

# Happy 100<sup>th</sup> Birthday Per Brüel

Dr. techn. and Dr. h.c. Per Brüel, born on 6 March 1915.

Dr. Per Brüel was introduced to the science that later became his, by Prof. P. O. Pedersen in 1929, when given the book "Teknikkens Vidunderland" (The wonders of technics), edited by Vilhelm Marstrand. Per Brüel's family wanted him to become a forester, but they were softened by P. O. Pedersen's article in the book. Per Brüel was instead allowed to become a blacksmith apprentice with the advice to stay with civil engineering and railroads, since electronics and radio communication would bear no future. Fortunately, he is not the most obedient character, and excelled for the decades to come within electronics, acoustics, vibration, communication, aviation, and more. In 1939 he was drafted to the army and constructed the acoustic analyzer with constant percentage bandwidth.

In the autumn 1943 in the middle of WW II, he left Denmark, just one year after having founded Brüel & Kjær together with Dr. Viggo Kjær. In Sweden he contacted Billesholm, which worked with the development of sound absorbers. There Melchior Wernstedt, professor in architecture at Chalmers in Gothenburg, got into contact with Per Brüel and asked him to come to Chalmers and assist with the build-up of an acoustical laboratory in the basement of the new buildings for Architectural and Civil Engineering. This laboratory was partly financed by Götaverken shipyard.

At Chalmers Per Brüel met Uno Ingård, who recently passed away in the USA after many successful years as professor at MIT and who graduated at Chalmers in 1944. Uno Ingård became head of the acoustic activities at Chalmers when Per Brüel returned to Denmark in 1947, bringing with him one of the most famous future B&K products, namely the logarithmic level recorder which was developed during his time at Chalmers, and became world famous for several decades.



*Per Brüel 1987*

On 21 March 1945 at the age of 30 Per Brüel was one of the 9 founding fathers of the Swedish Acoustical Society. Actually one more of these founding fathers was of Danish origin, Ove Brandt, special teacher in building acoustics at the Royal Institute of Technology (KTH).

On 13 January 1955, Dr. Per Brüel was naturally among the 6 founding fathers when the Danish Acoustical Society was established. Dr. Brüel is a honorary member of both the Danish and the Swedish Acoustical Societies.

After his return to Denmark, Per Brüel was also actively involved in the acoustic life of Sweden. In 1967 he was one of the opponents when Tor Kihlman became the first Swedish doctor in building acoustics. The other opponent was Wilhelm Jordan, also from Denmark. A few years

later, when KTH got its first professor in Technical Acoustics, Göran Gadefeldt, Per Brüel was one of the expert panel members. In 1980 he was awarded an honorary doctorate at Chalmers.



*Founders of Brüel & Kjær in the factory in Nærum, 1958. Per Brüel standing in the middle, Viggo Kjær standing to the right.*

Dr. Per Brüel is nevertheless most widely known for his achievements in the company that he founded with Dr. Viggo Kjær in 1942. The company grew to become an internationally leading company within its field, and was in 1980 named the most solid company in Denmark. The founders maintained ownership until 1992, when it was sold, and the two founders retired from the company. Per Brüel's entrepreneurship survived the change, and he was among other things awarded ½ million DKK in a regional innovation competition in North Jutland in 2009 (at the age of 94).

Dr. Per Brüel has in his entire career remained an active scientist, presenting original ideas and work at the most respectable acoustic conferences. He has received several honorary awards, incl. Lord Rayleigh's Goldmedal (London, 1974), Tissander Diplome (Paris, 1981), Silvermedals from the Audio Engineering Society (1982), the Acoustical Society of America (1982), the Danish Design Guild (1978). He was given the Doctor of Science in Copenhagen in 1945, and honorary doctoral degrees at Chalmers Univ. of Technology (1980), Bologna Univ. (1989), Dresden Univ. (1991), Shenyang Univ. (1990), Prag Univ. (1991), Tongji Univ. Shanghai (1991), Krakow Univ. (1992), Salford Univ. (1991).

Privately, Per Brüel enjoys a passion for motorcycles, cars, airplanes and gliders. He has a total of 8992 flying hours, and was licensed to fly until 1998 (at age 83). He has served as a representative of the Danish aviators (motor-driven) in the Danish Federation for Sports, and was the vice-president of Federation of Aeronautique, Paris (1967-91). He enjoyed many other appointments of confidence, incl. member of the Council to the Danish National Bank (1972-87), and member of the Board of Appeal for the Danish Environment Tribunal (1974-85). As a person, Per Brüel is intelligent, has a great sense of humor, and has enjoyed a riveting appetite for life through many life-changing events.

*With best regards from the Nordic Acoustics Association, 2 February 2015*

Hans Bodén, President of Nordic Acoustics Association (NAA, founded 19 June 1954)

Tapio Lokki, Suomen Akustinen Seura (ASF, founded 30 November 1943)

Hans Jonasson, Svenska Akustiska Sällskapet (SAS, founded 21 March 1945)

Birgit Rasmussen, Dansk Akustisk Selskab (DAS, founded 13 January 1955)

Elin Rasten, Norsk Akustisk Selskap (NAS, founded 28 March 1955)

Ólafur Daníelsson, Icelandic Acoustic Association (IAA, founded 11 September 2006)