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DMICE Tracks

From the Chair

Welcome to issue six of *DMICE Tracks*, the newsletter of the OHSU Department of Medical Informatics & Clinical Epidemiology. Continuing from previous newsletters, we have many great accomplishments to report about the department.



In this issue, we feature a story about non-clinician graduates of our biomedical informatics graduate program. The success of these individuals underlies the fact that one does not have to be a physician or other clinician to play an important role in the use of information technology in health care and biomedicine.

This issue also describes our continued international work and leadership in both biomedical informatics and clinical epidemiology, focusing on a trip by several faculty and a student to Havana, Cuba, as well as some of my other trips abroad. The reception we receive in such countries is usually quite positive and gratifying. Not only is it fun to visit these far-flung locations, but it is rewarding to contribute our knowledge and expertise to make a difference there.

We also include a feature on

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Biomedical Informatics is Not Only for Clinicians

Accomplishments of Non-Clinicians in the Informatics Education Program

While many OHSU biomedical informatics students have a clinical background, such as medicine or nursing, a large number come from non-clinical backgrounds. We recently polled the non-clinician alumni of our program to see how their informatics training has contributed to their current job success.

Non-clinician students come from a variety of backgrounds. Some began the program with bachelor's degrees in biology, such as Mario Manese, James Brundege, Lara Fournier, Alicia Graves, Michelle Lee, and Christopher Andon. Others, such as Neal Goldstein, Nick Anderson,

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A 2002 graduate, Lara Fournier, M.S., now works as project manager for the Informatics Shared Resource at the OHSU Cancer Institute.



OREGON
 HEALTH & SCIENCE
 UNIVERSITY

DMICE Faculty and Students Contribute to Fall AMIA Symposium

Medical informatics faculty, fellows and students made their presence known through oral and poster presentations at *AMIA 2006: Biomedical and Health Informatics*, the annual symposium, of the American Medical Informatics Association, November 11-14, 2006 in Washington, DC.

Associate professor **Judy Logan, M.D., M.S.**, and adjunct associate professor, **Dean Sittig, Ph.D.**, both served on the Scientific Program Committee.

NLM fellow and doctoral student **Adam Wright** received second place in the Student Paper Competition for his paper, "Automated Development of Order Sets and Corollary Orders by Data Mining in an Ambulatory Computerized Physician Order Entry System," co-authored by **Sittig**.

Doctoral student **Ravi Bhupatiraju** participated in the AMIA doctoral consortium on organization issues in

medical informatics.

A paper co-authored by senior research associate, **Peggy Nygren, M.A.**, received the 2006 Diana Forsythe Award, given for research at the intersection of informatics and social sciences: Ventres, William, Kooienga, Sarah, Vuckovic, Nancy, Marlin, Ryan, Nygren, Peggy, Stewart, Valerie. Physicians, Patients, and the Electronic Health Record: An Ethnographic Analysis. *Annals of Family Medicine*, 2006; 4:124-131.

A paper by **Sittig** and associate professor **Joan Ash, Ph.D.**, was also nominated for the Diana Forsythe Award: Sittig, Dean, Krall, Michael, Kaalaas-Sittig, JoAnn, and Ash, Joan S. Emotional Aspects of Computer-based Provider Order Entry: A Qualitative Study. *Journal of the American Medical Informatics Association*, 12, 561-567.

Assistant professor **Aaron Cohen, M.D., M.S.**, was on a panel, "Careers in Medical Informatics," while **Sittig** gave an American College of Medical Informatics (AMCI) senior member presentation, "Dealing with the Unintended Consequences of Computer-based Provider Order Entry." **Sittig** was also co-led a tutorial, "Clinical Decision Support: A Practical Guide to Developing Your Program to Improve Outcomes." DMICE professor and chair **William Hersh, M.D.**, also gave an ACMI senior member presentation, "Who are the Informaticians?"

Papers presented by DMICE faculty and students included:

- **Cohen** presented a paper, "An Effective General Purpose Approach for Automated Biomedical Document Classification."



Doctoral student
Adam Wright.

- Assistant professor **David Dorr, M.D., M.S.**, was co-author of "Architectural Strategies and Issues with Health Information Exchange."
- Doctoral student **Jianji Yang** and **Logan** presented a paper, "A Data Mining and Survey Study on Diseases Associated with Paraesophageal Hernia."
- **Ash** and **Sittig**, alumnus **Richard Dykstra, M.D., M.S.**, and NLM fellows and doctoral students **Emily Campbell, R.N., M.S.**, and **Ken Guappone, M.D.**, had a paper entitled, "An Unintended Consequence of CPOE Implementation: Shifts in Power, Control and Autonomy."
- Alumnus **Jeff Jensen, M.B.I.**, presented "The Effects of Computerized Provider Order Entry on Medication Turn-around Time: A Time-to-First-Dose Study at the Providence Portland Medical Center."
- **Hersh** presented "Adopting E-Learning Standards in Health Care: competency-based Learning in the Medical Informatics Domain."

Poster presentations included:

- **Dorr** and associate professor **Paul Gorman, M.D.**: "Information Needs of Nurse Care Managers."
- **Jianji Yang, Cohen** and **Hersh**: "Functional Gene Group Summarization by Clustering Medline Abstract Sentences."

Hersh continued his efforts with the 10x10 program that aims to train 10,000 people in medical informatics by the year 2010. A total of 51 people who completed the 11-week online course attended the follow-up in-person session at the AMIA meeting. Nearly 200 people have now completed 10x10 since its inception in 2005.

At the meeting, the DMICE also hosted students, alumni, faculty, and friends at its annual reception, with about 90 people attending an evening of food and conversation. ■

DMICE Tracks

DMICE Tracks, the newsletter of the OHSU Department of Medical Informatics & Clinical Epidemiology, is published three times per year.

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DMICE Globetrotters Involved in International Research and Education

By William Hersh

Faculty and students in our department have been continuing their globetrotting ways in recent months. A group traveled to Havana, Cuba in February, while I also had the opportunity to visit Egypt in December. In addition, associate professor Paul Gorman, M.D., and I will travel to Harare, Zimbabwe in April to visit DMICE student Tunga Simbini, M.B.B.S., and deliver a short course in medical informatics. Also, assistant professor Nancy Carney, Ph.D., begins teaching graduate level trauma epidemiology at the University of Rosario in Argentina this month, and she and I continue to play significant roles in the OHSU Global Health Steering Committee that is developing a plan for a Global Health Center at the university.

DMICE Goes to Cuba

The trip to Havana was spurred by Carney, whose brain trauma epidemiology project spans countries across the Americas, including Cuba. Carney's connections led the organizers of the *XI World Congress on Health Informatics* to invite an entourage of DMICE faculty to Havana.

Of course, getting to Cuba is no easy matter for Americans. The embargo of the island requires those wishing to visit to apply for a license from the Department of Treasury. In addition, one must usually fly through another country, typically Canada or Mexico. The challenges for Americans do not stop at the border. American credit cards, debit cards and cell phones do not work there. There is a penalty for direct exchange of U.S. dollars.

Despite the challenges, we made it to Cuba and enjoyed our stay. In addition to Carney and myself, the entourage included associate profes-



The DMICE team in Havana in February 2007, after a wonderful dinner in a Cuban restaurant. From left to right, doctoral student and NLM fellow Steven Bedrick; assistant professor Nancy Carney, Ph.D.; Orlando Morante (from Imaging Dynamics Company in Canada); associate professor Holly Jimison, Ph.D.; adjunct professor Misha Pavel, Ph.D.; and professor and chair William Hersh, M.D.

sor Holly Jimison, Ph.D., and adjunct professor Misha Pavel, Ph.D., along with Steven Bedrick, a biomedical informatics Ph.D. student. I think we would all agree that we found our Cuban hosts to be proud and friendly.

At the conference, I moderated, and the others participated in, a panel discussion entitled *Programas Académicos Para Informática Médica en Estados Unidos*. Each panelist gave presentations on their work and discussed how applicable American informatics research might be in countries like Cuba. I also gave a keynote talk at the conference on a topic I have talked about all over world, namely health information technology workforce development and educating that workforce.

During our visit, we learned that there is a vibrant health informatics professional community in Cuba. One university even offers a master's degree. One issue that came up in the discussion on my panel was how

the Spanish translation of our AMIA 10x10 course could be adapted to the Cuban environment.

In addition to attending the conference, some faculty made other visits. Carney, Pavel and Jimison visited the Finlay Vaccine Institute, well known for its development of the meningococcal C vaccine which, due to the embargo, is not currently available in the United States. Jimison and Pavel also attended the neuroinformatics portion of the conference and had an opportunity to connect with colleagues there. They were able to visit the Cuban Neuroscience Center and develop plans for joint projects with researchers there.

One of the challenges for U.S. citizens traveling in Cuba is that you need to accurately plan how much cash to use for living expenses. We even needed Cuban Convertible Pesos to pay for our conference registration. Naturally, all of us ran short of

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Globetrotters

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what we needed. Fortunately, we were befriended by a Canadian engineer, Orlando Morante (originally from Uruguay), who bailed us out when we ran out of money and could not get more! (See picture on page 3).

While politics is beyond the scope of the newsletter, we can say that we eagerly look forward to better relations between the U.S. and Cuba, and hope that our collaboration can grow, especially if the status of the trade embargo changes.

Because I flew to Cuba through Canada, I also had the opportunity to stop over in Victoria, British Columbia on my way back. I attended the Information Technology and Communications in Health conference, hosted by the University of Victoria Health Information Science program, and gave a talk about the 10x10 program on a panel devoted to informatics workforce and education. Also presenting at the conference were DMICE associate professors Judy Logan, M.D., M.S., and Dean Sittig, Ph.D.

My Trip to Egypt

Last year I was contacted by the Information Technology Institute (ITI) in Cairo, Egypt, a government-funded but privately run organization that trains Egyptians for jobs in information technology. They were inquiring whether OHSU might be interested in jointly developing a certificate program in biomedical informatics similar to the one already offered by OHSU. They would provide general courses while we would provide the biomedical informatics, especially through the distance learning technologies we know how to use so well.

To facilitate the discussion, they invited me to be the keynote speaker



DMICE professor and chair William Hersh, M.D., practices his camel riding amidst the pyramids while in Egypt as keynote speaker for the fourth International Conference on Information and Communications Technology, sponsored by Cairo's Information Technology Institute.

at their 4th International Conference on Information and Communications Technology. I spoke on the same topic I discussed in Cuba, namely, health information workforce development and education. Naturally it was quite pertinent to the proposed educational collaboration. In follow-up, we are continuing to develop a plan for the joint certificate program, and other DMICE faculty are likely to visit Egypt in the future.

ITI also assigned a member of their staff to be my tour guide, which included trips to the Great Pyramids of Giza and many of the historical sites of Cairo. My trip to the pyramids included a camel ride, as seen in the picture above.

Other Trips

A number of international trips are planned for the future. I will be among several faculty and students heading down under in August for

the MEDINFO 2007 meeting in Brisbane, Australia. A number of papers have been accepted for presentation at this triennial international medical informatics meeting.

I will also have the opportunity this summer to visit Sheffield, England and be the keynote speaker at the 12th International Symposium on Health Information Management Research. I will again discuss workforce and education, and also participate in a panel related to my research in medical image retrieval. While on that side of the Atlantic Ocean, I will also attend the ACM Special Interest Group meeting in Amsterdam, the Netherlands. I will also have the opportunity to attend a conference on cross-language information retrieval (including medical image retrieval) in Budapest, Hungary in September. ■

Faculty Profile: Marian McDonagh, Pharm.D.

Suppose there are five prescription drugs for the same condition. Some cost quite a bit more than others. Are all of these drugs equally effective? Do their adverse effects differ? How can you find this information? DMICE assistant professor Marian McDonagh, Pharm.D., might be able to point you to an answer.

As one of the core investigators for the Oregon Evidence-based Center (EPC), McDonagh directs the Drug Effectiveness Review Project (DERP), which, since 2001, has produced systematic reviews of the effectiveness of drug classes. Currently 14 states have joined together in a collaboration to obtain the best possible evidence on effectiveness and safety comparisons between drugs in the same class.

McDonagh began her career as a pharmacist in Seattle after training that included a B.S. from Oregon State University, a Pharm.D. from the University of Washington and a clinical specialty residency at the Carl T. Hayden VA Medical Center in Phoenix. She spent several years at Harborview Medical Center in Seattle, serving as the clinical pharmacist for the geriatric medicine service and directing the Investigational Drug Services, working on clinical drug trials.

A trip abroad led to her current profession as a systematic reviewer. In 1998, she left Seattle to spend two years in England while her husband completed a post-doctoral fellowship at the University of York. Realizing that obtaining a pharmacy license in the United Kingdom would be too time consuming, McDonagh looked for other work that would utilize her training in pharmacy and clinical trials.

“One of the UK’s premier centers for conducting systematic reviews for the National Health Service, the



Centre for Reviews and Dissemination (CRD), was also located at the University of York,” McDonagh said. “I applied for a position as a research fellow and enjoyed it so much that we ended up extending our stay!” At CRD, McDonagh learned how to prepare systematic reviews through her work on taxanes and glycoprotein 2b/3a antagonists, hypertension in older patients and water fluoridation.

A systematic review differs from the standard review you might read in a medical journal. “The purpose of taking a systematic approach to a review is to reduce the potential for bias,” McDonagh said. “A standard review is open to bias through the methods of obtaining the literature, making decisions on which studies will ultimately be reviewed, the accuracy and completeness of data included from the studies, the presence and methods of assessing the quality of the studies reviewed, and the methods of synthesizing and summarizing the evidence.”

Systematic reviews attempt to reduce bias by taking an exhaustive

approach to identifying the literature, using pre-specified inclusion criteria, data abstraction tools and methods of analysis, having more than one person assess the studies for inclusion and quality, and having abstracted data checked by a second reviewer. In addition, a systematic review makes clear what methods were used so that readers can assess the risk of bias themselves. McDonagh noted that “a high quality systematic review is both transparent and systematic.”

Returning to the United States in 2000, McDonagh joined the staff of the Center for Health Research at Kaiser Permanente in Portland. Since CHR is one of the Oregon EPC’s partners, McDonagh became involved with several EPC evidence reports for the Agency for Healthcare Research and Quality (AHRQ): effectiveness of imaging tests after stroke, vaginal birth after cesarean, and hyperbaric oxygen for the treatment of head injury, stroke or cerebral palsy, which McDonagh directed.

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From the Chair

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one of our clinical epidemiologists, Marian McDonagh, Pharm.D., whose important work leading the Drug Effectiveness Review Project produces evidence to guide formulary decisions in over a dozen states and the Canadian Agency for Drugs and Technologies in Health. Also included is a photo from our most recent academia-industry dinner, where we discussed enhancing our collaboration with industry in health information technology.

As if our continued research and educational activities are not enough, the department is also engaging in a strategic planning process. While our tremendous growth has been bottom-up and organic, based on the innovation and vision of the faculty and others, we can benefit from some strategic thinking and organized planning. Both the School of Medicine and the university at large are engaged in strategic planning so this gives us an opportunity to align our goals with theirs. While a top-down strategic planning process will never replace the creativity and drive of the faculty and staff, it will provide a framework for more predictable growth and accomplishment. I will report on the outcome of this process in coming issues of this newsletter.

Of course, part of the purpose of strategic planning is to help the department identify and leverage more resources. In other words, we need to think about money, both to sustain existing programs and investment in new ones.

Despite our success in obtaining grant revenue and tuition, these monies are earmarked for specific expenses of the research projects and educational programs, respectively. Grant funding, while a cornerstone of our departmental revenue, is also fiscally challenging. Most of our grants come from federal sources (e.g., NIH, NLM, and AHRQ), which have very explicit regulations on allowable expenses. Furthermore, these grants are time-limited, so that the money must be spent in a specific period and returned if unspent. In addition, the lead time for applying for a grant, having it reviewed, and receiving the award can be up to a year. Grant funding is also highly competitive, with most programs funding only 10-25% of applications received. Although we get funded at a rate higher than the average, we still write many high-quality proposals that do not get funded. The amount of time it takes to put together proposals, plus the long waiting time for their review, puts an additional strain on our resources.

So although our grants and tuition revenues fund the key activities of the department, they are very restrictive in how the money can be spent and provide little money for investment in the future. For example, faculty occasionally wish to pursue new areas of research, which usually requires learning new techniques or generating preliminary data. Or the department may wish to invest in new educational programs. An example of this is our recent work with leaders in the health information management field (the individuals who run medical records departments in health care organizations), where we hope to develop joint course and degree offerings.

Another use for gift funds will be for our students. Having money for things such as student travel to scientific meetings and career development activities will improve their education and increase their competitiveness in the job market, which will in turn attract more students. We also hope to raise funds for student scholarships that will allow us to attract more high-achieving students, especially those who have been offered scholarships elsewhere and may not otherwise attend OHSU.

Gift monies will allow us to pursue other opportunities, such as recruiting new faculty and advancing the career development of those already here. They will also allow us to bring in distinguished leaders in the field, who often benefit the entire community by participating in our academia-industry dinners.

I hope you will consider investing in DMICE. A form for giving is online at www.ohsu.edu/dmice/giving. Putting my money where my mouth is, I myself have been giving to the department each month for several years running.

In closing, I want to express my gratitude for the support DMICE has received from faculty, staff, students, the OHSU leadership, and the community. I hope we can continue our mutually beneficial relationship with all of you, providing leadership and value in our respective fields and being a program you can be proud to be a part of. ■

Faculty Profile

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Meanwhile, the State of Oregon was becoming interested in drug effectiveness and safety. “When Governor John Kitzhauber was in office,” McDonagh said, “he introduced legislation that required an evidence-based approach to making decisions about which drugs would be offered through the Oregon Health Plan.” In 2001, the state contracted with the Oregon EPC to conduct systematic reviews of four drug classes: proton pump inhibitors, long-acting opioid analgesics, nonsteroidal anti-inflammatory drugs (NSAIDs) and statins. The purpose was to establish the comparative effectiveness and safety of these drugs based on the highest quality evidence.

In 2002, the state Medicaid offices of Idaho and Washington joined with Oregon to have the Oregon EPC conduct further drug class reviews. About the same time, McDonagh became assistant professor of medical informatics & clinical epidemiology at OHSU, concentrating primarily on producing these reviews. Interest in the project among state Medicaid organizations continued to grow and in 2003, after Governor Kitzhauber had left office, he established the Center for Evidence-Based Policy (CEBP) at OHSU. The CEBP worked with 17 organizations to form DERP, a self-governing body that funds and directs the project. The Oregon EPC is an integral part of the project, conducting most of the drug reviews and being responsible for the methodological quality of each review.

The original DERP project was a three-year agreement with a plan

for 25 drug class reviews, and at least yearly updates of those reviews. Ultimately, a fourth year and two additional drug class reviews were added to the project. “Now we are starting the second phase of the project – DERP II,” McDonagh said. “In DERP II we are contracting to conduct eight new reviews and 25 updates over a three-year period, based on participation of 15 organizations.”

While both CEBP and the EPC participate in DERP, their roles are quite distinct. The CEBP is responsible for securing funding, handling contracts with the states, assisting the governance process, interacting with the pharmaceutical industry and advocacy groups, and day-to-day operations of the project, including public and private web sites. The EPC participates in discussions with the participating organizations to identify the key questions and inclusion criteria for each review, conducts the review, responds to peer review and public comment, and produces the final reports. In addition to the Oregon EPC, the Research Triangle Institute/ University of North Carolina EPC and the Southern California EPC have prepared some of the drug reviews, under McDonagh’s oversight.

Once a drug effectiveness report is produced, it is used in a variety of ways by the participating organizations. “Many of the participating state Medicaid participants use the reports as an evidence base for making decisions about preferred drug lists for Medicaid programs,” McDonagh noted. “However, the specifics of how they use them vary by state legislation. For example, Washington State is required to use them as their primary evidence for making such decisions, while other states use DERP reports in addition to evidence from other sources.”

Yet another way the reports can be used is in conjunction with a prior authorization program as evidence to support the criteria set for obtaining specific drugs. In some states, specific drug classes are not allowed in their preferred drug list, such as drugs to treat mental illness. In such cases, some states will use the reports in educational efforts.

In addition to use by state Medicaid offices, the Canadian Agency for Drugs and Technologies in Health is a DERP participant and makes the reports available to Canadian provinces for use in their drug management programs, and the California Healthcare Foundation used some of the reports for consumer education. The DERP reaches beyond the organizations that are members. Since the final reports are posted on the project’s web site (www.ohsu.edu/drugeffectiveness), groups as varied as the Veteran’s Administration, Consumer’s Union and AARP have used the reports for a variety of purposes.

DERP is not McDonagh’s entire life. She recently began a three-year term on the OHSU Institutional Review Board (IRB). Her teaching activities include a systematic review methods class in the Human Investigations Program and lectures on evidence review and synthesis for the Oregon State University School of Pharmacy. McDonagh also provides mentoring to high school students through the OHSU Partnership for Scientific Inquiry and to a group of first year medical students doing research projects as a part of MSCI-613 (Systems Processes & Homeostasis). Finally, she works on topic selection for the EPC’s Effective Health Care Resource Center, funded by AHRQ. ■

Informatics

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Annette Savage, and Jeff Jensen, had undergraduate degrees in computer science. There were a few with other science or social science bachelor's degrees: Ted Laderas, physical chemistry; James Case, neuroscience; and John Cooper, psychology.

A few students entered the informatics program with advanced degrees. Liz Horn already had a Ph.D. in molecular pharmacology and cancer therapeutics while Pat Tidmarsh had a J.D. and had worked at Davis Wright Tremaine. Rose Campbell had a master's degree in library science and had worked at the University of Maryland, Baltimore Health Science Library.

After graduation, the work that non-clinician alumni have found is as varied as their backgrounds. Some students stayed in the area while others found work throughout the US. A 2006 graduate, Mario Manese is now a test designer/engineer at Cerner in Kansas City, Missouri, where he designs and executes test scripts during the development of a diagnostic viewer for their electronic health record product. The reputation of the OHSU biomedical informatics program helped him in landing his position. "My initial recruiter knew of the OHSU program and spoke highly of it," Manese said.

Manese thinks his training at OHSU will be more than "just a bullet point in a resume displaying a master's degree needed to land that initial job. I believe these experiences give me the necessary building blocks to continually shape my career to adapt to a field that is rapidly expanding and always changing."

Annette Savage, a 1999 graduate, now works as a senior manager at Pfizer International in New York, where she manages a worldwide, national and regional IT portfolio. "Although I am not working in a 'biomedical informatics' position,"

she said, "graduate experience and the challenges it affords dared me to think deeply and broadened my exposure to the field of healthcare."

Neal Goldstein, who was a distance-learning student graduating in 2005, works as a connectivity analyst at Hologic in Newark, Delaware, working to ensure the connectivity of the company's digital mammography system with other systems in the digital radiology environment. He has found that colleagues are impressed with the field of medical informatics.

Alumna Michelle Lee works as a product manager at InterComponentWare, Inc. in San Mateo, California, where she does market analysis of personal health records (PHRs) and works with a team to develop enhancements to these records. A 2006 graduate, Lee has found that a number of the informatics courses she took are helpful in her current position: Consumer Health Informatics, Networks, Databases, Public Health Informatics, Qualitative Research, and Quantitative Research. Also, a student internship allowed Lee to earn a position with the Markle Foundation and find a job designing the PHR.

Nick Anderson, a 2004 graduate, used his M.S. in biomedical informatics as a stepping stone into an informatics doctoral program at the University of Washington in Seattle, where he has a National Library of Medicine predoctoral fellowship.

Some former students have found work in the Portland area. Informatics fellow James Brundege became an entrepreneur. He founded a small software company, Proteome Software Inc., which provides products and training to other software developers in biomedical and non-biomedical fields.

Christopher Andon, who graduated in 2004, is employed as a patent agent at the law firm of Kolisch Hartwell in Portland, working on bioinformatics patents. He found the informatics program useful because

"clients like to see a higher degree in the science field that they work in. Technical background helps with (my) position as I work with informatics companies and their developers in protecting their intellectual property."

Liz Horn works as director of research for the National Psoriasis Foundation in Portland, where she directs the National Psoriasis BioBank, a biorepository and patient registry. A former informatics fellow, she also directs their burden of disease research program, administers their grant program, and serves as a scientific liaison. Horn found the informatics management courses very helpful to her current position. "My informatics training has helped me with the patient data portion of the BioBank," she said.

After graduating in 2004, Alicia Graves became the health information manager for the Albertina Kerr Center, a non-profit organization whose mission is to create healing for children with emotional or mental health challenges and to support self-determination for people with developmental disabilities, located in the Portland metropolitan area. Graves is working on a conversion from a paper-based system to an electronic health record, ensuring the quality of health records and compliance with standards and regulations.

James Cooper received his degree in 2005 and now works for OCHIN in Portland, a not-for-profit organization that supports safety-net clinics who serve non-insured and under insured patients. At OCHIN, he does database and data warehousing modeling and design. Cooper has found his informatics training useful. "I've used my biomedical informatics background to help with workflow analysis, as a consultant on projects with other companies around health care data analysis, and to represent my employer at health care seminars and conferences," he said.

New Faces



Benjamin Chan



Diane Doctor



Gwendolyn
Hampsten



Angela Morgan



Leah Williams-
Morris

The past few months have brought four new staff and the return of a former staff member to the department, all on the clinical epidemiology side.

Welcome back to **Benjamin Chan, M.S.**, who re-joined DMICE as a statistician for the Evidence-based Practice Center (EPC).

Diane Doctor is working as professor Mark Helfand's administrative assistant.

Gwendolyn Hampsten joined the EPC's Drug Effectiveness Review Project as an administrative assistant.

Angela Morgan is an administrative assistant for the journal *Medical Decision Making*, edited by Mark Helfand. She works with editorial manager Lauren Saxton.

Leah Williams-Morris is now publications editor for the Drug Effectiveness Review Project and will edit DERP reports.

Cooper found a direct relationship between his DMICE connections and his job. First of all, he found his position through an OHSU biomedical informatics alumnus, and one of his references was from a program faculty member. It didn't stop there. "I often talked to my employer about OHSU's biomedical informatics program, and one day a senior manager I didn't report to asked to read my capstone," Cooper noted. "After reading it he offered me a promotion on his team."

Some graduates now work at OHSU or the nearby VA Medical Center. Ted Laderas, a 2005 graduate, works as a senior research assistant at the VA Medical Center. Also working at the VA is Pat Tidmarsh, who said that the informatics program gave her a general overview of IT applica-

tions in a hospital healthcare setting. Tidmarsh, who received her M.S. in 2003, stays active in the biomedical informatics program by teaching its Project Management course.

Rose Campbell, an NLM library fellow and 2005 graduate, is now a librarian at the Portland VA Medical Center, running their hospital library. Campbell believes her informatics degree lends her an amount of credibility among the computer people with whom she works. "The computer training and the name 'informatics' allow me to speak with IT in their language," she said, "and it helps bridge the gap between the library and IT. The clinical training allows me to work better with clinicians and helps me follow morning report. The qualitative research experience helps me support process improvement research, and the

organizational behavior training helps me keep it all in perspective while trying to navigate through a strange institutional culture."

A 2002 graduate, Lara Fournier is a project manager for the OHSU Cancer Institute, working in the Center for Biostatistics Computing and Informatics in Biology and Medicine, while Jeff Jensen, who completed his M.B.I. degree last year, works as an EpicCare workflow analyst at OHSU. Jensen serves as the interface between OHSU clinicians and the electronic health record implementation team, analyzing clinical workflows, obtaining clinician buy-in and overseeing the development of tools for documentation. He became involved with the project through an internship while an informatics student.

James Case, who received his M.B.I. in 2005 works for the OHSU Division of General Medicine as an informatics research associate, working on the Web site for the John M. Eisenberg Clinical Decisions and Communications Science Center, funded by AHRQ. As such, Case still works with some DMICE faculty, including David Hickam, Center director, and Karen Eden, a Center investigator.

"The computer science training that I received in the course of completing the program laid the foundation for the skill set that was necessary to fulfill the position," Case said. "Beyond just programming, the work requires a solid understanding of the information needs that each stakeholder group in the health care decision making process. Much of this background knowledge was accrued in the course of the [informatics] program."

Whether in Portland, New York or any of the states between, OHSU biomedical informatics graduates who entered the program without a clinical background have found their training worthwhile and an asset to their current professions. ■

Student/Alumni News

Publications

DMICE doctoral student and NLM fellow **Adam Wright** co-authored a white paper, "A roadmap for national action on clinical decision support," in the March/April 2007 issue of the *JAMIA, the Journal of the Medical Informatics Association*. The Roadmap was originally created at an AMIA workshop in 2005, and the final version was approved by the AMIA board of directors. Co-authors of the paper include Jerome Osheroff, M.D., Jonathan Teich, M.D., Ph.D., Blackford Middleton, M.D., M.P.H., M.Sc., Elaine Steen, M.A., and Don Detmer, M.D., M.A.

Adam Wright and clinical associate professor Dean Sittig, Ph.D., published a Clinical Observations letter, "Security threat posed by USB-based personal health record," in the February 20, 2007 issue of *Annals of Internal Medicine*.

Wright and Sittig were able to obtain three USB-based personal health record devices and "modified the programs on the devices so that, when connected to a computer, they gave the appearance of normal operation but surreptitiously searched for and copied data from the computer to a hidden location on the USB device," which could lead to potential security problems.

Doctoral student and NLM fellow **Suzi Fei** was co-author of a paper, "Proteomic analysis of the genotoxicant methylazoxymethanol (MAM)-induced changes in the developing cerebellum," in the *Journal of Proteome Research*, 2006, vol. 5, pages 2656-2665.

Presentations and Posters

NLM fellow **Sam Wang, M.D.**, was a co-author on an oral presentation at Radiological Society of North America, 92nd Annual Meeting in Chicago in December 2006: Scarborough TJ, Ting JY, Wang SJ, Fuller

CD, Thomas CR. "Simulated and Measured Analyses of Spheroprobability and Three Dimensional Setup Error."

Sam Wang, M.D., presented a poster discussion at the American Society for Therapeutic Radiology and Oncology Annual Meeting in Philadelphia in November 2006: Wang SJ, Fuller CD, Luh JY, Thomas CR, Bleyer WA. "Older Adolescents and Young Adults with Cancer: Conditional Survival Deficit."

Jennie Abrahamson, M.L.I.S., a doctoral student and NLM fellow, presented a poster at the 2006 Annual Conference of the American Society for Information Science & Technology in Austin in 2006: Abrahamson JA, Fisher KE. "Modeling the Information Behavior of Lay Mediarities."

Awards and Appointments

Jennie Abrahamson, M.L.I.S., is treasurer of the Medical Informatics Special Interest Group, American Society for Information Science and Technology (ASIS&T).

Adam Wright was part of a group from the Oregon chapter of the Healthcare Information Management and Systems Society that met with Oregon lawmakers in February to talk about health IT issues. The group met with four senators and four representatives, with the objective to introduce themselves and the organization to the legislators, and emphasize the importance of information technology — or the ability to capture, share, and access patient information — to any initiative to reduce costs, improve the quality of care, and increase efficiency.

Faculty/Staff Update

Awards and Appointments

Assistant professor **Thomas Yackel, M.D., M.S.**, was recognized as one of the Portland area's "2007 Top Docs" in general internal medicine, featured in the January 2007 issue of *Portland Monthly*.

Professor and chair **William Hersh, M.D.**, was named chair of the CTSA National Informatics Steering Committee and chaired its first meeting at the National Institutes of Health December 7, 2006.

Joan Ash, Ph.D., associate professor, has accepted the chairmanship of the Board of Scientific Counselors of the Lister Hill National Center for Biomedical Communications, National Library of Medicine, for 2007-2009.

A paper co-authored by **Peggy Nygren, M.A.**, senior research associate, has won several awards: the Diana Forsythe Award at the fall AMIA symposium, and the Society of Teachers of Family Medicine 2007 Best Research Paper Award. Ventres,

W, Kooienga, S, Vuckovic, N, Marlin, R, Nygren, P, Stewart, V. Physicians, Patients, and the Electronic Health Record: An Ethnographic Analysis. *Annals of Family Medicine*, 2006;4:124-131.

Funding Received

Associate professor **Holly Jimison, Ph.D.**, received a \$99,238 grant from the Intel Corporation, part of OHSU's Behavioral Assessment and Intervention Consortium for a project on automated health coaching. This project will test the feasibility of using a Web services architecture to link tailored health action plans and home monitoring into personal health records.

Presentations and Posters

Holly Jimison, Ph.D., presented her work on the "Embedded Assessment of Verbal Fluency in a Computer Games Environment" to the Thirty-Third Annual Interdisciplinary

Conference in Jackson Hole, Wyoming in February 2007.

William Hersh, M.D., presented on several biomedical informatics topics over the past few months:

Training the Health and Biomedical Informatics Workforce: Competencies and Approaches, given at:

- Kay Center for E-Health Research Symposium 2006, Claremont Graduate University, Claremont, CA, December 1, 2006.
- 4th International Conference on Information and Communications Technology, Cairo, Egypt, December 10, 2006.
- VI International Congress on Health Informatics, Havana, Cuba, February 16, 2007.

ImageCLEF and ImageCLEFmed: Toward Standard Test Collections for Image Storage and Retrieval Research

- ASIS&T Annual Meeting 2006, Austin, TX, November 6, 2006 (Panelist).

CTSA Informatics Panel

- American College of Medical Informatics 2007 Symposium, Miami Beach, FL, January 21, 2007 (Moderator and Panelist).

Programas Académicos Para Informática Médica en Estados Unidos

- VI International Congress on Health Informatics, Havana, Cuba, February 15, 2007 (Moderator).

Joan Ash, Ph.D., was keynote speaker for the National Health Information Technology Association of Denmark last October, speaking about addressing the unintended consequences of computerized physician order entry.

Assistant professor **Marian McDonagh, Pharm.D.**, presented at the Drug Effectiveness Review Project third annual conference for pharmaceutical manufacturers on January 24, 2007 in Portland.

Aaron Cohen, M.D., M.S., assistant professor, was a panelist on

“Where the Jobs Are...Biosciences, Social Sciences, Mathematics” at Reed College, Portland, on February 13, 2007.

A poster by **Aaron Cohen, M.D., M.S.**, was presented at the Text Retrieval Conference (TREC), November 15-17, 2006, Gaithersburg, Maryland: **Cohen AM, Yang J, Fisher S, Roark B, Hersh WR**. “Combining Lexicon Expansion, Information Retrieval, and Cluster-based Ranking for Biomedical Question Answering.”

Professor **Mark Helfand, M.D., M.P.H.**, presented papers by EPC faculty and staff at the XIV Cochrane Colloquium, Dublin, Ireland, 2006. **Carson SM, Cohen AM, Hersh WR, Brown N, Helfand M**. “Systematic Evaluation of Web-based, Publicly Accessible Clinical Trial Results Databases.” There was also a poster by **Cohen AM, Carson SM, Hersh WR, Brown N, Peterson K, Helfand M**. “Elements and Features of Results

Databases Recommended by Experienced Systematic Reviewers.”

Publications

Ash JS, Sittig DE, Campbell E, Guappone K, Dykstra R. An unintended consequence of CPOE implementation: Shifts in power, control, and autonomy. *Proceedings of the American Medical Informatics Association*. 2006: 11-15.

Chou R, Fu R, Huffman LH, Korthuis PT. Initial highly-active antiretroviral therapy with a protease inhibitor versus a non-nucleoside reverse transcriptase inhibitor: discrepancies between direct and indirect meta-analyses. *Lancet*. 2006; 368(9546):1503-15.

Cohen AM. An effective general purpose approach for automated biomedical document classification. *Proceedings of the American Medical Informatics Association*. 2006:161-5.

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DMICE held an Academia-Industry Dinner December 4, 2006, featuring a panel discussion on academia-industry collaboration in health information technology in Oregon. Speakers included, from left to right, Bob Lanier, executive director of the Oregon Bioscience Association; Arundee Pradhan, director of technology and research collaborations at OHSU; Linda Brackett, president of both Connor Bates, Inc. and Oregon Healthcare Information Management and Systems Society (HIMSS); and William Hersh, M.D., DMICE professor and chair. Further planning to establish more formal collaboration is ongoing.

Faculty/Staff Update

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Cohen AM, Yang J, Fisher S, Roark B, Hersh WR. Combining lexicon expansion, information retrieval, and cluster-based ranking for biomedical question answering. *Proceedings of the Fifteenth Annual Text Retrieval Conference - TREC 2006*; 2006.

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Guise JM, Morris C, Osterweil P, Li H, Rosenberg D, Greenlick M. Incidence of fecal incontinence after childbirth. *Obstetrics & Gynecology*. 2007; 109(2 Pt 1):281-8.

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Hersh W. The full spectrum of biomedical informatics education at Oregon Health & Science University. *Methods of Information in Medicine*. 2007, 46: 80-83.

Hersh WR, Bhupatiraju RT, Greene P, Smothers V, Cohen C. Adopting e-learning standards in health care: competency-based learning in the medical informatics domain. *Proceedings of the AMIA 2006 Annual Symposium*, 2006.

Hersh W, Cohen AM, Roberts P, Rekapalli HP. TREC 2006 Genomics Track Overview. *Proceedings of the Fifteenth Annual Text Retrieval Conference - TREC 2006*; 2006.

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man DA, Morris CD. Office-based unsedated small-caliber endoscopy is equivalent to conventional sedated endoscopy in screening and surveillance for Barrett's esophagus: a randomized and blinded comparison. *American Journal of Gastroenterology*. 2006; 101(12):2693-703.

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Rischitelli G, Nygren P, Bougatsos C, Freeman M, Helfand M. Screening for elevated lead levels in childhood and pregnancy: An updated summary of evidence for the US Preventive Services Task Force. *Pediatrics*. 2006; 188(6):e1867-1895.

Yang J, Cohen AM, Hersh WR. Functional gene group summarization by clustering MEDLINE abstract sentences. *Proceedings of the American Medical Informatics Association*. 2006:1151.