



FOUNDATION – DEVELOPMENT AND ACTIVITIES OF THE TURKISH ACOUSTICAL SOCIETY FROM PAST TO PRESENT

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ABSTRACT

Turkish Acoustical Society (TAKDER) was founded in 1992 under the leadership of academics from various departments of different universities such as architecture, electrical and mechanical engineering. In the following years, with the participation of experts interested in acoustics from different industrial branches, the Society has continued its existence until today by strengthening its infrastructure day by day, reaching large masses throughout the country, and increasing number of its members.

The Society has undertaken various tasks such as bringing “acoustics” to the forefront in different fields with national congresses held every two years, exhibitions and various events and publications embracing the society, raising awareness about noise in the society, and creating environments where academic studies are shared and discussed. Society also plays an active role in the field of education with the certificate programs carried out within the scope of the Regulations on acoustics in force in Türkiye.

TAKDER is a member of many international organizations operating in the field of acoustics, such as EAA, I-INCE, IIAV and ICA. The "Noise Control & Acoustics for Educational Buildings International Symposium" (2000) and the Inter-Noise 2007 Congress organized by the Society are important in terms of activities in the international arena.

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Keywords: Turkish Acoustical Society, activities in acoustics, certificate programmes, EAA, I-INCE.

1. INTRODUCTION

Turkish Acoustical Society (TAKDER) was established in 1992 in order to provide communication and cooperation between people working in various fields related to acoustics, conducting research and practice, informing the public about acoustics, to make them relevant and aware of the issue, in different universities such as architecture, electrical and mechanical engineering. It was established under the leadership of academics from various departments related to the subject.

The first establishment works as an acoustic association in Türkiye started in 1979 with the call of Ziyaeddin Süder (Prof.), Head of the Acoustic Study Group formed within the ITU (Istanbul Technical University) Faculty of Architecture, Building Research Institute, with the people coming together from different institutions and organizations. (at that time, YTU (Yıldız Technical University) faculty member Müjgan Şerefhanoglu (Assoc. Prof.) made efforts to establish the “**Society for Fighting Against Noise**” (GÜSAD), and it was at the stage of being established.) [1]

In the first meeting held in 1979, as a result of the negotiations, it was decided to start the studies for the establishment of the Acoustical Society, which aims to bring together the relevant people in the field of acoustics instead of GÜSAD, and it was decided that a commission consisting of Müjgan Şerefhanoglu (MŞS)

and Selma Kurra would work under the chairmanship of Ziyaeddin Süder. A small number of people, consisting of architects, electrical engineers and physics engineers, attended this first meeting. Although all kinds of legal preparations and initiatives were made in a certain period, the Acoustical Society could not be established in those years because the establishment of associations was stopped due to various reasons and especially due to the political environment of Türkiye at that time.

The efforts to establish associations, which required many bureaucratic procedures, came to the fore again in the following years, with the devoted efforts of Selma Kurra and Nurgün Tamer. 11 founding members, 10 of whom were university members, established the Society. The Acoustical Society held its first General Assembly meeting on 24.07.1992 and formed its board of directors. Since it is especially important in terms of international relations, the name of the association was changed to Turkish Acoustical Society (TAKDER) with the initiatives made in the period of 1994-1995.

Between 1992 and 2002, 184 individual members were registered to the Society. Considering the distribution of members by occupation, it is seen that mechanical engineers and architects constitute the majority. Apart from these, it is seen that medical doctors, electrical engineers, physics engineers, civil engineers and members from many other professions related to acoustics were registered to the Society during this period. (Tab. 1)

At the beginning of the 21st century, 32% of the members were women, while today this rate is 38%. In the following periods, the number of corporate members gradually increased and companies from different sectors operating in the field of acoustics joined the Society.

2. ACTIVITIES OF THE TURKISH ACOUSTICAL SOCIETY FROM PAST TO PRESENT

National congresses and exhibitions organized by the Turkish Acoustical Society (TAKDER) have played an important role in bringing together individuals and organizations operating in different fields of acoustics in Türkiye, from the establishment of the Society to the present. They take place every 2 years and are especially important in terms of bringing together people from different institutions who are interested in acoustics and/or working in this field. To date, national congresses have been held in various cities. The first national congress was the 1st National Noise Congress held in Bursa in 1994. Along with the congresses, exhibitions where objects such

as measuring instruments, acoustic instruments and ear protectors are introduced with the participation of various companies, also take an important place within the events.

Table 1. Distribution of Society Members by Occupation

Professions	Number of Members	pct. (%) Distribution
Mechn. Eng.	45	24
Architect	43	23
Dr.of medicine	18	10
Elec.Eltr. Eng.	18	10
Physics Eng.	14	8
Civil Eng.	13	7
Industrial Eng.	3	1.6
Chemical Eng.	2	1
Landscp. Arch.	2	1
Environ. Eng.	2	1
Sound Eng.	2	1
Musicologist	2	1
Opera artist	2	1
Geophys. Eng.	1	0.5
Psychologist	1	0.5
Student	6	3
Other	10	5

Apart from the national congresses, the Society organized an international symposium called "Noise Control & Acoustics for Educational Buildings International Symposium" (with collaboration of the YTU) in the year 2000, and afterwards in 2007 it hosted the Inter-Noise Congress in Istanbul. In addition, TAKDER has memberships at international organizations operating in the field of acoustics. These can be listed as; EAA (full membership (1995)), I-INCE (full membership (1997)), IIAV (membership (1997)), ICA (membership (2001)).

Although the issue of noise is actively included in the acoustic congresses, in the 5th Term work program of the Society, it has been decided to establish a unit called "**Fight Against Noise**" to be chaired by MŞS in line with the aim of increasing participation in the activities of the Society and similar purposes. Since noise is an important environmental issue and concerns the whole society, and since the role of individuals is important in reducing noise, it is aimed to raise awareness in the society, including children, on this issue, and therefore to

spread the awareness that some noises should not be emitted at all, some should be limited by laws and regulations, some can be solved with scientific and technical approaches, and when necessary, protection from noise is a right.

In order to raise awareness in Society on the fight against noise, the activities carried out by the “**Noise Fighting Unit**” within the scope of the **5th June World Environment Day** have an important place. Among the activities organized in this context; **seminars, symposiums and panels on "noise"** can be cited besides **competitions for posters, paintings, cartoons and composition** especially among high school and university students, within the framework of the programs determined every year. (Fig. 1)



Figure 1. First prize in the "noise" poster competition held among students.

The booklet titled *"Educational, Measurement and Laboratory Opportunities Related to Acoustics in Different Institutions in Türkiye"* prepared in 2000 is the first publication and original research of the Turkish Acoustical Society (TAKDER) and is an important document that provides information about the universities, institutions and laboratories operating in the field of acoustics in the country in these years. [2] Since the establishment of the Society, bulletins have been published by the board of directors in order to provide information to its members, and later the bulletins were developed further and the journal *"Acoustics"* was published including scientific and technical studies within its scope. However, this journal did not continue after the change of management in 2003 (Fig. 2).

The Turkish-English Glossary of Acoustic Terms has filled an important gap in this field, preparation studies of which were started a long time ago. It has been

published in 2022 as a result of reaching a consensus on certain issues. (Fig. 3 a, b)

The Regulation on the Evaluation and Management of Environmental Noise (ÇGDYY, 04.06.2010; 30.11.2022 revision) and *the Regulation on the Protection of Buildings against Noise* (BGKKHY, 31.05.2017), to which the Society (TAKDER) directly contributed were published by the Ministry of Environment and Urbanization in Türkiye.

[3,4] In the ÇGDYY, environmental noise sources are identified and limit values that should not be exceeded for urban areas with different sensitivity levels are given. The ÇGDYY has enabled the creation of noise maps, which are important both in terms of settlement planning and in terms of taking measures against noise at the building envelope of buildings, and initiated studies on the preparation of comprehensive action plans for the future.

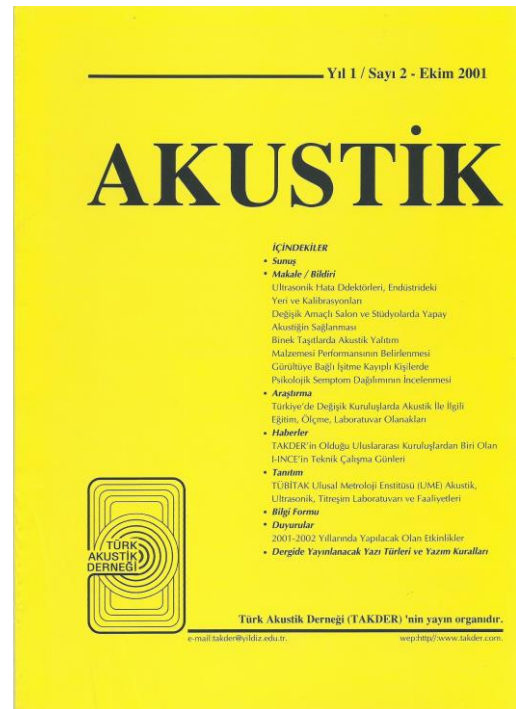


Figure 2. Cover of the Acoustic Journal.

In BGKKHY, it is stated that the acoustic performance certificate should be issued by a building acoustics specialist for the whole building. For this reason, it has become necessary to train acoustics experts who would fulfil these duties. For this purpose, the Ministry has asked universities and organizations that can provide certificate trainings for acoustics experts.

The Society (TAKDER) is one of these organizations who provides Basic Building Acoustics Certificate Program (D1) and Building Acoustics Measurements Certificate Program (D2). These training programs, as well as other financial activities, are organized by an Economic Enterprise (2018) operating under the Society in order to be carried out more effectively and in accordance with the law.

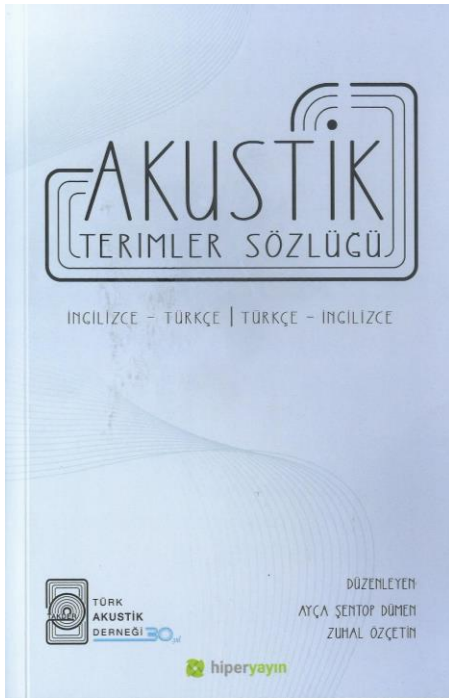


Figure 3. a) Turkish-English Glossary of Acoustic Terms.

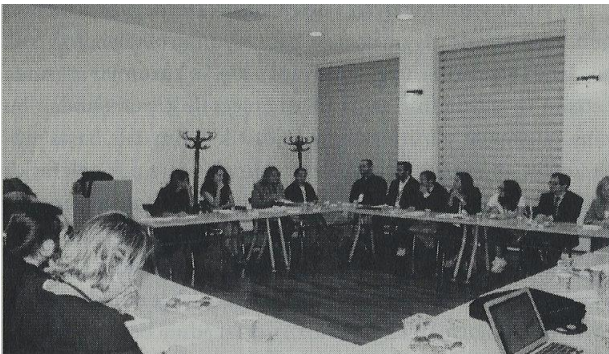


Figure 3. b) Meeting on preparatory studies of the Turkish - English Glossary of Acoustic Terms.

3. SOCIAL ACTIVITIES OF THE TURKISH ACOUSTICAL SOCIETY

The Society (TAKDER) is a non-governmental organization that is constantly on the agenda with the scientific congresses and exhibitions it organizes, as well as with the social activities it organizes to raise public awareness and disseminate scientific knowledge about acoustics. [5,6] Some of the important ones among the **seminars, symposiums** and **conferences** organized by the Society can be summarized as follows:

Acoustic Problems and Noise Control in Environment, Construction and Industry, Seminar, 1994 (a conference on *Noise Effects* was also given by Prof. C. Rice.).

Hearing Mechanism of the Ear, Conference, 1995 (Prof. Dr. İrfan Devranoğlu).

Acoustic Problems in Buildings and Solutions, Seminar, 1996.

Applied Modal Testing. Theory and Practice, Seminar, 1996 (Prof. David J. Ewins, Harry Zaweri).

Sound Quality, ITU-EAA Tutorium Seminar, 1997 (Prof. Blauert).

Fight Against Noise, Symposium and Panel, 1997.

Environment - Noise - Human, Panel, 1999.

Acoustics in Music Rooms, Conference, 1999 (Prof. Şazi Sirel).

Fight Against Noise, Conference, 2021 (Prof. Müjgan Şerefhanoglu).

International Noise Awareness Day Symposium, 2022.

Noise Barriers Calculation and Design Seminar., 2022.

Basic Acoustics Seminar: Noise and Vibration Control, 2022.

Regulation and Guide for the Protection of Buildings from Noise: Guide for Protection from Noise by Design Seminar, 2019.

Architectural Acoustic Report Preparation Principles, Seminar, 2018.

In addition to all these activities, the informative publication titled “*Explanations on the Implementation of BGKKHY*” (2019), “*Legislation and Practices for Sound Insulation in Buildings Training*” (2021), D1 and D2 certificate trainings (within the scope of BGKKHY) can be cited among the Society's activities in the field of education. In addition, technical trips carried out in different periods are also important both in terms of education and relations with different organizations such as; Acoustical Laboratories in the National Metrology Institute of the Scientific and Technological Research Council of Türkiye (UMETÜBİTAK), Arçelik Inc. Co. Acoustic and Vibration Laboratory (1995), TEE Inc. Co. Vibration and Acoustic Laboratories (1996). (Fig. 4)

The competitions organized to raise awareness about "noise" in society are also important in terms of the Society's social activities. These competitions have been evaluated by the selection committees where prominent artists and writers were jury members.

In addition to all these activities in various fields, certain commissions have been established to work in different fields of acoustics, which are expected to operate in areas such as standards and regulations, acoustic terms, building and environmental acoustics, machinery noise and vibrations, etc. since the foundation of the Society.



Figure 4. Technical trip to the Acoustical Laboratories in the National Metrology Institute (UME – TÜBİTAK) with the participation of the board members of TAKDER and graduate students.

Among these competitions can be cited as follows; Poster Competition on "noise" among students of architecture and fine arts faculties of universities (1997), Painting Competition on "noise" organized among high school students within the scope of the "Fight Against Noise" program (2001), Composition Competition on "Noise and Its Effects" organized among high school and university students, "Sounds in My World" competition organized among primary and secondary school students within the scope of the **International Year of Sound (2021)**.

The Cartoon Contest on "Urban Noise", which was open to all participants, especially to professional cartoon artists, within the scope of the 10th anniversary activities of the Society and the **World Environment Day - Fight Against Noise** program, is of particular importance among the social activities organized by the Society (2002). Among these activities, the Cartoon Contest had a special place, and the posters selected as a result of the competition were exhibited in the show windows of the famous stores in two important regions of Istanbul. Exhibitions were also organized at 4 different galleries in different cities outside Istanbul. In addition, a cartoon exhibition book on "Urban Noise" was printed from the selected posters (Fig. 5 a, b).



Figure 5. a) Winner of the Urban Noise Cartoon Contest.



Fig 5. b) Cartoon exhibition book on Urban Noise.

Competitions and social events organized in cooperation with various individuals and organizations have enabled the Society to play an active role as a non-governmental organization in the social arena. It has become a tradition to organize events such as dinners, cocktails, music concerts, etc. every year to bring together the members and their relatives in the Society, to get acquainted, to exchange information with the management, and to have a good time. In addition to the social benefits provided by these social events, they have also contributed to the income of the Society, albeit to a lesser extent.

4. FUTURE VISION OF THE TURKISH ACOUSTICAL SOCIETY

Turkish Acoustical Society (TAKDER) aims to continue its activities both nationally and internationally in the future. In the national arena, it aims to further increase the number of individual and corporate members and to spread throughout the country, in order to organize competitions and various activities on special days, to increase the number and quality of national congresses organized, and to carry out educational activities more intensively.

In the international arena, the Society has the objective to carry out closer cooperation with international institutions such as EAA, I-INCE, IIAV, ICA to establish joint working groups and organizations with universities and other associations active in this field, to determine common working areas and to support the creation of the necessary infrastructure for joint tasks on issues of importance for the benefit of society, as well as the realization of joint research projects. Especially organizing international congresses and exhibitions in Türkiye in the field of acoustics, after the Inter-Noise 2007 Congress in İstanbul, in cooperation with these international institutions will contribute to the effective cooperation of the universities and companies in the sector internationally.

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