



North-West University Hosts Industry Experts to Showcase Real-World Applications of Physics, Chemistry and Biochemistry

Pretoria, 18 October 2024 - On the 25th and 26th of September 2024, the School of Physical and Chemical Sciences (SPCS) at North-West University's Mafikeng Campus hosted a vibrant and educational "SPCS in Action" event. This two-day event gathered leading organisations in chemistry, biochemistry, and physics to engage with students and showcase real-world applications of their studies. Among the prominent attendees were companies such as the South African Health Products Regulatory Authority (SAHPRA), SASOL, PetroSA, South African Nuclear Energy Corporation (NECSA), Council for Scientific and Industrial Research (CSIR), National Metrology Institute of South Africa (NMISA), among others.

The event's primary goal was to bridge the gap between academic learning and industrial application, providing final-year undergraduate and postgraduate students with insights into how their scientific studies can be applied in various sectors. The event focused on educating students about the importance of physics, chemistry, and biochemistry in everyday industrial operations, opening their minds to potential career paths in these critical fields.

One of the event's highlights was a presentation by Mr Dithole Seepamore, an applied radiation scientist working for SAHPRA in the Radiation Control Unit. Mr Seepamore, a Technical Reviewer for Radionuclides, delivered an insightful presentation that showcased the practical application of physics in his daily responsibilities. His presentation resonated well with the students.

In his presentation, Mr Seepamore outlined the essential contributions of physics, chemistry, and biochemistry to SAHPRA's work. He began by explaining how physics informs the creation of safety standards and guidelines by offering insights into different types of radiation, associated exposure risks, and how radiation behaves in various environments. Physics also aids in developing detection and measurement technologies. He also discussed the role of chemistry in understanding the chemical properties of radioactive materials and their behaviour in reactions, which is crucial

for radioactive waste management and containment strategies. Lastly, he highlighted how biochemistry is used to evaluate the biological effects of radiation exposure on human health and ecosystems. This knowledge informs regulatory limits on radiation exposure and the creation of safety protocols to mitigate risks.

During the presentation, students were asked questions about radiation, ranging from different types of radiation, sources of radiation, basic principles of radiation protection, etc. Students who provided correct answers were presented SAHPRA-branded gifts.

The SPCS arranged exhibition tables for participating organisations to engage the students on their services and products. SAHPRA's Communication & Public Relations Unit was also present to offer students detailed information about the organisation's broader role in public health, health product approvals, and the regulation of radioactive materials.

For SAHPRA, the event served as an important platform to inform students about the role of science studies in its regulatory functions and to inspire the next generation of scientists to consider careers in public health and radiation sciences.

SPCS in Action was a resounding success, bringing together academia and industry to illuminate the real-world applications of physical and chemical sciences. With organisations like SAHPRA showcasing how science is employed in crucial areas such as radiation control, students were provided with valuable insights and guidance as they prepared to transition from the academic world to impactful careers.

As SAHPRA and other organisations continue to engage with students, events like these become essential in nurturing future scientific leaders and ensuring that South Africa's health and industrial sectors remain at the forefront of global innovation.