

Earth Sciences in Austria

Edited by
Austrian National Committee of Geology

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1. Introduction

Hans P. Schönlaub, Secretary General, ANCG

This brochure briefly summarizes Earth Science-related activities in Austria carried out by government supported institutions, the academia, and different scientific organisations and societies.

Since the days of Celtic and Roman settlements the Eastern Alps have been extensively mined in particular for iron, copper and salt. Although mining activities significantly diminished in the 20th century due to exhausted ores, research for hydrocarbon and other economic resources has still continued in various regions of the Alps and their foreland basins. Based on these early pre-scientific activities and new investigations started during the pioneering geologic phase in the early

19th century, knowledge on the spatial and temporal relationships of the highly diverse suite of rocks of the Alps has greatly expanded during the past decades. In fact, the introduction of sophisticated new methods and ideas has not only provided a whole set of additional basic data but also revolutionary new concepts for reconstructing the geologic history of the whole Alps.

Presently, geoscientific research in Austria is being primarily undertaken by the Geological Survey of Austria and by several Earth Science-related institutes at the universities of Vienna, Graz, Salzburg, Innsbruck, and Leoben. In addition, research institutions such as the Natural History Museum in Vienna, museums in other cities, and the Austrian Academy of Science provide essential data of both scientific and social-economic interest and value.

According to the "Forschungsbericht 1997" of the Ministry of Science and Transport in Austria the total federal government spending for R&TD including the contributions for international organisations were calculated at 15.5 Billion ATS for the year 1997. The expenses for Earth sciences including research into the oceans, the atmosphere and space are estimated at 5% of the total amount, i. e. 775 Million ATS or 56 MECU .

The Austrian National Committee for Geology invites those who are interested to obtain further informations about Earth Science related topics to contact one of the organizations and institutions listed in this brochure. The data included here have been compiled by representatives of the Austrian National Committee for Geology and from other persons and sources listed under the headings. Their contributions are gratefully acknowledged.

2. Austrian National Committee of Geology (ANCG)

Eckart Wallbrecher, Chairman and Hans P. Schönlaub, Secretary General ANCG

On the national scale Earth science related matters are represented by the Austrian National Committee of Geology which supports and strenghtens the advancement of the Earth sciences in Austria. Internationally, this body represents a network between Austrian geoscientific issues, the International Union of Geological Sciences (IUGS) and the International Geological Congress, respectively.

The Austrian National Committee of Geology consists of some 50 members who represent all of the Earth Science departments at University level, the Geological Survey, governmental institutions, scientific associations, Province Geologists, professional geologists, the oil and private raw material industries, the federal chamber of commerce, and other organisations related to geosciences. In addition, representatives of the Federal Ministries for Science and Transport, Economic Affairs, Foreign Affairs and Defence and the Austrian Science Foundation attend meetings as observers of the proceedings.

The executive committee of the ANCG consists of 5 persons, i. e. the director of the Geological Survey, the chairperson of the Austrian Geological Society, a representative of the Universities and two more members. The latter three persons are elected for a two-year term by the plenary session which is held twice a year. This committee votes the chairperson, the deputy chairperson and the secretary general. Depending on the decision of the plenary session working groups for different objectives may be established. The participation in the ANCG is considered as honorary, all members represent an ex-officio status.

3. Historical Review of State Supported Geologic Surveying in Austria

Tillfried Cernajsek, Geological Survey of Austria, Vienna

In the year 1748 Emperor Franz I, the husband of Empress Maria Theresia, bought the mineral collection of Ritter of Baillou of Florence. This acquisition formed the base of the so-called "Imperial Mineral Cabinet".

In 1763 the mining und Forest Academy of Schemnitz in Slovakia was founded (today named Banska Stiavnica and Selmechanya, respectively). In the same year Thadäus Peithner of Lichtenfels was appointed as professor of mining law and theoretical studies of minerals at the University of Vienna.

In 1775 the first scientific society was founded by Ignaz von Born, the chair of the Austrian masonic lodge, who also invented the amalgamation method.

Two years later Andreas Stütz published the first list of all mineral occurrences of Lower Austria.

In 1785 Karl Haidinger was distinguished with the gold medal of the Academy of Saint Petersburg for his systematic classification of mountain building strata.

In 1797 R. Townson published a report about his journey through Hungary supplemented by a geological map on which parts of eastern Austria are indicated.

In 1808 the Spanish nobleman Carlos de Gimbernat established a geognostic map with a section of the province of Tyrol.

In Austria a major step forward was achieved in the year 1811 with the foundation of the Museum Joanneum in Styria by Archduke Johann. The famous Friedrich Mohs took over the directorship and started a collection campaign of minerals and rocks which represented the base of the geological map of Styria.

In 1817 F. Mohs left the city of Graz to succeed Abraham G. Werner in Freiberg, Saxony. In Styria the compilation of rocks was continued by Mathias Joseph Anker and he compiled the first geologic map of Styria in the year 1830.

In 1822 C. Keferstein published the geognostic map of Germany showing also parts of the Alps and a special map of Tyrol.

In the following year 1823 Paul Partsch was charged by the assembly of the estates of Lower Austria to establish a geologic map of the Province of Lower Austria. Twenty years later the northern part was finished.

In 1833 Anton Ritter Spaun, the district magistrate, suggested the foundation of a geological survey for Upper Austria.

In 1835 Prince August Login Lobkowitz ordered the introduction of a collection of minerals to the imperial cabinet for mining and coinage. Friedrich Mohs became head of the Mining Museum ("Montanistisches Museum") and directed it until the year 1839. He was succeeded by Wilhelm Haidinger in 1840.

In 1836 and 1840 the geognostic-montanistic societies of Tyrol, Vorarlberg and Inner Austria, respectively, were founded.

In 1847 the geologic map by Morlot showing the surroundings of the cities of Leoben and Judenburg (Styria) at the scale 1: 144,000 was printed at the expense of the "Friends of Natural Sciences of Vienna". In the same year the General Geologic Map of the Austrian Empire compiled by Wilhelm Haidinger and Franz Hauer was published.

During this year the Imperial Academy of Sciences of Austria was founded. At the beginning its participation in geologic mapping was also discussed.

In Austria the year 1848 was characterized by a revolution between the insurgent bourgeois guards and the imperial troops which also affected Palais Rasumofsky (for example one can still see preserved and protected the entrance point of a bullet shot into the mirror of the working room of Count Rasumofsky by a Croatian soldier on Oct. 31, 1848).

In the following year on November 15, 1849 the Geological Survey of Austria was founded in the former Mining Museum at Heumarkt, Vienna. Wilhelm Haidinger became its first director. "Provisionally", the survey moved into its present home at Palais Rasumofsky in 1851.

Around the year 1850 Sir Roderic Impey Murchison visited the Alps repeatedly and concluded for the first time that the Western and Eastern Alps were geologically related and developed simultaneously.

In 1857 Eduard Suess took over the first chair of geology at the University of Vienna.

In 1860 the proposed amalgamation of the Geological Survey (for financial reasons) with the Academy of Sciences was successfully prevented.

In 1869 in the Kingdom of Hungary an independent Geological Survey was

established.

On August 10, 1889 various museum collections were united into the newly founded Natural History Museum by Emperor Franz Josef I.

In 1891 the first Special Geologic Map at the scale 1:75,000 was printed. This series was continued until 1950 when the first map at the scale 1:50,000 was published.

During the 20th century the Geological Survey changed its name several times and in 1939 became part of the German "Reichsamts für Bodenforschung". This lasted until 1945 when it was reconstituted and again named "Geologische Bundesanstalt" (GBA). The main accomplishments during this period were the publication of several geological maps at the scale 1:75,000, and particularly the exemplary general map at the scale 1:500,000 of H. Vetter in 1933, which finally were followed by the map series at the scale 1:50,000 and the new general map 1:1 Million by P. Beck-Mannagetta in 1961. A major re-organization took place during the year 1977. The Survey's present activities are based on these recommendations and on those outlined by the National Law of Research of 1981.

4. Geological Survey of Austria (GSA-GBA)

Hans P. Schönlaub, Geological Survey of Austria; Vienna

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Tel. (431)712 56 74-0; Fax (431)712 56 74-56
Email: webmaster@cc.geolba.ac.at
<http://www.geolba.ac.at>

The Geological Survey of Austria, founded on November 15, 1849, represents the geo-management of the public sector of Austria. It is a governmental organization affiliated to the Federal Ministry of Science and Transport. Its activities are based on the National Law of Research of 1981. The Survey's performance is biannually evaluated by the Governmental Board and the Scientific Board. Presently, its staff comprises 45 scientists with university degree and 40 non-scientists.

According to its mandate, the Survey undertakes the following core programmes:

- geoscientific mapping of the Austrian territory at various scales
- complementary mission oriented R&TD
- collection and storage of unique types of rocks, minerals and fossils
- monitoring the environment
- administration and management of the most comprehensive geoscientific library of Austria
- maintainance of related databanks and voluminous archives of maps and unpublished reports collected over the past 150 years
- source of advice and information to the government, local authorities,

industry and the public in general in Earth Science related issues.

Traditional and applied tasks include such topics as:

- assessment and sustainable development of raw materials and industrial minerals
- water management
- natural hazard mitigation
- feasibility studies for major civil engineering projects
- contamination and waste disposal studies
- nature conservation and land use planning
- global change programmes.

The Geological Survey functions as the national centre for geoscientific information and research for Austria. It cooperates extensively with other national and international research and development institutions. One of its major concerns is promotion and presentation of all related geoscientific results and data. To achieve this aim as wide an audience as possible is addressed through media, periodical journals, popular scientific brochures, maps and other articles in the public interests. All relevant data are either available in numerical form or increasingly, also digitally as computer printouts.

5. Geosciences at Austrian Universities

Wolfram Richter, Institute of Petrology, University of Vienna

Basic and applied Earth Sciences related academic research and lecturing is undertaken by the institutes and departments of Austrian universities listed below. This list does not include research in geophysics which traditionally at Austrian universities is linked with meteorology and thus belongs to the physics section. The latter regards the Universities of Vienna, Graz, Leoben and Innsbruck, and the Academy of Science-Commission on Geophysics..

Based on a recent ANCG Working Group Questionnaire about the status of Earth Sciences at the University level Table 1 summarizes the main areas of activities.

Research at Austrian Universities is conducted through national and international projects which are funded by different sources including funds from the Universities, the Austrian National Committee for IGCP and other UNESCO-sponsored programmes, the Austrian Science Foundation (FWF), the European Science Foundation (ESF) and different EU programmes. The scope of activities ranges from "traditional" geoscientific tasks such as regional geology studies to stable isotope geochemistry, planetary and impact-related research topics carried out on a national basis, and to a growing extent also at international scale and partnership.

University of Graz ("Graz 1")

Institute of Geology & Palaeontology
Heinrichstraße 26, A-8010 Graz

Tel (0043)316/380-55 80
Fax (0043)316/380-98 70

Technical University of Graz ("Graz 2")

Institute of Technical Geology & Applied Mineralogy
Rechbauerstraße 12, A-8010 Graz

Tel (0043)316/873-0
Fax (0043)316/81 04 53

University of Graz ("Graz 3")

Institute of Mineralogy, Petrography and Crystallography
Universitäts-Platz 2, A-8010 Graz

Tel (0043)316/380-5540
Fax (0043)316/38 60 93

University of Innsbruck ("Innsbruck 1")

Institute of Geology & Palaeontology
Innrain 52, A-6020 Innsbruck

Tel (0043)512/507-55 81
Fax (0043)512/507-29 14
<http://geopal.uibk.ac.at>

University of Innsbruck ("Innsbruck 2")

Institute of Mineralogy & Petrology
Innrain 52, A-6020 Innsbruck

Tel (0043)512/507-55 01
Fax (0043)512/507-29 26

University of Leoben ("Leoben 1")

Department of Geological Sciences
Division of Geology & Economic Geology
Franz-Josef-Straße 18, A-8700 Leoben

Tel (0043)38 42/402-787
Fax (0043)38 42/402-9902
Email: geologie@unileoben.ac.at

University of Leoben ("Leoben 2")

Department of Geological Sciences
Division of Mineralogy & Petrology
Franz-Josef-Straße 18, A-8700 Leoben

Tel (0043)38 42/402-451
Fax (0043)38 42-47016
Email: mineral@unileoben.ac.at

University of Leoben

Department of Geological Sciences
Division of Prospecting & Applied Sedimentology
Franz-Josef-Straße 18, A-8700 Leoben

Tel (0043)3842/402-241
Fax (0043)38 42/402-640
Email: sedigeo@unileoben.ac.at

University of Leoben

Department of Geological Sciences
Division of Environmental Studies
and Economics of Environment
Franz-Josef-Straße 18, A-8700 Leoben

Tel (0043)3842/402-850
Fax (0043)38 42/402-856
Email: oekosys@unileoben.ac.at

University of Salzburg ("Salzburg 1")

Institute of Geology & Palaeontology
Hellbrunner Straße 34, A-5020 Salzburg

Tel (0043)662/8044-54 00
Fax (0043)662/8044-

621

University of Salzburg ("Salzburg 2")

Institute of Mineralogy
Hellbrunner Straße 34, A-5020 Salzburg

Tel (0043)662/80 44-5421
Fax (0043)662/80 44-

622

University of Vienna ("Vienna 1")

Institute of Geology
Althanstraße 14, A-1090 Vienna

Tel (431)313 36-19 20
Fax (431)313 36-782
<http://univie.ac.at/geologie>

University of Vienna ("Vienna 2")

Institute of Palaeontology & Palaeobiology
Althanstraße 14, A-1090 Vienna

Tel (431)313 36-97 23
Fax (431)313 36-784

University of Vienna ("Vienna 3")

Institute of Mineralogy & Crystallography
18 25
Althanstraße 14, A-1090 Vienna

Tel (431)313 36-
Fax (431)313 36-783

University of Vienna ("Vienna 4")

Institute of Petrology
Althanstraße 14, A-1090 Vienna

Tel (431)313 36-91 30
Fax (431)313 36-785

Technical University of Vienna ("Vienna 5")

Institute of Engineering Geology
Karlsplatz 13, A-1040 Vienna

Tel (431)588 01-30 77
Fax (431)504 42 35

Technical University of Vienna

Institute of Mineralogy, Crystallography and
Structural Chemistry
Getreidemarkt 9, 1060 Vienna

Tel (431)588 01-47 49
Fax (431)586 81 36

University of Agricultural Sciences Vienna ("Vienna 6")

Institute of Applied Geology
Peter Jordan-Straße 70, A-1190 Vienna

Tel (431)476 54-54 01
Fax (431)476 54-5449
<http://www.boku.ac.at>

University of Vienna ("Vienna 7")

Institute of Geochemistry
Althanstraße 14, A-1090 Vienna

Tel (431)313 36-17 25
Fax (431)313 36-781

6. Austrian Academy of Sciences

Address: Ignaz-Seipel-Platz 2, A-1010 Vienna.
Tel (431) 51581-0; Fax (431) 513 95 41

<http://www.oeaw.ac.at>

The Austrian Academy of Sciences, founded in 1847 as the Imperial Academy of Sciences, is a learned society much akin to many of the other great scholarly Academies in Europe. At the same time it is the leading non-university institution in Austria conducting basic research. Many important scholars both from Austria and abroad are members of the Academy (as full members, correspondent members or honorary members).

At the head of the Academy is a committee composed of four scholars elected from among the full members. However, the actual course which the Academy follows is decided at the general assembly and the assemblies of the two principal departments (the Section for Mathematics and the Natural Sciences and the Section for the Humanities and the Social Sciences), whose members meet once a month. At these meetings the various programmes for research are presented for approval, although they also provide an opportunity for scholarly discussion.

The research work itself is currently being conducted at 19 institutes, five research units and some 50 research commissions all over Austria.

Furthermore, the Academy administers numerous national and international research programmes, such as Man and the Biosphere (MAB) or Space Research - one of the projects in the latter field being a collaboration with the countries of the Community of Independent States (CIS). Some of the Academy's research establishments work closely with leading international institutions, e.g. CERN in Geneva. The Academy is also currently seeking to participate in the research programmes of the EU.

Agreements with some 22 countries provide opportunities for scholars to participate in foreign research projects on an exchange basis.

The Academy also runs its own publishing company, most of its publications being in the field of the humanities and social sciences, although it does also publish books on mathematics and the natural sciences. Scholarly publications are exchanged with kindred institutions all over the world..

The Austrian Academy of Sciences at present employs about 600 people for research and administration purposes.

(Article taken from the brochure of the Austrian Academy of Sciences, Vienna 1994)

Commission for Palaeontological and Stratigraphic Research of Austria

Helmut W. Flügel, Austrian Academy of Science

Address: Postgasse 7, A-1010 Wien

Tel (431) 515 81-0; Email H_fluegel@mail.styria.co.at (helmut fluegel)

The tasks of the Commission are threefold:

(1) Editing of the series "Catalogus Fossilium Austriae" which involves documentation, revision and databank management of all fossils which have been recognized in Austria. So far 22 volumes have been published comprising some 12,000 datafiles.

(2) Establishment of the database "oetyp" for storage of information on all fossil types housed in different museums and collections of Austria. Presently some 32,000 files can be searched on the following Web address: <http://www.oeaw.ac.at/~oetyp/palint.htm>.

(3) Establishment of the database "Litstrat" which comprises and evaluates all lithostratigraphic units including their type sections in Austria.

Commission for Fundamental Research on Mineralogical Raw Materials

Josef Zemann, Austrian Academy of Sciences

Address: Postgasse 7, A-1010 Vienna.
Tel (431) 51581-452, Fax (431) 51581-453

The Commission is engaged in research on mineralogical raw materials and their occurrences. One important practical aspect is to contribute to the knowledge of such occurrences, mainly in the territory of Austria. The Commission proposes and sponsors work in the field, supports activities of its members as well as of external specialists, and organizes symposia. At present, the main topics of activity concern ore deposits and ore occurrences in the Eastern Alps, and research on zeolites.

Commission on Quaternary Research

Gernot Rabeder, Institute of Palaeontology and Palaeobiology, University of Vienna

Address: University of Vienna, Geozentrum, Althanstraße 14, A-1090 Vienna
Tel (431)313 36-97 23; Fax (431)313 36-784

The central focus of the commission is the research of the Late Pleistocene and Early Holocene in Middle and Southern Europe. Chronological, geological, palaeontological and prehistoric aspects and events are evaluated and discussed.

The present issue of research is the palaeoclimatology of the Würm cycle in the Eastern Alps. Another important topic is the coordination and collaboration with related fields of science such as geology, palaeontology, botany, zoology, limnology, physiogeography, speleology and archaeology.

7. Vienna Museum of Natural History

Address: Burgring 7, A-1014 Vienna.

Department of Geology & Palaeontology

Heinz A. Kollmann, Natural History Museum, Vienna

Tel (431) 52177-259; Fax (431) 52177-459
http://www.nhm.-wien.ac.at/nhm/geolog/Homepage_GA_G.html

Founded in 1748, the Museum of Natural History houses one of the major palaeontological collections in the world with an estimated number of 3,2 Million specimens. Although the collection contains fossils from all over the world its emphasis lies on central and southeast Europe. One of the major tasks is to develop and maintain this collection which is used every year by a large number of researchers from all over the world.

A library of 22,000 monographs and 670 journals is specialized on palaeontology and biostratigraphy. Six Earth scientists with a strong background in palaeontology are permanent members of the staff. Essential for the work is a well-equipped laboratory in which preparation, restoration and mounting of specimens for exhibition is carried out by technicians. Research is concentrated on Mesozoic and Cenozoic fossil assemblages. Fields of research are systematics, biostratigraphy, palaeoecology, palaeobiogeography and palaeogeography on an international scale. Most work is done within the frame of national and international cooperation (e.g., IGCP). Equally important is the provision of material and its scientific background for exhibitions. Furthermore, all members are active in the mediation of Earth Science to the public.

Department of Mineralogy

Gero Kurat, Natural History Museum Vienna

Tel (431) 52177-263
Fax (431) 52177-

The Mineralogical Department of the Natural History Museum in Vienna celebrates its 250th anniversary in the year 1998. It was founded by Franz I (Emperor from 1745 - 1765), the husband of Empress Maria Theresia. In 1748 he purchased the collection of Johann von Baillou of Florence which mainly contained minerals, fossils and shells. Due to the personal interest of Franz I in the collection it grew quickly. After his death, the collection was made public and continued to expand. Famous scientists have worked in the collection since then and contributed to its present richness: Ignaz von Born, Carl von Schreibers, Gustav Tschermak von Seysenegg and many others. The collections were transferred into the new building on the Ringstraße about 100 years ago from the Emperor's Hofburg. It is still housed here and its treasures, minerals, gems, rocks and meteorites, are displayed in five halls (Saal I - V).

Department of Karst and Cave Science

Karl Mais, Natural History Museum Vienna

Tel (431) 523 04 18/15
Fax (431) 523 04 18/19
Email speleo.austria@netway.at

The main task of the Department of Karst and Cave Science is the collection, administration and management of all materials and information related to different aspects of this interdisciplinary topic. In fact, it represents the Austrian centre for speleological documentation. In addition, it carries out research including field work with regard to Karst hydrogeology, cave climatology, ice dynamics of caves, and speleotherapy. The results are disseminated through contacts with related national and international societies, organisations and working groups, e.g., VdHkf e.V., IAH, UIS, IGU, IGCP.

The Department was founded in 1979 and named "Institute for Cave Research" succeeding the Department for the Protection of Natural Caves at the Office for Monuments and Sites of Austria (Bundesdenkmalamt). It took over the major part of the historically important collections of the Speleological Institute founded in 1924.

The Department has its own comprehensive library which includes reports and publications from the Austrian Association of Cave Investigators. In addition various material is stored such as field samples, audiovisual media, maps, literary remains and other documents about the history of caves. PR work, training, school and public education for the protection of caves and regions affected by Karst are further tasks of the Department.

8. Geotechnical Institute (Österreichisches Forschungs- und Prüfzentrum Arsenal GesmbH)

Diets Sauer, Geotechnical Institute, A-1030 Vienna

Address: Faradaygasse 3, P. O. Box 8, A-1030 Vienna
Tel (431) 79 747/496; Fax (431) 79 747/592; Email
Sauer@email.arsenal.ac.at

The Geotechnical Institute is part of the Arsenal Ges.m.b.H. (= a Company Limited by Guarantee Status), a company 100% State owned. The Geotechnical Institute is mainly concerned with environmental issues such as Earth-water-air-related problems. To address these issues organic, inorganic and phase-analytical techniques are applied which are preceded by modern dry and wet preparatory

methods. For the analytical measurements a whole set of modern facilities is used ranging from ICP-MS, ICP-OES, AAS, photometry, classical techniques, LOI, X-ray, XRF, UV-vis spectroscopy, calorimetry, gas-chromatography, Fourier-transform infrared spectroscopy, ion chromatography, microelement analysis to high resolution liquid chromatography and others.

In addition to the indoor activities field work is carried out to collect samples and perform in-situ analysis. For evaluation of mineral raw materials, the quantification of pollution and the quality of water, additional analytical techniques are applied including the application of helium, carbon, oxygen, nitrogen and strontium isotope measurements.

In order to evaluate groundwater flows and related parameters, the divisions for hydrogeology, applied geophysics and waste disposal sites perform the flow direction, the apparent groundwater flow velocity and the interstitial velocity by means of radiohydrometric methods or other methods to identify geological barriers. Optionally, also borehole-logging, geoelectrics and geomagnetism is applied. Geomechanical and geotechnical problems are addressed by use of applied techniques for road construction and tunneling.

10. Austrian Geological Society

Hans Egger & Thomas Hofmann, Geological Survey of Austria

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Email oegg@cc.geolba.ac.at

The Austrian Geological Society (AGS), established in 1907, is a non-profit organisation whose objective is to advance the science of geology, especially the geology of the Austrian Alps and the surrounding areas. AGS is a national society with three regional sections and eight specialised divisions. Membership is open to anyone with an interest in Earth sciences and presently stands at more than 700 members and student members, 150 of them from outside Austria. The annual fee for Austrians is ATS 400.-, for people from outside Austria ATS 460.-.

The annual journal named "Mitteilungen der Österreichischen Geologischen Gesellschaft" is free to all members and is used also for publication exchange with 150 institutions and societies worldwide. Additionally AGS publishes a newsletter twice a year which informs members about newsworthy geological events and developments in Austria and adjacent countries. Details of upcoming field trips and meetings are also given. AGS usually conducts two field trips a year with published field guidebooks.

AGS is affiliated to AAPG and was the host society for the 1997 AAPG International

Conference & Exhibition in Vienna which was the largest AAPG meeting (1956 participants) outside the U. S. to date. Currently, AGS is organizing its next meeting with a joint-venture with the Carpathian-Balkan-Geological Association. For this event approx. 500 participants are expected in August 1998 in Vienna.

Executive Board 1997 - 1998

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11. Austrian Palaeontological Society (ÖPG)

Heinz A. Kollmann, Natural History Museum, Vienna

Address: c/o Institut für Paläontologie, Universität, Geozentrum, Althanstraße 14,
A-1090 Vienna; Tel. (431) 313 36-97 21; Fax (431) 313 36-784

Founded in 1966 this national society aims to disseminate knowledge in the field of palaeontology and to support communication between scientists and private collectors. The society does not publish its own journal. However, it purchases and distributes journals or books which match the goals of its members.

Some 50 professional palaeontologists are currently working in Austria, the majority living in Vienna. Outside the federal capital palaeontology as a public service only exists at a few places. The palaeontologists aim is to record temporary outcrops according to scientific standards and to provide scientific support to all those who are interested in palaeontology yet do not have an adequate training in the science.

In Austria, palaeontological research is carried out by the following institutions:

University of Vienna, Institute of Geology, Institute of Palaeontology
University of Innsbruck, Institute of Geology and Palaeontology, Institute of
Zoology
University of Salzburg, Institute of Geology and Palaeontology
University of Leoben, Department of Geological Sciences
Geological Survey of Austria, Vienna, Department of Palaeontology
Vienna Museum of Natural History, Department of Geology and
Palaeontology
Upper Austrian Landesmuseum, Linz
Styrian Landesmuseum Joanneum, Graz
Carinthian Landesmuseum, Klagenfurt
Krahuletz Museum, Eggenburg, Lower Austria
Naturschau Vorarlberg , Dornbirn.

For further information on collections and scientific journals dealing with palaeontology in Austria the reader is referred to the contributions by KOLLMANN, H. A. in: *Europal* vol. 1, p.15, 1992: Palaeontological Activities in Europe, Austria; vol. 2, p.23-24, 1992: Association Activities and Palaeontological Collections, Austria; vol. 5, 21-23, 1994: Palaeontological Journals, Austria.

12. The Austrian Mineralogical Society

Friedrich Koller, Institute of Petrology, University of Vienna

Address: c/o Natural History Museum, Department of Mineralogy and Petrography,

Burgring 7, P. O. Box 417, A-1014 Vienna.

Tel (431) 52 177 567

Fax (431) 52 177 264

<http://www.univie.ac.at/Mineralogie/Oemg.htm>

The Austrian Mineralogical Society founded in 1901 aims to disseminate the science of mineralogy. Its first president was Gustav Tschermak who was succeeded by Friedrich Becke. The primary objective of the society has always been the support of sciences related to crystallography, mineralogy, petrology and geochemistry in Austria. Presently the society has some 340 members representing scientists, institutions and private mineral collectors. The society nominates Honorary Members and grants the Becke Medal named after the famous mineralogist Friedrich Becke (1855-1931) as well as the Felix-Machatschki-Award.

13. Austrian Society for Geomechanics

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The principal aim of the Society is the scientific research of the properties of soils and rocks and their behaviour under any stress conditions.

The Society supports the exchange of experiences in the field of planning and execution of constructions in soils and rocks between exponents of construction companies or contractors, scientific institutions, engineering consultants, the clients and the governmental agencies.

The Society supports the optimisation of projects in soils and rocks to achieve secure, money saving constructions with low environmental impact.

The Society elaborates and publishes codes, rules, procedures and other publications which are in the context of planning and execution of buildings in soils and rocks.

The Society is divided into four sections: (1) Rock Mechanics and - Construction; (2) Soil Mechanics and - Construction; (3) Underground Construction; (4) Engineering Geology and Hydrogeology.

The section of Engineering and Hydrogeology is being formed at the moment. This section will address the Earth scientists practicing in the fields of applied geology and will be embedded in the Geomechanical Society as well as in the Austrian Geological Society. The section shall (1) coordinate and execute scientific research; (2) publish the relevant results of the research; (3) coordinate scientific presentations, meetings, excursions and courses; (4) co-organize the yearly Geomechanical Colloquium in Salzburg; (5) exchange experiences with foreign colleagues and collaborate in international associations and working groups.

14. Association of Independent Austrian Geologists

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The association was founded in 1983 and is a union of freelance geologists. It represents, firstly, the interests of a small occupational group and helps to

consolidate professional principles as well as technical objectives.

The association consists of an executive body of five and has, in total, just over 30 members who either run an office in Austria themselves, or work as a geologist in a geological office. Membership is spread across all the regions (Bundesländer) and the members meet at least once a year at the Annual General Meeting. In the time between these meetings specialist excursions take place, working groups meet and information is exchanged through correspondence.

The professional authorities represented in the association consist of two groups, namely, "Technical Offices" and "Civil Engineers", which only differ slightly in their field of activities.

Among the main tasks of the association at the moment is, above all, to intensify the cooperation and exchange of information between independent geologists and University Natural Science institutes, central and regional geological services and umbrella organizations such as "The Geological Society" and "The National Committee for Geology".

15. International Relations and Cooperation

Hans P. Schönlaub & Harald Lobitzer, Geological Survey of Austria

International aspects of geoscientific research have a long tradition in Austria. Already during the Austrian-Hungarian Monarchy Earth scientists - including mining experts - contributed significantly to the geologic knowledge of remote and unexplored regions on all continents. Yet, any review and evaluation of the contributions of Austrian Earth scientists towards better knowledge of the geology in certain areas of the world is missing. In fact, most of the early fundamental geoscientific accomplishments by Austrian naturalists are still consigned to oblivion, even to the contemporary Austrian geoscientific community. For example, as early as in the late 18th and early 19th century pioneering geognostic studies of various areas of South America were carried out by Thaddäus Haenke, Virgil von Helmreichen and Johann Emanuel Pohl; Joseph Russegger, another Austrian, compiled one of the earliest printed geological map series of Egypt already in the 1840s, a fact not even mentioned in special bibliographies!

On the other hand, several expeditions of the Austrian-Hungarian Navy (k.u.k. Kriegsmarine) achieved an international reputation. In particular, the global cruise of the frigate "Novara" from 1857 to 1859 has never been forgotten. It was joined by Ferdinand v. Hochstetter, a geologist from the Geological Survey, to St. Paul, the Nicobar Islands and New Zealand. He left the "Novara" in New Zealand and subsequently carried out fundamental geologic research including mapping on these islands.

During the "Austrian-Hungarian North Pole-Expedition" (1872 - 1874) the two Austrian commanders of the polar vessel "Admiral Tegetthoff", Lt. Carl Weyprecht and Lt. Julius Payer, both officers of the Austrian army and natural scientists,

discovered Franz-Josefs-Land, Arctic Russia, now a study area of Austrian geoscientists. On his return it was Lt. Carl Wepyprecht who developed new ideas for polar research and initiated the First International Polar Year 1882/83.

Already in the last century the Alpine-type mountain chains of Asia attracted Austrian geologists. The studies by Emil Tietze (1873-75) and his co-workers in Iran have to be mentioned; in the Himalayas Austrian staff members of the Geological Survey of India contributed substantially towards a better understanding of tectonics and stratigraphy (e. g., Ferdinand Stoliczka since 1862, Ludolf Griesbach - who became Superintendent of the Indian Geological Survey); around the turn of the century, Carl Diener, Edmund von Mojsisovics, Alexander Bittner, Wilhelm Waagen (Salt Range) and several other Austrian geoscientists laid the foundations for the Mesozoic stratigraphy of the "roof of the world". Even a mountain chain in South Australia was named after Wilhelm Haidinger, the founding director of the Imperial Austrian Geological Survey.

Another forgotten figure is Richard von Drasche-Wartinberg a wealthy nobleman and staff member of the Geological Survey who sponsored very successful expeditions "for only geological purposes". For example, he investigated the island of Spitzbergen in 1873 and carried out volcanological studies on the islands of Réunion, Mauritius, Luzon (Philippines) and in Japan (1875/76). Cornelio Doelter, professor of mineralogy at Graz University, published monographic papers on the volcanic rocks of Cap Verde Islands (1882, 1884). Last but not least, the first geological traverse of the Saharan Desert from Morocco to the Senegal in 1879/80 by Oskar Lenz, also a staff member of the Geological Survey of Austria, deserves mention.

In the years 1873 and 1903, respectively, in Austria two major events addressed Earth science related issues: the first was the World Exhibition in Vienna during which the building and ornamental stone industry of Central Europe displayed their products; the remaining samples are still stored in the Survey's collection. The second was the organisation of the 7th International Geological Congress which was attended by scientists from many countries who discussed, among other things, the newly introduced nappe concept for the whole Alpine region. Previously, Eduard Suess the famous professor of geology at the University of Vienna, had first recognized the allochthonous nature of the whole Alps and described comprehensively the global geology in his "Face of the Earth" in 1885.

In the first half of the 20th century Earth scientists from Austria made widely recognized contributions in different fields of basic and applied geosciences, e.g., Alfred Wegener a native German teaching at Graz University, who much later was regarded as the forerunner of the plate theory; Otto Ampferer, one of the directors of the Geological Survey who invented the concept of subduction processes; Julius Pia and Othenio Abel, the two famous palaeontologists; Friedrich Becke and Gustav Tschermak, the two famous mineralogists; Josef Stini from the Technical University in Vienna and Leopold Müller from Salzburg, a private consultant both well known in engineering geology and geomechanics; and Bruno Sander from Innsbruck University, one of the pioneers of structural geology and carbonate sedimentology.

As early as 1960 a bilateral governmental Agreement between the Republic of Austria and the Republic of Czechoslovakia regarding cooperation in Earth Sciences was signed which only recently was confirmed by the succeeding independent states of the Czech Republic and Slovakia. Both parties agreed to exchange geoscientific data of the border region and to cooperate in relevant issues including support of regular visits of experts between the involved institutions from the neighbouring states. In 1968, a similar agreement was reached between the Central Office of Geology of Hungary and the Geological Survey of Austria. So far all three agreements have been very successful resulting not only in numerous co-authored publications of geoscientific interest between the involved institutions but also providing fundamental new data for the geology of the neighbouring states as a whole. In the subsequent years the bilateral cooperation was further expanded to include also Germany and Slovenia.

In fact, Austria's historical role of bridging Western and Eastern Europe has always functioned even during the times of the Cold War: Besides numerous individual relations there were still official contacts between the member states of the Carpathian-Balkan Geological Association (CBGA) and later through the Central European Initiative (CEI). Moreover, in the early 1990s representatives from Austria suggested to broaden the former group of Western European Geological Surveys (WEGS) to include also Geological Surveys from the East. Finally, in 1997 this informal organisation comprised geological surveys from 35 independent states!

Since the formation of EuroGeoSurveys in 1996, the Association of the 15 Geological Surveys of the EC member countries, the Geological Survey of Austria has access to a comprehensive databank of Earth Science related data from Western Europe. In addition, the liaison function of the bureau at Bruxelles between EuroGeoSurveys and the different Directorate Generals of the EC and the exchange of expertise is significantly enhanced. In the long term national geological surveys will greatly benefit from this new association.

During the last decades international cooperation has been further promoted by various national and global institutions offering financial support for application of specific geoscientific projects such as the Austrian Science Foundation (FWF), the National Committees for the International Geologic Correlation Program (IGCP) and the International Decade for Natural Disaster Reduction (IDNDR), the European Science Foundation (ESF/Europrobe), the 4th EC-Framework Programme and others. In addition, many Earth scientists from Austria have not only been involved in such international programmes in different regions of the world but have also repeatedly invited the international scientific community to attend symposia and meetings held in Austria. In conclusion, the Austrian geoscientific community has not only fully recognized the benefits of international research but also its new challenges.