Prof. Gerry Neugebauer: the Herschel Medal of the RAS

Address of the President, Prof. David Williams on the presentation of the Herschel Medal to Prof. Gerry Neugebauer, 9 October 1998.

Gerry Neugebauer received his PhD in high-energy physics from Cornell and started his astronomical career by building the infrared photometer that was flown on the Mariner spacecraft explorations of Mars in the 1960s. On moving from JPL to Caltech he became aware of the enormous potential for ground-based observations in the infrared waveband. Together with Robert Leighton he built a 62 inch diameter automated telescope with a spun epoxy mirror and an array of lead sulphide detectors. With this instrument, which is now in the National Air and Space Museum in Washington, Neugebauer and Leighton made the first all-sky survey at infrared wavelengths. This survey gave us a statistical view of the 2.2 micron sky for the first time and identified some remarkable new objects. The reddest of these, the carbon star IRC+10 216, is now the prototype infrared source (in the sense that Becklin had discovered the first true infrared sources (in the sense that they had no visible counterparts). These were the Becklin-Neugebauer source in Orion, and the Galactic Centre. He continued to push the technology of infrared astronomy as far as he could and by 1971 was using the Palomar 200 inch telescope for infrared observations. Many of the techniques he pioneered are now routinely used in the design of large optical/infrared telescopes such as the Keck and Gemini.

In the early 1970’s his interests returned to the space programme. He conceived and led the multinational IRAS (Infrared Astronomy Satellite) project from its conception through to the completion of the survey in 1983 and the undisputed scientific, technical and managerial success of IRAS was largely due to his inspiration. The IRAS survey revolutionized infrared astronomy by mapping hundreds of thousands of objects at wavelengths where previously only a few hundred had been detected. It facilitated the methodical study of low-mass star-forming regions, infrared galaxies, and interstellar dust. After the IRAS mission, he returned to ground-based astronomy, becoming director of Palomar Observatory (the first infrared astronomer to hold the post), and has devoted much effort into the design of the telescope and instruments of the Keck Observatory on Mauna Kea. He simultaneously found time to chair of the Division of Physics, Mathematics and Astronomy at Caltech.

He is as good an astronomer as he is a physicist, manager and politician. He has co-authored papers on almost every type astronomical object, from asteroids to AGNs, Mars to masers, protostars to pulsars. He is also an outstanding mentor, as the dozens of former graduate students and post-docs who gathered in 1992 at a Caltech conference to mark his 60th birthday would all attest.

Gerry Neugebauer led infrared astronomy out of the physics laboratory to the cutting edge of astronomical technology. One number sums this up. The Neugebauer–Leighton survey in published in 1969 had a limiting magnitude in the K band in the near infrared. Neugebauer’s latest camera on the Keck telescope can find galaxies that are 19 magnitudes fainter than this. I am delighted to present to Prof. Neugebauer the Herschel Medal of the RAS in recognition of his magnificent achievements in astronomy.

Laurent Cassegrain commemorated at Chaudon

The pretty French village of Chaudon lies in the valley of the River Eure, some 15 miles north of Chartres, and has a population of about 1500. On Sunday 20 September, as part of the national Journées du Patrimoine weekend, it was host to an unusual ceremony: the commemoration of a former resident, who has hitherto been almost entirely forgotten by history.

The name of Cassegrain has been attached to the widely-used telescope configuration since 1672, but its owner has been a very shadowy figure indeed. The short article by V E Thoren in the Dictionary of Scientific Biography describes his work in optics and acoustics, based entirely on published papers describing his work, but does not even give his Christian name. This situation has now been changed by Françoise Launay, a research engineer at the Observatoire de Meudon, whose researches in collaboration with André Baranne, based on registers and other documents in the areas in which he lived, have revealed that Laurent Cassegrain was born about 1629; he was a Roman Catholic priest and worked as a teacher in the secondary school in Chartres. In 1685 he appears to have “semi-retired” to Chaudon where he was Curé of the church until his death in 1693. He was buried in the churchyard, though the site cannot be identified.

In his speech the Mayor of Chaudon, Jean-Jacques Guet, praised the detailed and wide-ranging research of Madame Launay which has resulted in the recovery of the association of this important figure with Chaudon, before inviting her to unveil the new name plaque of Place Laurent Cassegrain. This area is directly opposite the church and at present a car park though it is hoped eventually to build a village centre there. M. Malet, the Conseiller Général for the canton, also spoke. The ceremony was attended by many inhabitants of the village, the local press, and by one of the priests who serves the village church, Fr. Maurice Franc.

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References
Dictionary of Scientific Biography 1971 1 :97–8
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