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known as the "Lawson Criterion," which relates temperature, particle density and confinement time for the operation of a fusion reactor. Lawson received his ScD from Cambridge University in 1959. After a short time at Stanford University, he joined the Rutherford Laboratory (now Rutherford-Appleton) as project leader for the design and construction of the Harwell variable-energy cyclotron, the first to accelerate medium-to-heavy ions; he was appointed deputy chief scientific officer of the Laboratory in 1978. Lawson has written *The Physics of Charged-Particle Beams* (1977), which is considered a standard work. More recently he has incorporated lasers into accelerator design and has conducted studies in conjunction with the University of Maryland on beam transport near the space-charge limit.

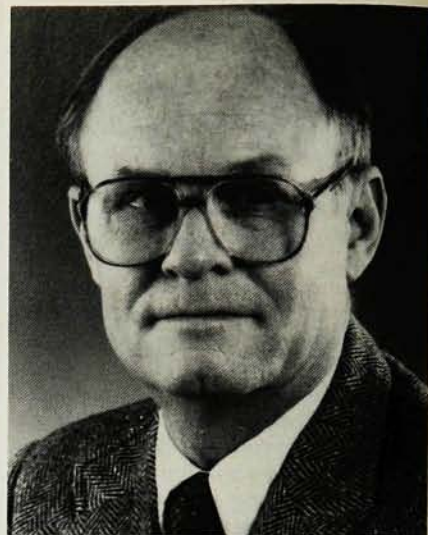
Isaak was cited "for his outstanding contributions to Mössbauer effect, Earth and solar physics." Isaak studied at the University of Melbourne and then accepted a position as a research physicist at Imperial Chemical Industries Australia and New Zealand, where he developed the atomic-beam resonance spectrometer during the late 1950s. In 1961 he joined the faculty of the University of Birmingham, becoming a full professor in 1984. His early research, with P. B. Moon, centered on the Mössbauer effect and resulted in an experimental determination of the upper limit of Earth's speed through the "ether." In 1969, Isaak began fundamental studies of oscillations of the Sun's surface, as evidenced by the displacement of absorption lines in the solar spectrum. Isaak and his colleagues have discovered that these oscillations occur at a well-defined series of frequencies.

Porter receives Society of Rheology Bingham Medal

Roger S. Porter (University of Massachusetts) has been named the 1985 Bingham Medalist of the Society of Rheology. The medal is presented annually to an individual for outstanding contributions to rheology.

Porter received his PhD in chemistry from the University of Washington at Seattle in 1956. He then joined the research staff of the Chevron Research Company, eventually becoming a senior research associate. In 1966 he became an associate professor of polymer science and engineering at the University of Massachusetts in Amherst; he served as head of the department for 1966-76 and was made a full professor in 1973.

Porter's research interests have centered on the characterization, rheology



PORTER

and processing of thermoplastics and liquid crystals. He reported the first entanglement characteristics for many polymer systems, including polyethylene. He has used compressed powders and single crystals to reduce molecular entanglements in drawing polymers to produce thermoplastics of high tensile modulus. Porter has used ammonia as a reversible plasticizer for producing aliphatic nylon polymers of high tensile strength by compressing ammonia gas into them prior to extrusion, then evaporating the ammonia from the drawn nylon. In addition, he has described in detail the effect of a polymer's composition on its viscosity-temperature characteristics, the effect of its molecular weight and distribution on its shear viscosity, and the effects of pressure on viscosity. In the early 1960s, Porter developed one of the earliest experimental programs in the US on the flow properties of liquid crystals. He made pioneering studies of the order and flow of low-molecular-weight mesophases. His current research focuses on liquid crystals in polymer systems. Porter has been active in the Society of Rheology for 20 years, and served as an assistant editor of its *Transactions* during 1966-69.

Washington ins and outs: NSF and SSC consortium

Edward A. Knapp, senior fellow and research adviser at Los Alamos National Laboratory, was elected president of the Universities Research Association on 1 August. Based in Washington, D.C., URA is a consortium of 56 universities that operates Fermilab and the Department of Energy's Central Design Group for the Superconducting Super Collider. Knapp, who had been director of the National Science Foundation for less than two years when he