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# Teaching through research: remembering Raoul Gatto

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On September 28, 2018, the conference “Teaching through research: remembering Raoul Gatto”, was held at the GGI (Galileo Galilei Institute for Theoretical Physics) located on Arcetri hill near Florence, to commemorate Raoul Gatto a year after his death in Geneva.

The reconstruction of Gatto’s professional and human life was entrusted to a series of interventions, that followed one another throughout the day, by several of his historical collaborators, as well as high-profile theoretical physicists.

The merit of the speeches and the extensive participation of colleagues from outside Florence confirmed that Gatto’s charisma, kindness and very special personality made working with him an experience that went beyond a passion for physics.

In his professional life, Gatto produced an enormous amount of research into high-energy physics, while supervising and partly organizing the work of an impressive number of younger colleagues.

In this regard, the conference venue (the former Aula A of the “A. Garbasso” Institute) had a symbolic and evocative significance for many of the participants, as it was here that Gatto worked as a teacher and researcher in the early 1960s (see Fig. 1), when the first “kittens”, theoretical physicists, many of whom would go on to acquire outstanding scientific importance and an excellent international reputation, were already in training under his supervision.



Figure 1. Gatto in Florence in the sixties.

With the contribution entitled “Gatto and the symmetry way to particle physics”, Luciano Maiani (La Sapienza) opened the conference in the morning in teleconference via Skype, summarizing the era of collaboration with Nicola Cabibbo, from the work on the symmetries of weak interactions to the theorem of Ademollo-Gatto. This was followed by the contribution of Sergio Ferrara (CERN): “Conformal Bootstrap: Then and Now” and then that of Renata Kallosh (Stanford University): “Planck 2018 and de Sitter from 10d”.

In the speech that followed, Antonello Polosa (La Sapienza): “Very interesting – My collaboration with Raoul Gatto”, remembered the atmosphere that surrounded Gatto for young physicists that, having been introduced to him by a senior (in his case Giuseppe Nardulli), began working with him, during the Geneva period. Many of us, in fact, recognized ourselves in Polosa’s memories of long telephone conversations with him, in the language which, at times, had to be decoded and which, in the end, often led us to maintain a certain distance when speaking to him, as one would with a boss, albeit a very polite one. The conference resumed in the afternoon with Riccardo Barbieri (Scuola Normale Superiore) with the contribution: “Beyond the standard model”, followed by D.Riske (Goethe University-Frankfurt): “QCD at high density and the fate of the (tri-)critical point”. Then Roberto Casalbuoni (University of Florence), who worked with Gatto for the longest and with most continuity, concluded the speeches with the contribution: “30 years with Raoul”. In his speech, his strong sense of gratitude and the close connection that he felt during their shared professional history, came across very clearly. In the same vein, in the closing “Personal recollections”, stories of work-related memories and episodes of life were interwoven in interventions by Gabriele Veneziano, Riccardo Barbieri, Roberto Casalbuoni, Sergio Ferrara, Antonello Polosa, Ferruccio Feruglio and others, in memory of a character and a story that seem unlikely to be repeated in the current context.