

Hans-Joachim Bunge (1929–2004)

Professor (emeritus) Hans-Joachim Bunge died unexpectedly on November 28, 2004, at the age of 75 years from a cerebral apoplexy. He is survived by his wife Helga and his son Hans-Peter.

Hans-Joachim Bunge was born on July 29, 1929, in Zerbst, a small town situated between Magdeburg and Dessau in Germany. After having finished high-school in 1946, he was a precision mechanic apprentice. In 1947, he entered the Martin Luther University at Halle as a student of physics. In 1955, he received his Dr rer. nat. degree with the Thesis 'Magnetic Anisotropy of Cold Rolled Iron-Nickel Alloys' from the same university. From then on, his scientific interests were centred on crystal texture. In 1964, he was awarded his Dr habil. degree from the Humboldt University of Berlin for the Habilitation Thesis 'On the Representation of Textures'.

Hans-Joachim Bunge was a research scientist at the Physics Department of the University of Traffic, Dresden, from 1953 till 1955, where he investigated hard magnetic materials. From 1955 to 1968, a fruitful period of scientific work followed at the Institute of Crystal Structure Research of the (East) German Academy of Sciences in Berlin, dedicated to polycrystal X-ray



Figure 1
H.-J. Bunge chairing the Texture and Stress Analysis microsposium of the ECM conference held in Prague, August 1998 (<http://www.xray.cz/ecm%2Dcd/ecm/post/a5.htm>) (photograph courtesy of Radomir Kužel, organiser of the ECM conference).

diffraction, texture analysis and technological applications. In 1968 he returned to Dresden to the Central Institute of Solid State Physics and Materials Research of the German Academy of Sciences, where he was engaged in texture analysis and neutron diffraction. His promising career as a scientist in East Germany came to an abrupt halt when he and his family tried, in vain, to escape from ideological persecution. They were imprisoned and kept apart from each other from 1974 till 1975 when they were finally allowed to leave East Germany. In the years 1975–1976, he was a DFG fellow (German Research Foundation) at Clausthal University of Technology and at the University of California Berkeley. In 1976, Hans-Joachim Bunge succeeded Professor Günter Wassermann as Professor and Head of the Institute of Physical Metallurgy at Clausthal. From 1989 to 1991, he was Dean of the Department of Metallurgy and Materials Science of that university.

After his retirement in 1997, he found a new, supportive, scientific home at the Institute of Physics and Physical Technology of the Clausthal University of Technology. Until his last days, he supervised with great enthusiasm a research project at the HASYLAB facilities in Hamburg, financially supported by the German Research Foundation (DFG), on texture analysis with hard synchrotron radiation.

Hans-Joachim Bunge has performed outstanding scientific work. In 1965 he managed to solve, independently of R. J. Roe, one of the greatest challenges of quantitative texture research, namely pole-figure inversion, by developing the harmonic series expansion method. In 1969 he published the basic treatise on mathematical methods of pole-figure inversion 'Mathematische Methoden der Texturanalyse' (Bunge, 1969). The extended and revised English edition of this book was published in 1982 under the title 'Texture Analysis in Materials Science' (Bunge, 1982). It is still considered to be the comprehensive standard handbook in this field of materials science. He is the author or editor of ten more books on quantitative texture analysis and on anisotropic materials properties. He has published more than 450 contributions to scientific journals and conference

proceedings. From 1986 to 2003, Hans-Joachim Bunge was the editor of the journal 'Textures and Microstructures'. Since 1978, he was a member of the International Committee of the International Conference on Textures of Materials (ICOTOM). From 1985 to 2004, he was the speaker of the Special Committee for Textures of the German Society of Materials (FA Texturen der DGM).

Hans-Joachim Bunge developed the fundamentals of quantitative texture analysis, and he was keen to bring his expertise to the world to stimulate theoretical as well as applied work in fields as diverse as materials science and geology. Starting with joint courses of advanced instruction held at Metz (France) in 1979 and Clausthal (Germany) in 1981, sponsored by the Deutsche Gesellschaft für Metallkunde and the Société Française de Métallurgie, it became a tradition of his institute for many years to organize annual workshops on texture analysis and related topics. The contributions have been condensed in a series of books (Bunge, 1986, 1987; Bunge & Esling, 1982, 1991; Bunge *et al.*, 1994) which reflect the various aspects of crystallographic texture in materials science and geology.

In recognition of his scientific achievements, Hans-Joachim Bunge received a number of honorific titles. He was awarded, for instance, the degree of an Honorary Doctor of the University of Metz (France) in 1979, the degree of an Honorary Professor of the Beijing Polytechnic University (China) in 1993, the Honorary Membership of the Czech Society for Metal Science in 1995, and the Honorary Membership of the Texture Society of India in 2000. In 2003, he received the Carl Hermann Medal of the German Society for Crystallography.

His life was committed to science. Even in the course of his numerous activities, he always had time for students and his colleagues. He still had many plans for the future, both at work and in his personal life. Hans-Joachim Bunge was a genial, mild-mannered man of a uniformly cheerful and gentle disposition. His loss will be sadly felt by a large community of friends and associates.

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