Maximilian Kreuzer 1960–2010

Theoretical physicist Maximilian (Max) Kreuzer, professor at the Vienna University of Technology (TU Vienna), passed away on 26 November, just two years after learning that he had an aggressive blood cancer. He did not lose hope but fought the disease heroically and with a clear mind, keeping up his scientific work until the end. He had established a vibrant string-theory group at TU Vienna with a sizeable number of students and postdocs.

Max is well known in the string-theory community for his work with Harald Skarke on the classification of reflexive polytopes in four dimensions and hence of a huge class of Calabi-Yau manifolds. (These are used by string theorists to compactify 10-dimensional superstring theories into 4-dimensional ones, at the same time encoding particle-physics models in the geometry of hidden dimensions.) Prior to their work, only the 16 two-dimensional reflexive polytopes had been classified completely. In 2000, following several years of computer-assisted work, he and Skarke obtained all 473 800 776 reflexive polytopes in four dimensions and an equally voluminous catalogue of Calabi-Yau manifolds and their topological properties.

Max studied physics and mathematics at TU Vienna, where he graduated in 1986 and continued his studies at the University of California, Santa Barbara.

As a CERN Fellow (1991–1993), Max continued his work on string theory and evolved into one of the world experts on the construction of Calabi-Yau manifolds. Many people remember him from those days as a likeable, witty colleague with a sharp mind. During that time, his daughter Maria was born. After he left for Vienna, he kept close ties with the Theory Division (TH) at CERN, not least via the numerous PhD students he sent. Suzy Vascotto, who was in the TH secretariat when Max was a fellow at CERN, says, "I don't know why his smile has kept so fresh and clear in my memory, as there were so many people around before and after him in TH. But some people have stood out over the years, and he was one of them."

Max will be remembered this by all who had the privilege of working with him and becoming his friend.

Wolfgang Lerche, CERN, Anton Rebhan, Vienna University of Technology.

A commemorative scientific meeting will take place at the International Erwin Schrödinger Institute, Vienna, 25–28 June, organized by Ludmil Katzarkov, Johanna Knapp, Anton Rebhan, and Emanuel Scheidegger.

NEW PRODUCTS

Lake Shore Cryotronics Inc has introduced the new Model 335 temperature controller, the first two-channel model with user-configurable heater outputs delivering a total of 75 W of low-noise heater power. Output 1 functions as a current output while output 2 can be configured in current or voltage mode. The controller's zone-tuning feature allows seamless measurement and control of temperatures from 300 mK to more than 1500 K. For more information, tel+1 614 891 2244; e-mail info@lakeshore.com; or see www.lakeshore.com/temp/cn/335po.html.

Maxon Motor has announced the new brushless direct current motor EC 40. The palm-sized motor features a neodymium permanent magnet, stainless-steel housing and welded flanges. It has a flat speed/torque gradient of about 3.6 rpm/mNm, mechanical time constant of 2.1 ms, permissible speed of 18 000 rpm and 88% efficiency. For more information, contact Pierre Lebet, e-mail pierre.lebet@maxonmotor.com; or visit www.maxonmotor.ch.

Narda Safety Test Solutions GmbH has introduced the EHP-50D isotropic field analyser, an improved version of the probe for measuring low-frequency electromagnetic fields from 5 Hz to 100 kHz. Simultaneous measurement of all three axes coupled with a dynamic range of up to 150 dB ensures that signals can be captured quickly, reliably and over a wide range. Equipped with a datalogger and lithium-ion battery, the EHP-50D can operate for up to 24 hours in stand-alone mode. For more information, tel+49 7121 9732 777; e-mail support@narda-sts.de; or see www.narda-sts.com.

Pfeiffer Vacuum has announced a new version of the gas-cooled Roots pump OktaLine G, with pumping speeds in the range 250–12 000 m³/h. It is ideal for low- and medium-vacuum applications in research and development. The heated gas is cooled on the pressure side and partially returned to the suction chamber, allowing for continuous operation in high pressure ranges. Energy-efficient drives and the use of frequency converters lower energy consumption by up to 20%. For further details, e-mail Nicole.Ackermann@pfeiffer-vacuum.de; or visit www.pfeiffer-vacuum.com.

Physik Instrumente L.P has released a new miniature hexapod parallel positioner for vacuum applications. The M-811 STV vacuum-compatible hexapod measures 130 mm in diameter and 115 mm in height for easy integration into vacuum chambers. It has a load capacity of 11 lb (5 kg), actuator resolution of 0.04 µm, repeatability of ±0.5 µm, velocity to 10 mm/s and includes digital controller and software. A non-vacuum version is also available. For more information, e-mail info@pi-usa.us, or see www.pi-usa.us.