rebirth of theoretical physics in France after the war were decisive. Among these, we mention his leading role in the creation of the Center for Theoretical Physics at the Ecole Polytechnique, his training of French students, and his presidency of the committees on theoretical physics of the French National Science Foundation (CNRS).

Michel received many distinctions—most notably, perhaps, the Eugene Wigner Medal (awarded for his group-theoretical contributions), and the Lee Page Prize lectureship at Yale.

Turning from Michel the scientist to Michel the man, it should be mentioned that he was a devout Christian and an exemplary family head to his wife Thérèse and their six children.

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Jan Peter van der Ziel

Jan Peter van der Ziel, who was well known for his contributions to the field of semiconductor lasers, died on 9 September 1999 in Plano, Texas after a 21-month battle with cancer.

Jan was born in the Dutch city of Eindhoven on 17 August 1937. In 1950, he emigrated with his family, first to Canada and then to the US. He earned his BS degree at the University of Minnesota and his master's and PhD degrees in applied physics at Harvard University. His thesis, entitled "Investigation of Optical Second Harmonic Generation in KH_2PO_4 Ferroelectrics," was completed in 1964.

In 1965, Jan joined Bell Labs in Murray Hill, New Jersey. In his early years, he carried out optical spectroscopy and stimulated emission studies of transition metal and rare earth ions. In the 1970s, after the semiconductor laser emerged as a practical light source for optical communications, he focused on semiconductor laser materials and devices. Optical communications came of age during Jan's time at Bell Labs.

Jan was one of the first to investigate the potential of layered semiconductors made by the newly developed method of molecular beam epitaxy. In 1975, he showed that multiple layers of GaAs and AlGaAs could be used to make very high-quality mirrors that could be built right into a laser structure. These mirrors are now routinely used in vertical cavity lasers, where they form the high reflecting ends of optical cavities only a few micro-

meters in size. This work also led to the first observation, in 1975, of stimulated emission from GaAs quantum wells. Most semiconductor lasers manufactured today are of this type.

Jan carried out pioneering experimental work in mode-locking of semiconductor lasers in an external cavity. In 1981, he was the first to obtain subpicosecond pulses in such lasers.

His most practical work was the early development of lasers for optical communications at 1.3 and 1.55 micrometers, the wavelengths where optical fibers have the lowest dispersion and loss. In 1982, Jan, Ralph Logan, and Henryk Temkin demonstrated that semiconductor lasers with the active layer formed inside an etched v-groove could be grown by liquid-phase epitaxy with high yield. With further work, these so-called buried crescent lasers were brought into large-scale production by AT&T and were widely used in the first long-wavelength fiber optic systems.

In 1991, Jan became the Distinguished Professor in Microelectronics in the Erik Jonsson School of Engineering and Computer Science at the University of Texas at Dallas. He proved to be an enthusiastic and popular teacher, establishing an undergraduate laboratory course in semiconductor devices.

Jan was very active in the graduate program and supervised the work of several MS and two PhD students. He was always very concerned with his students' welfare, and often advocated on their behalf. He continued his research in vertical-cavity lasers at UTD, and he also worked with local companies on the problems of volume production of these lasers.

In 1997, Jan was elected president of the Dallas section of the Institute of Electrical and Electronics Engineers, but was unable to serve for the full year because of his illness. He continued to teach classes and supervise graduate students while undergoing chemotherapy, up to a few months before his death.

Jan was a versatile experimenter whose hands-on approach carried over to life outside the laboratory. He was an enthusiastic gardener and sailor, and he always saw the humorous side of life. He will be missed by his family and by his students, friends, and colleagues.

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