Center to coordinate "biotech" work on campus, with industry

A Center for Biotechnology has been established at WU to coordinate research and training in the field, including collaboration with industry.

The Monsanto Co., recognizing the desirability of an academic biotechnological effort in the St. Louis area, has been particularly helpful in the start-up phase of the Center for Biotechnology and in providing seed money and funds for a public seminar series and student fellowships. The center also has received a five-year, $444,000 grant from the National Institutes of Health to pursue their study of ultrasound — a radar-like imaging technique in which high-pitched sound waves (inaudible to the human ear) are bounced off an object and the echoes displayed on an oscilloscope screen. In industry, ultrasound is used to detect flaws in structural materials. In medicine, it is used to detect changes in the body such as cirrhosis of the liver, breast tumors, fetal growth and position, and heart disease.

The latter is the concern of Lewis J. Thomas Jr., director of the Biomedical Computer Laboratory (BCL) and principal investigator for the grant, who is working with R. Martin Arthur, associate professor of engineering, and James G. Miller, professor of physics. Together with colleagues in the School of Medicine's Cardiovascular Division, they are trying to add a new dimension to ultrasound imaging — an achievement that would literally show a "change of heart" in cardiac patients.

"Conventional ultrasound already is a spectacular success," said Miller. "Right now you can get a good picture of organs such as the heart. We're trying to make the interpretation of those pictures less subjective by taking a quantitative measurement to small amounts of tissue in the image."

Ideally, these measurements would make up an ultrasonic index that could be linked to already established indices of heart disease. Doctors could determine not only the composition of the tissue in question (proteins, fats, water), but also the amount of new and old scar tissue, and even the minute-by-minute effects of drug treatment.

Experts agree that the ability to identify positively the state of tissues with ultrasound would be a revolution in medical diagnosis. Explained Arthur, "A new tool doesn't just do old things better. It opens up whole new horizons in treatment." If ultrasonic tissue characterization becomes a working reality, he said, it may rank alongside X-rays as a common, non-surgical method for detecting body injuries and abnormalities.

What's more, ultrasound appears to be harmless and can be used for repeated studies.

Arthur and Miller are designing equipment to improve the generation and reception of sound waves, and to measure more accurately how different types of tissue absorb, scatter, and otherwise interact with sound. In collaboration with Thomas and colleagues at BCL, they are devising computer-based models for those interactions.

Thomas, who has worked on other state-of-the-art imaging systems, points out that each system provides unique information about the body. He says ultrasound has the potential to show the orientation of structures within organs, such as scars and the direction of muscle fibers.

To turn a shadowy, impressionistic image of the human heart into a clearly defined, "paint-by-number" representation — that is one way to describe the goal of ultrasound researchers at WU, who are engaged in a new field called tissue characterization.

The researchers recently received a five-year, $444,000 grant from the National Institutes of Health to pursue their study of ultrasound — a radar-like imaging technique in which high-pitched sound waves (inaudible to the human ear) are bounced off an object and the echoes displayed on an oscilloscope screen. In industry, ultrasound is used to detect flaws in structural materials. In medicine, it is used to detect changes in the body such as cirrhosis of the liver, breast tumors, fetal growth and position, and heart disease.

Ultrasound experiments aimed at refining images of cardiac tissue
Salts from Opera Theatre drop anchor at Edison with G&S’s Pirates

"Why not do it again?" asked a St. Louis Post-Dispatch editorial following last year’s sell-out Opera Theatre of St. Louis production of Gilbert and Sullivan’s H.M.S. Pinafore at Edison Theatre.

Starting Dec. 15, Edison will present another new Gilbert and Sullivan production by Opera Theatre: The Pirates of Penzance. The operetta, with its crew of the Pinafore, return of several of the Pinafore's toy theatre set, with costumes by Steven Feldman.

As Sir Joseph Porter, K.C.B., returns as the Pirate King, Tender Glenn Siebert, Pinafore's liverheart Ralph Rackstraw, is Frederic, the "dave of duty," who finds himself apprenticed to the pirates.

Gordon Hollemann and Laurence Albert return to play the Police Sergeant and Samuel, aide to the King of the Pirates, respectively. Carolyne James, who has appeared three times with Opera Theatre, most recently as Mimi's Quickly in the 1980 Falstaff, plays Ruth, the pirate maid-of-all-work. Soprano Lisbet L. Lloyd makes her St. Louis debut as the Pirate heroine, Mabel. Another newcomer is Joseph Warner, who will sing the part of her father, Major-General Stanley.

Matinee performances are at 2 p.m. on Dec. 18, 19, 26 and Jan. 1, and 2 feature half-price tickets for children under 12 accompanied by a purchaser of a full-price ticket. Evening performances are at 8 p.m. Dec. 15-17, 21-23 and 28-31. Tickets are $18 and $14. On Thursday, Dec. 16, WU students will be admitted at half-price ($9 and $7). For information on ticket availability and to charge tickets to MasterCard or Visa, call 889-6543.

The Albert Gallatin Fellowship in International Affairs at Swiss university

The Albert Gallatin Fellowship in International Affairs at the Graduate Institute of International Studies, University of Geneva, Switzerland, is offering a $7,450 fellowship for the academic year October 1983 to July 1984. Application forms may be obtained from the Office of International Studies, Box 1088. Deadline for receipt of applications is March 9, 1983.

For more information, including the catalogue of the Graduate Institute of International Studies, contact William D. Carter, PERIS Foundation of America, 5 Harvard Court, Huntington, N.Y. 11743.

Four scholarships established for area students

Chancellor William H. Danforth has announced the establishment of four scholarships for area high school seniors interested in attending WU next fall.

The four George W. F. and Martha Russell Myers Scholarships, two with full-tuition and two with half-tuition, will be awarded to seniors nominated by their school principals on the basis of academic achievement. The scholarships are available to students residing in the city of St. Louis; the Missouri counties of Franklin, Jefferson, St. Charles and St. Louis, and the Illinois counties of Madison and St. Clair.

The scholarship fund was established by a $345,000 gift from the late George W. F. Myers. Myers was founder and owner of the Myers Engineering and Equipment Co., of St. Louis. One of the full-tuition scholarships will be awarded to a student applying to the School of Architecture or the School of Fine Arts. The awards will cover all four years of undergraduate study.

The four George W. F. and Martha Russell Myers Scholarships, two with full-tuition and two with half-tuition, will be awarded to seniors nominated by their school principals on the basis of academic achievement. The scholarships are available to students residing in the city of St. Louis; the Missouri counties of Franklin, Jefferson, St. Charles and St. Louis, and the Illinois counties of Madison and St. Clair.

The scholarship fund was established by a $345,000 gift from the late George W. F. Myers. Myers was founder and owner of the Myers Engineering and Equipment Co., of St. Louis. One of the full-tuition scholarships will be awarded to a student applying to the School of Architecture or the School of Fine Arts. The awards will cover all four years of undergraduate study.

The researchers are using ultrasound to study animals with heart disease in the Cardiovascular Division, School of Medicine.

Although ultrasound has been used to depict the size of heart chambers, valve abnormalities and beating motions for nearly two decades, it is not yet a frontline attack in diagnosing and treating diseases affecting the heart muscle itself. "With steady progress," Thomas said, "we ought to get clinically useful images by the end of five years."
Campus Notes

Ronald L. Carlson, professor of law, is the author of a volume titled "Trial Proof," part of a six-volume work, *Criminal Law Advocacy,* published in October by Matthew Bender & Co., Inc., New York City. *Criminal Law Advocacy* covers all aspects of a criminal case from beginning to end. The core volume, volumes 1-3, were hardback volumes that discusses the criminal trial itself, including making objections to evidence and cross-examining hostile witnesses. Other volumes in the set include: "Trial Investigation and Preparation, Guilty Pleas, Witness Examination and Argument to the Jury."

Timothy L. Cmunt, assistant professor of production and operations management in the School of Business and Public Administration, was awarded one of two honorable mentions in the American Institute for Decision Sciences' 1982 Doctoral Dissertation Competition. Cmunt's dissertation was titled "The Effect of Learning Curves on Capacity Planning Decisions." Formal announcement of the winner of the competition plus the two honorable mentions, was made at the institute's national meeting in San Francisco Nov. 22-24.

Brian L. Clevinger, assistant professor of biomedical science at the School of Dental Medicine, is the principal investigator for a $70,000 grant from the Council for Tobacco Research. Clevinger is studying the immune response and how it might be controlled in the body.

Suzanne Grace, part-time lecturer in dance, has been chosen by Young Audiences to participate in its "Arts in Education" program in Missouri schools. Grace, who is a solo dance artist, will conduct two-week residencies that will focus on the language of movement through dance and will culminate in a solo concert. She has also been asked to choreograph a new group piece for Thomas McKenzie, professor of music at the University of Missouri, Columbia. The work will be performed in February at the conference of the American Society of University Composers in Baton Rouge, La.

Edward L. MacCordy, associate vice chancellor for research, has been elected vice chair of the Council of University Research Administrators. He will serve as vice president for 1983 and chairman in 1984. The council, founded in 1959 to promote sponsored programs at colleges and universities, seeks effective ways to administer them.

The St. Louis Ragine Ensemble presented a full evening's concert of its dance and music Nov. 11 in Hannibal, Mo. Directed by Annelise Metz, director of the dance division, and Steven Radecke, pianist, the ragtime performers played to a capacity audience in a program sponsored by the Hannibal Concert Association. Edison Theatre's technical director Jack Brown supervised technical aspects of the performance.

Two faculty members delivered papers recently at the 21st Annual Central Slavic Conference at the University of Kansas. Lawrence Renata Rotkowicz, director of public services and collection development at Olin Library, participated in a discussion on "Polish Solidarity and Martial Law in Soviet and American News Media." She read a paper on "Praestyled on Solidarity and Martial Law."

Robert C. Williams, professor of history and dean, University College, took part in a session on "Censorship in Russia and the U.S.S.R." Williams's paper was entitled "Lenin and Censorship, 1900-1914." Earlier, he inaugurated the new Distinguished Lecturer Series at Wittenberg University in Springfield, Ohio, on Sept. 25 with a talk on "The Manhattan Project Reconsidered." On Nov. 7 he lectured on "Selling the Romanov Treasure" at the opening of the George Conklin exhibit of Russian avant-garde art at the Indianapolis Art Museum.

Robert C. Smith, professor of art and acting chairman of the Department of Design, School of Fine Arts, and Jim Dutton (BFA 1982), St. Louis freelance graphics designer, have received "Awards of Excellence" in a competition sponsored by the University and College Designers Association (UCDA). Smith's entry, a catalogue, *The Architectural Heritage of St. Louis,* which he designed for the WU Gallery of Art in 1982, and Dutton's poster, prepared for the WU Performing Arts Area's production of "Company," were both hung in the "Designers Show '82," sponsored by UCDA. Their entries were among 139 exhibited from among 1,000 submitted.

Luther S. Williams, dean of the Graduate School of Arts and Sciences and professor of biology, has been elected to a three-year term on the board of directors of the Council of Graduate Schools in the United States, beginning Jan. 1.

Rosen to serve for year as director of Israeli school of social work

Aaron Rosen, professor of social work and psychology at WU's George Warren Brown School of Social Work, has been granted a one-year leave of absence to become director of the Paul Baerwald School of Social Work at The Hebrew University of Jerusalem in Israel beginning in January.

From 1969 to 1978, Rosen was a consultant to the Baerwald School of Social Work to design their advanced social work degree program and to help in faculty recruitment and development. As director, Rosen will continue to mold the school's curriculum and also work to integrate the social work graduate research program with the university's social science disciplines. In addition, Rosen will work with Enola E. Proctor, WU assistant professor of social work, on a study of treatment planning and case management techniques at WU's School of Social Work and the Baerwald School of Social Work.

Rosen joined the faculty of the George Warren Brown School of Social Work in 1965. In 1970, he developed and chaired the first interdisciplinary PhD program in social work at WU. His current research includes: a five-year study with Arthur D. Shulman, WU associate professor of psychology, of the experiences and interpersonal coping strategies of widows in the St. Louis metropolitan area; an evaluation of doctoral education in social work in the United States; and several studies on psychotherapy and social work intervention.

WU students described as hardworking, preprofessional in colleges survey


"Excerpts from his comments on WU state:"

"(WU) is a quality regional university, traditionally known for its sciences. But in recent years, WU has built itself into a solid all-around institution, and students from all over the country are clamoring to get in. . . . (The students) are hardworking and overwhelmingly preprofessional. Faculty members are supportive but demanding. 'Professors act as if their course is the only one you're taking,' one student said."

Center—continued from p. 1

Among the new courses being organized for the center by Eric H. Dunlop, professor of chemical engineering, are industrial biotechnology, bioactivity design and biosperation or isolation of biological products. Dunlop, who joined WU in June, worked for Imperial Chemical Industries in the United Kingdom as a biotechnology specialist.

The board of directors for the Center for Biotechnology includes Ralph E. Mortow, dean of the Faculty of Arts and Sciences; James M. McKevery, dean of the School of Engineering and Applied Science; and Luis Glaeser, head of the Department of Biological Chemistry.

The center was established at the request of deans James M. McKevery and Ralph E. Mortow. Opportunities for responding to the proposal to create the center were provided to the Faculty Senate and the Educational Policy Committee of the Board of Trustees.
Lectures

Thursday, Dec. 9


Friday, Dec. 10
 Noon. WU Women’s Club Luncheon. Presentation by the Fashion Dept. of the WU School of Fine Arts. St. Louis Club, 7701 Forsyth.

8:45 p.m. Society of Professors Emeriti Fifth Annual Buffet and Cabaret, "Professors Emeriti Play Broadway," with Virginia Seizle, soprano; Huxley Weber, baritone; and Marquette Dovida, pianist. Whitney House, 6440 Forsyth.

7:30 p.m. Inter-Varsity Christian Fellowship Meeting. Vesey Lower level, Ann Whitney Olin Woster's Bldg.

Saturday, Dec. 11
9 a.m. Neural Sciences Seminar, "Theories of Learning and Memory," Jeff Lichtman, WU post-doctoral fellow in physiology and biophysics. 928 McDonnell Medical Sciences Bldg. 4655 McKinley.

Monday, Dec. 13
3:30 p.m. Department of Chemical Engineering Seminar, "Design of Resilient Processing Plants," Manfred Mautner, assoc. prof. of chemical engineering, U. of Wis. — Madison. 108 Cupples H.

Tuesday, Dec. 14

Tuesday, Dec. 14

Friday, Dec. 17

Exhibitions

"The Faculty Show." Works in all media by WU faculty artists. Through Jan. 9. Upper Gallery, Gallery of Art, Schnering Hall. 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

"Learning and Memory," Jeff Lichtman, WU post-doctoral fellow in physiology and biophysics. 928 McDonell Medical Sciences Bldg. 4565 McKinley.

"Recent Acquisitions." Books from the Modern Literature, Semiotics, History of Printing collections and other materials. Through Dec. 29. Special Collections. Level 5. Olm Library. 8:30 a.m.-5 p.m. weekdays.


"The Art of the Portrait." Paintings, sculptures and prints from the University collection demonstrate the variety and appeal of the portrait. Through Jan. 9. Pitts Gallery, Gallery of Art. 10 a.m.-5 p.m. weekdays; 1-5 weekends.

"Recent Acquisitions." Books from the Modern Literature, Semiotics, History of Printing collections and other materials. Through Dec. 29. Special Collections. Level 5. Olm Library. 8:30 a.m.-5 p.m. weekdays.


"Masterworks of Ophthalmoology, 1851-1900," works by famous 19th century European ophthalmologists. Through Feb. 15. Kent Books and Archens Annex, WU School of Medicine, 615 S. Taylor Ave. Open 8:30 a.m.-5 p.m. weekdays.

Performing Arts

Friday, Dec. 10
8 p.m. Performing Arts Area "Studio Series" presents the Student Dance Concert "Fleeting Moments." New works by student choreographers. Admission $1. Mallinckrodt Dance Studio. (Also 8 p.m., Sat., Dec. 11, and 5 p.m. Sunday, Dec. 12. Dance Studio.)

Wednesday, Dec. 15
8 p.m. WU and Opera Theatre of St. Louis present, The Paolino of Penitence Gilbert & Sullivan's nautical opera. Editor Theatre. Tickets are $10 and $15. Children 12 and under half-price to all matinees; limit one ticket with each full-price ticket. WU students admitted half-price on Thursday, Dec. 16. Tickets available at Edison Theatre box office, 889-0434. (Also 8 p.m. Dec. 16-18, 21-23; 24 and 29-31. Matinees are at 2 p.m. on Dec. 18, 19, 26. Jan. 1 and 2. Edison.)

Films

Thursday, Dec. 9

Friday, Dec. 10
7 and 9:45-10:30 p.m. WU Filmboard Series, "Taps." $2. Brown Hall Aud. (Also Sat., Dec. 11, and Sun., Dec. 12, same times. Brown.)

12:30-2:30 p.m. WU Filmboard Series, "Richard Pryor Live in Concert." $1. Brown Hall Aud. (Also Sat., Dec. 11, same time. Brown.)

Friday, Dec. 17
7:30 p.m. WU Filmboard Double Feature, "Busch Candy and the Sundance Kid" and "The Sting." Brown Hall Aud. $2. (Also Sat. Dec. 18 and Sun. Dec. 19, same time. Brown.)

Sports

Thursday, Dec. 9
7:30 p.m. Women’s Basketball, WU vs. Lindenwood College. Field House.

Saturday, Dec. 11

Monday, Dec. 14
7:30 p.m. Men’s Basketball, WU vs. Principia College. Gen. admission. $2. Other students, $1. WU students free. Field House.

Calendar Deadline

The deadline to submit items for the Jan. 26-29 calendar of the WU "Record" is Jan. 6. Items must be refined and sent in time, date, place, nature of event, sponsor and admission cost. Incomplete items will not be printed. If available, include speaker name and identification and the title of the event. Address items to King McElroy, calendar editor, Box 116.