

The International Commission for Optics: 70 years from the first official meeting

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Left: Some of the participants to ICO-1, the first ICO Congress in Delft, July 1948. Toraldo di Francia is on the very left of the group. Right: Roberta Ramponi, ICO President, 2017-2020. Courtesy of ICO.

Created in 1947 as an external Commission of the International Union of Pure and Applied Physics (IUPAP), the International Commission for Optics (ICO) represented the results of the efforts of several European physicists to establish a continuing collaboration inside the optics community, after the difficulties and the divisions due to the World War II. The main initial pulse to establish ICO came from the Director of the Institut d'Optique in Paris, Pierre Fleury, but Italy as well was participating to the new initiative since the very beginning. Florence, in particular, had already developed a strong activity in optics, geographically localized in the hill of Arcetri: it was there that the Astronomical Observatory moved in 1872, followed in 1919-1920 by the Institute of Physics and a small laboratory of optics and fine mechanics. In 1930, mostly due to the initiative of Vasco Ronchi (1897-1988), that laboratory was officially transformed in the National Institute of Optics (INO).

Ronchi, who had been nominated Secretary of the Italian Optical Association since its foundation in

1923, became the first director of INO, a position he covered until 1975. During World War II, INO was collaborating with some Italian companies, especially the Ducati factory in Bologna, for the design of field telephotographic devices; other post-war design activities saw important contributions from Raffaello Bruscazioni (1907-1976) and Giuliano Toraldo di Francia (1916-2011). Toraldo was also becoming known at international level, and thus he attended the preparatory meeting of ICO in 1947 in Prague; there, he was requested to prepare a survey of the diffraction theory for the first official meeting of ICO, to be held in July 1948 in Delft, the Netherlands (G. Toraldo di Francia, *Rapporto critico, alla Commissione Internazionale dell'Ottica, sulle leggi generali della diffrazione. Il Nuovo Cimento*, 40, 591-605, 1948). At the first session of ICO-1 Prof. Fleury announced that IUPAP had officially accepted the affiliation of ICO. Almost 60 years later, in October 2005, the International Council for Science (ICSU) recognized ICO as one of its 23 International Scientific Associates, thus improving the recognition of the whole field of optics as a discipline.

In the first ICO Congress (ICO-1) there were 44 delegates from eleven countries. Since then, ICO Congresses have been held every three years, including both a General Business Meeting (with the election of the Bureau) and a Scientific Meeting with a broad overview of optics and photonics. The most recent Congress (ICO-24), held in Tokyo in August 2017, saw more than 1000 participants from more than forty countries. In that same Congress Roberta Ramponi (Polytechnic of Milan and Director of the CNR Institute of Photonics and Nanotechnologies) was elected ICO President for the term 2017-2020, after having served as Vice-President (VP) from 2008 to 2017.

The Italian optical community, and especially the optics cluster in Florence, has always played an active role inside ICO and its Bureau. The list of Italian officers elected in the ICO Bureau included Giuliano Toraldo di Francia (VP, 1956-1962; President, 1966-1969); Adriana Fiorentini (VP, 1972-1975); Fortunato Tito Arecchi (VP, 1981-1984); Anna Consortini (VP, 1987-1993; President, 1993-1996); Giancarlo C. Righini (VP, 1999-2005). ICO-19, the 2002 Congress, was held in Florence, with Giancarlo Righini and Anna Consortini as co-chairs.

ICO nowadays aims at continuing, through its members even much more than all by itself, to coordinate the dissemination and advancement of scientific and technical knowledge in the broad fields of optics, and to act for the full recognition of its importance for science and society in the 21st century.