

TECH NEWS

for Scientists, Mathematicians

Operations Evaluation Group, M.I.T.

"Operations research"—the term itself—has attained full status in the recently published Webster's Third International Dictionary. OEG takes particular pleasure in this recognition because of our background as the oldest military operations research organization in the country.

Now when someone asks, "But what do you do?" we can refer him to Webster's.

OEG advises the Chief of Naval Operations, the Commandant, U. S. Marines, and certain Fleet and Force commanders regarding operational problems susceptible to quantitative analysis. A recent example is collected under the title, "The Selection of Cargo for Air Transport." Here the objective was to determine criteria for shipping the myriad replacement parts stocked by the Navy's Yokosuka (Japan) Supply Depot.

It was found, for example, that the items which are candidates for air transport from Oakland, California, to Yokosuka

can be selected on the bases of dollar volume of annual shipments and value per pound. Under the assumptions in the study, \$7.00 per pound was the break-even point. That is, there will be transportation savings if items with a higher value per pound go to Yokosuka by air.

The more sobering content of another study can be deduced from its title: "The Effects of Radiation on Populations," a two-part work considering (1) the effects on individuals exposed to radiation today and (2) the genetic consequences for future generations. One of many conclusions: The continued detonation of nuclear weapons in the stratosphere, at a 100-megaton-yearly rate, would result in reducing individual life expectancy by approximately 20 days. Although human survival would not be endangered by this testing rate, radiation from a nuclear war—involving the detonation of 100,000 to 1,000,000 megatons—would constitute a definite hazard to the mortality of the human race.

Assisting in the creation of a stable U. S. deterrent posture is one of the major aims of OEG's research program. Permanent career positions are available to scientists and mathematicians with advanced degrees who are interested in problem-solving and want to contribute substantively to the national purpose. These positions are in Washington, D. C. Please send your inquiry to the Director, Dr. Jacinto Steinhardt.

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with a lecture on phase determination by W. Hoppe. The remainder of the program will include the following papers: Low-Temperature Structure Analysis, C. S. Barrett; Structure Imperfections, H. Jagodzinski; Symmetry, B. N. Delaunay; Electron Microscopy as a Means for Structure Analysis, H. Ruska; and Automatic Instrumentation, R. Pepinsky.

Additional information concerning the meetings can be obtained by contacting the chairman of the local committee, Dr. F. Bopp, Institute for Theoretical Physics, University of Munich, Schellingstrasse 4-8, Munich 13, Germany.

Electromagnetic Scattering

PRREREGISTRATION by May 15 is required for attendance at an interdisciplinary conference on electromagnetic scattering which will be held August 13-15 at Clarkson College of Technology under the sponsorship of the American Chemical Society's Division of Colloid and Surface Chemistry and the Air Force Cambridge Research Laboratories. Participants in the conference are expected to include astronomers, chemists, mathematicians, physicists, meteorologists, radio engineers, geophysicists, biochemists and other scientists working in one or another area of the field.

The program lists sessions on scattering by spherical particles, scattering by nonspherical particles, scattering by charged species in solution, interactions in solids and liquids as determined by electromagnetic scattering, and multiple and incoherent scattering. As much time as possible will be allowed for discussion. Preregistration forms and further information can be obtained from M. Kerker, Clarkson College of Technology, Potsdam, N. Y.

Electromagnetic Measurements

SPONSORED jointly by the Radio Standards Laboratory of the National Bureau of Standards, the Professional Group on Instrumentation of the Institute of Radio Engineers, and the Instrumentation Division of the American Institute of Electrical Engineers, the 1962 Conference on Precision Electromagnetic Measurements will be held August 14-16 in Boulder, Colo.

Formerly called the Conference on Standards and Electronic Measurements, the meeting will be concerned with the strictly technical aspects of electromagnetic measurement. The title of the 1962 meeting was changed in order to emphasize the basic goal: the advancement of standards and accuracy throughout the coherent frequency spectrum. In addition, it is planned to give more emphasis this year to the impact of quantum electronics and space physics on electromagnetic measurements.

As in previous conferences, it is expected that the papers presented will be published in an issue of the *IRE Transactions on Instrumentation*. Specific areas

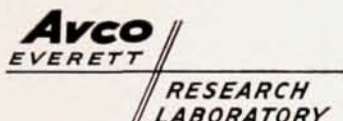
The Avco Everett Research Laboratory

The Avco-Everett Research Laboratory was the first industrial research laboratory to engage in the study of magnetohydrodynamics (MHD). More than five years ago the Laboratory identified two major areas for practical application—MHD electric power generation and MHD space flight. Work continues in these areas and also in theoretical MHD research.

The Laboratory also performs theoretical and experimental research in aerophysics. A major contribution has been the integration of the physics of dissociation, recombination and radiation to the more classical approach to hypersonic aerodynamics.

If you have a graduate degree and are interested in working in a technically stimulating environment with excellent facilities and experimental support, write or send brief resume to:

R. E. McDonald, *Personnel Manager*



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As always all qualified applicants will receive consideration for employment without regard to race, creed, color or national origin.

PLASMA PHYSICS

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OPTICS

Ph.D. or M.S. with demonstrated ability is needed for theoretical and experimental studies of optical components and systems. (UV through IR Optics.)

Immediate application to space systems and tactical missile contracts.

Independent basic and/or applied research experience and capabilities highly desirable.

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APPLICATION

■ Spectroscopy of high energy charged particles

Linear energy response

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PROTONS—TO 16 Mev

TRITONS—TO 25 Mev

DEUTERONS—TO 21 Mev

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■ Detection of—

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to be dealt with include: (1) atomic frequency and time, (2) determination of conductivity and complex (tensor) electric and magnetic susceptibilities, (3) direct current and low-frequency measurements, (4) radiofrequency and microwave measurements, (5) quantum electronics in precision measurements, (6) electromagnetic measurements for space exploration, and (7) data reduction in precision measurements.

Further details can be obtained from J. F. Brockman, Boulder Laboratories, National Bureau of Standards, Boulder, Colo.

Nuclear Education

AUGUST 20, 21, and 22 have been set as the dates for a conference entitled *Progress in Nuclear Education—Science and Engineering*, to be sponsored by Oak Ridge National Laboratory, Oak Ridge Institute of Nuclear Studies, and the American Nuclear Society at Gatlinburg, Tenn. The meeting has been organized in cooperation with the Atomic Energy Commission, and will be devoted to the evaluation of the status of programs in nuclear education at the graduate and undergraduate levels and to advances in secondary-school science education. A program consisting of invited papers, panel discussions, and small group discussions is planned.

For further information, write to the University Relations Division, Oak Ridge Institute of Nuclear Studies, P.O. Box 117, Oak Ridge, Tenn.

IFIP Congress 62

TWENTY-ONE nations will be represented at the International Federation for Information Processing Congress 62, which will be held from August 27 to September 1 in Munich, Germany. Subjects to be covered include scientific information processing, storage and retrieval of information, language translation and linguistic analysis, digital communication, advanced computer techniques, business information processing, and related matters.

The congress is intended to continue the activities of the international conference on information processing which was sponsored by UNESCO in Paris in June 1959 and which led in the following year to the establishment of the International Federation. The United States will be represented at the IFIP Congress 62 by the American Federation of Information Processing Societies. The chairman of the committee for US participation is Dr. Edward L. Harder of Westinghouse Electric Corp.

Thermal Radiation

ISTRUMENTATION and techniques will be stressed in the program of a symposium on measurement of thermal radiation properties of solids, to be held at the Biltmore Hotel, Dayton, Ohio, Septem-