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THE 24 FOUNDING FATHERS

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EMIL WIECHERT

Pioneer of earthquake research & director of the Wiechert Earthquake Observatory

Emil Johann Wiechert was born in Tilsit in East Prussia on December 26, 1861. After the early death of his father, the family moved to Königsberg, where Wiechert attended a secondary school. After graduating from school, he began studying physics at the Albertus University in Königsberg in 1881 under Paul Volkmann, whose assistant he became later. In 1889 he received his doctorate with a thesis on elastic after-effects, followed by his habilitation a year later. From 1890, Emil Wiechert then worked as a private lecturer. In the following years, an important focus of his research activity was the investigation of the Earth's structure. Wiechert was the first to hypothesize that the earth has an iron core. He also conducted experiments with cathode rays. Thus he found out that these consist of flowing particles and in 1897 he succeeded in determining the correct mass/charge ratio of these particles. In the same year he began working at the University of Göttingen, and in 1898 he received a chair of geophysics. One of his main tasks in the next few years was to set up a geophysical institute. This included an earthquake observatory house built into the limestone rock on the nearby Hainberg and facilities for observing air electricity and geomagnetism, as well as a geophysical observatory on Samoa in the South Seas. The Wiechert earthquake observatory in Göttingen was put into regular service in 1903 and is still in operation today and can be visited by interested visitors.

In research and teaching, Emil Wiechert focused on seismology from then on. From about 1898, for example, he developed seismic measuring instruments, such as the Wiechert seismograph built in 1902. And the seismogram analysis methods developed by Wiechert enabled his student Karl Zoeppritz to derive traveltime curves that provided insights into the structure of the earth's body, and Beno Gutenberg succeeded in determining the depth of the earth's core.

From the 1920s onwards, Emil Wiechert, inspired by his close collaboration with Ludger Mintrop, became increasingly involved in applied seismics and the generation of artificial vibrations. In 1922, he applied for the establishment of a department of applied seismics for his institute in Göttingen. Although the university did not grant his request, he always emphasized to other seismologists the importance and great potential of using artificial vibrations for research. In the same year he also co-founded the German Seismological Society, the later DGG, and became its first president.

Emil Wiechert died after a serious illness on March 19, 1928 at the age of 66 and was buried at the Stadtfriedhof in Göttingen.

DGG PRO – Public Relations & Outreach, Hannover

Modified after **Schweitzer J. & Ritter J.R.R. (2012)**: Emil Wiechert (1861 – 1928), DGG Mitt. 1/2012, 27-30; **Jacobs F. & Börngen M. (2019)**: Wiechert, Mintrop & Co. – Die 24 Gründungsväter der Deutschen Geophysikalischen Gesellschaft. Verlag EAGLE.