



IN MEMORY OF LUDWIG FADDEEV

Ludwig Faddeev was one of the founders of modern mathematical physics. He had close ties to our department with several of his collaborators and former students based in Geneva. This series of talks will present some of Faddeev's major contributions at the edge between mathematics and physics.

Anton Alekseev (UniGe)

Some words about Ludwig Faddeev

Speakers: **Pavel Safronov (UniGE)**
 Andrey Bytsko (UniGE)
 Gian Michele Graf (ETHZ)
 Rinat Kashaev (UniGE)

Pavel Safronov (UniGE)

Title : Faddeev-Popov ghosts

Abstract :

Correlation functions in quantum field theory are computed via a path integral over an infinite-dimensional manifold. In gauge theories this manifold is given as a quotient of a vector space by an action of the gauge group, so a direct computation of the path integral is problematic. Faddeev and Popov have developed a method of dealing with gauge invariance in the path integral by introducing auxiliary fields nowadays known as the Faddeev--Popov ghosts. I will explain what they are in some toy examples and mention some modern developments such as the BRST formalism.

Wednesday, March 22, 2017, 14:30, Villa Battelle

Andrey Bytsko (UniGE)

Title : From solitons to the algebraic Bethe ansatz

Abstract :

A brief account on Ludwig Faddeev's important contributions to the theory of classical integrable models and his leading role in the development of the theory of quantum integrable models will be presented.

Wednesday, March 22, 2017, 15:40, Villa Battelle

Gian Michele Graf (ETHZ)

Title : The legacy and the impact of Ludwig Faddeev in scattering theory

Abstract :

What happens in the long run, past or future ? This is first question of scattering theory, if not beyond. Wheeler and Heisenberg asked it, but Faddeev was first in making concrete proposals and proving them correct for the case of some basic, but non-trivial models in quantum mechanics and quantum field theory. Examples are the 3-body problem and infrared singular field theories. We hope to also explain some of the developments they led to over a time span of many decades.

Friday, March 24, 2017, 14:00, Villa Battelle.

Rinat Kashaev (UniGE)

Title : Quantum groups in the works of Faddeev

Abstract :

I will review some of the works of L.D. Faddeev which concern the quantum groups, emphasizing the approach through the solutions of the Yang—Baxter equation and the modular duality.

Friday, March 24, 2017, 15:10, Villa Battelle

**Dates and Place : Wednesday, March 22, 2017
Friday, March 24, 2017
Villa Battelle,
Section de Mathématiques
Route de Drize 7
CH-1227 Carouge**