



CELEBRATING WOMEN IN MATHEMATICS

SOFIA VASILYEVNA KOVALEVSKAYA

1850-1891, Russia - In 1869 Sofia traveled to Heidelberg to study mathematics and the natural sciences, only to discover that women could not matriculate at the university. Eventually she persuaded the university authorities to allow her to attend lectures unofficially, provided that she obtained the permission of each of her lecturers.



In 1871 Kovalevskaya moved to Berlin to study with Karl Theodor Wilhelm Weierstrass. Despite the efforts of Weierstrass and his colleagues the senate refused to permit her to attend courses at the university. Ironically this actually helped her since over the next four years Weierstrass tutored her privately.

By the spring of 1874, Kovalevskaya had completed three papers. Weierstrass deemed each of these worthy of a doctorate. The three papers were on Partial differential equations, Abelian integrals and Saturn's Rings.

In 1874 Kovalevskaya was granted her doctorate, *summa cum laude*, from Göttingen University.

In 1886, she was awarded the Prix Bordin for her paper *Mémoire sur un cas particulier du problème de la rotation d'un corps pesant autour d'un point fixe, où l'intégration s'effectue à l'aide des fonctions ultraelliptiques du temps*. In recognition of the brilliance of this work the prize money was raised from 3,000 to 5,000 francs.

Kovalevskaya's further research on this subject won a prize from the Swedish Academy of Sciences in 1889, and in the same year, on the initiative of Chebyshev, Kovalevskaya was elected a corresponding member of the Imperial Academy of Sciences.

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