The Newton problem

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In his Principia Mathematica Newton wrote "Si globus cylindrus qualibus diametris descripti, in medium rare ex particulis qualibus ad quales ab invicem distantias libera dispositis constante, secundum plagam axis cylindri, quali cum velocitate moveantur: erit resistanta globi duplo minor quam resistanta cylindri...". This sentence coincides with the beginning of the Newton famous problem that is, the search for the profile of a solid body which has the least resistance to motion which represents one of the first problems of the calculus of variations. The purpose of this seminar is a historical journey to identify an answer to the problem of Newton through the theory of fluids and partial differential equations of fluid dynamics.