



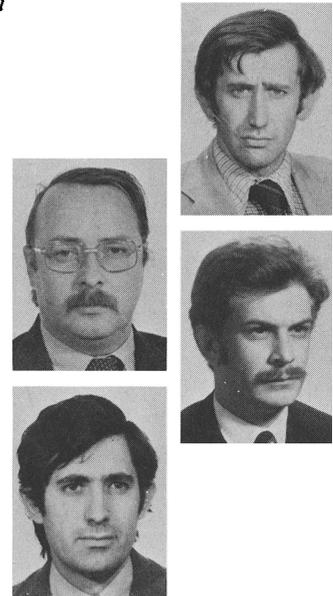
AUTHORS — FEBRUARY 1984

FISSION REACTORS

GENERAL EMPIRICAL MODEL FOR ⁶⁰Co GENERATION IN PRESSURIZED WATER REACTORS WITH CONTINUOUS REFUELING

Guillermo A. Urrutia (top right) (MSc, physical chemistry, University of La Plata, 1972) is in charge of nuclear services of the Department of Reactor Chemistry, Comisión Nacional de Energía Atómica (CNEA) (Argentina). His current duties involve servicing in chemical problems to nuclear power stations. **Alberto J. G. Maroto** (top left) (PhD, physical chemistry, University of Buenos Aires, 1967) is head of the Department of Reactor Chemistry, CNEA. His current research interests are in the area of physical chemistry of colloids and surfaces, as applied to nuclear power station problems. **Roberto Fernández-Prini** (bottom right) (PhD, physical chemistry, University of Buenos Aires, 1964) is head of the Division of Coolant and Moderator Physical Chemistry, Department of Reactor Chemistry, CNEA. His current interests are in the field of physical chemistry of solutions as applied to coolant chemistry and the steam-water cycle. **Miguel A. Blesa** (bottom left) (PhD, physical chemistry, University of La Plata, 1968) is head of the Chemical Control Division, Department of Reactor Chemistry, CNEA. His current research interest is in the area of inorganic and colloid chemistry as applied to decontamination and chemical control in power reactors.

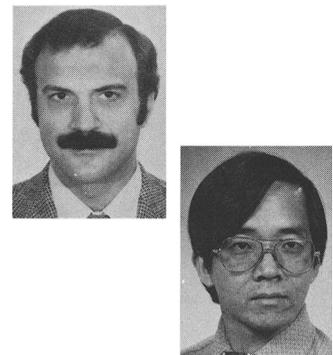
*Guillermo A. Urrutia
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TIME-DEPENDENT ACCIDENT SEQUENCES INCLUDING HUMAN ACTIONS

G. Apostolakis (top) (Diploma, electrical engineering, National Technical University, Athens, 1969; MS, 1970, and PhD, 1973, engineering science and applied mathematics, California Institute of Technology) is a professor of engineering and applied science at the University of California, Los Angeles (UCLA). His research interests are in risk assessment. **T. L. Chu** (BS, physics, National Cheng Kung University, Taiwan, 1972; MS, 1979, and PhD, 1983, nuclear engineering, UCLA) is currently a consultant with Pickard, Lowe and Garrick, Inc. His research interests are in human factors and accident phenomenology.

*G. Apostolakis
T. L. Chu*



FUMAC—A NEW MODEL FOR LIGHT WATER REACTOR FUEL RELOCATION AND PELLET-CLADDING INTERACTION

*Lewis A. Walton
John E. Matheson*

Lewis A. Walton (top) (BS, aeronautical engineering and astronautics, Rensselaer Polytechnic Institute, 1967; PE, Commonwealth of Virginia, 1978) is employed as a senior supervisory engineer at the Utility Power Generation Division of Babcock & Wilcox Company (B&W). His current assignment is supervisor of the Fuel Rod Design and Performance Group. His interests include advanced fuel rod designs, material performance evaluations, and the development of the mechanical and materials performance models used in design and licensing. **John E. Matheson** (BS, physics, Lownell Technological Institute, 1968; MSE, aerospace engineering, Catholic University, 1973) is employed as a principal engineer in the Fuel Mechanical Engineering Group at the Utility Power Generation Group of B&W. His current interests include finite element methods, nonlinear material behavior, and fuel rod performance under transient conditions.



FUEL/CLADDING CHEMICAL INTERACTION IN MIXED-OXIDE FUEL AT HIGH BURNUP

Leo A. Lawrence

Leo A. Lawrence (MS, physics, University of Denver, 1967) is a fellow scientist in the Fuels Performance Section of the core evaluation department at the Hanford Engineering Development Laboratory operated by Westinghouse Hanford Company for the U.S. Department of Energy. He has been involved since 1968 with the in-reactor performance of mixed-oxide fuels for fast breeder reactors. His current interests include chemical behavior of mixed-oxide fuels and performance of advanced oxide fuels designs.



NUMERICAL ANALYSIS OF NUCLIDE MIGRATION THROUGH FISSURED GEOLOGICAL MEDIA

*Joonhong Ahn
Atsuyuki Suzuki
Ryohei Kiyose*

Joonhong Ahn (top) (BS, 1981, and MS, 1983, nuclear engineering, University of Tokyo) is a doctoral candidate at the University of California, Berkeley, where he has studied isolation systems for geological disposal of radioactive wastes since 1983. **Atsuyuki Suzuki** (center) (BS, 1966; MS, 1968; and PhD, 1971, nuclear engineering, University of Tokyo) is an associate professor of nuclear chemical engineering at the University of Tokyo. His current field of interest is process analysis of the nuclear fuel cycle, including laser application, safety management, and fuel economy. **Ryohei Kiyose** (bottom) (BS, physics, 1952; MS, chemical engineering, 1954; PhD, nuclear engineering, 1976, University of Tokyo) is a professor of nuclear chemical engineering at the University of Tokyo and is interested in reprocessing and waste management technology and safety aspects of nuclear fuel facilities.



GUIDELINES FOR THE SELECTION OF SITES THAT MIGHT PROVE SUITABLE FOR RADIOACTIVE WASTE DISPOSAL ON OR BENEATH THE OCEAN FLOOR

R. C. Searle



R. C. Searle (BA and MA, physics, Cambridge University; PhD, geophysical studies of the East African Rift Valleys, University of Newcastle upon Tyne, 1969) subsequently lived in Ethiopia for four years furthering those studies. He returned to the United Kingdom in 1973 to join the Institute of Oceanographic Sciences, where he is currently a principal scientific officer working in marine geology and geophysics. He joined the Seabed Working Group's Site Selection Task Group of the Nuclear Energy Agency as the U.K. representative in 1980 and has been lead correspondent of that group since 1981.

MATERIALS

FRACTURE TOUGHNESS BEHAVIOR OF UNIRRADIATED AND IRRADIATED $2\frac{1}{2}$ Cr-1 Mo STEEL PLATE AND WELDMENT

W. J. Mills

W. J. Mills (BS, 1971; MS, 1973; and PhD, 1975, metallurgical engineering, Lehigh University) is a fellow engineer in the Materials Technology Section at Westinghouse Hanford Company where he characterizes the fracture mechanics behavior of nuclear reactor structural materials. His technical interests include the study of metallurgical variables, environment, and neutron irradiation on the fatigue and fracture responses for ferritic steels, austenitic stainless steels, and nickel-base superalloys.



HEAT TRANSFER AND FLUID FLOW

TURBULENT CONDENSATION ON A COLD WALL IN THE PRESENCE OF A NONCONDENSABLE GAS

Michael L. Corradini

Michael L. Corradini (BS, mechanical engineering, Marquette University, 1975; MS and PhD, nuclear engineering, Massachusetts Institute of Technology, 1978) worked at Sandia National Laboratories for three years as principal investigator in the steam explosion research program and currently is assistant professor of nuclear engineering at the University of Wisconsin-Madison.



A KINETICS AND THERMAL-HYDRAULICS CAPABILITY FOR THE ANALYSIS OF RESEARCH REACTORS

William L. Woodruff

William L. Woodruff (BS, physics, Nebraska Wesleyan, 1960; MS, physics, University of Nebraska, 1964; PhD, nuclear engineering, Texas A&M University, 1970) has been a nuclear engineer in the Applied Physics Division of Argonne National Laboratory since 1970. He is currently involved with the Reduced Enrichment Research and Test Reactor Program. His interests include reactor physics, methods development, and safety.

