



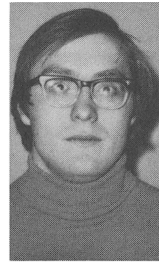
## AUTHORS – JULY 1976

### REACTORS

#### URANIUM-233 BREEDING AND NEUTRON MULTIPLYING BLANKETS FOR FUSION REACTORS

Andrew G. Cook (top) (BA, physics, Cornell University, 1973) is a graduate student in the Nuclear Engineering Department at the Massachusetts Institute of Technology and is working under a Babcock and Wilcox Company fellowship. His present interests are in hybrid fusion reactors, fission reactor fuel cycles, and, more particularly, in the neutronics and economics of fissile isotope production. James A. Maniscalco (PhD, nuclear engineering, Purdue University, 1973) is a Lieutenant in the U.S. Navy, currently assigned as a Military Research Associate at Lawrence Livermore Laboratory, where he is head of the System Studies Group for Laser Fusion. His present interests lie with the technological problems of power and fissile fuel production with laser fusion, particularly blanket neutronics and radiation shield design.

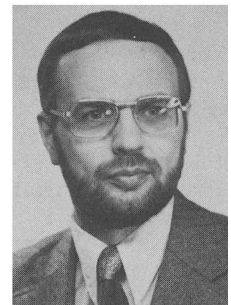
*Andrew G. Cook*  
*James A. Maniscalco*



#### ON THE USE AND INFLUENCE OF GAMMA RADIATION IN REACTOR NOISE MEASUREMENTS

Bruno Bårs (Dr. of Technology, physics, Helsinki University of Technology, 1971) is head of the reactor physics and radiation protection sections and deputy director of the Reactor Laboratory at Technical Research Centre of Finland. His principal interest is in reactor noise and associated problems in reactor dynamics.

*Bruno Bårs*

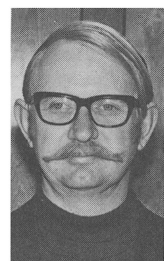
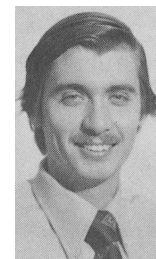


### REACTOR SITING

#### THE DEVELOPMENT OF AN ENVIRONMENTAL MONITORING SYSTEM FOR THE CONTINUOUS DETECTION OF LOW-LEVEL RADIOACTIVE GASES

Robert Jabs (top) (BS, electrical engineering, Valparaiso University, 1972; MS, nuclear engineering, Pennsylvania State University, 1974) is an engineer in the instrumentation group at the Westinghouse Electric Corporation Advanced Reactors Division for the Clinch River Breeder Reactor Plant (LMFBR Demonstration Plant). His current responsibilities include radiation monitoring and post-accident instrumentation. William A. Jester (PhD, chemical engineering, The Pennsylvania State University, 1965) is associate professor of nuclear engineering at Pennsylvania State University. His current technical interests are the applications of radiation and radioisotopes in medicine, forensic science, and environmental monitoring.

*R. H. Jabs*  
*W. A. Jester*



**TECHNOLOGICAL DEVELOPMENT CONCERNING THE GAS-COOLED FAST BREEDER REACTOR TEST BUNDLE FOR THE IRRADIATION TEST IN THE HELIUM LOOP AT MOL**

*M. Peehs  
P. Rau*



M. Peehs (top) (Diploma, physics, 1962; doctoral thesis, metallurgy, 1964, University of Saarland/FRG) joined the Reactor Department of Siemens AG, which is now part of Kraftwerk Union AG, in 1964. He has worked primarily on the technology of advanced fuels and fuel elements, J-stress corrosion cracking, and Zry claddings. His present interests include investigation of hypothetical core melting and the development of a gas-cooled fast breeder reactor fuel element. Peter Rau [Ing. (grad.), Ohm-Polytechnikum, Nürnberg] joined the Reactor Department of Siemens AG, which is now part of Kraftwerk Union AG, in 1965. He was mainly engaged in the design of fast reactor fuel, absorber, and blanket elements, their clamping system, and the required out-of-pile and in-pile test specimens.

**PROCEDURE FOR DETERMINING LEACHABILITIES OF RADIOACTIVE WASTE FORMS**

*J. A. Kelley  
R. M. Wallace*



J. A. Kelley (top) (PhD, chemistry, Georgia Institute of Technology) is presently a research supervisor in the Separations Chemistry Division at the Savannah River Laboratory. His current interests are in nuclear fuel reprocessing and waste management. His most recent work has been a study of glass as a possible matrix for solidification of Savannah River Plant radioactive wastes. R. M. Wallace (BS, Bethany College, 1943; PhD, University of Kansas, 1953) is presently a research associate in the Separations Chemistry Division of the Savannah River Laboratory. Wallace has been involved in the chemistry of separations processes for nuclear materials since 1953. He has made contributions in the fields of solvent extraction, ion exchange, membrane technology, the chemistry of the fission products and actinide elements, and in nuclear waste management.

**INTERRELATIONSHIPS BETWEEN CREEP LIFE CRITERIA FOR FOUR NUCLEAR STRUCTURAL MATERIALS**

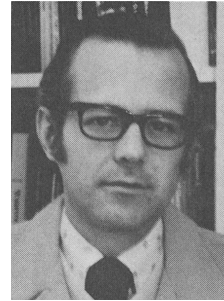
*M. K. Booker  
V. K. Sikka*



M. K. Booker (right) (BA, physics and mathematics, Vanderbilt University, 1974) is currently pursuing graduate study in metallurgical engineering at the University of Tennessee. He joined Oak Ridge National Laboratory (ORNL) in May 1974 and has been involved in correlation and analysis of mechanical properties data for elevated-temperature structural materials. V. K. Sikka (MS, PhD, metallurgical engineering, 1970, 1973, University of Cincinnati) joined ORNL in March 1974 and has been working on heat-to-heat variation in tensile and creep properties and on the effect of aging on tensile and creep properties of Types 304 and 316 stainless steels.

## RADIATIVE HEAT TRANSFER IN MOLTEN $UO_2$ BASED ON THE ROSSELAND DIFFUSION METHOD

*Edward E. Anderson*

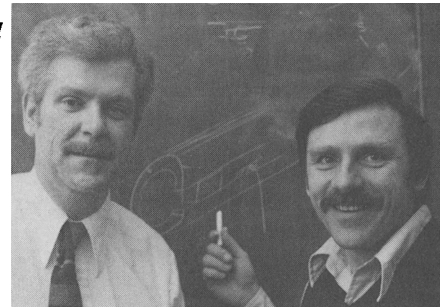


Edward E. Anderson (PhD, mechanical engineering, Purdue University, 1971) is an assistant professor of mechanical engineering at South Dakota School of Mines and Technology. He is engaged in teaching mechanical and nuclear engineering, heat transfer research, and consulting. His interests include thermal radiation heat transfer, post-accident nuclear safety, as well as wind and solar energy conversion.

## A SIMPLE METHOD FOR CALCULATIONS OF STEADY-STATE CREEP RATES IN NONCONSERVATIVE PLASTIC DEFORMATION

*G. L. Wire*

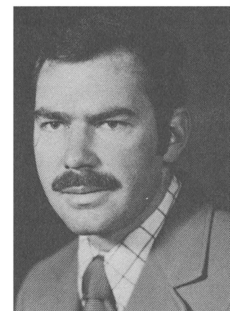
*J. L. Straalsund*



G. L. Wire (left) (PhD, physics, University of Illinois, 1972) is a senior scientist at Westinghouse Hanford Company in irradiation creep. His goal is to develop a consistent and comprehensive model for irradiation-induced creep of structural materials in a fast-reactor environment. Jerry L. Straalsund (PhD, engineering science, Washington State University) is manager of irradiation creep at Westinghouse Hanford Company.

## INSTRUMENTED FAST-REACTOR IRRADIATION OF BORON CARBIDE PELLETS

*A. L. Pitner*



Al Pitner (BS, physics, Washington State University, 1964) has been engaged in the absorber material irradiation program at Hanford Engineering Development Laboratory since 1968. His current interests relate to performance prediction analysis of liquid-metal fast breeder reactor control elements.

## RADIOACTIVE WASTE

## VOLUME REDUCTION OF PLUTONIUM-CONTAMINATED SOIL

*J. H. Horton*

*E. L. Albenesius*

J. H. Horton (top) (PhD, soil chemistry, Pennsylvania State University, 1952) has been with the E. I. du Pont de Nemours Company, Atomic Energy Division, Savannah River Plant, since 1953. He has held research and supervisory assignments in environmental monitoring and waste management. Presently he is a staff chemist. His current interests include radioactive waste management and the effect of coal-fired power plants on heavy metals in the environment. E. L. Albenesius (PhD, organic chemistry, University of North Carolina, 1952) joined the E. I. du Pont de Nemours Company, Atomic Energy Division, in 1951 and the Savannah River Laboratory in 1952. He has held research management assignments in Environmental Monitoring and Analytical and Process Chemistry. He is presently research manager, Environmental Effects Division. His current interests include environmental chemistry, radioactive nuclides, and solid radioactive waste management.

