

# GENEALOGY DATABASE ENTRY

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Nernst, Hermann Walther

1864 - 1941

DEGREE: PhD (physics)

DATE: 1887

PLACE: Würzburg

TEACHER/RESEARCH ADVISOR: Kohlrausch

Nobel Prize in 1920 for chemical thermodynamics, esp. for discovery of Third Law of Thermodynamics; discovered Nernst equation relating electrochemical potential to concentration; devised methods to measure dielectric constants, heat capacities at low temperatures, vapor densities and equilibrium constants at high pressures, degree of ionic hydration, and pH by indicators; first to propose that solvents with high dielectric constants should promote ionization; first to propose the hydrogen electrode as a standard for electrode potentials; developed the theory of boiling point elevation by volatile solutes and the theory of heterogeneous reaction rates; developed idea of solubility products and buffer solutions; explained mechanism of photo-induced radical chain reactions; invented the Nernst lamp; recognized existence of the hydride ion.

FOOTNOTE: Nernst was Ostwald's assistant in Leipzig after finishing his PhD studies in physics with Kohlrausch. Nernst learned his physical chemistry with Ostwald.

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