NUCLEAR APPLICATIONS & TECHNOLOGY

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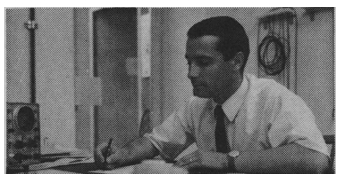
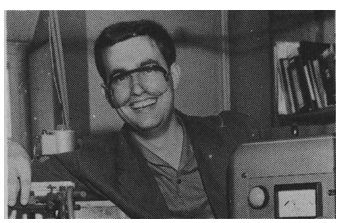
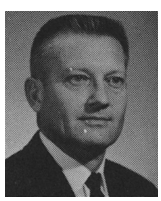
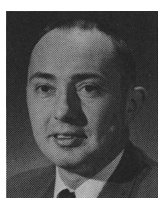
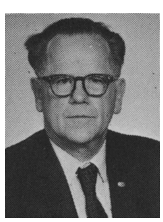




R. Böhme (above), currently working on the German fast critical facility SNEAK at the Nuclear Research Center in Karlsruhe, has been in fast-reactor work since 1962. In 1963-64, he was assigned to Argonne National Laboratory to work on the fast critical ZRP-6. H. Seufert, a physicist with "Gesellschaft fur Kernforschung," Karlsruhe, has been in the "Institute fur Neutronenphysik und Reaktortechnik" since 1964 and is currently working at INTERDIGIT, Germany.



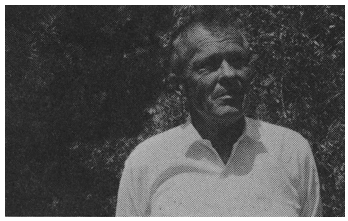




Robert E. Rothe (right) is a senior research physicist, specializing in critical mass physics for the past five years. C. L. Schuske (upper left) is director of nuclear safety and an ANS and APS member. He is active in ANS Standards Committees. E. E. Hicks is a chemical engineer, specializing in criticality applications. All three authors are with the Dow Chemical Company.

Walter Seifritz (PhD, nuclear engineering, University of Karlsruhe) is senior scientist at the Institut fur Kerntechnik of the University of Hannover, Germany, where he is working in fast reactor physics, experimental reactor physics, and reactor noise analysis.

REACTOR SITING

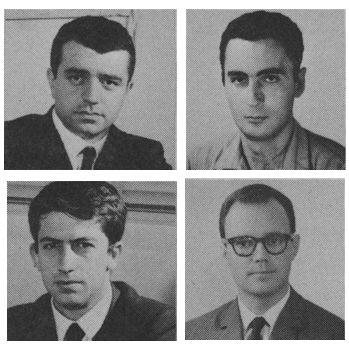


W. B. Lewis (PhD, California Institute of Technology, 1933) has 35 years of industrial experience and is currently an independent consultant in the application of basic science and mathematics.

FUELS

J. Van Impe (right), professor of nuclear materials at the ITSEIN, Brussels, is also consultant to ENI, Antwerp. His civil mining engineering degree is from Brussels University. J. P. Rombaux (left) is chief engineer at ENI, Antwerp (Belgium) and head of both the nuclear and instrumentation departments. His engineering degrees are from ETSE and ITSEIN, Brussels. P. Chaussonnet, chief of the SEPI new techniques department, was in charge of the design and construction of the Pierrelatte enrichment plant uranium circuits. His engineering degree is from the Ecole Nationale Superieure des Arts et Métiers, Paris.

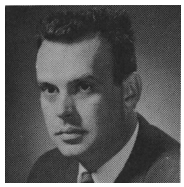
C. D. Baumann (left) (MS, physics, Lehigh University) and P. E. Reagan (BS, physics, Middle Tennessee State University) are physicists with Oak Ridge National Laboratory's Reactor Chemistry Division. Baumann has been with ORNL since 1950 and has been involved in neutron-flux monitoring, and the design and evaluation of reactor experiments, particularly the testing of gas-cooled reactor fuels. Reagan has been with ORNL since 1956 and has published several papers concerning irradiation damage to reactor fuels, especially coated-fuel particles.

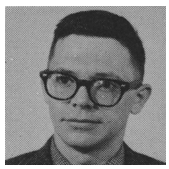


P. Grillo (upper left), P. L. Rotoloni (not pictured), A. Nobili (upper right), and G. Testa (lower left) are involved in research and design of light-water reactor fuel elements at Casaccia Nuclear Research Center. F. Doria (lower right) is engaged in the mechanical design of reactor physics experiments.

MATERIALS

W. N. McElroy (left) (PhD, Illinois Institute of Technology, 1965), at Battelle Northwest since 1967 and R. E. Dahl, Jr. (right) (MS, University of Washington, 1961 and presently a PhD candidate at North Carolina State University), at Battelle Northwest since 1955, are engaged in neutron dosimetry and irradiation effects studies for the LMFBR program. C. Z. Serpan, Jr. (BS, Ohio University, 1956), at Naval Research Laboratory since 1962, is similarly engaged in neutron dosimetry and irradiation effects studies, but primarily for reactor pressure vessel applications.





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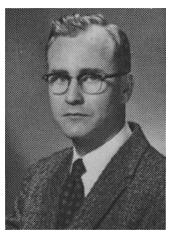
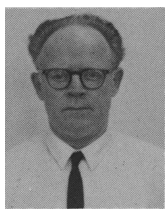
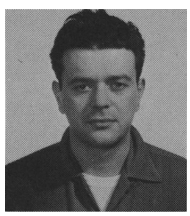
R. L. Stephenson, R. W. Swindeman

R. L. Stephenson (right) (BS, University of Kentucky, 1956) is currently studying the high-temperature creep of refractory alloys. He has been a member of the Oak Ridge National Laboratory staff since 1956. R. W. Swindeman (MS, University of Notre Dame, 1957) joined the Oak Ridge National Laboratory staff in 1957. He has been engaged in the study of mechanical properties of high-temperature alloys. concentrating on the area of creep and fatigue.







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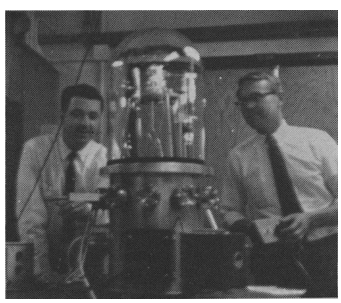
F. E. Senftle, P. W. Philbin, P. Sarigianis

F. E. Senftle (upper right) (PhD, physics, University of Toronto, Canada) has been with the US Geologyical Survey since 1951. He was previously with the Massachusetts Institute of Technology and prior to that, head of the Radiation Laboratory of the Department of Mines and Technical Services, Ottawa, Canada. P. W. Philbin (left) has been associated with various nuclear techniques for mineral exploration for the past two years. Prior to that he spent 13 years in airborne remote-sensing research methods and 20 years with the US Navy teaching aerial navigation. P. Sarigianis developed control instrumentation for the first critical facility in the Nuclear Division of the Martin Company. Prior to joining the US Geological Survey his experience included a wide range of assignments on various research and power reactors. Recently he has been developing accelerator and detector instrumentation for neutron-activation techniques.



A VARIABLE-SPACING, VACUUM-TYPE THERMIONIC DIODE 584

George H. Miley, C. Forbes Dewey, Jr.

George H. Miley (left), professor of nuclear and electrical engineering at the University of Illinois, is the author of a forthcoming ANS monograph on Nuclear Radiation Energy Conversion. Miley and C. Forbes Dewey (right) collaborated on the diode described here via the Kettering Foundation's BUILD Program which paired the Universities of Illinois and Colorado in a coordinated program of teaching and research development. Dewey, currently associate professor of mechanical engineering at MIT, maintains an active interest in plasmas, energy conversion, and space propulsion.

DEPARTMENTS