The international workshop on the "History Speech Communication Research" is the first one of this kind organised by the Special Interest Group (SIG) on "The History of Speech Communication Sciences". This SIG is supported by the International Phonetic Association (IPA) and the International Speech Communication Association (ISCA). This workshop which will be a unique exchange forum for researchers with work on all kind of historical aspects of the research fields represented at the Interspeech conferences and the Congresses of Phonetic Sciences (ICPhS).

This first workshop is a satellite event of Interspeech 2015 which immediately takes place after the workshop in Dresden. In this context we have also the honour to support the main conference on their website with a selection of short journalistic contributions as a historical review on a monthly basis.

Integrated in the workshop is the re-opening of the historical acoustic-phonetic collection (HAPS) in new rooms. This event is preceded by the invited opening lecture by John Ohala (University of Berkeley) on "A brief history of Experimental Phonetics in the 18th and 19th centuries". With the Barkhausen building on the first day of the workshop and the technical collections of the city of Dresden in the historical Ernemann building on day two of the workshop we have also appropriate locations for our meeting.

The contributions for this workshop contain various topics on the field: from "mechanical speech synthesis" over "collections" up to "pioneering work in phonetics". The more than dozen contributions collected in these proceedings give an encouraging signal that shows that historical aspects in our research communities can represent more than a special session at a conference. We hope that the first workshop on the "History of Speech Communication Research" will have second and more follow-up events.

Rüdiger Hoffmann and Jürgen Trouvain

Dresden and Saarbrücken, July 2015

The Collections of the TU Dresden – Places for Teaching and Research

Greeting of the Director of the Kustodie

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As one of the oldest institutions of technical education in Germany, the TU Dresden can look back at a long tradition of technical training and research. Since the founding of the university in 1828, models, instruments and other scientific objects have been collected and used for educational purposes. These objects were mostly bought, or self-produced, to train students, to be used as illustrative examples for lectures or for research purposes in various different fields, and they have been integral, important tools for propagating the understanding of science. Today the TU Dresden possesses about 40 collections. According to the specific demands of a technical university, most of them originated in the technical disciplines or the natural sciences, but there is also a substantial art collection with about 3500 works of art. Objects in university collections are still considered a source of knowledge, and some of them have only recently been rediscovered as a resource for teaching and research. Over time, as disciplinary practices have developed, certain objects or even entire collections have moved away from their original purpose and become primarily objects of historical and cultural value. As such, they remain important material witnesses to the development of specific scientific disciplines and are inextricably tied to the history of the university.

The Kustodie at the Technical University was established in 1979 as a department dedicated to the preservation of not just these objects but university history as a whole, and soon after its founding, it formulated the first university policy concerning the stewardship of the collections. The main task of the Kustodie is to preserve the scientific and cultural heritage of the university and to provide the necessary infrastructure so that the collections can be used in research, teaching and as cultural symbols of the university as it has grown over the course of its nearly two century-long history. As an independent administrative unit of the university, the Kustodie provides support to the institutes and faculties that hold collections, by setting forth long-term objectives for the conceptual shaping of the collections and offering assistance to curators in the management and digitalization of artifacts according to museum standards. Furthermore, the Kustodie oversees the "ALTANAGalerie, University Collections Art plus Science", an exhibition space in the galleries of the Görges-Bau, the Electrotechnical Institute. The conceptual focus of the biannual exhibitions held in this space is the link between science and artistic practices. The exhibitions also attempt to function as an interface between the ways the material collections have been used to produce knowledge in the past and the ways they may be used in the future.

The Historic Acoustic-Phonetic Collection (HAPS) at the Institute of Acoustics and Speech Communication is one of the most outstanding and best-preserved collections of the Technical University. The fate of most university collections is determined by the interest of the caretaking institutions and chairs, for they are put to best use within their original academic field and under the care of dedicated professionals. For many years now, the HAPS has been under the guardianship of Professor Rüdiger Hoffmann, which is a very fortunate

circumstance for our university and all professionals interested in the history of phonetics and speech synthesis. As a true expert in the field, he was able, together with Professor Dieter Mehnert, to build a collection unrivaled in Europe, which covers the material basis of the field of speech synthesis, speech recognition and experimental phonetics. It is also thanks to Professor Hoffmann that we can celebrate the reopening of the collection at a new location. The HAPS is of great interest not only to scholars but also to the general public; the collection is engaged in a variety of public activities, such as conferences, exhibitions, guided tours and open campus days. In addition to this volume, there have been already three publications dealing with the collection and related historical research topics. Moreover, there will be a lengthy, illustrated article by Professor Hoffmann in our second anthology about the scientific and art collections of the TU Dresden, which will also be published in September of this year. The new rooms will support a variety of activities as well as provide the space for special research and structured collection management. Although he retired last year, Professor Hoffmann has agreed to remain the caretaker of the collection, and we are very grateful for his past and future commitment to the HAPS collection and to the TU Dresden. And as it seems that in Professor Peter Birkholz, he has already found a young successor with an interest in the collection as a historic treasure, a means for teaching and a material basis for new projects.

Over the past few years, university collections have gained more attention on both the national and international level. While the situation of many collections can be improved with regard to their lack of resources and professional staff, university collections are being recognized anew for their value to the scientific community as a resource with unlimited potential for research. In 2010, the first German conference on university collections took place in Berlin and has since become an important annual event for collection professionals. The National Coordination Centre for University Collections, funded by the Federal Ministry of Education and Research, was set up only two years later. And finally, the Society of University Collections was established the same year and now functions as the co-organizer of the annual conference. This process of self-organization has given important impetus for the universities to recognize the value of their collections but also has had an impact on a political level. Since 2010, several governmental funding lines have been established to support university collections and their on-going contributions to the production of knowledge. This year, the technical universities in Freiberg and Dresden have united to co-host the national conference for university collections in order to showcase the specific nature and diversity of collections that emerged from a tradition of technical training within polytechnical schools. The Historic Acoustic-Phonetic Collection will be, among others, part of the visiting tour of our collections during this event.
As the HAPS shows, university collections are not only the material foundation of our academic cultural heritage but are also central agents for education and research, which need to be preserved for future generations. With this mission in mind we look forward to a continued partnership and new projects with this outstanding collection.

The Electrical and Computer Engineering Department at TU Dresden – Long-standing Home of Acoustics

Greeting of the Department's Vice Dean

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For more than a century acoustics has been playing an important role in the profile of the engineering sciences at the Technische Universität Dresden. It started already in the year 1905 when Heinrich Barkhausen (1881 – 1956) was appointed to the then Technische Hochschule Dresden as an Associate Professor (außerordentlicher Professor) for Electrical Metrology, Telegraphy and Telephony (with particular emphasis on theoretical fundamentals) as well as for Theory of Electric Lines. As one of the very first in Germany he established an Institute for Light-current Engineering (Schwachstromtechnik) what in current language would be named Institute for Information Technology. In the beginning, this Institute was located in the building of the Institute of Electrical Engineering what today the Görges Building is.

Besides his interest in light-current engineering Barkhausen had also already strong ties to acoustics. This can be seen by his doctoral thesis „The problem of creating oscillations with particular consideration of fast electrical oscillations (Das Problem der Schwingungserzeugung mit besonderer Berücksichtigung schneller elektrischer Schwingungen)" for which he had been awarded the doctoral degree in 1906 at the Georg-August University in Göttingen. Already in his first year after being appointed to the Technische Hochschule Dresden, Barkhausen gave lectures in the fields of electrical and mechanical oscillations as well as on electro-acustical transducers like telephone earphones and microphones. In 1924 he (with G. Lewicki) co-authored an article titled „The responsivity of the ear with respect to non-sinusoidal tones (Die Empfindlichkeit des Ohres für nichtsinusförmige Töne" in Physikalische Zeitschrift. In 1925 he applied for a patent where he proposed a novel device for measuring loudness (German Reichspatent 445415, granted on June 10, 1927).

After World War II, one of Barkhausen's students, Walter Reichardt (1903 – 1985), carried forward the field of acoustics at TH Dresden. Reichardt had studied electrical engineering in Dresden and had earned his doctoral degree in 1930 with a thesis titled „Degenerate sinusoidal oscillations (Entartungen sinusförmiger Schwingungen)". In 1948 he got a teaching assignment for electroacoustics and built up a laboratory of the same name at TH Dresden. Two years later, he was appointed to Full Professor for Electro and Architectural Acoustics and director of the TH's Institute of Electro and Architectural Acoustics. Already in 1952 he published a textbook "Principles of Electroacoustics (Grundlagen der Elektroakustik)" which has been the German standard textbook in this field for many years. Walther Reichardt contributed intensively in the field of analogy relationships between electrical, mechanical and acoustic quantities what allows to generalize electro-mechano-acoustic systems by generalized networks and to apply the well-known principles of system theory. Worth to mention is that Walter Reichardt also has designed the room acoustics for Dresden's world-famous Semper

Opera. I myself have strong memories when in 1984 the Semper Opera was acoustically evaluated and Walter Reichardt was a member of one of the evaluation groups.

A third wave of development in acoustics at the Technische Universität Dresden started when the next generation of Professors was appointed in the 1970th years:

- Wolfgang Kraak's (1923- 2015) fields of research were room acoustics, hearing aid acoustics and noise suppression.
- Walter Wöhle (born 1928) worked in the areas of technical acoustics, solid-borne sound, and noise reduction.
- Arno Lenk's (born 1930) work focused on electro-mechanical systems, transducers and measurement technology.
- Walter Tscheschner (1927 – 2004) and later on Rüdiger Hoffmann (born 1948) established speech communication as the bridge between acoustics and the up-coming communication technologies. Almost 15 years later speech communication turned much closer to system theory when the denomination of Rüdiger Hoffmann's professorship became "System Theory and Speech Communication".

By the list of these subject areas, it can be seen that at that time acoustics was at its climax with respect to number of professors, scientists, and importance within the scientific field both nationally and in Europe. Acoustics in Dresden was denoted as the "Dresden School of Acoustics".

After the reunification of Germany in 1990 and the corresponding reorganization of the university landscape in Saxony, the Institute for Technical Acoustics was revived. It comprised four full professorships: for Technical Acustics (Walter Wöhle, Detlev Hamann), Electro-mechanical Systems (Arno Lenk), Speech Communication (Walter Tscheschner, Rüdiger Hoffmann), and Electronic Measurement Technology (Uwe Frühauf, joined in 1993 the Institute for Principles in Electrical Engineering and Electronics). However, very shortly after that, it became clear that this high breadth of acoustical research could not be kept, neither by the number of professorships nor by the number of scientists funded by the University.

Nevertheless, acoustics remained and still remains an important scientific field at the ECE Department of TU Dresden. After the retirement of Professor Walter Wöhle in 1993, Peter Költzsch (born 1938) was appointed to Full Professor for Technical Acoustics. He previously held a Professorship for Fluid Mechanics at the TU Bergakademie Freiberg. In 2001 Dr. rer. nat. et Dr.-Ing. habil Elfgard Kühnicke became lecturer at a newly established Lectureship for Ultrasound. Later on, she joined the Solid-State Electronics Laboratory. The Professorship for Technical Acoustics was rededicated to a Professorship for Communication Acoustics, where, since many years, Dr.-Ing. habil. Ercan Altinsoy has been in charge.

After the retirement of Professor Rüdiger Hoffmann, the dedication of his Professorship for System Theory and Speech Communication was broadened towards "Cognitive Systems" showing that acoustics is still a very dynamic field with many different and fast-growing aspects. Since 1994, Junior-Professor Peter Birkholz has been the new faculty for this field.

This short history of acoustics at the Electrical and Computer Engineering department shows that it has faced several ups and downs. However, acoustics was always and is still a decisive part of the scientific spectrum of the Department, or with other words, the Department was a long-standing and still is a reliable home for acoustical research. In that sense, we consider the collection of historical phonetic devices as a very valuable coronation of the long-standing

development of acoustics in Dresden. We have to thank both Professor Rüdiger Hoffmann and Professor Dieter Mehnert, until 1996 Professor for Phonetics at the Humboldt University of Berlin, that they have made it possible to bring together this collection of historical phonetic devices descending from very diverse institutions from all over Germany. Otherwise, it was a piece of luck that the reconstruction of parts of the Barkhausen Building provided the chance to give the historic collection a new home with an even more beautiful environment. For that reason: Congratulations for and welcome at the new exhibition rooms!

Reference

A much more detailed description oft he development of acoustical resaerch at the TU dresden can be found in P. Költzsch: Zur Entwicklung des Fachgebietes Technische Akustik und des akustischen Instituts an der Technischen Hochschule / Technischen Universität Dresden in den Zeitläuften des 20. Jahrhunderts. Festschrift zum Ehrenkolloquium REICHARDT – KRAAK – WÖHLE, 4. Juli 2003, Technische Universität Dresden.