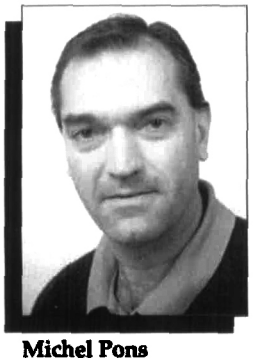
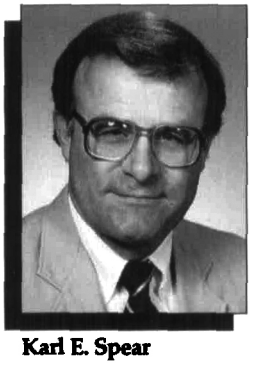
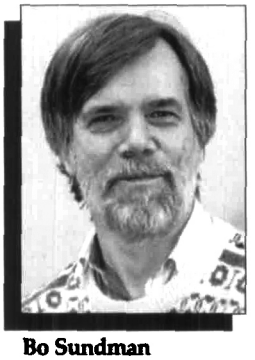

Michel Pons


Nigel Saunders


Colin J. Small


Karl E. Spear


Bo Sundman


Toshihiro Tanaka

Colin J. Small, after graduating from Sheffield University, carried out research into amorphous metals before joining Rolls-Royce in 1987. Initially, Small worked on steel for bearing and shaft applications before moving into the X-Ray Diffraction Department, where he has been for the last eight years. During this time, he initiated the construction of a validated thermodynamic database for use with alloy and process design of Ni-based superalloys for use in gas turbines. The database is now being used extensively within Rolls-Royce, and Small now supports its wide use while exploring future applications of phase-diagram modeling to alloy and process design.

Karl E. Spear is a professor of materials science and engineering at The Pennsylvania State University. He was chair of its Ceramic Science and Engineering Program from 1986 to 1991. Spear received a BS degree from Baker University and a PhD degree from the University of Kansas, and held a National Science Foundation Graduate Fellowship at the University of Munster, Germany. He worked at Oak Ridge National Laboratory for three years before joining Penn State in 1970. Spear is a Fellow of the Electrochemical Society and the American Ceramic Society, and received the ECS Solid State Science and Technology Award in 1997. He is currently a titular member of the International Union of Pure and Applied Chemistry (IUPAC), and is chair of its Commission on High-Temperature Materials and Solid-State Chemistry. Spear has over 168 publications and three patents, primarily related to the synthesis and chemical behavior of materials at high temperatures. This includes nuclear fuels, metal borides, crystal growth and chemical vapor deposition (CVD), diamond CVD, corrosion of advanced ceramics, composite-interface reactions, and thermodynamic modeling of phase diagrams and complex glass systems. A common research thread has been the application of high-temperature chemistry principles, phase equilibria, and thermodynamics to predict and understand materials behavior. Spear can be reached at 118 Steidle Bldg, Penn State University, University Park, PA 16802; phone 814-863-0990; fax 814-865-2917; and e-mail kes@psu.edu.

Bo Sundman received a masters degree in physics engineering and a PhD degree in physical metallurgy at the Royal Institute of Technology (KTH). He continued to work in the Department of Materials Science and Engineering at KTH with thermodynamic modeling and the development of the Thermo-Calc software system. He has been a visiting researcher at several universities in France, Germany, and Japan and was appointed professor in computational thermodynamics at KTH in 1994. Sundman can be reached at bosse@met.kth.se.

Toshihiro Tanaka is associate professor in the Department of Materials Science and Processing, Graduate School of Engineering, Osaka University. He received his PhD degree in engineering from Osaka University. He has studied the phase equilibria between solid and liquid phases in multicomponent alloy and the thermodynamics of alloys, especially the relationship between heat of mixing and excess entropy in liquid and solid alloys. Recently, Tanaka has studied the thermodynamics of materials surfaces and applied thermodynamic databases to evaluate physicochemical properties such as surface tension of liquid alloys and molten ionic mixtures. Tanaka can be reached at the Department of Materials Science and Processing, Faculty of Engineering, Osaka University, 2-1 Yamadaoka, Suita, Osaka 565-0871, Japan; tel./fax 81-66-879-7467, e-mail tanaka@mat.eng.osaka-u.ac.jp □

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