

Taking the Tenure Track at Brookhaven

BNL has always maintained close ties to academia, ever since its creation in 1947 by Associated Universities, Inc. (AUI), then a consortium of nine Northeastern universities. One area in which this tie is particularly evident is tenure appointments.

Following a rigorous sequential review process, the AUI Board of Trustees normally awards tenure each January to select BNL scientific staff. As described in BNL's Scientific Staff Manual, this action "constitutes recognition of independent accomplishment of a high order in the performance of original research or of other intellectually creative activity appropriate to the purposes of the Laboratory."

At present, 169 of the 575 people on the Lab's scientific staff are tenured.

When tenure is granted at Brookhaven, explained Gail Williams, Manager of the Office of Scientific Personnel, "The Laboratory is making an institutional commitment to a career-long association with a scientist by guaranteeing academic freedom and economic security, in most cases until retirement.

"One can argue," Williams continued, "that tenure is an anachronism, that society has evolved beyond the need of a tenure system to guarantee academic freedoms. But I think the question today, in an era of tight scientific budgets, is still whether society will support freedom of basic scientific inquiry or settle for inquiry that is politically acceptable. The tenure system is vital to the former."

Similar thoughts guided the American Association of University Professors and the Association of American Colleges when they formalized the concept of tenure in their joint "1940 Statement of Principles on Academic Freedom and Tenure."

As described therein, "Tenure is a means to certain ends, specifically: (1) Freedom of teaching and research and of extramural activities and (2) a sufficient degree of economic security to make the profession attractive to men and women of ability. Freedom and economic security, hence tenure, are indispensable to the

success of an institution in fulfilling its obligations to its students and to society."

At BNL, tenure is granted "when a person's career reaches maturity," said Williams, "which, in most cases, is after they have come through a cycle of term appointments under BNL's scientific staff policy."

Term appointments carry a maximum number of years beyond which

a scientific staff member must either move on to another level or leave the Laboratory. Within this structure, no more than seven years should elapse between the time a member of the scientific staff arrives at BNL and is awarded tenure, though tenure may be granted earlier. A tenure appointment carries the title of Scientist or Senior Scientist.

Although the chairmen and heads

of BNL's scientific departments and divisions are informed by the Office of Scientific Personnel each January of the status of staff members' appointments, today is the deadline by which recommendations for the next round of tenure appointments must be submitted to the Director.

Each staff member recommended for tenure is the subject of a complete (Continued on page 2)

1991 Tenure Appointments

Since January, six members of BNL's scientific staff have been awarded tenure by the Board of Trustees of Associated Universities, Inc.

- **Ilan Ben-Zvi**, a physicist with the National Synchrotron Light Source Department (NSLS), specializes in accelerator physics. As Deputy Head of BNL's Center for Accelerator Physics (CAP), he heads CAP's centerpiece, the Accelerator Test Facility.

- **L. Doon Gibbs** is a physicist and leader of the X-Ray Scattering Group in the Physics Department. His research interests include x-ray scattering studies of magnetic materials and of the structure and phase behavior of surfaces.

- **Denis B. McWhan** is Chairman of the NSLS Department, where he also continues his research as a senior scientist concentrating on condensed matter physics.

- **Melvin Schwartz** is BNL's Associate Director for High Energy & Nuclear Physics. He shared the 1988 Nobel Prize in Physics for the discovery of the muon-neutrino at BNL's Alternating Gradient Synchrotron in 1962. Today, as a senior physicist at Brookhaven, he continues his research in particle physics.

- **Amarjit Soni** is a physicist in the Physics Department. His work focuses on high energy theory.

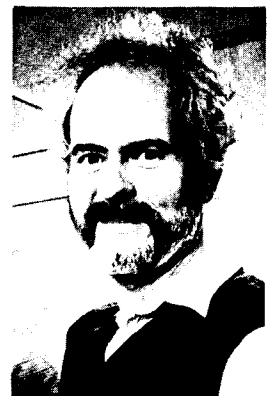
- **Peter Z. Takacs**, Instrumentation Division, is a physicist whose research into x-ray optics has made it very much easier to obtain flawless checks of mirrors for experiments and other surfaces, and has been used



Clockwise from right: Denis McWhan, Melvin Schwartz, Amarjit Soni and Doon Gibbs.



Ilan Ben-Zvi



Peter Takacs

to set new international standards for the texture of optical surfaces.

In addition, the AUI Board of Trustees reaffirmed tenure this April for Senior Physicist **William J. Willis**, who returned to the Lab in last fall to head the Center for Accelerator Physics. The Trustees had originally granted him tenure in January 1964, while he was previously employed at Brookhaven.

— Anita Cohen



A majority of the over 300 participants in BNL's 18 annual summer student programs pose for this picture on stage in Berkner Hall. Every summer since 1952, students and teachers have come to the Lab to

participate in Brookhaven's ongoing research, use its world-class facilities, and learn from its seasoned staff. (See summer student stories starting on page 2.)

Photos in this issue by Roger Stoutenburgh

Summer Student Special Edition

Summertime and the Students Are Busy

Summertime and the livin' is easy. While that's how the classic Gershwin song goes, at BNL, the line sounds a bit more like *Summertime and the students are busy.*

During summer '91, more than 300 students and teachers from across the country and around the world have converged at the Lab to take part in BNL's summertime educational programs. This is the largest student pool to take advantage of BNL's unique research machines and scientific expertise since the first summer student program was started in 1952.

Today, most of Brookhaven's educational opportunities are orchestrated by the Office of Educational Programs (OEP). "The summer student programs are a formal part of the U.S. Department of Energy's [DOE] and BNL's chartered missions," said OEP Head Donald Metz. "We are trying to do our part to educate as much of the youth and their teachers as we can in science at all levels of understanding."

So, from high schoolers to college undergraduates and graduate students to high school and community college instructors, BNL's wide range of programs allows participants to learn modern science in a working laboratory — all under the watchful eyes of the Lab's biologists, chemists, physicists, engineers and other staff.

Undergraduate Student Programs

• **Summer Student Program** - The first program established at BNL, it provides full-time summer appointments for undergraduate juniors and seniors for ten weeks. From June 10 through the middle of August, fifty undergraduates on site are working in areas related to their majors, including applied mathematics, physical and life sciences, engineering, science journalism and library science.

• **Summer Intern Program** - Eight freshman and sophomore college students who had been participants in previous High School Honors Research Programs (see below) were invited back to BNL to do research work.

• **Nuclear Chemistry Summer School** - For six weeks, 11 college chemistry students participated in this program sponsored by the American Chemical Society and funded by DOE. Completed last week, this intensive introduction to nuclear chemistry consisted of lectures, assignments, a term paper and two examinations, covering topics such as gamma-ray spectroscopy, neutron activation and nuclear medicine.

• **Science & Engineering Opportunities for Minorities and Women** - Twenty-three college freshmen, sophomores and juniors are taking the opportunity to gain a firsthand experience at a research laboratory, while applying what they have learned so far in school.

• **Gallaudet University Program** - Four hearing-impaired students from Gallaudet University are at the Lab this summer, working in the Department of Applied Science, the Physics Department, and the Computing and Communication Division.

• **Institutional Internships** - The Southampton Campus of Long Island University sent 12 students and one faculty member here for ten weeks to work with BNL researchers. In addition, an engineer-

ing undergraduate from the Massachusetts Institute of Technology (MIT) is working in BNL's Department of Nuclear Energy for the entire summer; once selected for internships in their sophomore year, MIT students may spend up to three summers at BNL.

Graduate Student Programs

• **National Consortium for Graduate Degrees for Minorities in Engineering and Science Inc. (GEM)** - Through GEM, the business and academic communities have teamed to enable minority undergraduate engineering students to continue their education through graduate school to obtain their masters' degrees in engineering. This year's three GEM fellows will receive practical engineering experiences at BNL over two to three summers.

• **Thesis Research** - This program allows graduate students to carry out the research necessary to complete their Ph.D.

degrees. Students perform individual research using BNL's equipment and facilities, relying upon the advice and encouragement of Brookhaven's seasoned researchers. For most Ph.D. students, this summer is only part of the time they are spending on their thesis research.

• **Health Physics Training Program** - To gain workplace experience, ten masters' degree students in health physics are attending a ten-week summer practicum given by BNL's Safety & Environmental Protection Division.

Teacher Programs

• **Teacher Research Associates** - Through this year's program, 22 high school teachers are being updated on the latest in modern science by collaborating in BNL research. The teachers are then expected to use their summer experience to redesign curricula and develop new teaching materials.

• **New York University Teacher Training Program** - Ten high school

teachers will receive credit toward a masters' degrees in education from New York University for completing this six-week summer research internship at BNL.

• **Minority Apprentice Teacher Training Program** - One teacher from each of four New England community colleges is at BNL this summer, learning how to establish a minority apprentice program (listed below) at their institutions.

• **Environmental Education Outreach to Minorities Teachers Program** - Instructors from the Wyandanch School District and Suffolk Community College are on site this summer, setting up a program similar to the environmental outreach program run at Bronx Community College (described below).

• **Gallaudet University Program** - A faculty member from Gallaudet University is doing research this summer in the Computing and Communication Division, which may ultimately benefit the hearing impaired.

• **National Institutes of Health Program** - Two minority high school teachers are taking part in health-related research under a grant from NIH.

Programs for High School Students

• **High School Honors Research Program** - Sponsored by DOE, these students come to BNL after being selected by the governors of their respective states, while others are from Puerto Rico and several foreign countries. Their intensive two weeks here, which ended Tuesday, were taken up with lectures, presentations and lab research at the National Synchrotron Light Source.

• **Community Summer Science** - This is a six-week program, in which 30 local high school seniors and recent graduates attend lectures and presentations during the morning. Twenty go on to intern with BNL researchers in the afternoon.

• **Minority High School Apprentice Program** - This program is hosting 41 students in the ninth and tenth grades from Long Island and New York City. During the morning, the students attend lectures and slide presentations. In the afternoon they go on field trips both to on and off-site facilities that reinforce the concepts learned in class.

• **Minority High School Research Program** - Sponsored by the National Institutes of Health, this program derives its participants from those who have completed the apprentice program (discussed above). This year, ten students are here, working with research teams in health-related fields. NIH student-researchers may spend all their summers here through the end of high school.

• **Environmental Education Outreach to Minorities** - Four high school students from New York City who attended an environmental science education program at Bronx Community College last year are at BNL this summer, working with researchers to gain hands-on experience with environmental problems and solutions.

• **Youth on Campus** - Developed for local minority high school students, the program provides on-the-job training in clerical, secretarial and technical areas during the summer months.

The variety of opportunities and experiences that BNL's summer programs offer to students create a new and exciting sound at the Lab every summer. Even as this summer's concert of learning is nearing its finale, plans for next year's performance have already begun.

— Erik Larson

Summer School in Nuclear Chemistry

Chemistry Majors Schooled In Radiochemistry

Gathered in one of the labs in Chemistry, Bldg. 555, are the students and instructors for the 1991 BNL Summer School in Nuclear Chemistry.

In this six-week program, which ended last week, 11 college students majoring in chemistry attended morning lectures and afternoon laboratory sessions to learn about radiochemistry and its applications in medicine and industry. The textbook for the program was *Nuclear and Radiochemistry*, a classic text co-authored by BNL chemist Gerhart Friedlander (center of front row).

Helping to teach the third annual summer school were: Edward Baum, a graduate student from the University of Kentucky (seated, left front); James Keenan, a student at Albany Medical College (second from right); BNL chemist Yung Yee Chu (right); and BNL chemist Garman Harbottle (second from left). The Nuclear Chemistry School was run by BNL chemist Seymour Katcoff (third from left).

This program is sponsored by the American Chemical Society and funded by the U.S. Department of Energy's Office of Educational Programs.



Pictured with their instructors are the college chemistry majors who participated in the Summer School in Nuclear Chemistry: (seated, right front) Martha Muhlena, Monmouth College; (clockwise from far left) Brian Davin, Lawrence Technological University; Eric Fang, Pomona College; Joseph Kim, Northwestern University; Peter Brodrick, University of Wisconsin at Madison; Joanna Downer, Carnegie Mellon University; Martin Moyer, Rochester Institute of Technology; Janine Feil, DePaul University; Thomas Kayani, University of Pennsylvania; Robert Brylski, University of Wisconsin at Oshkosh; and Eliot A. Smith, University of Southern Maine.

Tenure

(cont'd)

dossier, which includes a letter of introduction from the chairman or head, the candidate's curriculum vitae, letters of reference from external referees, and a publications list and reprints.

After conferring with the appropriate associate directors and Mark Sakitt, Assistant Director for Planning & Policy, BNL Director Nicholas Samios will decide which of these recommendations to refer to the BNL Council.

The BNL Council was created in 1962 by then BNL Director Maurice

Goldhaber as "a group which will consider and make recommendations on laboratory policies, including those pertaining to the scientific staff." Prior to the formation of the Council, tenure cases were evaluated by ad hoc committees reporting to the Director.

Elected from the tenure scientific staff for terms of three years, the 15 members of the current BNL Council represent all scientific departments and research divisions. Now chaired by Paul Michael, Department of Applied Science, the Council will review this year's tenure nominees

and make recommendations to the Director.

The Director's final nominations will be submitted to the AUI Trustees in December. The scientists awarded tenure by the Trustees will be announced next January, to be effective April 1, 1992.

"Since the tenure staff is the backbone of the research done at BNL, making decisions about career-long staff is as serious as making decisions about funding," said Williams. "If you don't have the very best people on board, you won't be able to succeed with your research initiatives."

— Anita Cohen



A GEM of an Idea

Students Encouraged to Pursue Advanced Degrees

A group of summer students from a variety of BNL programs listens as Howard Adams, who is the executive director of the National Consortium for Graduate Degrees for Minorities in Engineering and Science Inc. (GEM), explains the importance of graduate school and advanced degrees for those pursuing careers in science and engineering during a visit to BNL on July 31. By involving industry and educational institutions, GEM developed its program to assist minority undergraduate engineering students in obtaining their engineering masters' degrees.



AutoCAD Class

Mike Festa, an instructor at the State University of New York at Farmingdale, will conduct an AutoCAD Release 11 update course. It will be held on August 13, 15 and 19 in the CCD seminar room of Bldg. 515, from 9 a.m. to 4:30 p.m.

Participants need their supervisor's approval to attend this class. Call Brenda Bovel at Ext. 4132 to register, and, for further information, call Chris Neuberger, Ext. 4160.

The Students Of Summers Past

The students in this summer's cornucopia of programs join thousands of others who have come before them to learn from BNL's scientists and staff. One of the students from the past who is at present in the limelight is Bernadine Healy.

During the summer of 1965, she worked under Panayotis Katsoyannis, who was then a senior scientist in BNL's Medical Department, and who is now a professor and chairman of biochemistry at the Mount Sinai School of Medicine in New York.

Twenty-six years after the experience, Healy is now a physician who was recently named Director of the National Institutes of Health for the U.S. Department of Health & Human Services.

In a July letter to Donald Metz, Head of BNL's Office of Educational Program, she recalled her BNL summer student days, noting, "It was a superb experience for a college student en route to medical school."

Call for Bowlers

Although summer is not yet over, it's time to "think bowling" again!

Applications for Tuesday night men's league in Port Jeff and Thursday night mixed league in Shirley are available at the BERA Sales Office. Priority registration for existing teams is due by August 16; new team registration is due by August 23.

So, join up for a night of fun. You do not have to be a great bowler, just a willing one! For information, contact Maryann Reynolds, Ext. 5241.

Learning Injury-Prevention Principles The Eggmobile Rides Again!



This summer, four Suffolk County students and two teachers from New York City are learning firsthand about the scientific method within the Injury Prevention and Analysis Group (IPAG) of BNL's Department of Applied Science — by using an eggmobile.

Designed by previous IPAG students, the eggmobile (shown on the table) is a small-scale vehicle that shows the impact of a car crash on the car's occupant.

The eggmobile is made from wood, sheet metal and a sneaker. The vehicle contains either an egg or a small doll, which can be fastened in place with a seat belt.

When the vehicle is pulled with the attached rubber hose which acts like a slingshot, the eggmobile accelerates along a five-foot-long track until it hits a metal barrier. The crash results demonstrate the importance of seat belts in preventing injury.

Working under Jerome Barancik (standing, background), IPAG group leader, and Caroline Kramer (seated, fourth from left), assistant group leader, the students are: Paul Hawthorne (standing, foreground) and Natalya Varlack (seated next to him), who are from Longwood High School and part of the National Institutes of Health Minority High School Research Program this summer; and Jon Stalhut (second from right), a Smithtown High School graduate who will attend the State University of New York (SUNY) at Stony Brook this fall, and Erik Herz (seated, third from right), who was graduated from Half Hollow Hills High School and will attend SUNY at Binghamton. Both Stalhut and Herz are participants in BNL's Community Summer Science Program this year.

The two teachers apprenticed to IPAG are: Genella Spencer (far right), a Brooklyn high school science teacher; and Larry McCoy (third from left), who teaches math at a Queens junior high school. Both are graduate students in the New York University (NYU) School of Education, where they will receive graduate credit for their summer's work at BNL as part of a cooperative program sponsored by the U.S. Department of Energy. The high school instructors ultimately hope to incorporate what they have learned this summer into their schools' curricula.

To demonstrate why wearing a helmet is crucial to preventing head injuries, this year's IPAG students and teachers are designing a special doll to ride a model bicycle (shown on the table). With or without a helmet, this doll will ride the bike on a device built for the eggmobile.

In addition, Stalhut is designing a timing circuit to calculate the speed of the vehicles, and Herz is creating a computer program to determine the variables for the eggmobile, including acceleration, speed, mass and time. Hawthorne has made a schematic drawing of the eggmobile, and Varlack has listed the materials used to build it.

Books Plus Much More

An opportunity to hear two speakers talk about information technology and to view new image systems are two of the pluses of this year's Book Fair Plus.

Sponsored for the third year by the Technical Information Division (TID), Book Fair Plus will take place on Wednesday, August 14, from 10 a.m. to 3 p.m. in the lobby of Berkner Hall.

At 10:30 a.m. in Room B, Sandra Duerr of Verity Corporation will speak about "Concept-Based Text Management System." The regional support manager for Verity, Duerr holds a master's degree in computer science, and she has extensive experience in developing and handling both database and text information-management applications.

Next at 1:30 p.m. in the same location, "ACS and Bellcore CD-ROM Chemical Journal Experiment — Full Text and Graphics" will be discussed by Michael Lesk of Bell Communications Research. The manager of Bellcore's computer science research division, Lesk has a Ph.D. in chemical physics, and his current research involves full text-image applications of scientific publications on UNIX workstations.

In the meantime, there will be continuous, free demonstrations of computer searches of such databases as SPIN for physics information and Scisearch for cited references, as well as displays of the information available on compact discs with read only memory (CD-ROMs). In addition, Database Specialist Louise Heusinkveld, who is a recent addition to the TID staff, will show all those who are interested how to undertake automatic computer searches of Current Contents, on-line through TID's computerized catalog called INFORM.

Again for the third year, leading scientific and technical publishers will display their wares so that BNLers may browse through the latest publications.

The ten publishers to be at Book Fair Plus are: Addison-Wesley, American Society of Mechanical Engineers, American Institute of Physics, Cold Spring Harbor, Data Pro, Elsevier, Gordon and Breach, Oxford, Plenum, and Springer Verlag.

For more information, contact the organizers of Book Fair Plus: Avril Woodhead, Ext. 3482, or Kathy Vivirito, Ext. 3486.

In Memoriam

The Bulletin has learned about the recent passing of two retirees:

Mary Kurka, who retired from the Technical Information Division in December 1963, died on July 17. She was 92 years old.

Kurka came to BNL in April 1947, as a clerk in the Lab's purchasing department. She transferred to TID in January 1960.

A resident of Riverhead since 1928, Kurka is survived by her two daughters, Evelyn Carey and Blanche Demetriou, both of Riverhead; and three grandchildren, Terri and William Demetriou, and Lynda Carey Bartonek.

Edward Harrigan, who died on July 17 at the age of 79, retired from the Central Shops Division in February 1977.

Harrigan came to the Laboratory in August 1955 as a machinist with General Shops. In February 1959, he became an experimental machinist, the position he held when General Shops became Central Shops in January 1960. He was promoted to Tool & Instrument Maker in July 1964, then to Tool & Instrument Maker Group Leader in August 1974.

To Your Health

The Health Promotion Program of the Occupational Medicine Clinic is planning two new programs. For more information, contact Mary Wood, Ext. 5923.

Water Aerobics

Add water's buoyancy to an aerobic workout, and the result is fun and fitness without the impact that can cause injury on land.

Classes in water aerobics are being organized for Wednesdays, 5:15-6

p.m. in the BNL pool, to be conducted by a certified instructor.

Those interested should attend an orientation session at the pool on Wednesday, August 28, at 5:15 p.m. To express interest, call Wood or Marilyn Gibbons, Ext. 2259.

Walking Club

If you like to walk, you're in good company — so consider becoming a part of a walking club at BNL. Exercise walkers and social strollers are invited to an organizational meeting on Thursday, August 29, at noon, in Room B, Berkner Hall.

BROOKHAVEN BULLETIN

Published weekly
by the Public Affairs Office
for the employees of
BROOKHAVEN NATIONAL LABORATORY

ANITA COHEN, Editor
MARSHA BELFORD, Assistant Editor
LIZ SEUBERT, Reporter

35 Brookhaven Ave., Upton, N.Y. 11973
(516) 282-2345

