

The shoulders on which we stand



125 Jahre Technische Universität Berlin

[[Contents](#) | [previous page](#) | [next page](#)]



August Wöhler (1819-1914)

With the development of the railways, the conventional theoretical basis of engineering was shown to be lacking. The disciplines of materials research and materials testing emerged to bridge the divide between the user and the producer, and one of the pioneers in the field was August Wöhler.

Wöhler was born on 22 June 1819 in Soltau, the son of a teacher. He had a striking facility in mathematics, and entered the Höhere Gewerbeschule (later the TH) in Hanover in 1835 with an annual scholarship of 100 thalers. The students were required to work in the workshop all day, and this laid the basis for his later development of simple and efficient testing instruments.



Wöhler left the Gewerbeschule with excellent marks and he won a travelling scholarship of 100 thalers, which enabled him to go to Berlin. He worked with August Borsig (1804-1854) in the period 1841-43, then with the Kgl. Hannoversche Eisenbahn and then in 1847 he became Obermaschinenmeister in the Niederschlesisch-Märkische railway in Frankfurt/Oder. When these were taken over by Prussia, Wöhler stayed on, becoming Royal Prussian Obermaschinenmeister in 1854, and he remained working for the state until 1869, when he became director of the Norddeutsche Aktiengesellschaft für Eisenbahnbedarf in Berlin. In 1874 he moved to Straßburg (Strasbourg, France) to take up the post of railway director and member of the Generaldirektion der Reichseisenbahnen. He retired in 1889 and died in Hanover on 21 March 1914.

From 1852 Wöhler was a member of a ministerial commission, and as such was instrumental in several advances: the development of ways of measuring continuous fatigue in order to determine general construction principles for the building of locomotives and wagons, the design of rail profiles, axes, tyres and brakes, as well as bridge construction. As a member of the Technical Committee of the Verein Deutscher Eisenbahnverwaltungen, he was in favour of introducing state-approved classifications for steel and iron and he also called for the foundation of facilities for materials testing and testing equipment. He took part in teaching the theoretical and practical training of testing methods, but he left the practicalities of carrying them out to his assistant. With the construction of equipment for testing fatigue, Wöhler broke new ground in terms of methodology and testing technology, and it had a significant impact on modes of thought in the technical disciplines.

At first, his experiments at Frankfurt had little resonance in specialist circles, but in 1870 the Berliner Gewerbeakademie was instructed to continue Wöhler's experiments with the original equipment. This may be regarded as the birth of the Mechanisch-technische Versuchsanstalt, which in turn became the Preußische Materialprüfungsamt and eventually the Bundesanstalt für Materialprüfung - which today has become the Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing).

Wöhler's field of interest remained restricted to railways, but it did not take long for materials research and materials testing to find their way into all aspects of technical activity. In 1901 Wöhler was one of the first people to be awarded an honorary doctorate from the TH Berlin, which had just been granted the right to confer degrees.

Lit.: R. Blaum: August Wöhler, in: Beiträge zur Geschichte der Technik und Industrie 8 (1918), p. 34-55; Walter Ruske: August Wöhler (1819-1914); Zur 150 Wiederkehr seines Geburtstages, in: Materialprüfung 11 (1969), p. 181-188; Walter Ruske: 100 Jahre Materialprüfung in Berlin, Berlin 1971.

[M. E.]

[[Contents](#) | [previous page](#) | [next page](#)]

[Prospective Students](#) | [Students](#) | [Scientists](#) | [Business](#) | [Media](#) | [Staff](#) | [Alumni](#)
[About the TU Berlin](#) | [Faculties](#) | [Organisation](#) | [Studying](#) | [Research](#) | [International Affairs](#) |
[Service](#) | [Search](#)
[Press Office](#) | [Feedback](#) | [Contact](#) | 17.09.2004

