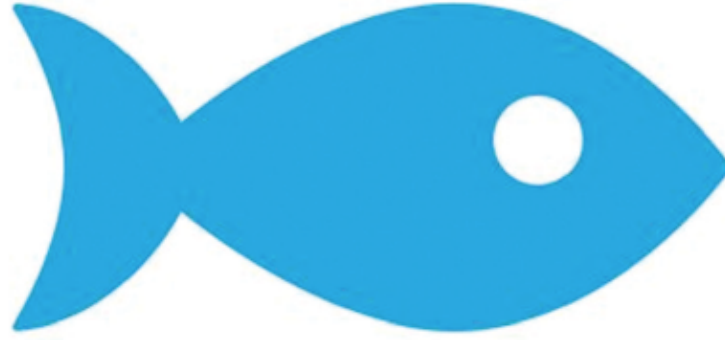




BAU BAHÇEŞEHİR
UNIVERSITY

SDG 14: LIFE BELOW WATER



2023–2024

BAU AT A GLANCE

Since its foundation in 1998, the vision of BAU has been to be a global university known for its contribution to scientific, technological, and cultural knowledge through innovative education models and research approaches that reflect international standards as well as service to society. Currently, BAU Global Network comprises of 6 universities (Istanbul, Washington D.C., Berlin, Cyprus, Batumi, Plymouth), 5 liaison offices (BAU Global Azerbaijan, Jordan, Uzbekistan, Mongolia, Pakistan) and 5 language schools.

As one of the leading universities in Türkiye, BAU aims primarily to improve the living standards of the local and global society by integrating the sustainable development goals into its corporate processes and culture, educational programs, academic research practices and stakeholder collaborations. BAU with its staff members, students and alumni is a big academic community who are raised as good global citizens committed to each other and the world around them and always act with the utmost sense of ethics and social responsibility.

BAU WITH NUMBERS

- 7 campuses in Istanbul
- 10 faculties, 1 conservatory, 2 vocational schools
- 54 BA programs, 187 MA programs, 30 PhD. programs
- 28 research and application centers
- 149 labs, workshops/studios, incubation centers
- 229 Erasmus partner universities, 96 world exchange partners
- 854 full-time faculty members, 449 administrative staff members
- 19.287 undergraduate students, 3.500 graduate students, 478 doctora degree students
- 81 student clubs
- 238 externally funded projects between 2023-2024
- 410 industry partnerships & projects between 2023-2024

BAU IN THE TIMES HIGHER EDUCATION

BAU participates in the Times Higher Education (THE) Impact Rankings since 2019. According to the current rankings, BAU belongs to the 801-1000 band in the World University Rankings, 59th in the Impact Rankings and the 173th in the Young University Rankings 2024. Also, BAU is ranked among the top 5 universities in Türkiye.

The university continuously increases its standing in categories related to the UN Sustainable Development Goals. As of 2025, BAU holds the following standings in the THE Impact Rankings;

- 7 th in Quality Education
- 50 th in Peace, Justice and Strong Institutions
- 2nd in Gender Equality
- Ranks between 101-200 in Reducing Inequalities
- Ranks between 201-300 in Industry, Innovation and Infrastructure
- Ranks between 401-600 in Sustainable Cities and Communities

The University takes the above-mentioned rankings as evaluation criteria for progress regarding its adherence and contribution to the UN Sustainable Development Goals and will continue to report its advancement in the rankings on a yearly basis.

LIFE BELOW WATER

Marine Sustainability and Ocean Stewardship at Bahçeşehir University

Bahçeşehir University (BAU), operating under the provisions of the **Higher Education Law No. 2547**, has adopted a governance model grounded in the principle of **institutional sustainability**. This model ensures transparency, accountability, and inclusiveness in all decision-making processes, aligning institutional management with national regulations and global best practices in higher education governance.

Within its governance and academic framework, BAU fosters **interdisciplinary collaboration among faculties, research centers, and student organizations to advance the sustainable use of resources**. Through initiatives, the university promotes education, technological innovation, and international partnerships that protect aquatic ecosystems and strengthen blue economy practices.

BAU's research and innovation agenda includes pioneering projects such as Türkiye's first domestically produced CTD Probe system and the Co-Light Underwater Lighting System, both of which **enhance national capacity in marine observation, water quality analysis, and sustainable ecosystem management**. Student-driven initiatives, including the BAUROV and Navi İDA teams, further contribute to **the design of autonomous underwater and marine systems that support pollution monitoring, biodiversity conservation**, and data-driven ocean science. Complementing these efforts, student clubs such as BAU Genç TEMA actively **engage in community-based awareness programs—organizing activities like wetland walks, canoe events, and educational workshops that connect urban life with aquatic ecosystem preservation**.

Through global collaborations and platforms such as the COP29 Special Session and the Climate Change Summit in Baku, BAU and CIFAL Istanbul demonstrate leadership in **advancing marine-focused sustainability policies and higher education's role in ocean conservation**. By integrating policy dialogue, research innovation, and hands-on learning, the university cultivates a new generation of environmentally conscious leaders committed to protecting marine biodiversity and ensuring the sustainable use of ocean resources.

Bahçeşehir University's holistic approach—bridging academia, technology, and civic engagement—embodies its contribution to **SDG 14: Life Below Water**. Through education, research, and partnerships, BAU continues to strengthen its impact on ocean resilience, marine ecosystem health, and the **collective global effort to preserve the blue planet for future generations**.

LIFE BELOW WATER

BAU Activities and Initiatives Supporting SDG 14: Life Below Water

Bahçeşehir University (BAU) actively contributes to the realization of **Sustainable Development Goal 14 (Life Below Water)**, which aims to conserve and sustainably use the oceans, seas, and marine resources for sustainable development.

In line with its institutional commitment to environmental stewardship, innovation, and global collaboration, BAU implements a range of programs, research projects, and community initiatives that promote marine ecosystem protection, sustainable water use, and ocean literacy across disciplines.

Through education, applied research, and international partnerships, the university addresses critical issues such as marine pollution, biodiversity loss, and the responsible use of aquatic resources—bridging science, technology, and policy to safeguard ocean health. By integrating sustainable marine practices into its academic framework and promoting interdisciplinary collaboration, BAU advances knowledge and innovation that contribute to long-term ecological resilience and blue economy development.

The following sections highlight key activities, collaborations, and capacity-building efforts carried out during the 2023–2024 academic year, showcasing BAU's dedication to advancing marine sustainability, protecting aquatic ecosystems, and strengthening collective awareness toward achieving SDG 14: Life Below Water.

LIFE BELOW WATER

Turkey's First Domestic Marine Observation Instrument Developed by BAU (11 September 2024)



Bahçeşehir University, in collaboration with **Defense Technologies Engineering and Trade Inc. (STM)**, has achieved a major milestone in advancing marine technology and environmental research with the development of **Türkiye's first domestically produced CTD Probe (Conductivity, Temperature, Depth) system**. Coordinated by BAU Innovation and Consultancy Inc. (BAUMIND) and supported under TÜBİTAK's Technology and Innovation Support Programs, the project strengthens national capacity in **marine observation, oceanographic analysis, and sustainable ecosystem management**.

The locally engineered CTD Probe enables real-time measurements of seawater conductivity, temperature, and depth, **providing essential data for monitoring marine ecosystems, assessing ocean health, and understanding underwater dynamics**. This innovation supports data-driven marine research and enhances Türkiye's ability to track critical environmental indicators, including ocean currents, salinity, and biodiversity conservation.

Beyond its technological achievements, the initiative exemplifies Bahçeşehir University's interdisciplinary approach to marine sustainability, fostering collaboration between academia and industry to promote innovation in ocean science and environmental monitoring. By enabling precise and continuous data collection, the project contributes to the protection and sustainable management of marine resources, **directly supporting Sustainable Development Goal 6 (Clean Water and Sanitation) and Sustainable Development Goal 14 (Life Below Water)**, as well as global efforts to preserve ocean ecosystems and maintain the delicate balance that sustains marine life.

LIFE BELOW WATER

STM and BAU Collaboration: Co-Light Underwater Lighting System



Bahçeşehir University, in collaboration with Defense Technologies Engineering and Trading Inc. (STM), has developed the **Co-Light Underwater Lighting System**. This innovative technology enhances underwater visibility and supports sustainable marine research and ecosystem monitoring. Originating from a long-term university-industry partnership, **the initiative combines engineering excellence with environmental responsibility to advance the study and protection of ocean environments.**

Designed to provide clearer imaging and detailed observation beneath the water's surface, the Co-Light system enables the inspection of submerged structures without extensive dry-docking or disruptive interventions. By enabling divers and researchers to conduct **real-time underwater analyses, the system contributes to the protection and sustainable use of marine resources.** It also offers valuable applications in ecological monitoring, biodiversity assessment, and the evaluation of coastal and underwater ecosystems.

Through the integration of advanced illumination technologies, Bahçeşehir University supports data-driven approaches for ocean conservation. The project exemplifies how academic research can generate practical, eco-conscious solutions that strengthen environmental stewardship, preserve marine biodiversity, and advance the objectives of **SDG 14 (Life Below Water).**

LIFE BELOW WATER



Patent: "Underwater Lighting Apparatus"

Application Number: 2017/01456

Application Date: January 31, 2017

Grant Status: Registered Patent
(March 21, 2024)

This invention presents a **multi-spectrum intelligent LED lighting system** designed to provide high-clarity and color-balanced illumination in underwater environments. The system consists of LED arrays emitting light at different wavelengths—red, green, blue, white, and ultraviolet (UV)—alongside photodiode sensors that detect light absorption levels in water. Each LED array autonomously adjusts its light intensity based on optical density and turbidity measurements, ensuring uniform, optimized illumination even at varying depths.

Compared to conventional halogen or single-spectrum LED systems, this technology achieves more balanced and natural underwater visibility by dynamically adjusting the spectral composition of light in real time. The intelligent driver circuits selectively activate only the required wavelengths, significantly improving **energy efficiency** while maintaining long-term operational reliability under high pressure. The sealed body ensures waterproof performance, making it suitable for deep-sea exploration, autonomous underwater vehicles, and marine imaging systems.

Technical Highlights:

The system includes five independent LED arrays (red, green, blue, white, and UV), each paired with a corresponding photodiode sensor that measures spectral absorption by the surrounding water. Real-time feedback allows the LED drivers to automatically balance wavelength intensity and distribution, producing smooth transitions and minimizing shadows or glare. Analog (linear) driver circuits ensure spectral harmony, while the IP-rated sealed housing protects against external conditions and pressure changes. The device can be synchronized with underwater cameras to capture high-resolution, naturally colored images in complex aquatic environments.

The invention contributes to SDG 14 (Life Below Water) by enabling advanced imaging, monitoring, and exploration technologies that support the protection and sustainable management of marine ecosystems. Its energy-efficient, adaptive design also aligns with **SDG 7 (Affordable and Clean Energy)** and **SDG 9 (Industry, Innovation and Infrastructure)** through the promotion of low-power, high-performance solutions for marine research, underwater robotics, and environmental monitoring systems.

LIFE BELOW WATER



Patent: "An Underwater Communication Device"

Application Number: 2018/10865

Application Date: July 27, 2018

Registration Status: Utility Model
(January 22, 2024)

This invention introduces an **optical-based underwater communication device** that enables divers to communicate wirelessly and in real time without the need for face masks, cables, or traditional acoustic systems. The system includes a throat microphone that detects vibrations from the user's larynx, a light emitter that converts these acoustic signals into optical waves, a photodetector that receives the optical signal, and an earphone unit that reproduces the transmitted sound. The voice signal is modulated into light waves, transmitted through water, and then demodulated back into sound by the receiver, allowing **bidirectional, cable-free, and real-time underwater communication**.

Advantages:

Compared to conventional underwater acoustic or radio-frequency systems, this invention provides **faster, more energy-efficient, and secure communication**. Optical signaling allows for ultra-low latency data transfer, enabling instantaneous interaction between divers. The device offers ergonomic operation, as it eliminates the need for bulky face masks or body-mounted microphones. The throat microphone effectively isolates the user's voice from environmental noise, ensuring clear communication even in noisy underwater conditions. Moreover, since the optical channel is immune to electromagnetic interference, it provides a **confidential and interference-free medium** for military, security, and research applications.

Technical Highlights:

The device consists of a vibration sensor that captures laryngeal oscillations and generates sound signals, a modulated control unit that converts these signals into optical form, a directional light emitter with guiding walls to minimize scattering, and a receiver system with demodulator and speaker units that reconstruct the transmitted sound. Each diver acts as both transmitter and receiver, enabling fully **two-way communication**. The optical unit can operate with laser or multi-LED sources, reducing light dispersion and improving transmission distance and signal fidelity.

The invention contributes to SDG 14 (Life Below Water) by advancing safer and more efficient underwater communication technologies that facilitate research, marine conservation, and sustainable underwater operations. It also aligns with **SDG 9 (Industry, Innovation and Infrastructure)** and **SDG 16 (Peace, Justice and Strong Institutions)** through the development of secure, energy-efficient systems that enhance coordination in marine research, defense, and rescue missions while reducing the environmental footprint of underwater communication methods.

LIFE BELOW WATER



Patent: "Communication Device for Underwater Platforms"

Application Number: 2019/20881

Application Date: December 20, 2019

Registration Status: Registered
Patent (February 21, 2024)

This invention introduces a **wireless, bidirectional optical communication system** that enables data transmission between underwater platforms such as submarines, autonomous underwater vehicles (AUVs), seabed stations, or fixed marine infrastructures. The device comprises a data input unit, a control module that converts digital information into optical signals, a light-emitting transmission unit, and a photodetector-based receiver that decodes incoming signals. All components are enclosed in a cylindrical, pressure-resistant sealed housing designed to support **360-degree optical communication**, either unidirectional or bidirectional.

Advantages:

Unlike conventional wired or acoustic underwater communication systems, this invention provides a **high-speed, low-energy, and broadband solution**. It eliminates the range, noise, and directional limitations of electromagnetic or acoustic waves, ensuring uninterrupted data exchange within the line-of-sight range. Its 360-degree sensing capability allows communication between moving and stationary units without active alignment. The modular "plug-and-connect" design facilitates easy integration with various underwater platforms—such as submarine masts, sails, or fixed nodes—enabling a shared optical data network across mobile and stationary elements. Energy-efficient LED-based light emitters further ensure **sustained operation in long-term underwater missions**.

Technical Highlights:

The device incorporates LED or laser-based emitters, multi-photodetector arrays, and a microprocessor-controlled communication board that modulates and demodulates data into optical form. The sealed housing is constructed from pressure-resistant materials suitable for deep-sea environments and uses a directed light pattern to enhance transmission accuracy. Together, these components enable **a secure, high-bandwidth optical communication network** for underwater defense, exploration, and research applications.

The invention contributes to SDG 14 (Life Below Water) by advancing underwater communication and monitoring capabilities that support marine research, exploration, and the sustainable management of oceanic resources. It also aligns with **SDG 9 (Industry, Innovation and Infrastructure)** and **SDG 13 (Climate Action)** through its development of low-power, high-efficiency technologies that strengthen scientific observation networks, reduce the ecological impact of underwater operations, and enhance safety and data connectivity in marine environments.

LIFE BELOW WATER



Patent: "Digital Optical Communication Device Between Underwater and Surface Platforms"
Application Number: 2023/017317
Application Date: December 14, 2023
Registration Status: Registered Patent (June 23, 2025)

This invention introduces a **digital optical communication system** that enables high-speed, low-power data transfer between underwater and surface platforms. The device establishes a communication link between the **"fin communication unit"** located underwater and the **"control communication unit"** at the surface, using LED emitters and optical filters to transmit data at speeds of approximately **2 Mbit/s**. Leveraging an **IP-based digital communication architecture**, the system supports both **audio and video transmission**, ensuring seamless, real-time exchange of information across water boundaries. By utilizing blue and green wavelength LEDs—spectral ranges least absorbed by water—the design minimizes signal attenuation and maximizes data accuracy.

Advantages:

Compared to conventional acoustic or radio-frequency underwater systems, this invention delivers **higher data rates, lower latency, wider bandwidth, and improved energy efficiency**. Its modular design allows flexible deployment in both **civil applications** (such as underwater archaeology, environmental monitoring, and mineral exploration) and **defense or security operations**. The system's dual-environment connectivity bridges underwater and surface communication networks, enabling integrated marine monitoring and operational control.

Technical Highlights:

The device employs LEDs with a 120° emission angle, guided by 7° reflectors to prevent light scattering. The aluminum and plexiglass enclosure ensures waterproof integrity and optimal optical transmittance, while maintaining durability under pressure. The system achieves stable data transmission at distances up to **25 meters**, offering robust and sustainable optical connectivity for aquatic environments.

The invention contributes to SDG 14 (Life Below Water) by enabling advanced digital communication between underwater and surface systems, enhancing real-time monitoring, data sharing, and coordination for marine conservation and sustainable ocean management. It also supports **SDG 9 (Industry, Innovation and Infrastructure)** and **SDG 13 (Climate Action)** through the development of energy-efficient, high-speed communication technologies that strengthen marine research infrastructure and reduce the environmental footprint of underwater data systems.

LIFE BELOW WATER

Patent: “An Underwater Analysis Device for Measuring the Light Absorption Capacity of Water”

Application Number: 2017/11450

Application Date: August 3, 2017

Registration Status: Registered Patent (August 23, 2021)

This invention introduces an **underwater analytical device** that measures the optical absorption characteristics of water to determine its quality and composition in real time. The system consists of a light-emitting unit, a light-detecting unit that measures transmission through the water column, and a processing unit that evaluates variations in light intensity and wavelength. Operating across a wide spectral range of **200–1100 nm**, the device analyzes both visible and infrared regions, enabling precise assessment of the water’s optical and chemical properties.

Advantages:

Unlike traditional sampling and laboratory-based analysis methods, this device performs **in situ, continuous, and real-time measurements** directly within the aquatic environment. It allows users to determine the physical and chemical characteristics of water at depth—up to **5 000 m**—without retrieving samples to the surface, minimizing contamination and handling errors. The system’s high-sensitivity sensors and sealed pressure-resistant housing ensure accuracy under extreme conditions. Data processing and visualization capabilities enable immediate interpretation of parameters such as **hydrocarbon dispersion, algal density, plankton concentration, sediment load, methane level, and salinity**.

Technical Highlights:

The device comprises two sealed compartments: one containing the illumination window and light source, and the other housing the detection window, photodiode sensors, and processor. A cylindrical chamber between them allows controlled water flow through multiple inlet openings, protecting the measurement zone from environmental interference. The light source emits a linear test beam through the sample chamber, while opposing sensors detect absorption rates and transmit data to the processor, which forwards results to a user interface such as an onboard display. The design is fully waterproof, pressure-resistant, and capable of operating across the UV-IR spectrum, making it suitable for **comprehensive optical and environmental analyses**.

The invention contributes to SDG 14 (Life Below Water) by providing high-precision tools for monitoring marine and freshwater quality, supporting the sustainable management of aquatic ecosystems through direct, non-intrusive observation. It also aligns with **SDG 6 (Clean Water and Sanitation)** and **SDG 9 (Industry, Innovation and Infrastructure)** by enhancing real-time environmental data acquisition technologies that improve scientific understanding, water-resource management, and marine protection infrastructure.

LIFE BELOW WATER

Patent: "Smart Drainage System"

Application Number: 2024/011544

Application Date: September 2, 2024

Registration Status: Under Examination Report

This invention relates to an **intelligent drainage system** designed to automatically remove accumulated waste, reduce flooding risk, and generate renewable energy. The system integrates **ultrasonic water-level sensors**, **weight sensors**, a **vacuum-based waste collection mechanism**, a **Pelton turbine for hydroelectric power generation**, and a **solar-assisted energy management module**. Through real-time water-level monitoring, the system detects potential blockages, removes debris via vacuum suction, and sends an automated notification to the waste management center when the collection chamber reaches capacity.

Advantages:

Compared to conventional drainage infrastructures, this invention enhances **public safety** by preventing floods, reduces **manual maintenance costs**, and lowers **energy consumption** through on-site renewable generation. The hybrid use of hydropower (via Pelton turbine) and solar energy allows the system to operate autonomously and continuously, supported by battery backup. The real-time monitoring interface provides **instant performance and water-quality data**, enabling predictive maintenance and remote management for urban water systems.

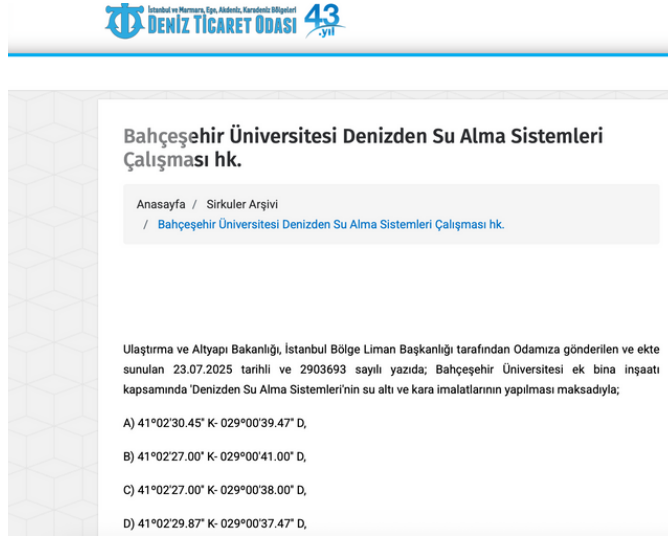
Technical Highlights:

Key features include non-contact level measurement via ultrasonic sensors, renewable energy generation through a Pelton turbine, a vacuum-based sediment removal unit, automatic discharge and emergency piping, a weight-sensing waste tank, and a centralized monitoring display for system control. The design offers a **sustainable, modular, and long-lasting drainage management solution** for modern urban infrastructure.

The invention contributes to SDG 14 (Life Below Water) by preventing urban runoff and debris from entering aquatic ecosystems, reducing pollution loads and flood-related contamination in rivers and coastal areas. It also supports **SDG 6 (Clean Water and Sanitation)**, **SDG 7 (Affordable and Clean Energy)**, and **SDG 11 (Sustainable Cities and Communities)** by promoting clean water management, renewable energy integration, and resilient infrastructure for sustainable urban environments.

LIFE BELOW WATER

Marine Sustainability and Coastal Engineering Practices at Bahçeşehir University



Bahçeşehir University (BAU) continues to integrate environmental responsibility and marine ecosystem protection into its infrastructure and engineering projects. Within this framework, the University initiated a **“Seawater Intake System Construction and Installation Project”**, designed to support the sustainable operation of its new campus facilities while adhering to strict environmental and navigational safety standards.

The project, approved by **the Turkish Ministry of Transport and Infrastructure – Istanbul Regional Port Authority**, covers both underwater and coastal construction activities within the designated coordinates of Istanbul’s maritime zone. Conducted in collaboration with Tek Sanayi Diving and Shipbuilding Ltd., the operation employs the diving vessel TDS-502.

In accordance with national and international maritime regulations, the project mandates comprehensive safety and environmental measures, including controlled diving operations, temporary buoy marking of the work zone, and continuous coordination with the General Directorate of Coastal Safety and Vessel Traffic Services. The initiative also enforces strict compliance with pollution prevention protocols—ensuring that no harmful substances are discharged into the marine environment and that the region’s ecological and oceanographic balance remains intact.

By implementing an engineering model that prioritizes marine ecosystem conservation, pollution prevention, and safe navigation, Bahçeşehir University exemplifies how coastal development can coexist with environmental protection. This initiative not only supports the sustainable use of marine resources but also **demonstrates the University’s commitment to responsible innovation and environmental stewardship**—contributing directly to SDG 14: Life Below Water through sustainable coastal management and the protection of aquatic biodiversity.

LIFE BELOW WATER

Master's Program in Maritime Policy and Strategies at Bahçeşehir University

 **BAHÇEŞEHİR UNIVERSITY** BİLGİ PAKETİ / DERS KATALOĞU Türkisch



Bahçeşehir University

Degree Programs

MARITIME POLITICS AND STRATEGIES(TURKISH, THESIS)

Qualification Awarded

Level of Qualification

Specific Admission Requirements

Recognition of Prior Learning

Qualification Requirements and Regulations

Profile of the Program

MARITIME POLITICS AND STRATEGIES(TURKISH, THESIS)

Master TR-NQF-HE: Level 7 QF-EHEA: Second Cycle EQF-LLL: Level 7

Course Structure Diagram with Credits

1. Semester

Course Code	Course Name	Language	Prerequisites	Theoretical	Practical	Credit	ECTS
DSS5001	International Law	Turkish		3	0	3	8
ISL5301	Research Methods and Ethics	Turkish		3	0	3	9

Bahçeşehir University (BAU) offers a Master's Program in **Maritime Policy and Strategies**, a thesis-based graduate initiative aimed at developing advanced academic and professional expertise in maritime governance, international law, and ocean sustainability. Launched in the 2023-2024 academic year, this program underscores the University's dedication to the principles of the United Nations Sustainable Development Goals by **fostering education, research, and leadership in the sustainable use and protection of marine resources**.

The curriculum comprises essential courses such as International Law, Public International Maritime Law, and Research Methods and Ethics, each designed to provide an interdisciplinary framework that incorporates legal, political, and strategic perspectives on maritime issues. Students will engage in **comprehensive analyses of global maritime governance, marine environmental protection regimes, and the geopolitical aspects of ocean policy, equipping themselves with critical competencies for sustainability-oriented decision-making**.

Through a blend of theoretical and practical learning, the program prepares graduates to tackle complex challenges in ocean governance, marine biodiversity conservation, and maritime security. It also promotes research that supports sustainable blue economy practices and evidence-based policymaking. By nurturing expertise in maritime strategy and sustainable marine resource management, Bahçeşehir University aims to advance the goals of **SDG 14: Life Below Water, fostering a new generation of scholars and practitioners committed to the protection and responsible management of the world's oceans and seas**.

LIFE BELOW WATER

International Maritime Law and Sustainability Course at Bahçeşehir University

Course Introduction and Application Information

Course Code	Course Name	Semester	Theoretical	Practical	Credit	ECTS
LAW3004	International Maritime Law and Sustainability	Spring	0	2	1	4

Basic Information

Language of instruction:	English
Type of course:	Non-Departmental Elective
Course Level:	Bachelor's Degree (First Cycle)
Mode of Delivery:	E-Learning
Course Coordinator :	Prof. Dr. ERTAN DEMİRKAPI
Course Lecturer(s):	Dr. Öğr. Görevlisi İLKER KADRI BAŞARAN
Recommended Optional Program Components:	yok
Course Objectives:	It is to understand and analyse the United Nation's 2030 marine sustainability goals under the context of International Maritime Law and global warming.

Bahçeşehir University integrates marine sustainability and international legal frameworks into its undergraduate curriculum through the elective course **International Maritime Law and Sustainability**, offered during the 2023–2024 academic year under the coordination of Prof. Dr. Ertan Demirkapı and instruction of Dr. Öğr. İlker Kadri Başaran. Conducted in English and delivered through e-learning, the course is designed to equip students with a multidisciplinary understanding of the legal, political, and environmental dimensions of global maritime governance.

The course **explores the United Nations 2030 Agenda for Sustainable Development, with particular emphasis on Sustainable Development Goal 14 (Life Below Water)**. Students examine key themes such as international maritime and environmental law, the Blue Economy, marine biodiversity protection, climate change impacts on oceans, and renewable energy investments. Special attention is given to the Arctic Ocean and polar governance models, where global warming, marine resource management, and international legal disputes intersect.

Through case studies and comparative analysis of governance systems—including the Arctic, Antarctic, and Eastern Mediterranean regions—the course fosters a comprehensive understanding of **the legal instruments regulating ocean protection and the sustainable use of marine resources**. Students engage in applied research, policy evaluation, and presentation-based learning that strengthens their capacity for global communication and sustainability-oriented problem solving.

By combining legal scholarship, environmental awareness, and global engagement, this course reflects Bahçeşehir University's commitment to advancing SDG 14: Life Below Water through education and capacity building. It empowers **future professionals to address complex marine sustainability challenges, contribute to the development of equitable and science-based ocean policies, and promote responsible stewardship of the world's seas**.

LIFE BELOW WATER

Exploring the Depths: Underwater Awareness Event by BAU Diving Club (23 April 2024)



On April 23, 2024, Bahçeşehir University hosted a special awareness event organized by the BAU Diving Club as part of the National Sovereignty and Children's Day celebrations. The event welcomed kindergarten and primary school students to **explore the fascinating world beneath the waves, fostering early awareness of marine ecosystems and sustainable interaction with aquatic environments.**

Through engaging demonstrations, students were introduced to scuba diving equipment and learned about the fundamentals of safe diving practices. Members of the **BAU Diving Club** guided the children in discovering the diversity of **underwater life, emphasizing the importance of protecting marine habitats and maintaining ecological balance.**

The activity combined education, exploration, and celebration—**allowing children to experience the wonders of Türkiye's seas while learning about the crucial role of oceans in sustaining life on Earth.** By nurturing environmental curiosity and respect for marine biodiversity at a young age, Bahçeşehir University contributes to building a generation of conscious citizens who value and protect underwater ecosystems.

Through this initiative, the University reinforces its dedication to Sustainable Development Goal 14 (Life Below Water) by **promoting ocean literacy, encouraging youth engagement in marine conservation, and fostering a culture of environmental responsibility through education and community outreach.**

LIFE BELOW WATER

BAUROV Team's Creative Underwater Robot: G.Ü.L.L.E



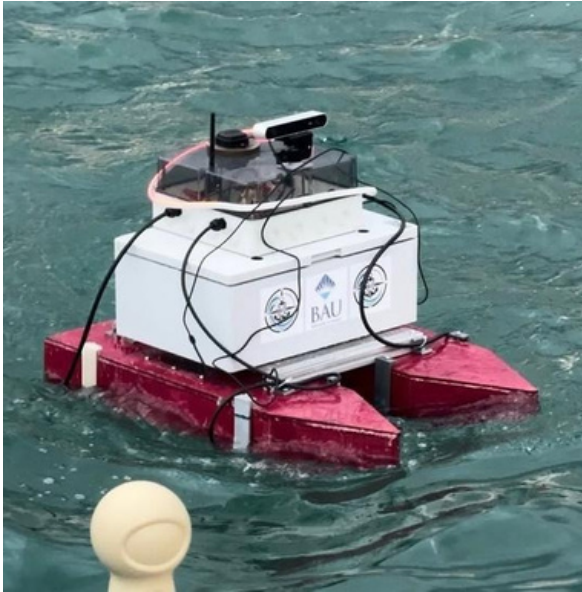
Founded by Bahçeşehir University students, **BAUROV (Bahçeşehir Autonomous Underwater Vehicle Team)** develops innovative underwater robotics systems aimed at addressing **marine sustainability challenges** through science-driven engineering. With a vision grounded in the United Nations Sustainable Development Goals, particularly in the protection and sustainable use of ocean resources, the team combines technological innovation with **environmental consciousness to support cleaner and healthier marine ecosystems**.

The team's latest model, G.Ü.L.L.E, represents their most compact and efficient autonomous underwater vehicle to date. Weighing 7.1 kilograms with a 30.2 cm frame and equipped with eight motors, **the vehicle has been successfully tested at depths of up to 80 meters**. BAUROV's field operations include underwater research dives in the Marmara Sea, where the team conducted imaging and data collection to better understand the environmental dynamics behind the mucilage phenomenon that threatens marine life. By integrating sensor-based systems for detecting pollutants and monitoring water quality, BAUROV contributes valuable data for **water conservation, pollution monitoring, and early response systems**.

Through its engineering projects, BAUROV not only exemplifies student-led innovation but also strengthens Bahçeşehir University's institutional efforts toward protecting **marine biodiversity**, monitoring water health, and **preserving aquatic ecosystems**. The initiative reflects a growing culture of environmental responsibility within the University community – one that merges technology, education, and sustainability to safeguard vital marine resources for future generations, directly supporting SDG 14: Life Below Water.

LIFE BELOW WATER

Navi IDA's Innovative Approaches to Autonomous Marine Systems



Navi IDA is a research and development team founded by Bahçeşehir University students, focusing on autonomous marine technologies that contribute to the protection and sustainable use of **ocean and marine resources**. Integrating artificial intelligence, autonomous systems, and computer vision, the team develops innovative solutions for maritime operations, environmental monitoring, and scientific research. Composed of 11 students from the Faculty of Engineering and Natural Sciences, Navi IDA has already demonstrated remarkable success, earning the **“Most Original Software” award at the TEKNOFEST Unmanned Marine Vehicle Competition**.

Established in 2024, the team's autonomous marine vehicles are designed to operate with precision and environmental sensitivity, enabling the monitoring of marine ecosystems and the collection of critical data on water quality and underwater conditions. **These technologies support the preservation of marine biodiversity, help identify sources of pollution, and promote the sustainable management of ocean and coastal resources.**

By fusing innovation with environmental stewardship, Navi IDA exemplifies Bahçeşehir University's commitment to responsible engineering and the safeguarding of marine ecosystems for future generations. **The team's efforts align with Sustainable Development Goals (SDG) 6: Clean Water and Sanitation, and SDG 14: Life Below Water, ensuring that technological advancements proceed in harmony with the health of our oceans.**

LIFE BELOW WATER

Sailing Towards Sustainability: BAU Young TEMA's Bosphorus Canoe Event (24 March 2024)



Bahçeşehir University's student club, BAU Young TEMA, organized a Canoe Event on 24 March 2024, within the scope of **World Water Week**, in Beykoz, Istanbul. The event invited students to explore the Bosphorus waters by canoe, offering them an opportunity to connect with nature while directly engaging with the **marine ecosystem that sustains the city's environmental balance.**

Throughout the journey, participants reflected on the importance of preserving healthy marine environments and the **responsibility of individuals and communities in safeguarding aquatic ecosystems.** The experience highlighted the interdependence between urban life and natural water systems, **emphasizing how sustainable actions at the local level contribute to global efforts to conserve ocean biodiversity and maintain marine ecosystem health.**

By turning environmental awareness into a hands-on learning experience, Bahçeşehir University and BAU Young TEMA demonstrated their commitment to advancing sustainable water management and supporting the principles of SDG 14: Life Below Water. This initiative also underlined **the University's dedication to fostering student-led engagement in sustainability, encouraging young people to take an active role in protecting marine resources and promoting a culture of environmental responsibility.**

LIFE BELOW WATER

Exploring Nature, Protecting Life: BAU Young TEMA Student Club's Wetlands Awareness Walk (24 February 2024)



On **24 February 2024**, members of the **Bahçeşehir University Young TEMA Student Club** organized a **Nature Walk and Wetlands Exploration** at **Atatürk Urban Forest**, aiming to raise awareness about the vital role of wetlands in sustaining life and protecting ecosystems. Through guided observations and discussions, participants explored the rich biodiversity of wetland habitats, learning how these ecosystems act as natural buffers that **filter water, support aquatic species, and regulate climate impacts**.

The event encouraged students to connect environmental theory with direct experience in nature, fostering an understanding of how wetlands contribute to both **climate resilience and marine ecosystem health**. In addition to exploring ecological functions, participants engaged in hands-on environmental action by crafting handmade bird feeders and discussing community-based strategies to support urban wildlife and minimize pollution runoff into waterways.

By combining environmental education with practical conservation, the activity exemplified **Bahçeşehir University's commitment to experiential sustainability learning**. It also reinforced the importance of wetlands as critical interfaces between terrestrial and aquatic life, aligning with **SDG 14 (Life Below Water)** and **SDG 15 (Life on Land)**—promoting ecosystem protection, biodiversity conservation, and responsible stewardship of natural habitats.

LIFE BELOW WATER

BAU Radio Fest: Open Seminar on Animal Welfare in the Context of Sustainable Development Goals (14 October 2024)



As part of the 2024 **BAU Radio Fest**, **Bahçeşehir University**, in collaboration with **CIFAL Istanbul**, **UNITAR**, and **HAÇIKO – Association for the Protection of Animals from Desperation and Indifference**, hosted an open seminar titled “*Animal Welfare in the Context of the SDGs.*” Open to both students and the broader community, the event exemplified **BAU’s commitment to ethical awareness, sustainability, and social responsibility** through public dialogue and education.

The session examined the vital connection between **animal welfare, ecosystem balance, and sustainable development**, emphasizing how empathy and responsible coexistence form essential components of environmental sustainability. Discussions explored the role of **marine and terrestrial biodiversity** in maintaining ecological harmony, as well as the importance of protecting all living species as part of a holistic approach to sustainability.

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Bahçeşehir University and CIFAL Istanbul Co-Organize Climate Change Summit in Baku (01 November 2024)



01 KASIM 2024

AZERBAIJAN TEKNİK ÜNİVERSİTESİ
BAKÜ, AZERBAIJAN



Bahçeşehir University, in partnership with **CIFAL Istanbul**—its affiliated center of the United Nations Institute for Training and Research—co-organized the “Climate Change Summit: The Climate Crisis from a Sustainability Perspective.” This event was held in collaboration with **Azerbaijan Technical University**, the Young Researchers Innovation Club, and BilimSenOl in Baku. **The summit exemplified Bahçeşehir University’s steadfast dedication to fostering interdisciplinary dialogue and promoting global cooperation in the realms of sustainability and climate resilience.**

With contributions from **Dr. Yasemin Ülker**, **Prof. Dr. Çisil Sohodol**, and **Prof. Dr. Nilüfer Geysi**, the event addressed the interconnected challenges of **climate change, environmental protection, and sustainable resource management**. Expert discussions explored the effects of **climate-induced pressures on marine ecosystems**, underlining the importance of innovation, education, and collective action in preserving natural resources for future generations.

By facilitating knowledge exchange and collaborative research across borders, **Bahçeşehir University continues to contribute to the broader global sustainability agenda**—linking climate action, ecosystem health, and community resilience—while reinforcing its institutional dedication to the protection of natural habitats.

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By encouraging compassionate citizenship and environmental stewardship, **Bahçeşehir University** continues to promote awareness of the interdependence between humans, animals, and the planet—aligning its academic and community initiatives with the objectives of **SDG 14 (Life Below Water)** and **SDG 15 (Life on Land)**, and reinforcing the shared responsibility to protect all forms of life within a sustainable global ecosystem.



LIFE BELOW WATER

BAU Young TEMA's Nature and Water Awareness Workshop (01 November 2024)



Raising early awareness for a sustainable future, **BAU Young TEMA, the environmental student club of Bahçeşehir University**, delivered the “Nature and Water Awareness Workshop” at Biltres College, Istanbul, on 1 November 2024. The session aimed to introduce young learners to the fundamental values of environmental responsibility, sustainable living, and the mission of TEMA Foundation, to which the club is proudly affiliated.

Throughout the session, the BAU Genç TEMA members emphasized the interconnectedness of soil, nature, and water, helping students understand how these elements sustain life and how protecting them ensures the health of **marine and aquatic ecosystems**. By sharing interactive examples and stories, they cultivated a sense of personal responsibility and encouraged participants to see themselves as future guardians of **marine biodiversity and water resources**.

This initiative exemplifies Bahçeşehir University’s commitment to sustainability education, emphasizing that learning extends beyond the classroom to foster community engagement. **By cultivating environmental consciousness from an early age, BAU Genç TEMA actively contributes to the advancement of Sustainable Development Goals (SDG) 6: Clean Water and Sanitation, and SDG 14: Life Below Water.** This effort raises awareness about the critical need to preserve aquatic ecosystems, maintain ocean and water quality, and ensure the sustainable use of marine resources for future generations.

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BAU 7th Local Advocacy School – “Inclusive and Sustainable Cities” (24–25 May 2024)



On **24–25 May 2024**, **Bahçeşehir University’s Center for Urban Studies (BAUMUS)**, in collaboration with the **Marmara Municipalities Union (MMU)**, the **Association for Local Monitoring, Research and Implementation (YERELİZ)**, and with the support of the **Friedrich Ebert Stiftung Turkey Office**, organized the **7th Local Advocacy School**—a two-day capacity-building program focused on inclusive urban governance and sustainability-oriented policymaking.

The program brought together municipal professionals, policymakers, and urban planners from across the Istanbul metropolitan region, providing them with practical tools and conceptual frameworks to integrate sustainability principles into local strategic planning. Held at the **MMU headquarters** and **Bahçeşehir University’s Beşiktaş Campus**, the sessions explored participatory governance, equitable resource distribution, and sustainable development strategies that prioritize environmental protection and climate adaptation within urban systems. Modules were designed to strengthen the capacity of municipal actors in implementing **SDG-aligned local policies**, with a particular emphasis on how water management, coastal protection, and resilient infrastructure contribute to **urban-marine ecosystem harmony**. Participants engaged in applied exercises to design sample strategic plans, incorporating indicators that bridge **land-based development** with **marine conservation**—an essential step toward ensuring the sustainability of interconnected ecosystems.

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Panel Series: SDGs and Beyond III – “Is There a Way Out of Fossil Fuels? COP28 and Climate Negotiations” (26 December 2023)



On **26 December 2023**, **Bahçeşehir University**, through its **Faculty of Law**, **TOSAM (Center for Social, Economic and Political Research)**, and **CIFAL Istanbul – UNITAR**, hosted the third session of the “SDGs and Beyond” panel series under the title “Is There a Way Out of Fossil Fuels? COP28 and Climate Negotiations.” The panel convened leading experts to discuss the global implications of the COP28 outcomes and the critical challenges in transitioning from fossil fuels toward a sustainable and equitable energy future.

Moderated by **Prof. Dr. Nilüfer Narlı**, Head of the Department of Sociology and Founding Director of TOSAM, the session featured **Prof. Dr. Ebru Canan-Sokullu**, Dean of the Faculty of Economics, Administrative and Social Sciences and Director of CIFAL Istanbul, alongside **Şafak Özsoy**, Founder and CEO of the TULIP Sustainability Center and Regional Chairwoman of ESRAG Eastern Europe, Middle East, and Central Asia. Together, the speakers analyzed the complex interplay between **energy policy**, **climate governance**, and **environmental justice**, emphasizing the necessity of systemic transformation in global energy systems.

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Discussions underscored the environmental and social costs of fossil fuel dependency, particularly its effects on marine and terrestrial ecosystems, water security, and biodiversity. Speakers highlighted that transitioning to renewable energy sources is not merely a technological challenge but a moral imperative to ensure the protection of natural habitats and promote **sustainable blue and green economies**.

Through this dialogue, **Bahçeşehir University** reaffirmed its dedication to fostering informed debate and research on sustainability transitions, encouraging multi-sector collaboration and evidence-based policymaking. By connecting academic inquiry with pressing environmental realities, the University continues to advance the objectives of **SDG 7 (Affordable and Clean Energy)**, **SDG 13 (Climate Action)**, and particularly **SDG 14 (Life Below Water)**—promoting an integrated approach to climate resilience, energy transformation, and ecological preservation.



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Now in its seventh iteration, the **Local Advocacy School** has established itself as a national model for fostering collaboration among **universities, municipalities, and civil society organizations**. By promoting inclusive dialogue and data-driven policy design, the initiative contributes directly to **SDG 11 (Sustainable Cities and Communities)**, **SDG 14 (Life Below Water)**, and **SDG 17 (Partnerships for the Goals)**—advancing Bahçeşehir University’s mission to support cities that are not only livable and resilient but also environmentally conscious and responsible stewards of marine and coastal resources.



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Roundtable with Civil Society: “Towards COP29 – Evaluating Challenges, Solutions, and Policy Pathways for Climate and Ocean Action in Türkiye” (16 October 2024)



On **October 16, 2024**, **Bahçeşehir University** and **CIFAL Istanbul (UNITAR)**, in collaboration with the **Corporate Social Responsibility Association of Türkiye (CSR Turkey)** and leading environmental NGOs, co-organized a high-level roundtable titled **“Towards COP29: Civil Society Evaluates.”** This dialogue platform brought together academics, policymakers, and civil society representatives to assess Türkiye’s climate and environmental strategies in the post-COP28 period, with a particular emphasis on the protection of **marine and coastal ecosystems** and the sustainable use of aquatic resources.

Throughout the discussions, participants examined the intersection of **climate governance**, **marine conservation**, and **sustainable development**, focusing on how civil society can play a catalytic role in advancing **climate adaptation** and **ocean stewardship**. Expert insights from **Özlem Katisöz**, Climate and Energy Policy Coordinator at CAN Europe, and **Barış Doğru**, Editor-in-Chief of *EkoIQ*, shed light on Türkiye’s evolving environmental policy landscape—highlighting the need to address marine pollution, strengthen blue economy initiatives, and expand renewable energy investments to reduce pressures on aquatic ecosystems.

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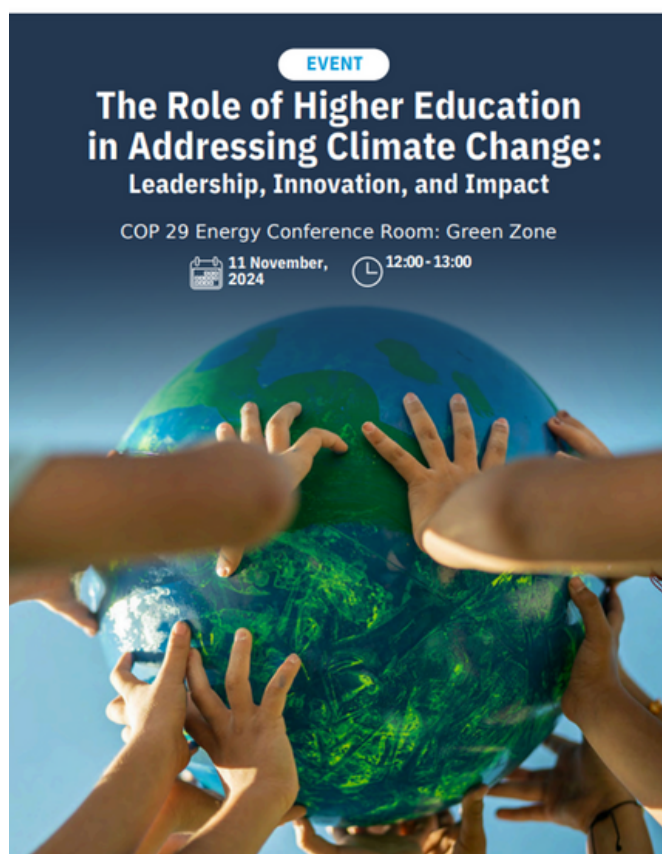
The event concluded with a shared commitment to reinforce collaboration among **academia, civil society, and the private sector**, underscoring the importance of evidence-based policymaking for climate and ocean resilience. By fostering inclusive dialogue and knowledge exchange, this roundtable exemplified **Bahçeşehir University's** role as a convener of sustainability-focused partnerships, contributing directly to **SDG 14 (Life Below Water)** by promoting the sustainable management of marine and coastal environments, **SDG 13 (Climate Action)** through policy advocacy for adaptation and resilience, and **SDG 17 (Partnerships for the Goals)** by strengthening cross-sector cooperation for environmental governance.

Link: <https://cifalistanbul.org/towards-cop29-civil-society-evaluates/>



LIFE BELOW WATER

Special Session at COP29: Bahçeşehir University and CIFAL Istanbul Advancing Climate Policy and Ocean Sustainability (11 November 2024)



On **November 11, 2024**, during the **United Nations Climate Change Conference (COP29)** in **Baku, Azerbaijan**, Bahçeşehir University (BAU), in collaboration with **CIFAL Istanbul**, **UNITAR**, and **CIFAL City of London**, co-organized a landmark session titled **“The Role of Higher Education in Addressing Climate Change: Leadership, Innovation, and Impact.”** Marking the first time a Turkish university hosted an independent session at a COP summit, this milestone positioned BAU as a regional leader in climate governance, ocean sustainability, and education-driven transformation.

The session brought together **academic leaders, policymakers, and sustainability experts** to explore how universities can drive integrated solutions to the climate crisis—especially in protecting **marine and freshwater ecosystems** affected by global warming. Participants emphasized the importance of embedding **climate and ocean literacy** into higher education curricula, promoting **interdisciplinary collaboration**, and supporting **science-based adaptation strategies** for coastal resilience and sustainable resource management.

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Representing Türkiye's academic leadership on the global stage, **Prof. Dr. Esra Hatipoğlu**, Rector of Bahçeşehir University, and **Prof. Dr. Çisil Sohodol**, Director of CIFAL Istanbul, shared BAU's initiatives in promoting sustainability-centered education, marine research, and multi-stakeholder partnerships. The session was moderated by **Dr. Ebru Canan-Sokullu**, Associate Director at the CIFAL Global Network (UNITAR), who highlighted the transformative role of universities in advancing **climate-smart policies** and **integrated approaches to ocean conservation**.

By bridging education, research, and policy, this pioneering session exemplified **Bahçeşehir University's commitment to global sustainability leadership**. It directly contributes to **SDG 14 (Life Below Water)** through the advancement of marine protection and climate-resilient ecosystems, **SDG 13 (Climate Action)** by fostering evidence-based adaptation, and **SDG 17 (Partnerships for the Goals)** by strengthening international cooperation toward a more resilient and sustainable planet.

Link: <https://bau.edu.tr/haber/18950-cop29-kapsaminda-baku'de-egitim-ve-iklim-paneli-universitelerin-iklim-eylemindeki-rolu-tartisildi>





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