OSU hands out research awards

By John C.S. Slack
Lantern staff writer

The Academic Enrichment Award program has awarded over $1 million for fiscal year 1995 to advance research programs at Ohio State.

Fourteen academic areas of Ohio State received awards ranging from $49,000 to $226,000 to be given over three years.

In some cases, longer term commitments will be made with respect to recruitment of students and development of programs, and placing students and faculty in them, said Richard Sisson, senior vice president of academic affairs.

This is the first year for the enrichment awards, said Edward Ray, senior vice provost of academic affairs.

The enrichment awards are offered jointly by the Office of Research and the Office of Academic Affairs, Ray said.

In the future, Ohio State will try to budget at least $1 million for the Academic Enrichment Award Program every year with hopes of expanding it, depending on the university's budget, Ray said.

The purpose of the awards is to "target investment monies to improve the quality of education," Ray said.

The awards provide for long-term investment in areas of particular quality and areas where Ohio State has a competitive advantage to do something distinctive and extraordinary, Sisson said.

"We're very enthusiastic about being in the kind of budget equilibrium that allows us to make strategic investments that will make academic and research programs stronger in the years ahead," said Edward Hayes, vice president for research at Ohio State.

The awards were offered because "the university administration decided, as we were able to get through reorganization and restructuring, that there would be the opportunity to do exciting things to improve the university," Hayes said.

Hayes said they are still discussing whether the awards will be offered on a yearly basis or every other year.

"If you don't have sufficient money to fund a significant portion of ideas at a level that will be successful, it may be better to have fewer competitions over time," Hayes said.

The Academic Enrichment Awards were proposed to help identify good ideas and opportunities for improving academic research programs, Hayes said.

The enrichment awards will enhance the quality of research, teaching and services offered by Ohio State, Sisson said.

Colleges and departments at Ohio State were asked to submit proposals that were reviewed by a committee of faculty from around the university, Ray said. About 55 proposals to be considered for the enrichment awards were submitted this year.

Previously, more attention was paid to what was awarded than to what the university agreed to support, Ray said.

"The university got itself in trouble in the past by funding good things even though the university didn't have the money," Ray said.
14 projects receive Enrichment funding

By Molly Davis

Resources are limited. Resourcefulness is not. With that in mind, the offices of Academic Affairs and Research have announced 14 Academic Enrichment Initiatives to provide a thrust for the University to invest in selected areas of existing or potential strength even in times of fiscal constraint.

"This evolving program seeks innovative proposals through an open competition, with the Office of Academic Affairs and the Office of Research as funding partners," said Richard Sisson, senior vice president for academic affairs and provost.

The University Senate Fiscal Committee first proposed strengthening academic areas. With set-aside funds of $1 million to work with, Sisson and Edward F. Hayes, vice president for research, last March called for proposals.

Seventy proposals were submitted. "We were delighted by the immediate and enthusiastic response. The quality of the proposals was just outstanding, and the initiatives selected are extremely promising," Sisson said.

J. Robert Warmbold, professor of agricultural education, chaired a committee to review proposals. The other members were professors Marilyn Brewer, psychology; Hamish L. Fraser, materials science and engineering; David O. Edwards, physics; Lisa J. Kiser, English; and Brad T. Stokes, surgery.

The quality of the proposals was just outstanding, and the initiatives selected are extremely promising," Sisson said.

Richard Sisson

Additional advice was obtained from the Provost's Advisory Committee (formerly called the University Priorities Committee).

One area that was singled out for particular consideration was Molecular Life Sciences. MLS includes the colleges of Food, Agricultural, and Environmental Sciences, Biological Sciences, Mathematical and Physical Sciences, Medicine, Pharmacy, and Veterinary Medicine.

Hayes and Sisson appointed an ad hoc advisory committee for the Molecular Life Sciences to examine potential opportunities and, after consulting broadly, to submit a report of its findings.

Based on that committee's final report, Sisson and Hayes constituted the University Advisory Committee on the Molecular Life Sciences, chaired by Ohio Eminent Scholar Alan M. Lambowitz. The advisory group developed a long-range plan for MLS initiatives; called for and reviewed proposals; and made recommendations.

The Council of Life Sciences Deans, with Gary L. Floyd of the College of Biological Sciences as lead dean, then reviewed proposals and gave recommendations.

In the overall Academic Enrichment Program, Sisson and Hayes said they gave priority to proposals that facilitate interdisciplinary teaching and research, and that have the potential to contribute to the highest value to teaching and research excellence.

"The process for selection was extensive and consultative. There were many excellent proposals, far more than could be funded - which says a lot about the caliber and initiative of our faculty. Funds have been extended in the support of high-priority areas in which colleges, departments, and centers are also investing resources," Hayes said.

The proposals selected for funding in fiscal year 1995 were:

- Faculty Graduate Student Enhancements:
  - College of Food, Agricultural, and Environmental Sciences: to assist in the recruitment of two faculty members and to support graduate students in the interdisciplinary environmental science Ph.D. program.
  - College of Mathematical and Physical Sciences: to assist in the support of fellowships for exceptional graduate students in physics.
  - College of Social and Behavioral Sciences: to assist in the recruitment of faculty for an interdisciplinary political psychology program.

- College of Social and Behavioral Sciences: to assist in the recruitment of a chaired professor in economics.

- Fisher College of Business: to supplement funding for endowed chairs, one in accounting and one in corporate strategy.

- College of Nursing: to assist in the recruitment of midwifery faculty to staff a new birthing center.

- Instructional enhancements:
  - College of the Arts, for the Emerging Technology Studio: to assist with funds to be used to test and develop interactive technologies for instructional research and education, with applications in multiple fields.
  - College of Mathematical and Physical Sciences, Microscopic and Chemical Analysis Research Center: to assist with funds to complete the establishment of an interdisciplinary teaching and research center that is focused on measurement of the chemical composition of materials to serve faculty, staff and students in diverse departments.
  - College of Mathematical and Physical Sciences: to assist with funds to develop technology-based education in statistics, with broad applicability across disciplines.
  - Molecular life sciences (for fiscal year 1995 only):
    - College of Biological Sciences: to assist in the recruitment of one assistant professor in molecular genetics.
    - College of Engineering and Mathematical Sciences: to assist in the recruitment of a faculty member in the interdisciplinary program in molecular medicine.
    - College of Social and Behavioral Sciences: to assist in the support of fellowships for doctoral students in molecular life sciences.

- Technology transfer:
  - Center for Materials Research: to assist in the recruitment of a senior faculty member for a joint appointment between the colleges of Engineering and Mathematical and Physical Sciences.
  - Engineering Research Center for Net Shape Manufacturing: to assist in the recruitment of a faculty member to teach manufacturing and machining-related courses and to conduct research related to machinering/machining.

The offices of Academic Affairs and Research anticipate that the enrichment initiatives will stimulate dialogue that will result in more cross-disciplinary ventures that inspire and enrich teaching and research experiences for undergraduate and graduate students.

1996 Academic Enrichment proposals are due March 17

Departments and centers may submit proposals for 1996 Academic Enrichment Initiatives funds through college deans until March 17.

Individual proposals may be for cash or annual rate up to $150,000. Preference will be given to proposals that request costs sharing rather than full funding from the offices of Research and Academic Affairs.

Proposals might include, but are not limited to:

- Support for excellence in teaching and research, including honors programs.
- Equipment for collaborative teaching or research activities.
- Faculty recruiting in key program areas.
- Staff support for student retention efforts.
- Equipment for instructional or administrative support.
Molecular Life Sciences: An Academic Enrichment Initiative

The Office of Academic Affairs has initiated a process for the Academic Enrichment Initiative that represents a new, open, consultative, and responsible way of making institution-wide, long-term, academic investment decisions at Ohio State, according to Senior Vice Provost Edward J. Ray. This consultative process - which is still evolving - includes conditional commitment of partnering funds, a built-in review process, and a terminal investment date and dollar amount.

Among several Academic Enrichment Initiatives considered for FY95, the Molecular Life Sciences (MLS) were targeted for particular emphasis. MLS colleges include: Food, Agricultural, and Environmental Sciences; Biological Sciences; Mathematical and Physical Sciences; Medicine; Pharmacy; and Veterinary Medicine.

Allocations for MLS Initiatives, with approximately $800,000 for salaries and $2.5 million in cash, will be spread out over six years. OAA and the Office of Research will review expenditures annually.

Funds for FY95 will be used to assist in faculty hires for basic and applied research, and for fellowship support for doctoral students in the Molecular Life Sciences. The funds will provide a portion of the support for faculty hires to enhance the Department of Molecular Genetics' strength in basic research in model organisms, and for an interdisciplinary program in Molecular Medicine. Success in applied sciences, such as molecular medicine, is dependent on the success of the interaction with basic sciences, such as molecular genetics, explained Gary L. Floyd, Molecular Life Sciences Lead Dean.

Floyd said Provost Richard Sisson knew that scientists across the university community had been working on these issues for some time and that the new Rife Building, with its state-of-the-art laboratories, would further facilitate interdisciplinary biological research.

"The Provost is aware that one of the most important biological revolutions in the history of humankind is underway, and he recognizes that, for an institution of this size, we should have more and better research," Floyd said.

He added that discoveries at the gene level, the finest level of resolution at which to work, including human genome mapping, have given scientists the ability to identify, alter, and manipulate genes. These discoveries have opened a universe of possibilities for the cure and prevention of diseases, and for producing better food products to feed the increasing global population.

An ad hoc committee conducted an extensive, university-wide examination of the status of MLS research at Ohio State. After reviewing the committee's final report, the Provost and the Vice President for Research, Edward F. Hayes, appointed a Council of Life Sciences Deans, with a lead dean. They also established the University Faculty Advisory Committee for the Molecular Life Sciences to advise the university community on what the main MLS research thrusts for Ohio State should be for the next several years.

The University Faculty Advisory Committee for MLS is now developing a five-year plan that should be ready for review by deans, chairs, and center directors in the next few weeks. After thorough consultation among faculty about the plan, Sisson and Hayes will bring in an outside team of researchers for further peer review. The plan, which will be reviewed annually, is expected to be in place by the end of spring quarter.

Ultimately, the Office of Academic Affairs and the Office of Research decided upon the amount of money to be designated for MLS Initiatives, which will also require a nearly two-thirds match from most of the colleges involved. Floyd said that to fund research efforts at large, public universities in the future, a wide array of resources will continue to be crucial — including federal research grants, outside development money, and industrial relationships. Floyd said, "It is ironic that we are on the brink of some of the greatest breakthroughs in biological research that anyone has ever seen, and yet we are finding it harder and harder to find the money to fund the research."

Sisson said, "Ohio State is poised to stride forward in very significant ways in the Molecular Life Sciences. We simply must invest in this area of scientific inquiry and discovery. OAA is extremely pleased to facilitate these efforts — spanning several disciplines and colleges — to help our scientists engage in this collaborative and very promising enterprise. It is a start — but an important start — that will, no doubt, impact future generations in very positive ways."
We are pleased to present for your review brief written descriptions of the initiatives that have been funded in the 1996-97 Academic Enrichment Program. These initiatives were selected from more than 70 pre-screened proposals that were submitted last year. All of the proposals were reviewed by a faculty panel representing each of the college clusters (Arts & Sciences, Professional, Health Sciences) as well as the Research Committee of the University Senate. The members of the review panel are individuals noted for their academic achievements and contributions to the university.

This is the third year of Academic Enrichment Program funding and, to date, more than $5.2 million in cash and annual rate has been reallocated to support existing and emerging university priorities. Many of the funded initiatives are interdisciplinary and come from some of Ohio State’s most highly regarded academic departments.

The Academic Enrichment Program is one of the ways—that Ohio State is supporting the quest for intellectual and academic excellence, excellence that will manifest itself in the quality of the instruction, research, and service we are able to offer. These initiatives—and the faculty behind them—are a source of great pride for all of us here at The Ohio State University.

In addition to the written descriptions of this year’s funded initiatives, the persons and activities represented in the photographs are associated with initiatives that were funded in previous years and which are now making a difference with the university and in the broader community beyond the university. (The centers and institutes mentioned in these descriptions are proposed and must be approved by appropriate bodies.)

**Funded Initiative**

**Biostatistics**

**Sponsors:**
- School of Public Health
- Department of Statistics
- College of Mathematical and Physical Sciences
- College of Medicine
- Office of Research
- Comprehensive Cancer Center

**Award:** Permanent funding for Biostatistics Program Director; additional staffing; and computer equipment

Biostatistics is the research that quantifies the inherent variability among biological organisms and outcome variables in health science research. There are many specialties within the discipline, including the design and analysis of clinical trials; mathematical modeling of biological systems and disease processes; pharmacokinetics; the analysis of discrete data arising in the basic and clinical sciences; epidemiological methodology; and survival analysis.

In the past five years, with faculty additions and re-focused scientific effort on the part of some investigators, The Ohio State University has developed strong centers of expertise in several areas of biostatistics. Given this, the central focus and support necessary for achieving national prominence was lacking.

For that reason, a formal Biostatistics Program was recently initiated, fostering the interdisciplinary collaboration critical to well-designed studies, efficient data management, and proper interpretation of results.

As a result of this funding, a Biostatistics Program director will be named as a joint appointment in the School of Public Health and the Department of Statistics. The director will teach graduate courses, provide leadership for doctoral programs, and conduct research. The funding will also allow for the administrative and computer-based support.

**Funded Initiative**

**Computational Linguistics**

**Sponsors:**
- Department of Linguistics
- Center for Cognitive Science
- College of Humanities

**Award:** Faculty positions, staff and equipment essential to the development of the premier computational linguistics program in North America.

Computational linguistics aims at the computational modeling of human language production, perception, use, and interpretation. The field draws on work in linguistic theory; experimental research in semantics, pragmatics, phonetico-phonology; the sound structure of language; computer science; and engineering.

Aside from its academic value, computational linguistics is of fundamental importance to developing computers and robots that can understand and respond to naturally spoken or written language by interpreting higher level groupings of words into phrases and sentences, recognizing diverse pronunciations, alternative word orders, and stylistic flourishes, among other tasks. Other immediate applications for research in this field are automatic translation, intelligent text information retrieval, and automated dictation.

The Ohio State University is now recognized as having one of the leading linguistics departments in North America, ranked eighth in the most recent National Research Council report of graduate programs in the United States. With this funding, the program has the opportunity to make significant contributions to the field's future, perhaps elevating itself to top ranking within the next ten years.
Music Cognition

Sponsor:
School of Music
Department of Psychology
Center for Cognitive Science

Award: Senior faculty position combined with postdoctoral, graduate, and technical support that will allow Ohio State to become a world leader in music cognition.

Music cognition is a rapidly growing area that has recently emerged from the larger fields of cognitive psychology and music theory. This research area encompasses the study of perception, comprehension, and performance of music, providing arguably the most rich human context for evaluating fundamental cognitive processes including auditory perception, attention, motor control, communication, and memory. The domain of music offers both extreme complexity in a naturalistic task and precise experimental control (via musical composition). These features make it ideal for studying a variety of cognitive mechanisms, such as the storage and retrieval mechanisms of memory and their fundamental properties at the neural substrate level, a central issue in the study of human behavior.

With this funding, the sponsors have the opportunity to turn one of the nation's strongest concentrations in music cognition to perhaps the most productive program of its kind.

Ohio Center for Innovative Food Technologies

Sponsor:
College of Food, Agricultural, and Environmental Sciences
Department of Food, Agricultural, and Biological Engineering
Department of Food Science and Technology

Award: Faculty positions in Food Safety Engineering and Food Engineering in Support of New Products and Process for Food and Non-Food Uses

The Ohio Center for Innovative Food Technologies (OCIFT) was established in 1995 as a public-private partnership dedicated to advancing food engineering expertise at Ohio State University. It evolved from IMPACT, Innovative Food and Agricultural Technology, one of only ten key technologies identified by Ohio State's Office for Research as technology priority areas. The key technologies parallel the national research agenda. They are areas critical to the viability and viability of Ohio and U.S. industries. They represent a focused investment in areas of interdisciplinary expertise that achieve worldwide recognition.

OCIFT cars a $15 million funding from the Ohio Board of Regents Investment Fund and the U.S. Department of Defense. Several Ohio corporations have joined as cost-sharing partners, including: ConAgra, Lipton, ABB Antec, Ross Laboratories, Brown, Andenbuer, Rich, Washington Foods, McDonald's, General Mills, and Nestle.

This award will empower OCIFT to address the critical national need of innovative new technology to keep food safe. It supports the new discipline of food safety engineering and food safety problems. Ohio State is rapidly becoming a national center for excellence in this area as a result of college restructuring, a successful $13 million capital initiative, and several industry-sponsored programs.

Food manufacturing is Ohio’s largest industry, with 2,000 food processing facilities and 250,000 employees. It accounts for $56.9 billion in manufacturing output and contributes one of every six Ohio jobs.

With these new faculty members, Ohio State will be better able to meet the demand of the food industry for both new talents and personnel to focus their efforts around viral and cloned organisms for macromolecular studies.

CIBT will also strengthen the emerging strategic alliances between the University and pharmaceutical companies such as Procter & Gamble, Pharmacia, and Upjohn, and complement macromolecular drug delivery research being conducted by the Comprehensive Cancer Center and Children’s Hospital.

Human Molecular Genetics

Sponsor:
College of Medicine
College of Education
College of the Arts
College of Social and Behavioral Sciences
College of Mathematical and Physical Sciences

Award: Faculty appointments for two scientists specializing in the application of molecular genetics to human disease

Molecular genetics, along with cell and developmental biology, is the foundation for many of the recent advances in the applied biological disciplines, including medicine and agriculture.

It is molecular genetic research, for example, that allowed the isolation, characterization, modification, and reinvention of genes that is the basis of human gene therapy. Human gene therapy, while relatively new, holds the promise of care for diseases difficult to treat in other ways.

Breast cancer, leukemia, retinoblastoma, sickle cell anemia, and muscular dystrophy are all better understood today as a result of advances in the field of human genetics.

With this funding, the University makes possible the appointment of two faculty members who have the interdisciplinary training to advance research in this field. The two are expected to pursue research in four areas: human population genetics/demography; gene therapy; positional cloning of genes; and human cancer genetics.

Institute for Ergonomics

Sponsor:
College of Engineering
College of Medicine
College of Education
College of the Arts
College of Social and Behavioral Sciences
College of Mathematical and Physical Sciences

Award: Two-year start-up funding for an Institute manager/administrative support, faculty positions, and equipment

Ergonomics is a science concerned with the effective, safe interaction of people and work environment. There are two branches of study: physical and cognitive.

Physical ergonomics, or the physical interaction people have with work environment, encompasses anthropometry, biomechanics, work physiology, workplace
Funded Initiative

Spectroscopy Institute
Sponsor: Chemical Physics Program
College of Engineering
College of Mathematical and Physical Sciences

Award: Two proposed faculty positions, a visitor travel and subsistence fund, and funding for a seminar series

The Ohio State University supports the leading spectroscopy program in the United States. In forming the Spectroscopy Institute, it has the opportunity to become the worldwide center for molecular spectroscopy, to build emerging strengths in ultraviolet technology, and to bring together those who apply spectroscopy technology with those devoted to the underlying science.

Initially, the Institute will be linked with the Chemical Physics Program and involve faculty from the Chemistry, Physics, and Astronomy programs in the College of Mathematical and Physical Sciences, as well as Mechanical Engineering faculty in the College of Engineering. As the Institute matures, it is expected to generate new positions and to be applied in areas of scientific and educational interest.

The new proposed faculty positions will enhance the capabilities of current faculty, particularly in applications of greatest interest now. This includes environmental monitoring, both in the laboratory and at remote locations, manufacturing process diagnosis, and environmental research.

The provision for visiting faculty and students is expected to attract eminent scientists to the Institute and support collaborative research. The seminar series will further the exchange of spectroscopy advances in the academic community.

Academic Advising Reorganization
Sponsor: Undergraduate Dean
Arts and Sciences Dean

Award: Equipment upgrades and operating funds

The University is supporting a reorganization of academic advising for students in five colleges of arts and sciences, one that will establish a closer relationship between the advising office and each college and give college deans a role in program oversight.

The plan is to add nine members to the academic counseling staff over the next several years, as recently recommended by the Committee on the Undergraduate Experience. The staff will be divided into these discipline-specific clusters: sciences, arts and humanities, and social and behavioral sciences. The committee advising office remains unchanged, because its advisors are already assigned to specific fields.

Each cluster will pursue three types of activities:
- Providing technical services, which include GIC review, career information, and degree applications;
- Establishing connections with other colleges, which may include academic matches, specializations in college honors programs, and developing ties with regional centers of excellence; and
- Performing outreach on behalf of the college to other units across the University, such as Admissions, University College, alumni, career planning services, and honors programs across the institutions.

The advising office is also using enhanced technology to connect with the Registrar’s Office and Admissions & Financial Aid, with a goal of improved, coordinated service to students.
Honors Course and Seminar Development

Sponsor: University Honors Center

Award: Funding for development of six interdisciplinary seminars and upper division honors courses

Beginning this academic year, and continuing through 1999-00, University Honors Center is issuing to University departments requests for proposals leading to six new interdisciplinary seminars for honors undergraduates and fifteen new upper division honors courses. The goal is to establish two interdisciplinary seminars annually, one each for freshmen and sophomores, along with six new upper division courses in 1997-98. Five new courses in 1998-99, and four new ones in 1999-00. Faculty committees will review proposals and make funding decisions.

The seminars and courses will be offered in the academic year 1999-00 and beyond. Funds are available to assist qualifying departments in hiring faculty from one existing teaching commitment during the designated time period.

Seminars and courses are expected to run for a minimum of three years, with renewal after that time. Additional funds are allocated to support the seminar and course. The new courses, available to students by application, will be available to support requests by faculty for course-related faculty travel, research costs, and simulations.

Environmental Engineering

Sponsors: Department of Chemical Engineering Department of Civil and Environmental Engineering and Geodetic Science Department of Preventive Medicine

Award: Funding for three additional faculty members

The University's accredited Environmental Engineering Program brings together the engineering, science, planning, economics, and environmental health disciplines in creating solutions for environmental protection. By adding up to three faculty members, the University further enhances the program, and maintains staffing levels essential to continuing accreditation.

An expert in air pollution management, abatement, and treatment will be named to the Chemical Engineering faculty. An expert in physical-chemical processes for inorganic and hazardous waste pollution control and pollution prevention will be named to the Civil and Environmental Engineering and Geodetic Science faculty, and an expert in environmental and occupational health will join the Preventive Medicine faculty.

The three will participate in the environmental engineering undergraduate program, and in the environmental engineering/health graduate programs of their respective departments. Collaborative research is also expected.

Aside from the benefit to the University, instruction and research resulting from these appointments should benefit our state; growing the industry, providing more accurate environmental monitoring and risk assessment, and improving environmental quality.

Net Tutorial

Sponsor: University Libraries

Award: Funding for a librarian and graduate student

Teaching members of the University community how to use the Internet as a scholarly resource is the purpose of Net Tutorial.

Net Tutorial will be a comprehensive, interactive, online method of educating students and others about the Internet. The project will include: an online database of information about the Internet and networking; a series of tutorials for classroom use; an online tutorial for the Web; and a guide to Internet resources.

English Studies in the Late Age of Print

Sponsor: Department of English College of Humanities

Award: Funding for a faculty member, faculty and graduate student fellowships, and instructional laboratory equipment

Digital media and telecommunications are transforming the humanities. As a result, the materials, methods, and theoretical concerns of English studies are also changing.

To keep pace, the University must enable students to supplement the books, printed lectures, and library catalog cards that constitute traditional study materials with access to online materials. Since 1997, when the Department of English established the Interdisciplinary Computerized Literature Program (CCL), the University has offered computer-supported classrooms designed to facilitate collaborative writing and learning. This funding builds on the success of CCL, upgrading the computer tools and support available to faculty and students.

The faculty member added with this funding will specialize in research and teaching devoted to computer applications in English studies. The one-quarter fellowship will allow faculty and graduate students to develop computer-supported teaching and research projects and to share their work with others in the Department.

Among the funded computer equipment upgrades are network workstations loaded with desktop publishing, bibliographic and multimedia authoring software, two portable computers, and a color multimedia projector.

These enhancements should result in improved ranking for the English Ph.D. program, and higher levels of student academic success.