

general belief in the need of a more effective transfer of new technologies toward application encouraged him especially to widen the spectrum of interdisciplinary research activities at Jülich. His guidance led to a remarkable and fruitful development of this center.

It was not surprising, considering his background and achievements, that Beckurts was asked to join the board of directors of Siemens AG. He did so in 1980, and soon assumed responsibility for the company's research and development program. Since 1980 he devoted his efforts mainly to guiding and strengthening research in communication and data-processing technologies at Siemens. In his few years at the company, Siemens increased its efforts in the field considerably.

Beckurts was convinced that the success of research and development programs in advanced technologies crucially depends on the close cooperation of groups at universities and basic research institutions on one side and industry on the other side, and he was very active in encouraging such cooperation. His promotion of the new Walter Schottky Institute at the Technische Universität München was one step in this direction.

During his tenure with Siemens he remained an active participant of various scientific advisory committees. He was also president of the German Nuclear Society from 1973 to 1976. From 1977 to 1979 he was president of the European Nuclear Society.

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Roman U. Sexl

Roman Ulrich Sexl, professor of theoretical physics and didactics of physics at the University of Vienna, died on 10 July 1986 at the age of 46.

Born in Vienna, he studied physics and mathematics at the University of Vienna. After earning his PhD in 1961, he spent several years in the United States. He held a visiting appointment at the Institute for Advanced Study, was assistant professor at the University of Washington, Seattle, and at the University of Maryland, and associate professor at the University of Georgia. In 1969 he became associate and soon afterward full professor of theoretical physics at the University of Vienna.

He began his research in the field of theoretical solid state physics and quantum field theory, but soon became interested in problems of general rela-



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tivity and cosmology. He wrote a number of papers on the field-theoretic approach to general relativity, in which he discussed the structure of alternative theories of gravitation. In 1967, in collaboration with H. K. Urbantke, he published a pioneering paper, "Cosmic Particle Creation Processes," on the production of particles by the gravitational field. Several years later (1974) Stephen Hawking showed that black holes should produce particles with a thermal distribution, and since that time the problem of particle production in curved spacetime has become a major field of research.

Sexl wrote several books on the theory of special and general relativity, including *Gravitation und Kosmologie* (Brockhaus, 1975), and *Relativität, Gruppen, Teilchen* (with Urbantke, Springer, 1974). The book, *White Dwarfs—Black Holes*, written together with his wife Hannelore (Academic, 1979), as a semi-popular introduction to general relativity and astrophysics, was first published in German in 1975, but became a best seller and was translated into several languages. In 1984 Sexl produced a German edition of *Einstein: A Centenary Volume*, first published in English in 1979. From 1974 to 1980 he was a member of the International Commission on General Relativity and Gravitation.

Sexl's interests in pedagogy, always strong, became his dominant interest during the last ten years of his life. He was concerned with the teaching of physics not only for physicists and physics students but also for the general public. He addressed the world of physics by editing (and also contributing to) a series of books on philosophical, epistemological, sociological and historical questions of physics, and we owe to him a new edition of Boltz-

mann's collected works. He reached the general public through numerous TV shows and popular lectures.

In an effort to improve physics teaching in schools, Sexl not only initiated a reform of teacher education at the University of Vienna, but was also a coauthor of a physics text book for secondary schools that became so successful it was translated into several languages. The need for continued education of teachers was evident to him, and he contributed vigorously to this aim. To make physics more attractive to pupils he introduced problems from such areas as sports or chaotic dynamical systems into his classes. Similarly, he was quick to realize the pedagogical potential of microcomputers; he integrated the use of the micro into his lectures and became the author of a series of computer programs on special relativity.

His contributions to physics education found worldwide recognition. Besides having become a member of the editorial board of several journals devoted to physics teaching, Sexl was a member of the Advisory Board for Physics Education of the European Physical Society. In 1980 he was the first recipient of the R. W. Pohl Prize of the German Physical Society.

In 1978 Sexl was elected a member of the International Commission on Physics Education of IUPAP, and from 1981, until his untimely death, he was chairman of that body. With his brilliance, energy and drive, his over-all productivity was quite extraordinary, and although his career was cut tragically short, he made a broad and enduring impact on physics and physics education.

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Heinz Bilz

Heinz Bilz died unexpectedly on 26 June 1986 in Mainz, Germany. He had become severely ill a few days earlier, while giving a colloquium at the local university.

Bilz was born in Berlin in 1926. He was drafted into the German Navy shortly before the end of the war. After a period as a prisoner of war, he began to study physics in 1947 at the University of Frankfurt where he received his *Diplom* in 1954. He continued there as a graduate student under Fritz Hund and obtained his doctorate in 1958 with a thesis on electronic states of refrac-