OREGON STATE UNIVERSITY
ARCHIVES
Pub 6-34 A

the science record

Communications from the College of Science, Oregon State University

summer 82

Theran D. Parsons

The New Vice President

The Science Record
College of Science
Oregon State University
97331

Volume 9, Number 4

THOMAS T. SUGIHARA, Dean
JOHN D. LATTIN, Acting Associate Dean
EVA M. MILLEMANN, Editor

CONTENTS

2 Theran D. Parsons
4 Summer on Campus
7 Climate and the Biosphere
8 Nibler Receives Humboldt Award
9 News and Notes
12 Scholarship Awards, 1982-83

Cover

Theran D. Parsons, the new Vice President for Adminstration, in a familiar pose at his desk. A well-known figure around campus, Parsons became Vice President on June 1, 1982. (Photo by E. Obert)

Oregon State University

Theran D. Parsons, professor of chemistry and former associate dean of the College of Science at OSU, has recently become the University's new Vice President for Administration. He assumes this position, with its responsibility for twelve administrative units on campus, at a critical time for higher education in Oregon. Those who know him well believe that his clear understanding of the functioning of the University—at both academic and administrative levels—will be of value to him in his new position. In addition, Parsons brings to the job two invaluable qualities: equanimity and a good sense of humor.

"Tom"—as he is known to his friends and colleagues—came to OSU in 1955 from the University of Chicago, where he was a research associate for two years. He had completed undergraduate and graduate degrees at the University of Washington after returning from WW II as an Air Force veteran. An inorganic chemist, he was a full-time faculty member in the Department of Chemistry at OSU until 1967 when he began to divide his time between chemistry and administration as Assistant Dean of the College of Science. Since 1970, he has been Acting Dean on two separate occasions—1970-72 and 1979-81—and Associate Dean from 1973 to 1979 with Dean Robert W. Krauss and once again from August to December 1981 with Dean Thomas T. Sugihara.

From his new office at the top of the administration building, Parsons looks over the campus and reflects on past years and his career at OSU—the busy, hectic times as a young instructor of chemistry in the fifties, the controversial sixties and early seventies, and the recurring budget problems.

He recalls that when he first came to OSU he could have accepted other positions either in industry—he interviewed with Shell Development in the San Francisco area—or at two other universities. Both he and his wife Velma chose the academic life in the Pacific Northwest, and they have never regretted it.

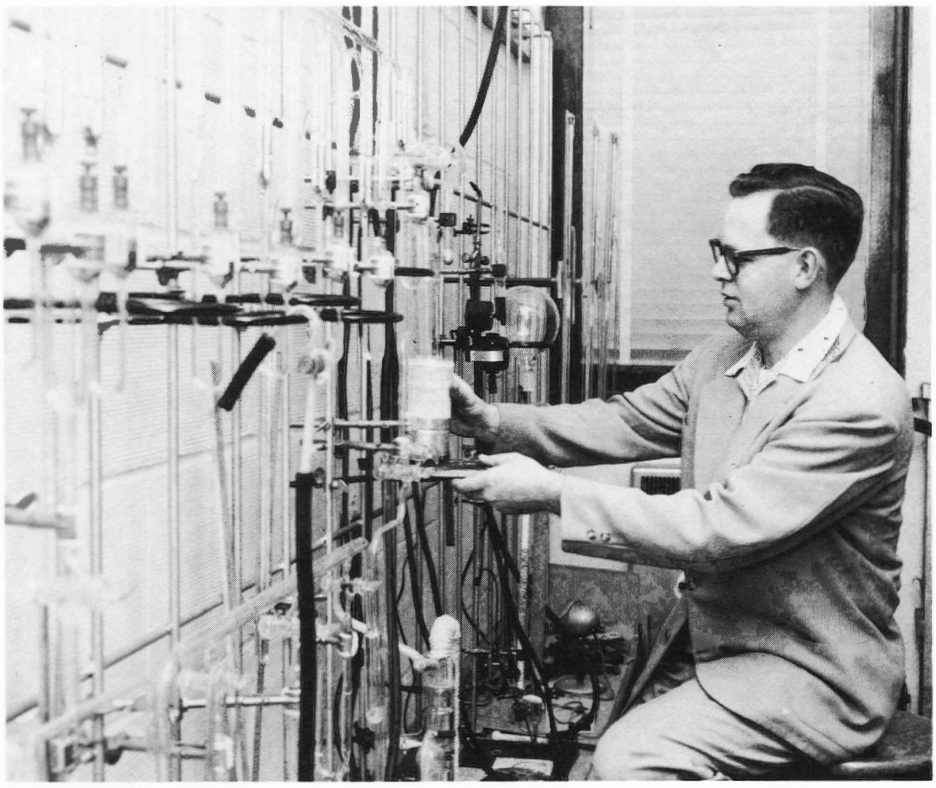
"The early years at OSU were years of expansion," reminisces Parsons. "We had a large number of students, limited resources, and heavy teaching loads. I recall one year when I was supervising the research of seven graduate students and at the same time teaching three different courses each term. Dr. Bert Christensen, who was then chairman of the department, required that each faculty member have at least 12 contact hours per week with students. If you did not lecture that many hours, you were expected to supervise TA's in the laboratory."

Ken Hedberg, a professor of chemistry who joined the department shortly after Parsons, recollects that both he and Parsons originally were hired to help Dr. Bill Caldwell teach general chemistry. "The first couple of years," says Hedberg, "Tom and I were essentially 'lab patrols,' who had to make sure that TA's did their job well. Fortunately, that particular assignment faded away quickly, and we began to do some serious teaching. Tom and I occupied adjoining offices and later even shared a fence between the backyards of our houses. We were all trying to begin research programs—not an easy thing to do, since time was limited and you had to build most of the equipment. Tom had to be an expert glass blower to build his vacuum system. He seemed to spend every spare moment blowing glass."

Summers were busy times. Parsons conducted research on boron compounds under grants from the Office of Naval Research and taught summer institutes for college chemistry teachers and for high school students. Particularly popular was JESSI (Junior Engineers and Scientists Summer Institute), a special program designed for outstanding high school juniors and seniors. He was also the director of the NSF summer undergraduate research program for several years.

He liked teaching, and he was considered by students and faculty alike one of the best instructors in the chemistry department. Former chairman Bert Christensen recalls that Parsons' talents were quickly recognized and that he was put in charge of the more rigorous freshman chemistry program for the professional students (chemistry, chemical engineering, science, and pharmacy majors). It was not long before Parsons received formal recognition for his efforts: he won the College of Science Carter Award for excellence in teaching in 1959 and the Mosser Award in 1965.

The early sixties saw a new general chemistry textbook by Parsons and the late W. H. Slabaugh—a close collaborator and friend who was also on the OSU faculty. *General Chemistry* went through three editions, was adopted by over 100 institutions, and was translated into Italian, Spanish, and Russian.



This photo taken in 1960 shows Tom Parsons at work in front of his "home-made" vacuum line. Condensable gases are moved from one portion of the apparatus to another by application of liquid nitrogen.

Parsons' principal research interest was in electron-deficient bonding, especially as exhibited in boron hydrides and related compounds. It was in this area that he made his most significant research contributions. Ten students completed graduate degrees under his supervision.

As a chemistry professor, Parsons participated or presided over numerous departmental, university, and professional committees. It then became apparent that Tom Parsons had a knack for getting along well with people. Those who have worked for him mention his inherent respect for the other person, regardless of position, and his readiness to listen.

"Tom is a good listener," says colleague Ken Hedberg. "He always hears what you have to say even though he may not agree and his decision might be different from what you had in mind."

"I was impressed by the way he could handle people even under the most trying circumstances," says Dr. Christensen. "I recommended him to Dean Ward as assistant dean, and those were years of ferment in the College of Science. I venture to say that Tom Parsons was a stabilizing influence in the dean's office."

The fact that Parsons could achieve a good working relationship with three deans speaks for itself. John Ward, Robert Krauss, and Thomas Sugihara have entirely different personalities and styles, but very strong beliefs about the role of science in the university.

"Your good humor during periods of stress and your steady judgment have made what would have been a very difficult task an enjoyable and enriching experience," wrote Dean Krauss to Parsons on one occasion shortly after Krauss took over his new post. In like manner, Dean Sugihara remarked at his first Science faculty meeting in September 1981 that the College of Science was indeed fortunate to have had Parsons' guiding hand in times of transition.

As Associate Dean, Parsons played a supportive role, substituting for the dean whenever necessary and relieving him of numerous administrative details. His duties included preparing the budget for the College of Science (14 departments) and making all necessary arrangements and adjustments (curriculum, budgets, and faculty) for the College's summer term. This experience gave him a thorough grasp of the operation of the College and its budgetary mechanism.

Parsons approaches his new position as Vice President for Administration with his usual positive attitude. He views it as a challenge and an opportunity to be of service to the entire University. The twelve administrative units that report directly to him are vital to the smooth operation of the academic community. They include the offices of budgets, business affairs, personnel, registrar, admissions, planning and institutional research, career planning and placement, the library, and physical plant. Although Parsons is familiar with most of these units, he is now busy learning their finer points and some of the intricacies of state business procedures.

"I have moved further away from academic life," notes Parsons, "and in a sense I regret that because the real business of a university—teaching and scholarly research—is carried out in the academic units. My objective now is to support those units as ably as I can and to improve the working relationship between the administrative and the academic sectors. As a former teacher and researcher, I have the deepest respect for my colleagues on the faculty. We demand much from them. They must be at the forefront of their discipline, and they must seize the initiative in acquiring funds for research in very competitive times. They must be good teachers, and they must be able to attract quality graduate students. They deserve our complete support."

Parsons recently has been reading with renewed interest about the problems of administration-faculty interaction. He quotes two principles he has found to be true in the brief time he has been vice president. "In a university," he says, "no single person has absolute power to do any given thing because authority is much more diffuse than in other organizations. Thus, getting things accomplished is a slower process, requiring constant consultation and diplomacy. Secondly, a new administrator's already diffuse authority deteriorates from his very first act, since administrators play a zero sum game. Resources sent in one direction go in no other direction, so each action creates disaffections."

During his tenure at OSU, Parsons has seen the University go through many financial cycles. He recalls at least three severe economic crises that had a definite impact on the welfare of the University, and he adds that it makes little sense to continue in this pattern.

"I would hope," says Parsons, "that the State will recognize the inevitability of such economic cycles and that in prosperous times it will prepare adequately for future lean years by allocating sufficient financial reserves. Even though legislators are reluctant to overtax their constituents in times of prosperity, long-range management can be improved if a prudent reserve is set aside for the future."

Tom Parsons has served well the Department of Chemistry and the College of Science during the past twenty-seven years. We wish him well on his new assignment, and we are confident that his many skills will benefit the University at large.

Summer on Campus

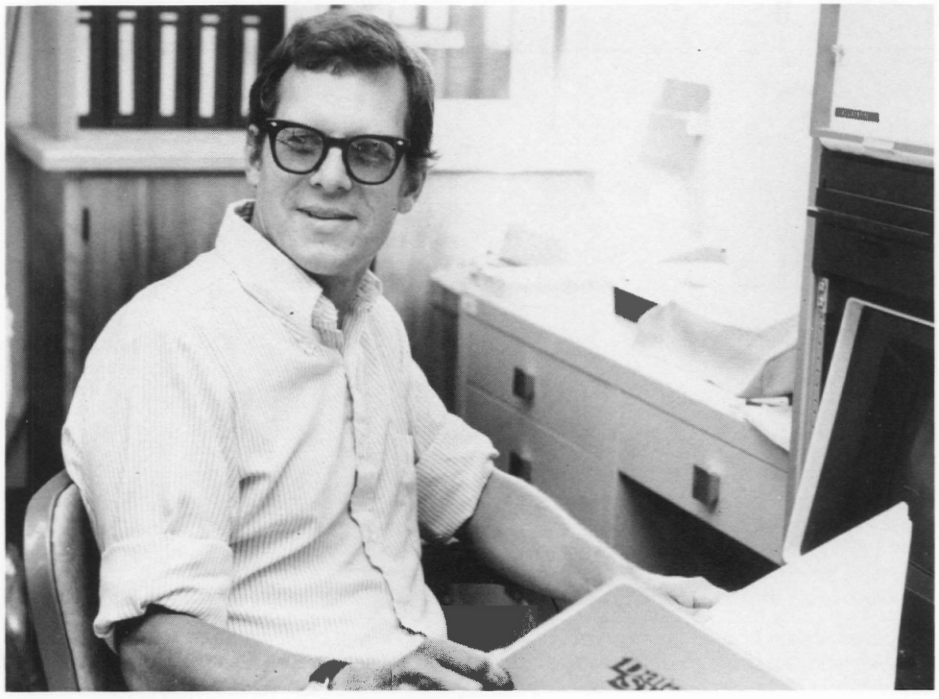
A Good Time for Research

To a casual observer, the OSU campus looks deceptively quiet on a July afternoon. Fewer students attend classes during summer term, and most classes meet early in the day. On closer observation, however, one would quickly notice that laboratories throughout the campus are unusually busy. Faculty members in Science are most productive in their research during the summer months when other university activities assume a slower pace.

While some professors teach during the summer, others receive summer salary support entirely from outside agencies in the form of grants and contracts. Research grants also provide salaries and stipends for postdoctoral fellows, research associates, graduate students, and research assistants.

It has been noted before in *The Science Record* that outside agencies, such as the National Science Foundation, the National Institutes of Health, the U.S. Department of Agriculture, the Office of Naval Research, and many others, provide as much as 43 percent of the total yearly budget for the College of Science. The success of OSU scientists in obtaining grants is an indication of the quality of their research and brings credit to the College and the University. For a university scientist, research is an essential part of life, and in science it is virtually synonymous with graduate education. Undergraduate instruction, at all levels, benefits from the excitement that an up-to-date scholar brings to traditional subjects.

Nearly all Science faculty are involved in research during the summer months. This discussion touches briefly on the activities of a few Science professors who are representative of a much larger group. Although their projects cover a wide variety of topics, these scientists have something in common: they are productive, and their research efforts have been well funded.



W. Curtis Johnson

W. Curtis Johnson, a professor of biophysics, summarizes in the following words the advantages of the summer for research. "I look forward to summer as a time to solve difficult research problems," he says. "The school year progresses as a series of interruptions. Classes, students, committee meetings, phone calls, and other demands on your time conspire to make serious thinking impossible. Solving difficult problems requires concentration over a long period of time with all the facts straight in your mind. Even a 30-second interruption means 15 minutes lost because it takes at least that long to get all facts straight again. In the summer there are fewer interruptions, and many demands can be simply avoided."

Johnson guards jealously his time in the summer and even admits to hiding away occasionally to avoid interruptions. "One of my goals this summer," he says, "is to show that a complicated quantum mechanical equation obeys the rotational strength sum rule. If I succeed, I can publish research completed and written for publication three years ago."

Grants from the National Science Foundation and the National Institutes of Health support Johnson's research and pay the salary of several associates—two postdoctoral fellows, two graduate students, and three technicians. A NATO grant supports a colleague from the University of Pisa, Italy, for research in his laboratory this summer.

"We are learning how the three-dimensional shape of a biological molecule affects its function in living organisms," explains Johnson. "Some members of our group are studying DNA. Some are working with enzymes. And some are studying polysaccharides. We use many physical and chemical techniques to solve each problem, but circular dichroism (CD) spectroscopy is the technique common to most of our work. We have built our own special CD instrumentation, which is found only in a few laboratories in the world."

While ingenuity and ideas about new projects abound, time seems to be always a limiting factor. ***Dallice I. Mills,*** a geneticist in the Department of Botany and Plant Pathology, tells his students that time is a precious commodity. "Things are moving so fast in recombinant DNA," he notes, "that by the time someone reviews my grant proposal, some of the ideas presented might seem already outmoded. It is an exciting time for research in my field, but we pay the price in terms of pace."

Mills voices strong opinions about summer research. "You cannot be a part-time scientist," he says. "It is impossible to have a good research program without working through the summer." Mills, who works with recombinant DNA in fungi and bacteria, has a very active laboratory with two postdoctoral fellows (one of whom is an exchange scholar from Germany), several graduate students, and a technician.

His group is currently involved in several projects supported by the Public Health Service and the U.S. Department of Agriculture. In one project with yeast organisms, the researchers are attempting to isolate those genes that are essential in meiosis—the process of sexual cell division—and are now very close to reaching this goal. Many human diseases are caused by faulty meiosis, and in some cases it might be highly desirable to block the process. In another project, his research group is trying to isolate genes for virulence, and

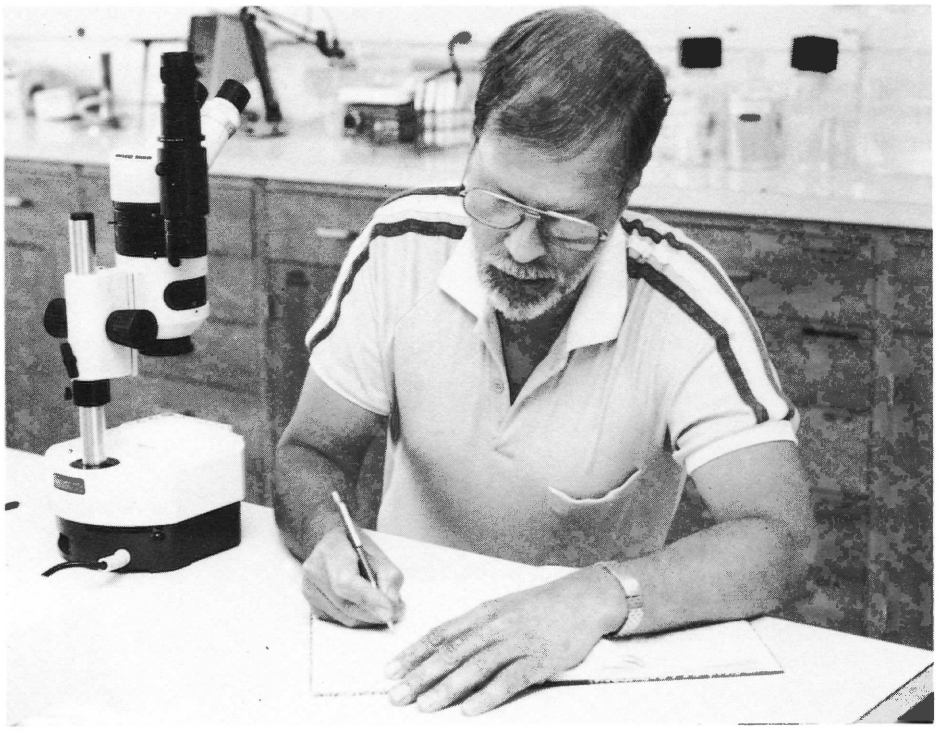
in a third one, it is investigating a fungus disease present in Northwest grain.

In some cases, professors with taxing administrative duties, such as chairmen of departments, choose to give up these duties for the summer in order to do full-time research.

Charles E. King, chairman of the Department of Zoology, provided his own salary for the summer months of 1979, 1980, and 1981 with grants from the National Science Foundation and the National Institutes of Health. By relinquishing his day-to-day administrative responsibilities to Dr. Robert M. Storm during the summer, King has been able to concentrate on research.

"It is important to get away from the routine of running the department and the constant minor interruptions," points out King. "However, it is impossible to be a nine-month chairman because many issues and policy matters cannot be ignored during the summer."

King, who is interested in theoretical and experimental population biology, is currently trying to determine the environmental and genetic components of aging and senescence in rotifers—microscopic, aquatic organisms whose life cycle is, in some respects, a good model for that of humans. The ability to establish genetically uniform clones makes rotifers ideal subjects for population studies. King has been able to vary the average lifespan of rotifers from two days to over two weeks by changing their environment—that is, by varying the chemical composition of the artificial medium in which they live and also by varying their food supply. For King, the most exciting result of his findings on rotifers has been the development of a model of the evolution of lifespan for all living organisms, including man.



Charles E. King

Summers for King, as for many of his colleagues, are a good time to attend professional meetings. This summer, he will participate in an International Rotifer Symposium in Uppsala, Sweden, and later he will visit laboratories at the University of Edinburgh, Scotland, the University of Ghent, Belgium, and the University of Lyon, France.

James D. White

Although chemistry professor ***James D. White*** has tried to reduce travel in recent months, he has found it difficult to do so. He will attend a Gordon Research Conference this summer and give invited lectures at two pharmaceutical companies. During the next academic year, he will visit the People's Republic of China for an NSF scholarly exchange program and will present a series of invited lectures in Japan and Britain.

When asked about his summer activities, White points out that summers provide an excellent opportunity for close interaction with students and colleagues. "It is very important for graduate students to have access to their major adviser." notes White. "The more relaxed summer pace and the fewer demands on my time allow me to get closer to people and projects."

White has a large research group, which inludes four postdoctoral fellows and 12 graduate students (ten of whom are doctoral candidates). The group's research efforts, supported in large part by grants from the National Science Foundation and the National Institutes of Health, are directed toward the chemical synthesis of macrolides and other organic substances that have interesting chemical and biological properties. Many of these substances (for example, boromycin or verrucarin) are derived from microorganisms in nature. As a class, these sustances have well-known antibiotic and antitumor properties. White's interest in synthesizing large molecules, such as macrolides, is based in part on the need not to be dependent on nature for obtaining them and in part on the need to learn more about their chemical properties.

Larry Mahrt, a meteorologist in the Department of Atmospheric Sciences, not only gets his full summer salary from research grants but also half of his salary throughout the academic year. It was his own decision to devote half of his time during the academic year to research. "When I first came to OSU in 1972," he explains, "I knew that I could establish a solid research program only if I taught less than two courses per term." He taught some of those courses for the first time, since he had come to OSU from the National Center for Atmospheric Research in Boulder, Colorado. Looking back, he feels that it might have been a risky decision, but so far he has been very successful in receiving support. He is typical of many other faculty members in his department.

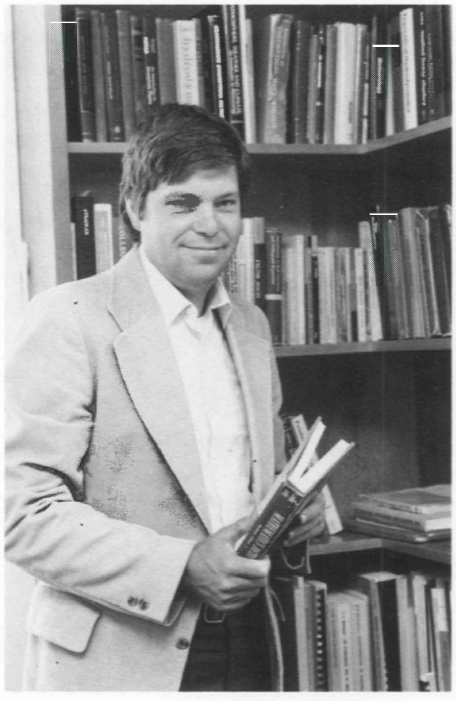
Mahrt is primarily interested in dynamics, and he is involved in three projects: one funded by the U.S. Air Force and two by the National Science Foundation. One of these projects is designed to elucidate properties of the planetary boundary layer and will help construct a general model. Others in his department are working on various aspects of this project, while Mahrt concentrates on the model's hydrological cycle—often the weakest point in general circulation models of the atmosphere.

The two National Science Foundation grants support a study of the boundary-layer nocturnal flows near the earth's surface (a scientist from China is working on this project) and a study of boundary layers capped by stratocumulus clouds.

Like his colleagues, physics professor ***John A. Gardner*** feels that teaching and other academic commitments during the year leave little uninterrupted time for research. In addition to other duties, he is graduate adviser and chairman of the graduate admission committee. For Gardner, who is interested in solid-state physics, summers are a time for intense work in his laboratory in Weniger Hall, and often either at the Max Planck Institute for Solid-State Research in Stuttgart, Germany, or at the University of Warwick in England. He has spent part of the last two summers at both institutions.

His projects—some in cooperation with other members of the Department of Physics at OSU—are designed to elucidate the electronic and magnetic properties of metals and semiconductors in the liquid and solid state. They are funded by the Office of Naval Research and the National Science Foundation. Currently, his research group, which includes a postdoctoral fellow, two doctoral candidates, and several graduate and undergraduate students, is attempting to improve all experimental systems in the Weniger Hall laboratory. Gardner is also doing collaborative research with researchers from other universities and from local industrial laboratories.

Not all scientists who contribute actively to scientific knowledge require extensive laboratory faciities. In some areas of science, scholarly research goes on in one's mind—perhaps during a long walk or at home with the aid of a small computer. Such is the case for mathematicians ***Burton I. Fein*** of the Department of Mathematics and ***H. Daniel Brunk*** of the Department of Statistics.



Larry Mahrt

Fein, who has received continuous support for his research in pure mathematics since 1965 from the National Science Foundation, needs no experimental data. "I need long stretches of time to think about certain problems and nothing else," says Fein. "I do not work at my desk in Kidder Hall, but at home or sometimes during long walks. During the academic year, I might do some writing, give talks, or go to brief conferences that can be fitted into my teaching schedule, but I find it difficult to do any creative work."

Fein's field is abstract algebra, and more specifically the structure of Brauer groups of fields. In very simplistic terms, he tries to abstract what is really crucial about common algebraic objects studied in mathematics. For the past ten years, he has collaborated closely with UCLA mathematician Murray Schacher, with whom he has published more than 25 scholarly papers.

"We get together for about ten days every summer," notes Fein, "and we work from 9 a.m. to midnight with short breaks for meals. This time is reserved just for thinking about certain problems and playing with ideas; it does not include any writing, which in mathematics is the least demanding task."

Brunk, an established statistician whose work has received continuous support from the National Science Foundation, works at home during the summer with the help of an Apple computer, which can communicate with the Cyber at the OSU Computer Center. He is interested in probability theory and is currently developing a novel approach for analyzing data. He is now applying this approach to data obtained from a longitudinal study of lung function by Dr. Sonia Buist of the Oregon Health Sciences University. Such data, collected at intervals of several years from two large groups of individuals consist of measurements, test results, and answers to questionnaires.

"I feel better about my work if I see hope of applying it to a specific problem," comments Brunk. "In this case, goals of the study include development of models for predicting future lung function as it depends on the individual's current state of health and relevant aspects of his life style."

Brunk is collaborating on this approach to data analysis with a statistician from the University of Keele, England, who also has access to lung function data collected by a physician at the Royal Shrewsbury Hospital. Brunk plans to go to the University of Keele on sabbatical leave during the spring and summer 1983 for closer collaboration on this work.

Scientific creativity is a fragile process and a highly personal activity, usually requiring uninterrupted time for concentration. Many faculty members, who find it difficult to concentrate on challenging problems during the academic year, do so more easily during the summer months when reduced instructional duties permit more flexible schedules. In the final analysis, each individual must find that special combination of factors most conducive to productive work, but for many faculty members summers offer the most favorable conditions.

* * *

The 43rd OSU Biology Colloquium

Climate and the Biosphere

Participants in the 43rd Annual Biology Colloquium included: (left to right) W. Lawrence Gates, Harold C. Fritts, Norman J. Rosenberg, Charles B. Miller, Andrew P. Gutierrez, William P. Lowry, and William W. Kellogg. Not pictured: Ludwig M. Eisgruber and David M. Gates.

The 43rd Biology Colloquium, "Climate and the Biosphere," was held at the Oregon State University Foundation Center, Friday and Saturday, May 7-8, 1982. It was organized by Professor **W. Lawrence Gates,** chairman of the OSU Department of Atmospheric Sciences and director of the Climatic Research Institute. The two-day meeting presented current research on the effects of climate on the biological environment. Eight scientists from a variety of disciplines discussed the climatic effects upon plants and agriculture, animals, and man.

At the beginning of the Colloquium, Dr. Gates noted that although everyone is familiar with the gross aspects of climate, little thought is given to the fact that climate has not always been as we know it today and that it will certainly not be the same in the future. Scientists should investigate past changes in climate and examine how they affected the biosphere as a prelude to future climate changes and their effects. Mankind may then be able to prepare for these changes and make needed adjustments.

The first session of the Colloquium focused on the responses of crops and plants to climate, while most of the afternoon session considered animal responses. The talks given Saturday morning examined man's possible reactions to those changes and offered provocative thoughts about "future climate scenarios."

The first speaker was **Dr. Ludwig M. Eisgruber,** director of International Agriculture at Oregon State University. An agricultural economist, Dr. Eisgruber described himself as "a farmer" and not a climatologist. In his discussion, "The Impact of Weather and Climate on the Economics of Food Supply," he noted that every farmer manages a complex system that depends to a great extent on the climate. Steps must be taken to insure against potential losses caused by climate changes. While the impact of climatic variables on the cost of food to consumers is significant, it should not be overestimated. Dr. Eisgruber noted that climatic information must become more predictable and be translatable into decision variables to have greater impact on the economics of food supplies.

The second speaker was **Dr. Norman J. Rosenberg,** director of the Center for Agricultural Meteorology and Climatology at the University of Nebraska at Lincoln. In his talk, "Drought-Proofing Crop Production," he discussed strategies that have been developed to protect crops in time of drought. Such strategies include increasing water supply by enhanced precipitation, better snow and soil management, and other conservation measures. From his research on the problems of the Great Plains—an area that is very susceptible to droughts—Dr. Rosenberg described the possibility of modifying microclimates by using tree windbreaks or other types of shelters. Manipulating plant population and developing water-thrifty varieties also reduces the demand for water.

Dr. David M. Gates, director of the Biological Station of the University of Michigan, Ann Arbor, was the last speaker of the Friday morning session. He opened his talk on "Progress and Problems with Plants and Climate" by stating that our understanding of plant response to climate is still very limited. He discussed the significance of climate factors such as temperature, humidity, wind, precipitation, radiation and carbon dioxide concentration at different stages of a plant's life from seed germination to growth, flowering, fruit development, and dormancy. Many problems must be solved before plant response to climate can be fully understood.

Dr. Andrew P. Gutierrez of the Division of Biological Control, University of California at Berkeley, opened the Friday afternoon session by presenting a paper on "The Economics of Fitness and Adaptedness in Time-Varying Predator-Prey Systems." An entomologist and an ecologist with an interest in economics, Dr. Gutierrez used a comprehensive simulation model of the interactions of sylvan cotton and the cotton boll weevil as a case study to assess the survival strategies of the two species.

"Effects of Climatic Variation on Marine Life" was the topic discussed by **Dr. Charles B. Miller,** professor of oceanography at Oregon State University. The clearest proof of the biological importance of climate, he said, is to be found in the distribution

of marine plants and animals, which is regulated by equator-to-pole gradients in climate. When climate varies, distributional bands shift latitudinally, and such variations are usually accompanied by changes in ocean currents. Some planktonic animals and plants respond immediately to changes in currents and are shifted to new locations, while others that cannot move so readily respond with long-term evolutionary changes. Dr. Miller discussed in detail the methods for evaluating the effects of past climatic variations on marine life.

Dr. Harold C. Fritts, professor of dendrochronology, Laboratory for Tree-Ring Research, University of Arizona, concluded the Friday afternoon session with a discussion on "Climate-Related Tree-Ring Widths: Integrated Verifiable Records of Decade-Long Variations in Past Climate." Dr. Fritts reviewed the methods used in dating past climatic events by the careful study and measurement of tree-ring widths. Through statistical analysis of tree-ring widths, it is possible to obtain meaningful maps and time series of temperature, precipitation and pressure variations over North America and the North Pacific Ocean for the last several centuries.

At the Saturday morning session, **Dr. William W. Kellogg,** a senior scientist at the National Center for Atmospheric Research, Boulder, Colorado, spoke on "Carbon Dioxide, Climate Change, and the Biosphere." He pointed out that larger amounts of carbon dioxide in the atmosphere will cause the earth's temperature to rise in coming years—a phenomenon described as the "greenhouse effect." Although climatologists do not agree on the exact timing for such temperature change, they anticipate that by the year 2,000 the earth will be warmer than during the last several centuries. The changes in worldwide distributions of rainfall and soil moisture may have more important repercussions than the change in temperature. Dr. Kellogg demonstrated that by studying moisture distributions in the distant past (when the earth was warmer) and in recent warmer years, and by developing theoretical models of the climate system, it is possible to construct a "future climate scenario" —an essential first step in assessing the possible impact of warmer temperature on the biosphere.

Dr. William P. Lowry, a visiting professor of biometeorology in the Department of Atmospheric Sciences at OSU, presented the final lecture of the Saturday morning session. Speaking on "Doing What We Must: Responses of Human Societies to Environmental Change," Dr. Lowry examined a range of possible human responses to unavoidable environmental changes. Guided by the anthropologist's view that people do what they must to survive (and justify their actions later) and by the ecologist's principle of "carrying capacity," Dr. Lowry presented an evaluation of possible responses to changes in the environment. Noting that the short-term payoff is often the only basis for decisions, he suggested that foresight and less rigid value systems in our society might make the process of survival in a changing environment less painful.

Dr. Gates closed the Colloquium on Saturday morning and noted that the biosphere is a key component of the climate system and that increased attention should be given to its interactions with the system's other parts—atmosphere, ocean and ice. He expressed the consensus of the Colloquium that both new research and new applications of existing knowledge on climate-biosphere problems are urgently needed.

Nibler Receives Humboldt Award

Joseph W. Nibler, professor of chemistry at Oregon State University, has received an Alexander von Humboldt Award for 1982-83 in recognition of his research achievements in laser spectroscopy. This honor, granted by a German foundation, carries a cash award that will allow Nibler and his family to live in Germany for the next academic year, while he pursues the research of his choice at the Technical University of Munich.

The Alexander von Humboldt Foundation, which was originally established by 19th-century German naturalist Alexander von Humboldt, makes available substantial sums to international scientists through several programs.

A special program intended for senior U.S. scientists was initiated in 1972 in commemoration of the 25th anniversary of the establishment of the Marshall Aid Plan. The program shows appreciation for American aid at the end of World War II and honors American scientists who have achieved international reputation. The program's goal is to encourage exchange of ideas and to stimulate scientific cooperation between the Federal Republic of Germany and the United States of America.

Scientists must be nominated by a German researcher who must also support the nomination with a list of the nominee's

publications, copies of his most significant scientific papers and other pertinent information. Final selection is made by a committee of scientists and prominent people from different areas of the German government.

Nibler was nominated for the award by Professor Edward Schlag, head of physical chemistry at the Technical University of Munich, where Nibler will continue his studies in laser spectroscopy next fall.

Nibler's research interest in molecular spectroscopy began during his undergraduate training at OSU. He pursued that interest as a graduate student at the University of California at Berkeley, and later (since 1967) as a faculty member at OSU. His most significant work to date is in non-linear optical spectroscopy. Under the right conditions, a high-density laser beam interacts strongly with molecules, and from these interactions it is possible to gain new insights about molecular properties, their structures, and energy transfer processes.

"I am very pleased to have been selected as a Humboldt Fellow," comments Nibler. "It is an honor and a tremendous opportunity for exchanging scientific information with scientists from Germany and other European countries. German universities today are extremely well equipped for research. In addition, it will be an important cultural experience for me and my family."

Nibler has visited the Federal Republic of Germany on several occasions to present papers at international meetings. He has visited at the Universities of Freiburg, Bayreuth, and Frankfurt, and he was an NSF Postdoctoral Fellow at Cambridge University, England, for a year. While research is the primary goal, he is looking forward to his stay in Germany and the many activities planned for the award winners by the Humboldt Foundation.

news & notes

ATMOSPHERIC SCIENCES

James W. Deardorff attended the Climate Science Review at the Goddard Space Flight Center, Greenbelt, MD, in mid-June, where he reported on his NASA research project on boundary-layer modeling. On June 17, he gave a seminar on laboratory studies of mixed-layer entrainment in the Department of Earth and Planetary Sciences at Johns Hopkins University. On August 10, he presented a paper at the 10th IMACS World Congress on Systems Simulation and Scientific Computation in Montreal, Canada, and on August 12 he gave a seminar at the National Center for Atmospheric Research, Boulder, Colorado.

W. Lawrence Gates presented an invited paper on the modeling of the climatic effects of increased atmospheric CO_2 at the July meeting of the Royal Meteorological Society in Norwich, England. At that time, he also visited the Bracknell meteorological office and the University of East Anglia. At the end of August, Dr. Gates participated in a meeting of the Climate Research Committee of the National Academy of Sciences Climate Board in Washington, DC.

Peter Maule, research assistant in the Wind Resource Laboratory, was an invited speaker at the annual joint conference of the American Congress of Surveying and Mapping and the American Society of Photogrammetry in Denver, CO, in March. He presented a paper on "Wind power assessments and remote sensing," (coauthors: John Wade, Atmospheric Sciences, and Charles Rosenfeld, Geography).

Allan H. Murphy visited several groups within the National Weather Service in the Washington, DC, area in mid-August to discuss recent developments in probabilistics/statistical weather forecasting, forecast evaluation, and the value of meteorological information. During these visits, Dr. Murphy presented two seminars on methods of forecast evaluation. In early August, he also visited several universities and research organizations in New England to discuss research projects in statistical and applied meteorology. As state climatologist for Oregon, Dr. Murphy participated in the annual meeting of the American Association of State Climatologists in Charlottesville, VA, August 12-13.

Michael E. Schlesinger was an invited speaker at the NASA Climate Science Review, Goddard Space Flight Center, Greenbelt, MD, in mid-June. He presented a review of the OSU Climatic Research Institute studies sponsored by NASA. On August 6, Dr. Schlesinger gave an invited talk on future climate at the session on "The CO_2 Problem," Joint Oceanographic Assembly, Halifax, Nova Scotia.

BIOCHEMISTRY AND BIOPHYSICS

James R. Allen, research associate in Dr. Mathews' laboratory, has accepted a position as Associate Professor in the School of Applied Biology, Georgia Institute of Technology, and will be leaving OSU this fall. ***Gary Causley,*** research associate with Dr. W. Curtis Johnson, has accepted a research position with Tektronix, Inc., beginning in August 1982.

Robert R. Becker attended the Gordon Conference on cardiac glycosides at Tilton, NH, at the end of August.

Ann Brodie, research associate with Dr. Donald J. Reed, attended a course on Animal Cell Culture in Serum-Free Media at Cold Spring Harbor Laboratory, NY, from June 19 to July 2.

Christopher K. Mathews attended a FASEB Conference on Somatic Cell Genetics during mid-July in Saxton's River, VT. In July, he also participated in a site visit for the National Institutes of Health at the University of California, San Francisco. In early August, he took part in the International Congress of Microbiology in Boston, where he gave an invited talk, "DNA precursor pools, multienzyme complexes, and replication fidelity," at a symposium on Genetic Regulation of DNA Replication of Phages and Their Hosts.

George D. Pearson presented a seminar, "Replication directed by a cloned adenovirus origin," during May, in the Department of Biochemistry, Oregon Health Sciences University, Portland.

Donald J. Reed chaired a site visit for the National Institute of Environmental Health Sciences at Johns Hopkins University in mid-June. In early July, he participated in another NIEHS site visit at the same institution. On June 21-24, he presented an invited paper at the first Conference on Radioprotectors and Anticarcinogens at Gaithersburg, MD.

Kensal van Holde served as chairman of the Gordon Conference on Chromatin in Tilton, NH, at the end of June. Graduate student ***Christopher Szent-Gyorgyi*** also attended that meeting.

Graduate student ***Ralph Francis*** attended the summer physiology course at the Marine Biological Laboratory, Woods Hole, MA.

Graduate student ***Thomas Yager*** attended the Carolina Workshop on DNA Sequencing and General DNA Technology in Chapel Hill, NC, July 12-30.

BOTANY AND PLANT PATHOLOGY

Thomas C. Allen presented a review of his latest virus-free lily research at the Lily Field Day in Brookings, OR, in July. In August, he was an invited participant at a conference on "Bulbs—Options for Improvement" at Dundee, Scotland. His participation was sponsored by the Association of Applied Biologists.

Joseph Antos and ***Donald B. Zobel*** presented a talk, "Recovery of forest understory plants from Mount St. Helens tephra," at the annual meeting of the Ecological Society of America, University Park, PA, in August.

Donald J. Armstrong attended the annual meeting of the American Society of Plant Physiologists at the University of Illinois, Champaign, in June.

Norman I. Bishop was awarded the Sigma Xi Research Award for 1982 by the Oregon State University Chapter.

H. Ronald Cameron was the Oregon representative at the Western Regional Coordinating Committee, WRCC-20, meeting in Prosser, WA, in June and at the WRCC-24 meeting in Erie, PA, in August. Dr. Cameron and Research Assistant ***Daniel L. Moore*** attended the XII International Symposium on Fruit Tree Viruses in Vancouver, BC, in mid-June. Dr. Cameron was a member of the organizing committee and presented a paper, "Effect of *Prunus* viruses on growth and yield of Italian prune trees." ***Daniel Moore*** gave a talk, "A nucleic acid associated with necrotic rusty mottle-diseased cherries" (H.R. Cameron, coauthor), and ***Edwin R. Florence*** presented a paper, "A comparison of vesicles observed in cells of symptomless healthy fruit trees with those found in virus-infected plants (H.R. Cameron and C.L. Parish, coauthors). ***Dr. Cameron*** has been elected to serve a three-year term as Treasurer of the American Phytopathological Society.

Kenton L. Chambers participated in the annual meeting of the Pacific Division of the American Association for the Advancement of Science at the University of California, Santa Barbara, in June. Dr. Chambers attended a meeting of the Council as Council Member-at-Large and participated in a field trip to Santa Cruz Island.

Charles C. Leach presented two papers on leaf surface electrostatics as related to plant diseases at the Second International Aerobiological Conference at the University of Washington, Seattle, in August.

Dallice I. Mills and graduate students ***Dirk M. Anderson, Marilyn Ehrenshaft, Alan R. Poplawsky*** and ***Leslie J. Szabo*** attended the Conference on the Genetic Engineering of Plants at the University of California at Davis, in August. ***Szabo*** presented a paper entitled "Identification of a repetitive sequence involved in plasmid-chromosome recombination in *Pseudomonas syringae* pv. *phaseolicola* (D. I. Mills, coauthor).

Thomas C. Moore attended the 11th International Conference on Plant Growth Substances at the University College of Wales, Aberyswyth, in July and chaired a meeting of the Editorial Board for the *Journal of Plant Growth Regulation.*

Frank D. Niepold, from the University of Gottingen, Federal Republic of Germany, joined the laboratory of Dr. Dallice I. Mills in June as a research associate. He is a postdoctoral fellow and is supported through a German Academic Exchange Service Award.

Mary L. Powelson attended the annual meeting of the Potato Association of America in Monterey, CA, in early August.

Robert L. Powelson and Research Associate ***Mark E. Halsey*** attended a technical committee meeting of the Western Regional Coordinating Committee, WRCC-29, on Cereal Diseases and the 4th Biennial Conference on Smut Fungi at Utah State University, Logan, at the end of June.

Robert L. Powelson and ***Mary L. Powelson*** will be in Australia from September 1982 to August 1983 as visiting scientists of the Victorian Crops Research Institute, Horsham. Dr. Robert Powelson will work on suppression of take-all root rot of wheat in cooperation with J. E. Kollmorgen, and Dr. Mary Powelson will work with Trevor Bretag on soil-borne diseases of legumes. They will also present papers at the 4th International Congress of Plant Pathology, Melbourne, in August 1983.

Ralph S. Quatrano attended the annual meeting of the Society for Developmental Biology at Harvard University in June. In August, he presented a poster paper at a conference on Genetic Engineering of Plants at the University of California at Davis.

Several faculty members and graduate students attended the annual meeting of the American Phytopathological Society in Salt Lake City, UT, in early August. The following people presented papers: ***Everett M. Hansen, Dallice I. Mills, Alice C. L. Churchill, Jody L. Goodell, Paul F. Hessburg, Kenneth B. Johnson,*** and ***Alan R. Poplawsky. Dallice I. Mills*** was co-chairman of the Bacterial Genetics Session, and ***Charles M. Leach*** organized a slide salon on "Pesticide application equipment." ***H. Ronald Cameron, Mary L. Powelson, Robert L. Powelson,*** and Research Associates ***Dean W. Gabriel*** and ***Frank D. Niepold*** also attended the meetings.

Research Associate ***Dean W. Gabriel*** has accepted a position as Assistant Professor, Department of Plant Pathology, Oklahoma State University, beginning September 1, 1982.

CHEMISTRY

Walter D. Loveland gave an invited seminar on "Target fragmentation studies at intermediate energies" at Michigan State University, East Lansing, on July 1.

Joseph W. Nibler presented several lectures at the NATO Advanced Study Institute on Non-Linear Raman Spectroscopy at Bad Windsheim in West Germany, August 23-September 3. ***Steve Bares*** and ***George Pubanz,*** doctoral students who work in this area with Professor Nibler, also attended this institute. Both received partial support for travel expenses from the National Science Foundation and the NATO Institute, respectively. Following the Study Institute, Nibler, Bares and Pubanz participated in the VIII International Conference on Raman Spectroscopy in Bordeaux, France. Partial support for attendance at this meeting was provided by the conference organizers and by the Bert Christensen Graduate Student Travel Fund in Chemistry.

Kenneth I. Hedberg gave an invited lecture, "Precise molecular dimensions from gas-phase electron diffraction," at a symposium on Precise Molecular Dimensions and Thermal Motions at the meetings of the American Crystallographic Association in San Diego, CA, in August.

Edward H. Piepmeier presided over the Friday afternoon session of the Analytical Chemistry Division at the 37th Northwest Regional Meeting of the American Chemical Society. He also presented a paper entitled "Accurate wavelength tuning of an etalon-tuned dye laser." Graduate students ***Bob Eierman*** and ***Bill Pesklak*** also presented papers at that meeting: "Determination of nitrogen isotope relative abundances using a four-channel computer-controlled echelle emission spectrometer" and "Influences of the chemical composition of the atmosphere upon laser plumes," respectively.

David P. Shoemaker gave a seminar on "Hydrogen in Alloys" at Portland State University in April. At the end of June, Professors ***David*** and ***Clara Shoemaker*** attended the Seventh International Conference on Solid Compounds of Transition Metals in Grenoble, France, and presented a poster paper, "Concerning the distribution of coordination numbers in tetrahedrally close-packed alloy structures." Dr. David Shoemaker co-chaired the session on metal clusters.

T. Darrah Thomas attended the Gordon Research Conference on Electron Spectroscopy in Wolfeboro, NH, in July, and the X-82 International Conference on X-Ray and Atomic Inner-Shell Physics in Eugene, OR, in August. He served on the Visiting Committee of the Chemistry Department at Brookhaven National Laboratory in June.

James D. White was an invited speaker at the Gordon Conference on Organic Reactions and Processes in New Hampton, NH, in July. He also gave lectures at Hoffmann-LaRoche, Nutley, NJ, and at Adria Laboratories, in Columbus, OH. Several members of Dr. White's research group— ***Giorgio Caravatti, Hollis Kezar, Alan Whittle, Wesley Chong, Myung-chol Kang, Paul Johnson,*** and ***Ernest Nolen***— gave papers at the Northwest Regional Meeting of the American Chemical Society in Eugene, OR, in June.

John T. Yoke, graduate student ***Steven Bolkan,*** and Research Associate ***Ludvik Urban*** presented a paper, "Synthesis of N-Ethyl-N,N-bis (2-diethylphosphinoethyl)amine, a novel PNP chelating agent," at the 37th Northwest Regional Meeting of American Chemical Society in Eugene, OR, in June.

COMPUTER SCIENCE

Alan J. Coppola attended the annual conference of the Special Interest Group in Automata and Computability Theory sponsored by the Association of Computing Machinery, in San Francisco, in May.

Paul Cull attended the conference on Competition Models in Ecology at Utah State University, Logan, in mid-July. Later in the month, he presented a paper at the meeting of the Society for Industrial and Applied Mathematics at Stanford University, CA.

Douglas B. Moran presented a paper, "Representing inconsistent information in a dynamic model-theoretic semantics," at the annual meeting of the Association for Computational Linguistics at the University of Toronto, Canada, in mid-June.

Fred Tonge attended the 1982 Biennial Conference for the chairmen of Ph.D.-granting Computer Science departments at Snowbird, UT, in July. "Ways to Meet the Crisis in Computer Science" was the theme of the conference.

ENTOMOLOGY

Norman H. Anderson presented a paper, "Recolonization of streams on Mt. St. Helens after the 1980 eruption," at a meeting of the American Benthological Society in Ann Arbor, MI, in May.

Ralph E. Berry has returned from a faculty exchange at Lincoln College, Christchurch, New Zealand. ***Dr. David Penman*** from Lincoln College was in the Department of Entomology at OSU during the exchange period.

Victor J. Brookes attended a meeting on insect reproduction in Czechoslovakia in mid-June.

René Feyereisen presented a paper on "Drug Metabolism" at a Gordon Conference on Frontiers of Science, in Plymouth, NH, at the end of July.

John D. Lattin spent several days in July reviewing the organization and activities of the Bureau of Entomology, Florida Department of Agriculture and Consumer Services in Gainsville, FL. Earlier in the month, he worked for two weeks at Beltsville, MD, and Washington, DC, with the USDA-Agricultural Research Service and the Cooperative State Research Service.

Peter B. McEvoy presented a paper, "Wind-dispersal of dimorphic achenes of tansy ragwort (*Senecio jacobaea)* in relation to habitat," at the annual AIBS meeting at Pennsylvania State University in August. He also gave a paper at an international symposium on "Perspectives in Plant Population Ecology" in Mexico City, in August. The symposium commemorated the 100th anniversary of Darwin's death.

GENERAL SCIENCE

Paul L. Farber was elected one of two Executive Councillors of the West Coast History of Science Society for 1982-84. He was also selected by the Northwest Interinstitutional Council on Study Abroad to teach History of Science in London during winter term 1983.

John P. Kelley presented two papers at the annual meeting of the Health Physics Society in Las Vegas, NV, in June: "The use of radiography in the scientific investigation of shark attacks" and "X-Ray systems and patient exposure in the coal miners' pneumoconiosis facility certification program."

David L. Willis co-chaired a session on Radionuclides in Food and Drinking Water at the annual meeting of the Health Physics Society in Las Vegas in June.

GEOGRAPHY

A. Jon Kimerling attended the Pacific Northwest Conference on Photogrammetry, Remote Sensing and Geographic Information Systems in Portland, OR, in June, where he organized a workshop on Map Production and Reproduction. He also gave a paper entitled: "Cartographic issues in geographic information systems."

Keith W. Muckleston presented a paper, "Attempts to reconcile conflicting demands over Columbia River outputs," at the meetings of the International Association of Hydrological Sciences in Exeter, United Kingdom, in July.

GEOLOGY

Robert S. Yeats was an invited participant in a Penrose Conference on Laramide Deformation of the Rocky Mountain Foreland. The conference, sponsored by the Geological Society of America, was held at Red Lodge, MT, at the end of August.

Robert D. Lawrence returned in late June from a year as Fulbright Professor at the Center of Excellence in Geology, University of Peshawar, Pakistan, where he was accompanied by his

family. During the year, he studied suture zones created by continental collision in the Himalaya and Karakoram, mapped and studied the Swat Emerald Mine, and led field trips to the Chaman Fault, Quetta, and to the Salt Range. He left OSU again in late August for another six weeks of research in Pakistan. Dr. Lawrence is coauthor of the Landsat Atlas of Pakistan, which is being published in fall 1982.

Keith F. Oles was a delegate to the 1982 National Convention of the American Association of Petroleum Geologists in Calgary, Alberta, at the end of June. He participated in committee meetings of Industry Affairs, Membership Affairs (as Northwest Chairman) and Legislative Affairs. He also took a quick trip through the Banff-Kootenai area photographing the region's stratigraphy and structure for classroom use. At the end of July, he took a trip to Dillon, MT, to check Master's candidates Charles Clark and William (Chip) Goodhue who are pursuing field research in the Overthrust Belt of Southwest Montana. In August, Dr. Oles spent two weeks instructing in geology on the S. S. Universe (University Afloat) from Vancouver, BC, to Anchorage, AK, and return. He was accompanied on this trip by his wife.

MATHEMATICS

Philip M. Anselone was Visiting Professor at the University of New South Wales in Sydney, Australia, from August 1 to September 17. He also gave talks at other Australian universities.

Robert M. Burton and ***Edward C. Waymire*** gave a joint, invited address at the meeting of the Institute of Mathematical Physics in San Antonio, TX, in mid-March.

David H. Carlson gave two talks at the Matrix Theory Workshop at the University of Calgary, Canada, in mid-June.

Alan J. Coppola attended the American Mathematical Society Summer Research Conference on "Probabilistic Complexity Theory" at the University of New Hampshire in early June. Later in the month, he met with Professor J. J. Walsh at the Universiy of Tennessee to discuss joint research.

Burton I. Fein gave an invited talk on "Character groups of function fields" at a conference honoring Professor Hans Zassenhaus, which was held at Ohio State University, Columbus, in mid-June. Dr. Fein spent July 21-29 in Los Angeles discussing joint research with Professor M. Schacher of UCLA.

Frank J. Flaherty attended the American Mathematical Society Research Conference Series on "Quantum fields, probability, and geometry" at the University of New Hampshire, in July. The conference is sponsored by the American Mathematical Society and the National Science Foundation.

Bent E. Petersen has completed a book entited *Introduction to the Fourier Transform and Pseudo-Differential Operators* (Pitman Publ., Inc.).

Richard M. Schori chaired a session of the meeting of the American Mathematical Society at Bellingham, WA, in June. ***Dennis J. Garity*** also attended that meeting.

MICROBIOLOGY

The following faculty members presented papers at the Northwest Branch meeting of the American Society for Microbiology in Seattle at the end of June: ***Peter J. Bottomley, Lyle R. Brown, John L. Fryer, Jo-Ann C. Leong,*** and ***David L. Tison.***

John L. Fryer served as moderator for a special session on "The determinants and characteristics of virulence in fish pathogens" at the 13th Midwest Fish Disease Workshop in Kansas City, MO, in mid-July. ***Dr. Richii Kusuda,*** a visiting professor from Kochi University, Japan, worked in Dr. Fryer's laboratory during July and August.

The following graduate students in Dr. Fryer's laboratory presented papers at the Western Fish Disease Conference in Vancouver, BC, in June: ***Martin Chen, Craig Banner, Jim Nelson,*** and ***Masahiro Sakai*** (a visiting graduate student from Miyasaki University, Japan). These students also attended the meetings of the American Society for Microbiology (Western Branch) in Seattle, where ***Martin Chen*** also presented a paper.

Jo-Ann C. Leong gave a paper, "Analysis of virus proteins in the diagnosis of fish disease" at the Western Fish Health Conference in Vancouver, BC, in June. In August she was an invited participant at the International Congress of Microbiology in Boston, where she took part in a Round Table discussion on the topic "Do inherited viral genes influence embryogenesis and differentiation?"

Richard Y. Morita was elected honorary member of the Chilean Society for Microbiology. He has accepted the chairmanship of the Committee on Environmental Microbiology of the American Academy of Microbiology. One of Dr. Morita's graduate students, ***Ron D. Jones,*** won a $100-award for the best graduate student paper presented at the meeting of the American Society for Microbiology (Northwest Branch) in Seattle. Title of his paper was "Methane oxidation by nitrifying bacteria."

William E. Sandine received the 1982 Institute for Food Technology Industrial Achievement Award at the annual meeting in Las Vegas, in June. He shared the award with Dr. James Ayres, Pharmacy, OSU, and Galloway West Company, Fond du Lac, WI. In late June, Dr. Sandine presented a paper, "Use of virus-resistant mutants in fermentation," at the meetings of the American Dairy Science Association at Pennsylvania State University.

PHYSICS

David S. Burch, Clifford E. Fairchild, Carl A. Kocher, Kenneth S. Krane, and ***Larry Schecter*** attended the national meetings of the American Association of Physics Teachers in Ashland, OR, June 20-25. ***Carl A. Kocher*** presented a paper on "Collisions involving atoms in high Rydberg states".

William Klement, Jr., University of California at Los Angeles, visited the department this summer and collaborated with the solid-state research group.

Victor A. Madsen gave an invited paper on the use of neutrons as a nuclear probe at the March 1982 Telluride Conference in Denver, CO. He spent the summer months doing theoretical structure studies at the Lawrence Livermore Laboratory, Livermore, CA.

Robert L. Rasera, visiting professor from the University of Maryland, Baltimore County, collaborated with John Gardner on applications of perturbed gamma ray angular correlations to studies of liquid and amorphous systems.

Albert W. Stetz spent the summer doing research in intermediate energy nuclear physics at the Tri-University Meson Physics Facility in Vancouver, BC.

L. Wayne Swenson conducted research in intermediate nuclear physics at the Los Alamos Scientific Laboratory, NM, during the summer.

Seong-Cho Yu, a physicist from Korea, is working with Dr. Gardner's research group on studies of amorphous ferromagnets.

STATISTICS

Jeffrey L. Arthur presented a seminar and met with faculty in the School of Industrial Engineering at the University of Oklahoma in July.

Jeffrey L. Arthur and ***Justus F. Seely*** were selected to receive the 1982 OSU Statistics Students Organization award for significant contributions to the educational experience of students in statistics.

David A. Butler met with G. J. Liebermann at Stanford University in late July to discuss collaborative research on a project for the Office of Naval Research.

G. David Faulkenberry discussed his project on nonsampling error with USDA Grant participants in Washington, DC, in July. In August, he participated in a session on "Satellite Agricultural Surveys" at the joint annual meetings of the American Statistical Association and the Institute of Mathematical Statistics in Cincinnati, OH.

F. Thomas Lindstrom and ***Kenneth E. Rowe*** attended the Gordon Research Conference on Statistics in Chemistry and Chemical Engineering in New Hampton, NH, in early August.

Justus F. Seely, newly elected Fellow of the American Statistical Association for his contributions to the profession, attended the award presentation. He also attended the Board of Directors meeting as District 6 representative at the joint annual meetings of the American Statistical Association and Institute of Mathematical Statistics.

ZOOLOGY

Christopher J. Bayne and ***E. S. Loker*** gave a talk, "Cell-mediated immunity in schistosomiasis: the molluscan host," at the International Congress of Parasitology in Toronto, Canada, in August. Dr. Bayne subsequently traveled to Philadelphia to chair the annual meeting of the Institute of Malacology.

Andrew R. Blaustein and ***R. K. O'Hara*** presented a paper, "Kin recognition in *Rana cascadae* tadpoles: maternal and paternal effects," at the meeting of the Animal Behavior Society in Duluth, MN, in August.

Philip Brownell gave a paper, "Neuroendocrine behavior in *Aplysia,*" at the International Symposium on Molluscan Endocrinology in Amsterdam, Netherlands, in mid-August.

Charles E. King presented two invited papers at the III International Rotifer Symposium in Uppsala, Sweden, in August: "An alternative explanation for the mechanism of the Lansing Effect" and "Cryogenic preservation of monogonont rotifers" (Todd Cannon, Andrew E. King, and H. Berkeley Bayne, coauthors).

Scholarship Awards, 1982

Seventy-eight students in the College of Science were awarded scholarship certificates at a special luncheon on June 2, 1982—Dean Thomas T. Sugihara presiding. Names of scholarship winners, their respective majors and scholarships received are listed below:

Front row, left to right:
Victoria Schöler, *Prephysical Therapy,* C. J. Meechan
Barbara Dahlquist, *Premedicine,* Jesse Hanson
James Bluhm, *Premedicine,* Jesse Hanson
Scott Walters, *Preoptometry,* Jesse Hanson
Kevin Starnes, *Preveterinary Medicine,* Dora Krueger Memorial
Paul Hill, *Biochemistry and Biophysics,* C. J. Meechan
Binh Quoc Nguyen, *Premedicine,* C. J. Meechan
Ron Masters, *Chemistry,* Milton Harris
Joseph Meyer, *Premedicine,* OSU Alumni Physician
Karen Krantz, *Microbiology,* Joseph E. Simmons Memorial
Tammi Degner, *Premedicine,* Jesse Hanson
Anne Lee, *Premedicine,* Jesse Hanson
Susan Erikson, *Geology,* Union Oil Co. of California
Joseph Maley, M.D. (representing the Alumni Physican Scholarship Committee)

Second row, left to right:
Linda Lea Roberts, *Biology,* Jesse Hanson
James P. Erzen, *Geography,* Jesse Hanson
Helen M. Walker, *Microbiology,* Joseph E. Simmons Memorial
Anne H. Wang, Biochemistry and Biophysics, Jesse Hanson
Scott Fitkin, *General Science,* Jesse Hanson
Patti Schlittler, *Premedicine,* Jesse Hanson
Mark Schmaedick, *Biology,* Jesse Hanson
Abigail Eisenhut, *Premedicine,* Gombart Medical
William Pierce, *Mathematics,* Paul Copson Memorial
Kelly Gaffney, *Preveterinary Medicine,* Dora Krueger Memorial
Colleen Spurgeon, *Chemistry,* Longview Fibre Co. Pulp and Paper
Duane Waliser, *Computer Science,* Paul Copson Memorial
James M. Nusrala, M.D. (representing the Benton County Medical Society)

Third row, left to rght:
Tracy Willhite, *Microbiology,* Joseph E. Simmons Memorial
Suzanne Leahy, *Preveterinary Medicine,* Dora Krueger Memorial
Kenneth Skach, *Geology,* Jesse Hanson
Steven Nitschelm, *Preveterinary Medicine,* Copson
Bruce Boston, *Biology,* Jesse Hanson
Thomas Jordan, *Predentistry,* Jesse Hanson
Ronda Shipley, *Science Education,* Jesse Hanson
Kenneth Cornell, *Microbiology,* Joseph E. Simmons Memorial
Sharon Palanuk, *Microbiology,* Joseph E. Simmons Memorial
Makoto Fukuhara, *Computer Science,* Paul Copson Memorial
Amy Fawver, *Preveterinary Medicine,* Dora Krueger Memorial
Cynthia Coté, *Premedicine,* Jesse Hanson

Fourth row, left to right:
R. Todd Lorenz, *Microbiology,* Mark H. Middlekauf
Julie Kathrein, *Microbiology,* Joseph E. Simmons Memorial
Ronald Robison, *Premedicine,* Jesse Hanson
Stephen Ames, *Premedicine,* Hanson/Gombart
Kenneth Stanwood, *Mathematics,* Paul Copson Memorial
Gilbert Boswell, *Premedicine,* Jesse Hanson
Richard Baertlein, *Premedicine,* Gombart Medical
Bryan Haynes, *Computer Science,* Paul Copson Memorial
Randy Nevin, *Computer Science,* Sait
Joseph Haberman, *Biochemistry and Biophysics,* Jesse Hanson
Randy Greb, *Geology,* Union Oil Co. of California
Karen Sommer, *Chemistry,* Longview Fibre Co. Pulp and Paper
Thomas Tibbitts, *Biochemistry and Biophysics,* Milton Harris

Scholarship winners not included in photograph:
Nathan Dunsmore, *Biochemistry and Biophysics,* Jesse Hanson
David Jones, *Biochemistry and Biophysics,* C.J. Meechan
Sylvia Fromherz, *Biology,* Herrick/Copson/ Hanson
Elizabeth Molitor, *Biology,* Jesse Hanson
Catherine Scott, *Biology,* Jesse Hanson
Leron Paterson, *Chemistry,* Longview Fibre Co. Pulp & Paper
Peter M. Dawson, *Chemistry,* Milton Harris
Richard Cramer, *Computer Science,* Paul Copson Memorial
Theodore Vincent, *Computer Science,* Paul Copson Memorial
Andrew Macfarlane, *Geology,* AMOCO Foundation
Scott Samson, *Geology,* Evans/Copson
Timothy Hardy, *Mathematics,* Paul Copson Memorial
Wendy Sue Jordan, *Microbiology,* J.E. Simmons Memorial
Randall Neal, *Microbiology,* Mark H. Middlekauf
Steven Brockett, *Physics,* Paul Copson Memorial
James Dickinson, *Physics,* Paul Copson Memorial
Martin Troyer, *Physics,* Paul Copson Memorial
Anna Babine, *Premedicine,* Copson
Basheer Badiei, *Premedicine,* Copson
Maurice Golden, *Premedicine,* Bosworth Memorial
Barbara Graham, *Premedicine,* Jesse Hanson
Paul Haddeland, *Premedicine,* Jesse Hanson
Mark Hendricks, *Premedicine,* Bosworth Memorial
Thomas Howard, *Premedicine,* Jesse Hanson
Curtis Marr, *Premedicine,* Copson
John Matthews *Premedicine,* Jesse Hanson
Todd Quier, *Premedicine,* Jesse Hanson
David Vandermolen, *Premedicine,* Benton County Medical Society
Mark Weeber, *Premedicine,* Jesse Hanson