



Remembering Milla

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It was at CERN at the beginning of the Eighties that I first met Milla Baldo Ceolin. At that time I was involved in the phenomenological study of possible processes with baryon number violation - whence my very special interest for the experimental activity that Milla was carrying out at the high flux reactor of the Institute Laue Langevin in Grenoble on the neutron - antineutron oscillation. I thus had the opportunity to begin with Milla, on a number of topics in astroparticle physics where we had common interests, a scientific interaction which entailed my great appreciation for her profound preparation, physical insight and continuous attention for the new scientific frontiers.

Remaining for a moment at the activity performed by Milla at the Grenoble ILL, it is remarkable that in a little more than a decade that experimental investigation in the search for the neutron-antineutron oscillation with free neutrons increased its sensitivity by almost two orders of magnitude, reaching, at the end of the running, a lower limit of about 10^8 sec (Heidelberg - ILL - Padova - Pavia Collaboration, 1994) for the neutron - antineutron oscillation time; a bound which is still the best one, as quoted by the Particle Data Group. Milla was an invited speaker at the very first conference of the TAUP series in 1989 at L'Aquila; her talk was a remarkable, exhaustive presentation of the theoretical motivations and of the phenomenological and experimental endeavors in the search for a $n - \bar{n}$ transition.

Neutrino physics was one of the Milla's major fields of interest, with her outstanding contributions on experiments of neutrino oscillations at accelerators. But equally remarkable was the emphasis she conveyed to the neutrinos as messengers of more general physical and astrophysical properties. In this regard, the se-

ries of workshops on Neutrino Telescopes initiated by Milla in Venice in 1988 and conducted by her for more than twenty years witnesses of how wide and projected-towards-the-future were her interests, and also witnesses of her great capability in creating what progressively became for our community a regular venue to discuss neutrino physics and astrophysics. The way by which, over that long span of years, Milla organized the Neutrino Telescope series was absolutely unique, by creating a major scientific event in the extraordinary atmosphere of Venice, with exquisite cultural touches so much typical of her charming style. The workshop motto: "Un altro modo di guardare il cielo" was in itself a mark of her elegant touch.

Almost contemporary to the starting of the Neutrino Telescope Workshop by Milla was the one of the TAUP conferences initiated by Angel Morales and myself in 1989. That was the beginning of an intense and continuous interaction among the three of us in exchanging ideas and suggestions about the scientific items involved in the two initiatives. In particular, Milla served as a permanent member of the TAUP International Advisory Committee and participated regularly to our conferences, acting frequently either as a speaker or as a convener.

It was mentioned above that the Neutrino Telescope Workshop became over the years a major regular venue for physicists interested in discussing neutrino physics and astrophysics. I wish to recall here that at its very beginning the workshop played also a more pragmatic role, since it was originally conceived as a mean "to focus on the feasibility of a large detector for neutrino astrophysics", as Milla pointed out in the introduction to the proceedings of the first Venetian meeting in 1988. In

fact, that meeting put the basis of an initiative that Milla carried out for about five years, and which was meant to develop a specific project for a neutrino telescope. To participate in that initiative turned out to be a very stimulating experience for many of us: Milla was able to progressively gather a consistent number of experimentalists and theorists, with collaboration meetings in Padova, Gran Sasso, Geneva and USA. By the time of the final document in 1992 (the project was named NET) the list of proponents comprised 17 institutions from 7 different countries: France, Italy, Japan, Poland, Spain, Switzerland and USA. Unfortunately, the project did not go through; the general financial situation was very difficult also at that time, but the scientific agencies were also probably not enough receptive towards an initiative that, on the contrary, would have made possible to put an early basis for a new and exciting field of investigation.

It is touching to read now again the introduction written by Milla in the proceedings of the thirteenth session of the Neutrino Telescope Workshop in 2009 and the few lines of comment she put at the beginning of each topic in the table of contents. Much of her legacy stands in those words.