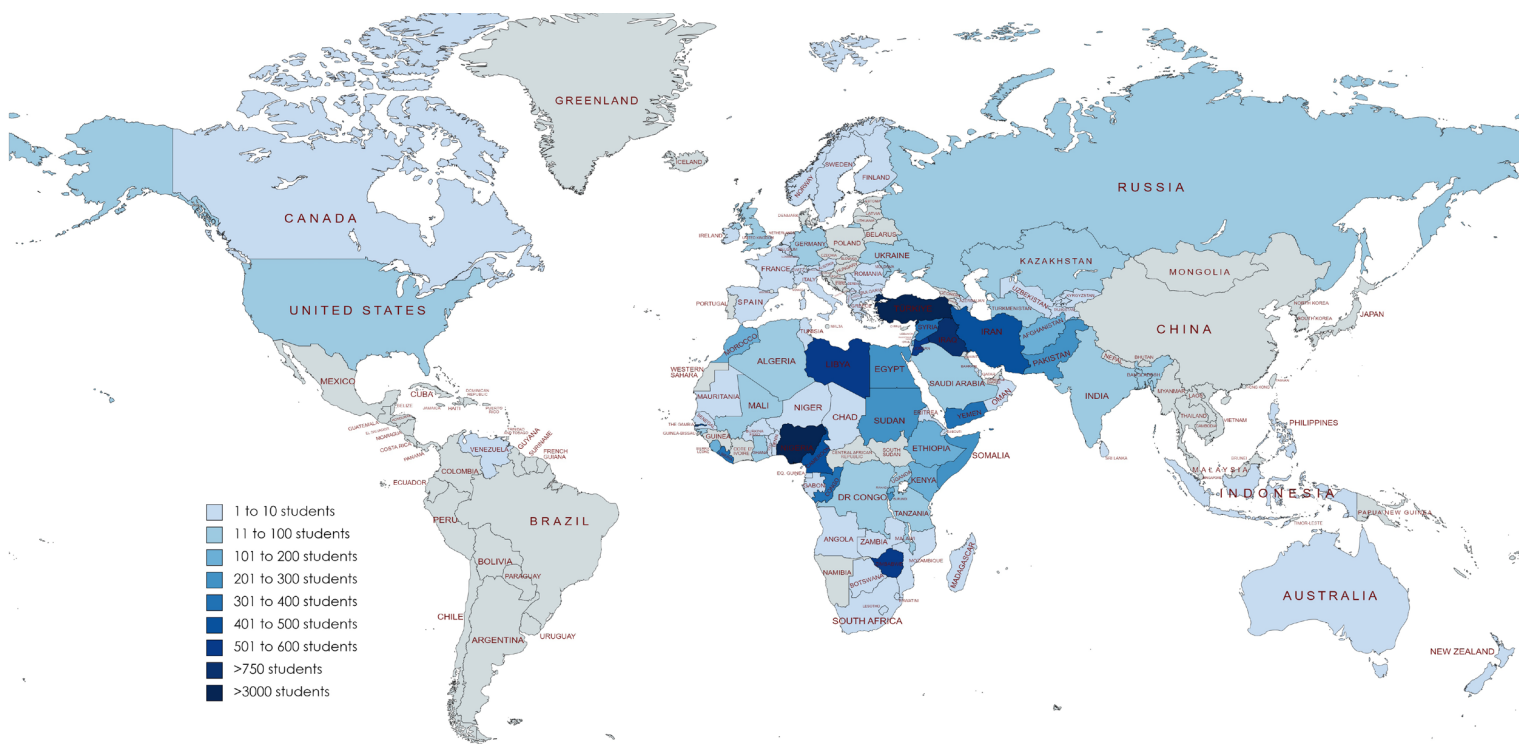




---

# SUSTAINABILITY REPORT 2022

---



**T**he Near East University takes pride in its international community, with students from **106 different countries** contributing to its multicultural atmosphere. Notably, a significant portion of these international students comes from regions in Africa and the Middle East, nearly covering 90% of the international student population. Notably, our international student population is diverse, representing nearly every region of the world, with students hailing from Africa, the Middle East, and beyond, making up a vibrant community that spans the globe



# Contents

---

MESSAGE FROM THE CHAIRMAN OF THE BOARD OF TRUSTEES	5
MESSAGE FROM THE RECTOR	6
<b>SDG1</b> NO POVERTY	7
<b>SDG2</b> ZERO HUNGER	9
<b>SDG3</b> GOOD HEALTH AND WELL-BEING	11
<b>SDG4</b> QUALITY EDUCATION	13
<b>SDG5</b> GENDER EQUALITY	15
<b>SDG6</b> CLEAN WATER AND SANITATION	17
<b>SDG7</b> AFFORDABLE AND CLEAN ENERGY	19
<b>SDG8</b> DECENT WORK AND ECONOMIC GROWTH	21
<b>SDG9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE	23
<b>SDG10</b> REDUCED INEQUALITIES	25
<b>SDG11</b> SUSTAINABLE CITIES AND COMMUNITIES	27
<b>SDG12</b> RESPONSIBLE PRODUCTION AND CONSUMPTION	29
<b>SDG13</b> CLIMATE ACTION	31
<b>SDG14</b> LIFE BELOW WATER	33
<b>SDG15</b> LIFE ON LAND	35
<b>SDG16</b> PEACE, JUSTICE AND STRONG INSTITUTIONS	37
<b>SDG17</b> PARTNERSHIPS FOR THE GOALS	39



Sustainability is important not only for individuals; It stands before us as one of the greatest challenges that will determine the future of institutions, societies, countries, humanity, and the planet Earth as a whole.

The Near East Enterprises, of which Near East University is a part, is one of the building blocks in the genes of sustainability in every field in which it operates. The 100 percent electric car GÜNSEL, which we have created as the product of a 10-year study with the R&D power of Near East University, is one of the most important indicators of this. GÜNSEL, which we completed in-house from design to engineering, from development to prototyping, will take its place on the world's roads as a standing-out electric car brand that cares about the environment.

On the other hand, the Cyprus Museum of Modern Arts, the Cyprus Car Museum, the Cyprus Herbarium and Natural History Museum, the Walled City Museum, the GÜNSEL Art Museum and the Maritime History Museum, which we have established as part of the Near East Enterprises, are centers focusing on art with more than 100 thousand works of art and tens of thousands of objects. In addition, our museums make art a part of the daily life of the city and the people living in the city with approximately 500 exhibitions they have organized in the last four years.

We have constructed three fully equipped schools and handed over to the state, each with a capacity of 500 students. Dr. Suat Günsel State Primary School is one of the important social responsibility projects we have carried out to create equal opportunities in

education and contribute to the goal of creating a sustainable society.

In the coming period, we will complete the investment of three more primary schools with the same features and deliver them to the state.

Protecting the environment and creating a sustainable ecosystem is one of our top priorities. Near East University campus, thanks to the water we obtain from the wastewater treatment plant we established, preserves its lush green texture even on the most scorching days of the sun, hosts thousands of olive trees, and turns into the last stop where dozens of migratory birds take a breath before migrating to Africa, creates its own ecosystem, and is home to many living creatures with its life-friendly structure, and it looks like a real oasis. In addition, the electricity used on the Near East University campus is provided by solar energy, meeting the accommodation, nutrition and education needs of approximately 30 thousand students from 106 countries of the world, projects that are caring about the environment and carried out with recycling-based practices are among the steps we have taken for a sustainable life.

As Near East University, we will continue to fulfill our mission of accelerating social transformation with scientific projects and scientific activities that focus on sustainability, nature and human life. On the other hand, as the Near East Enterprises, we will continue to contribute to the Sustainable Development Goals as our top priority in many areas in which we operate, especially automotive, energy, tourism, health and museums.



**Prof. Dr. İrfan Suat GÜNSEL**  
Chairman of the Board of Trustees  
Near East Enterprises



As a requirement of their historical mission, universities are among the most important institutions that shape the future of societies. They sometimes achieve their mission through the role they play in the development of new technologies, sometimes through the transfer of knowledge and cultural links they provide between generations, and sometimes through activities that raise social awareness.

This awareness lies at the basis of the vision of Near East University, from its academic productivity to its administrative structure. We regard this responsibility as one of our most important priorities to contribute to building a world that respects and answers the needs of future generations, protects the environment by using natural resources in a sustainable way, and ensures social justice.

Sustainability is one of the concepts that will shape the present and future of the world. Sustainability, which aims to protect natural resources and the environment by meeting the current needs of people while also taking into account the needs of future generations, has economic, environmental and social dimensions that are closely interconnected.

Problems such as climate change, depletion of natural resources, environmental pollution and inequality show that there is an urgent need for a sustainable world goal. The sustainability

topics determined by the United Nations also provide a guiding framework to overcome these problems and build a better future.

The scientific research and projects we carry out are indispensable for increasing knowledge and developing solutions regarding sustainability. All these scientific research studies open the door to innovation in energy efficiency, renewable energy sources, water management, environmental protection and many more areas. The scientific research studies we conduct on sustainability issues also form the basis for the development of new technologies and improvement of existing applications.

On the other hand, by equipping our students not only with academic knowledge but also with sustainability values, we contribute to future leaders and society being more sensitive to sustainability issues. So, our students carry the knowledge and vision needed to implement sustainability principles in business, governments and non-governmental organizations.

This report presents a summary of the scientific studies carried out by the Near East University in the light of the Sustainable Development Goals adopted by the Near East University.

At the same time, it also contains clues about our determination to build a sustainable future and the studies we will carry out in the future.



**Prof. Dr. Tamer Şanlıdağ**  
Rector  
Near East University



Photograph by Gazi Yüksel

## COLLABORATIVE PROJECT

# Vocational scholarships empower students

Under the “My Profession is in My Hands” project, Near East University, in cooperation with the Ministry of National Education and Culture and Günsel Academy, provided vocational high school students with a life-changing opportunity.

“GÜNSEL Academy Specialization Certificate” is conferred upon to students who participate in the project and successfully complete the program. All students who receive this document are entitled to a 100% scholarship if they start their education at the relevant

vocational schools or faculties of Near East University. In addition, all students are supported with a monthly internship allowance.

### Job placements

Furthermore, they are guaranteed job placements upon graduating from vocational schools or faculties. In 2022, the project saw its first graduates from Sedat Simavi Vocational High School, Osman Örek Vocational High School, and Haydarpaşa Commercial High School, with 24 students completing an eight-month

training and internship program.

Thirteen students received full scholarships, covering their education and allowing them to continue as interns at Günsel Academy.

Scholarships are awarded based on factors such as adaptability, self-improvement, and evaluation in May each year, ensuring an effective and transformative educational experience. The scholarship program’s quotas align with GÜNSEL electrical car factory’s departmental needs, securing a brighter future for these students.



## STUDENT ENGAGEMENT

# Near East University students transform lives through literacy program

Students from the Department of Turkish Language Teaching at the Faculty of Arts and Sciences, Near East University, launched a six-month **literacy course** aimed at empowering illiterate women from socio-economically disadvantaged backgrounds. The course was conducted at the Turkish Cypriot Child Protection Institution, a state organization dedicated to providing essential support to economically disadvantaged families with primary school-age

children, assisting them with their studies beyond regular school hours. Fifteen women, under the guidance of Near East University students, embarked on a transformative journey to acquire the vital skills of reading and writing. Their expressions of gratitude resonate deeply with the impact of this initiative. Assoc. Prof. Dr. Mustafa Yeniasir, Head of the Department, shared, "They said this course changed their lives. It was like they were born again."



## RESEARCH

# Rural attachment and income inequality in Nigeria

In a study conducted by researchers Hüseyin Özdeşer and Behiye Çavuşoğlu from Near East University Faculty of Economics and Administrative Sciences and other international researchers, the interaction between rural attachment and income inequality in Nigeria's communities affected by cattle rustling was examined. The study used a new rural attachment index and found that

low-income households had stronger rural ties. The harmful effect of cattle rustling on income was noted across all economic levels. This research is in line with the United Nations' sustainable development goal of No Poverty, highlighting the need for strategic interventions to address these inequalities.



17

Publications

77

Citation count

0.69

Field Weighted Citation Impact

35.3%

International collaboration



445

Views count





Photograph by Gazi Yüksel

RESEARCH

# Enhancing urban agriculture: Soil impact study

The Near East University's Faculty of Agriculture is conducting an innovative **research project**, focusing on the impact of different soil types on urban agriculture, specifically vegetable cultivation. As urban populations swell and arable land diminishes, access to healthy food becomes increasingly challenging. To address this issue, urban agriculture practices like kitchen, terrace, and

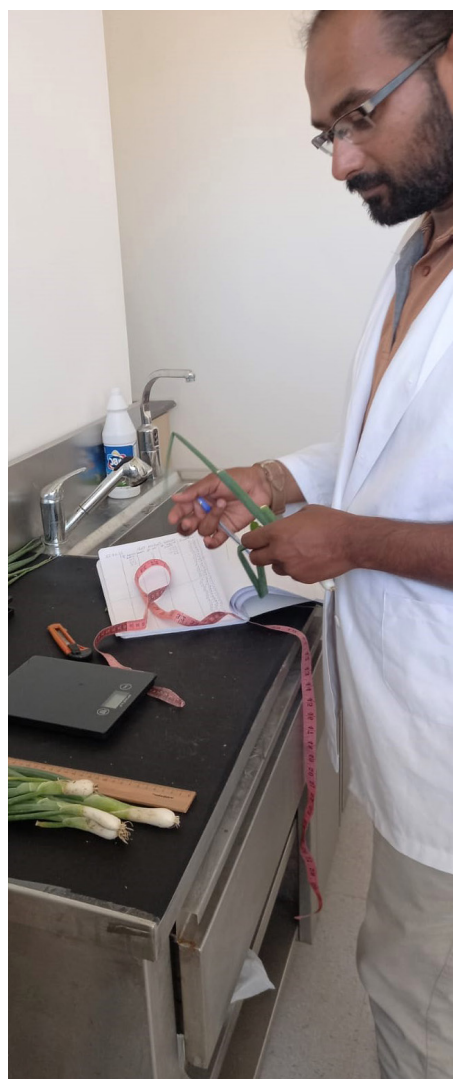
rooftop gardening are gaining significance. Led by Muhammed Adeel, a graduate student in the Faculty of Agriculture's Department of Landscape Architecture, the project empowers urban residents to grow high-quality crops in constrained spaces. Collaborating with the Near East University and the Güzelyurt Soil Laboratory, the research assesses nutrient richness in various soil types.

INNOVATION

# Food production center

The Near East University's **Innovative Foods** Production Center of the Faculty of Veterinary Medicine opened on November 4, 2022. This facility is dedicated to crafting nutritious functional foods that enhance consumer health while maintaining the highest hygiene standards. It plays an important role in supporting public health by providing probiotic prod-

ucts to various public canteens and hospital cafeterias. Additionally, the center contributes to overall well-being by producing high-quality cheeses that are incorporated into hospital menus. The Innovative Foods Production Center at Near East University is also engaged in ongoing research and development to maintain the highest standards of nutrition.



RESEARCH

# New Mediterranean diet pyramid



Visual source: Revista de Nutrição

The study by researchers Taygun Dayi, Mÿgjan Öztürk, Murat Özgören and Adile Öniz examined traditional food consumption and Mediterranean diet adherence in Cyprus. Involving 1,007 participants, only 34.4% showed high Mediterranean diet adherence, highlighting the need for dietary adjustments. This underscores the importance of increasing essential Mediterranean diet components like olive oil, vegetables, fruits, fish, and red wine

while decreasing red meat and dessert intake. To address these findings and promote healthier eating on the island, an innovative approach has been taken. An updated Cyprus Mediterranean Diet Pyramid has been introduced, combining standard Mediterranean diet guidelines with local and traditional foods. The Mediterranean diet sets a prime example of sustainable diets, with low carbon, water, nitrogen, and energy footprints, contributing to planetary health.

COURSE

## Nutrition in disaster

Addressing nutrition in disaster, this course offered by the Faculty of Health Sciences, delves into essential nutrition requirements during crises. It covers access to sufficient food, monitoring dietary intake, nutritional interventions, and identifying deficiencies. The course emphasizes assessing nutritional

well-being in disaster scenarios, outlining best practices for nutrition in these contexts. It further explores common health issues during disasters and their management, contributing to the broader goal of ensuring food security and alleviating hunger in challenging situations.

DEPARTMENTS

# Food Engineering

The Food Engineering Department's mission is to cultivate adaptable and forward-thinking engineers for the 21st century. Graduates are equipped to merge fundamental engineering principles with food technology, developing a strong scientific consciousness and ethical values. They gain expertise in food production, distribution, marketing, quality control, and machinery design and utilization.



## Food Hygiene and Technology

The Department of Food Hygiene and Technology at the Faculty of Veterinary Science plays an essential role in ensuring that the production of animal nutrition is of high quality and safe for consumers. It aims to educate competent veterinarians who can address issues related to scientific advancements, with a focus on food hygiene, meat and milk hygiene, and public health. The department offers undergraduate courses that contribute to the safe delivery of food products.



31

Publications

3752

Citation count

9.83

Field Weighted Citation Impact



71%

International collaboration



3550

Views count



## PUBLIC HEALTH CARE

### Near East University Hospital

Near East University Hospital, built in 2010, is a state-of-the-art healthcare facility exceeding European standards. Spanning 55,000 square meters, it comprises three, four, and nine-story blocks, housing 209 single-patient rooms, 8 operating theaters, 30 intensive care units, and 17 neonatal intensive care units. The hospital complies with "Joint Commission International" (JCI) accreditation criteria, delivering healthcare services at these high

standards. Electronic storage of laboratory results, doctor diagnoses, and patient records, accessible worldwide, sets this hospital apart. At Near East Hospital, our commitment to serving the community's health and well-being needs is exemplified by our extensive network of collaborations. We have established numerous partnerships with a variety of institutions, as showcased in our list of contracted institutions.

## RESEARCH

### Mathematical modelling for breast cancer diagnosis

In this study by Nezihal Gökbulut, Evren Hinçal, Hasan Besim and Bilgen Kaymakamzade, a mathematical model was created to determine the effective factors in breast cancer diagnosis and to narrow the cancer risk range in BI-RADS 4 subcategories in breast cancer diagnosis. Techniques, applied with the help of the model, enabled the determination of factors that affects BI-RADS

4 diagnosis. It has been emphasized that long-term breastfeeding and high lactation rate may reduce the risk of breast cancer. This study has shown that the cancer risk range in BI-RADS 4 subcategories can be narrowed as public awareness increases. In addition, the importance of early diagnosis and regular check-ups is emphasized in the publication.

### Dental hospital

The Near East University Dental Hospital, a leading facility in the Turkish Republic of Northern Cyprus, provides free initial examinations and panoramic imaging without appointments. With advanced technology and global best practices, the hospital offers oral, dental, and maxillofacial health services, including specialized care for disabled patients. Their commitment to society includes the "first examination free and without appointment" initiative.

### Health care for locals

Near East University Yeniboğaziçi Hospital stands as a pioneering healthcare facility in Famagusta and İskele regions, offering life-saving procedures including angiographies, coronary care, and advanced imaging with MRI and tomography. **Elderly care** The hospital extends elderly care services, providing personal care, companionship, meals, rehabilitation, and consultations.

## SYMPOSIUM



# Epidemic and pandemic challenges

The “Epidemic/Pandemic Diseases Symposium,” a collaborative effort between the Turkish Microbiology

Society, TMC-TRNC Microbiology Platform, and Near East University DESAM Research Institute, Mathematics Research Center, and Health Operations Center, took place at the Near East University İrfan Günsel Congress Center. The event featured prominent speakers discussing vital topics, such as laboratory methods, mathematical modeling, and new approaches in the diagnosis and treatment of epidemic/pandemic diseases, notably COVID-19. The symposium underlined the significance of scientific cooperation in addressing global health challenges.

## INSTITUTION

# DESAM Research Institute

The Near East University’s DESAM Research Institute prioritizes international collaboration, managing large-scale projects across various fields. DESAM collaborates with foreign institutions, focusing on researcher development, product-oriented research, and projects promoting social welfare and public health. This collaboration has yielded R&D products like diagnostic kits and protective sprays, significantly impacting public health. The institute also contributes to areas such as food safety, energy, environment, and technology, accelerating the development of new products and solutions to social issues, supporting global knowledge exchange, and promoting societal prosperity and progress.

## FREE SERVICE FOR STUDENTS

# Sexual health care

Near East University’s ‘Sexual Health Service Unit’ provides education and counseling services in the field of sexual health to university students. The unit offers free consultation and education by a team consisting of obstetrics and women’s health nursing, gynecology and obstetrics specialist, clinical psychologist, and social services expert.

## STUDENT ENGAGEMENT

# Supporting women battling with breast cancer



During the breast cancer awareness week, students from the Hair Care and Beauty Services Department of the Near East University collaborated with the

Association for Aiding Cancer Patients to provide beauty and care services to women fighting cancer. Students provided hair, foot, nail and skin care.



# 789

Publications

# 11337

Citation count

# 1.70

Field Weighted Citation Impact



# 58.8%

International collaboration



# 25924

Views count



**PUBLIC RESOURCES**

# The Grand Library of Near East University

The **Grand Library** of Near East University plays an important role in supporting education and sustainable cities. With a combined collection of 3.5 million printed books and access to 650 million digital resources, The Grand Library serves as gateways to the world's knowledge repository. The fusion of knowledge with culture and art is a paramount approach of the library. Its exhibition spaces transform it into a hub for knowledge, culture, and the arts. Hosting congresses and meetings in fully-equipped halls not only facilitates access to existing information but also incubates the generation of new

knowledge. The library is designed with user-friendly architecture, eliminating barriers and enabling individuals to conduct research without hindrance. Near East University Library stands out as not just a library but also a treasure trove of knowledge. Its Rare Books Library houses thousands of rare items in literature, history, religion, art, including research materials, manuscripts, personal collections, encyclopedias, decrees, maps, and significant works of Turkish scholars. Additionally, private collections of various politicians, thinkers, historians, researchers, and writers are made accessible to the public.

**CENTER**

# Lifelong Learning

The Near East **Lifelong Learning Center**, established in 1996, is a unique venue that exists under the auspices of the Near East Institute (NEI) created to provide personal and professional development opportunities for the university community and the broader public. Being an arm of the Near East Institute offers the Near East Lifelong Learning Center, substantial advantages in designing, executing and tailoring short-term courses and programs suited to specific interests and aspirations. With over 300 courses on offer, we are able to support academic improvement, professional career growth and personal development to diverse groups of participants in their lifelong learning pursuits. With a strong emphasis on practical skills and hands-on learning, our center supports an environment where participants can apply theoretical knowledge to real-world situations.



## COLLABORATIVE PROJECTS

# AI and coding training for children



The Near East University Health Operations Research Center is offering voluntary **artificial intelligence** and coding training to children and youth at SOS Child Village Association, following a cooperation protocol. This initiative is part of the center's broader engagement in social responsibility

projects, aligning with Near East University's founding vision. The agreement, emphasizing the importance of modern skills like artificial intelligence, coding, and language learning for youth development, was formalized in a ceremony attended by key personnel from both institutions.

# Empowering educators with effective speaking

Faculty of Art and Sciences, Department of Turkish Language Teaching lecturers Assoc. Prof. Dr. Mustafa Yeniasır and Assoc. Prof. Dr. Burak Gökbulut conducted a course on "**Good and Effective Speaking**" for teachers under the Ministry of National Education, across four districts from September 2 to 9, 2022, with around 250 attendees. They highlighted the significance of

eloquence in teaching, stating that effective speaking skills enhance self-confidence and can be developed through education. The course, part of in-service training, covered characteristics of good speech and voice development seven techniques, aligning with the broader goal of enhancing language skills in Turkish education.

## INSTITUTION

# Özay Günsel Children University

The Near East University actively supports **Özay Günsel Children University**, the only children's university in Northern Cyprus. This unique institution is dedicated to fostering young students' success stories by introducing them to the worlds of science, art, and sports at an early age. Catering to children aged 6-17, Özay Günsel Children University offers over 150 programs, allowing students to explore a wide range of subjects, from human DNA and micro-organisms to robotics, cartoon creation, and even furniture design.

### World Children's Congress

In an effort to further global collaboration in child education, the **3rd World Children's Congress** was organized in partnership with the Near East University, Özay Günsel Children University and the University of Kyrenia. This hybrid event, combining in-person and online sessions, tackled various topics related to children, including education, social policies, law, disability, migration, and poverty. The congress's mission is to reduce inequalities and provide equal opportunities for all children, emphasizing the significance of celebrating Children's Day on April 23rd.



# 227

Publications



# 1502

Citation count



# 26.4%

International collaboration



# 0.98

Field Weighted Citation Impact



# 10346

Views count



## SYMPOSIUM

## Empowering women, discussing rights

The “Women and Law Symposium”, hosted by the Near East University Faculty of Law, highlighted the crucial issues of gender equality and women’s rights. The event featured a diverse lineup of speakers who addressed the significance of these topics. Presentations emphasized the ever-evolving nature of women’s rights, the role of constitutional law in preventing gender-based violence, reproductive freedom, state intervention in combating gender discrimination in employment, the legal aspects of marriage, and the legislative measures protecting women’s rights. The symposium underscored the importance of ongoing discussions and legal frameworks in promoting gender equality and women’s empowerment. It served as a platform for raising awareness about these vital issues in society.

## COURSES

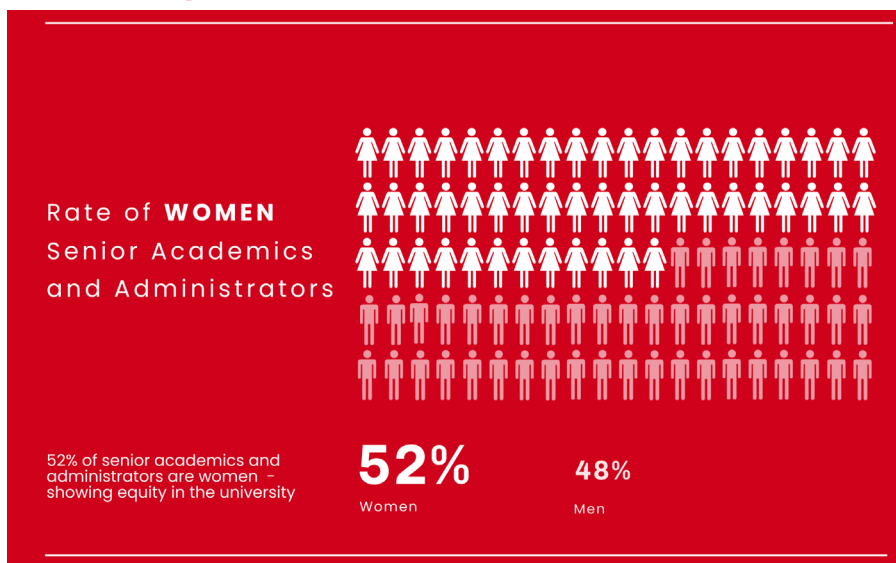
## Gender and media

The undergraduate course “Gender and Media- ILF365” by the Faculty of Communication delves into the intricate relationship between media and the representation of gender roles, starting from the distinction between sex and gender. It scrutinizes whether gender is represented in mass media, and, if so, how this representation occurs. Tackling fundamental concepts, the course critically evaluates these gender representations through the lens of feminist and cultural studies literature. It employs critical discourse analysis and audience research as analytical tools, grounded in the field of cultural studies. Stuart Hall’s definition of representation serves as a foundational point, guiding the exploration of gender identities portrayed in media. Through critical discourse analysis, content analysis and, semiotic analysis, the course places emphasis on how viewers perceive these representations.

## Gender economics

The Economics Department offers a graduate-level course known as “Gender Economics,” which plays a crucial role in shaping students’ perspectives on the significance of gender equality within the realm of economics. This module not only imparts fundamental knowledge but also equips students with a profound understanding of why gender equality is indispensable across all sectors of the economy. By exploring the nuanced relationship between gender and economics, students gain insights into how addressing gender disparities is a crucial step towards achieving a fair and inclusive society. Through an interdisciplinary approach from economics, sociology, and gender studies, this course empowers students to recognize and combat gender-based inequalities, fostering a more equitable and prosperous future for all. It underscores the overarching importance of gender equality in driving positive change and promoting social justice in society.

# Breaking through the glass ceiling



The Near East University sets a compelling example by breaking through the glass ceiling, with 52% of senior academics and administrators being women. This remarkable statistic not only reflects a commitment to gender equity and inclusivity within the university's leadership ranks but also

signifies the significant strides made in dismantling historical barriers that hindered women's progression in academia. It underscores the university's dedication to recognizing and nurturing talent, irrespective of gender, making it a model for gender equality, paving the way for a brighter future.

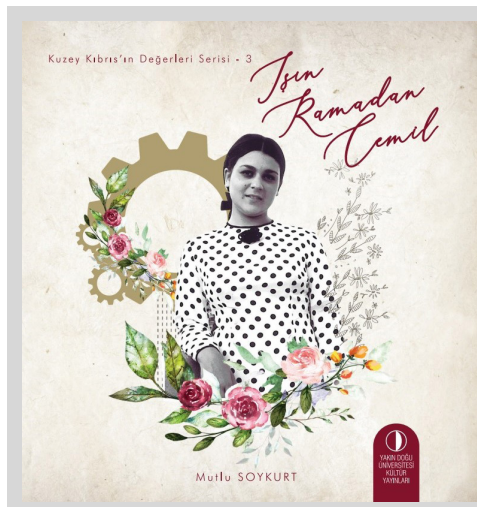
## TV PROGRAM

# Being a female veterinarian



A TV program featuring Prof.Dr. Dilek Arsoy, a veterinary professor at Near East University, discussed the vital role of **women in veterinary medicine**.

Challenges faced by female veterinary students in a traditionally male-dominated environment were addressed. Efforts in European countries to achieve gender balance in veterinary faculties were also mentioned. The program acknowledged the gender bias women might encounter in their profession.



## BOOK

# Jewels of Northern Cyprus

The "Jewels of Northern Cyprus" series, published by Near East University Culture Publications, presents the remarkable life story of Işın Ramadan Cemil, an influential businesswoman in Northern Cyprus. It inspires women and youth to take active roles in society and emphasizes social responsibility, human rights, and gender equality. The series showcases

successful women like Işın Ramadan Cemil, promoting global gender equality awareness. Assistant Professor Dr. Mutlu Soykurt, the author, believes that these stories inspire and pave the way for a brighter future. More inspiring stories are on the horizon, ensuring the "Jewels of Northern Cyprus" series continues to ignite inspiration and make a difference.



32

Publications



110

Citation count



0.52

Field Weighted Citation Impact



46.9%

International collaboration



705

Views count





WASTEWATER TREATMENT

## One step ahead for an eco-friendly future

The Near East University Wastewater Treatment Plant is a prime example of the Near East University’s commitment to sustainability. While its designed capacity stands at 2,000 m<sup>3</sup> per day, it currently processes 1,500 m<sup>3</sup> daily, with the flexibility to reach the full capacity through the addition of mechanical equipment when required. The Near East University Wastewater

Treatment Plant provides 2,000 m<sup>3</sup> of treated water for our gardens, thanks to its advanced multimedia sand filtration system, supporting eco-friendly garden irrigation.

An additional 600 m<sup>3</sup> is purified using cutting-edge ultrafiltration technology for sanitary purposes, ensuring the highest quality of water for toilets and related needs.

The Near East University Wastewater Treatment Plant not only reflects our dedication to sustainability but also emphasizes the vital role clean water and wastewater treatment play in preserving our environment.

The wastewater treatment facility underscores the significance of responsible water management and its impact on the future.

RESEARCH

## Water scarcity challenges in Iran

Iran had long grappled with the pressing issue of **water scarcity**, a challenge underscored by the comprehensive study conducted by Youssef Kassem, Hüseyin Gökçeşu, and Javad Karimi Kouzehgarani from Near East University. With the nation’s average annual precipitation hovering at a meager 250 mm, significantly below the global average, and an internal renewable water resource amounting to less than 0.50% of

the global total, the country had been confronted with a twofold dilemma of physical water scarcity and mismanagement. The extensive research, spanning the period from 2010 to 2019, shed light on the alarming water consumption patterns within the agricultural sector, bringing attention to the substantial usage associated with the cultivation of water-intensive products, including vegetables, wheat, and fruits.



# Ethiopia's Lake Beseka



The study, authored by Ethiopian researchers and Prof. Dr. Hüseyin Gökçekuş from the Near East University, examines **Lake Beseka** in Ethiopia, focusing on its water balance and hydrodynamics. By utilizing various data sources, including climate, hydrology, satellite imagery, groundwater, and lake chemistry, the research found that while the catchment received 558.4 mm/year of rainfall, the mean evaporation

was 2,214 mm/year. The lake's direct rainfall contribution was 25.84 MCM annually, with a catchment runoff inflow of 37.2 MCM. This balance indicates that the water inflow exceeded the outflow, primarily due to excess irrigation water from the Fentale Irrigation Farm. To address this issue and optimize economic and social welfare, the study recommends implementing appropriate irrigation drainage in the catchment.

# Groundwater quality



In a comprehensive study on **groundwater** quality in Cyprus, researchers Youssef Kassem, Hüseyin Gökçekuş and Temel Rizza from the Near East University assessed 118 groundwater samples over 11 years. Their findings, using the Water Quality Index (WQI), revealed that a significant portion of the samples failed to meet WHO standards, especially during dry seasons. The study emphasized the need for measures to improve groundwater quality and ensure safe drinking water in the Morphou (Güzelyurt) region, where the largest coastal aquifer in northwestern Cyprus is located.

# Renewable energy for sustainable desalination



In an effort to combat freshwater scarcity, this research investigates the potential of renewable energy for **desalination** in Northern Cyprus's Güzelyurt region. With freshwater demand rising due to population growth, the study utilized 33 years of meteorological data to assess the suitability of wind and solar power for desalting groundwater.



157

Publications



6926

Citation count



3.57

Field Weighted Citation Impact



72.6%

International collaboration



9156

Views count



Photograph by Eren Maher - Near East University Campus

## SOLAR PANELS

# Curbing the island's dependence on oil

The deployment of solar panels at the Near East University represents a pioneering step towards energy sustainability. The university harnesses the energy produced to meet its own consumption needs and feeds any

excess power back into the local grid. This not only mitigates the university's energy costs but also makes a substantial contribution to curbing the island's heavy dependence on imported oil, a primary driver of economic

sustainability. The university's solar energy capacity, currently at 2.7 megawatts, is poised to expand to an impressive 20 megawatts. As a result, the campus will significantly enhance its utilization of renewable energy sources.

## RESEARCH

# Economic viability of large scale projects

A recent study conducted in Selvili-Tepe, Northern Cyprus, assessed the economic feasibility of large-scale **renewable energy projects**. Researchers Youssef Kassem, Hüseyin Gökçekuş, and Rifat Gökçekuş explored the potential of harnessing wind and solar energy at this location, with promising results. The study revealed that wind farms and solar installations are not only technically viable but economically sound as well. Energy production costs for wind farms were found to range from 0.059 to

0.066 \$/kWh, while solar farms exhibited costs varying from 0.087 to 0.121 \$/kWh. These findings indicate that implementing such projects in this mountainous region can be a practical and sustainable means of reducing reliance on fossil fuels, mitigating the impact of global warming, and promoting the country's technological advancement. This research underscores the growing importance of renewable energy in combating climate change and promoting sustainable development.

# Upcycling electric vehicle batteries

Even after batteries have served their purpose in electric vehicles (EV), they remain valuable due to their retained high energy storage capacity. Near East University has devised a visionary strategy to repurpose these batteries as energy storage units. Collecting batteries from EV users and upcycling them into storage units ensures that valuable materials remain in use for an extended period.



**RESEARCH**

# Unlocking renewable energy potentials in the region

## Ramallah, Palestine

A comprehensive study conducted by Hüseyin Çamur from the Department of Mechanical Engineering at the Near East University and Ramez Abdallah from the Mechanical and the Mechatronics Engineering Department at An-Najah National University in **Palestine** has examined the untapped potential of wind energy in Ramallah. The research harnessed six years of meteorological data to evaluate the viability of wind energy production. By utilizing the Weibull function and a meticulous analysis of wind speed and direction over the period from 2016 to 2021, the study established that the Weibull model accurately represents the local wind conditions.

## Sudan

A recent study conducted by Youssef Kassem and Mohamed Almojtba Hamid Ali Abdalla, affiliated with Near East University, highlights the importance of renewable energy in **Sudan's** Red Sea state. This research, which harnessed NASA data to assess wind and solar

energy potential in 17 strategic locations, underscores the economic viability of vertical axis wind turbines and photovoltaic systems. The findings offer a tangible solution for meeting electricity needs and hold the promise of reducing the effects of global warming.

## Lebanon

**Lebanon**, a nation grappling with energy security, environmental challenges, and electricity crises, may find a powerful ally in renewable energy, particularly wind power. In a research paper authored by Y. Kassem, H. Gökçekuş, H. Çamur, and A. H. A. Abdelnaby, the potential of wind energy generation in Lebanon is explored. The study aims to identify prime locations for wind farm installations across the country and assess the economic viability of wind turbines. The results underscore the favorability of Ain ed Dabaa as an ideal location for a wind farm, and they indicate that implementing wind turbines can offer clean, cost-effective, and uninterrupted electricity production.



**321**

Publications



**7514**

Citation count



**2.41**

Field Weighted Citation Impact



**64.5%**

International collaboration



**9443**

Views count



**SERVICE FOR EMPLOYEES**

## Group health insurance

The Near East University has prioritized the well-being of its employees by offering comprehensive “Group Health Insurance” through Near East Life, an entity within Near East Enterprises. This initiative underscores the institution’s commitment to its staff’s health and peace of mind.

The insurance package extends a spectrum of benefits, encompassing inpatient care, dental treatments, and

outpatient services. Notably, it covers a wide array of medical services, including surgical and non-surgical procedures, intensive care, chemotherapy, dialysis, and preventive health assessments like annual mammograms and PSA tests. Near East University ensures that its employees can access comprehensive healthcare options by extending discounted services at the Near East Hospital.

**RESEARCH**

## Transactional leadership, employee silence and job satisfaction

The study by Yousef Ahmad Alarabiat and Şerife Eyupoglu highlights the significant connection between transactional leadership and **job satisfaction** in both private and public organizations. This correlation is crucial for overall organizational performance and well-being. The research also reveals a challenge: employee silence.

Employee silence can mediate and reduce job satisfaction, impacting the transactional leadership dynamic. It’s essential for organizations, especially

in the public sector, to be aware of this issue’s negative effects. Conducted at Jordan’s Ministry of Justice, the research urges public organization leaders to address employee silence, ensuring workplace harmony and efficiency. It offers valuable insights and practical strategies for enhancing workplace dynamics and ensuring employee satisfaction. This research is a useful resource for organizational leaders seeking to understand and address these critical dynamics.

**RESEARCH**

## Africa’s economic growth

A study by Mohammed A. M. Usman, Hüseyin Özdeşer, Behiye Çavuşoğlu and Umar Shuaibu Aliyu that focused on **Sub-Saharan Africa**’s sustainable economic growth has found that remittances and trade have a positive impact on economic development in the region. The study also highlights the negative effects of human capital flight, poverty, corruption, and inequality. The research suggests that by formalizing remittances, addressing human capital flight and brain drain, and implementing policies promoting decent work and trade, Sub-Saharan Africa can work towards achieving its Sustainable Development Goals.



# Societal research and development

The “Societal Research and Development Symposium” by the Center for Social Research and Development at NEU emphasized sustainable development goals in a seminar focused on **smart cities** and communities. Experts discussed critical issues and provided recommendations on universal service and smart technologies aligned with sustainable development objectives. Notably, the Center’s contributions in creating an Accessible Tourism Guide, available in English, Arabic, and Turkish, were highlighted. These discussions underscored the global importance of sustainable development goals and the role of accessible technology and services in promoting inclusive and equitable societies.



## RESEARCH

### Green human resource management

In their study, Ozlem Ercantan and Serife Eyupoglu explored how prospective employees, specifically university students, perceive organizations practicing **green human resource management (GHRM)** and how these perceptions influence their future environmentally-friendly behaviors in the workplace. This research underscores the significance of integrating sustainability into human resources management departments and highlights the role of GHRM in achieving sustainability goals. It contributes to both behavioral human resources management and environmental management literature while shedding light on how students’ perceptions of GHRM practices can influence their future green workplace behaviors.

## COURSE

### Economic development

The undergraduate module on “**Economic Development**” offered by the Economics Department equips students with an understanding of the various stages of development in both developing and developed economies. Furthermore, it sheds light on the distinctive characteristics of these

economies and the underlying reasons why certain nations grapple with persistent poverty. The significance of this course is underscored, particularly in the context of Sustainable Development Goal 8 (SDG 8), which focuses on decent work and economic growth.



150

Publications



7214

Citation count



4.99

Field Weighted Citation Impact



50.7%

International collaboration



10412

Views count



**INDUSTRY**

# NEU spin-off ventures

**Near East Research Innovation Technology Area (NERITA)**, which takes its name from the shellfish endemic to our island, is an organization working to make Cyprus an innovation island with its evolving Technology Development Zone, Technology Transfer Office, Co-Working Space, Maker Space, Fab-Lab, and Pro-Labs. With its support for the commercialization of R&D and Innovation processes, it aims to bring academic research in this field to society and benefit the university. Near East University aims to establish a vivid innovation environment with its dynamic interactions with industry and society, resulting in flagship spin-offs like GUNSEL.

**GUNSEL Electric Vehicles**  
 GUNSEL Electric Vehicles represents a cutting-edge electric vehicle and embodies the spirit of innovation and sustainability. As an integral part of Near East University's campus, GUNSEL symbolizes the fusion of education and industry, as the university provides essential expertise and support for this groundbreaking endeavor. With the completion of the R&D and prototyping phases, GUNSEL Car's establishment in 2022 marked a significant step towards

mass production. All investments and R&D processes have been funded by the university itself, showcasing a unique blend of academia and industry. The collaborative efforts between the university's R&D prowess and the ingenuity of GUNSEL engineers and designers have resulted in 13 prototypes and over 10,000 test drives. This partnership highlights the importance of education and industry working together to drive innovation and promote sustainable solutions.

**GUNSEL Energy**  
 GUNSEL Energy plays an essential role in the sustainability efforts of the GUNSEL brand and Near East University campus. Harnessing renewable energy sources like solar power, not only contributes to reducing the campus's carbon footprint but also supports sustainable transportation through electric vehicle charging stations. The innovative "Upcycling" solution for reusing old batteries aligns with the principles of a circular economy, promoting resource efficiency. Offering portable charging units and strategically located AC fast charging stations further enhances the practicality of electric vehicles, making them an eco-friendly choice.

## GUNSEL took its place in the Metaverse

In an era where electric cars and the emergence of Web 3.0 have taken center stage among technological advancements, GUNSEL is introducing the electric car experience to one of the most influential **virtual reality** universes, Decentraland, a burgeoning metaverse platform, by securing land for its showroom. GUNSEL is set to showcase its inaugural model, B9, and its second model, J9, to the world through this innovative universe via its Decentraland showroom, even before mass production begins.

**GUNSEL Engineering Solutions**  
 GUNSEL Engineering Solutions promotes innovation and domestic production. Emphasizing high localization and quality, it supports TRNC's economic growth by employing local talent and innovative processes. This contributes to brand strength, supports the economy, and fuels sustainable development.

**GUNSEL Academy**  
 GUNSEL Academy plays a crucial role in human capital development, offering training and internships to nurture a skilled workforce, benefitting not only the brand but the broader community. With a focus on electric vehicle technologies, it prepares the workforce for future industries, promoting regional employability and sustainable growth.

## INNOVATION

# AI and Robotics Institute

The Near East University **Artificial Intelligence and Robotics Institute** offers BSc., MSc., and PhD. programs that empower students with a solid knowledge base. Graduates have made substantial contributions in academia and various industries, including healthcare, transportation, and education. This institute holds significant importance due to its role in developing technological advancements and research. By focusing on core AI and robotics technologies and related areas like intelligent transportation systems and mobile applications, it drives innovation that enhances industry development and infrastructure. With a diverse portfolio of over 100 ongoing projects, it ranks among the world's largest university-affiliated research groups.

## CONFERENCE

# AI and the Internet of Things

Near East University Artificial Intelligence and Robotics Institute brought together the world's leading academics and professionals in the fields of artificial intelligence and the Internet of Things, at the international FoNeS-IoT **conference** it held, and discussed new technologies that will shape the world of the future. The emerging technologies that pave the way for new fields, services and business models such as pervasive sensing, multimedia sensing, machine learning,

deep learning, unmanned aerial vehicles, cloud and edge computing, energy efficiency/harvest and computing power, mobile internet were discussed. 112 articles were presented at the conference, which received more than 350 paper applications. Papers presented at FoNeS-IoT 2022 will also be published in the "Lecture Notes on Data Engineering and Communication Technologies (LNDECT)" book series by Springer.

## BOOK

# Management with AI

The **book** titled "Transforming Management with AI, Big-Data, and IoT," co-edited by Fadi Al-Turjman from the Near East University's Department of Artificial Intelligence Engineering and AI and Robotics Institute investigates the impact of artificial intelligence and the Internet of Things on the business

and management landscape. The book introduces novel features in AI and IoT, providing insights into enhancing economic efficiency at both micro and macro levels. It offers valuable case studies with proven approaches to solving common industry challenges, featuring international experts.

## EXHIBITION

# Algorithm-generated artworks



The "Artificial Intelligence and Art Exhibition" featuring artworks generated through Artificial Intelligence algorithms, was unveiled at the Near East University Engineering Faculty Innovation Center. This exhibition was a collaborative effort between the Faculty of Engineering and the Center of Excellence for issue Engineering and Biomaterials Research, organized into three distinct categories. The event highlighted the past significance of Artificial Intelligence in the world of art and its transformative role in redefining creative expression.

## JOURNAL

# AI and IoT

The **Journal of Artificial Intelligence and Internet of Things** published by the Near East University covers a wide range of fields, including Medical Science, Applied Mathematics, Environmental Science, Business Management, and Computer Science. The journal explores the innovative technology of Artificial Intelligence of Things (AIoT) and its potential impact on various industries and economies. This integration supports intelligent systems and autonomous decision-making, underpinned through research and inventive solutions.



# 116

Publications



# 2166

Citation count



# 2.16

Field Weighted Citation Impact



# 56%

International collaboration



# 4918

Views count





**FACILITY**

### Barrier-Free Cinema and Activity Center

Barrier-Free Cinema and Activity Center at the Faculty of Communication of the Near East University stands as a testament to our commitment to accessibility and inclusivity on campus. Designed with features such as tactile surfaces for the visually impaired, braille menus in the cafeteria, dedicated parking spaces, and state-of-the-art equipment, the center ensures a welcoming environment for everyone.

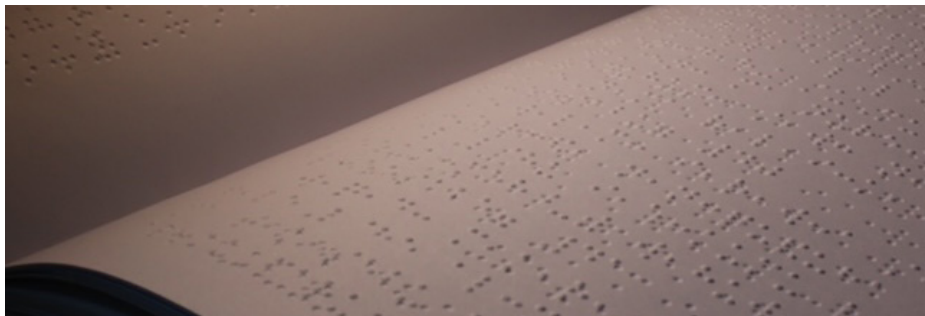


**PUBLIC RESOURCES**

### NEU Grand Library's Braille and audiobooks

The Near East University Grand Library boasts a collection of Braille books, encompassing literature, history, sociology, art, and religious topics. Additionally, there are audiobooks

available for visually impaired individuals. This diversity promotes accessibility and inclusivity, ensuring valuable knowledge and literature are accessible to all, regardless of their visual abilities.



**LIFE-LONG LEARNING**

### Filmmaking workshop

The "Barrier-Free Education Certificate Program" project, a collaboration between the Faculty of Communication, Department of Radio, TV, and Cinema, the Lifelong Learning Center (YABEM) and the Turkish Cypriot Orthopedically Disabled Association aims to realize the principle of the "right to work," enshrined in Article 23 of the Universal Declaration of Human Rights, for individuals with disabilities. In 2022 ten disabled people participated in the filmmaking workshop and obtained their certificates.

**STUDENT ENGAGEMENT**

### Inclusive cinema

Students from Algim Special Education Center and Lefkosa Vocational and Special Education Center attended a cinema event at the Barrier-Free Cinema and Activity Center, in collaboration with Telsim. The event was organized with the aim of enhancing the social lives of individuals with special needs and promoting accessible indoor and outdoor environments.

## COLLABORATIVE PROJECT

# Free Turkish language course for refugees

The Near East University and the **Refugee** Rights Association collaborated to promote social cohesion and strive to create a more equitable environment for refugees in Northern Cyprus. As part of this initiative, they have introduced a Turkish language education project for refugees. This effort not only enhances the prospects for personal growth and success among refugees but also contributes to the overall well-being

and harmony of the local community. A total of 32 refugees had the opportunity to participate in this program, thanks to the dedication of Assoc. Prof. Dr. Mustafa Yeniasir, Assoc. Prof. Dr. Burak Gökbulut, Assist. Prof. Dr. Funda Gezer Fasli, and lecturer Aslı Piro Rado. In recognition of their significant contribution to this project, they were rightfully presented with certificates of appreciation by the Refugee Rights

Association. This initiative underscores the importance of teaching the Turkish language to refugees as a means to reduce inequalities. Language proficiency is a fundamental tool that empowers individuals, allowing them to access education, employment opportunities, and to fully engage in their new communities. It bridges the gap between refugees and their host societies, facilitating integration.

## WORKSHOP

### Disability rights

The Near East University's **Disability** Rights Monitoring Committee organized a "Monitoring Workshop on Disability Rights" held at the Irfan Günsel Congress Center. The event, comprising sessions on "International Perspectives in Disability Rights Monitoring," "Disability Rights Monitoring Projects and Recommendations," and "Awareness Training in Different Service Areas," concluded with a "Deans' Roundtable Discussion."



## STUDENT ENGAGEMENT

### Down Syndrome Day

The Northern Cyprus Association of Dental Students is committed to providing qualified training to its members for oral screenings of individuals with **Down** syndrome. University students visited ALGIM Special Education Center, conducted necessary examinations, and offered motivational guidance on oral care. This activity underscores the significance of promoting oral health and well-being among individuals with special needs.

## COURSE

### Disability and society

The "Nursing" undergraduate program of the Near East University offers the comprehensive course "Disability and Society (HEM 343)," enabling students to gain profound insights into the various vulnerable groups within society. The course equips them with the necessary tools to develop innovative solutions for addressing societal challenges, with a particular focus on enhancing inclusivity and the overall well-being of individuals.

## RESEARCH

### Gifted preschoolers in Palestine

A study by Reem Jawabreh, İpek Danju and Soheil Salha involving 450 female preschool **teachers** in Palestine examined how teachers perceive the traits of gifted students. It revealed that teachers' views differed significantly depending on their academic qualifications and their opinions on whether gifted children require a specialized curriculum.



63

Publications

814

Citation count

1.57

Field Weighted Citation Impact



46%

International collaboration



3693

Views count



**FACILITY**

## Bridging the past and present: NEU museums

Near East University aims to make history and art an integral part of community life through museums such as the Cyprus Modern Art Museum, Walled City Museum, Cyprus Car Museum, Herbarium and Natural History Museum, Günsel Art Museum, Maritime History Museum, Knife and Sword Museum, and Cyprus Turkish National

History Museum. Established within the Near East University, these museums create a significant cultural heritage that will shape the future with works from various fields of contemporary art. Additionally, the museums contribute to a significant cultural legacy that will shape the future through a diverse range of contemporary art exhibits. At the

same time, they strengthen the bonds between society and its history by bringing the history of Cyprus and the world into the present with their extensive collections, which include classic cars, historical artifacts thousands of plant and animal species, and fossils and remains shedding light on the geology of Cyprus.

**CONFERENCE**

## Future Cities 2022

The "Future Cities" international conference, hosted by the Faculty of Architecture, convened global researchers, academics, and international organizations. Its goal was to address contemporary urban design and planning challenges, emphasizing sustainable urban development. The conference covered various urban planning topics, including land-use, infrastructure, environmental planning, and more. Discussions also focused on urban morphology, resilience, pandemic responses, universal design for inclusive cities, and the concept of smart cities. The event promoted interdisciplinary collaboration and highlighted the latest trends in the field.

NEAR EAST UNIVERSITY  
FACULTY OF ARCHITECTURE

**INTERNATIONAL CONFERENCE ON  
FUTURE CITIES 2022**

URBAN MANAGEMENT - URBAN MORPHOLOGY - URBAN RESILIENCE  
PANDEMIC AND CITIES - UNIVERSAL DESIGN AND CITIES - SMART CITIES

Last Submission Date of Abstract: ~~30 December 2021~~ 30 December 2021  
Acceptance Date of Abstract: 10 January 2022  
Last Submission Date of Full Text: 29 April 2022

For Detailed Information: [futurecities2022.neu.edu.tr](http://futurecities2022.neu.edu.tr)

25-26 March 2022 10:00 - 18:00

**EXHIBITION**

## Orff instruments and activities

In 2022, Dr. Neriman Soykunt and her students from the Near East University Department of Music Education organized an Orff Instruments and Activities Exhibition. The event featured Orff instruments and activities created by students during the semester. University students and external artists attended, underscoring the event's significance in promoting artistic expression. This exhibition provided an inspiring platform for students to showcase their creative works and collaborate with established artists.

## RESEARCH

# Varosha's revitalization: Learning from Expo '98



Cyprus's **Varosha** region is on the brink of transformation, drawing inspiration from Portugal's Expo '98 project. This initiative aims to reinvigorate urban spaces, emphasizing their economic, social, and cultural significance. By applying Expo '98's design criteria and functional arrangements, a fresh

vision for Varosha is in the making. This research by Vedia Akansu and Ümran Duman points to the importance of international knowledge exchange in urban development, offering new regulatory criteria for sustainable urban revitalization for Varosha's potential transformation.

## RESEARCH

# Reviving historic Nicosia: Sustainable revitalization

The walled city of **Nicosia** faced a threat of deterioration due to various factors. However, recent strategic planning and revitalization efforts are breathing new life into the Arabahmet and Karamanzade regions. This study by Mustafa Eyyamoğlu and Ayten Özsvaş Akçay highlights the importance of implementing revitalization projects in historical cities within the framework of sustainable development. It becomes evident that a more comprehensive approach to sustainability is essential for the long-term preservation of these historic areas.



## RESEARCH

# Universal design for social sustainability

Sustainable urbanism covers a range of facets, emphasizing environmental, economic, cultural, and social elements. Research shows the pivotal role of **universal design** (UD) in developing urban parameters vital for social sustainability. The study by Ümran Duman and Buket Asilsoy unveils shortcomings in urban spaces, offering recommendations for improvements guided by UD principles, focusing on stops, sidewalks, pedestrian crossings, and urban furniture.

## RESEARCH

# Green roofs as a solution for urban environments

In the context of urbanization and climate change, the significance of energy conservation in cities cannot be overstated. This research by Sinem Yıldırım, Çimen Özburak and Özge Özden, conducted at the Near East University Campus over twelve months, focused on the impact of different **green roof** vegetation types on indoor temperatures, comparing them to a control roof without vegetation. The study revealed that green roofs,

especially those with shrub plants, significantly lowered indoor temperatures during hot summer conditions. This shows the important role of green roofs in building insulation and their potential to reduce energy consumption, making them a valuable asset for sustainable urban cooling. Furthermore, the findings highlight the potential for the widespread implementation of green roof systems to combat urban heat island effects.



154

Publications

2795

Citation count

1.98

Field Weighted Citation Impact



55.8%

International collaboration



7036

Views count



**WORKSHOP**

## Domestic wastes can turn into useful products

In the ‘1st Workshop on Biomaterials from **Biological Waste** and Biomedical Applications,’ the significant economic and environmental benefits of recycling household waste were emphasized. Inadequate separation of domestic waste leads to environmental pollution and health risks. Recycling such waste not only mitigates pollution but also adds economic value across various sectors, from agriculture to healthcare.

Organized by Near East University’s Tissue Engineering and Biomaterials Research Center and Environmental Research Center, the workshop discussed the advantages of recycling domestic and biological waste. The event, attended by Tatlisu Mayor Hayri Orçan, also touched upon the ‘Freshwater Pilot Zone Zero Waste’ project’s outcomes, supported by the Presidency.”

**RESEARCH**

## Understanding heat-resistant moulds

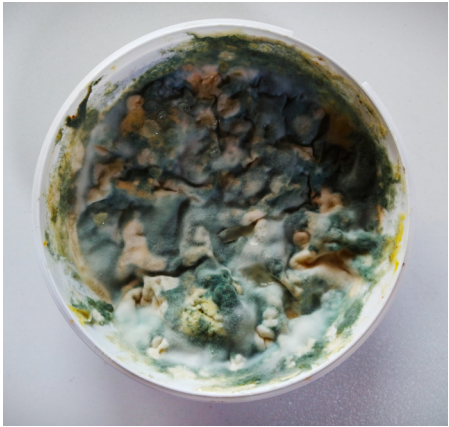
**Heat-resistant moulds** (HRMs) are a significant threat to thermally processed food items, including pasteurized products and fruit goods. They not only jeopardize food quality but can also result in substantial financial losses for producers. Various factors, such as the production environment, packaging, staff practices, and air quality in the production site, influence the contamination of these products by HRMs. Mitigating HRM-induced spoilage is crucial. Implementing effective strategies to reduce and decontaminate these tenacious microor-

ganisms is essential for maintaining food safety standards and consumer well-being. Authored by Beyza Hatice Ulusoy, Nejat Shifamussa Hamed, and Fatma Kaya Yildirim, a comprehensive review delves into the issue of HRM and mycotoxin contamination in the food industry. The review provides valuable insights on assessing, preventing, and managing HRM-related challenges, illuminating potential implications for food safety and public health. Addressing this is crucial for ensuring the safety and quality of food products for consumers.

**COURSE**

## Food preservation technologies

The “**Food Preservation Technologies**” course (VTE344), offered by the Faculty of Veterinary Medicine, is designed to provide students with a comprehensive understanding of food preservation methods and principles, focusing on sustainability. It covers the historical development of food preservation, traditional methods, and modern technologies that help prevent food deterioration and enhance the shelf life of food products. Emphasis is placed on the sustainability aspect of these technologies.



## COLLABORATION

# Northern Cyprus Zero Waste Project

Under the coordination of Prof. Dr. Özge Özden, Dean of the Faculty of Agriculture at Near East University, the “Zero Waste Freshwater Pilot Project” was funded by the Presidency of the Turkish Republic of Northern Cyprus. The project successfully recycled plastics, metals, glass, plant oils, vehicle inspection oils, and medical waste. The project has achieved a remarkable 75% success rate and continues to make progress. The Tatlısu Municipality supports the project in the region. “Zero Waste Freshwater Pilot Project” represents a significant step toward

environmental sustainability and resource conservation in Tatlısu. By efficiently recycling a variety of materials and gaining stakeholder support, it not only reduces pollution but also sets an inspiring example for responsible waste management, contributing to a cleaner and healthier environment. As part of the project, Near East University faculty members Prof. Dr. Özge Özden and Prof. Dr. Salih Gücel provided recycling and carbon footprint-related education to three classrooms of primary school students in the region.



## RESEARCH

# Cutting carbon emissions with wastewater treatment

Non-renewable energy consumption contributes significantly to global greenhouse gas production, with **wastewater treatment plants** emerging as prominent sources of emissions. To achieve the targeted 2030 reduction in carbon pollution, a crucial focus lies on energy conservation and reduced consumption within these treatment facilities. The demand for urban wastewater treatment plant construction and technological advancements

remains high, with energy usage intricately tied to influent plant development and effluent standards. This study, conducted by H. Gökçekuş, Y. Kassem, A. Z. K. Fahnbulleh, and R. Fallah Saah, offers insights into emerging strategies aimed at mitigating water scarcity through innovative wastewater treatment technology. The research investigates various scenarios to optimize treatment plant structures and assesses energy

consumption efficiency. It also explores the potential for achieving energy self-sufficiency and presents a sustainable approach to address water scarcity challenges. This study serves as an essential resource for improving energy management systems and shaping energy policies and infrastructures. It underscores the eco-friendly nature of renewable energy as a crucial solution to present and future water scarcity issues.



102

Publications



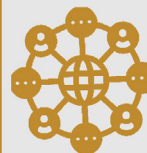
1874

Citation count



2.02

Field Weighted Citation Impact



47.1%

International collaboration



4582

Views count



## HYBRID WEBINAR

## Machine learning's role in climate change assessment

On December 12, 2022, a two-hour **hybrid webinar** provided a comprehensive exploration of climate change and the utilization of machine learning for climate change assessment. This event was open to the public at no cost, attracting a diverse audience keen on addressing Sustainable Development Goal 13, pertaining to climate change, and Sustainable Development Goal 6,

focusing on water. Distinguished speakers approached the complex issue of climate change from multiple angles, demonstrating the crucial role of machine learning in climate assessment. The interactive nature of the webinar allowed participants to grasp the significance of employing cutting-edge technology to mitigate climate-related challenges effectively.

## SEMINAR

## Climate change and urban implications

The Near East University Faculty of Agriculture Department of Landscape Architecture organized a thought-provoking seminar addressing the intricate relationship between **climate change** and urban landscapes. In a digital setting, Associate Professor Nilüfer Kart Aktaş, from Istanbul University's Cerrahpaşa Faculty of

Forestry, expertly navigated the complexities of this subject. The seminar explored the intersection of climate change and urban planning, shedding light on the challenges and opportunities it presents to modern cities. The event facilitated a valuable dialogue on creating more sustainable and resilient urban environments.

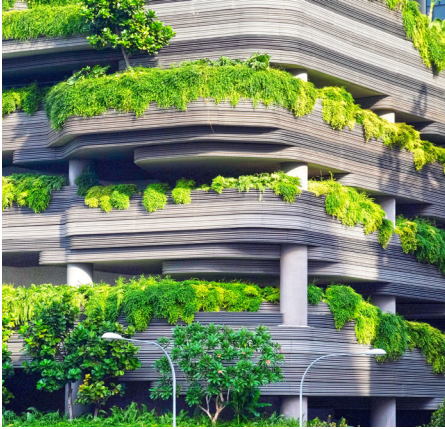
## HYBRID WORKSHOP

## Climate change modeling with EnROADS

A transformative two-hour hybrid workshop explored climate change and the **En-ROADS** simulation tool. With over 15 physical attendees and 95 participants virtually, the event catered to graduate students, educators, and environmentally conscious individuals. Dr. Hüseyin Gökçekuş, Dean of the Faculty of Civil and Environmental Engineering, initiated discussions on climate change's significance, followed by Farhad Bolouri's adept presentation on En-ROADS functionality. Attendees actively engaged in modeling exercises, empowering them to combat climate change effectively. Bolouri, a Doctoral Research Assistant, completed the En-ROADS facilitation course virtually, sponsored by MIT University.

## RESEARCH

# Future of green building technology



In the global battle against climate change, smart grids play a pivotal role in enhancing energy efficiency. Buildings, responsible for 40% of global energy consumption, are central to smart grid systems. To address climate change, **zero-energy green buildings** have emerged, presenting complex challenges. Real-time energy management and data processing in smart grids and green buildings are crucial. The special issue, '6G/IoT-driven Real-time Modeling and Management for Green Buildings in the Smart Grid Era,' in the *Computer Modeling in Engineering & Sciences* journal, explores innovative solutions. The guest editor, Prof. Dr. Fadi Al-Turjman from Near East University, promotes advancements in sustainable building technology across borders.

## COURSES

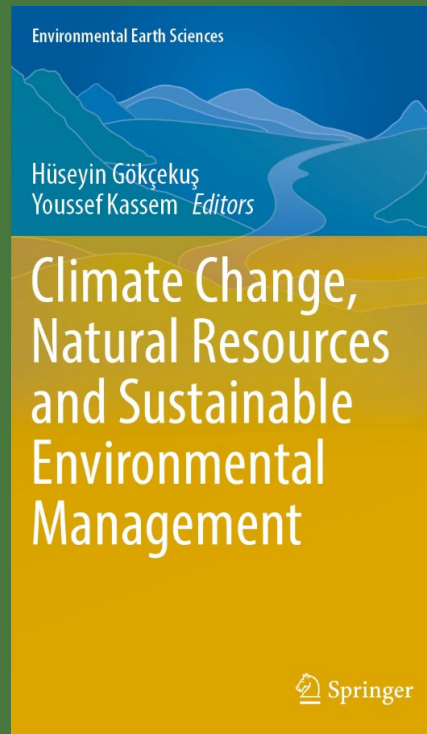
# Environmental politics in international relations

The Department of International Relations of the Near East University offers both undergraduate and graduate modules focusing on "Environmental Politics." These courses provide in-depth insights into the multifaceted global environmental issues, covering areas like energy, climate, biodiversity, food, and water.

By unraveling the complex interconnections between law, politics, and policies, students gain a profound understanding of the critical importance of this subject, particularly in the context of the pressing climate crisis. This knowledge is pivotal for addressing the urgent challenges confronting our world today.

## PUBLICATION

# New book tackles global environmental challenges



Edited by Faculty of Civil and Environmental Engineering professors Hüseyin Gökçekuş and Youssef Kassem, the book titled "Climate Change, Natural Resources and Sustainable Environmental Management" delves into pressing global issues, particularly those related to climate change and global warming. It employs a humanistic and critical thinking approach, emphasizing the importance of research, education, and the pursuit of global equality and sustainability. Moreover, the book spotlights the ongoing struggle to connect government policymakers with science and innovative solutions, offering fresh perspectives to tackle challenges within the realms of natural resources, water, energy, and the environment.



# 117

Publications



# 3155

Citation count



# 3.52

Field Weighted Citation Impact



# 50.4%

International collaboration



# 3870

Views count





Photograph by Tevfik Camgoz

RESEARCH

## Exploring microbial diversity: Mirror lake in Gilindire Cave



Researchers Selin Deliceirmak, a faculty member of the Near East University and Arzu Karahan have conducted a study on the prokaryotic **microbial diversity** of Mirror Lake, situated at the end of Gilindire Cave in Turkey. This unique ecosystem, characterized by its brackish water and influences from both fresh and seawater sources, was analyzed using 16S amplicon sequencing. The research revealed a dominant presence of nitrite-oxidizing *Nitrospira*, comprising 28% of the bacterial community. The

study also suggests that *Nitrospira* plays a role in nitrification through mutual interactions with ammonia-oxidizing archaea. Additionally, the research highlights associations with *Planctomycetes* CL500-3 clade and *Marinimicrobia* (SAR406). Notably, it reports the first-ever discovery of the marine clade SAR324 in brackish cave waters. This research contributes to our understanding of microbial diversity in unique environments, shedding light on the intricacies of cave ecosystems.

## Spirulina phenolic compound predictions

**Spirulina**, a microalga prized for its nutritional benefits, exhibits fluctuations in phenolic compounds due to varying growth conditions. Researchers Wubshet Asnake Metekia, Abdullahi Garba Usman, Beyza Hatice Ulusoy, Sani Isah Abba and Kefyalew Chirkena Bali employed Artificial Intelligence (AI) models, including the Adaptive-Neuro Fuzzy Inference System (ANFIS), Multilayer Perceptron (MLP), and Step-Wise Linear Regression (SWLR), to forecast total phenolic compounds (TPC) in spirulina. Input parameters encompassed Spirulina productivity (P), extraction yield (EY), total flavonoids (TF), percent of flavonoid (%F), and percent of phenols (%P). Results revealed a positive correlation between TPC and these parameters. Most notably, ANFIS and SWLR models surpassed MLP in TPC predictions, boosting accuracy by 2%. This AI application holds significant promise for optimizing spirulina production.

# Blue growth opportunities in Northern Cyprus



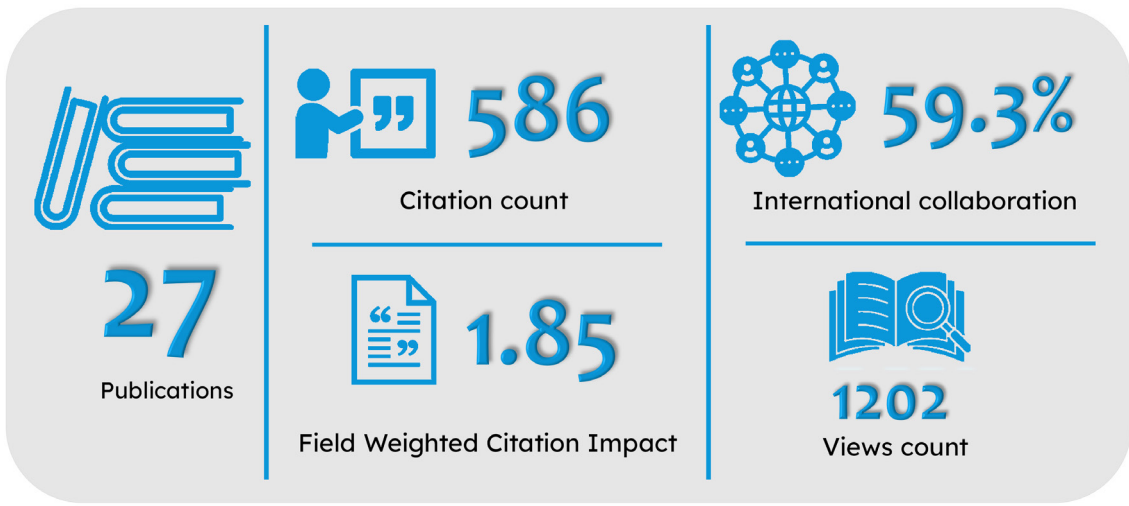
In a world where 97% of Earth’s water is in the oceans, their critical importance to life and the environment is undeniable. Oceans have shaped conditions for human existence, providing sustenance and livelihoods to people globally. However, overexploitation and the destruction of natural systems are threatening economic growth and marine ecosystems, exacerbated by climate change. Islands, vulnerable to climate change, natural disasters, and human disturbances, need comprehensive strategies. Small Island Developing States recognize the need for holistic approaches, and the concept of “blue growth” from the Rio+20 conference promotes sustainable development

through marine and coastal activities. The Turkish Republic of Northern Cyprus (TRNC) offers a unique opportunity to apply blue growth principles, benefiting various economic sectors while preserving its natural environment. A study by Selin Deliceirmak and Ilkay Salihoglu examines strengths, weaknesses, opportunities, and threats in unrecognized countries pursuing blue growth. By advocating integrated sector management and identifying new opportunities, the study suggests TRNC can achieve self-sustainability without harming its island ecosystem. This innovative approach could pave the way for sustainable development and economic prosperity in TRNC and similar regions.

# Tackling pharmaceutical waste



The disposal of pharmaceutical waste is a pressing concern in the modern world due to advances in technology, diverse drug formulations, and the growing global population. Although pharmaceuticals aim to enhance human and animal health, the active ingredients often end up in the environment through various channels, including sewage systems. This contamination poses risks like antibiotic resistance and hormonal disruptions in animals, disrupting ecological balance. In this comprehensive review, the authors, Arkan Adışanlı and Aşkın Kiraz, examine the generation and transmission of pharmaceutical waste, its adverse effects on living organisms, and the international collection campaigns and regulations. This analysis draws from legal frameworks, data from world health organizations, and various publications to provide a holistic perspective on the issue.





## FACILITY

## Havva Hanım Farm

Nestled on a sprawling 253-acre expanse in the Akçiçek region of Girne, the Near East University's Faculty of Veterinary Medicine houses the **Havva Hanım** Educational, Research, and Application Farm. The farm is devoted to sustainable agriculture, animal husbandry, and conservation in harmony with the principles of preserving terrestrial ecosystems and biodiversity. The farm's mission is to conduct research in breeding and husbandry techniques for cattle, small ruminants, and poultry, harnessing modern livestock technology. The focus here is on optimizing animal productivity,

preserving genetic diversity, and advancing animal welfare. Moreover, the Havva Hanım Farm plays a pivotal role in zoonotic disease research, prevention, and community education, thereby ensuring a healthier society. As an educational institution, the farm strives to develop competent professionals in the field of animal husbandry, ensuring the livestock industry's sustainable future. It provides the necessary facilities, materials, and services for undergraduate and postgraduate programs, including research, practical training, and internships.



## RESEARCH

## Discovering hidden biodiversity



The research paper by Salih Güçel and his colleague presents new insights into **Brachythele zonsteini** and **Nemesia cypriatica** species, both native to Central Anatolia, Turkey, and Cyprus. Additionally, the paper offers a comprehensive reevaluation of *B. varrialei*, including the first-ever description of the conspecific female in Turkey. The study contributes to a better understanding of regional arachnid diversity and taxonomy.

**FACILITY**

# Cyprus Herbarium and Natural History Museum



The **Cyprus Herbarium and Natural History Museum** showcases an extraordinary collection assembled over 18 years of dedicated scientific research conducted by various departments of Near East University. The museum's exhibits encompass a vast array of specimens, including a remarkable 11,000 plant samples, various types of fungi, insect species, reptiles, marine organisms, and geological materials related to Cyprus. One of the remarkable features of the museum is the careful preservation of plant samples using specialized techniques. The museum

proudly houses 11,000 samples, which represent approximately 600 species endemic to Cyprus, along with 140 species unique to Cyprus and 19 plants exclusive to the Beşparmak Mountains in Northern Cyprus. Every specimen displayed at the museum tells a unique and intriguing story, spanning from ancient relics dating back 220 million years to those collected during recent scientific expeditions conducted in Cyprus. Notably, our collection includes the world's oldest living specimen, a testament to the rich history of life on our island.

**GRADUATE COURSE**

# Green roofs and vertical gardens



**Green Roofs and Vertical Gardens (LAND505)** is a course offered by the Master's Program on Landscape Architecture, focusing on the design, installation, and maintenance of green roofs and vertical gardens. The course encompasses plant selection for green roof systems, irrigation strategies for green roofs, arranging plants, planting structures, and the installation and maintenance of green walls. In the context of biodiversity, this course is vital for promoting urban biophilic design, enriching urban ecosystems, and enhancing habitat opportunities for various species. Its contribution to urban biodiversity is crucial in sustainable landscape practices.

**SEMINAR**

# Karstic Memories: Cyprus Climate Analysis

French National Scientific Research Center (CNRS) researcher Prof. Dr. Carole Nehme shared insights from the limestone archives project at a Near East University seminar. Supported by

CNRS, the project focuses on paleoclimate reconstruction in Cyprus. Nehme emphasized the crucial role of **karstic structures** in decoding the island's climate changes. The seminar under-

scored the interdisciplinary significance of this research, providing valuable insights into Cyprus's geological evolution and broader environmental dynamics.



**21**

Publications

**292**

Citation count

**1.00**

Field Weighted Citation Impact



**61.9%**

International collaboration



**644**

Views count



**INSTITUTION**

## The NEI: A catalyst for positive change

Established in 2013, the **Near East Institute** (NEI) serves as a beacon of expertise, fostering research-driven endeavors on a broad spectrum of political, social, and geostrategic issues. The NEI has garnered recognition for its significant contributions to the fields of peace, justice, and institutional strength, creating a profound impact on both Cyprus and the wider Near East region. At its core, NEI acts as a conduit between academia and the practical world, bridging the gap through its multifaceted activities. These activities encompass consulting public and private stakeholders on matters of public policy, diplomacy, and society, with a particular

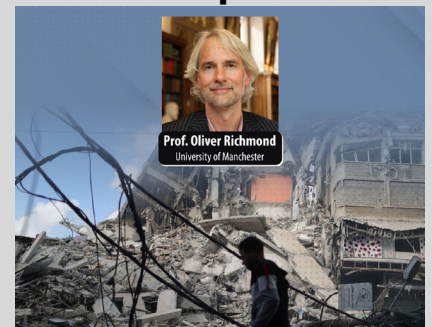
emphasis on the Near East region. Additionally, the institute facilitates intellectual exchange by uniting researchers with policy-makers, practitioners, and influential figures from Cyprus and across the globe, through seminars, conferences, workshops, and round table discussions.

**Addressing critical topics**

The NEI aims to be a catalyst for positive change, addressing critical topics within international affairs such as cybersecurity, democracy, energy transitions, the European Union, foreign policy, international security, peace and conflict, public diplomacy, refugees and migration, and trade and globalization.

**HYBRID SEMINAR**

## International dimensions of counter-peace



World-renowned scholar in the fields of peace studies and international relations Prof. Oliver Richmond from the University of Manchester gave a stimulating talk at the “International Dimensions of **Counter Peace**” panel, co-organized by the Department of Journalism and the Near East Institute. Prof. Richmond addressed the challenges of peacemaking in a rapidly changing world, involving the counter-peace dynamics. The hybrid conference is accessible for free on the Near East University’s YouTube channel.

## Global security seminars

The Near East Institute (NEI) organized a **global security** seminar series, aiming to enhance understanding of global security from a peace and sustainability perspective. The seminars are accessible to the

public and available for free on YouTube. The seminars and webinars in 2022 featured, among others, research on “climate security”, cyber security, ethnic conflict, conflict resolution, and emerging human rights challenges.

## COURSES

# Exploring peace and justice



The Near East University's Faculty of Economics and Administrative Sciences offers courses on **peace studies** at both undergraduate and graduate levels. Students explore the intricacies of social justice, sustainability, freedom, compassion, power, and more, while

critically analyzing the structures that both promote and limit peace. The course aims to develop students' profound understanding of the world's most pressing issues and embark on a path toward global harmony and positive change.

## ARTICLE

# Peace-building lessons from Cyprus

The **Cyprus conflict**, a long-standing global issue, has kept the Turkish Cypriot and Greek Cypriot communities separated for over five decades. Priscilla Marisa and Nur Köprülü, in their article, explore the significant role played by UN entities in Cyprus as international actors

in the reconstruction of post-conflict societies. They emphasize their contributions in terms of civic engagement, gender equality, and sustainable development. Through this analysis, the authors illuminate valuable lessons learned in peace-building efforts.

## PANEL DISCUSSION

# Freedom of expression in Northern Cyprus



A panel organized by the Department of Journalism, Faculty of Communication touched upon the media freedom in Northern Cyprus, in light of **legal regulations** enacted in 2022. The event emphasized the crucial role of the media in maintaining democracy and promoting open dialogue. President of the Broadcasting Supreme Board Feyzi Hansel, President of the Turkish Cypriot Journalist Union Emin Akkor and the Secretary General of Cyprus Turkish Bar Association Aslı Murat discussed the new legal regulations regarding the freedom of expression in Northern Cyprus.



62

Publications



407

Citation count



1.01

Field Weighted Citation Impact



22.6%

International collaboration



2698

Views count



## COLLABORATION

### “6 state primary schools in 6 districts”

Under a protocol signed with the Ministry of National Education of the Turkish Republic of Northern Cyprus, the Near East Enterprises, of which the Near East University is a part of, constructs six primary schools and donates them to the state. The “6 State Primary Schools

in 6 Districts” project’s aim is to establish six state primary schools in different districts, with the first two schools in Nicosia and İskele already benefiting their communities. The third phase of this project, Dr. Suat Günsel Famagusta State Primary School, was

completed in 2022. The rapid construction process and modern amenities, such as spacious classrooms, a computer laboratory, and art installations, underscore the Near East Enterprises’ dedication to providing quality education.



**COLLABORATIONS**

# Joint AI projects with the University of Sharjah



Near East University initiated **joint** projects that take artificial intelligence at its center with the University of Sharjah from the United Arab Emirates. The project applies the artificial intelligence-supported “Multi-Criteria Decision Making” method to the field of health. The two universities also work together to develop innovative AI-powered technologies for breast cancer and asthma diseases.

In the first project, AI-driven “Multi-Criteria Decision Making” is applied to healthcare, building on Near East University’s establishment of the world’s first Health Operations Research and

Integrated AI Research Group. This collaboration extends the expertise internationally, utilizing AI and big data for various healthcare applications, including optimizing treatment protocols and enhancing hospital efficiency. The second project focuses on developing AI-supported diagnostic methods for Invasive Ductal Carcinoma, a common form of breast cancer. Through a dedicated portal, this initiative employs multi-criteria decision-making and AI to enable early breast cancer diagnosis, offering real-time monitoring and detection before cancer spreads to adjacent tissues.

## Cooperation with Azerbaijan

Prof. Dr. Salih Gücel, the Deputy Dean of the Faculty of Agriculture and Director of the Herbarium and Natural History Museum, participated in the “Biological Diversity, Soil and Water

Resources of Shusha and Its Environment: Looking to the Future” meeting hosted by the **Azerbaijan** National Academy of Sciences. He emphasized the importance of strengthening cooperation between the two countries to protect the environment and biodiversity.

## Enhancing safety through geographic data

The TRNC General Directorate of Police is actively advancing crime prevention by partnering with the Near East University’s Faculty of Architecture and the Center for Urban-Rural Life Studies. They jointly initiated a project to integrate data into a **Geographic Information System**, which helps identify crime and traffic accident hotspots on maps. Furthermore, the collaboration has identified high-risk accident intersections in the Kyrenia Region using traffic accident data, offering potential solutions for enhanced safety.

**CONFERENCE**

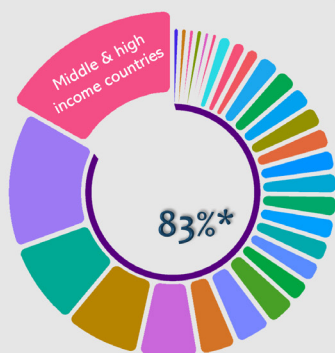
## Cyprus issue: Environmental challenges and energy security

In 2022, the “Cyprus Issue: Environmental Challenges and **Energy Security**” conference, hosted by Near East University and supported by 40 universities from around the world, brought together over 200 participants, including scientists, politicians, bureaucrats, retired generals/admirals, and energy experts. The three-day international conference delved into issues concerning energy security in the Eastern Mediterranean, exploring the intricate relationship between the political economy of energy security and national/international security. Additionally, the conference discussed the role of the Turkish Republic of Northern Cyprus in maintaining this delicate balance.



**131**

Publications



- Algeria
- Nepal
- Bangladesh
- Nigeria
- Benin
- Pakistan
- Camerun
- Philippines
- Egypt
- Rwanda
- Ethiopia
- Sri Lanka
- Micronesia
- Sudan
- Gambia
- Uganda
- Ghana
- Ukraine
- India
- Uzbekistan
- Iran
- Viet Nam
- Jordan
- Yemen
- Kenya
- Zambia
- Kyrgyzstan
- Middle & High Income Countries
- Lebanon

**\*83% of the publications is co-authored with low and lower middle income countries**



# Sustainability: A Responsibility, Not a Choice

## The Sustainability Office

Prof. Dr. Sevcan Kurtulmuş Yılmaz (Director)  
Prof. Dr. Fezile Özdamlı  
Assoc. Prof. Dr. Ayça Demet Atay  
Assoc. Prof. Dr. Ayşe Arıkan Sarioğlu  
Assoc. Prof. Dr. Umut Aksoy

Editor-in-chief  
Ayça Demet Atay

Content editor  
Oshan Uluşan

Graphic designers  
Fuat Boğaç Evren ● Özen Çatal ● Mert Şardu

Photographers  
Gazi Yüksel ● Mert Yusuf Özlük

Contributors  
Özer Turan ● Evren Maner ● Emre Karahasan ● Tefik Camgöz

AI-generated image by Mert Şardu



**NEAR EAST UNIVERSITY**  
**SUSTAINABILITY OFFICE**

Contact  
Near East University  
Near East Boulevard  
ZIP: 99138  
Nicosia/ North Cyprus  
E-mail: [sustainability@neu.edu.tr](mailto:sustainability@neu.edu.tr)