

SOLID STATE DEVICE SCIENTIST

FOR EXPANDING PROGRAM IN NUCLEAR PARTICLE DETECTORS

PRESENT PROGRAM INCLUDES:

- Design and analysis of semiconductor detectors
- Evaluation of new materials and techniques
- Applications of solid state detectors

NEED MAN WITH ADVANCED DEGREE IN PHYSICS OR ENGINEERING AND SOME EXPERIENCE IN:

- Solid state device theory
- Semiconductor device technology
- Silicon nuclear particle detectors

EXCELLENT LABORATORY FACILITIES IN RAPIDLY GROWING COMPANY NEAR CAMPUS OF UNIVERSITY OF CALIFORNIA, SANTA BARBARA

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REACTOR PHYSICIST

General Atomic, San Diego, has career positions for Reactor Physicists to work in a variety of projects which include nuclear rocket studies, linear accelerator programs, high temperature gas-cooled graphite-moderated reactors, beryllium oxide reactors and the application of thermionic converters to all types of reactors.

The work will involve studying neutronic characteristics of nuclear reactors, and will include evaluation of critical mass, reactor control, power distribution, temperature co-efficients and life-time behavior of the reactor. A qualified candidate should have a Bachelor's degree in Engineering or Physics and a Master's degree in Nuclear Engineering with emphasis on Reactor Physics. Familiarity with diffusion theory and transport theory calculations, reactor kinetics and heat transfer is desirable.

Facilities at General Atomic include an IBM 7090, two critical assembly facilities, a 45 mev 700 milliamp linear accelerator, a 14 mev neutron generator, two Triga reactors and extensive laboratory and fabrication facilities.

Please send resume in confidence to Manager of Employment, Dept. 214, General Atomic, P.O. Box 608, San Diego 12, California.

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**GENERAL DYNAMICS
GENERAL ATOMIC DIVISION**

Dallas, Tex., as an institution of advanced research activity designed to stimulate graduate education throughout the southwestern United States. Its president is Lloyd V. Berkner.

Laboratory space at Notre Dame College, Staten Island, N. Y., was increased more than twofold last fall with the completion of a new \$250 000 science wing and the renovation of the school's original science hall, which is now seventeen years old. The new wing, a two-story brick structure which was dedicated on November 11, contains laboratories for work in physics, chemistry, and the life sciences, as well as special facilities for radiation studies provided under an Atomic Energy Commission grant.

Summer Programs

Phonons and phonon interactions will be the subject of an international summer school, supported by the North Atlantic Treaty Organization, to be held at Aarhus University in Denmark during August 12-24, 1963. The school is intended for students preparing PhD or equivalent theses in solid-state physics, as well as for physicists and chemists with research experience in related fields. The main topics will be interaction of phonons with phonons, electrons, external radiation, lattice imperfections, and phonons in liquids, with separate sessions to be arranged on microwave phonons and organic semiconductors. The program will include approximately 50 lectures given by 13 scientists active in the field. Attendance at the school will be limited to about 85 participants.

Further details can be obtained from Prof. L. T. Muus, Chemistry Department, Aarhus University, Aarhus, Denmark.

National Science Foundation grants totaling \$2.5 million will support institutes for college teachers of science, mathematics, and engineering this summer at 74 institutions. Four of these programs are in physics. The institutes, which will offer an opportunity to review fundamental scientific principles and to become familiar with new developments and teaching techniques, will generally be conducted by the faculties of the host institutions. In most cases their duration will be from six to ten weeks. The NSF grants will cover participants' fees and tuition, weekly stipends up to \$75, and allowances for travel and dependents. Requests for additional information and for application forms must be sent to directors of the individual institutes.

The directors of the four summer programs dealing specifically with physics are the following:

S. Leonard Dart, Department of Physics, Claremont College, Claremont, Calif.

Arnold A. Strassenburg, Department of Physics, University of Kansas, Lawrence, Kans.

James G. Potter, Department of Physics, Agricultural and Mechanical College of Texas, College Station, Tex.



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ELECTROMECHANICAL DESIGNER: The changing nature of our product line and the corporate Total Systems concept provides outstanding potential for the above average designer to work in areas of high speed mechanisms. Other openings require experience with small part mechanical design.

INTEGRATED ELECTRONICS: Career openings exist in Physical Research and Development Program requiring experience in the areas of thin films and solid state circuitry. Most openings demand advanced education at the M.S. or Ph.D. level plus capability for individual contribution and potential management responsibility.

CIRCUIT DESIGNER: Experience in transistor circuit design and evaluation plus a BSEE degree provides the background for opportunity in areas of work related to computer and peripheral unit development. Other openings are related to design improvement of established lines together with factory follow up.

OTHER OPENINGS: Cover a broad field of activity with specialties including computer programming, operations research, technical library systems, new product development (technical and marketing background).

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Employment Opportunity

SOLID STATE PHYSICIST

STANFORD RESEARCH INSTITUTE has a professional position for a Solid State Physicist with a Ph.D. or equivalent.

Applicant will have opportunity to develop program in field of his own interest as well as work in existing programs in fields of general dielectrics and/or semiconductors.

Work will involve relation of the structure of a material to its electronic properties. This includes investigation of interactions involving defects and impurities with electronic processes in materials.

Interested persons should submit resume to:

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STANFORD RESEARCH INSTITUTE is performing research for industrial and governmental clients on LASERS and PLASMAS. An expanded level of research effort has created openings for professional staff interested in combining theoretical and experimental work in these areas. M.S. or Ph.D. Physicists and Engineers interested in further information are invited to contact our main Laboratories located on the San Francisco Peninsula.

Please contact:

R. E. DITMORE

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RESEARCH
INSTITUTE**

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**SOLID STATE
PHYSICIST**

Ph.D. with 2-3 years experience, preferably in semiconductor materials or devices, to assume major responsibility in experimental program of applied nature on electronic components, involving investigations of semiconductors, ferroelectrics, conductive oxides, insulators, thin films, and composite materials. Excellent opportunity for advancement within steadily expanding technical department of medium sized company long established in components field. Position is located at new laboratory facilities in Niagara Falls, New York. Direct replies to:

Director of Research
SPEER CARBON COMPANY
Packard Road at 47th Street
Niagara Falls, New York

Representative will be in attendance at New York A.P.S. Meeting.

William R. Riley, Department of Physics, Ohio State University, 174 W. 18th Avenue, Columbus 10, Ohio. (The deadline for submitting completed application forms is February 15; the necessary forms will be provided on request.)

In addition, the directors of three other programs are located in the physics departments of their respective institutions. They are:

Harold E. Clearman, Department of Physics, Hofstra College, Hempstead, Long Island, N. Y. (Subject: Radiation—Physical Science.)

Isabel H. Tipton, Department of Physics, University of Tennessee, Knoxville, Tenn. (Radiation—Physical Science.)

James K. Koehler, Department of Physics, New Mexico Highlands University, Las Vegas, N. M. (Biochemistry, Biophysics.)

Fellowships

Oak Ridge National Laboratory and Oak Ridge Institute of Nuclear Studies have announced a broadening of the Oak Ridge graduate fellowship program operated under contract with the Atomic Energy Commission. The program, which is open to all universities granting PhD's in the sciences, utilizes ORNL's senior staff and experimental facilities in the thesis-research phase of the doctoral program. The academic degree is granted by the sponsoring university. Previously, students had to complete all course work and pass their preliminary examinations at the universities before becoming eligible for these fellowships. The new program permits appointment of the fellow at the time when the university certifies that the candidate is ready to commence research work acceptable as a doctoral dissertation. Advanced courses and other degree requirements can thus be taken concurrently with the research phase of the fellow's studies. In addition to the basic stipend of \$3000 per year, a doctoral candidate will receive \$500 for each dependent. During the fellowship, participants are enrolled at their universities on the same basis as full-time students. The fellowship pays all tuition and fees to the university.

March 1 is the application deadline for the 1963-64 Daniel and Florence Guggenheim fellowship program. The fellowships, which carry full tuition and stipends up to \$2400, are awarded annually to nine or more engineering or science students for graduate study at the Guggenheim Laboratories for Aerospace Propulsion Sciences at Princeton University, the Guggenheim Jet Propulsion Center at the California Institute of Technology, and the Institute for Flight Structures at Columbia University. To receive an application form, a candidate should write directly to the institution he wishes to attend. Folders supplying detailed information are available from the Dean of Graduate Studies at each of the institutions, or from the Daniel and Florence Guggenheim Foundation, 120 Broadway, New York 5, N. Y.