



IN FOCUS

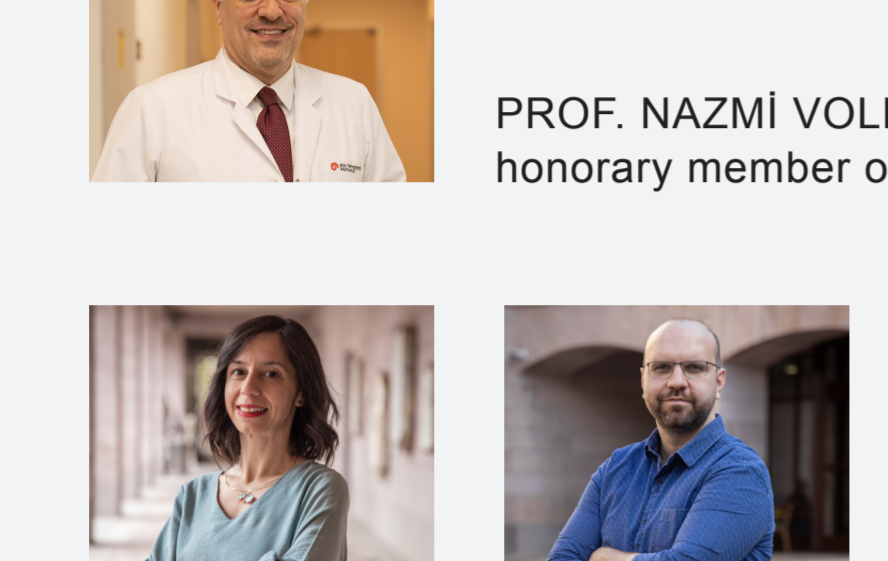
The Heart of the Multi-Component Research Field: MARC

The Manufacturing & Automation Research Center (MARC) at Koç University, founded to promote interdisciplinary scientific education and research for advanced manufacturing technologies, mechatronics, and medical systems, aims to develop innovative manufacturing systems, transfer them to the relevant industry, and provide a quality learning environment enriched with a wealth of resources. The Director of MARC, Prof. İsmail Lazoğlu, told us about the Center's recent activities.

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TOP STORIES

The Recipient of Koç University Rahmi M. Koç Medal of Science Challenges Global Warming



The 2022 Koç University Rahmi M. Koç Medal of Science was presented to Professor Bilge Yıldız from MIT for her seminal contributions to the understanding and design of novel surface chemistries, materials for efficient and durable electrochemical energy conversion, and energy-efficient ionic computing devices. We met with Bilge Yıldız to talk about the groundbreaking research for which she received the award, as well as her ongoing work and future research plans.

[READ MORE](#)

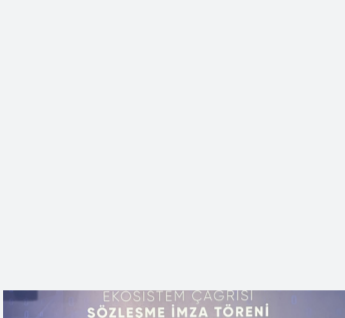
RESEARCH ACCOLADES



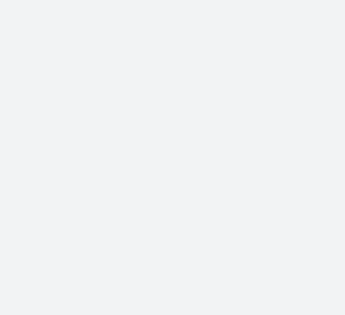
PROF. NAZMI VOLKAN ADSAY from the School of Medicine has been elected as an honorary member of the Turkish Academy of Sciences (TÜBA).



ASST. PROF. SEDEF TURPER ALIŞIK from the Department of International Relations and ASST. PROF. SAFACAN KÖLEMEN from the Department of Chemistry received the 2022 TÜBA-GEBİP Awards. Dr. Turper Alışık works on political attitudes and migration studies contributing to the development of effective policies. Dr. Kölemen aims to develop drug candidates for cancer treatment and molecular sensors for bioimaging studies.



ASSOC. PROF. DİDEM UNAT from the Department of Computer Engineering is one of the recipients of the 2021 Young Scientist Award from the Bilim Kahramanları Foundation. The award is in recognition of Assoc. Prof. Unat's outstanding contributions to the supercomputing community and achievements in developing algorithms and programming models for supercomputers to facilitate parallel programming, save energy, and increase the performance of the software.



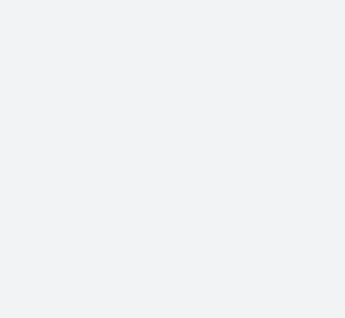
The first-ever Science Diplomacy Award from the Council of Higher Education (YÖK) was presented to ASSOC. PROF. SEDAT NIZAMOĞLU from the Department of Electrical and Electronics Engineering. Assoc. Prof. Nizamoglu also was deemed worthy of the 2022 TÜSEB Encouragement Award for his promising work on photomedicine and bioelectronics.



PROF. HALİL KAVAKLI from the Department of Chemical and Biological Engineering was awarded the 2022 TÜSEB Aziz Sanca Science Award for his research on DNA repair and circadian rhythms.

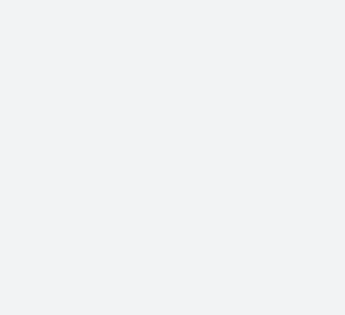


PROF. FİLİZ ÇALIŞLAR YENİŞEHİRLİOĞLU, the Director of Koç University Vehbi Koç Ankara Studies Research Center (VEKAM), was honored with the National Order of Merit of the French Republic for her contributions to the revitalization of academic partnerships, intellectual knowledge and experience, and initiatives in the field of civil society between France and Turkey, as well as her research on Ottoman art and architecture.

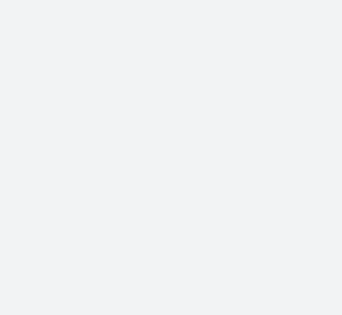


With their projects, PROF. METİN SEZGİN, PROF. YÜCEL YEMEZ and RESEARCH ENG. BEKİR BERKER TÜRKER from the Koç University & İş Bank Artificial Intelligence Center (KUIS AI) have received funding as partner institutions out of a total of ten funded projects in the first TÜBİTAK1711 AIEcosystemCall. The projects are titled "Artificial Intelligence-Aided Detergent Formula Design and Performance Optimization" and "Smart Monitoring of Human Motion and Activities in the Production Environment."

Koç University Faculty Members Received ERC Starting Grants



ASST. PROF. BARIŞ YILDIZ's project, "GoodMobility: A New Perspective on City Logistics: Concepts, Theory, and Models for Designing and Managing Logistics as a Service," is the first ERC project focused on logistics. GoodMobility aims to design future urban logistics systems and the necessary theories, concepts, and models for the realization of these systems.



ASSOC. PROF. ELİF NUR FIRAT KARALAR is the first researcher to receive the ERC Starting Grant twice in life sciences. Her project "SatelliteHomeostasis: Spatiotemporal Regulation of Centriolar Satellite Homeostasis" aims to understand the evolutionary processes of the complex organization of mammalian cells, thus developing new diagnostic and treatment methods for diseases such as developmental disorders or cancer.



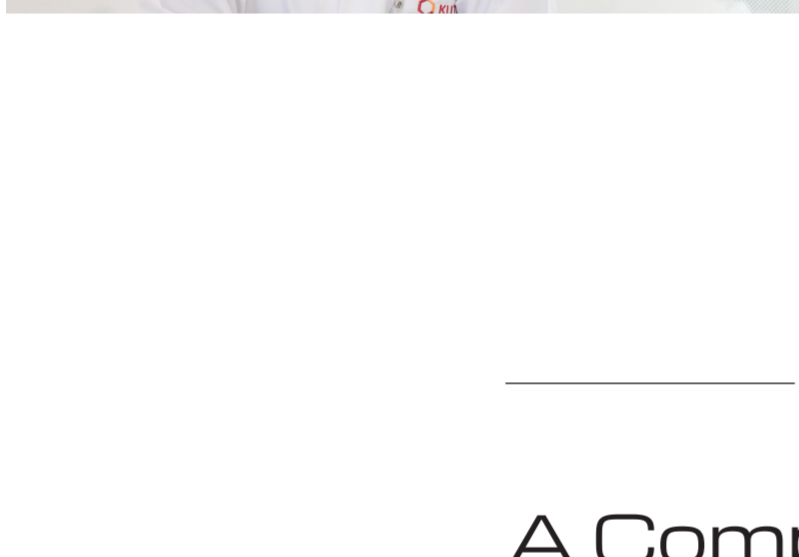
With his "Affective Polarization and Democratic Attitudes-DEPOLARIZE" project, ASSOC. PROF. SELİM ERDEM AYTAÇ examines HOW THE EMOTIONAL polarization created by the antipathy, insecurity, and negative feelings developed by citizens in many countries against the supporters of political parties, which they see as opposed to their own views, affects people's democratic attitudes.



DR. ERKAN AYDIN from the King Abdullah University of Science and Technology received an ERC Starting Grant, with the "INPERSPACE" project hosted by Koç University. Dr. Aydın is working to develop highly efficient yet cost-effective solar cells. While INPERSPACE is the first project in Turkey to receive an ERC fund in the field of photovoltaic technologies, Dr. Aydın is the first researcher to be awarded this support by writing a joint project with Turkey from abroad.

[FOR FURTHER INFORMATION](#)

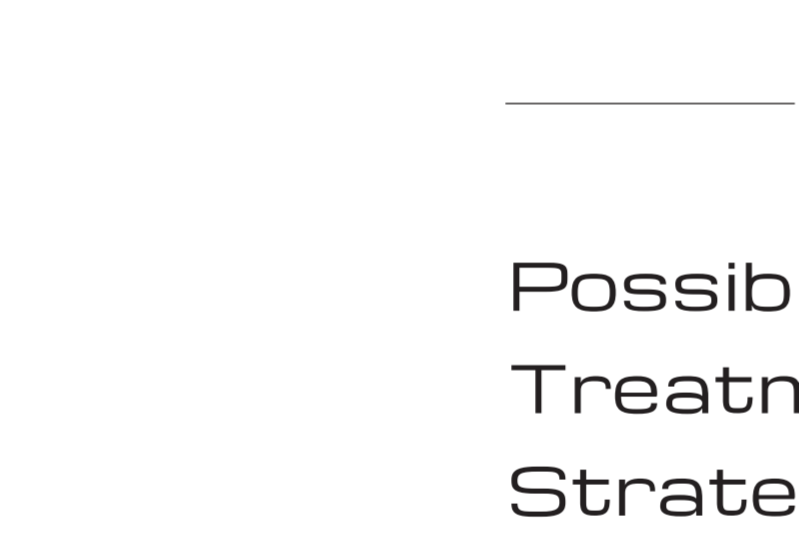
RESEARCH NEWS



A New Center on the Road to Excellence

The Koç University Transplant Immunology Research Centre of Excellence "TIREX" project funded by the Horizon 2020 ERA Chair program was inaugurated in December 2022. The Center aims to foster excellent interdisciplinary research in the field of transplant immunology.

[WATCH THE VIDEO](#)



Revolutionary Breakthrough in Cancer Research

Professor Devrim Gözüaçık and his research group from the School of Medicine found in a study that cancer cells send a signal to the surrounding tissues through a CT-1 molecule and spread by utilizing the "services" of the healthy cells. Professor Gözüaçık says this breakthrough may help the development of new therapeutics to stop cancer from advancing and spreading.

[WATCH THE VIDEO](#)

A Complicated Case of Monkeypox Virus

An article by researchers from the Koç University İşbank Infectious Diseases Research Center (KUISCID), which was published in the *Journal of Infection*, investigates a complicated case of disturbingly morbid monkeypox virus. The article highlights the importance of multidisciplinary management of the virus and its expanding clinical variety.

[READ MORE](#)

Possible Treatment Strategies for the SARS-Cov-2 Virus

Prof. Nurhan Özlü from the College of Science, Prof. Nurcan Tunçbağ from the College of Engineering and KUISCID researchers analyzed the changes in the proteins of COVID-19 patients. Their study, which aimed to develop possible treatment strategies by detecting the changes that may occur after the infection caused by the SARS-Cov-2 virus, was published in the *Journal of Proteomics Clinical Applications*.

[READ MORE](#)

FROM OUR DOCS AND POSTDOCS



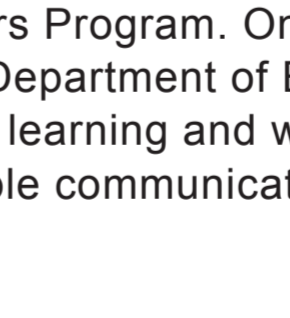
DR. BUSE CETAVEMRE from KUTTAM received the L'Oréal Unesco Awards for Women in Science for her research in mechanisms of metabolism (the Warburg effect), epithelial mesenchymal transition, and tumor microenvironment-related resistance mechanisms in cancer cells.



PROF. SEDA KESKİN AVCI and PH.D. STUDENT GÖKHAN ÖNDER AKSU, POST-DOCTORAL RESEARCHERS DR. İLKINUR ERUÇAR FINDIKCI and DR. ZEYNEP PINAR HAŞLAK from the College of Engineering were awarded the 2022 Turkish Journalists Association's Sedat Simavi Commendation for Science Award for their research on accelerating the discovery of porous materials for CO₂ capture and H₂ purification using structurally guided computational screening.

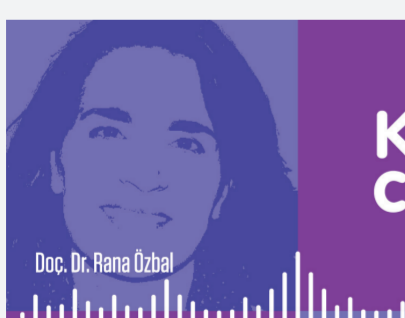


The TÜBİTAK 1002 project "Investigation of the relationship between vaginal dysbiosis with the activation of intestinal and genital inflammation during the pregnancy in an in vivo mouse model" of KUISCID PH.D. STUDENT GÜLİN ÖZCAN was approved to be funded, with a grade of A+.



KUISCID PH.D. STUDENT FATİHAN PINARLIK has been awarded the BİDEB Scholarship, which is funded by TÜBİTAK to support young scientists.

SPOTLIGHT ON RESEARCH PROFESSORS



TÜBİTAK 2247-A Program Video Series

We continue to introduce the Koç University projects that are supported by the TÜBİTAK 2247-A National Leader Researchers Program. One of the recipients of this grant scheme is Prof. Sinem Çöleri from the Department of Electrical and Electronics Engineering whose work focuses on machine learning and wireless control systems based on extreme value theory for ultra-reliable communication.

[WATCH THE VIDEO](#)

PODCAST



KUCAST There is a Mound Far Away!

Why is Göbeklitepe so important? What do the symbols in the rock mean? In this podcast, Assoc. Prof. Rana Özbal from the Department of Archeology and Art History and Ph.D. student Devrim Sönmez talk about humanity's oldest temple.

[LISTEN TO THE PODCAST](#)

2022 AT KOÇ UNIVERSITY

Top Seven Most-Read Research News

Koç University Received the Most Successful Institution in Türkiye Award within the Horizon 2020 Program.

The Science Diplomacy Award of the Council of Higher Education (YÖK) Given to Assoc. Prof. Sedat Nizamoglu

EIC Fund to Prof. Hakan Ürey & Prof. Afsun Şahin

The 2022 TÜBA-GEBİP Awards

The National Order of Merit Award Goes to Prof. Filiz Yenişehirlioğlu

Four Projects Worthy of the ERC Starting Grant

[READ MORE](#)

Two Faculty Members Received TÜSEB Awards

Here is How We Spent 2022!



This year, we worked hard, read, listened, watched, talked, had many achievements, and celebrated. We have left behind a year full of hope and excitement.

[WATCH THE VIDEO](#)

BIG PICTURE

Inside The Womb of a Mouse

The organization of intercellular adhesion molecules located between surface epithelial cells of the mouse endometrium (e-cadherin; green; nucleus: blue)
Laser Scanning Confocal Microscope, Leica dmi8/SP8, KUTTAM CMIC, 2020.