



## Preface

### Prof. Roberto Ortega-Martínez (1946–2014) A remarkable promoter of optics in Mexico



Prof. Roberto Ortega-Martínez was born in Mexico City. He obtained his BSc (physics) from the Universidad Nacional Autónoma de México (UNAM) where he began teaching even before he graduated. While at the UNAM, he was among the outstanding and enthusiastic students that took part in the social demonstrations of 1968 in Mexico.

His BSc dissertation, presented in 1971, included the design and construction of very low electronic noise amplifiers that were used for over a decade in the San Pedro Mártir based Observatorio Astronómico Nacional of the UNAM, OAN-SPM, in Mexico. He also collaborated with the installation of the control instrumentation, the photometric detection systems, and the physical infrastructure of the OAN-SMP 0.84 m and 1.5 m astronomical telescopes. After one and a half years at the Optical Sciences Center of the University of Arizona, OSC-UA, he joined the Facultad de Ciencias of the UNAM, FC-UNAM as instructor, and became FC-UNAM faculty in 1976. He obtained his MSc and PhD degrees from the UNAM in 1976 and 1986, respectively. He also worked as associated senior researcher of the Instituto de Astronomía of the UNAM, IA-UNAM, from 1975 to 1982, where he participated in projects on

stellar spectrometry, Michelson-Fourier interferometry, and in the electro-mechanical instrumentation installation and maintenance of several astronomical telescopes of the San Pedro Mártir and the Tonantzintla observatories.

In 1983, Prof. Héctor Domínguez, then general director of the former Centro de Instrumentos of the UNAM, CI-UNAM (currently known as the Centro de Ciencias Aplicadas y Desarrollo Tecnológico of the UNAM, CCADET-UNAM), invited Prof. Ortega to establish an applied optics laboratory, a remarkable effort-consuming project if we consider the small number of optics scientists available at the UNAM in the 1971–1981 decade (a significant number of optics scientists left the UNAM in 1971 to establish the Instituto Nacional de Astrofísica, Óptica y Electrónica, INAOE, in Tonantzintla, and later in 1980, the Centro de Investigaciones en Óptica, CIO, in Leon). In response to these conditions, Prof. Ortega immediately recruited several recognized independent researchers, and in 1984 he established the Laboratorio de Óptica Aplicada of the CI-UNAM (which later became the Departamento de Óptica y Microondas of CCADET).

At the CI-UNAM (and later CCADET-UNAM), Prof. Ortega developed several optical instruments and laser applications in the area of medicine for public hospitals and guided his students to develop laser spectrometers for non-linear optics research and laser applications to medicine (cardiology, odontology, ophthalmology and oncology). In 1995 he rose to the senior researcher level of the UNAM, and was granted the PRIDE D distinction, and became a member of the Sistema Nacional de Investigadores (SNI), where he reached the second highest level in 1998. In 1996 he secured funding from the UNAM and established the first Laboratorio de Óptica de Pulsos Ultracortos in Latin America, to carry out research projects in photonics, non-linear optics, and ultra-fast optical phenomena, and devoted his research to the study of the optical self-correlation techniques used for ultra-short pulses characterization. In 2006 he established the Laboratorio de Óptica no Lineal of CCADET. All of the

Peer Review under the responsibility of Universidad Nacional Autónoma de México.

<http://dx.doi.org/10.1016/j.jart.2015.10.016>

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laboratories established by Prof. Ortega are currently recognized as among the most important in Mexico.

Prof. Ortega strongly believed that optics was an illustrative field for young scientists and also that a piece of general culture

needed to be appreciated by students at all educational levels. He was a remarkable promoter of optics in Mexico, committed to scientific and technological development. Prof. Roberto Ortega passed away on 7th September 2014 in Mexico City.