

# The Hilbert's Nineteenth Problem

Disson dos Prazeres\*

In 1900 on the International Congress of Mathematicians in Paris, the young, but very famous, mathematician David Hilbert proposed 23 problems that, to him, would guide the mathematics during the XX century. Among them, the nineteenth problem asked about the nature of the minimums of the Calculus of Variations. Although be a problem that can be written in no more that two lines and that requires only basic knowledge in calculus to understand it, would need 57 years and a huge mathematics development to find a solution. Curiously in the 3 years after the first solution appeared 2 others, independently with totally distinct techniques.

In this conference we will talk about the history of the Hilbert's nineteenth problem, the needed progress to solve it and of the unexpected dispute between 3 mathematicians, the Italian Ennio DeGiorgi, the American John Nash and the German Jurger Moser, to know who would solve this important, beautiful and very hard mathematical challenge.

---

\*CMM-Universidad de Chile