



Hans Christian Oersted

1777-1851

Electromagnetism was discovered in the spring of 1820 by the Danish physicist Hans Christian Oersted when, during a lecture to an advanced group of students, he demonstrated that the needle of a compass moved when placed near a current-carrying wire. By July of that year, he was certain that an electric current produced about it a circular magnetic field, and he published his results in a short paper, written in Latin, and carried by the major scientific journals of Europe.

Oersted was born in the town of Rudkøbing, on the Danish island of Langeland, the elder son of an apothecary, Søren Christian Oersted. Because of family problems, Hans and his younger brother were placed with a German wigmaker while they were still young boys. The brothers' intellectual abilities and extraordinary thirst for knowledge were soon apparent to the townspeople, who did what they could to educate them. In 1794 the brothers, with no prior formal education, were accepted by the University of Copenhagen, where Hans studied astronomy, chemistry, mathematics, physics, and pharmacy. He completed his training in pharmacy in 1797 and two years later received his doctorate in philosophy. After a brief stint as a pharmacist, he was attracted to the world of science, which was in ferment at the time over Volta's discovery of the electric battery. Between 1800 and 1820, he was a university teacher, researcher, publisher, and one of the most sought-after lecturers of his day.

Oersted's great discovery had an enormous impact on the scientific world. More than a hundred scientists published their comments and researches on electromagnetism within seven years of the discovery, and Oersted was showered with honors and awards. The Royal Society of London gave him the Copley Medal, and the French Academy awarded him a prize of 3000 gold francs. For the rest of his life, he was a recognized leader in science, and in his honor the *oersted* was chosen as the standard cgs unit of magnetic field intensity.

(Source: D. Johnson, J. Johnson and J. Hilborn, *Electric Circuit Analysis*, Prentice-Hall, 1989)