitro cytotoxic effects in cancer cells. *Molecules*, 25(19), p.4469.
14. **Sharma, J.R.**, Lebeko, M., Kidzeru, E.B., Khumalo, N.P. and Bayat, A., 2019. In vitro and ex vivo models for functional testing of therapeutic anti-scarring drug targets in keloids. *Advances in Wound Care*, 8(12), pp.655-670.
15. Bekale, R.B., Du Plessis, S.M., Hsu, N.J., **Sharma, J.R.**, Sampson, S.L., Jacobs, M., Meyer, M., Morse, G.D. and Dube, A., 2019. Mycobacterium tuberculosis and interactions with the host immune system:

- Opportunities for nanoparticle based immunotherapeutics and vaccines. *Pharmaceutical research*, 36(1), pp.1-15.
16. Chauke, C.G., Magwebu, Z.E., **Sharma, J.R.**, Arieff, Z. and Seier, J.V., 2016. Mutation analysis of GLDC, AMT and GCSH in cataract captive-bred vervet monkeys (*Chlorocebus aethiops*). *Journal of Medical Primatology*, 45(4), pp.189-194.
 17. **Sharma, J.R.**, Dodgen, C., Skepu, A. and Meyer, M., 2014. Targeted destruction of HIV-positive cells. *Journal of the International AIDS Society*, 17, p.19707.
 18. **Sharma J.R.**, Arieff, Z., October, F., 2014., The association analysis of CDH10 gene (rs4307059 and rs4327572) with autism in a South African population. *European Journal of Human Genetics Vol 22 Suppl 1*.
 19. **Sharma, J.R.**, Arieff, Z., Gameeldien, H., Davids, M., Kaur, M. and van der Merwe, L., 2013. Association analysis of two single-nucleotide polymorphisms of the RELN gene with autism in the South African population. *Genetic testing and molecular biomarkers*, 17(2), pp.93-98.
 20. **Sharma, J.R.**, Arieff, Z., Sagar, S. and Kaur, M., 2012. Autism and Obesity: Prevalence, Molecular Basis and Potential Therapies. *Autism Insights*, (4).
 21. Sidhu S and **Prabhjot**. Prevalence of overweight obesity in urban females of four caste groups of Punjab in a book "obesity: A Multi-Dimensional approach to the contemporary global issue". Issue, R. Sinha and S. Kapoor, Eds., Dhanraj Book House, New Delhi, India, 2009.
 22. Sidhu S and **Prabhjot**. Blood Pressure and body composition in healthy adults. *J.Hum.Ecol (special volume)* (2007): 47-77. Singh S.P. and Gaur R., (Eds.). *Human Body Composition*. Kamla Raj Enterprises, New Delhi.
 23. Sidhu, S. **Prabhjot** and Marwah, G., 2005. Prevalence of overweight and obesity among the affluent adolescent school children of Amritsar, Punjab. *Collegium antropologicum*, 29(1), pp.53-55.
 24. Sidhu, S. and Kaur, A and **Prabhjot**, 2005. Prevalence of overweight and obesity among urban and rural adult females of Punjab. *Anthropologischer Anzeiger*, pp.341-345.
 25. Kaur, A., **Kaur P.**, Kaur, N., Kumari, K. and Sidhu, S., 2005. Variation in blood pressure among school children of Amritsar (Punjab). *The Anthropologist*, 7(3), pp.201-204.
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Article to be published in 2024:

1. **Mabhida SE**, Sharma **JR**, Muhamed B, Apalata T, Nomatshila S, Mabasa L, Benjeddou M, Shabalala, S, Johnson R. ADRB2 gene Polymorphisms as a Risk Factor for Hypertension among an indigenous Xhosa Population of Mthatha, Eastern Cape, South Africa. (Ready for submission)

WORKSHOPS AND PRESENTATIONS

Workshops

1. Mass Spectrometry based Proteomics workshop (9-11 July,2012) By Dr. Salome Smith in Stellenbosch university central analytical facility training initiative: 9-13 July 2012, South Africa.
2. Hands-on Partek Workshop, 23rd-27th July 2012, Cape Town, South Africa.
3. Proteomics Workshop, Oct 11-Oct13, 2012 organized by CPGR and UWC, in Cape Town, South Africa.
4. Flow cytometry workshop (15-19 July) Stellenbosch university central analytical facility training initiative: 15-19 July 2012. South Africa
5. Proteomics Bioinformatics Workshop, 27-29 Aug 2013, organized by ACGT Bioinformatics and Computational Biology Unit, University of Pretoria, South Africa
6. Certificate course in Translational Cancer Research, Oct 12-Oct 15, 2015, Cape Town, South Africa.
7. Wastewater Surveillance & Research Programme (WSARP) 2022 Event Date: 23–26 February 2022 Venue: Glenburn Lodge and Spa (Muldersdrift, Gauteng), South Africa.
8. Wastewater Surveillance & Research Programme (WSARP) 2022 event Date: 23–26 March 2022 Venue: Royal St Andrews Hotel (Port Alfred, Eastern Cape), South Africa.
9. Introduction to Biostatistics Course 2023 (20-23 Feb 2023), SAMRC, Capetown, South Africa
10. Media Training 21st September 2023, SAMRC, Capetown, South Africa.

Presentations

1. “Prevalence of Diabetes Mellitus among Punjabi women & its association with obesity” at XXVIII Annual conferences of the Indian Society of Human Genetics. Human Genome and Genetic Disorders. (7-9feb, 2003) organized by the Department of Zoology, University of Jammu.
2. “Growth performance of affluent Punjabi Children”. In the silver Jubilee Congress (Dec5-7,2003) of the Indian Association of Sports Medicine organized by Guru Nanak Dev University, Amritsar

3. "Prevalence of obesity and Diabetes Mellitus among the women of Punjab" in 5th Punjab Science Congress (7-9 Feb. 2002) on Science and Technology in New Millennium" held at Thapar Institute of Engineering Technology, Patiala.
4. "To Study the Association between Anthropometric Measurements and Hypertension among obese women of Punjab" in National Bio Organic Symposium-(Nov9-10, 2001) organized by the Indian Society of Bioorganic Chemists, Department of Chemistry, Guru Nanak Dev University, Amritsar.
5. "Prevalence of obesity and associated factors among school children of Punjab" in Punjab Science Congress (7-9Feb, 2010), Chandigarh.
6. "Prevalence and risk factors of obesity among school children of Punjab (India), on research open day (Oct 26-Oct 27,2010) in the Department of Biotechnology, University of the Western Cape.
7. "Identification of Protein Biomarkers in a Black South African Autistic Population in NIC Workshop (21-22 September 2012) Organized by MRC, Capetown.
8. "Identification of protein Biomarker in Black South African Autistic Population" in Research open day, UWC, 2012.
9. "The analysis of two SNPs of the REELIN gene in a South African Autistic and Control population" 12th International Congress of Human Genetics (ICHG), 11th to 15th October 2011, the Le Palais des Congrès (Convention Centre), Montreal, Canada.
10. "The association analysis of ABHD11 gene (rs2293484 and rs10279013 with autism in a South African population." European Human Genetics Conference, June 8-11, 2013, Paris.
11. "Targeted destruction of HIV-positive cells. HIV Drug Therapy Congress, 2-6 November 2014. Glasgow, UK.
12. "Prevalence of hypertension and associated risk factors in a rural black population of Mthatha town, South Africa." 10th Annual Biomedical Research and Innovation Platform Symposium 19-20 October 2020.
13. "Inter-individual genetic variation and the development of hypertension in a Xhosa African population of Eastern Cape, South Africa." 11th Annual Biomedical Research and Innovation Platform Symposium 18-19 October 2021

RESEARCH COLLABORATIONS

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