

Marco Modugno: **In memory of Alexandre Vinogradov**

Abstract: My talk is devoted to a memory of Sasha as scientist and dear friend, based on my experience as cooperator and friend for 36 years.

I met Alexandre for the first time in 1983 on occasion of an international meeting in Czech Republic. We got immediately a mutual scientific feeling due to a link of our research fields in the area of jets. Clearly, he was an experienced and important mathematician; therefore, I was proud of his interest for my research.

I met Alexandre again in 1986 in a subsequent meeting in Czech Republic.

At that time, as Editor of the Journal of Geometry and Physics, I was glad to propose Alexandre as a member of the Editorial Board of the journal. The proposal was accepted, but there were international problems for such a joining.

In 1989 the situation was mature for a transfer of Alexandre to Italy, but Italian authorities arised serious constraints against migration of Russians to Italy. Luckily, I succeeded to overcome this problem by writing to Italian ambassador in Moscow. For this purpose I mentioned the fact that Alexander was an Editor of the Journal of Geometry and Physics.

So, in 1991 he came to Italy and got a scholarship at University of Florence for a couple of years. His presence in my department was a great opportunity for me and my colleagues to cooperate scientifically with him.

This period was very hard for Alexandre due to his poor financial situation and to the separation from his family still in Russia.

After this hard time, Alexandre moved to Napoli, where he was helped by other Italian colleagues.

Luckily, he succeeded to get a full professorship at University of Salerno. This achievement improved considerably his life. In fact, he was able to let his family join him and to buy a house.

After his retirement, he moved with his family to a small town in Italian mounts. Even there, he continued his international activity in the field of jets and pursued to attract further non academic people to scientific problems.

An important guideline of the approach of Alexandre to jets was based on infinite jets, in spite of the abstract character of such a framework; in fact, he insisted that several geometric concepts get their full formal understanding only on infinite jets.

Another strong guideline of the approach of Alexandre to jets and differential equations was based on an algebraic viewpoint; in this respect, he reflected an attitude of the Russian geometric school of last century.

A typical attitude of several clever mathematicians is the absorbing effort to find the solution of difficult unsolved problems, with the spirit of winning a hard competition. Conversely, in my opinion, the deep aim of Alexandre was more cultural and fundamental: his goal was to establish strong and general mathematical theories. In this way, he has been searching for deep concepts rather than for tricky procedures. I strongly appreciate such a cultural attitude.

Even more, Alexandre did not look at mathematics as a purely technical discipline, but he was curious and open to understand all aspects of human culture. He was interested in understanding the international politics and the deep causes of the dramatic events happening in the world.

So, the standard university teaching and research was not sufficient for him. He conceived culture with a large spectrum not only confined in the technical limits of mathematics. In fact, he arised several scientific and philosophical activities.

First of all, he created an international school on diffieties and took care of it with several activities.

In this spirit he promoted also intercultural groups interested in scientific problems with a broad philosophical approach, by attracting also young people in this activity.

A remarkable attitude of Alexandre in the framework of scientific research was a subtle humor. Just as an example, I would like to mention his pseudonim "Jet Nestruev" as author of an important mathematical book.