With help from a grant from the National Collegiate Inventors and Innovators Association (NCIIA), students from the College of Engineering and Science and the College of Health Professions are bringing a new assistive technology to the market. Engineering students Wesley Steen and Patrick Pawlowski, along with nursing student Nick Shenduk, have designed a prototype for the S.O.U.P. (Separation of Unsolid Portions) spoon to assist individuals with the inability to eat independently without spilling. The team of undergraduate researchers is advised by faculty members Darrell Kleinke and Molly McClelland.

The S.O.U.P. spoon concept was born in 2011, when team members met with a physically challenged client as part of Kleinke and McClelland’s capstone course. Like many individuals with Parkinson’s disease and Multiple Sclerosis, the client expressed difficulty eating soup and other liquid foods due to tremors. To solve this problem, the undergraduate research team developed the S.O.U.P. spoon, which retains liquids using a suction bulb located under the handle. With a simple squeezing motion, the user transfers fluids from the bowl and spoon head into the handle of the spoon. When the user brings the spoon to his mouth, he again squeezes the handle to return the fluids to the spoon head. In short, it works like a turkey baster, but in a more dignified, low-profile form.

Most existing technologies, such as weighted and ergonomic spoons, focus on reducing the severity of the tremor. The S.O.U.P. spoon is unique in that it retains liquids, therefore enabling the user to turn the spoon completely without spilling. Since approximately 11 million people in the United States alone suffer with tremor causing illnesses, bringing this technology to market could have a tremendous impact nationwide and internationally.

Current 3D printed prototypes have demonstrated the functionality of the spoon and serve as proof-of-concept. The next iteration of prototypes will be made of food grade materials to be used for customer testing. The team will rely on partnerships with UDM’s College of Health Professions, as well as hospitals, nursing homes, home health care providers, and other health organizations in the metro Detroit area to get prototypes into the hands of potential customers and users.

After the design is fine-tuned based on feedback from users and occupational therapists, the team will pursue a utility patent. The team expects that the spoon will hit the market in December 2014 and sell for approximately $25. The achievement will benefit consumers and also the undergraduate research team, who will graduate from college with real-world entrepreneurship experience.
HRSA Awards Grants to Dental, Psychology for Interprofessional Education

The School of Dentistry and the Doctoral Program in Clinical Psychology will introduce interprofessional education into the Health Careers Opportunity Program (HCOP) curriculum during 2013-14. Funded by a $111,764 supplemental grant from the Health Resources and Services Administration (HRSA), the interdisciplinary faculty team will integrate behavioral health concepts into the dental school’s Summer Enrichment Program (SEP), a pipeline program for disadvantaged students. The SEP will also be expanded to include 5-10 low-income clinical psychology students.

Initially funded by HRSA in July 2012 with a three-year, $715,994 grant, the SEP is spearheaded by Deirdre D. Young, the Director of Multicultural Affairs at the School of Dentistry. The SEP takes place for six weeks during the summer, providing educational experiences to assist students toward matriculation and graduation from dental school.

The supplemental funding opportunity comes as a result of the Affordable Care Act, which includes coverage for mental health and substance abuse disorders. In order to help meet President Barak Obama’s goal of accessible mental health services, HRSA set aside $1.9 million for current grantees choosing to integrate behavioral health into their programs. Seventeen institutions nationwide, including UDM, were awarded funds.

V. Barry Dauphin, Director of the Doctoral Program in Clinical Psychology, will collaborate with a team of dental and psychology faculty in order to incorporate new components in the program. These new elements include updating existing activities, developing shared activities for students from both programs, and providing discipline specific activities to promote psychology students’ enrollment into graduate behavioral health programs. Also, current clinical psychology doctoral students who are receiving scholarships from HRSA will have the opportunity to mentor undergraduate students.

Participants from low-income households will be mentored by more advanced students from similar backgrounds. The first two stages of the project, integrating the curriculum and preparing doctoral student mentors, will take place during the academic year. The revised SEP will be launched during summer 2014.

Grant Writing Resources

InfoEd SPIN
SPIN is an extensive funding opportunity database which contains over 40,000 opportunities from more than 10,000 sponsors. It’s available through the OSPRA website, the UDM Libraries database website, and also at www.infoed.org. By creating a ‘GENIUS’ profile, you can save searches and receive email alerts. Instructional videos are also available on the site. If you have any questions about SPIN or GENIUS, don’t hesitate to contact the OSPRA. SPIN is generously funded by the UDM Libraries.

Foundation Directory Online
Foundation Directory online contains over 108,000 U.S. foundations and corporate donors, over 3 million recent grants, and over half a million key decision makers. FDO can be accessed at www.foundationcenter.org. Please contact the OSPRA or Corporate and Foundation Relations for login information.

Grants Review Team (GRT)
The GRT was created to connect non-tenured faculty with colleague mentors who have an established record of success in obtaining external grant funding. Mentoring can take several different forms:

- individual consultations prior to beginning work on a major grant proposal,
- questions about specific sections of the proposal,
- critiques of one-page overviews, or
- critiques of complete proposals.

Profiles of GRT members, including agencies which have funded their work, keywords for their research interests, and recent publications, can be found on the OSPRA website: http://www.udmercy.edu/academicaffairs/ospra/grantsreviewteam/index.htm

For other resources, such as video tutorials about grant budgeting, information commonly required in grant applications, compliance requirements and internal processes, please visit the OSPRA website at http://www.udmercy.edu/academicaffairs/ospra/
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Student filmmakers document GM’s Student Corps program

Mark L. Ruess, current President of General Motors North America, describes GM Student Corps as a “win-win-win-win-win situation.” Student Corps, he says, gives Detroit high school students the opportunity to earn money, have GM on their resumes, and do something they can be proud of in their communities. Michael C. DiGiovanni, a GM retiree and UDM faculty member in the economics department, describes it as an opportunity for students to “learn, earn and lead.”

In summer 2013, Student Corps brought together 60 GM retirees, 11 UDM student interns, and 108 students from 11 high schools in and near Detroit. High school students learned life skills and business skills while implementing projects to improve the community. Groups of students renovated parks and other community spaces, or assisted neighbors by cleaning up nearby abandoned properties. Students also wrote business plans and managed the budgets for these efforts, gaining valuable experience to bring to the workplace.

In fall 2012, DiGiovanni approached Jason Roche, a faculty member in the communications department, about producing a documentary of this potentially life changing program. When Roche enthusiastically agreed, GM provided $50,000 to produce a one-hour video. With this funding, Roche was able to hire four more UDM students, who were also able to gain valuable experience in their field. Roche chose the documentary team based on a competitive interview process. Students submitted a cover letter explaining their qualifications and why they wanted the job, and at least one letter of recommendation.

Paige Zmudczynski, ReShawn Wilder, Michelle Renaud and Alexandria Schmidt were hired, each working with two or three high schools. Since The GM funding enabled Roche to purchase three new cameras for the team, in addition to the one owned by the department, each student filmmaker was able to keep a camera for the duration of the shoot. Filmmakers were autonomous, with neither supervisor nor crew to assist them. They shot footage from each assigned school every day of the program. Then they returned to campus, editing the dailies using the digital video editing program Adobe Premiere. In addition to producing a quality video, the student filmmakers were deeply invested in the program as a whole. “They really bonded with the high school students,” says Roche. “The kids would say, ‘oh, don’t go to your other school, stay with us.’”

An 11-minute version of the video can be seen on GM’s website at http://tinyurl.com/ocfowk5

The one-hour version will be completed in December 2013.

UDM Dental Students Earn Awards

Assia Mouabbi, year 4 dental student, is participating in the 2013-2014 ADEA/Gies Foundation Academic Dental Careers Fellowship Program. This is a nationally competitive program and Assia is one of 25 students selected. The purpose of the Fellowship is to immerse pre-doctoral dental students in the world of academic dentistry, including clinical and didactic teaching and research. Assia will present a poster detailing her experience as a Fellow at the 2014 American Dental Education Association annual meeting in San Antonio.

Erin DeWitt Riley is the UDM School of Dentistry representative in the ADA/Dentsply Student Clinician Research Program. The program provides each dental school in the United States and Puerto Rico with funds to support one student in a research poster competition held during the ADA Annual Session, which this year is in New Orleans. Erin will be presenting her work entitled “Dental behaviors of emergency patients at UDM School of Dentistry” which was completed under the mentorship of Dr. Susan Long of the Department of Biomedical and Diagnostic Sciences.

Dr. Marinelle de Campos, a graduate student in the Department of Periodontology and Dental Hygiene, received a Student Research Award from the American Academy of Implant Dentistry Foundation for her project entitled “Cytokine and osteoblastic protein profile before and after the comprehensive treatment of peri-implantitis.” Her faculty mentor is Dr. Leyvee Cabanilla Jacobs of the same Department.
Researchers Explore the Relationship between Diabetes and Depression

With a small grant from Sigma Theta Tau International, Assistant Professor of Nursing Katherine Moran and Professor of Nursing Carla Groh will explore the relationship between diabetes, depression, self-efficacy and glycemic control in an urban, minority population. Their long-term goal is to identify strategies that will improve the health outcomes of diabetes patients.

Researchers are currently in the recruiting phase of the mixed-method study, with the goal of finding 30 adult participants. All subjects will complete three questionnaires concerning demographics, self-efficacy and depression. Moran and Groh will then recruit 10 of the participants to participate in a focus group to more fully understand the meaning of diabetes and the role that depression and self-efficacy play in adherence with the diabetes treatment regime.

“There is limited research that focuses specifically on diabetes and depression in urban minorities,” says Moran. “And since many of the patients who visit the McAuley Health Center are part of this population, we have an opportunity to find out more about their lived experiences.”

Moran, a Doctor of Nursing Practice (DNP), has been conducting diabetes research for several years. A prior study with fellow faculty member Rosanne Burson, DNP, found that integrating registered nurse-certified diabetes educators in patient-centered medical homes not only improves clinical outcomes, but is also cost-effective.

While the current study does not include an educational component, researchers anticipate that study results will inform future interventions concerning diabetes and depression. First, the relationship between the two must be explored.

Moran and Groh have identified that, while a growing body of knowledge is emerging that suggests depression and low self-efficacy are both associated with worse glycemic control in adults with diabetes, the relationship between these variables is poorly understood. Moreover, many of the studies that have been conducted have been with white and/or middle-class samples. This information inspired Groh, who has conducted a substantial body of research about depression as it relates to chronic diseases, and Moran to look at this phenomenon within the context of an urban, underinsured, primarily minority population.

“We come from unique perspectives,” says Moran, “which helps us see the issues through a broader lens.”

The study is expected to be completed by July 31, 2014. Moran and Groh plan to use results as a springboard for a larger study and a grant proposal to the National Institutes of Health.

HRSA Grant Applicants: What’s Your Status?

After you hit "submit" on your grant application at Grants.gov, months could go by before you knew what was going on. No more. Now you can easily track your application from your desktop, laptop or mobile device. All you need is the Funding Opportunity Number (like HRSA-14-024), the application tracking number from Grants.gov (like GRANT12345678) or HRSA EHB (like 110675) and your 9 or 13 digit DUNS number. Punch those into Track Your Application and find out instantly where in the process your application is, what that means and what comes next.

School of Dentistry Establishes School-Based Services Program

The UDM School of Dentistry (UDMSD) received grant funding from the Michigan Department of Community Health (MDCH) ($60,000) and American Dental Education Association / W. K. Kellogg Foundation MDFD Grant ($70,000) to provide free preventative dental services to low-income elementary school children in Detroit. For 2013-14, the program targets four schools with more than 90% of students receiving free or reduced lunch: New Paradigm Loving Academy, Thirkell Elementary School, Stew- art Elementary School, and Ross Hill Academy.

A large body of evidence suggests that school-based programs reduce the incidence of dental caries in young children from low-income households. The UDMSD has established this program in order to reach children who may not otherwise receive services. Dental hygiene faculty members will supervise their students, who will provide direct services to elementary school children. Three days each week, dental hygiene students will provide oral health screenings, fluoride varnish applications, dental sealant applications and oral health education. The educational component utilizes a curriculum developed by the American Dental Association, Smile Starts, which highlights healthy brushing and flossing techniques.

The school-based sealant program is one of many initiatives by the UDMSD to deliver quality and caring dental services to low-income children in the community.

IRB FAQs

In prior columns, IRB FAQs addressed what constitutes human subjects research according to the Common Rule, i.e., when a project must be submitted to the IRB, and also when a project qualifies for an exemption from the IRB chair. All projects qualifying as human subjects research must be submitted to the IRB even if they qualify for an exemption from the chair, in UDM’s case, Dr. Elizabeth Hill. There are six categories of exempt projects, usually studies which involve pedagogical research, quality/evaluation studies, and research utilizing public information (please refer to the April 2010 issue for a more in-depth discussion of exempt projects). Even if a research project does not qualify for an exemption, it may qualify for an expedited review if it meets certain criteria. An expedited review means that the IRB application does not need to be reviewed by the full board, it can be approved by the chair. The most important criteria for an expedited review is that the study must not pose more than minimal risk to human subjects. The concept of risk extends beyond physical risk to emotional discomfort and risk to confidentiality. The expedited review procedure may not be used if identification of subjects and/or their responses would place them at risk of criminal or civil liability or be damaging to a subject’s financial standing, employability, insurability, reputation, or be stigmatizing. Likewise, the expedited review procedure cannot be used for classified research involving human subjects, or any research involving vulnerable populations. Generally, research on drugs or devices which do not require an investigational new drug application (i.e. marketed drugs) are eligible for expedited review, as is the collection of biological specimens or other routine clinical data by noninvasive means. (Any procedures involving x-rays or microwaves, however, are not eligible for an expedited review.) Collection of blood samples can also be eligible for expedited review, as long as draws remain within a certain amount and frequency (exact amounts are listed on the website). Research involving materials that have previously been collected for non-research purposes usually qualify. Collection of data from voice, video, digital, or image recordings can likewise be expedited. Many kinds of social research—research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies—can be expedited, as long as it poses no more than minimal risks to subjects and does not focus on a vulnerable population. More detailed and specific criteria for expedited review can be found on the website: http://www.udmercy.edu/academicaffairs/ospra/irb/index.htm. The IRB FAQ column in future issues of the newsletter will address additional questions about full board reviews, as well as questions about our IRB training program.
Does Higher CEO Compensation Translate to Better Firm Performance?

In the aftermath of the 2007-08 financial crisis, critics denounced excessive CEO compensation as promoting and rewarding irresponsible, even reckless, management. Assistant Professor Fang Yang in the College of Business Administration, along with collaborators at other institutions, set out to examine the effects of the recent financial crisis on the relationship between executive compensation and firm performance. Does higher executive pay mean better firm performance? And do different patterns emerge in pre- and post-crisis periods?

Using the Standard and Poor’s ExecuComp database, researchers found that pre- and post-crisis patterns do look different. Before the crisis, each measure of compensation (i.e., cash-based, stock-based, and total compensation) had a significantly positive relationship with accounting-based performance measures such as return on assets. However, since these measures are primarily internal, comparing the firm’s past and present performance, they can be deceiving. Researchers therefore also used a stock-based performance measure to provide an external benchmark. Pre-crisis results indicate a positive relationship between cash-based compensation and stock-based firm performance. This suggests that, prior to 2007, higher CEO compensation was likely to mean better firm performance.

Post-crisis, researchers found all three compensation measures still significantly positively related to accounting-based firm performance. However, researchers found a significantly negative relationship between total compensation and stock-based performance, indicating that in the period after the crisis while overall stock-based firm performance declined, total CEO compensation (which includes cash payments and stock options), in fact, increased. These results suggest that incentive-based contracts were not effective in the aftermath of the crisis. Results therefore suggest that there is some validity to criticisms of excessive compensation, especially given the destructive impact of the financial crisis on the economy of the United States and the world.

An upcoming article in the Journal of Accounting in Finance, to be published in January 2014, will provide more detail about research methods and results.

Please Remember to Certify Your Effort!

If you have time and effort charged to a sponsored program, please help us stay in compliance with federal regulations by certifying your effort! Throughout AY13-14, we will be accepting paper reports as well as electronic certification in TitanConnect self-service. Effort reports are due on January 31 (for fall term), May 31 (for winter term) and September 30 (for summer term).

VIDEO ABOUT TITANCONNECT CERTIFICATION
To assist you in better understanding the process, the OSPRA has developed a short video for your viewing. Please view the following four-minute video for more specific instructions on certifying effort using TitanConnect: http://www.youtube.com/watch?v=UdHrHvRp9q0

VIDEO ABOUT UNDERSTANDING EFFORT REPORTING
For additional information about why effort certification is required, please see the following four minute video about Understanding Effort Certification:
http://www.youtube.com/watch?v=3zOaO0q2Ft8

More information can be found on the OSPRA website at http://www.udmercy.edu/academicaffairs/ospra/effortreporting/index.htm
Faculty Scholarship Highlights

Faculty Scholarship Highlights April 2013—October 2013

UDM faculty names are bolded and UDM student names are italicized.

Please note that the library keeps more comprehensive lists of faculty publications over time. Please see the website at http://research.udmercy.edu/achievement/

Books


Book Chapters


Journal Articles


Eisenhauer, Joseph G. "Student Migration to Online Education: An Economic Model." Journal of Academic Administration in Higher Education. 9.1. Spring 2013: 19-28

Grobis, Greg. "Speaking of Justice: Telling the Story to Reach the Goal." Conversations Magazine. 44. Fall 2013


Loewen, Jill. "Use of Social Media by Dental Educators." Journal of Dental Education. Dr. Nadeem Karim-bux. 7.11. November 2013: 1400-10


Conference Proceedings


Dukhan, Nihad, and M. Schumack. "Understanding the Continued Poor Performance in Thermodynamics as a First Step toward an Instructional Strategy." ASEE Annual Conference and Exposition. Atlanta, GA. 23-26 June 2013


Khan, S., G.S. Sabhapathy, J. Katta, and R.M. Belanger. "Crayfish (Orconectes rusticus) exposed to atrazine exhibit negative chemoattraction to food odor." Michigan Society for Neuroscience. Detroit, MI. May 2013


Conference Presentations


Arnett, Margie. "Using Social Media for Smokeless Tobacco Education." 7th National Smokeless and Spit Tobacco Summit. Missoula, Montana. 6-8 August 2013


Loewen, Jill. "Using Social Media for Smokeless Tobacco Education." *7th National Smokeless and Spit Tobacco Summit.* Missoula, Montana. 6-8 August 2013


Faculty Awards

Carla J. Groh was invited to become a Fellow of the American Academy of Nurses.

Jill Loewen received the Mosquito Award in recognition of her work in tobacco reduction and commitment to oral health and tobacco cessation issues by Tobacco-Free Michigan.