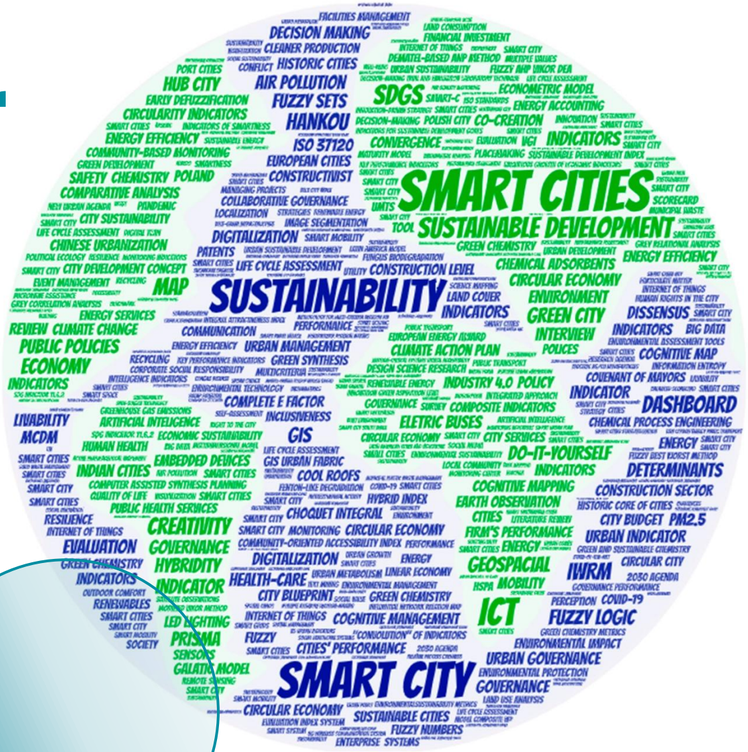
İstanbul Aydin University

Application and Research Center for Advanced Studies



E-NEWSLETTER

January-February 2026

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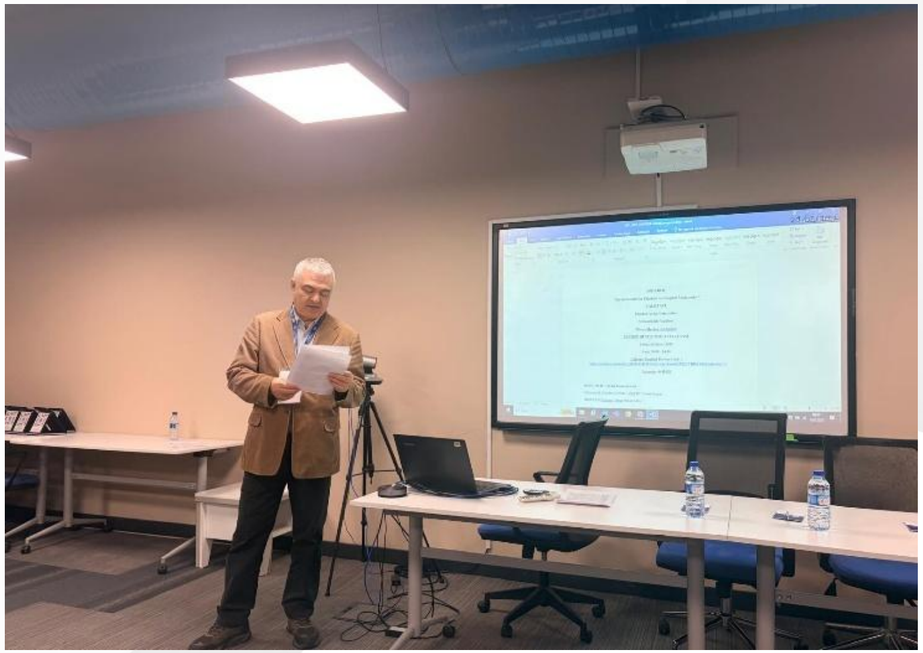
PREPARED BY

Assist. Prof. Dr. Cem ERKMEN

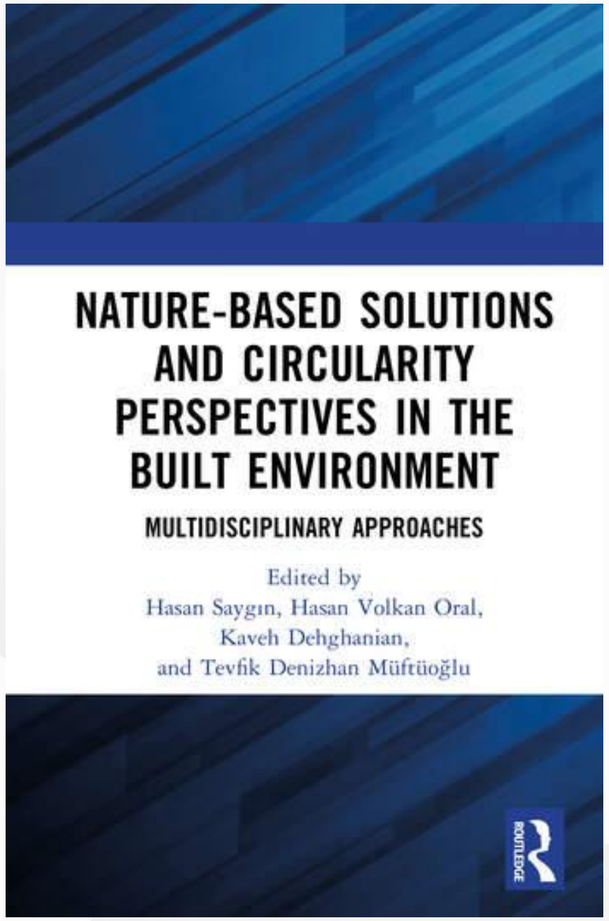
Scientific Workshop

The ‘DOSUDER/Sustainable Water Management and Circular Approaches Workshop’, opened by a keynote speech from our Center Director Prof. Dr. Hasan SAYGIN, was held at TEKMER on February 10, 2026.



Book Editorship

The scientific book titled Nature-Based Solutions and Circularity Perspectives in the Built Environment: Multidisciplinary Approaches, edited by our Center Director Prof. Dr. Hasan SAYGIN, has been published by the international publishing house Routledge.



The main aim of this book is to examine the applications of Nature-Based Solutions and circularity in the built environment from a multidisciplinary perspective, with a particular focus on energy, civil engineering, and environmental engineering. Accordingly, the book is structured into three main sections: energy management, hydrology and water management, and the application of sustainable natural resources in soil improvement within the built environment.Section 1 introduces the concepts of circularity and NBS in the built environment, focusing on energy management in buildings and infrastructure. It presents best practices in monitoring, evaluation, and design through a series of case studies.Section 2 explores NBS in the context of water management. The chapters address urban and rural resilience in water management, circular design in waste management, and NBS applications in coastal environments.Section 3 presents chapters and case studies that offer solutions aimed at improving the physical and mechanical properties of soils. Practical approaches for the sustainable reuse of construction materials obtained from infrastructure projects and industrial wastes in soil improvement are discussed.This book serves as an important reference source for researchers and professionals working in civil engineering, water engineering, coastal engineering, sustainable infrastructure design, and urban planning.

Project

The project titled 'Design of a Hybrid Electrode Containing Bimetallic Nanoclusters Synthesized via a Sustainable Green Synthesis Approach: Development of a Novel Electrochemical Platform for the Early Detection of the Glycoprotein Tenascin-C,' to be carried out under the coordination of our Deputy Center Director Dr. Zeynep TÜRK and co-supervised by our Center Director Prof. Dr. Hasan SAYGIN, has been awarded support for 24 months within the scope of the TÜBİTAK 2218 National Postdoctoral Research Fellowship Program.

Academic Papers

Articles Published in Internationally Indexed Peer-Reviewed Journals (SCI, SCIE, and Scopus)

Bilge, S., Bayraktar, E. N., Erkmen, C., Balci, B., Abofoul, A., Ozkut, M. I., & Cihaner, A. (2026). Catalyst-free synthesis of Thiourea-linked dumbbell-shaped POSS for ultrasensitive determination of Prilocaine in human blood and computational insights. Microchemical Journal, 221, 116978.

Article Published in National Peer-Reviewed Journals Indexed in TR Dizin

Keles, G., Erkmen, C., & Kurbanoğlu, S. (2026). Electrochemical Determination of Anticancer Drug Vandetanib on Glassy Carbon Electrode. Cumhuriyet Science Journal, 47(1), 77-85. https://izlik.org/JA72CF86NW.

Thesis Defense

Gülsu KELEŞ has successfully completed her thesis titled ‘Development of a Bimetallic Nanomaterial-Modified Molecularly Imprinted Polymer-Based Aptasensor for the Determination of Organophosphate Pesticides,’ under the co-supervision of our Center researcher Dr. Cem ERKMEN, in the Analytical Chemistry Program at the Institute of Health Sciences, Ankara University.

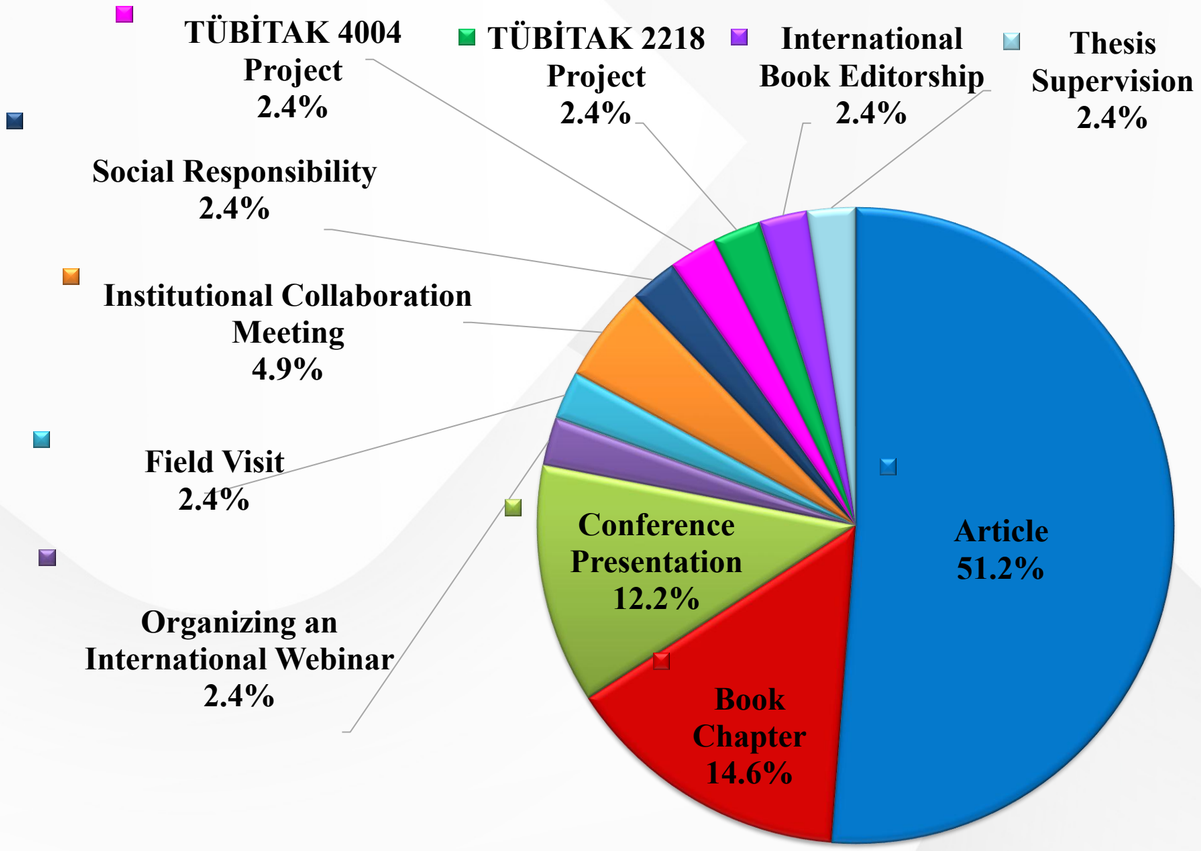
Technical Training

A device training session was organized in the Application and Research Center for Advanced Studies Research Laboratory with the participation of our Faculty of Pharmacy students in order to support the effective use of the research infrastructure. Within the scope of the training, practical information was provided on the working principles of laboratory instruments, correct usage methods, maintenance procedures, and safe working conditions.

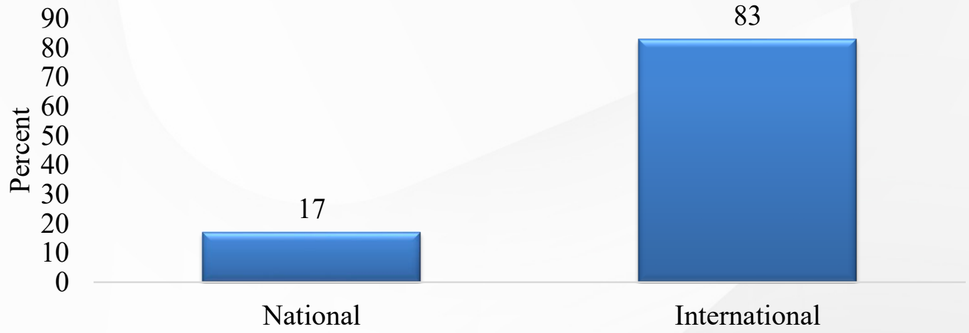
During the training, which was conducted with the participation of our faculty members and relevant experts, undergraduate students had the opportunity to observe how the instruments can be effectively used in analytical studies through hands-on demonstrations. Key stages such as measurement processes, data acquisition, and evaluation of analytical results were also discussed in detail throughout the training.

Distribution of the Center's Activities Over the Last Year

Distribution by Activity Type

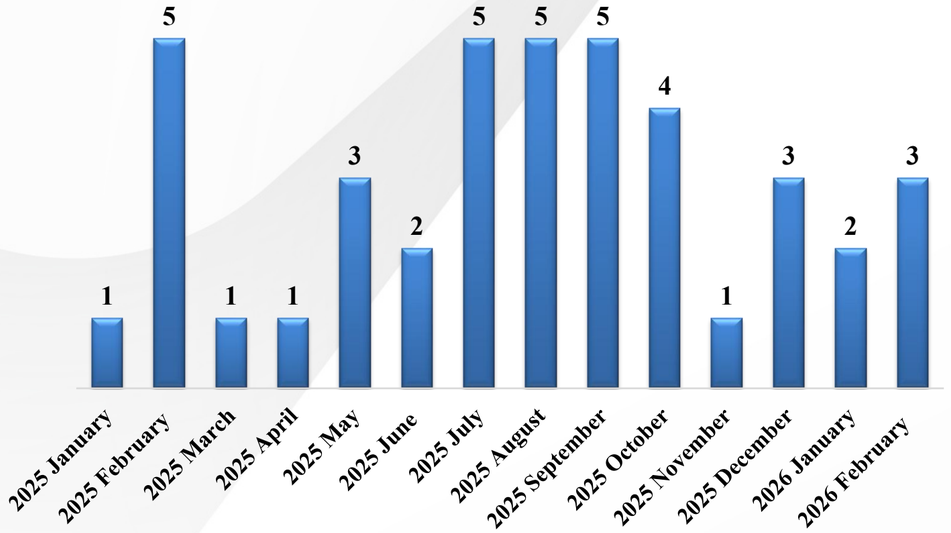


Distribution of National and International Activities



Distribution of Activities: National vs. International

Number of Activities by Month



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