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OBITUARY

ALFONSO SERRANO
1950–2011

At the Eastern edge of the high altitude plateau known as Altiplano Mexicano, a majestic white structure stands on the summit of a dormant volcano 4600 meters above sea level, seemingly defying Citlaltépetl, the "mountain of the stars". The Large Millimeter Telescope, perceptible on a clear day from a distance of sixty kilometers, is the most visible homage to the man who first conceived it as a necessary step for Mexico to overcome its underdevelopment, and who tirelessly lobbied for this cause until his final breath. Alfonso Serrano Pérez Grovas, an exceptional force in Mexican science, died on the 12th of July 2011. He was a natural leader who followed the vision set by Guillermo Haro, that Mexico had to develop its own technology to achieve progress. This effective political advocate worked in that direction, shaping his destiny and that of his adherents by moving institutions towards the development of large projects, often in contention with colleagues, but always with the underlying belief of the ultimate benefit for Mexican society. A charming personality with a strong temperament and tough negotiating skills, he became well-known in Mexican society, admired and criticized, but seldom ignored.

Born in Mexico on the first day of February 1950, Alfonso made his undergraduate studies at the Universidad Nacional Autónoma de México (UNAM), and obtained his Master's and PhD in England, at the Universities of Cambridge and Sussex, respectively. He returned to Mexico as an active researcher of the Instituto de Astronomía of UNAM, working on the chemical evolution of galaxies. His production encompasses around seventy papers with 1500 citations, shared with the likes of Manuel Peimbert, James Lequeux, Luis Carrasco, Steve and Karen Strom. However, the main contribution of Alfonso was beyond scientific research itself. In the mid 1980s, around the time I made his acquaintance, Alfonso started the transformation from an off-hand and rebel academic to professor Serrano, seeking and obtaining the position of Director of the Instituto de Astronomía in 1987, the year before the passing of Guillermo Haro. During his term he started promoting the Large Millimeter Telescope (LMT), a 50 meter diameter antenna for millimeter-wave astronomy, a formidable instrument poised to be the largest of its kind in the world and meant to position Mexico at the forefront of research. The proposal, jointly with the University of Massachusetts Amherst (UMass), was attractive but polemical for a scientific community doubtful of the feasibility of a project of this magnitude within Mexico. The opposition was an important factor for Alfonso to move in 1991 from the Instituto de Astronomía to lead the Programa Universitario de Investigación y Desarrollo Espacial at UNAM for a year, during which he promoted the construction of UNAMSAT, a small scientific satellite entirely made in Mexico. After the failed launch of UNAMSAT-1 in 1995, its twin UNAMSAT-2 was successfully sent to orbit from the Russian cosmodrome of Plesetsk and it operated for a year. The engineering team of PUIDE received recognition in Russia, but by then the man who had initiated this space project had moved to Tonantzintla, Puebla.

Alfonso Serrano directed the Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), from 1992 to 2001. He took over an institution in critical conditions to raise it to the forefront of Mexican science, developing in a balanced way the areas of astrophysics, optics and electronics. The LMT project was approved by the Consejo Nacional de Ciencia y Tecnología (CONACyT) on the 20th of June 1994, and the high altitude site of volcán Sierra Negra was selected for its installation in February 1997. The design presented by the German company MAN Technologie was chosen in 1998 and construction started at the end of 1999. The thin air of Sierra Negra, or Tliltépetl, proved to be the least of the difficulties that project was to face. The unprecedented initiative of investing tens of millions of dollars in a single scientific project was certain to meet supporters and opponents from the academic arena and beyond. Alfonso's skillfulness moved ahead the project against financial and political adversity, over costs and overruns. His vision of an independent technological development went beyond the LMT, initiating a collaboration with the University of Arizona for casting a large optical mirror that should become the core of the largest optical telescope in Mexico. In his last years he also became a promoter of the Mexican space agency, hopeful of becoming its first director.

An unanticipated burden for the project laid on his natural leadership and work capacity, led him to make inroads within CONACyT, where he was first appointed director of its network of research centers in 1997, whilst still director of INAOE, and then director of scientific research from 2001 to 2003. The combined commitment of heading LMT, INAOE and his CONACyT office proved too much even for this vigorous leader, who from 2003 on concentrated his efforts towards the completion of the telescope. He kept the sole control of the project, which he ran with a polemical management style, challenged by colleagues and scrutinized stringently by Mexican federal agencies. Once more, he overcame the challenges and took the telescope up to its first millimeter-wave observations. Over twenty years after he first raised the flag, on the 17th of June 2011, INAOE and UMass made the joint announcement of the detection of molecular lines in the galaxy M82 with the Redshift Search Receiver instrument of LMT.

Alfonso was admired for his capacity, despite a stressful life, of keeping healthy with good food and wine. At the end, fate was merciless, and a pancreatic cancer took his life within two months of a late diagnostic. His tragic passing occurred three weeks after the observations of high redshift galaxies with LMT. And though Alfonso did see his masterpiece come to life, he still had much to contribute to Mexico. Leadership and patriotism are two words embodying Alfonso's life. He once told me that leaders created spaces; he certainly did so.

Alberto Carramiñana