HISTORY OF BIOLOGY TEACHING AND THE BIOLOGICAL SCIENCES AT THE JÓZSEF ATTILA UNIVERSITY FROM 1921 TO 1996

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Abstract

This communication gives an account of the development of the biology departments of the József Attila University of Szeged during the past 75 years.

The authors pay attention to the change of the names, numbers and research areas of biology departments, to the problems of scientific evaluatioii and to the role of biologists played in the course of the development of the whole University. They give a list of the congresses and conferences organized by the different departments. In the literature section they summarize the literature relevant on the history of departments as well as on the biography of leading personalities. In the Appendix they give all bibliographical details of the textbooks and monographies published by the staff of the biology departments.

Key words: József Attila University, history of biology, 75 years.

INTRODUCTION

The history of biology teaching and biological research is closely related with the history of the József Attila University (JATE). Chronological and personal data are not dealt with in this communication as they are found in earlier works on our University (e.g. Szeged University Almanach 1921–1970, 1971; Szeged University Almanach 1971–1995, 1996). Attention will, however, be paid to the most important personalities who have played a leading role in biology teaching and biological research during the past 75 years. This account is a broadened version of the same text which is to be published in the forthcoming issue of the University Bulletin, to be published in Hungarian.

THE PRELIMINARIES OF THE FOUNDATION OF THE UNIVERSITY OF SZEGED

The University moved to Szeged from Kolozsvár. In the course of its history, it has had the following names:

Hungarian Royal University of Kolozsvár (1872–1881)
Hungarian Royal Ferenc József University of Sciences (Kolozsvár, 1881–1921)
Hungarian Royal Ferenc József University of Sciences (Szeged, 1921–1940)
Hungarian Royal Ferenc József University of Sciences (Kolozsvár, 1940–1945)
Hungarian Royal Horthy Miklós University of Sciences (Szeged, 1940–1945)
University of Szeged (1945–1962)
József Attila University of Sciences (Szeged, since 1963).

In 1952 the University of Szeged was split into the Medical University and the University of Sciences.

HISTORY OF THE ORGANIZATION OF BIOLOGY TEACHING

The organization of the biology departments has changed considerably during the past 75 years. The first big change happened in 1940 when the University moved back to Kolozsvár and a new university was founded in Szeged. The other era of change, bringing significant development, was from the end of 1960s to the

early 1970s which is related with the foundation of the Biological Research Centre in Szeged and with the development of molecular biology.

It is of note that prior to the second part of 1960s the teaching units were called institutes, whereas they are called departments later on.

The Faculty of Mathematics and Sciences of the University, founded on 10 October, 1921, as the legal descendant of the University of Kolozsvár, had two biology institutes: **Institute of Zoology and Comparative Anatomy and Collection (Állattani és Összehasonlító Boncolástani Intézet és Gyűjteménytár)** and the **General and Ordinary Institute of Botany, Botany Museum and Botanical Garden (Általános és Rendes Növénytani Intézet, Botanikus Múzeum és Botanikus Kert)**. The first institute was headed by ISTVÁN APÁTHY, whereas the latter was headed by ISTVÁN GYŐRFFY. Both of them had studied at the University of Kolozsvár.

Zoology teaching have been reorganized a few times during the past 75 years. An **Institute of Animal Systematics** (headed by BÉLA FARKAS) and an **Institute of General Zoology** (headed by JÓZSEF GELEI) was operating from 1924 to 1931. The name of the latter institute was changed to **Institute of General Zoology and Comparative Anatomy and Collection** in 1932 and to **Institute of General Zoology and Biology** in 1940 (headed by AMBRUS ÁBRAHÁM. In 1954 this institute was split into the **Department of General Zoology and Biology** (headed by AMBRUS ÁBRAHÁM) and the **Department of Animal Anatomy and Animal Systematics** (headed by Gábor Kolosváry). From the former department, the **Department of Animal Physiology** seaparated and became independent in 1967, which changed its name to **Department of Comparative Physiology** in 1974 (first headed by OTTÓ FEHÉR). The Department of General Zoology was renamed to **Department of Zoology** in 1971 and to **Department of Zoology and Cell Biology** in 1994. In 1990 the **Department of Ecology** was separated from the Department of Zoology (first headed by LÁSZLÓ GALLÉ, Jr.). As a result, three new zoology departments have been operating since the end of 1996. In 1987 an Endocrinology Laboratory (led by FERENC LÁSZLÓ) was added to the Department of Comparative Physiology.

A similar transformation has occured to the **Department of Botany**. In 1927 it was called as **Institute of General Botany and Plant Systematics**, in 1928 as **Institute of General and Ordinary Botany, Botanical Museum and Botanical Garden**, in 1940 as **Institute of Botany and Botanical Garden**, in 1967 as **Department of Plant Anatomy and Systematics, Botanical Garden** and from 1970 as **Department of Botany and Botanical Garden**. In 1952 the **Institute of Plant Physiology** separated and in 1967 it became the **Department of Plant Physiology and Microbiology**, first headed by ISTVÁN SZALAI. In 1972 this department was

split into the **Department of Plant Physiology** and the **Department of Microbiology** (this latter department was headed by LAJOS FERENCZY). As a result, three new departments have been derived from the original Department of Botany.

It is of note that the changes of the names of departments have been closely associated with the particular area of science relevant to each department and reflects the development in the biology teaching as well as that of the biological research.

In 1940 a new department was established at our university. It was the **Institute of Anthropology and Race Biology**. Although its name contained the term race biology, this department has never been associated with racism. It was first headed by LAJOS BARTUCZ. By 1940, therefore, the three main scientific areas of that time — Zoology, Botany and Anthropology — had been represented at our university. The Institute of Anthropology, which was the second of this kind in the country, changed its name to **Department of Anthropology** in 1945.

In 1969 the **Department of Biophysics** (first headed by LÁSZLÓ SZALAY) separated from the Department of Physics. In 1989 the Department of Biophysics left the Association of the Biology Departments.

In 1971 the Biological Research Centre of the Hungarian Academy of Sciences was founded in Szeged. This brought an upswing to molecular biology, which resulted in the foundation of new departments at our university. In 1974 the **Department of Biochemistry** (first headed by LÁSZLÓ BOROSS) was created and in 1980 the **Department of Hereditary Science** was founded which changed its name to **Department of Genetics** in 1981 (first headed by LÁSZLÓ OROSZ). Both of these new departments date back to the Department of Animal Physiology, where Biochemistry was taught by BÉLA MATKOVICS and Genetics was taught by LAJOS ALFÖLDI. The third department in this new wave was the aforementioned **Department of Microbiology**. In 1989 the **Department of Biotechnology** was founded and was headed by IMRE MÉCS.

In the meantime a separate **Biological Isotope Laboratorium** was created in 1969 and was led by BÉLA MATKOVICS. It was working as an independent unit until 1974, and then it was operating together with other departments until 1992. Finally it was subordinated to the Association of Biology Departments. In 1973 the **Electron Microscopy Laboratory** started operating as a new unit under the leadership of IMRE ROJIK.

It is of note that since 1950 a qualified staff has been dealing with **Biology Teaching**. Its founder was LÁSZLÓ KÖRTVÉLYESI who worked at the Department of Zoology and later on at the Department of Comparative Physiology. From 1975 the Biology Teaching has been attached to the Department of Anthropology where LÁSZLÓ KOVÁCS and ENDRE NÉMETH were teaching this subject. At the moment

the person in charge is Mrs. LÁSZLÓ NAGY. The staff has grown into a separate education group.

Between 1967 and 1996 ten new biology departments have been founded together with two independent laboratory units and an education group.

Until 1952 all the departments were situated in the Central University Building and later on in the present Ady-square building. Due to the reorganization of the higher education, however, the university was split: the Medical University of Szeged and the Szeged University of Science were created. In 1963 the latter university assumed the name of József Attila.

As a significant step in the course of development, the so-called course-committees were established in 1965. This gave rise to the establishment of the **Biological Course Committee (or Association of Departments,** first directed by IMRE HORVÁTH), which aimed at holding together all the departments and laboratories involved in biology teaching. This council has 24 members, a director and a secretary.

Another organizational change is that while formerly all department heads were representative members of the Council of the Faculty of Science, now the respective course committees are represented by their directors along with two other elected teachers. With this change the departments have decended to the fourth level of the organizational framework of the university.

The rise in the number of departments made it necessary to find new places. A new Biology Department Building was opened in Újszeged in 1974 where the Departments of Biochemistry, Genetics, Microbiology, Comparative Physiology are situated along with the Biological Isotope Laboratory and the Electron Microscopy Laboratory. The rest of the biology departments continued to stay in the Ady-square building. The new Újszeged building, planned to have a Y-shape, will house all biological departments after completion.

TEACHING OF BIOLOGICAL SCIENCES

The beforementioned departmental representation of the biological sciences has been in close relationship with the tematics of teaching and with the changes in the biology teaching.

The Department of Zoology carried out first the teaching of cell biology, anatomy, systematics and animal geography. Even at the end of the 1950s the organ systems of the different animal groups were classified according to animal systematics. This has changed and in the 1990s it is being adapted to the individual profiles of the departments. A similar situation has occured in the science of

botany. As concerns anthropology, it has been associated with zoology as well as several human arts such as archeology, ethnography and forensic medicine. It is of note that the strengthening of molecular biology has slightly overshadowed the scinces of systematics and anatomy and has brought a significant alteration in the topics and timetable of teaching of all the biological sciences. Teaching has become more specialized and the proportionality of the respective areas has become shifted. One of the reason for it is that genetics was suppressed due to the action of soviet ideology.

In spite of the continuous re-organizing, education of biological sciences has become richer since 1950. The number of practical lessons and laboratory practices has increased and the choice of special courses has become broader. This trend is being carried on even in recent years.

The question of text books and lecture notes is closely associated with teaching. Lecture notes could be written and published only after 1945. After this nearly all the departments issued their textbooks (c.f. in the Appendix).

THE NUMBER OF THE STUDENTS

In the 1921/22 academic year the Faculty of Mathematics and Natural Sciences had 91 students, so the number of students studying biology was also low. The number of students studying biology was low even after the Second World War.

In the 1940/41 academic year, for example, only 2 students completed their studies in natural sciences — geography courses and 4 students in natural sciences — chemistry. They took their final exams in front of the Hungarian Royal National Secondary-School-Teacher Invigilating Committee.

At the same time, a considerable number of pharmacy students attended the lectures in zoology and botany, whereas numerous students of art, medicine and law attended the lectures in anthropology.

After the Second World War a significant changehappened in the number of students. Teaching of Latin was discontinued in the secondary schools, Russian language and biology were given higher number of lessons, and the primary school system changed to a compulsory 8-year scheme. During the war most of the teachers died or became prisoners of war. This resulted in a shortage of biology teachers, leading to an increase in the number of university students studying biology. For example, in the 1950/51 academic year 124 students were admitted to the biology teacher course. Many of them had applied for other courses (pharmacy, medicine, engineering, chemistry, etc.), but they had been re-directed to the biology course. A lot of students completed their secondary-school studies by

doing a corresponding course. All these unfortunate factors led to an increased number of students who finished their university studies after the first year. Out of the 124 students mentioned above, only 64 got their degree in 1954.

This unusually high number of students in 1950, however, proved to be an exception, and the following years witnessed a gradually decreasing number of admitted students. This is well documented in the above table.

From the end of the 1960s the number of admitted students started to increase again, and in the 1996/97 academic year, for example, 60 students wishing to become biology teachers (with various second courses) were admitted, whereas the number of students studying for research biologist was 30.

In 1954 a corresponding course was started for those secondary school teachers who wanted to get a degree in biology. This course was particularly popular among those teachers who had formerly been involved in teaching Latin, but a significant number of primary-school teachers got their degree in this course, as well.

Academic year	Number of students admitted	
	biology–chemistry	biology–geography
1952/53	16	
1953/54	52	
1954/55	10	
1955/56	3	11
1956/57	7	8
1957/58	3	6
1958/59	2	8
1959/60	2	12
1960/61	4	10
1961/62	3	14
1962/63	13	18
1963/64	13	19
1964/65	21	24
1965/66	22	13
1966/67	27	9

CHANGES IN THE TOPIC OF THE COURSES

After having been founded, the main activity of our university was to train natural science teachers with a second degree usually in geography. Another way of getting a degree was to do a further-education course (Apponyi Kollégium) at

the university. The National Secondary School Teacher Invigilating Committee as well as the Secondary School Teacher Training Institute were both operating under the supervision of the Faculty of Natural Sciences. These boards were in charge of issuing a degree for secondary school teachers.

After the Second World War the training of biology teachers were connected with either chemistry or geography. Of the parallel courses in a given year the biology-chemistry courses had usually the highest number of students. In 1965 the biology-geography course was discontinued, but these degrees could still be obtained by doing a corresponding course. In the 1964/65 academic year the course for those wishing to be research biologists was started.

In 1952 the Eötvös Lóránd University of Science in Budapest started a course for "scientists". This was a 3-year course and its students were selected from the best of biology-chemistry students all round the country. As we mentioned before, in the 1964/65 academic year the course for those wishing to be research biologists was started at our university. The successful students were first given a degree in general biology, but from the 1991/92 academic year onwards they were given a degree in either molecular biology, ecology, or general biology. They had to make their choice to specialize in the 3rd year of their studies.

After the war the way of getting a degree changed, as well. Both the Teacher Traning Institute and the Teacher Invigilating Committee were discontinued in 1949. Between 1950 and 1957 the duration of training was temporarily reduced to 4 years due to the shortage of teachers, but it brought about a significant over-production of teachers and therefore the duration was raised to 5 years in 1957 again. The compulsory state (final) exam was introduced at that time, and from the beginning of the 1960s the students had to write a master's degree thesis. The Organization of Scientific Students' Groups started in 1952 which aimed at training the interested students to carry out individual scientific research activities. The Conference of the Scientific Students' Groups were held every two year where the students from different universities but having similar scientific interests present their results. From 1989 the best students are given the Pro Scientia prize of the Hungarian Academy of Sciences.

The well-trained scientists of the Biological Research Centre, with their well-equipped laboratories, have played an important role in preparing students to write their thesis. After graduation, many of the successful students got a job within the Biological Research Centre or at other leading research institutes.

In 1960 the supervisor system was introduced. Usually a young university teacher, the supervisor, takes care of and keeps an eye on the students belonging to one year of a given course, from their first days until graduation.

The 1990s brought the idea of unification, the creation of the Universitas, which would unite the higher education units of a given town to a common big education centre. Now the students have the right and possibility to take up courses or lectures from another course. So, by the end of the 1990s, the biology course can be found associated with courses like English language, physics, mathematics, librarian, etc. In addition, students of primary school teacher-training colleges and those studying theology can also take part in studying at our university.

MAIN DIRECTIONS OF BIOLOGICAL RESEARCH AT OUR UNIVERSITY

In the following text, the figures of years after each person represent the beginning and the end of being department head or working at a given department, respectively.

The topics of **research in zoology**, similarly to other biological sciences, was closely associated with the research interest of the head of the respective institute or department. This also meant that the head of the department usually played a determining role in the research area of a given department.

The education units involved in teaching general and comparative zoology were headed by ISTVÁN APÁTHY (1921–1922), BÉLA FARKAS (1922–1924), JÓZSEF GELEI (1924–1940), AMBRUS ÁBRAHÁM (1940–1967), GÁBOR KOLOSVÁRY (1968), LÁSZLÓ MÓCZÁR (1969–1981), ISTVÁN BENEDECZKY (1982–1992) and KÁROLY GULYA (since 1993).

ISTVÁN APÁTHY (1921–1922) was an expert of comparative neural histology and the fine structure of the nervous system. He made a considerable progress in the technique of microscopical investigations.

JÓZSEF GELEI (1924–1940) was mainly interested in Protozoa research, cytology, systematics of Turbellaria and microtechnique of invertebrate animals.

BÉLA FARKAS (1922–1924) worked in the field of microtechnique, fine cytology and anatomy. In addition he studied the hearing of fish and with the Protozoa of ponds near Szeged.

AMBRUS ÁBRAHÁM (1940–1967) was an unparallelled expert of the nervous system, the sensing organs, the cardio-vascular and endocrine systems. He made a remarkable achievement in the area of neurosecretion, receptors and synapses and established a neurohistology scientific workshop at our university.

One of his colleagues, ARANKA STAMMER, was working first at the Department of Botany (1950–1951), later on at the Department of Zoology (1951–1988). Her area was the submicroscopical structure of the gill of fish and the neurohistology of the eye.

FERENC BICZÓK, professor honoris causa since 1989, was interested in Protozoa (1953–1974).

JÁNOS MEGYERI, who received the professor honoris causa degree at the Medical University, was interested in hydrobiology.

ISTVÁN BENEDECZKY (1982–1992) was working in the field of neuro–endocrinology and neurobiology. In addition, he also studied the adrenal medulla, and was an expert of cytology and fish-pathology.

KÁROLY GULYA (since 1993) is an expert of neuroanatomy, neurochemistry, neuropharmacology and molecular neurobiology.

ÉVA FEKETE (since 1982) is studying the human ontogenesis. Her main interests are the development of the nervous system of the gut, with special attention to neurochemistry and neuromorphology.

KATALIN HALASY used to work at the Department of Zoology (1975–1994). Her main interest was to study the structural and molecular basis of inhibition in the hyppocampus and in the neo-cortex.

The other line of zoological studies were represented by those of **animal systematics**. These were mainly associated with GÁBOR KOLOSVÁRY, ANDOR HORVÁTH, LÁSZLÓ MÓCZÁR and MRS. SZÉKELY MAGDA FERENC.

MIHÁLY ROTARIDES (1921–1929 and 1932–1942) studied the molluscs of the Hungarian Plain and of Bihar County.

ENDRE DUDICH (1925–1934), who received the degree "Sub Auspiciis Gubernatorius", was the expert of the systematics of Arthropods.

LAJOS VARGA (1930–1940) was interested in hydrobiology, he studied the Rotatoria and other microscopical animals found in water and in the soil.

GÉZA ZILAHI-SEBESS (1931–1949) was an entomologist, his main interest was to study Diptera and Nematocera. He became a habilitated professor of "Morphology and Systematics of Arthropods".

GÁBOR KOLOSVÁRY (1923–1929 and 1954–1968) was interested in spiders and fossilised coralls. It was him who organized the **Tisza Research Workgroup** in 1955.

A detailed account of the activity of the Tisza Research Workgroup will be given in the Ecology Research section.

ANDOR HORVÁTH (1939–1972) was a malacologist. He studied the recent and Pleistocenous molluscs and the molluscs of the Adriatic region. He constructed the Pleistocenous chronology based on fossilised molluscs. In addition, he was a dedicated expert of animal geography.

LÁSZLÓ MÓCZÁR (1969–1981) studied the systematics of Hymenoptera and carried out animal geographical, ethological and coenological studies in Hymenoptera. He revised the world collection of Hymenoptera and constructed their world catalogue.

GÁBOR UHERKOVICS (1957–1971) was also working at this department. His interest was directed towards the vegetation of algae.

Along with the animal systematics studies we have to mention PÉTER BERETZK who was interested in ornithology (1952–1973). In addition to being a full-time gynecologist, he was a supervisor of the Fehér Lake Bird Reservation near Szeged. Moreover, he also took part in constructing the Fehér Lake exhibition at the Móra Ferenc Museum in Szeged.

In 1967 the Department of Animal Physiology became separated and brought a new line into the zoological research. The **animal physiology research** was led by OTTÓ FEHÉR (1967–1984, 1986–1988) who himself graduated as a medical doctor. The main scientific interest of the department included studies on vegetative ganglia and the cholinerg system, the physiology of brain cortex, the electrophysiology of the epileptic phenomena, the mechanism of memory, the functional aspects of protein synthesis and the computerized modelling of neurons and neural networks. In addition, LAJOS ERDÉLYI was working on neurobiology of invertebrate animals.

OTTÓ FEHÉR established a scientific workshop. Of his colleagues and students, ATTILA BARANYI (1975–1996), JÓZSEF TOLDI (since 1976), MAGDOLNA SZENTE (since 1970) and LAJOS ERDÉLYI (since 1956) carried on this scientific line, along with FERENC JOÓ and ÁRPÁD PÁRDUCZ from the Biological Research Centre. These studies were the predecessors of the molecular biological line which were carried on under the leaderships of the next heads of the department, ISTVÁN BENEDECZKY (1984–1986), LAJOS ERDÉLYI (1988–1994), ATTILA BARANYI (1994–1996) and JÓZSEF TOLDI (since 1997).

Expansion of animal geography gave rise to the development of **ecological studies**, which date back to the 1970s. It was that when an ecological workgroup (led by LÁSZLÓ GALLÉ, Jr.) was formed within the Department of Zoology. Later on this workgroup has grown into the Department of Ecology (since 1990). The ecological studies are mainly carried out in the Bócsa–Bugac region of the Kiskunság National Park. Their main interest is to study the organizational processes,

succession, competition, niche-relations and behavioural mechanisms of terrestrial animal ecosystems. In addition, they are involved in leading ecological programmes and co-ordinate the natural protection data-bank network and monitoring activities. They continuously carry out monitoring the ecological condition of the river Tisza. They are involved in ecotoxicological studies as a member of an international research programme.

GYÖRGY GYŐRFFY (since 1972) studies the ecosystems of herbivorous insects and the ecological pattern of Auchenorrhyncha.

The **Tisza Research Workgroup**, as mentioned before, was established by GÁBOR KOLOSVÁRY. Later it was led by IMRE HORVÁTH, GYÖRGY BODROGKÖZY, ISTVÁN BENEDECZKY, LÁSZLÓ GALLÉ, Jr. This workgroup is still active, a regular meeting is held every two year to summarize their latest results.

A **Tisza Research Station** was operating between 1957 and 1991, with the participation of DÁNIEL GÁL (1953–1988), LÁSZLÓ KÖRMÖCZI (since 1980) and GYÖRGY GYŐRFFY (since 1972).

Ecological research is also shared by the Department of Botany. It was headed by ISTVÁN GYŐRFFY (1921–1940), PÁL GREGUSS (1940–1964), ISTVÁN SZALAI (1964–1965), IMRE HORVÁTH (1965–1979), PÁL SIMONCSICS (1979–1982), SÁNDOR GULYÁS (1982–1995) and ERZSÉBET MIHALIK (since 1995).

Under the leadership of ISTVÁN GYŐRFFY (1921–1940) the **botanical research** was mainly directed towards the systematics and ecology of mosses. He also studied the vegetation of the High Tatras, Transsylvania and the Mátra mountains. He played an important role in the establishment of the Botanical Garden.

His successor, PÁL GREGUSS, was a devoted scientist of nearly all parts of biology. He carried out investigations in plant physiology, plant morphology, plant systematics, plant geography, developmental science, genetics, palynology, ecology and biophysics. In addition, he was an expert of xylotomy and paleoxylotomy. He constructed a triphiletic developmental system of plants. Of his students, ISTVÁN SZALAI established the Department of Plant Physiology.

TIBOR HORTOBÁGYI (1936–1945) carried out studies in hydrobiology, morphology, physiology and systematics of algae, Chytridiomycetes and teratology.

IMRE HORVÁTH (1946–1950 and 1965–1979) was the founder of plant ecology at our university. He established an ecological research station in the Botanical Garden which investigated the effect of the spectral composition of light on the composition and productivity of plant ecosystems. His unparallelled success was the construction of the biology department building in Újszeged.

PÁL SIMONCSICS (1951–1982) dealt with the palynology of young tertiary deposits as well as with recent pollen-morphology.

This line was continued with MIKLÓS KEDVES (since 1958) who studies recent and fossilized spores and pollens by transmission and scanning electron microscopy. Based on the pollens he constructed the evolution of Angiosperms. In 1991 he established the **Laboratory of Cell Biology and Evolutional Micropaleontology** which belongs to the Department of Botany. This establishment has its own scientific periodical, too.

MIKLÓS JUHÁSZ (since 1962) carried out palynological investigations. In addition, by regular inspection of aero-allergenic pollens he organized the Pollen Information Service of South Hungary.

ANDRÁS GARAY (1967–1972) worked on the origin of asymmetry in life.

KÁLMÁN SZÁSZ (1966–1970) was interested in photosynthesis.

GYÖRGY BODROGKÖZY (1945–1989) was the leader of studies in plant geography, soil ecology, vegetation mapping and the regular examination of the river Tisza.

SÁNDOR GULYÁS (1960–1996, department head between 1982 and 1994) studied the anatomy and nectare production of nectare glands of domestic honey plants.

ERZSÉBET MIHALIK (since 1972, department head since 1995) studied the structural characteristics and productivity of natural and artificial plant populations grown under different environmental conditions.

ENDRE LEHOCZKI (since 1969) carried out investigations in photosynthesis with particular attention to the herbicide resistance of weeds and to stress physiology.

GÁBOR LASKAY (since 1979, formerly at the Department of Biophysics) carries out investigations in cell biology.

ERZSÉBET KOL (1921–1940) carries out studies in criobiology. She investigated the microorganisms of snow and ice. In addition, she studied the algae of the Bakony mountains.

GYŐZŐ CSONGOR (1947–1952) was studying the plant vegetation of the southern part of the Hungarian Plain.

The **Botanical Garden**, 75 years old this year, also belongs to the Department of Botany. It is a fine collection of plant species of different areas of the world. In addition, it is an important research place for plant systematics studies.

It was ISTVÁN SZALAI (1939–1973, department head between 1952 and 1973) who established the Department of Plant Physiology. This new department, which was separated from the Department of Botany, specialized to study the hormonal regulation of the activity and dormancy of plants.

MAGDOLNA VARGA (1945–1982) studied the mode of action of plant hormones, mainly auxin and the gibberrellins. In addition, she also investigated the practical applicability of plant growth regulatory substances.

MÁRIA NAGY (1964–1996) studied the hormonal regulation of dormancy and germination of seeds requiring cold pretreatment. She was also interested in ethylene production and auxin metabolism. These studies are being carried on by IRMA TARI (since 1975).

Mrs. SIROKMÁN ERZSÉBET KÖVES (1957–1990, head of department between 1973 and 1985) and MARGIT SZABÓ (since 1968) have also been interested in plant regulatory substances.

FERENC ZSOLDOS (since 1957, head of department between 1985 and 1995) studies the mineral nutrition, ion uptake of plants, environmental stress effects, toxicity of nitrite and the development of depletion symptoms.

LÁSZLÓ ERDEI is the head of department since 1995. He carries out studies to investigate the transport in plants, molecular response reactions to extreme environmental conditions and the phenomenon of adaptation.

At the Department of Anthropology **anthropological studies** are being carried out. The first head of the department was Lajos Bartucz, who was mainly interested in the anthropological composition of the present day Hungarian population and the Avar period, Hungarian Conquest, Árpádian age. He also dealt with the developmental problems of the postnatal life, the analysis of early hominid findings in Hungary, the question of the prehistoric trepanation and with the identification of Hungarian historical personalities. In 1941 he founded the short-lived Alföld Scientific Institute.

His successor was PÁL LIPTÁK (1960–1980) who investigated the human remains of different archeological periods and constructed the anthropotaxonomy of fossilized human findings.

GYULA FARKAS (since 1955, department head between 1980 and 1996) studied the body development of the young people in South Hungary, the menarche age of girls, the analysis of findings dating back to different archeological periods, the character-groups of the present day population of Hungary. In addition, he compiled and published the history of Hungarian anthropology.

ANTÓNIA MARCSIK (since 1963, department head since 1997) carries out historical anthropological investigations. In addition she carries out paleopathological analysis of anthropological findings.

GYÖRGY PÁLFI (since 1989) carries out observations on the remains of infectious diseases on bone remains of earlier populations.

The department owns a historical anthropological collection of about 20,000 specimens.

It is LAJOS FERENCZY (since 1951, department head between 1972 and 1997) who started the regular **microbiological research**, who also founded the Department of Microbiology. He studies the gene transfer into microscopical fungi by protoplast fusion, characterization and practical application of fusion hybrids in the pharmaceutical industry, mode of action of new anti-bacterial and anti-fungal substances. He has established a scientific workshop in his area.

JÁNOS ZSOLT (1957–1980) studied the biochemistry, taxonomy and phylogenesis of yeasts.

FERENC KEVEI (since 1965, department head since 1997) studies the mode of action of anti-fungal compounds, fusion of fungal protoplasts, application of the fusion technique in genetics and biotechnology, molecular analysis of the diversity and compatibility of microscopical fungi, characterization of their extra-chromosomal systems.

MÁTYÁS SIPICZKY (1973–1984) studied the genetical regulation of cellular differentiation, genetics of microscopical fungi.

It is BÉLA MATKOVICS (since 1950) who initiated the **biochemical research**. He carried out fermentation and redox studies with microorganisms and fungi. He studied the process of hydroxylation on amino acids, steroids, aromatic and heteroaromatic compounds in vivo and in vitro. In addition, he carried out pro-oxidant and anti-oxidant investigations on free radical, molecular and enzyme level. He was working at the Biological Isotope Laboratory.

LÁSZLÓ BOROSS (1974–1986), the first head of the Department of Biochemistry, was mainly interested in the relationship between the structure and function of enzymes. He also dealt with the chromatography of biomolecules and with the production, characterization, application of immobilized biocatalysators, and with the enzyme analysis.

His successor, JÁNOS NEMCSÓK (since 1974, department head between 1986 and 1994) studied the biochemical and neurological consequences of environmental stresses. With introducing studies to detect toxic substances accumulating in fish he established the area of environmental biochemistry and biotechnology. In addition, he organized the Bay Zoltán Research Institute, directs the Balaton research project. He is the leader of the delegation of Hungarian Government negotiating issues about the Danube with Slovakia.

Mrs. ÁBRAHÁM MAGDOLNA GULYÁS (since 1972, department head since 1994) deals with the conformational stability and application of chemically modified

enzymes. In addition, she is interested in the intracellular actions of xenobiotics and their transformation in fish.

MÁRIA SIMON (since 1969) deals with solid-phase biochemistry and biocatalysis with particular attention to clinical diagnostics and stability.

Research in genetics was significantly accelerated after the foundation of the Department of Genetics in 1980, although human genetical investigations had already been carried out in Szeged between the two world wars (e.g. LAJOS CSÍK). After the Second World War medical genetical studies started at the Medical University by GYÖRGY SZEMERE and ARANKA LÁSZLÓ. A Department of Human Genetics was scheduled at the time of the foundation of the Biological Research Centre (BRC). Later on, however, this department became interested in general genetics. The Biological Research Centre plays an important role in the genetical research of the university, since there is a strong link between the respective departments of the university and those of the Biological Centre.

LÁSZLÓ OROSZ (1974–1989) dealt with the molecular background of recombination, gene regulation, production of transgenic organisms, directed insertion of genes.

His successor is PÉTER MARÓY (department head since 1989). He studies the developmental genetics and endocrinology of **Drosophila**.

JÁNOS GAUSZ (leader of the research group of the Biological Centre) is also interested in the genetics of **Drosophila**. He had worked at the Department of Biophysics (1967–1969) and at the Department of Zoology (1969–1971). He has been working at the Department of Genetics since 1989, too. He is interested in the organization and function of heat shock genes, genetical and molecular organization of genes affecting the organization of chromatin and in the structure and regulation of homeotic genes.

IMRE BEREK (1975–1982) dealt with microbial and eukaryotic molecular biology, genetics, microbiology of food industry and biotechnology.

JÁNOS SZIDONYA (since 1994) is also interested in **Drosophila** genetics. He deals with the genetical and physiological investigation of the dominant heat-sensitive lethal mutants of **D. melanogaster**, with the identification, genetics and molecular biological characterization of genes affecting the organization of chromatin.

MÁTYÁS MINK (since 1980, formerly at the Department of Microbiology) deals with the transformation of microscopical fungi, characterization of their citoplasmic genetic elements and with the description of genetic elements regulating the eukaryotic cell cycle.

Research in biotechnology has also been connected with the BRC. The first head of the Department of Biotechnology was IMRE MÉCS (1989–1996). He was interested in general and medical microbiology. He studied the cellular immune response as well as with virus research. He studied the interferon production, inhibition of inflammation, the antiviral effect and the application of combined therapy in tumorous and viral diseases.

KORNÉL KOVÁCS (department head since 1996) is mainly interested in environmental biotechnology (biohydrogen production, elimination of nitrate, significance of hydrogenase, culturing of hyperthermophiles, metabolism of metanotrophs).

Research in biophysics has been mainly directed towards photosynthesis. The Department of Biophysics (formerly headed by LÁSZLÓ SZALAY) belonged to the Association of Biological Departments until 1989. Since then it is headed by PÉTER MARÓTI.

Mrs. HORVÁTH MÁRIA MÉSZÁROS also belonged to this department. She was a leader of a separate laboratory which dealt with the mode of action of herbicides and with the action of waste-water and the chemicals used for its decontamination on plants.

It is of note that most research areas were poorly financed between the two world wars. After 1945 the Hungarian Academy of Sciences introduced a credit scheme to support research activities. Research for applied science were mainly carried out by being financed by an interested agricultural, pharmaceutical or industrial company. This kind of collaboration has been decreased since 1989. Recently, several grants are available from foundations and institutions (e.g. National Scientific Research Foundation, TEMPUS programme, Ministry of Education, Research and Development Foundation, National Committee for Research and Development). Several members of the staff has belonged to the Hungarian Academy of Sciences or to the Ministry of Education.

THE SCIENTIFIC EVALUATION SYSTEM

Scientific evaluation of the university lecturers have two different lines: the degrees are given by universities or by the Hungarian Academy of Sciences.

Between 1921 and 1945 **university doctor's degree** could be obtained. This possibility was disallowed for those having a degree in biology, but it was re-

introduced in 1960. From 1984 this degree was called dr. univ., whereas from 1993 full Ph.D. degree can be obtained. This degree requires the completion of a 3-year postgradual course, the available programmes of which are as follows: neurobiology, botany, paleoanthropology, molecular biology, genetics and environmental biology.

A written thesis was required to obtain the university doctor's degree, along with the successful passing of doctoral exams in three selected subjects. This was followed by defending the doctoral thesis which was open to the public. With the introduction of Ph.D. degree the difference is that now the defence procedure has a 7-men strong committee (as opposed to the former 3 people). An additional change is that prior to the defence the thesis must be evaluated by two reviewers.

In the last years, holding a university doctor's degree was a prerequisite for university lecturership.

Until 1949 the **scientific degree given** by the Hungarian Academy of Sciences constituted corresponding and full membership to the Academy. The successful candidates were chosen on the basis of recommendation of the Academy. This practice is in use today as well.

Of the scientists working in biology, the following people became members of the Academy: JÓZSEF GELEI (corresponding member 1923, full member 1938), AMBRUS ÁBRAHÁM (c.m. 1945, f.m. 1960), ISTVÁN GYŐRFFY (c.m. 1940, f.m. 1949), LAJOS FERENCZY (c.m. 1987, f.m. 1995), GÁBOR KOLOSVÁRY (c.m. 1960), LAJOS VARGA (c.m. 1940).

In 1952 a new, Soviet-type evaluating system was introduced. The degree of the **candidate of the science of biology** could be obtained after submitting a written thesis based on a given number (usually 10 to 14) of published papers. The candidates had to take exams in two subjects related to the topic of their thesis, in one western language, in Russian and in phylosophy prior of the defence of their thesis in front of a 7-men strong committee. The thesis had been evaluated by two reviewers.

Holding a candidate degree was a prerequisite for university readership. This degree has been obtained by 67 people out of the staff of the biology departments so far.

In 1949 this degree was also given to several senior members of the staff as a recognition of their earlier scientific work.

In 1995 the candidate degree was replaced by the Ph.D. degree.

The higher scientific degree given by the Academy is called **doctor of the science of biology** (D. Sc.).

The candidates have to submit a written thesis and they have defend it in front of a 7-men strong committee. The thesis had previously been evaluated by three

reviewers. Holding an academy doctor's degree has been a prerequisite for university professorship.

This degree was given to AMBRUS ÁBRAHÁM and LAJOS BARTUCZ as a recognition of their former scientific work. The following scientists received this degree after successful defence procedures (in alfabetical order): ATTILA BARANYI (1992), ISTVÁN BENEDECZKY (1981), LÁSZLÓ BOROSS (1973), LÁSZLÓ ERDEI (1989), GYULA L. FARKAS (1987), OTTÓ FEHÉR (Doctor of Medicine 1973), LAJOS FERENCZY (1980), LÁSZLÓ GALLÉ, Jr. (1997), JÁNOS GAUSZ (1995), PÁL GREGUSS (1956), KÁROLY GULYA (1994), IMRE HORVÁTH (1966), MIKLÓS KEDVES (1974), GÁBOR KOLOSVÁRY (1958), ENDRE LEHOCZKI (1995), PÁL LIPTÁK (1969), BÉLA MATKOVICS (1994), LÁSZLÓ MÓCZÁR (1960), JÁNOS NEMCSÓK (1994), LÁSZLÓ OROSZ (1983), GÁBOR PÁLFI (1972), ISTVÁN SZALAI (1958), MAGDOLNA SZENTE (1995), JÓZSEF TOLDI (1995), GÁBOR UHERKOVICH (1990), Mrs. BERTÉNYI MAGDOLNA VARGA (1970), FERENC ZSOLDOS (1983).

Out of the scientists belonging to the biology departments so far, 4 people have been given elected to be full member of the Academy, 2 people have been elected to be corresponding member of the Academy, 29 people have been given the D. Sc. degree and 67 have been given the candidate degree.

As the Ph.D. degree was introduced in 1993, there are only a few scientists holding this degree. Another change is the introduction of the habilitated degree, a professoral degree given by the universities. So far the following scientists have obtained this degree: LÁSZLÓ ERDEI, ÉVA FEKETE, LÁSZLÓ GALLÉ, JR., KÁROLY GULYA, SÁNDOR GULYÁS, KATALIN HALASY, MIKLÓS JUHÁSZ, KORNÉL KOVÁCS, ENDRE LEHOCZKI, PÉTER MARÓY, BÉLA MATKOVICS, JÁNOS NEMCSÓK, ÁRPÁD PÁRDUCZ, MAGDOLNA SZENTE, JÓZSEF TOLDI.

Those who had been given D. Sc. degree formerly, received their habilitated degree without the normal procedure.

PUBLICATIONS

The biology area has had several regular publications.

The first scientific periodical was established by JÓZSEF GELEI and ISTVÁN GYŐRFFY. **Acta Litterarum Scientiarum Regiae Universitatis Hungarica Francisco-Josephinae Acta Biologica** was published between 1924 and 1937.

The first 5 volumes of **Acta Universitatis Szegediensis**, edited by ISTVÁN GYŐRFFY, were published between 1928 and 1939. It was ISTVÁN GYŐRFFY, who established **Folia Cryptogamica** in 1924, too. Its first volume was published

between 1924 and 1933, whereas the second volume appeared between 1935 and 1939.

The **Year Book of the Alföld Scientific Institute** (Alföldi Tudományos Intézet Évkönyve) also belongs to the early publications. Its two volumes were published in 1946 and 1948, respectively. Its editor was LAJOS BARTUCZ who established the Alföld Scientific Institute. This publication published articles about the scientific results of South Hungary.

The first volume of the Year Book of the Institutes of the University of Szeged (**Annales Biologicae Universitatis Szegediensis**), edited by AMBRUS ÁBRAHÁM, was published in 1950. This volume published only articles in biological sciences.

Unfortunately, after publishing several volumes, all these publications were discontinued.

These publications were replaces by **Acta Universitatis Szegediensis, Acta Biologica Nova Series** in 1950. This periodical, which has been successful as it has been published until now (its 47th volume was published in 1997), contains articles only in foreign languages (mostly in English). Its editors-in chief has been AMBRUS ÁBRAHÁM (1950–1966), ISTVÁN SZALAI (1967–1974), PÁL LIPTÁK (1975–1980) and GYULA FARKAS (since 1981).

Although this periodical belons to all the biological departments, in the last decades it has been mainly interested in publishing articles in areas of non-molecular biology. In addition, it also contains reports on all the biology departments and covers the biographies of the leading scientists of the university.

Tiscia has been a periodical devoted to Tisza research, which publishes articles in English. Its first volume was published in 1965, and since 1979 it is considered as an international journal as it publishes articles of scientists from Romania, Ukraine and Yugoslavia, as well. Since 1991 it has been grown into a general journal of ecology. In 1996 its 30th volume was published. This periodical has been edited by GÁBOR KOLOSVÁRY (1965–1968), IMRE HORVÁTH (1969–1979), GYÖRGY BODROGKÖZY (1980–1990) and LÁSZLÓ GALLÉ, Jr. (since 1991).

Plant Cell Biology and Development is a scientific journal edited by MIKLÓS KEDVES since 1991. Its scope covers reports on analysis of fossilized pollens.

SCIENTIFIC SOCIETY

In 1952 the **Hungarian Biological Society** was established and in the same year its **Szeged Section** was founded. Later on its name was changed to Szeged Group. It aims at constituting a widespread forum for the biological investigations carried out in Szeged and at providing a means of presentation for young scientists. This

organization has been successfully working since its foundation and has so far held 346 sessions.

Its presidents have been so far: the zoologist AMBRUS ÁBRAHÁM (1952–1956, 1978–1985), the ornithologist PÉTER BERETZK (1957–1962), the plant physiologist ISTVÁN SZALAI (1968–1973), the biophysicist ANDRÁS GARAY (1973–1976), the biophysicist LÁSZLÓ SZALAY (1976–1978), the physiologist OTTÓ FEHÉR (1985–1990) and the anthropologist GYULA FARKAS (since 1991).

THE ROLE OF BIOLOGISTS IN THE LIFE OF THE UNIVERSITY

Heads of biology departments have always played an important leading role in the life of both the Faculty of Sciences and the University.

LAJOS BARTUCZ was a dean from 1943 until 1946. He was the deputy head of the financial committee between 1944 and 1946.

BÉLA FARKAS was the dean of the Faculty of Mathematics and Sciences in the 1942/43 academic year. Also, he was pro-dean in 1943–44.

JÓZSEF GELEI was dean in the 1929/30 and 1935/36 academic years, he was pro-dean in 1930/31 and in 1936/37, he was rector in 1937/38, he was pro-rector in 1934/35 and in 1938/39.

PÁL GREGUSS was dean in 1946/47, he was pro-dean in 1945/46 and 1947/48, he was rector in 1957/58.

KÁROLY GULYA has been deputy dean since 1997.

SÁNDOR GULYÁS was deputy dean between 1980 and 1983.

ISTVÁN GYŐRFFY was dean in 1924/25 and in 1934/35, he was pro-dean in 1925/26 and 1935/36, he was rector in 1929/30 and he was pro-rector in 1930/31.

FERENC KEVEI was deputy dean between 1984 and 1987.

IMRE MARÓTI was deputy dean between 1972 and 1974.

Mrs. SIROKMÁN ERZSÉBET KÖVES was deputy dean between 1974 and 1980.

LÁSZLÓ SZALAY was deputy rector between 1966 and 1969, he was dean between 1969 and 1972, he was deputy dean between 1956 and 1959.

JÓZSEF TOLDI was deputy dean between 1991 and 1996.

SCIENTIFIC CONFERENCES

In the following, a list of scientific conferences is given which have been organized by any of the biology departments or have been attended by their staff.

1976

Cell genetics in higher plants. An international training course. Organized by the Department of Microbiology, József Attila University. Szeged, 5–17 July, 1976.
7th Tisza-Research Conference. Szeged.

1977

8th Tisza-Research Conference. Szeged.
Hungarian–Polish Symposium on the Physical-Chemical Properties of Biomolecules and Biomolecular Complexes. Szeged, 23–27 May, 1977.

1978

9th Tisza-Research Conference. Szeged.
Actual Problems of Luminescence Research. Summer School on Luminescence. Szeged, 31 August–1 September, 1978.
3rd Conference on Luminescence. Szeged, 4–7 September, 1978.
14– Naucsno-Koordinacionnoje Szovescsanie i Szimpozium po Teme 1–18. Szeged.

1979

10th Tisza-Research Conference. Szeged, 20–21 April, 1979.
45th Congress of the Hungarian Society for Physiology. Organized by the Department of Comparative Physiology, József Attila University. Szeged, 6–8 September, 1979.
5th International Protoplast Symposium. Szeged, 9–14 July, 1979.
Biochemistry Rotary Meeting. Szeged, 22–25 August, 1979.

1980

11th Tisza-Research Conference. Szeged, 18–19 April, 1980.
Satellite Symposium of the 28th International Congress of Physiological Sciences. Szeged. Organized by the Department of Comparative Physiology, József Attila University, Szeged.

1981

Hungarian–Polish Symposium: Effect of Physical and Chemical Agents on Biomolecules. Organized by the Department of Biophysics, József Attila University. Szeged, 9–13 June, 1981.

11th Biophysics Rotary Meeting to commemorate the 20th anniversary of the Hungarian Biophysical Society. Szeged, 5–8 July, 1981.

UNESCO Training Course on Fungal Protoplast Fusion and its Applications. Szeged, 6–17 July, 1981.

12th Tisza-Research Conference. Szeged.

1982

1st Hungarian Plant Physiology Congress. Szeged, 7–9 July, 1982.

4th Luminescence Conference. Organized by the Department of Biophysics, József Attila University. Szeged, 24–27 August, 1982.

13th Tisza-Research Conference. Szeged.

1984

49th Conference of the Hungarian Physiological Society. Szeged, 5–7 July, 1984.

New Approaches in Liquid Chromatography. Szeged, 10–14 September, 1984.

15th Tisza-research Conference. Szeged

1985

2nd Hungarian Plant Physiology Congress. Szeged, 2–4 July, 1985.

5th Luminescence Conference. Szeged, 27–30 August, 1985.

16th Tisza-Research Conference, 6 December, 1985.

Congress of the Hungarian EEG Society. Organized by the Department of Comparative Physiology, József Attila University. Szeged.

1986

6th Congress of the Society of Hungarian Anatomists, Histologists and Embriologists. Szeged, 1–3 April, 1986.

17th Congress of the Hungarian Biological Society. Szeged, 26–28 August, 1986.

17th Tisza-Research Conference. Szeged, 11–12 December, 1986.

1987

10th Congress of the Hungarian Society of Microbiology. Szeged, 26–29 August, 1987.

1988

Anatomical Days. Organized by the Anatomical Sub-Committee of Botanical Committee of the Hungarian Academy of Sciences. Szeged, 29 August, 1988.

From Biotechnique to Biotechnology Conference. Szeged, 6–8 June, 1988.

3rd Hungarian Congress on Plant Physiology. Szeged, 5–7 July, 1988.

1989

3rd Oxygen Radical Conference. Szeged, 12–14 January, 1989.

15th Rotary Meeting of the Hungarian Biophysical Society. Szeged, 3–5 July, 1989.

8th Symposium of Socialist Countries on Antiviral Substances. Szeged, 2–22 August, 1989.

5th Hungarian Plant Anatomy Symposium and Greguss's Centenary. Organized by the Department of Botany, József Attila University, Szeged, and the Anatomical Sub-Committee of the Botanical Committee of the Hungarian Academy of Sciences. Szeged, 25–26 August, 1989.

3rd Congress of Biophysics. Organized by the European Society for Photobiology. Szeged, 27 August–2 September, 1989.

1990

Scientific Session to commemorate the Foundation of the Department of Anthropology of the József Attila University. Szeged, 1–3 October, 1990.

1991

4th Hungarian Congress on Plant Physiology. Szeged, 10–12 July, 1991.

1st Tempus Seminar at the Department of Plant Physiology. Szeged, 23–30 September, 1991.

1992

2nd Tempus Seminar at the Department of Plant Physiology. Szeged, 23–24 June, 1992.

Rules and Constraints of Community Assembly in Social Insects. Organized by the Department of Ecology, József Attila University. Szeged, 24–29 August, 1992.

Szeged Ecological Days and 23rd Tisza-Research Conference. Organized by the Department of Ecology, József Attila University. Szeged, 28–30 October, 1992.

1993

1st Symposium on Environmental Biochemistry. Szeged, 5–6 April, 1993.

3rd Tempus Seminar at the Department of Plant Physiology. Szeged, 28 June–2 July, 1993.

Szeged Ecological Days and 24th Tisza-Research Conference. Organized by the Department of Ecology, József Attila University. Szeged, 3–5 November, 1993.

Origin of Syphilis in Europe: Before or After 1493? Organized by the Centre Archéologique du Var (Toulon), the University of Provence (Aix-en-Provence) and the Department of Anthropology, József Attila University (Szeged). Toulon, 25–28 November, 1993.

1994

Teaching on Human Biology. Organized by the Laboratory of Anthropogenetics and Ecotechnique, Vrije University Brussel and the Department of Anthropology, József Attila University. Szeged, 24–25 June, 1994.

3rd Hungarian Congress on Ecology. Organized by the Ecological Committee of the Hungarian Academy of Sciences, The Ecology Section of the Hungarian Biological Society and the Department of Ecology, József Attila University. Szeged, 3–6 July, 1994.

Biostress'94–Bioexpo'96. Workshop on Plant Responses to Environmental Stress. Szeged, 11–12 July, 1994.

5th Hungarian Congress on Plant Physiology. Szeged, 13–15 July, 1994.

Scientific Meeting to commemorate the 100th Anniversary of the Birth of Professor Ambrus Ábrahám. Organized by the Department of Biochemistry. Szeged, 1 December, 1994.

1995

2nd International Conference of the Hungarian Biochemical Society. Organized by the Department of Biochemistry, József Attila University. Szeged, 20–23 August, 1995.

Szeged Ecological Days and 25th Tisza-Research Conference. Organized by the Department of Ecology, József Attila University. Szeged, 16–17 November, 1995.

Congress of the Hungarian Neurological Society. Organized by the Department of Comparative Physiology, József Attila University.

1996

International Orthodontic Congress. Organized by the Hungarian Orthodontic Society, the Committee of Dentistry and Oral Surgery of the Szeged Section of the Hungarian Academy of Sciences, the Department of Dentistry and Oral Surgery, Szent-Györgyi Albert Medical University, Szeged and the Department of Anthropology, József Attila University. Szeged, 5–8 September, 1996.

Hungarians of the Conquest Period — Hungarians of the Arpadian Age. On the occasion of the 1100th anniversary of the Hungarian Conquest. Organized by the Department of Anthropology, József Attila University and the Móra Ferenc Museum, Szeged. Szeged, 12–14 September, 1996.

1997

International Scientific Meeting "Anthropology of Past and Present Populations". On the occasion of the 65th birthday of Professor Gyula Farkas. Organized by the Department of Anthropology, József Attila University (Szeged), the Móra Ferenc Museum (Szeged), the Committee of Anthropology and Archaeology of the Szeged Section of the Hungarian Academy of Sciences and the European Anthropological Association (Brussels). Szeged, 21–22 March, 1997.

The Evolution and Palaeoepidemiology of Tuberculosis. International Congress. Organized by the Department of Anthropology, József Attila University (Szeged, Hungary), Department of Anthropology, Université de la Méditerraneé — UMR 6578 CNRS, Marseille (France), Department of Clinical Microbiology, Szent-Györgyi Albert Medical University (Szeged, Hungary). Szeged, 4–7 September, 1997.

5th International Protoplast Symposium. Organized by the Department of Microbiology, József Attila University, Szeged.

1998

Ecotechnique: Its Concepts and Perspectives — International Seminar. Organized by the Department of Ecology, József Attila University. Szeged, 12–14 March, 1998.

CREATED PLAQUES

LAJOS BARTUCZ memorial medal. Commemorative plaque created by the Council of the József Attila University on the occasion of the 100th anniversary of the birth of LAJOS BARTUCZ in 1987.

PÁL GREGUSS medallion. On the occasion of the 100th anniversary of the birth of Professor PÁL GREGUSS in 1989.

AMBRUS ÁBRAHÁM memorial medal. On the occasion of the 100th anniversary of the birth of Professor AMBRUS ÁBRAHÁM. Created by the József Attila University and the Biological Section of the Hungarian Academy of Sciences in 1993.

SUMMARY

In the preceeding sections we wanted to give an overwiew about the development, teaching and research activities of the biology institutes and departments of the József Attila University since 1921 up to now. This picture is far from complete. Interested readers are referred to university almanachs, department reports, curricula and university year books.

The teaching and research in biology can be summarized as having displayed a significant development since 1921. It has always been in close connection with the development of science, and the staff of the biology departments have successfully represented our university at scientific meetings held both in Hungary and abroad.

The early 1950s witnessed a significant change. The number of the staff teaching biology increased and young people became involved. Later on the replacement of teachers became more difficult due to new regulations. Formerly it had been possible to replace the poorly-performing teachers, but it has been impossible during the last decades. In the meantime the young teachers of the 1950s became old and many of them even died by the end of the 1990s. Now the university requires a new generation of young teachers who will need to adapt to the new requirements. This is a period of change, which has been supported by the senior teachers who have contributed significantly to the present day standard of our university. We are proud that our university have possessed members of the Academy, university professors and qualified experts. The young scientists should appreciate the successes and failures of the former generation in order to carry on the teaching activity at a higher level.

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APPENDIX

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