BİLİM AKADEMİSİ SCIENCE ACADEMY, TÜRKİYE

ACTIVITY BULLETIN





Prof. Dr. Hakan S. Orer Science Academy, Türkiye

FROM THE PRESIDENT

Dear friends of Bilim Akademisi - Science Academy, Türkiye, dear members,

Throughout the past year, with the events we organized, we continued to bring science to all segments of society and shed light on the future, knowing that knowledge is the most valuable asset and guided by the illumination of science.

2024 was a year in which we took pride in the achievements of our members. We were especially honored by our member Daron Acemoğlu winning Turkey's first Nobel Prize in Economics. Acemoğlu received this prestigious award alongside his close collaborators Simon Johnson and James A. Robinson. In addition, many of our other members achieved significant success in various fields. You can find some of these accomplishments, which we wholeheartedly celebrate, in the following pages of our activity bulletin.

In April, we held the Science Day and BAGEP Award Ceremony at Koç University. Thanks to the continued help of our generous supporters, 42 young researchers were awarded BAGEP grants, receiving support for a two-year period. As is tradition, we listened to recent work by former BAGEP recipients, presented our public announcements on prominent issues, and released our annual report on academic freedom.

Our popular science platform **Sarkaç** continued to produce series and interviews on topics ranging from the history of science to current scientific issues that concern the public. In today's world, where scientific developments are accelerating rapidly, there is a pressing need for reliable, evidence-based popular science sources. Sarkaç continues to be an indispensable resource for those seeking to fill that gap.

This year, Science Academy Publications released

two important new books. "Science Academy Earthquake Discussions: We Can Do Much *Better!*" shares the insights and experiences from the Science Academy's post-February 6 events, supported by Bank ABC. While calmly assessing the current situation, the book highlights the opportunities and threats we face in striving to do better. The other book. "Earthquake-Resilient Cities: A Roadmap," was prepared under the editorship of Prof. Naci Görür with the support of the Vehbi Koc Foundation. Designed with great care and contributions from leading experts in the field, it offers scientific and concrete recommendations for local administrators seeking to reduce earthquake risks.

Our regular monthly popular science panels and summer schools continued throughout the year. In December, as part of our "Annual Conference" series, we hosted Prof. John Jost from New York University. His widely attended lecture addressed the rise of racism and discrimination, hate crimes, and the decline of democracies.

One of our new initiatives last year was participating for the first time in the Istanbul Marathon's charity run. Under the slogan "Run for Science!", we ran in November to raise funds for successful PhD students from all fields of health-related research to attend scientific meetings. We raised a total of 272.000 TL.

We continued to grow by bringing together Turkish scientists who contribute to science both nationally and globally. At our General Assembly held in November 2024, we welcomed 14 new members, including one honorary member.

Sadly, last year also brought untimely losses among our members. We lost our esteemed members **Durmuş Ali Demir**, **Fuat Keyman**, and **Miral Dizdaroğlu**. We will always cherish the memories of these distinguished scientists who contributed to science through their research and the students they mentored.

The year 2025 marks the beginning of a new initiative for Bilim Akademisi - Science Academy, Türkiye. With the foresight that quantum science -already revolutionary in the history of science- will become even more critical in the future, and recognizing the need for public awareness, we have become a partner in the United Nations' International Year of Quantum Science and Technology initiative. In this context, we will organize events throughout the year to raise awareness of the importance of quantum science and its applications.

Since its founding, Bilim Akademisi - Science Academy, Türkiye has operated independently of government policy, guided by the principles of scientific merit, integrity, and freedom. In 2025, we will continue to uphold and promote these principles.

We hope to see you more often at our events in the new year.

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NEWS FROM BİLİM AKADEMİSİ - SCIENCE ACADEMY, TÜRKİYE

Bilim Akademisi - The Science Academy, Türkiye (SA) has become a partner in the United Nations' International Year of Quantum Science and Technology (IYQ 2025) initiative, officially declared on June 7, 2024. Recognizing the need for broader awareness of the past and future impact of quantum science, SA joined dozens of national scientific societies in supporting the celebration of the 100th anniversary of quantum mechanics through a global initiative.

According to the declaration issued by the United Nations, quantum science and technology will be a major scientific field of the 21st century. This field is expected to have a profound impact on the critical societal challenges highlighted in the UN's 2030 Sustainable Development Goals -including climate, energy, food security, and clean water.

Young people from around the world will emerge as a new generation of quantum pioneers, using quantum science to make a positive difference in the lives of others by discovering new insights and solutions.

In this context, a range of global activities will be organized throughout the year to raise public awareness about the importance of quantum science and its applications. Young people -and curious individuals of all ages- will have the opportunity to learn more about how quantum science underpins the physical world around us, drives technological innovation, and influences government policy, the global economy, as well as art and culture.

Quantum-focused events, resources, and activities from around the world will be featured on the official website.



SA has become a partner in the United Nationsdeclared *International Year of Quantum Science* and *Technology 2025* initiative.

ISTANBUL MARATHON

"RUN FOR SCIENCE!" PROJECT

We participated in the Istanbul Marathon for the first time with our project "Run for Science!". Through this charity run, we raised 272,000 TL to support PhD students from all areas of health -including medicine, health sciences, engineering, basic sciences, and social sciences- in attending scientific events.

Applications for scientific travel grants will be accepted between January 6 and January 30, 2025, and the results will be announced in March.



GENÇ ARAŞTIRMACI İÇİN KOŞAR ADIM







Projemiz 23-211 numaralı valilik iznine tabidir.

SUCCESSES

Some of the good news we received from our members throughout the year.



Aylin Yener was elected as a member of the American Association for the Advancement of Sciences (AAAS)



Daron Acemoglu was awarded the 2024 Nobel Prize, along with Simon Johnson and James A. Robinson.



Bertil Emrah Oder has been selected as a Fernand Braudel Senior Fellow (2024-2025) by the European University Institute (EUI), one of Europe's leading research universities.



Lale Akarun was awarded the 2024 Leading Woman Award by the Turkish University Women's Association (TÜKD).



Ayhan Kaya was elected as an international member of the British Academy, which includes scientists who have achieved international prestige with their work in the field of social sciences and humanities.



Seda Keskin has been awarded the Industrial & Engineering Chemistry Research Excellence in Review Award by the American Chemical Society (ACS).



Erol Gelenbe was awarded the Cross of Officer of the Order of Merit of the Republic of Poland for his outstanding achievements and scientific contributions to the field of informatics.



Ayse Ökten İmrohoroğlu, an internationally recognized scholar in the field of economics, has been elected as a Fellow of the Econometrics Society.



Pinar Keskinocak was awarded the President's Award by INFORM's in recognition of her significant contribution to the well-being of society. She was also awarded the George E. Kimball Medal for seminal service in the field of operations and management sciences.



Baha Balantekin has been awarded the 2025 Bethe Prize by the American Physical Society (APS), one of the most prestigious scientific societies in the world.



M. Tamer Özsu has been awarded the ACM Presidential Award by the Association for Computing Machinery (ACM) for his longstanding and significant contributions to the field of computer science.

2024 PUBLICATIONS

We are pleased to share the book titled "Earthquake-Resilient Cities: A Roadmap" published by Science Academy Publications with the support of the Vehbi Koç Foundation. Edited by Prof. Naci Görür, this book serves as a guide offering scientific and concrete recommendations to local administrators who want to reduce earthquake risks in their cities.

Making a city earthquake-resilient means strengthening all its components -from governance to the public, from infrastructure to building stock, from ecosystems to the economy and the business world. The recommendations on how to strengthen these city components have been compiled with contributions from Prof. Görür and experts and academics from 15 different fields.

Another book we would like to share with you from Science Academy Publications is titled "Science Academy Earthquake Discussions: We Can Do Much Better!" This book includes the insights and experiences gained from the activities carried out by the SA with the support of Bank ABC after the February 6 earthquake.

While evaluating the current situation with composure, the aim is to highlight both the opportunities we have to do better and the threats we face. At the end of the book, there are also project call texts intended as a guide for funders who want to develop feasible and realistic projects on earthquakes.

In preparing earthquake books that aim to mobilize people on such a vital issue, we tried to create resources that everyone can understand and would want to read, and we benefited from the power of information design to achieve this. In the books designed by Deniz Cem Önduygu, you will find quotations that highlight the messages emphasized by



the authors, original infographics, and maps that visualize data from various sources.

The common message of these books, which remind us that Turkey is an earthquake-prone country but also that there are countries around the world that have faced similar challenges and succeeded in solving them, is clear: "We can do it too!"

We hope the books, prepared for publication by Defne Üçer Şaylan, will guide local administrations and motivate individuals to make their own preparations and push authorities to take action. We hope they contribute to raising awareness on this vital issue.

You can access all our publications at

https://dukkan.bilimakademisi.org

ANNUAL CONFERENCE 2024





Does the Future of Democracy Depend Upon Liberal-Leftists? A Social Psychological Perspective

PROF. JOHN T. JOST
Co-director, The Center for Social and Political Behavior
New York University

İŞ SANAT KÜLTÜR MERKEZİ 20 ARALIK 2024 - 18:00 RESEPSİYON: 16:30

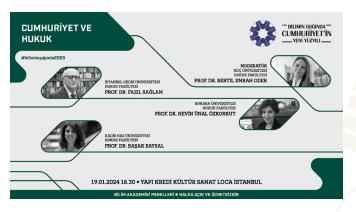


This year, the SA's Annual Conference hosted John T. Jost. A Professor of Psychology and Political Science at New York University, John T. Jost has made groundbreaking contributions to understanding the psychological and motivational processes underlying political attitudes and behaviors through his pioneering research and theoretical approaches.

Taking into account the political turmoil experienced both in our country and globally -especially the rise of racism and discrimination in the Western world, the increase in hate crimes, and the decline of democracieswe invited John T. Jost as our speaker this year.

The conference, held on Friday, December 20, 2024, at 18:00 at İş Sanat, was titled: "Does the Future of Democracy Depend Upon Liberal-Leftists? A Social Psychological Perspective."

PANELS















You can watch all the panels on the SA's Youtube channel.

SCIENCE DAY AND BAGEP WINNERS



Academy Science Day was held on April 27, 2024, at Koç University. The event began with opening speeches and continued with presentations by BAGEP Award recipients: İsmail Turan (2014 BAGEP Awardee): "The Higgs Particle and Its Mass", Deniz Ceylan Tufan Özalp (2022 BAGEP Awardee): "Can Our Minds Be Uploaded to the Internet?", Senem Aydın Düzgit (2014 BAGEP Awardee): "Multipolarity in the International Order and the Rise of Middle Powers"

Following the talks, our member Yeşim Atamer shared the latest Academic Freedom Report with SA friends, awardees, and guests. After the main program, the 2024 Award Ceremony for the Bilim Akademisi - The Science Academy, Türkiye Young Scientist Awards Program (BAGEP) was held. BAGEP, launched and sustained through individual and institutional support since 2013, aims to identify, recognize, and support promising young academics conducting pioneering research in their fields. With the addition of 42 new recipients in 2024, the total number of BAGEP awards granted has reached 435.

We extend our heartfelt congratulations to all the academics who received the BAGEP 2024 Award.

To watch the presentations and ceremony, visit: SA's YouTube Channel (You can search for "2024 Academy Science Day.")

With our thanks to our supporters.





SUMMER SCHOOLS

BAYOYO 2024: SA - TED University - Middle East Technical University, Machine Learning Summer School: **Artificial Intelligence: Basic Models, Issues, and the Future**







BAYÖYO 2024 YAPAY ÖGRENME YAZ OKULU

The Machine Learning Summer School, organized under the umbrella of SA, took place at TED University from July 1-4, 2024. The theme of the event was "Artificial Intelligence: Basic Models, Issues, and the Future".

The summer school featured training by distinguished scientists in areas such as deep learning for sequence modeling, transformers, large language models and their applications, computer vision models, image generators and diffusion models, multimodal models, remote sensing, emotion recognition, activity recognition, bias and fairness in machine learning, ethical and legal issues related to large models, and the future of AI.

The goal of the summer school was to refresh fundamental knowledge required for conducting research in these areas, provide information on the latest research developments, bring together industry professionals and graduate students, and foster interaction between thesis students and experts in the field.

For details, visit: https://yazokulu.bilimakademisi.org/yapayogrenme/2024/

Bilim Akademisi - Science Academy, Türkiye
Nesin Mathematics Village Feza Gürsey Summer School 2024
General Relativity and the Physics of Compact Stars

Bilim Akademisi- Nesin Matematik Köyü Feza Gürsey Yaz Okulu 2024







Bilim Akademisi - Science Academy, Türkiye - Nesin Mathematics Village Feza Gürsey Summer School 2024 -General Relativity and the Physics of Compact Stars was held on September 9–15, in memory of our late member Durmuş Ali Demir, whom we lost too soon.

At the summer school, the following topics were covered: Introduction to general relativity, Einstein's equations, cosmological solutions, black holes, Schwarzschild solution, neutron stars with the Tolman-Oppenheimer-Volkoff equations, physics of compact stars, Stellar evolution, degenerate matter, white dwarfs, the Chandrasekhar limit, and neutron stars.

For detailed information about the summer school, please visit:

https://nesinkoyleri.org/events/2024-bilim-akademisinesin-matematik-koyu-feza-gursey-yaz-kampi/

COLLABORATIONS



In partnership with PepsiCo, the "Women of the Science Academy of the Future" project was held for the third time, and scholarships were provided to students through TEV (Turkish Education Foundation). University students in the fields of Science, Technology, Engineering, and Mathematics (STEM) received support in various areas -from education to mentorship- while meetings with members of the SA and BAGEP award recipients served as a source of inspiration.

ANNOUNCEMENTS



February 19, 2024

Announcement on Cyanide-Based Gold Mining: Environmental and Health Risks

May 1, 2024

Announcement on the Draft Curriculum Revision
Titled "Century of Türkiye Education Model"

February 12,2025

Academic Freedoms Report 2023-2024

NEW MEMBERS



Erdal Yıldırım Honorary Member



Electrical & Electronics Engineering, Bilkent University



Burcu Balçık Industrial Engineering, Özyeğin University



Başak Çalı Law, Oxford University



Nesim Erkip Industrial Engineering, Bilkent University



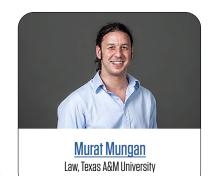
Alev Devrim Güçlü Physics, İzmir Institute of Technology



Economics, Bilkent University



Aylin Küntay
Psychology, Koç University





Metin Muradoğlu Mechanical Engineering, Koç University



Yasemin Gürsoy Özdemir Neurology, Koç University



Serpil Sayın Industrial Engineering, Koç University



<u>Canan Sümer</u> Psychology, Özyeğin University



Ali İzzet Tekcan Psychology, Özyeğin University

SCIRCI S

SA's popular science platform, Sarkaç (sarkac.org), has been online since 2017. On Sarkaç, you can find articles and interviews across all areas of science, and stay informed about current scientific developments. Sarkaç serves as a platform that reflects the perspective of researchers; all content is prepared with direct contributions from academics and in the spirit of popular science.

We prioritize ensuring that the content published on Sarkaç is both original and accessible to non-experts, while also maintaining scientific rigor. We value and respect the effort behind every piece of content we share. In addition to articles published under categories such as Health/Medicine, Social/Human Sciences, Natural Sciences, Engineering, Earthquakes, Environment, Economy, and Information Technologies, Sarkaç also features article series and interview programs.

NEWS FROM SARKAÇ

SERIES OF ARTICLES

Academiya:

We aim to create a constructive discussion platform addressing the necessary elements for the university system and research environment we envision in Turkey, and how we can bring them to life.

Career Choice:

To guide candidates who will be making career choices before the university entrance exams every year, SA members, BAGEP award-winning researchers, and scientists with academic work in relevant fields write articles evaluating university departments, programs, and job opportunities.

Science and Women in the Foundations of the Republic:

Through our "history of science" articles that explore developments in the history of science and the figures who made an impact, and as part of a project initiated for the centenary of the Republic, we highlight the scientific contributions and fields of women who worked in various domains in Turkey.

Nobel Prizes:

Every October, we evaluate the research and individuals who are awarded the Nobel Prizes, with articles written by SA members, BAGEP award-winning researchers, and scientists working in relevant fields.

INTERVIEWS

Science for the Curious:

Since April 2018, our program Science for the Curious has discussed scientific developments, the scientific method, how knowledge advances in various fields, and current topics with our guests, in over 160 episodes.

"Science Conversations" on Apaçık Radio:

Launched in November 2023, Science Conversations airs every other Tuesday at 7:00 PM, where we discuss how science functions, science communication, and Turkey-specific conditions with our guests.

Sarkaç Editorial Board:

Ali Alpar, Canan Atılgan, Defne Üçer Şaylan (Editor of Natural Sciences), Ersin Yurtsever, Müsemma Sabancıoğlu (Editor of Social Sciences), Reyhan Oksay, Sami Gülgöz, Şevket Pamuk, Şevket Ruacan.

You can also follow our publications on X (@sarkac_org),
Instagram (@sarkac_org)
Bluesky (@bilimakademisi)

NEWS IN BRIEF

IN MEMORIAM



Miral Dizdaroğlu (1945-2024)

We lost our member and National Institute of Standards and Technology faculty member Miral Dizdaroğlu on December 14, 2024. Prof. Dr. Dizdaroğlu's scientific research focused on oxidative DNA damage and repair, their biological consequences, and their role in diseases such as cancer. Through his groundbreaking research and numerous publications, he received many prestigious awards throughout his career.



Fuat Keyman (1958-2024)

We lost our member Fuat Keyman on October 18, 2024. He was the Director of the Istanbul Policy Center and a faculty member at Sabancı University. Prof. Keyman was one of Turkey's leading political scientists, specializing in globalization, democratization, international relations, Turkey–EU relations, Turkish foreign policy, and the development of civil society.

Durmuş Ali Demir (1967-2024)

We lost Durmuş Ali Demir, former member of our Executive Board and faculty member at Sabancı University's Faculty of Engineering and Natural Sciences, on February 24, 2024. He specialized in theoretical particle physics and astrophysics, and in 2020, he was included in Stanford University's list of "The World's Most Influential Scientists".

BİLİM AKADEMİSİ - SCIENCE ACADEMY, TÜRKİYE DONATION CARDS



To obtain a donation card, you can contact us at ofis@bilimakademisi.org.
You can view all available cards at: https://bilimakademisi.org/bagis-kartlari/

