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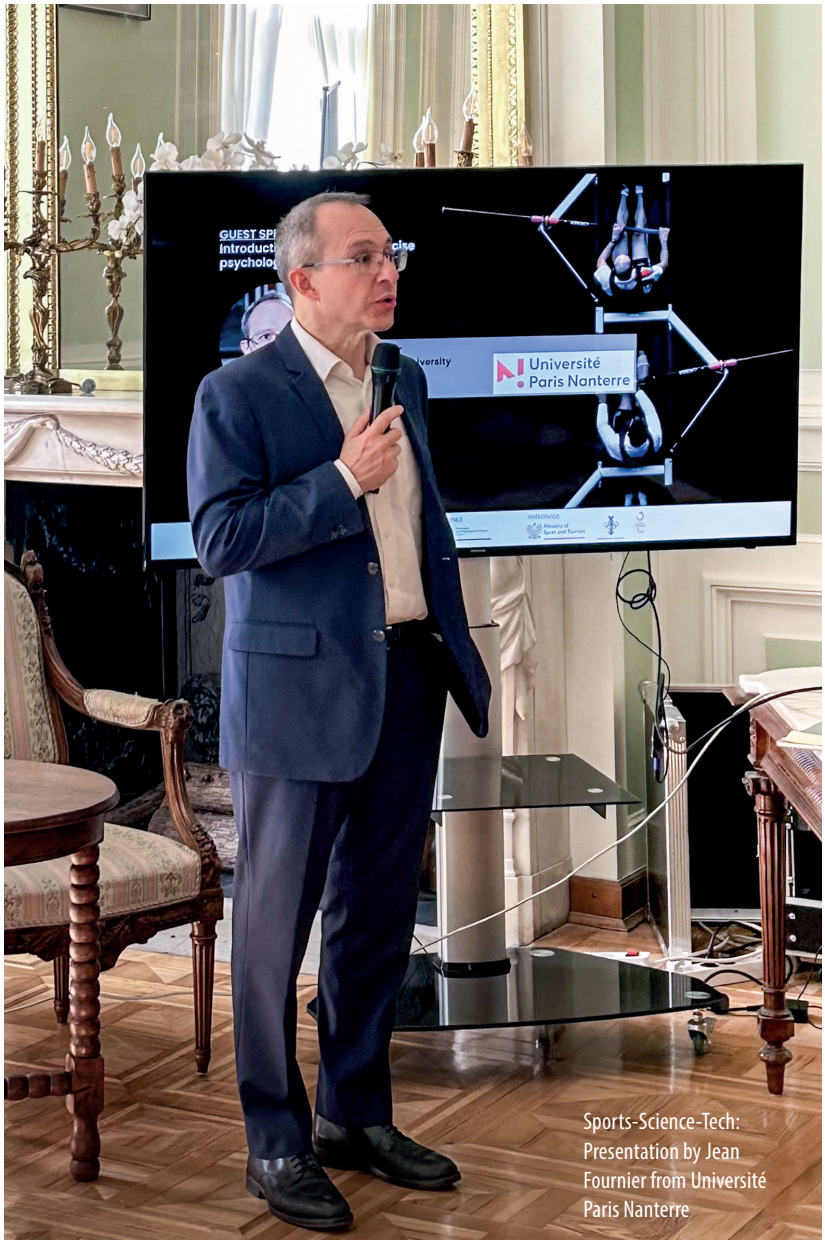
Science, Sports & Health

An event at the Polish Academy of Sciences Scientific Center in Paris.

In 2024, Paris hosted the Summer Olympic and Paralympic Games, one of the most significant sporting events worldwide. This grand celebration of sports not only showcases competition and athletic achievements but also offers a unique opportunity to reflect on the impact of science and technology on sports and health. Athletes' successes often stem from a combination of hard work, determination, and scientific support, which helps them fully realize their physical and mental potential.



Sports-Science-Tech: Presentation by Jean Fournier from Université Paris Nanterre

POLISH ACADEMY OF SCIENCES SCIENTIFIC CENTER IN PARIS

The international scientific community is increasingly dedicating resources and expertise to applied research aimed at advancing various sports disciplines. Innovations developed for elite athletes enhance individual performance and, over time, are adopted for broader use by the general public. For example, there is a growing trend in the sports and medical fields to monitor human physiological functions and performance in real-time. Portable devices like smartphones and smartwatches, equipped with precise sensors, are becoming more accessible and affordable, making them effective tools for tracking and evaluating physical activity.

In connection with the Olympic and Paralympic Games in Paris, on 12 September 2024, the Polish Academy of Sciences Scientific Center in Paris hosted the "Sports-Science-Tech" conference. This unique event, held under the patronage of the Polish Ministry of Sport and the Polish Olympic and Paralympic Committee, with support from the Embassy of Poland in Paris, aimed to showcase the role of science and technology in achieving athletic success and to spotlight innovations that influence performance across all levels of sport. As Professor Tymon Zieliński, co-organizer of the conference from the Institute of Oceanology of the Polish Academy of Sciences, pointed out, every athletic success nowadays is backed by a team of scientists. Advances in technology, data analysis, artificial intelligence, and innovative materials are not only essential for improving individual athlete performance but are also increasingly relevant to society's growing interest in healthy living and physical activity. Modern approaches to sports embrace scientific insights, leading to more deliberate and effective strategies for training and health.

Special guests at the conference included Oskar Kaczmarczyk from VolleyStation, who collaborates with the Polish Volleyball Federation, and Dr. Jean Fournier from Université Paris Nanterre. Oskar Kaczmarczyk discussed how VolleyStation operates and collects data, highlighting the integration of human expertise and artificial intelligence in performance analysis. Dr. Jean Fournier focused on sports psychology, examining the crucial role of mental factors in achieving athletic excellence.

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Sports-Science-Tech: Discussion panel

During the panel titled "Research for Sports Governance & Finance," moderated by Prof. Tymon Zieliński, Dr. Grzegorz Botwina, representing the Polish Center for Olympic Studies and Research at the University of Warsaw, emphasized that Europe has extensive experience in sports and scientific collaboration. However, he pointed out that one of the key challenges is securing funding for innovative projects in sports. He noted that there are currently no dedicated funding pathways for such initiatives. Dr. Botwina highlighted that, in addition to financial support, strengthening international collaboration is crucial, particularly in terms of knowledge exchange and sharing best practices between the business and academic sectors. He observed that the potential for knowledge transfer between these sectors remains underutilized and suggested that open dialogue could lead to synergies and mutual benefits.

The second panel, "Implementation of Scientific Research," featured Dr. Szymon Łukasik (AGH University of Science and Technology, NASK), Prof. Piotr Foltyński (Nałęcz Institute of Biocybernetics and Biomedical Engineering, Polish Academy of Sciences), Mateusz Delikat (QLAC), and Dr. Jean Fournier (Université Paris Nanterre). This discussion focused on practical solutions and the commercialization of scientific research results. The panelists shared examples of innovative tools and accessories designed to support both athletes and the general public. They also addressed challenges faced by researchers attempting to commercialize their inventions. In conclusion, the panel agreed that beyond fostering healthy competition, it is essential to raise awareness about the impact of sports on health, particularly in setting positive examples for youth.

Participants, representing both scientists and practitioners from the sports industry, had a unique opportunity to exchange experiences and ideas. This interaction, it is hoped, will contribute to the implementation of innovative solutions in sports technology. Special attention was given to the role of modern technologies, such as data analysis, biomedicine, and performance monitoring devices, which have the potential to revolutionize training methods and athlete preparation. These innovations are particularly relevant in the context of this year's Olympic and Paralympic Games.

The Sports-Science-Tech event exemplified the collaboration between academia and business while serving as a platform for international knowledge exchange. With contributions from both business startups and scientific institutions, the conference highlighted the possibilities for advancing innovation in sports, benefiting not only professional athletes but also amateurs and society as a whole. Investment in sports science and technology opens the door to cutting-edge solutions that can significantly enhance quality of life and public health. ■

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