



Fall 2010

Inquiry, Fall 2010

Office of Vice President for Research

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INQUIRY

OFFICE OF VICE PRESIDENT FOR RESEARCH

FORMER VP FOR RESEARCH APPOINTED AS INTERIM DEAN OF WMU SCHOOL OF MEDICINE

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OVPR MISSION

THE OFFICE OF THE VICE PRESIDENT FOR RESEARCH ADVANCES THE OVERALL RESEARCH AND CREATIVE ACTIVITIES AGENDA OF THE UNIVERSITY, SUPPORTS EXTERNAL FUNDING INITIATIVES, AND OVERSEES COMPLIANCE WITH ALL APPROPRIATE FEDERAL AND STATE REGULATIONS.

WWW.WMICH.EDU/RESEARCH

A longtime medical researcher and former VP for Research already deeply involved in the development of Western Michigan University's medical school initiative has been appointed to serve as interim dean of the school of medicine during the national search for the school's founding dean.

Dr. Jack R. Luderer has been serving for the past five years as executive director of WMU's Biosciences Research and Commercialization Center, a life-sciences translational research center that assists startup companies. He became interim dean and associate dean of research for the medical school on June 1. His appointments were announced May 26 during a regular meeting of the BRCC Board of Governors.

Luderer, a board-certified medical specialist in internal medicine with subspecialty certification in clinical pharmacology, has a background that includes positions as a clinical vice president for Pharmacia Inc. and Upjohn and vice president for research at WMU. In addition to serving in his BRCC role, he has spent the past two years working with WMU President John M. Dunn and the Kalamazoo medical community to develop a new school of medicine in collaboration with Kalamazoo's two major hospitals—Borgess Health and Bronson Healthcare—as well as other interested medical organizations in West Michigan.

The Kalamazoo initiative has filed a letter of intent and has been awarded applicant status with the Liaison Committee on Medical Education, the group that accredits medical schools in the United States and Canada. In late February, a formal search for a founding dean for the school was launched. The national search is being guided by a seven-member search committee made up of representatives from Borgess, Bronson, WMU and the local medical community.

"We have a great deal of momentum in our development work, and now we are seeing an enormous level of interest in the founding dean position," says Dunn. "Our task is to balance our desire to maintain that momentum and our need



to take the necessary time to bring the search to a successful conclusion. Dr. Luderer's full attention will be on those two goals. When we have identified the right person to lead the medical school, we expect him to stay on to guide the research enterprise of that school."

Luderer predicts it will be several months before a founding dean will be in place to lead the school. Because the model being developed is that of a private medical school, and since that legal entity has not yet been created, Luderer will be hired initially by the WMU Research Foundation and will report to the president of the foundation—WMU's president. The nonprofit foundation was established by the WMU Board of Trustees in 2003 to support University research efforts and facilitate the commercialization of patents and other technologies developed at the University.

A school of medicine in Kalamazoo has been under discussion and in the planning stage since late 2007. During a November 2009 meeting, the WMU Board of Trustees endorsed the steps taken to date and voiced its support for the proposal.

(Continued on page 4)

A MESSAGE FROM THE VICE PRESIDENT FOR RESEARCH

The new year (academic) has come again ... complete with great expectations. The annual start is always a good time to look back and lean forward.

Over the past year, we see many scholarly accomplishments of our University community. A rich spectrum of creative activities proliferated throughout the colleges with many publications and creative works. External funding expenditures at WMU hit nearly \$30 million total for fiscal year 2009-10. During that period, faculty and staff received over \$34 million in new awards and submitted over \$135 million in new proposals. Technology transfer activities including disclosures, patent applications, and licensing continued. This year there were notable awards coming from federal agencies, state sources, and industry.

For example, the National Science Foundation granted \$545,425 to Dr. Gullickson of the Evaluation Center to assist ATE grantees with producing high quality evaluations. There was also a continuation award for \$235,242 to Dr. Petcovic of the Mallinson Institute for Science Education to examine geologic knowledge and problem-solving among students and geoscientists. Another award for \$593,159 to Drs. Kline, Abdel-Qader, and Aller will provide support for students in engineering, engineering technology, and science. Dr. Sherine Obare of Chemistry received \$212,527 to develop nanomaterials for use in multi-electron transfer reactions and Dr. Ok-Kyeong Kim of Mathematics was granted \$369,799 to examine and identify teacher capacities for effective curriculum use and develop tools to assess them.

The U.S. Department of Health and Human Services provided a grant totaling nearly \$500,000 as a continuing award to Dr. Stephen Magura, director of the WMU Evaluation Center, to determine the efficacy of dual-focus, 12-step, mutual-aid groups for people dealing with both substance use and mental disorders. Dr. Magura also received \$259,000 to conduct a secondary analysis

of AA participation and drinking behavior in the project match alcoholism treatment database using three statistical techniques. There was \$300,723 to Dr. James Henry of the School of Social Work to reform child welfare service delivery in the state of Michigan by infusing trauma informed welfare practice that is culturally competent, evidence based and responsive to children's needs, particularly needs related to traumatic stress. The U.S. Department of Education granted \$249,191 to Drs. Martha B. Warfield and Erika Ann Carr, Division of Multicultural Affairs, to support participants to succeed in secondary and postsecondary education.

The Michigan Department of Transportation awarded \$228,126 to develop and validate deterioration models for concrete bridge decks using sensor network to Drs. Osama Abudayyeh, Haluk M. Aktan, and Ikhlas Abdel-Qader, of Civil and Electrical Engineering, and Electrical and Computer Engineering. The Michigan Department of Education provided \$324,490 to build mathematics content and teaching knowledge to improve algebra achievement scores of their students by Drs. Ruth Ann Meyer and Jane-Jane Lo of Mathematics

Among industry grantors and sponsors were Altair Nanotechnologies; General Motors Corporation; Toyota Motor Engineering & Manufacturing, North America; Third Wave Systems; Innovative Scientific Solution; Corning; Stryker Instruments; Stryker Instruments; Wolverine Power Supply Cooperative; Eaton Corporation; Santoro Wind Harvester; and Sintokogio, LTD.

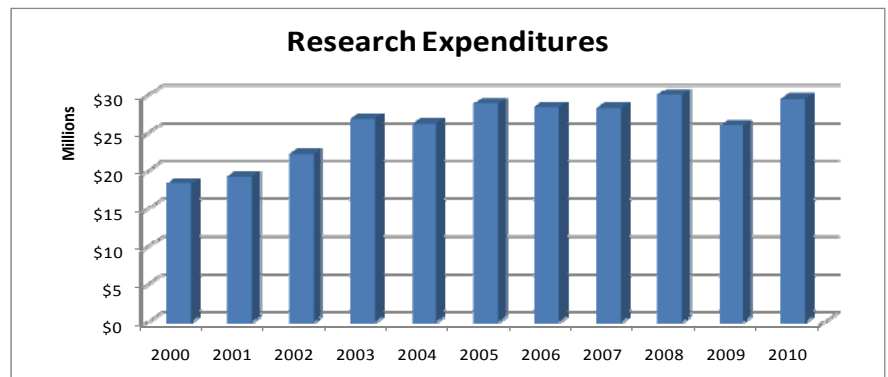
The year ahead will bring many new opportunities for WMU to build upon our collective successes and explore new horizons in our vision of being an outstanding student-centered research university. The Office of the Vice President for Research looks forward to working with all faculty and staff to foster and support research and creative activities at WMU as we discover, transform, and transfer knowledge.

RESEARCH EXPENDITURES HIGHLIGHTS FOR 2009-2010

The 2009-2010 fiscal year shows an active year for faculty submissions and receipts of external awards.

New awards for faculty increased this past fiscal year, pushing the year-to-date total to nearly \$30 million as illustrated in the side bar graph.

As reported on page four, submissions totaled 386 for the year, with 65% of those resulting in awards.



WMU GETS \$1 MILLION AWARD TO PREPARE HIGH SCHOOL TEACHER-SCIENTISTS

A \$1 million grant to Western Michigan University from the Howard Hughes Medical Institute will put prospective high school science teachers to work in the laboratory as scientists to help them learn how to translate science into practical experiences for their future students.

The grant is one of a round of awards totaling \$79 million made to research universities around the United States to strengthen undergraduate and precollege science education. HHMI, the nation's largest private funder of science education, has spent \$1.6 billion since 1985 to reform life sciences education from elementary through graduate school.

In the current round of funding, 50 research universities in 30 states and the District of Columbia have been awarded a total of \$70 million through HHMI's Precollege and Undergraduate Science Education Program. An additional \$9 million will be shared by 13 leading research scientists through the HHMI Professors Program to support their efforts to make science more engaging to undergraduates.

"HHMI is committed to funding education programs that excite students' interest in science," says HHMI President Robert Tjian. "We hope that these programs will shape the way students look at the world—whether those students ultimately choose to pursue a career in science or not."

The four-year award to WMU will focus on building cohorts of prospective high school science teachers who are trained first as scientists and will then learn how to turn their own research experiences into practical tools that will help them convey scientific principals to their students.

"We're out to create scientists who choose the profession of teaching," says Dr. Susan Stapleton, WMU's HHMI grant project director who is also associate dean of the College of Arts and Sciences and a professor of chemistry and biological sciences at the University.

Beginning in fall 2010 Stapleton and her project colleagues will recruit a group of 15 students who are interested in teaching high school science, chemistry, physics or biology. Those 15 students will spend the summer of 2011 working in a campus research lab, building their own scientific skills and credentials. During the following academic year, they will take a newly developed course aimed at helping them translate their laboratory experience into practical tools. In summer 2012, they will use those new teaching tools in a summer science camp WMU offers annually for middle school students. A new group of students will be recruited in each of the four years of the project, so as many as 60 prospective science teachers will be part of the HHMI-funded initiative.

"School districts should find these students attractive as teaching interns and incredibly desirable as future teachers," Stapleton says. "We're really building on our past successes in making sure undergraduates have strong summer research experiences."

The WMU award grew out of an invitation from HHMI last fall asking 197 national research universities to submit proposals for grants to improve science education at the undergraduate and K-12 levels. The proposals were reviewed by a panel of distinguished scientists and science educators before HHMI selected 50 projects to be funded.

WMU is one of five research universities to receive first-time funding from the HHMI this year. The others are Florida International University, Northwestern University, the University of North Texas and Virginia Polytechnic Institute.

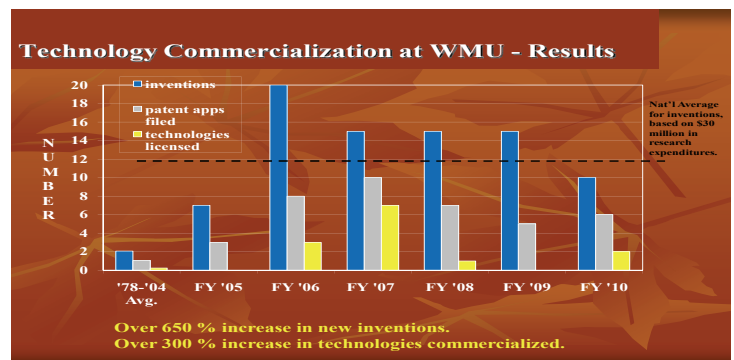
Additional WMU scientists involved in the WMU effort will be Dr. William Cobern and Dr. Renee Schwartz of the University's Malinson Institute for Science Education and Dr. Leonard Ginsberg, professor of biological sciences.

YEARLY SUMMARY OF INTELLECTUAL PROPERTY AND COMMERCIALIZATION AT WMU

A substantial amount of research conducted at WMU results in new findings and discoveries that can benefit society.

The transfer of these discoveries to the commercial sector is coordinated through the Intellectual Property (IP) Management & Commercialization Office ("technology transfer").

To better understand IP issues and the commercialization process at WMU, researchers need to contact Dr. Michael Sharer early in the process (michael.sharer@wmich.edu).



INTERNAL FUNDING SUPPORT SCHEDULE

WMU through the OVPR provides internal funding for faculty scholarship. Application deadlines and details on submission of materials are available online at the OVPR homepage. Funding opportunities include:

- The **Faculty Research Travel Fund**, which provides monies for travel. Ongoing through the fiscal year. Apply post travel.
 - **Faculty Research and Creative Activities (FRACAA)**, which provides up to \$10,000 for research projects.
- FRACAA 2010-2011 application forms and guidelines available online, starting October 8, 2010. *Deadline for submission is December 3, 2010.* Three FRACAA workshops are scheduled for October 15, October 21, and October 29. Details on times and location will be posted online.
- **SFSA — Support for Faculty Scholars Award** supports creative activities and research up to \$2000. *Deadline for submission: September 30, 2010, and January 31, 2011.* Workshops scheduled for September 17 and January 21, 2011. Check online for times and location.

- **Research Development Award Program (RDA)** is a year-long program to prepare junior faculty to achieve external funding. *Deadline, March 11, 2011.* Award amounts up to \$2500.
- **Undergraduate Research Excellence Award—** supports undergraduates working under externally funded faculty. *Deadline: September 30 and January 31, 2011.* Award amount up to \$500 for the undergraduate student working with externally funded faculty with an amount up to \$200 for the faculty member for student supplies.
- **Technology Development Fund Award** helps researchers transition from invention to commercialization. *Proposal deadline will be late fall. Check website in October for deadline.*
- **PPP&E** funds up to \$500 for the support for Final Preparation and Publication of Papers and Creative Works once research and creative activities are completed. Review on-going during the year.

LUDERER MEDICAL SCHOOL DEAN (CONTINUED FROM PAGE 1)

During that meeting, Dunn announced a \$1.8 million anonymous gift made to provide seed money for the next steps in the development process, including the search for a dean.

During the BRCC directors meeting at which Luderer's appointment was announced, Dunn laid out a recommendation that would appoint Luderer to the BRCC Board of Governors. The University anticipates eventually transferring the BRCC function under the umbrella of the new medical school.

"It's a move that will be good for the medical school and good for the BRCC," says Luderer.

Luderer first came to WMU in 2000. Prior to joining the WMU administration, he was vice president of U.S. Medical Affairs at Pharmacia Corp. Luderer first came to Kalamazoo in 1984 to work for the Upjohn Co. He held several

positions with that firm, including vice president of clinical pharmacology and vice president of clinical development.

Before joining Upjohn, he was an assistant professor of medicine and pharmacology at the Milton S. Hershey Medical Center of Pennsylvania State University. Luderer earned a bachelor's degree in chemistry from Miami University. He went on to earn a master's degree in organic chemistry at Miami and a medical degree from Northwestern University Medical School.

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Dania Bazzi: COEHD, CHHS, Aviation

Gina Betcher: CAS (Office of the Dean and Humanities), CFA, HCOB, COEHD, TGC, International Studies, HIGE, LHC.

Barb Wygant: CAES, Nano Research, Campus Facilities.

A complete list of constituency areas will be posted online. Check our website: (www.wmich.edu/research).

RESEARCH AWARDS AND SUBMISSIONS FOR FY 2009- 2010

Since July 1, 2009, submissions at WMU have totaled 386. A full listing of awards and the proposal project is available at the OVPR website.

Granting agencies vary from corporations and foundations to federal funding agencies like the National Science Foundation and the U.S. Department of Education. Other funding sources include the Association of Performing Arts and Office of Naval Research.

Awards are updated and listed on the website.