International Mathematical Union
Press Information
30 April 2002

GAUSS PRIZE

NEW PRIZE IN SCIENCE PROMOTES MATHEMATICS AS A KEY TECHNOLOGY

Mathematics is an important and ancient discipline—no one doubts that. However, it seems that only the experts know that mathematics is a driving force behind many modern technologies. The *Gauss Prize* has been created to help the rest of the world realize this fundamental fact. The prize is to honor scientists whose mathematical research has had an impact outside mathematics – either in technology, in business, or simply in people's everyday lives.

The Gauss Prize is awarded jointly by the *Deutsche Mathematiker-Vereinigung (DMV = German Mathematical Union)* and the *International Mathematical Union (IMU)*, and administered by the DMV. The prize consists of a medal and a monetary award (currently valued at EUR 10,000). The source of the prize is the surplus from the *International Congress of Mathematicians (ICM'98)* held in Berlin.

The official announcement of the establishment of the prize takes place on 30 April 2002, the 225th anniversary of the birth of Carl Friedrich Gauss, after whom the award is named. The prize is to be awarded every four years, at the *International Congress of Mathematicians*, with the first award to be presented at the Congress in 2006. The laureates will be chosen by a jury selected by the IMU.

Carl Friedrich Gauss (1777-1855) was one of the greatest mathematicians of all time. He combined scientific theory and practice like no other before him, or since, and even as a young man Gauss made extraordinary contributions to mathematics. His *Disquisitiones arithmeticae*, published in 1801, stands to this day as a true masterpiece of scientific investigation. In the same year, Gauss gained fame in wider circles for his prediction, using very few observations, of when and where the asteroid *Ceres* would next appear. The method of least squares, developed by Gauss as an aid in his mapping of the state of Hannover, is still an indispensable tool for analyzing data. His sextant is pictured on the last series of German 10-Mark notes, honoring his considerable contributions to surveying. There, one also finds a bell curve, which is the graphical representation of the Gaussian normal distribution in probability. Together with Wilhelm Weber, Gauss invented the first electric telegraph. In recognition of his contributions to the theory of electromagnetism, the international unit of magnetic induction is the **gauss**.

The IMU has been awarding the Fields Medals – generally considered as the "Nobel Prize for mathematics" – for fundamental contributions to mathematics since 1936 and the Nevanlinna Prize for outstanding work in the filelds of theoretical computer science since 1982. The Nevanlinna Prize and up to four Fields Medals are awarded every four years at the opening of ceremony of the International Congress of Mathematicians. The Gauss Prize will be awarded in the same manner.

With the Gauss Prize, the IMU is broadening the range of its awards, now including the influence of mathematics to other disciplines. The award ceremony will include an overview of the achievements of the prize-winner. The presentation of the mathematical work will be addressed to the general public as well as journalists, so that all may appreciate the importance of mathematics for everyday life.

The statutes of the Gauss Prize can be found at URL:
http://www.mathematik.uni-bielefeld.de/DMV/Gauss/

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The International Mathematical Union (IMU) is an international non-governmental and non-profit making scientific organization, with the purpose of promoting international cooperation in mathematics. It is a member of the International Council for Science (ICSU).

The Deutsche Mathematiker-Vereinigung (DMV) is the German National Mathematical Society. Its goal is to promote mathematics and its applications.

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