DISCLAIMER

STIPEND

The summer stipend is $550 per week.

HOUSING AND TRAVEL ALLOWANCE

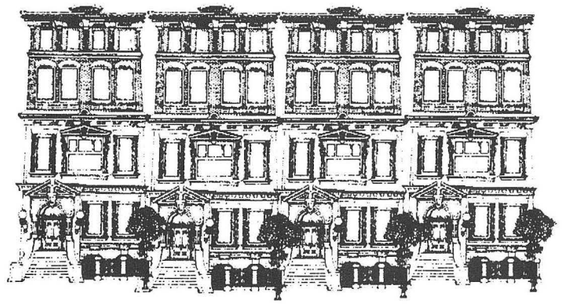
Travel expenses are reimbursed for least cost, round-trip airfare, **or** for travel by automobile, at the prevailing federal mileage rate (up to the amount of least cost, round-trip airfare to the same destination). For teachers requiring housing near the laboratory, a housing allowance up to $1,000, payable to the landlord or reimbursable with receipts, is available. Refundable rental deposits are not reimbursable. For local participants, daily commuting costs (mileage) are not reimbursable.

GRADUATE CREDITS

Many laboratories have made arrangements for academic credit applicable toward professional development related to the research experience. Registration costs are paid by the participant. DOE will reimburse costs up to $200 upon completion of a program associated with gaining/acquiring credit in conjunction with the summer TRAC experience.

ACADEMIC YEAR/FOLLOW-ON ACTIVITIES

The Department of Energy encourages TRAC teachers to conduct academic-year workshops for fellow teachers in their school districts based on their summer research experience. School districts are asked to support these workshop opportunities. Teachers may also be invited to participate in one or more follow-on activities.



ELIGIBILITY

- United States citizen or Permanent Resident Alien
- Full-time teacher of grades 7 through 12; primary assignment in mathematics, science, or technology
- Employed by a middle school or high school in the U.S., Puerto Rico, or the U.S. territories
- Bachelors degree or above, preferably in science or mathematics
- Former TRAC participants are ineligible

FOR APPLICATIONS AND BROCHURES CONTACT

DOE / TRAC
Associated Western Universities, Inc.
4190 South Highland Drive, Suite 211
Salt Lake City, Utah 84124
(801) 278-0799 FAX: (801) 277-5632

FOR PROGRAM INFORMATION CONTACT

Mr. John Ortman
Office of University and Science Education Programs
U.S. Department of Energy
ER 80, MS 3F-061/FORS
Washington, DC 20585
(202) 586-1634

DEADLINE

Original applications must be received by Associated Western Universities, Inc. by the 4th Friday in October. Facsimiles are not acceptable.

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PUB-481 Rev. 10/92

Participating DOE National Laboratories, Facilities and Energy Technology Centers

- Ames Laboratory — Ames, IA
- Argonne National Laboratory — Argonne (Chicago area), IL
- Bates Linear Accelerator Facility — MIT
- Brookhaven National Laboratory — Upton, Long Island, NY
- Continuous Electron Beam Accelerator Facility — Newport News, VA
- DOE — Nevada Facilities
- Fermi National Accelerator Laboratory — Batavia (Chicago area), IL
- Fernald Environmental Management Center — Cincinnati, OH
- Idaho National Engineering Laboratory — Idaho Falls, ID
- Inhalation Toxicology Research Institute — Albuquerque, NM
- Lawrence Berkeley Laboratory — Berkeley, CA
- Lawrence Livermore National Laboratory — Livermore, CA
- Los Alamos National Laboratory — Los Alamos, NM
- Morgantown Energy Technology Center — Morgantown, WV
- National Renewable Energy Laboratory — Golden (Denver), CO
- Oak Ridge Associated Universities — Oak Ridge, TN
- Oak Ridge National Laboratory — Oak Ridge, TN
- Pacific Northwest Laboratory —Richland, WA
- Pittsburgh Energy Technology Center — Pittsburgh, PA
- Princeton Plasma Physics Laboratory — Princeton, NJ
- Rocky Flats Plant — Golden (Denver), CO
- Sandia National Laboratories — Albuquerque, NM
- Sandia National Laboratories — Livermore, CA
- Savannah River Ecology Laboratory — Aiken, SC
- Savannah River Laboratory — Aiken, SC
- Stanford Linear Accelerator Center — Stanford, CA
- Superconducting Supercollider — Dallas, TX

DOE Teacher Research Associates

SUMMER RESEARCH APPOINTMENTS AT U.S. DEPARTMENT OF ENERGY NATIONAL LABORATORIES, FACILITIES, AND ENERGY TECHNOLOGY CENTERS

For Highly Talented Teachers of Grades 7 through 12

DOE Teacher Research Associates are Teachers of

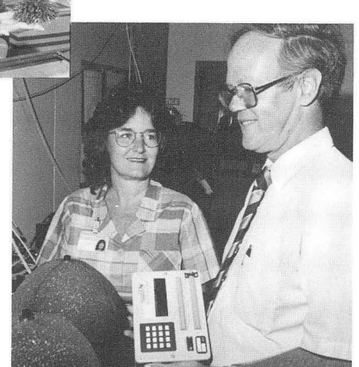
Astronomy • Biological Sciences • Chemistry • Physics
Computer Science • Earth Science • Materials Science
Mathematics • Agriculture • Environmental Science
Nuclear Science • Engineering and Technology

BACKGROUND

Through its laboratories, facilities and technology centers, the Department of Energy supports the development and training of scientists and engineers to meet the nation's future human resource needs in energy science and technology. This mission is accomplished, in part, through summer programs of active participation by precollege teachers in laboratory research.

Since 1989, the Teacher Research Associates (TRAC) Program has provided outstanding 7th through 12th grade science, mathematics, and technology teachers from across the nation the opportunity to participate in on-going research projects at DOE Laboratories. The TRAC program encourages participants, upon returning to their home institution, to share with their students and colleagues the experience and knowledge gained through their research endeavors.

Teacher Nancy Sallee, left, of Palmer, Alaska spent a summer at Lawrence Berkeley Laboratory studying the toxic effects of San Francisco Bay discharge on invertebrates. Her work was with Dr. Susan Anderson.



Linda Sinclair of Lexington, South Carolina is seen working with Dr. Charles Dudney. Her summer research at Oak Ridge National Laboratory involved a study of radon levels in five East Tennessee schools.

OBJECTIVES

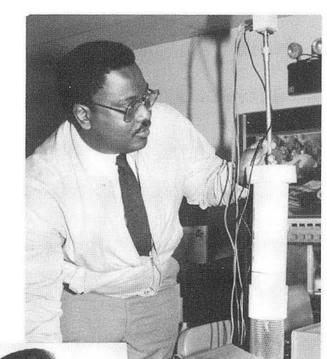
To provide outstanding 7th through 12th grade science, mathematics, and technology teachers (full-time teachers whose primary responsibility is to teach science, mathematics and technology) a professional scientific or engineering experience through summer research at Department of Energy National Laboratories, Facilities, and Energy Technology Centers.

To enhance the leadership skills of science, mathematics, and technology teachers.

To increase science, mathematics, and technology teachers' awareness and understanding of current science and technology and to promote the transfer of this knowledge to the classroom.

To offer science, mathematics, and technology teachers the opportunity for renewal, revitalization, and recognition.

Willie Gaines, a physics teacher from Chicago Vocational School, measuring the properties of a high temperature superconductor at Argonne National Laboratory.



Teacher Patrick Erhman of Yakima, Washington, shakes hands with U.S. Secretary of Energy James Watkins. Erhman conducted recombinant DNA studies at Pacific Northwest Laboratory.

THE SUMMER PROGRAM

Teacher Research Associates appointments are for a full eight weeks. The research assignment constitutes approximately 80% of the typical week, with the remaining time spent attending seminars, lectures, and participating in group meetings and other laboratory activities. Environment, safety, and health training is required on all laboratory sites.

Each teacher is asked to develop: 1) a report describing his or her research assignment; and 2) instructional strategies for transferring his or her newly acquired knowledge to the classroom. Teachers are also asked to actively participate in evaluating the TRAC program.

APPLICATION PROCESS

Teachers may submit an application independently or they may apply through their cognizant education agencies (state, District of Columbia, Puerto Rico, or U.S. territory). Efforts will be made to place at least one teacher from each state, district, and territory.

Selection criteria include: demonstration of outstanding ability as a precollege science, mathematics, or technology teacher; currently teaching science, mathematics, or technology; and will be teaching similar subjects in the academic year following the TRAC experience.

SELECTION AND LABORATORY ASSIGNMENT

Applicants are reviewed and selected by a committee of representatives from participating Department of Energy Laboratories, Facilities, and Energy Technology Centers.

Each teacher is assigned to a research project at one of the participating facilities. Assignments match the teacher's educational background and stated research interest(s) with the interests and needs of the laboratory. TRAC appointments are for one summer only.

RESEARCH AREAS—Examples

- **Biological Sciences**—flow cytometry, DNA repair proteins, site specific mutation of amino acids, biotechnological removal of toxic materials
- **Chemistry**—catalysis, polymerization, organic and inorganic synthesis
- **Physics**—elementary particle physics, application of neural networks to high energy physics, astrophysics
- **Geology**—underground imaging, geochemical dating
- **Mathematics/Computer Science**—analyzing neural network chips, Monte Carol 3-D graphics
- **Instrumental Analysis**—fiber optic chemical sensors, scanning tunneling microscopy, laser testing of optical materials
- **Materials Science**—superconductors, biocompatible ceramic cements, high performance ceramics
- **Environmental Science**—remote sensing of the environment, supercritical fluid extraction of wastes
- **Ecological Studies**—effects of water quality of fish habitats, characterization of wet and arid lands
- **Fossil Energy**—coal liquefaction, catalysts in the production and utilization of fuels
- **Climatic Change**—global warming, ozone depletion, climate change scenarios
- **Renewable Energy**—solar heating, solar electric, wind energy, biomass conversion, evaluation of resources
- **Environmental Safety & Health**—skin damage due to radiation, inhalation toxicology of particulates