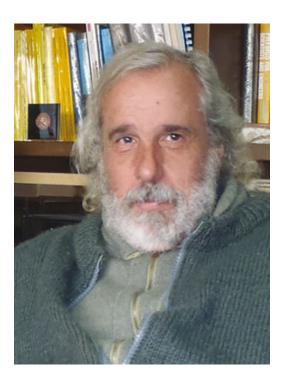
## **OBITUARY**



Alejandro Cristian Raga Rassmussen 1957–2023

On July past we learned of the untimely and sudden death of Dr. Alejandro Cristian Raga Rassmussen. Alex, as he was known to everyone, was an extraordinary person, characterized by his joy of living and by the great quality and versatility of his research.

He was born in 1957 in Buenos Aires, Argentina and obtained his Bachelors Degree in physics in 1982 at the University of Buenos Aires, and his Masters and PhD in astronomy at the University of Washington, Seattle, where he was located from 1982 to 1985. His PhD thesis advisor was Karl-Heinz Bhm, an expert on the physical foundations of stellar and interstellar astrophysics. Alex and Karl-Heinz went on to publish a score of important papers together. From 1986 to 1995 Alex held postdoctoral and, later, research fellow positions in Canada and the United Kingdom.

In spite of his having tenure in his last position in the United Kingdom, he chose to move to Mexico in 1995, in good part to work with Jorge Cantó, a distinguished researcher at the Institute of Astronomy of the National Autonomous University of Mexico (UNAM) in Mexico City. They integrated a formidable duo, with Jorge mastering the analytic approach to theoretical problems and Alex extending their results to a diversity of situations using a numerical approach. The informative Astrophysics Data System tells us that they collaborated in 127 refereed publications that have received over 3,000 citations. In total, Alex accumulated more than 10,000 citations. He published with around 300 coauthors. The enclosed Figure 1 shows his co-authorship network restricted to colleagues with whom he published two or more papers.

He made important contributions in several fields of astronomy. In particular, his work has been crucial to fully understand the so-called Herbig-Haro objects (co-discovered by the Mexican Guillermo Haro) and the

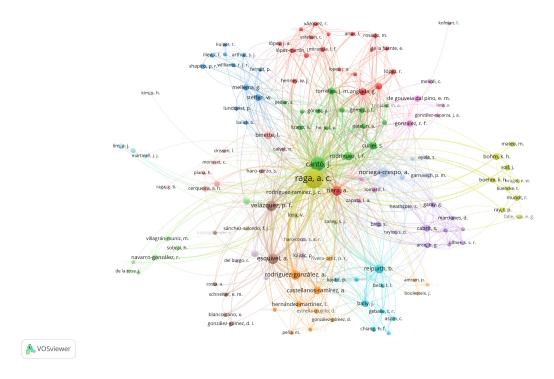


Fig. 1. Co-authorship network restricted to colleagues with whom he published two or more papers.

present paradigm of these objects owes much to his ideas. Alex was the person to go to when you had data of a new astronomical phenomenon. I remember that strong X-ray emission was found in a cluster of massive stars near the galactic center. He and a group of collaborators accurately and promptly explained the emission in terms of shocks between the powerful winds of the stars in the cluster.

He ventured successfully into topics outside of the astronomy of the interstellar medium. These included modeling the explosions of the Popocatepetl volcano, revisiting the Viking results on Mars, analyzing shock waves produced in the laboratory, and even discussing the sociology of astronomy as applied to Herbig-Haro objects 1 and 2. He was also a frequent collaborator of this journal. Among many abilities, he played the piano for his friends. His bonhomie and thunderous laughter generally characterized him. But this bonhomic could transform into indignation when he perceived an injustice. I remember that at one meeting he publicly faced an eminent astronomer that had been unfairly treating other speakers.

Over the years, he directed some 20 theses. Many of his students are part of the group he formed at the Institute of Nuclear Research of UNAM, to where he moved in 2001 from the Institute of Astronomy. Alex received many distinctions and awards: the Guggenheim Fellowship, the Award of the Mexican Academy of Sciences, the TWAS Prize, and the UNAM Award, just to name some of them.

Alex was in love with the sea. I remember that his family and mine together rented a house in the Mayan Riviera. Alex brought his windsurfing gear and was at sea for hours. Later, he bought a sailboat and, much to the concern of his friends, he undertook long solo cruises in the Caribbean. He also had a cabin next to the beach in Guatemala; that was where he became ill of thrombosis complications and passed away.

He is survived by his daughter Micaela and by his companion Magda. We will remember him every time we consult one of his many contributions to astronomy or drink a good cup of coffee, another of his hobbies.

I thank Pablo F. Velázquez and Vicente Rodríguez-Gómez for their help in preparing this obituary. I also acknowledge the use of VOSviewer for providing the tools to visualize Alex's coauthorship network. The photo was contributed by Primoz Kajdic.