Student Society for Sustainability

There are more than 70 scientific circles and student organizations at Bialystok Technical University. As part of their activities, some of them focus on the topics of the Sustainable Development Goals (SDGs).

https://pb.edu.pl/kola-naukowe/

➤ Koło Naukowe ORTHOS works to level the playing field for people with disabilities, contributing to the Sustainable Development Goals, such as good health and quality of life (Goal 3) and reducing inequality (Goal 10). Students involved in ORTHOS develop innovative biomedical engineering solutions, including orthopedic structures, rehabilitation assistive devices and technologies used in tissue engineering.

Among the Circle's projects are the HERMES wheelchair accessory, a sensory therapy compression vest for children with autism, an orthosis for people with hand disabilities and a sensory board. These solutions promote social integration and improve the quality of life for people with limited mobility.

Members of the Circle actively participate in national and international scientific events, conferences and medical equipment fairs, striving to implement innovations that promote social equality and access to modern medical technologies. Their activities are part of the idea of sustainable development, combining technological progress with social responsibility. https://wm.pb.edu.pl/orthos/nasze-projekty/



Przystawka do hulajnogi umożliwiająca jazdę po śniegu i grząskim gruncie

Projekt hulajnogi na płozach został wykonany w szczytnym celu. Była to



Kamizelko-ściskarka przeznaczona do terapii sensorycznej dzieci z autuzmem

Projekt kamizelko-ściskarki powstał z zamysłem prowadzenia terapii zaburzeń czucia głębokiego u



Chodzik dla dziecka z wrodzoną łamliwością kości

Chodzik dla dziecka z wrodzoną łamliwością kości powstał dla dziewczynki chorującej



Przystawka do wózka inwalidzkiego "Hermes 2.0"

Projekt powstał w celu wspomagania lokomocji osób poruszających się na wózku



Wózek dla psa z paraliżem tylnych kończyn

Wózek oraz specjalnie spersonalizowane nosiło zostało wykonane przez studentów naszego koła



Wózek dla psa bez tylnej łapy

Projekt wózka dla pieska powstał, po zgłoszeniu się do nas jego

➤ Koło Naukowe Leśników brings together students committed to the conservation of natural resources and sustainable management of forest ecosystems, supporting the Sustainable Development Goals, such as climate action (Goal 13) and life on land (Goal 15). Members of the Circle implement projects that contribute to the protection of biodiversity and the improvement of forest ecosystems. As part of the "Water Comes from the Forest" campaign, they build dams to aid water retention and counteract drought. In addition, they are engaged in collecting spruce seeds from the conservation plantation and sowing them in the nursery of the Hajnówka Forest District, thus supporting the restoration of forest stands and afforestation of areas. The Circle's activities combine academic knowledge with practical action for environmental protection, promoting sustainable management of natural resources and environmental education.

https://www.facebook.com/kolonaukowelesnikowinlpb

> Koło Naukowe ROLKA which brings together students of agri-food engineering, actively



works for sustainable development, supporting the goals of responsible consumption and production (Goal 12) and climate protection (Goal 13).

The Circle's activities focus on research into organic waste management, food quality improvement and innovative solutions in the agri-food sector. Students analyze the suitability of biocarbon for fertilizer purposes, and engage in cutting-edge technologies such as 3D printing of chocolate. As part of their research, they tested the quality of chocolates available on the Polish market, verifying the consistency of composition with manufacturers' declarations - the results have been published, contributing to consumer awareness. The ROLKA Circle has also been successful in the field of sustainable innovation - it won 3rd place in the Challenge Labs 2023 competition for its "Plastic-Free Shopping" app project, promoting the reduction of plastic consumption in everyday shopping. In addition, as part of the Via Carpathia Network, members of the Circle presented their research and results at a scientific conference, sharing knowledge and best practices in the field of sustainability. <u>https://www.facebook.com/rolkaPB/</u>

Achievement of the Science Circle: The "Rolka" Science Circle can turn coffee grounds into fertilizer, and buckwheat husks and bran into boards.

➤ Helisa Science Club

4 The Helisa Scientific Circle is actively working towards the Sustainable Development Goals, especially in the areas of clean water and sanitation (Goal 6), sustainable production and consumption (Goal 12) and the protection of aquatic ecosystems (Goal 14).

The Circle's activities focus on research into the physicochemical and antioxidant properties of natural compounds, analysis of the effects of metals on their performance, and the search for new substances with antimicrobial and antioxidant properties. Within the framework of environmental research, members of the Circle are carrying out innovative projects such as "Use of a hybrid system consisting of biomaterial and graphene oxide nanoparticles for the removal of selected heavy metals from the aquatic environment." This project aims to develop an environmentally friendly method of water purification through the use of wood waste (such as oak and willow bark) and graphene oxide nanoparticles.

Thanks to the interdisciplinary approach, students from the Department of Civil and Environmental Engineering can develop their interests in water and wastewater management, implementing innovative solutions for the protection of water resources. They present the results of their research at national and international conferences, including the prestigious conference "Environmental Engineering through Young Eyes," organized by the Faculty of Civil and Environmental Engineering. Helisa Circle's activities combine advanced scientific research with practical ecological solutions, contributing to environmental protection and improvement of the quality of life in the spirit of sustainable development.Landscape Architecture Student Circle "Green Space": The main purpose of the activity is to deepen knowledge and skills in the field of landscape architecture, architecture, urban planning and urban development. The Circle aims to develop the scientific interests of landscape architecture students.

➤ Landscape Architecture Student Circle "Green Space":

The Young Architects Circle works to advance the Sustainable Development Goals, with a focus on sustainable cities and communities (Goal 11) and quality education (Goal 4). Members of the Circle conduct research on the role and needs of children in urban spaces,

analyzing how architecture can support the development of the youngest and foster their social integration. The Circle's activities also focus on methods of architectural education, promoting the shaping of space, aesthetics and spatial order among children and young people. The group's interests also include local heritage and the importance of material and spiritual traces of the past in building the identity of the youngest generations. Members of the Circle undertake initiatives to raise awareness of architectural values, the history of places and the impact of the environment on the well-being of the community. The activities of the Young Architects Circle combine cultural, social and educational aspects, contributing to the creation of more inclusive, conscious and aesthetically pleasing urban spaces, in accordance with the principles of sustainable development.

➤ Sanitary Biologists Science Club

The club supports students in developing their interests in natural and technical sciences, including sanitary biology, toxicology, biotechnology, and related fields. Members of the club participate in events aimed at popularizing knowledge about natural sciences.

Environmental Management Science Club

The club supports its members in deepening their knowledge of environmental management, including organization and administration in both state and private forests, forest fund management, and acquiring funding from European sources. It collaborates with institutions involved in environmental management, including State Forests and local governments. Club members actively participate in regular tree planting campaigns.

➤ Thermal Engineering Science Club

The "Ciepłownicy" (Thermal Engineers) are interested in expanding and deepening knowledge and skills in the field of modern technologies used in district heating, heating, ventilation, air conditioning, and related processes and phenomena of heat and mass transfer.

Environmental Engineering Science Club

The club deals with the broadly understood issues of water and wastewater management, water and wastewater technologies, and environmental monitoring. Members of the club present their work at scientific conferences.

➢ Bio Tech Science Club

The scope of activities of the club includes, among others, determining the enzymatic activity of soils exposed to anthropogenic pollution and subjected to remediation processes. Additionally, the club conducts research on the toxicity of selected pollutants in various biological models.

≻ Little Architect Circle

It is a group whose members conduct research on the role and needs of children in urban spaces, as well as methods of architectural education, including shaping space, spatial

order, and aesthetics among children and youth. The interests of the members of the group revolve around the significance of local heritage and the role of material and spiritual traces of the past in building identity among the youngest. https://www.facebook.com/kolomalaarchitekturaWAPB/