ISSUE

06

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About MSA

Metabolomics South Africa (MSA) is an independent, non-profit organization, governed by the committee of directors (CoD) and subcommittees. MSA was formed in 2018, and as of July 2018, MSA is an International Affiliate of the International Metabolomics Society, with shared goals and mission in advancing the field of metabolomics.

Metabolomics is considered a multidisciplinary omics science that aims to define the entire complement of metabolites within a biological system of interest. The momentum and maturation of metabolomics is undeniably evident, positively disruptive, and the field has visibly revolutionized the life sciences, both in fundamental and translational work.

The metabolomics community in South Africa comprises growing world-class research groups and facilities that are diverse in their research focus.

Special thanks to Elmarie Davoren (NWU) for putting this *Newsletter* together.

MSA METABOLOMICS SOUTH AFRICA NEWS

Metabolomics South Africa Newsletter

This month in MSA News
June 2025
Issue 6
MSA News is a newsletter distributed to the Metabolomics community of South Africa and Africa.

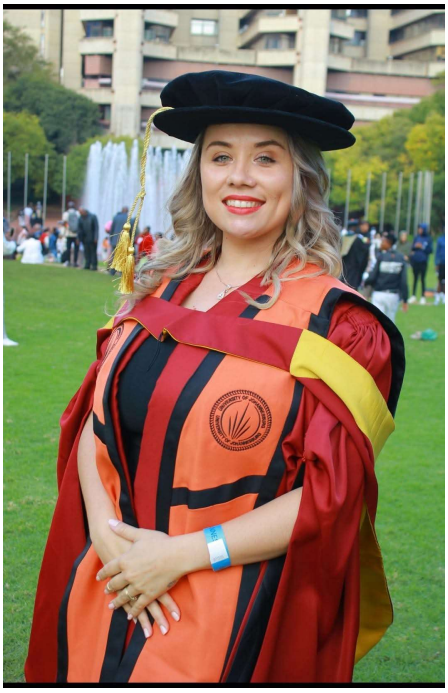
In This Issue

EYE ON IT

Join here

To become an MSA member, click on the icon or visit our website Metabolomics South Africa (https://www.metabolomics-sa.co.za/new-members) to register.

MSA Interview



In this issue we interview Dr. Chanel Pretorius who has resigned from the Communications Committee of MSA. She reflects on her journey with MSA and what lies ahead as she embarks on a new chapter.

Chanel completed her studies in Biochemistry at the University of Johannesburg, where she developed a strong foundation in metabolomics during her MSc. Her research focused on metabolomic analysis of oat (Avena sativa) plants for cultivar identification and the characterization of host responses to pathogen infection. She then pursued a Ph.D. focused on the metabolomic characterization of discriminatory metabolites in oat cultivars after infection with different Pseudomonas pathovars. Throughout her academic journey, she has been deeply interested in the application of metabolomics to understand complex biological systems. After completing her Ph.D., she worked as a postdoctoral researcher before transitioning to industry. She currently works at Whitehead Scientific, where she leads the analytical and automation portfolio. In this role, she engages with clients across academia and industry to help them identify and implement instrument solutions that streamlines their research and workflows.

Can you tell us about your role within MSA and what it entailed?

I served on the Communications Committee within Metabolomics South Africa (MSA). Initially, my role involved drafting short feedback articles for the International Metabolomics Society newsletter. I proposed that MSA launch its own newsletter to better showcase local research and activities and to raise awareness of MSA's efforts. I took the lead in developing this initiative. Additionally, I created event flyers, recorded meeting minutes, and collaborated with fellow committee members to increase the visibility of metabolomics resources and activities within the region.

What motivated you to get involved in MSA and what did you hope to contribute?

I was motivated to join MSA by a desire to build connections with other researchers and to become more involved in the metabolomics community. I hoped to contribute by creating platforms that facilitated information sharing and highlighted the work of emerging researchers. I've always believed in the importance of scientific community-building, and I saw MSA as an opportunity to engage more deeply with this vibrant community and contribute meaningfully to its growth and connectedness.

How did your academic background influence your approach to this role?

My academic background provided me with critical thinking skills and the ability to communicate complex ideas clearly—both of which were invaluable in my role within MSA. Having worked in collaborative research environments, I understood the importance of teamwork and open communication, which greatly influenced my approach to committee work. This experience enabled me to effectively engage with members from diverse scientific backgrounds and foster a collaborative spirit in all our initiatives.

MSA Interview cont.

What were some of the highlights or key initiatives you were involved in during your time with MSA?

One of the most rewarding initiatives I was involved in was the launch of the MSA newsletter. It was exciting to see it grow and take shape, and I'm particularly proud of how it became a valuable platform for sharing updates and achievements within the South African metabolomics community. I'm also looking forward to seeing how the next generation of researchers will continue to develop and evolve the newsletter in the future. This initiative significantly boosted engagement and increased awareness of the society's activities.

What were some of the most valuable skills or knowledge that you learned—scientifically or professionally—through your work with MSA?

My time with MSA helped me develop leadership and project coordination skills, particularly through initiatives like the newsletter. I also enhanced my communication abilities, especially in tailoring messages for diverse audiences. On the scientific front, being exposed to a wide range of metabolomics research deepened my understanding of the field and sparked new ideas for potential collaborations and research directions.

How did this role help you build new networks or collaborations in the metabolomics field?

Being part of MSA significantly expanded my professional network. I had the opportunity to connect with researchers from various institutions and backgrounds. MSA provided a supportive and engaging environment where meaningful conversations could flourish, making it an excellent platform for professional growth and scientific exchange.

What advice would you give to early-career researchers or students that are considering joining MSA?

My advice is to get involved as early as possible and to be proactive. MSA offers a wealth of opportunities for mentorship, collaboration, and professional development. Volunteering for committees or participating in events not only helps you gain experience and confidence but also increases your visibility within the community. It's a great way to build a strong foundation for your future career.

Tell us about what is next and what excites you most about the new opportunity you're stepping into?

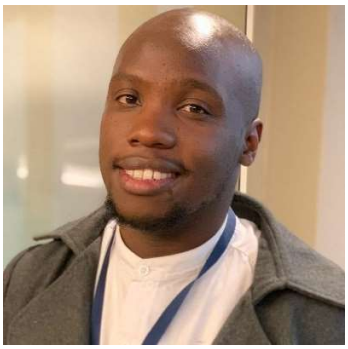
I've recently taken on the role of National Sales Specialist for the Automation and Analytical Portfolio at Whitehead Scientific. In this position, I interact with corporations and research institutions to better understand their workflows, identify bottlenecks, and offer tailored system solutions that enhance efficiency. What excites me most is the opportunity to apply the knowledge and skills I gained throughout my academic career to support innovation and drive research excellence across South Africa.

Would you like to nominate a candidate to feature on MSA interview in one of our upcoming newsletters?
Fill out the survey by clicking on the icon below or by following the link
(https://docs.google.com/forms/d/1qe4fF0gJt5VVKZ3Kzt5kdao3poiF8kiGQ8fYyy3xv9w/edit).

CLICK HERE

EMN-MSA Online Networking Event – Lerato Nephali

On April 10, 2025, the Early Career Members Network (EMN) of the Metabolomics Society, in collaboration with Metabolomics South Africa (MSA), hosted a vibrant online networking event centered on the theme “Career Paths and Transitions.” Held via Zoom. The event attracted 76 attendees from across the globe, reflecting the growing interest in career development within the metabolomics community. The event was co-chaired by Dani Ramirez (EMN) and Lerato Nephali (MSA), the session offered more than just an online networking event. It was a dynamic, rotating conversation across the main hall and four breakout rooms, each offering a window into a different professional world.



In academia, Dr. Efficient Nsikayezwe Ncube, shared his journey through postgraduate studies and postdoctoral research, offering grounded advice on publishing, funding, and staying resilient in the academic pipeline. The expertise he acquired along the way became key tools in his ever-growing professional toolbox; each one shaping his roadmap to success.

In alternative careers, Dr. Herna de Wit brought a unique blend of science and law to the table, showing how metabolomics expertise can translate into consulting, communication, and even mediation in the life sciences sector. Her multidisciplinary experience encouraged attendees to think beyond traditional pathways.

In industry, Dr. Olli Kärkkäinen gave attendees a behind-the-scenes look at running a university spin-off, balancing research with entrepreneurship, and the value of cross-sector collaboration. “Do not be afraid of starting a business”, Dr. Kärkkäinen said.

In government, Dr. Fabien Jourdan offered insights from his work at INRAE and MetaboHub, highlighting how computational biology and public research infrastructures are shaping the future of health and food safety.

Each 10-minute breakout session was a whirlwind of questions, reflections, and real talk—facilitated by EMN-MSA members who kept the energy high and the conversations flowing. What made this event stand out was its intimacy. Despite being virtual, the format allowed for honest, peer-level exchanges that left participants feeling informed, encouraged, inspired and empowered to navigate their own professional journeys.

EMN-MSA Online Networking cont.

An attendee of the event said: "*It was refreshing and enlightening to hear such diverse perspectives on metabolomics career paths and transitions in one hour. Moreover, Dr. Kärkkäinen highlighting his family in his career journey brought a personal aspect reinforcing the idea that family doesn't have to take backstage to further one's career.*"

As the session wrapped up, one thing was clear: career transitions aren't detours—they're part of the journey. And with the right community, navigating them becomes a little less daunting.

A heartfelt thank you to the EMN of the International Metabolomics Society for inviting MSA's Early Careers Committee to collaborate on this initiative. This partnership is a shining example of how global cooperation can empower the next generation of metabolomics professionals.

Stay tuned—this is just the beginning.

MSA Training Events

Ongoing training and capacity-building initiatives are a key priority for MSA. To support this goal, a number of impactful events were held to strengthen skills and promote knowledge sharing within the metabolomics community.

Computational Metabolomics Workshop on Machine Learning and AI

The FT Metabolomics Research Group at the University of Johannesburg (UJ), in partnership with the African Centre for Gene Technologies (ACGT), hosted a two-day Computational Metabolomics Workshop from 29–30 April 2025 at Glenburn Lodge and Spa, Johannesburg. Facilitators from UJ and the University of Antwerp (Belgium) led participants through the use of machine learning and artificial intelligence (AI) for analyzing LC-MS/MS metabolomics data. The workshop covered topics such as unsupervised clustering, spectral library searching, molecular networking, and open-source tools like GNPS and mzMine.

Webinar: A Basic Metabolomics Strategy for Statistical Analysis and Metabolite Annotation

An online training event titled "A Basic Metabolomics Strategy for Statistical Analysis and Metabolite Annotation" was held on 6 May from 10:00 to 11:30 AM (SAST). This training opportunity was presented by Dr. Dylan Zeiss from Microsep in collaboration with DIPLOMICS, MSA, NMP, NWU, UJ. The session provided valuable insights into key approaches for data analysis and metabolite identification in metabolomics research. The presentation was followed by a panel discussion with Prof. Aurelia Williams, Prof. Ilse du Preez and Dr. Fidele Tugizimana, offering diverse perspectives and practical insights. The event was a huge success and was attended by more than 110 participants. For those who missed the live session or would like to revisit the content, the full training is available on the MSA Youtube channel.

MSA Society News

Metabolomics Conference June 2025

The upcoming 21st Annual International Conference of the Metabolomics Society, taking place from June 22–26, 2025 in Prague, Czech Republic, promises to be a vibrant gathering of the global metabolomics community. We encourage all attendees representing or affiliated with Metabolomics South Africa (MSA) to share their conference experiences on MSA's social media platforms. Whether it's a session that inspired you, a collaboration you sparked, or simply a memorable moment from Prague—your insights help showcase the active role of South African scientists in the global metabolomics landscape. Tag @MetabolomicsSA and use #MSA@Metabolomics2025 to join the conversation!

MSA METABOLOMICS SOUTH AFRICA

METABOLOMICS 2025 PRAGUE, CZECH REPUBLIC JUNE 22-26

MSA website and communications

The MSA communications subcommittee has updated and revamped our website and social media platforms. Keep an eye out for updates about our upcoming events and useful links to past events and communications. If you are not a member yet, visit our website and become a member today. Keep up to date with all the MSA news and events by following us on social media (click on one of the respective icons to find MSA or alternatively search for us by typing 'Metabolomics South Africa' into the search bar of the respective platforms).

MSA EMN

The MSA Early Careers Committee has been active, recently hosting a successful networking event with the EMN of the Metabolomics Society. Looking ahead, the committee aims to grow its membership, increase visibility, and offer more webinars, training, and mentorship opportunities. If you would like to join the EMN reach out to Dr. Msizi Mhlongo and Dr. Daniel Mutithu.

Journal Club

The MSA Journal Club continues to be a vibrant space for sharing research and sparking discussion in the South African metabolomics community. Held on Thursdays at 11:00 AM, it offers students and professionals an excellent opportunity to present their work, gain feedback, and stay connected. A MSA JC was held on 8 May, featuring Matt Lewis, VP of Metabolomics at Bruker. He presented on the latest developments in metabolomics using next-generation mass spectrometry. The session highlighted Bruker's cutting-edge MS technology and its impact on advancing metabolomic research.

We invite academics, industry professionals, and companies to present or demonstrate innovations that support metabolomics research.

Missed a session? Catch up on our : MSA Journal Club YouTube Channel. Zoom link details coming soon—stay tuned!

We look forward to your participation and continued contributions to the growing metabolomics community!

If you would like to present your research/ article or new technology at JC, please contact Prof. Shayne Mason (nmr.nwu@gmail.com).

Recommended Articles:

Grobbelaar A, Osthoff G, du Preez I, Deacon F. First Insights into the Fecal Metabolome of Healthy, Free-Roaming Giraffes (*Giraffa camelopardalis*): An Untargeted GCxGC/TOF-MS Metabolomics Study. *Metabolites*. 2024;14(11):586. Published 2024 Oct 28. doi:10.3390/metabo14110586

Malefo, N.; Naidoo, C.M.; Mphephu, M.M.; Motshudi, M.C.; Mkolo, N.M. Metabolomics Approach for Sweat Mapping the Performance of Soccer Players in Pretoria, South Africa. *Appl. Sci.* **2025**, *15*, 4588. https://doi.org/10.3390/app15084588

Chi J, Shu J, Li M, et al. Artificial Intelligence in Metabolomics: A Current Review. *Trends Analyt Chem*. 2024;178:117852. doi:10.1016/j.trac.2024.117852

Wilkinson, C., Brooks, J., Stander, M.A. *et al.* Metabolomic profiling of wild rooibos (*Aspalathus linearis*) ecotypes and their antioxidant-derived phytopharmaceutical potential. *Metabolomics* **20**, 45 (2024). https://doi.org/10.1007/s11306-024-02103-4

Thirion, A., Loots, D.T., Williams, M.E. *et al.* An exploratory investigation of the CSF metabolic profile of HIV in a South African paediatric cohort using GCxGC-TOF/MS. *Metabolomics* **20**, 33 (2024). https://doi.org/10.1007/s11306-024-02098-y

Hantsi JM, Melato FA, Tembu VJ. Extraction potential of Trifolium repens and Medicago sativa for metals in landfill soil: Their metabolomic responses. *J Environ Manage*. 2025;373:123867. doi:10.1016/j.jenvman.2024.123867

Taunk, K., Jajula, S., Bhavsar, P.P. *et al.* The prowess of metabolomics in cancer research: current trends, challenges and future perspectives. *Mol Cell Biochem* **480**, 693–720 (2025). https://doi.org/10.1007/s11010-024-05041-w

Missions

Website and communications:
Run MSA's online platforms, retrieves and shares news from different MSA research groups and centers. Handles all communication.

Training and conferences:
Responsible for training and conference activities of MSA. The subcommittee enhances the availability and quality of training in metabolomics, identifies the training needs of the MSA growing community, and designs workshops to address such needs (both theory and hands-on sessions), In alignment to the International Metabolomics Community, and in collaboration with various partners, this subcommittee guides the implementation of pedagogical best practice in training initiatives, and coordinates all formal meetings of the MSA community.

Early Careers:
Provides a forum for ECs of the MSA community. Aspirations include but are not limited to strengthen communication and collaboration, encourage opportunities and invention, support developmental learning, and enjoy professional growth.

Industry engagement and partnerships:
Engage corporations and industry that market to the metabolomics community. Identify potential partners from industry, corporations, government institutions and other SA scientific societies.

Treasury/ Finance:
Handles all finances and expenses of the MSA activities.

MSA Subcommittees

In 2023 communication was sent out to the MSA community to recruit volunteers to serve in our subcommittees. The subcommittees are steered by Convenors (voted in by members of the respective sub-committees). As of 2024; there is a total of 5 subcommittees.

Website and communications Subcommittee

Ms Derylize Beukes (Convenor)
Derelize.Beukes@nwu.ac.za
Members:
Molati Nonyane (ACGT), Anza-Tshilidzi Ramabulana (UJ), Laneke Luies (NWU), Elmarie Davoren (NWU), Akhona Myoli (UJ), Claude Yasmine Hamany-Djande (UJ).

Early Careers Subcommittee

Dr Msizi Mhlongo; msizi.mhlongo17@gmail.com and Dr Daniel Mutithu; MTTDAN008@myuct.ac.za (Convenors)
Members:
Bamise Adeosun (NWU), Teboho Tsotetsi (UJ), Motseoa Lephatsi (UJ), Mhlonipheni Msomi (UNISA), Lerato Nephali (UJ/Omnia), Lavhelesani Rodney Managa, Yasmine Hamany (UJ), Iliya Dauda Kwoji, Taiwo Obademi (University of Ibadan, Nigeria), Robert Koech (UP), Edwin Hlangwani (UJ), Laneke Luies (NWU).

Treasury/Finance Subcommittee

Dr. Lungile Sitole (UJ, Convenor): lungile.sitole@uj.ac.za
Members: Dr Mokgadi Hlongwane (TUT)

Training and conferences Subcommittee

Prof Aurelia Williams (Convenor)
aurelia.williams@nwu.ac.za

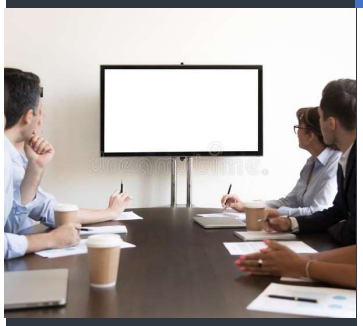
Members:
Lungile Sitole (UJ), Edwin Madala (UNIVEN), Gerhard Prinsloo (UNISA), Shayne Mason (NWU), Fidele Tugizimana (UJ/Omnia), Tracy Snyman (Wits), Ilse du Preez (NWU), Saheed Sabiu (DUT), Lungile Khambule (WITS), Chinedu Anokwuru (BABCOCK University, Nigeria), Omotola Dada (Elizade University, Nigeria), Michael Rabela (UCT), Taiwo Crossby (Elizade University, Nigeria), Abisola Shoyele (NWU), Kgalaletso Othibeng (UJ), Barbara Moyo (UNIVEN)

Industry engagement and partnerships Subcommittee

Prof Du Toit Loots; Dutoit.Loots@nwu.ac.za and Dr John Becker; john.becker@up.ac.za (Convenors)
Members:
Jitcy Joseph (UNISA), Grace Ijoma (UNISA), Ntsako Mongwe (Wits), Roan Louw (NWU), Gabriel Mashabela (SU), Zander Lindeque (NWU), Francis Maimba (Finlays), Palesa Seele (Mintek), Nkobole, Nolitha (UNISA), Ntshembo Chris Macheke (UJ), Mcebisi Mabuza (UP), Maria Mashigo (TUT), Mohammed Balogun (CSIR).

Want to get involved?

If you would like to actively participate in growing the MSA community, please do not hesitate to reach out to one of the Convenors.



We want to hear from you.

Thank you for being a part of MSA! Your feedback is extremely valuable to us, and we welcome feedback and suggestions. Your input is vital, so please take the time to share your thoughts with us. Should you have any questions or would like to get involved, do not hesitate to contact us:

metabolomicssouthafrica@gmail.com

Upcoming Events - 2025

Upcoming Events & Training Opportunities:

June 2025

Metabolomics 2025 Conference

July 2025

Train the Trainer – Data Analysis

September 2025

Pre-Analytical Workshop

Preconference Workshop/Conference/AGM

Keep an eye out for communications regarding upcoming events for 2025!