NUCLEAR APPLICATIONS & TECHNOLOGY

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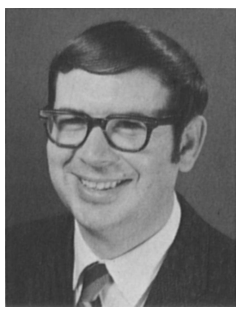

A. L. (Pete) Lotts is supervisor of Fuel Cycle Technology in the Metals and Ceramics Division of Oak Ridge National Laboratory, and in this capacity he directs the activities of five groups that are involved in the development of fabrication technology for nuclear fuels, irradiation testing of fuels, the economic and performance evaluation of fuels and nuclear fuel cycles, and in the development and demonstration of methods for recycle of nuclear fuels.

FUELS I - SPECIAL SESSION ON FUEL CLADDING MODELS

Thomas T. Claudson (left) (PhD, Oregon State University, 1962) has worked since 1955 in the field of nuclear power production at the Hanford Atomics Product Operation. At present, his work at Battelle-Northwest is centered around the development of fast reactor fuel cladding and irradiation effects in reactor materials. Richard W. Barker (right) has been associated with studies related to the determination of the effects of irradiation on the mechanical properties of reactor structural and cladding materials for the past 11 years. He is presently contributing to studies related to the effects of fast reactor irradiation on the biaxial creep properties of stainless-steel cladding. Robert L. Fish (MMS, Oregon State University) has been associated with Battelle-Northwest Laboratory since 1968 as a research engineer. His work has been directed toward the study of the effects of fuel and coolant interactions on the properties of austenitic stainless-steel cladding material. He has also been involved in studies related to irradiation-induced metal swelling and the evaluation of mixed-oxide fuel pin performance through the use and refinement of hybrid computer code.

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S. D. Harkness, J. A. Tesk, Che-Yu Li

Che-Yu Li (center), S.D. Harkness (left), and J. A. Tesk (right) are members of the Cladding and Analysis Group at Argonne National Laboratory of which Che-Yu Li is Group Leader. S. D. Harkness has been involved with the characterization of fast neutron irradiated microstructures while J. A. Tesk's principal interest has been the understanding of in-reactor creep phenomena.

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J. B. Conway (right) (BChE, Villanova University; MS and PhD, ChE, University of Cincinnati), J. T. Berling (left) and R. H. Stentz (center) (BS, mathematics and physics, University of Cincinnati) are members of Nuclear Systems Programs, General Electric Company, Evendale, Ohio. J. B. Conway is Manager, Materials Evaluation and has 15 years experience in mechanical property measurements. He is the author of three books dealing with the analysis of mechanical property data and is currently serving as Adjunct Professor of Chemical Engineering at the University of Cincinnati. J. T. Berling is a research engineer, Applied Mechanics and has 12 years experience in creep-rupture, short-term tensile and low-cycle fatigue testing of various metals. Current studies involve evaluating the effects of hold time on the low-cycle fatigue testing of various metals. Current studies involve evaluating the effects of hold time on the low-cycle fatigue behavior of stainless steels. R. H. Stentz, Manager, Specialized Measurement Techniques has had 14 years experience in the fields of electronic instrumentation, analog computers, nuclear sensors, and servo-controlled materials test equipment. In a recent development, he devised a special computer circuit for use in strain controlled low-cycle fatigue tests.

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J. H. Gittus, D. A. Howl, H. Hughes

John H. Gittus (left) (BSc) (London, external, AIM) is Research Manager and Leader of the Materials Science Group, UKAEA, RFL Springfields. His main interests are the development of materials for use in nuclear fuel elements and theoretical models of their in-reactor performance. David A. Howl (top right) (MA, Cantab.) is a senior scientific officer in the Materials Science Group. He is concerned with the mathematical modeling of fuel pin behavior and is responsible for the programming and operation of the computer program which computes clad stresses and strains. His other main interest is in the physical properties of fuel pin materials. Harry Hughes (bottom right) (PhD, Cambridge) from 1957 to 1964 taught geophysics at MIT. During 1955 to 1957 and from 1964 he has been employed in the Materials Group at the Reactor Fuel Element Laboratories of the UKAEA.

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Eliot Duncombe, Ivan Goldberg

E. Duncombe (left) (BS, Cambridge, 1937; MS, Delaware, 1956; PhD; University of Pittsburgh, 1965) has worked since 1957 in the field of nuclear power plants at the Bettis Atomic Power Laboratory. He is currently engaged in fuel element development and his center of activity is the development of design and analysis methods. I. Goldberg (BS, physics, College of the City of New York, 1962) works at Bettis Atomic Power Laboratory. He has been principally engaged in the development of design and analysis methods, their application to designs, and the interpretation of irradiation tests of bulk oxide fuel rods connected with the light water breeder reactor (LWBR).

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M. Guyette

Michel Guyette (electrical and mechanical engineering, University of Louvain, 1963) has worked since 1964 at Belgonucleaire where he has been involved in fuel design work for fast and thermal reactors. He was delegated for 18 months to the Gesellschaft für Kernforschung, Karlsruhe where he was a member of a team associated with fuel development for FBR's.

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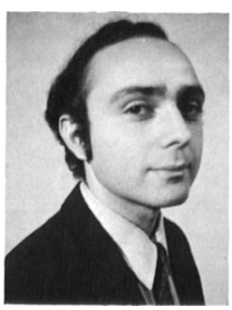
R. C. Kern, W. C. Coppersmith, Z. R. Rosztoczy

The authors are members of the Safety Analysis Section of Combustion Engineering's Nuclear Power Department. Richard C. Kern (center) (MS, Marquette University, 1965) has been active in the field of reactor physics for the past seven years in both design and developmental work. His most recent efforts have been directed toward development of calculational methods in the areas of fuel inventories and xenon spatial oscillations. W. C. Coppersmith (left) (ScD, University of Virginia, 1964) has been working in the field of reactor dynamics for the past five years. Zoltan Rosztoczy (right) (PhD, University of Arizona, 1964) is Manager of the Safety Analysis Section. His experience has been in reactor dynamics, xenon control, fuel accounting, and accident analysis.



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D. Steiner

Don Steiner (PhD, nuclear engineering, Massachusetts Institute of Technology, 1967) joined the Reactor Analysis Department, Reactor Division, of the Oak Ridge National Laboratory in 1967. Since his arrival at ORNL, he has performed investigations on both fission and fusion reactor concepts. His current efforts deal with the feasibility of power by fusion.

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Thomas J. Hirons, R. Douglas O'Dell

Thomas J. Hirons (left) (PhD, North Carolina State University, 1966) is a staff member in the Reactor Division at Los Alamos Scientific Laboratory. He is working in fuel-cycle analysis and code development for large fast breeder reactors and is in charge of the fuel-cycle work in the Reactor Division. R. Douglas O'Dell (PhD, University of Texas, 1965) is an Associate Professor of Nuclear Engineering at the University of New Mexico. From June 1968 to August 1969, he was a Visiting Staff Member in the Reactor Division of the Los Alamos Scientific Laboratory working in the area of LMFBR design analysis.

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F. E. Armstrong, W. D. Howell, D. W. Whitlock

F. E. Armstrong (left) is project leader for applied nuclear research at the Bureau of Mines Petroleum Research Center in Bartlesville, Oklahoma. W. D. Howell is a petroleum engineer with the same organization. D. W. Whitlock (not shown) formerly with the same group as a scientific aide is now self-employed as a professional fly fisherman. Some people do make it.

EVALUATION OF CdTe AS AN INTEGRAL GAMMA-RAY COUNTER 112

H. H. Nichols, J. M. Palms

H. H. Nichols (right) (MS, physics, Vanderbilt University, 1956) is a nuclear engineer specialist at Lockheed, Georgia Company, and has been responsible for the design and development of nuclear gauging techniques and instruments, and for the evaluation of nuclear detectors for use in gauging application. John M. Palms (PhD, physics, University of New Mexico, 1966) is associate professor and chairman of the Physics Department at Emory University, Atlanta, and is a consultant to Lockheed, Georgia Company, on matters relating to radiation measurements. Previously, he worked at the University of California's Los Alamos Scientific Laboratory.