Summary in English

Helge Holden, *Peter D. Lax. Abel prize winner 2005* (Norwegian).
The author describes the work of this year's Abel Laureate, Peter D. Lax, from the Courant Institute of Mathematical Sciences, New York University. Lax has given deep and penetrating contributions to several areas of mathematical analysis, both pure and applied. The focus of this article is on his contributions to the theory of hyperbolic conservation laws and to the theory of soliton equations.

Regarding conservation laws, Lax proved the first general existence theorem for a system of conservation laws with Riemann initial data, and he introduced important numerical methods for these equations. His seminal results are a vital ingredient of all subsequent work in the area.

In the theory of solitons, Lax introduced what is now called the Lax pair for the Korteweg–de Vries equation, an equation that describes a class of surface waves on water. This was the starting point for an incredible development for all types of soliton equations, such as the Boussinesq equation, the Kadomtsev–Petviashvili equation, and the sine-Gordon equation.

A modified version of the article in English can be found at the web site `www.abelprisen.no`, where one also can find computer simulations of some of the results described in this article. In addition one can find an interview with Peter Lax. A Spanish translation of a modified version appeared in *Boletin del departemento de matemáticas, Universidad Nacional Autonoma de Mexico*, no. 167–8, 2005, and *Matematicalia*, see `www.matematicalia.net`.

Ülo Lumiste, Helmut Piirimäe, *Sven Dimberg, an introductor of Newton's Principia into the University of Tartu in the 1690s, part 1.* Translation by Jaak Peetre and Staffan Rodhe with annotations (Swedish).
This is the first part of three dealing with Sven Dimberg, a Swedish professor of mathematics in Tartu, Estonia, in the 1690s. He is supposed to have introduced Newton's *Principia* in the curricula of the university.

The article has set its aim as 1) describing Sven Dimberg's life and work on the basis of possibly ample source material, and 2) trying to clarify when and to what extent Newton's theory was really taught at the university.

The first part tells about Dimberg's studies in Uppsala with Professor Billberg as a supervisor, his travel abroad and his stay in Turku, Finland, as a university lecturer. He was in Turku for one year in 1689/1690, during which he presided for just one gradual examination. The thesis, certainly written by Dimberg himself, was a mathematical discussion of loan and interest. Here sums of sequences and series are treated for the first time in Turku.

The annotations by the translators provide new material for understanding the possibility that Dimberg was a pioneer of teaching Newton's *Principia*. They also give new information about Dimberg's biography and discuss his benefactors, among them members of the noble families De la Gardie, Oxenstierna and Gyllengrip.

Giorgio T. Bagni, *Mathematics education and historical references: Guido Grandi's infinite series* (English).