

NEWS FROM SABANCI UNIVERSITY

DECEMBER 2024

Sabancı University Commencement Ceremony Held on 29 June 2024

Sabancı University 22nd-year undergraduate and 25th-year graduate commencement ceremonies were held on the Tuzla campus. Güler Sabancı, Founding Chair of the Board of Trustees of Sabancı University, said, "In the new century of our Republic, the duty of all of us, especially you, the young people, is to continue to progress in the light of science, with the ideal of a better future. No matter how difficult the conditions you face, no matter how difficult times you go through, you should always be on the side of human rights, the rule of law, equality, and peace."



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SU Workshop on Quantum Information and Computation Organized on 14 August 2024

The academic workshop, which covered different topics and perspectives under the scope of Quantum Information and Computation Theory, brought together leading people from various fields to discuss the past, present, and future of quantum technology. Attended by students, faculty members, and industry experts, the workshop provided a platform to provide an in-depth perspective into the complexities and potential of quantum computing.



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Sabancı University Introduces New Undergraduate Program Entitled "Data Science and Analytics" that Will Shape the Future

Sabancı University has introduced a new undergraduate program that will provide education in data analysis skills, which are highly needed in all institutions and stand out as one of the professions of the future. The Data Science and Analytics Program will start in the 2024-2025 academic year.



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Sabancı University's 22nd-year undergraduate and 25th-year graduate commencement ceremonies were held on the university's Tuzla campus. Sabancı University Founding Chair of the Board of Trustees Güler Sabancı, Sabancı University President Prof. Dr. Yusuf Leblebici, faculty members, and families of the graduating students attended the ceremony where a total of **977 students** graduated from the Faculties of Engineering and Natural Sciences, Arts and Social Sciences and Sabancı Business School.

In her speech to the graduates, **Güler Sabancı, Founding Chair of the Sabancı University Board of Trustees**, recalled her speech prepared by artificial intelligence last year and continued as follows:

"This year, we asked artificial intelligence, "What advice should I give to young people in my graduation speech?". I came across a very long list. I chose 1 or 2 of them, and I would like to share with you some of the answers that I find important. As you all know, our world is going through a great transformation, it is becoming digital, and this transformation radically changes all needs. Technologies such as artificial intelligence, big data, and automation are revolutionizing the business world. The interdisciplinary thinking ability you gain as Sabancı University graduates allows you to move away from vicious cycles and develop more comprehensive, creative solutions. For this, always make decisions based on scientific data, maintain your data-based thinking habit, and do not hesitate to do research. While you make the most of the opportunities brought by technology, you should also be prepared for possible threats. Be sensitive to the ethical use of artificial intelligence, data privacy, and cybersecurity."

Continue to progress in the light of science

In her speech to the new graduates, Güler Sabancı stated that they are transitioning to a different world and a new life, and said, "You have all the necessary knowledge and equipment to be successful in such an environment where there are multiple crises and wars. In your long life, you will experience many transitions. The way to make these transitions successful throughout your life is to stick to the power and guidance of science, be open to change and learning, be flexible, and be solution-oriented."

Adding that former graduates have achieved great success internationally, Sabancı said, "I am sure that you, like all other Sabancı University graduates, will achieve great success in the future. In the new century of our Republic, the duty of all of us, especially you, the young people, is to continue to progress in the light of science, with the ideal of a better future. And remember, in the most difficult times and the most difficult decisions, universal values will always light your way: You should be on the side of human rights, the rule of law, equality, and peace."



Our goal is to become one of the world's leading research universities

Güler Sabancı continued her speech by adding that she remembered the late Sakıp Sabancı, the Honorary Chair of the university, with great love and respect:

"This year is the 20th anniversary of his passing away. We will always continue to keep him alive with his ideas. Sakıp Bey said at the opening of our university in 1999, "We are late, but we will turn this into an advantage. We will build a university that is assertive in education with the latest technologies and the most advanced thoughts." Today, we are a young but extremely experienced institution, 25 years old. At this point, we have more than 11 thousand undergraduate graduates. The number of our master's and doctoral graduates is over 6 thousand. As an institution that has implemented the best examples of academy and industry collaborations in our country, we have carried out more than 2 thousand projects so far. As a university, we have invested in nearly forty startups. We have always been a pioneer, exemplary and innovative in Türkiye in the field of academic and scientific research, both with our understanding of education and our university structure. Sabancı University increases its success every semester with the aim of becoming one of the world's leading research universities."



The number of students we admit from the top 1000 is increasing steadily

In his speech at the graduation ceremony, Sabancı University President Prof. Dr. Yusuf Leblebici said: *"It gives us great happiness and pride to see the most successful students from all corners of Türkiye in the ranks of Sabancı University every year. According to the university exam results, we managed to more than double the number of students we admitted from the top 1000 in 5 years. More than 50 percent of our newly enrolled students come from the first 20 thousand, and more than 90 percent come from the first 100 thousand. Knowing that our female student ratio has reached 40 percent increases our pride even more".*

The new data science and analytics program will be a groundbreaking step in the field

"In addition, starting next year, we will begin to offer our undergraduate students a brand new, completely interfaculty and interdisciplinary program option called Data Science and Analytics. We anticipate that this new program, which will focus especially on the application of big data and artificial intelligence technologies to fields such as management sciences, finance, social sciences, economics, and psychology, will be a groundbreaking step in its field."

97 percent of our graduates find employment as soon as they receive their diploma

Leblebici continued as follows: "We are pleased to observe that 97 percent of our graduates start business life in the sectors they prefer as soon as they receive their diplomas or continue their postgraduate education in the country of their choice. Today, more than 32 percent of Sabancı University graduates successfully continue their work abroad, in various countries around the world, in the most prominent companies and organizations. We are proud of our graduates who, after graduating from Sabancı University, established their own businesses, achieved worldwide success, and are at the forefront of the world of science and art."

Our rise in research quality continues in international rankings

"Our goal is not only to be the best in Türkiye, but also to become a real research university that is recognized and appreciated all over the world. According to independent data provided by international evaluation organizations, we can proudly say that we are now ahead of the Technical University of Vienna and the University of Stuttgart, for example, in the field of research quality. Similarly, in terms of international visibility, we are ahead of the Technical University of Milan, the Technical University of Turin, and the University of Stuttgart. These results are an indication that at Sabancı University we are achieving the ambitious goals we set for ourselves. The fact that we have an active project budget of nearly 60 million dollars to support our currently ongoing research projects also strengthens us. We form strong collaborations in the field of research with leading universities abroad and well-established institutions such as Stanford, Cambridge, Imperial College, Edinburgh, EPFL, Singapore Nanyang, Leuven, and Turin. In recent months, we have been invited to the Venice International University consortium, formed by 25 of the world's leading universities, and we have joined this consortium as a full member."



At the ceremony, the top students of the faculties were also given awards provided by the fund established in the will of the late Sakıp Sabancı, Honorary Chair of the Board of Trustees. Özgür Yılmaz Beker, Ege Demirci, Efe Tüzün, Görkem Yar, Ege Zorlutuna and Eylül Öykü Şen from the Faculty of Engineering and Natural Sciences, Hikmet Nazan Denктаş from the Faculty of Arts and Social Sciences, and Berk Sezer from Sabancı Business School, were presented their awards by Güler Sabancı, Founding Chair of the Sabancı University Board of Trustees. Sabancı University 2024 graduates showed their happiness by throwing their caps into the air at the end of the ceremony.

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President's Opening Speech: Quantum is an Enigma

The workshop began with an opening speech by Sabancı University President Yusuf Leblebici, addressing the mysterious nature of quantum technology. The President noted that although quantum principles were established more than a century ago, they are largely unexplored and underutilized in terms of both practical applications and in general.

"Every work we do, including the most complex chip designs, is based on fundamental principles established 200 years ago," Leblebici said, pointing out the continued reliance on classical principles in modern technology. He added, "The true quantum revolution is not yet complete", inviting participants to approach quantum mechanics from new perspectives and complete the revolution that began more than a century ago. He then mentioned a short but impressive speech by Carver Mead, a pioneer in the field of "Very Large-Scale Integration" (VLSI) in 2013. In his closing remarks, Yusuf Leblebici reiterated Mead's

message calling on the scientific community to "complete the revolution" initiated by quantum pioneers, concluding, "Our duty is to look at these challenges from a new perspective and contribute to the completion of the quantum revolution. I hope that this workshop will spark new ideas and encourage cooperation among the participants," before giving the floor to Sabancı University Vice President Mehmet Yıldız.

Interdisciplinary Bridges

Following Yusuf Leblebici, Sabancı University Vice President Mehmet Yıldız touched on the importance of interdisciplinary collaboration, stating that quantum computing may seem distant to some, but its principles are increasingly gaining importance in various fields such as mechanical engineering, computational mechanics, and computational fluid dynamics. He said that he hoped the workshop will encourage young scientists to question established ideas and contribute to the spread of quantum technologies to new areas.

After the opening speeches, the workshop continued with a presentation by Markus Grassl from the International Center for Theory of Quantum Technologies (ICTQT) at the University of Gdansk. Originally a computer scientist, Grassl explained how discrete mathematical methods are important for understanding quantum information theory. His talk focused on the challenges of quantum error correction and preserving quantum integrity. Grassl encouraged participants to engage with the complexities of quantum mechanics and emphasized the importance of curiosity and questioning in moving the field forward.

On Quantum Concepts

The second presentation of the workshop was delivered by Sabancı University Faculty of Engineering and Natural Sciences faculty member Zafer Gedik. Making a presentation on 'Mutually Unbiased Bases and Symmetric Exact Measurements' from a physicist's perspective, Gedik examined the concept of 'mutually unbiased bases' and their importance in quantum computing. He examined how these mathematical structures are an integral part of making accurate measurements in quantum systems, emphasizing their role in the broader context of quantum information theory. Gedik also touched on the historical development of theorems in quantum computing and the ongoing challenges in fully realizing the potential of quantum communication.

The final presentation of the first part of the workshop was given by Faculty of Engineering and Natural Sciences faculty member Ferruh Özbudak, who added a different perspective to the discussions by emphasizing the importance of coding theory in various fields, including neuroscience. Özbudak shared his experiences with the applications of coding theory, expanding on the importance and versatility of the theory beyond quantum computing. Özbudak's presentation demonstrated how the basic theories in quantum mechanics can be applied to understand complex systems such as the human brain.

The first speaker to speak in the second part was Máté Farkas from the Department of Mathematics and Quantum Technologies of York University. Farkas impressed the audience with his presentation on generating special randomness using quantum physics. He discussed the theoretical tools available to exploit quantum randomness and shared some of his recent findings that have potential applications in secure communications and cryptography.

Göktuğ Karpata's Closing Speech: Dynamic Memory in Quantum Processes

The last speaker of the day was Göktuğ Karpata, from the Department of Physics of İzmir University of Economics. Karpata made his presentation on the concept of “dynamic memory in quantum processes.” He explained the difference between static memory channels and more complex dynamic memory that evolves over time. Karpata touched on concepts such as quantum time shifting and quantum switching, and presented examples of research that pushes the boundaries of how quantum evolution is understood. The day-long workshop was attended by many academics and experts, as well as Sabancı University Vice President Cem Güneri.

The workshop concluded by calling on the new generation of scientists to embrace the challenges and opportunities offered by quantum technology. The discussions emphasized the importance of interdisciplinary collaboration and the need for continued innovation to unlock the full potential of quantum mechanics.

Sabancı University IICEC Webinar on Sustainable Computing Technologies Held on 18 September



In an effort to support a safer and more efficient energy future, Sabancı University Istanbul International Center for Energy and Climate (IICEC) organized a webinar entitled ‘Datacenter-Grid Coordination for Sustainable Computing’ focusing on new trends and solutions at the intersection of energy and data. In the webinar, Boston University Center for Information and Systems Engineering (CISE) Director Prof. Ayşe Kivılcım Coşkun, who has undertaken pioneering and innovative studies on these issues, drew attention to the fact that developing innovative solutions for data centers in interaction with energy systems could provide important opportunities to pave the way for a more sustainable future.

Sabancı University Istanbul International Center for Energy and Climate (IICEC), within the framework of its activities guiding the energy sector in the field of energy and climate, organized a webinar with the theme ‘Datacenter-Grid Coordination for Sustainable Computing’ on September 18th. Attended by the Founding Chair of the Sabancı University Board of Trustees Güler Sabancı, Sabancı University President Prof. Yusuf Leblebici, Sabancı Holding CEO Cenk Alper, and leading people from the business world and academia, the webinar featured the speaker Prof. Ayşe Kivılcım Coşkun, Director of Boston University's Center for Information and Systems Engineering. Prof. Coşkun shared with the participants the latest trends in the data world and artificial intelligence, the growth in electrification and renewable energy, the strengthening of data-energy interactions as a result of these developments, and the innovative sustainable solutions developed in this field.

In the age of artificial intelligence, the energy consumption and carbon emissions of data centers are increasing rapidly

The effects of the widespread use of artificial intelligence worldwide on energy demand are becoming increasingly evident. New dynamics are emerging in energy demand and interactions with electrical grids thanks to developments in artificial intelligence technology. Stating that each ChatGPT search consumes approximately ten times more energy than a typical Google search, Prof. Ayşe Kivılcım Coşkun emphasized that as artificial intelligence develops its capabilities such as voice and video creation, this increase will accelerate and its effects on the energy infrastructure will grow.

Pointing out the importance of managing the effects of artificial intelligence technologies on electrical grids due to the high energy demand, Prof. Coşkun shared important information about various developments in the energy system, and other new trends and their impacts on data and energy interactions. Prof. Coşkun drew attention to recent developments in the US, where data centers are experiencing significant growth, and stated that many grids are approaching capacity, which is causing stability issues.

She noted that countries around the world are facing a dual challenge of meeting increasing energy demand while also achieving decarbonization goals. In this context, Prof. Coşkun emphasized that the integration of renewable energy sources such as wind and solar into the energy system is of vital importance, and said that the fact that wind and solar energy are not always available is a critical factor. She also stated that the lack of affordable and large-scale energy storage solutions makes balancing demand and supply in the grid even more complicated.

In her speech, Prof. Coşkun drew attention to the importance of “flexible computing” solutions, an innovative approach in the construction of artificial intelligence data centers. She stated that this strategy involves adjusting the information processing speed and capacity of computer systems according to the availability, cost, and environmental impacts of sustainable energy. Thus, data centers becoming “flexible” loads in electrical grids makes it possible to better manage electricity demands and integrate more renewable energy sources into the grid. Prof. Coşkun also emphasized that the development of new flexible computing methods for artificial intelligence data centers could pave the way for a more sustainable future in artificial intelligence technology on a global scale.

New Minor Program From Sabancı University in Collaboration with Siro Clean Energy: “Battery Science And Engineering”

Sabancı University and Siro Clean Energy are jointly launching a “Battery Science and Engineering” minor program on clean energy storage. Students will be able to choose this minor program starting from the 2024-2025 academic year.



Sabancı University has launched the “Battery Science and Engineering” minor program developed together with Siro. This is a program which all students who wish to specialize in clean energy storage technologies for a sustainable world can choose. Applications for the program can be made in the 2024-2025 academic year. The Battery Science and Engineering minor program will open the way for specialization in subjects such as battery chemistry and components, battery cell and package production and modeling, and battery management systems.

Sabancı University and Siro Silk Road Temiz Enerji Depolama Teknolojileri A.Ş., which was established to develop and produce clean energy storage solutions, signed a letter of intent last year and took steps to design programs in the field of batteries and energy storage for the first time in Türkiye. As detailed in the letter, the main priorities of the Battery Science and Engineering minor will be designing programs for electric mobility, storage of energy obtained from renewable energy sources, and specialization in battery technologies and engineering.

“We produce innovative technologies”

Sabancı University Faculty of Engineering and Natural Sciences Dean Prof. Dr. Erkey Savaş made the following statement on the subject: “At Sabancı University, we conduct research on innovative technologies and offer our students programs that will allow them to specialize in innovative technologies. We are a university with an interdisciplinary education approach. Battery technologies, one of the most critical elements of clean energy, are also of great importance. With this program, we will contribute to the training of expert human resources that our country needs.”

The program integrates theoretical knowledge with experience

The Battery Science and Engineering Program, implemented in collaboration with Sabancı University and Siro, was first introduced to prospective students and their parents during the 2024 Info Days. This collaboration aims to fill the gap between academia, industry, and the private sector by enabling students to get to know the latest industry applications and technologies. The program offers a versatile education that integrates theoretical knowledge with practical experience in the field of battery science and engineering.

“Siro engineers will share their knowledge and experience”

Siro Commercial General Manager Naci Özgür Özel stated that human resources in the field of battery technologies and energy storage are extremely limited all over the world saying: “We are coming together with our important stakeholders to establish a regional battery ecosystem for a sustainable world, new generations, and a clean future. We are happy to offer students the Battery Science and Engineering Minor Program that we developed together within the scope of our cooperation with Sabancı University, one of the most valuable universities in our country. In addition to the theoretical courses we designed together with Sabancı University academics, students will have the opportunity to gain practical experience with our expert team in Siro’s laboratories. With all our resources from our facilities to our expertise, we will be with this newly developing sector and all young people who want to study in this field.”

Setting out with the aim of becoming one of the leading energy players in the region and establishing the regional battery ecosystem, Siro has played an active role in the preparation of course content in line with both academic and industry needs in this collaboration with Sabancı University.

“A First in Türkiye”

Sabancı University Faculty of Engineering and Natural Sciences Faculty Member and Battery Science and Engineering Minor Program Coordinator Prof. Dr. Selmiye Alkan Gürsel emphasized that they have achieved a first as a university stating: “In recent years, the demand for clean energy production and storage technologies and scientific and technological advances in these areas have gained great importance. As one of the leading universities in our country in research in these areas, Sabancı University is making a first in Türkiye with this new minor program. The Battery Science and Engineering Minor Program will play an important role in the training of qualified human resources and future engineers by creating an environment and opportunities for the development of practical skills through both theoretical and applied laboratory studies in battery science and technologies.”

One of the most important engineering fields of the future

Battery Science stands out as an interdisciplinary research and study field of today and the future, based on mining, materials, metallurgy, mechatronics, electronics, and software knowledge. Batteries are at the heart of modern technology, supplying power to electrical devices and vehicles as an energy storage system.

About Siro Silk Road Clean Energy Technologies Company

Siro was founded on September 27, 2021 as a partnership between Togg and Farasis Energy to develop energy storage solutions for automotive and non-automotive use in Türkiye and surrounding markets. Siro began mass production of the battery modules and packages in 2023. In 2026, Siro will begin production of the battery cells it started developing in 2023. The company will become a major energy storage player in the region with a production capacity projected at 20 GWh. Siro will offer its developed energy storage solutions to global markets and will provide services in the fields of renewable energy, electricity grid, industrial applications, marine applications, charging stations, and energy storage solutions that will support automotive, electricity grid, industrial applications, marine applications, charging stations, and residential solutions, as well as directly covering 120 countries in the region, including Türkiye.

Yusuf Leblebici Visits Leading Research Institutions in Taiwan



Our president Yusuf Leblebici has paid an official visit to National Yang Ming Chiao Tung University (NYCU), which is one of the largest and most prominent universities in Taiwan.

Meeting with the NYCU president, Prof. Dr. Chi-Hung Lin and other members of the university administration, Yusuf Leblebici emphasized the importance of increasing the collaboration between Sabancı University and NCTU, by expanding the scope of the existing collaboration agreement and the dual-degree PhD program. Mutual agreement has been reached to further strengthen the cooperation with NYCU, which boasts world-class research infrastructure in areas such as microelectronics, nanotechnologies, and semiconductors.

Yusuf Leblebici has also held high-level meetings with the leaders of Industrial Technology Research Institute (ITRI) and the Taiwan Semiconductor Industry Association. Close relations with Taiwan, which is one of the fastest developing nations in Asia especially in the domain of advanced technologies, will continue to carry significant importance for Sabancı University.



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Data Science and Analytics

Sabancı University continues to open new programs with the aim of raising graduates who are global citizens with a solid knowledge base and strong self-confidence. Sabancı University has opened the "Data Science and Analytics" undergraduate program, which will provide the skills to correctly collect, examine, and interpret relevant data in order to create effective strategies and policies in all institutions.

The Data Science and Analytics Program was designed to train experts who will respond to needs based on the importance of data in making strategic decisions today. The Data Science and Analytics Program stands out as an interdisciplinary program for its interdisciplinary design permitting students to take courses from the Faculty of Engineering and Natural Sciences, the Faculty of Arts and Social Sciences, and Sabancı Business School. The curriculum of the Data Science and Analytics Program enables students to learn how to use and analyze data effectively, while also allowing them to develop themselves so that they can apply these skills in bioinformatics, industrial engineering, psychology, economics, finance, social sciences, and many other fields. The program also aims to provide students with the ability to interpret information through big data analysis in the fields of engineering, social sciences, and management sciences.

In the new undergraduate program, courses such as Introduction to Data Science, Advanced Programming and Visual Data Analysis for Data Science, Big Data Technologies, Machine Learning, Artificial Intelligence Technologies (Gen AI), Natural Language Processing, Large Language Models (Gemini, Chat GPT), Applied Statistics, and Econometrics and Optimization will be given on top of a good mathematical background. In addition, courses on data science in economics, finance, marketing, management sciences, psychology, political science, and similar fields will also be included in the curriculum.

It Will Be One of the Most Demanded Jobs of the Future

According to the "Future of Jobs" report published by the World Economic Forum in 2023, it is predicted that there will be many new job opportunities in fields such as artificial intelligence and machine learning with positions such as data scientist and analyst, big data specialist, data engineer, and similar fields. With the program, which will be attended by those who want to create value from big data in a certain field, students will develop their skills in data processing and interpretation, statistical modeling, artificial intelligence, machine learning, interpreting results, analytical thinking skills, data science, and analytics applications in different disciplines and computational social sciences.

It is anticipated that graduates of the Data Science and Analytics Program will have the opportunity to work in many fields such as finance, energy, telecom, health, e-commerce, media, marketing, transportation, human resources, public institutions, non-governmental organizations, and international organizations.

Sabancı University Among the World's Best Universities

Times Higher Education (THE) announced the 2025 World University Rankings. Sabancı University ranked in the 351-400 bracket among 2092 universities included in the ranking. It ranked first among 91 universities from Türkiye.

THE, a UK-based higher education ranking organization, has published the 'World University Rankings 2025', which evaluates the performance of higher education institutions around the world with its methodology consisting of 5 main dimensions and 17 sub-indicators, namely Teaching, Research Environment, Research Quality, Industry, and International Outlook. Our university increased its overall score this year, especially with significant score increases in the Industry and Research Quality dimensions. While it ranked in the 351-400 bracket as in the previous year, it ranked first among universities from Türkiye, along with Koç University and Middle East Technical University. Covering an increasing number of universities every year, the ranking included 2092 universities from 115 countries this year. Türkiye, which was represented by 75 universities last year, is on the list with 91 universities this year, representing an increase of 21 percent.



Our Faculty Member İsmail Çakmak has been ranked first in Türkiye on the List of the World's Most Influential Scientists for the last 5 Years

On the list of the World's Most Influential Scientists prepared under the coordination of Stanford University, Sabancı University Faculty of Engineering and Natural Sciences Faculty Member İsmail Çakmak has achieved great success by ranking first in Türkiye in all scientific fields for the last 5 years and sixth in the world in his field of study.

A group of researchers from Stanford University used the Elsevier-Scopus database to list the most influential scientists in 22 scientific fields and 176 sub-fields. The results were published in the journal PLOS Biology on September 16, 2024. In the study, which examined approximately 6 million researchers in the context of various scientific criteria, the names of 217,097 researchers were published under the Career-Long Data category, and 1,172 researchers from Türkiye were included in this list.

Sabancı University Faculty of Engineering and Natural Sciences Faculty Member Prof. Dr. İsmail Çakmak ranked first in Türkiye in the Career-Long Data category in all scientific fields, and 6th in the world in the field of Agriculture-Agronomy.

Prof. Dr. İsmail Çakmak has achieved great success for our country and our university by being the first in Türkiye for the last 5 years in a row in the list of most influential scientists. The list covers approximately 6 million researchers, and Dr Çakmak ranked 2008th in the general world ranking.

The most influential scientists are determined by taking into account various scientific indicators such as the number of scientific articles, the number of citations they receive, the rate of self-citation, the author position in the article, the impact of the journal in which the articles are published, h-index and hm-indexes etc.

Main research areas of Dr. Çakmak are the nutritional physiology of plants, effects of mineral nutrition on the productivity of plants under stress conditions, and the biofortification of cereal-based foods and milk with zinc, selenium, and iodine. You can access the lists and ranking indicators published by PLOS Biology by clicking the link below:

About İsmail Çakmak

According to the Scopus database, Prof. Dr. İsmail Çakmak, has published over 250 articles in international peer-reviewed scientific journals, which have been cited 28,700 times according to Scopus and 52,900 times according to Google Scholar. His h-index value is 89 and 110 based on Scopus and Google Scholar data, respectively. Dr Çakmak has been also named among the highly-cited scientists by Clarivate Analytics (Thomson Reuters). He is an elected member of The Academy of Europe and The Science Academy, Türkiye, and made scientific presentations at various conferences and symposiums in 65 countries to date.



Prof. Dr. İsmail Çakmak's Awards

- TÜBİTAK Science Award in 1999, Ankara
- IFA-Norman Borlaug Plant Nutrition Award in 2005 (Paris),
- Australia-Crawford Fund "Derek Tribe" Medal in 2007 (Canberra),
- Germany-Alexander von Humboldt Foundation "Georg Forster Research Award" in 2014 (Berlin),
- International Plant Nutrition Institute- Science Award in 2016 (Atlanta)
- World Academy of Sciences Agricultural Sciences Award in 2016 (Trieste)

Sabancı University's Inspiring Leaders Conference covered "The Role of Artificial Intelligence in Education" This Year

The "Inspiring Leaders Conference" organized by Sabancı University and the Sabancı University Alumni Association Board of Directors was held on September 20, 2024 at Sakıp Sabancı Museum, The Seed. The conference guest was Prof. Ling San, Deputy President and Provost at Nanyang Technological University (NTU), Singapore and Sabancı University International Board of Overseers Member. Prof. Ling San gave a speech entitled "The Role of Artificial Intelligence in Education" at the conference.



(The event was attended by many guests, including Sabancı University Founding Chair of Board of Trustees Güler Sabancı, and Sabancı University President Yusuf Leblebici.)

The Areas of Use of Artificial Intelligence in Our Lives are Increasing

Prof. Ling San, who has been sharing his observations since 2019, emphasized with the statistics he provided that the role of artificial intelligence in our lives has grown in many areas, including education. He pointed out that countries and universities adopt different practices in higher education and recognize different approaches and limits when incorporating artificial intelligence into education. He stated that the use of artificial intelligence in students' courses is permitted but subject to certain rules in Singapore Nanyang Technological University.

Prof. Ling San drew attention to the rapidly increasing impact of artificial intelligence in the world of education. Emphasizing the need to train more artificial intelligence experts and the need to develop more talent today, Ling San touched on the role of universities in this regard and stated that a number of new programs have been launched at NTU Singapore in recent years. Prof. Ling San said that universities play a major role in creating artificial intelligence knowledge. Stating that innovative programs are being developed at universities to both train individuals specialized in artificial intelligence and to increase the artificial intelligence literacy of individuals working in different fields, Ling San emphasized the potential of artificial intelligence technologies to increase the quality of education and support student employability.

Universities Play an Important Role in Singapore's Development in Artificial Intelligence

Prof. Ling San also touched on Singapore's work in the field of artificial intelligence in his speech. According to the information provided by Ling San, Singapore has become one of the countries that have pioneered the rapid development of artificial intelligence by making major investments in science and technology. Artificial intelligence has been made a special focus area within the framework of the country's five-year national Research, Innovation and Enterprise (RIE) plans. The AI Singapore initiative, established in 2017, operates with the aim of supporting artificial intelligence research, developing new technologies and training talents in the field of artificial intelligence. The country's first national artificial intelligence strategy was announced in 2019. It addressed areas such as helping to focus attention and resources, encouraging the research community, industry, and government to work together, and managing change and risk. The second national artificial intelligence strategy, announced in 2023, set goals to increase Singapore's global competitiveness in the field of artificial intelligence. Singapore's AI strategies have contributed to advances in research and innovation, with universities playing a key role in this area. Nanyang Technological University (NTU) stands out for its AI education and research, and aims to increase AI literacy through various programs.

Innovation and Entrepreneurship Panel Discussion Held

Sabancı University hosted the Innovation and Entrepreneurship Panel Discussion, in which leading people in the field of innovation and entrepreneurship came together, on Friday, September 20, 2024.



The Innovation and Entrepreneurship Panel Discussion, held at SUCool on September 20 with the participation of members from the Sabancı University International Board of Overseers, shared views on the key challenges and opportunities in the field of entrepreneurship and technology. The audience had the opportunity to listen to Tolga Kurtoğlu, Board Member at Omidyar Network, Waguih S. Ishak of Stanford University, also a former VP at Corning Inc., and Cem Sertoğlu, entrepreneur and founding partner of VC, as well as François Stieger, entrepreneur and angel investor, in the session moderated by Sabancı University Innovation and Entrepreneurship Director Ziya Alpay. The speakers shared their extensive experiences with the audience. Key topics in the session, which was also followed with strong interest by Sabancı University President Yusuf Leblebici, included the importance of talent, risk management in scaling companies globally, and balancing innovation with commercial viability.

The Board of Overseers Members who came together in the session that was a guide to entrepreneurship agreed that talent is one of the most important factors in the success of startups. It was emphasized that, especially in regions with strong technical education systems such as Europe and Türkiye, talented individuals should be identified and trained early in their careers. The discussion also emphasized the importance of building a strong team, and that success is not achieved by technology alone, but by people. While the speakers warned entrepreneurs to avoid distractions and prioritize product viability over other activities, another important point was that startups should focus on customer needs and market fit.

Growing a company globally was another main theme in the session. Members shared their own experiences and discussed the challenges of operating in international markets, securing talent, and managing risks. It was emphasized that success often depends on the people involved, and that luck also plays an important role in this process. Waguih S. Ishak, with his words "Luck favors the prepared mind", touched upon the fact that being equipped to use luck well is the main issue in success.

The discussion also covered the rise of AI as a transformative force, and participants urged startups to anticipate how this technology will evolve over the next few years rather than simply reacting to current developments.

In the final part of the discussion, the panel answered questions from entrepreneurs, entrepreneur candidates, and other participants, and provided practical advice. They emphasized the importance of curiosity, continuous learning, and adaptability to succeed in a rapidly evolving global marketplace. Additionally, fostering a collaborative environment and providing timely feedback to teams were cited as critical factors in retaining top talent. Entrepreneurs were also encouraged to focus on human factors such as good communication and customer relationships when building and scaling their startups.

The Panel Discussion on Innovation and Entrepreneurship provided a number of valuable insights for both current and aspiring entrepreneurs, particularly on the key aspects of managing talent, managing risks, and maintaining a customer-centered approach to building globally competitive startups.

Where Music meets Data: Data Science and Analytics Conference with Cem Mansur Held

The first of the interdisciplinary conference series organized to introduce the "Data Science and Analytics" undergraduate program opened in the 2024-2025 academic year at Sabancı University was held on October 1, 2024, on the Sabancı University Tuzla Campus. The guest of the first conference, famous orchestra conductor Cem Mansur, gave a presentation entitled "Harmony of Data, Unchanging Messages in a Changing World."



The conference began with the opening speech of Sabancı University President Yusuf Leblebici, who emphasized that Sabancı University will meet the needs in this field with its new program. Stating that data can be expressed not only through digital symbols but also through different forms such as music, Yusuf Leblebici said, "Data does not necessarily have to consist of 0s and 1s. Musical notes can also be data indicators," and underlined the connection Mansur made from music to data science, before giving the floor to Cem Mansur.

Mansur elaborated on the intersections of the world of music and data science, addressing the harmony of data in music and the constant messages of music in a changing world. In his speech, Cem Mansur, who explained the relationship of music with data throughout history and how this relationship has evolved until today, stated that music is actually a mathematical and structural order, while talking about the relationship of data with music. He particularly drew attention to the similarities between the mathematical foundations of polyphonic music, as well as forms such as fugue and the way data is processed. Mansur compared the mathematical relationship created by the rhythmic structure, frequencies, and order of notes of music with data, referring

to Bertrand Russell's words, "Mathematics, rightly viewed, possesses not only truth, but supreme beauty". He further stated that the mathematical order in music was inspired by this beauty.

Mansur also emphasized that music is not only an emotional thing, but also a structure based on data, and that this structure brings people together. Stating that music is a universal language for all of humanity, Mansur stated that reading notes can actually be seen as a type of data analysis in the early stages. He emphasized that if we can still play and understand a piece written centuries ago, this shows that music is universal data and that this data has not lost its meaning despite the changing world.

Throughout the conference, Cem Mansur addressed the interesting intersections between the music world and data science, and gave examples of how these two fields complement each other. The parallels he drew between the universality of music and the functioning of data science were received with strong interest by the audience. At the end of the conference, Cem Mansur answered questions from the participants and shared in-depth information on the connections between music and data science.

Sabancı University Selected as one of the 5 Major Sites Worldwide for the launch of the Global Curriculum for Anticipatory Leadership

An initiative facilitated by GESDA, supported by Wellcome Trust, carried by a global Coalition

Sabancı University has been selected as one of the five official pilot sites for the Global Curriculum for Anticipatory Leadership (GCAL) initiative, launched during the Geneva Science and Diplomacy Anticipation (GESDA) Summit, on 11 October 2024.



This innovative program is marking a significant step towards preparing leaders worldwide for the fast-paced transformations driven by science and technology. The launch, led by Federal Councilor Ignazio Cassis of Switzerland and Enrico Letta, former prime minister of Italy and Chair of the GESDA Diplomacy Forum, brought together heads of international organizations, universities, policymakers, diplomats, business leaders and citizens to highlight the need for future-oriented and evidence-informed leadership.

The program involves a global coalition setting out to develop a new leadership training paradigm that brings together decision-makers from various disciplines, professions and geographies, and empowers them with the knowledge, skills and mindset needed to use the great acceleration of science for the benefit of people, society and the planet.

As a first step, a reference curriculum has been developed combining foundational knowledge about sciences, international relations, business and economics and global affairs, science anticipation, science diplomacy lenses and leadership skills to enable effective and collaborative responses to global challenges.

A major effort of the year 2025 will be the delivery of five Anticipatory Leadership Weeks in five different regions of the world ("25/5/5") – intensive, immersive training programs that blend local expertise with global insights, fostering cross-sector dialogue and cooperation. The following cities and institutions will serve as regional hubs for anticipatory leadership training:

- Istanbul (Türkiye) with Sabancı University
- Madrid (Spain) with IE University
- Pretoria (South Africa) with the Science Diplomacy Capital for Africa
- San José (Costa Rica) with INCAE Business School
- Singapore with the National University of Singapore

Participating in the official launch ceremony in Geneva as an invited panel speaker, Sabancı University president Yusuf Leblebici underlined the importance of interdisciplinary education and close links with the business world, in order to address the challenges of training the next generation of policymakers and business leaders in a fast-changing world shaped by technology. He emphasized that "Sabancı University will be playing a key role in this exciting new program with its position as a leading research university, and a strong tradition in trans-disciplinary education". The initiative, supported by the Wellcome Trust of London, and coordinated by GESDA, will accept its first students in 2025.

Yanis Varoufakis Delivered a Speech Entitled "Cloud Capital: What It Means for Universities and the Broader Community"

2024 Mercator-IPC Visiting Senior Fellow Yanis Varoufakis made a speech entitled "Cloud Capital: What It Means for Universities and the Broader Community" at Sabancı University on Tuesday, October 8, 2024, between 12.40 and 13.40.



In his opening speech, Sabancı University Vice President for Education Cem Güneri stated that Dr. Yanis Varoufakis is a leading figure who has contributed to global discussions on issues of critical importance to society as an economist, academic, and intellectual. Prof. Güneri also spoke about the interest that Dr. Varoufakis' books have generated worldwide, and particularly focused on his latest book, published in 2023, "Technofeudalism: What Killed Capitalism."

Yanis Varoufakis began his speech by explaining the historical development and basic characteristics of feudalism and capitalism. He focused on the effects introduced by technology that has developed at an extraordinary pace, and by the companies that have developed this technology, on people's behavior, trade, and the entire economic system. As a result, he shared his thesis that the classical capitalist system has been replaced by cloud capitalism and technofeudalism by giving examples. Dr. Varoufakis also touched on the effects of technological and systemic changes on academic life and their possible risks. He concluded his speech by stating that the academic community and administrators have duties in order not to lose the most critical characteristics of universities, such as proposing different and contradictory ideas and producing knowledge through interaction between individuals.

Selçuk Artut and Onur Yazıcıgil at Frankfurt Book Fair

Sabancı University Visual Arts and Visual Communication Design faculty members Selçuk Artut and Onur Yazıcıgil are at the Frankfurt Book Fair with their interactive design contributions highlighting the revolutionary innovations of Manuzio, the most important publisher of the Renaissance.



Italy, the guest of honor at the 2024 Frankfurt Book Fair, is showcasing an exhibition organized as a joint effort by Venice International University and Sabancı University about Aldo Manuzio (Aldus Manutius), one of the most important actors in the history of printing and publishing. Selçuk Artut and Onur Yazıcıgil, faculty members of Visual Arts and Visual Communication Design, contributed to this exhibition by creating interactive designs that highlight the revolutionary innovations of Manuzio, the most important publisher of the Renaissance. The exhibition can be visited in Frankfurt, Germany between October 16-20, 2024.

The Frankfurt Book Fair (Frankfurter Buchmesse) is known as one of the largest and most prestigious international book fairs in the world. Held every October in Frankfurt, Germany, the fair serves as an important center of the global publishing industry and brings together publishers, authors, agencies, media professionals and book enthusiasts from around the world.

SUNUM's 9 Million Euro TeamNANO Project Agreement was Signed

Sabancı University Nanotechnology Research and Application Center (SUNUM) officially submitted the "Teaming For Capacity Development And Synergies In Micro-Nanofabrication And Flexible Electronics For Widespread Impact TeamNANO " project, with a notable budget of 9 million Euros, following the signing ceremony on November 6, 2024.



TeamNANO, the highest-budgeted project ever awarded to a single institution in our country's history through the evaluation of the European Union Commission, will be carried out with a 9 million Euro EU budget under the HORIZON-WIDERA-2023-ACCESS-01 (Teaming for Excellence) call and co-financed by the Republic of Türkiye's Ministry of Industry and Technology and the support of TÜBİTAK.

As SUNUM, we are proud to increase our country's international competitiveness in the field of science and technology and to take a leading role in new generation flexible electronic systems and micro-nanofabrication processes.

FASS Visit to Venice International University



On September 30 and October 1, 2024, FASS faculty members Selçuk Artut and Onur Yazıcıgil together with our Dean Meltem Müftüler-Baç visited Venice International University.

The visit included an in-depth study of the manuscripts printed by Aldine Press, Aldus Manutius in 1500-1515 at the Marciana Library, Venice, and the first printed Kuran-ı Kerim by Paganino Paganini in 1537 at the library of the Franciscan Friars of Isola di San Michele, Venice. The visit is intended as a study for a project on Aldus Manutius undertaken by Professors Artut and Yazıcıgil in cooperation with VIU.

Sabancı University Faculty Members Receive 2 TÜBİTAK Incentive Awards and 2 TÜBA Outstanding Young Scientists Awards

Winners of the TÜBİTAK Science, Special, Service, and Incentive Awards and TÜBA-GEBİP Awards have been announced. President Recep Tayyip Erdoğan presented the awards to the scientists at the ceremony where four faculty members and researchers from Sabancı University were found deserving of the awards.



The “TÜBİTAK Science, Special, Service and Incentive Awards” organized by TÜBİTAK to support research and development activities in scientific and technological fields and to provide opportunities for the training of scientists and researchers were distributed. A total of 21 awards, including 7 Science Awards, 1 Service Award, and 13 Incentive Awards, were given at the ceremony, held on December 18 at the Beştepe National Congress and Culture Center with the participation of President Recep Tayyip Erdoğan.

Sabancı University Faculty of Engineering and Natural Sciences, Molecular Biology, Genetics and Bioengineering Program Faculty Member Assoc. Prof. Dr. Ogün Adebali and Sabancı University Faculty of Arts and Social Sciences, Psychology Program Faculty Member Dr. Eren Günseli were found deserving of the TÜBİTAK Incentive Award.

Assoc. Prof. Dr. Ogün Adebali was granted the award for his outstanding international work on developing bioinformatics tools that enable the examination of DNA damage responses in various organisms. At the ceremony, Sabancı University President Prof. Dr. Yusuf Leblebici received the award on behalf of Assoc. Prof. Dr. Adebali from President Recep Tayyip Erdoğan.

Dr. Eren Günseli was granted the award for his pioneering work at an international level to understand the interaction of cognitive functions such as memory, attention, and decision-making and the neural mechanisms underlying these processes.

TWO TÜBA GEBİP (OUTSTANDING YOUNG SCIENTIST) AWARDS TO OUR UNIVERSITY

Additionally, the TÜBA-GEBİP Awards, which have been given since 2001 to reward and encourage outstanding young scientists working in the fields of nature, engineering, health sciences, and social sciences to continue their scientific studies in Turkey and to reward and encourage internationally qualified projects and publications originating from Turkey, were distributed.

In the Natural Sciences category, Dr. Nur Mustafaoğlu from Sabancı University Faculty of Engineering and Natural Sciences won the TÜBA-GEBİP Award in the field of bioengineering. In the Engineering Sciences category, Dr. Morteza Ghorbani, Researcher at Sabancı University Faculty of Engineering and Natural Sciences and Nanotechnology Research and Application Center, is among the scientists who won the TÜBA-GEBİP Award in the field of mechanical engineering.



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This biannual newsletter provides a compilation of selected news items and developments related to the Sabancı University community that occurred during the past six-months period, prepared by the Marketing and Institutional Communications Unit. All rights reserved.