NEW DAY The OHSU School of Medicine has launched our bold, new M.D. curriculum, YOUR M.D., and relocated some of our educational and research activity to the new Collaborative Life Sciences Building (pictured) on Portland’s South Waterfront.
They say the best way to learn a language is to immerse oneself in the country where it’s spoken. If the idiom holds true for medicine, two new clinical experiences will prepare medical students and residents like no other for a rural career.

Oregon FIRST – Family Medicine Integrated Rural Student Training – is an individualized fourth-year medical school curriculum new in academic year 2014-15. Joe Volpi and Stephanie Laudert are the first two students selected to spend a year at Sky Lakes Medical Center in Klamath Falls. The city of 21,000 is also home to the Cascades East Family Medicine Residency Program, a valuable pipeline for developing rural Oregon physicians.

“Students will develop a wide range of skills in this curriculum that will be needed for tomorrow’s rural physician, including chronic disease management, population-based health and familiarity with a primary care medical home,” said Joyce Hollander-Rodriguez, M.D. ’00 R ’03, assistant professor of family medicine and Cascades East program director. “We hope to share the successes of Oregon FIRST with other family medicine educators and to be a model for schools nationwide.”

This extended clinical experience also impacts a fourth-year medical student’s pocketbook – in a positive way. Students in Oregon FIRST forego the travel costs, sometimes up to $10,000, associated with finding a residency program. If the match process goes well, both Volpi and Laudert will remain in Klamath Falls for a residency in family medicine. Other financial assistance, such as a tuition waiver or loan forgiveness, could await students in exchange for a service requirement.

In graduate medical education news, the school and Bay Area Hospital in Coos Bay have teamed up to establish a new rural training rotation for surgeons. The six-month program gives two senior residents an opportunity to immerse themselves in Coos Bay, population 15,857, affording them exposure to a broad set of surgical cases, extended patient care continuity and the chance to develop leadership skills in the operating room.

This is the second surgical training partnership between the Department of Surgery and a rural Oregon hospital. A year-long rotation in Grants Pass has been popular for surgical residents and community physicians alike since it began in 2002 ("Small town success story,” Bridges Fall 2012).
The number of uninsured Oregonians fell by 63 percent from June 30, 2013, to June 30, 2014, according to an OHSU study released in September. Conducted by researchers at the OHSU Center for Health Systems Effectiveness and the Oregon Health Authority, in consultation with the State Health Access Data Assistance Center at the University of Minnesota, the study’s key objective was to estimate the number of uninsured individuals in Oregon as a result of policy changes associated with the Affordable Care Act. The study found that 95 percent of Oregonians now have health insurance coverage.

A team of scientists at OHSU’s Vaccine and Gene Therapy Institute led by Louis Picker, M.D., professor of pathology, received a $25 million grant from the Bill & Melinda Gates Foundation to advance work on a promising vaccine candidate that may someday prevent or cure infection with HIV, the virus that causes AIDS.

The National Institutes of Health selected OHSU – along with Harvard Medical School, the Broad Institute of Massachusetts Institute of Technology/Harvard University, Icahn School of Medicine at Mount Sinai and University of California, Irvine – for a project to create a database of human cellular responses, the Library of Integrated Network-based Cellular Signatures (LINCS). The OHSU team, led by Joe Gray, Ph.D., chair of biomedical engineering and director of the OHSU Center for Spatial Systems Biomedicine, will study how cells are controlled by the micro-environments in which they live. Discovering such cell responses will improve scientists’ understanding of cell pathways and aid in the development of new therapies for many diseases. OHSU will be awarded $10.3 million over six years.

A New York Times blogger recently wrote, “At the end, POLST seems our best bet” in a post about advanced directives. The acronym stands for Physician Orders for Life-Sustaining Treatment.

POLST began in Oregon – with OHSU faculty members leading the cause – and heralded a national movement to translate patient preferences into actionable medical orders that follow patients across settings of care. (“OHSU Firsts,” Bridges Spring 2014). The registry receives and processes an average of 3,600 POLST forms per month and has registered more than 100,000 Oregonians.

POLST works, new research suggests. A study led by Erik Fromme, M.D., associate professor of medicine, found that POLST was effective at matching patient preferences with resulting treatment.

A computer scientist in medicine

By Tiah Lindner

Gregory Scott, a fourth-year M.D. student in the joint M.D./Ph.D. education program, is a self-described computer guy.

In July, a paper he authored was featured on the cover of the American Journal of Respiratory Cell and Molecular Biology. Not only was the paper highlighted with a “red alert” as an outstanding paper by a junior
OHSU research on a screen near you

What’s the best way to describe research at OHSU? Show it!

Dozens of faculty and research staff from across the university participated in an extensive video shoot this summer complete with lights, camera and plenty of action. The first-ever project portrays the university’s research in an engaging and decidedly OHSU way.

The result? A well-received set of videos showcasing some of the university’s best discoveries and minds with Portland panache. The videos will be used to generate interest in OHSU research, from recruitment to philanthropy to public and government support.

See what everyone is talking about at www.youtube.com/user/OHSUvideo. If you like what you see, share it with family and friends.

By the numbers: 2014 entering students and trainees

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| Graduate Studies Students       | 183: Students, total (master’s and Ph.D.)  
691: Applicants  
60/40: Percentage who are female/male  
31: Average age  
51: Percentage Oregonian  
49: Percentage non-Oregonian |
| Physician Assistant Students    | 43: Students, total  
1,213: Applicants  
70/30: Percentage who are female/male  
29: Average age  
56: Percentage Oregonian  
44: Percentage non-Oregonian |
| M.D. Students                   | 139: Students, total  
5,755: Applicants  
47/53: Percentage who are female/male  
26: Average age  
82: Percentage Oregonian  
18: Percentage non-Oregonian |
| Residents/Fellows               | 280: Trainees who entered 78 programs  
13,528: Applicants  
53/47: Percentage who are female/male  
30: Average age  
11: Percentage entering from OHSU’s M.D. program  
9: Percentage Oregonian  
91: Percentage non-Oregonian |

investigator, Scott was nominated for the annual junior investigator paper of the year award.

Why all the attention? In the course of his graduate and post graduate work, Scott became acutely aware of the limitations of current diagnostic technology and the unavailability of tools for researchers to adequately handle the large amounts of data amassed in their studies. Seeking a solution for the “lack of computer science in medicine,” he called upon his own undergraduate background in computer science to develop a software solution to the data processing issues common in the age of big data.

In the paper, Scott describes a method to unite and analyze colabeled epitope images with 3D tissue compartments using an advanced morphometry software that he designed. The software will be made available through an open-source license. Scott’s work can already be seen proliferating across the OHSU campus.

Credit: Gregory Scott

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A century ago, Abraham Flexner proposed a model of medical education consisting of two years of basic science instruction followed by two years of clinical training. The model was largely adopted across U.S. medical schools. While variants have evolved during the ensuing years, the approach hasn’t changed much.

Yet, over the past two decades in particular, the pace of medical change has accelerated to a breathtaking rate, and there’s no reason to expect this will slow down. On top of this, educational research has upended ideas about how adults learn. In recognition of this, faculty and leaders at the OHSU School of Medicine, in collaboration with partners across the state and nation, developed a new medical curriculum designed to ensure future physicians are ready to thrive in this dynamic new environment while helping to shape the course of the accelerating health care revolution.

I’m pleased to report that we launched YOUR M.D. in August with a phased, four-year rollout starting with the new entering M.D. Class of 2018.

We aren’t discarding current strengths in the curriculum such as early patient interactions and rural health experiences. Rather, we are building on these, adding a new focus on teaching future physicians how to be experts at continuously assessing and improving their own skills, adapting to discoveries and technology changes and leading a culture change that ensures the health care system of the future is continuously improving. We’re reinforcing this outcome by the very way we teach. And we’re fortunate that the home for this new curriculum, in part, is the inspiring Collaborative Life Sciences Building, designed to facilitate interprofessional interactions.

At OHSU, we are responding and leading through this period of change in health care. That means transforming in other areas, too, such as graduate medical education and graduate studies. I invite you to learn more in the following pages and contact me anytime at somdeansoffice@ohsu.edu.

Mark Richardson, M.D., MBA, Dean
INSIDE THE COLLABORATIVE LIFE SCIENCES BUILDING

Tour the new space and learn about the educational and research activities taking place
The OHSU Learning Studio, used primarily by first- and second-year medical students, supports the goals of the newly transformed M.D. curriculum, YOUR M.D. The single-level space features tables instead of individual seats to accommodate small-group activities as well as traditional lectures. An advanced, 360-degree audio-visual system supports teaching and learning from any direction in the room. Faculty facilitators deploy active-learning strategies to give students ample opportunity to try out their knowledge. Frequent assessments help gauge student progress. Turn to page 12 to learn more.
Simulation places learners in realistic medical situations using a variety of techniques and technologies – from taking patient histories to surgical skills to lifesaving emergency room treatment. The purpose is to help them gain proficiency in skills and teamwork without risk to real patients and with instant feedback from instructors and peers. The Interprofessional Simulation Center, a 20,000-square foot, learner-centered facility, features standardized patient rooms and simulation theatres, including fully-equipped operating and labor and delivery rooms. The educational and team-training opportunities include skills training, standardized patient integration and manikin-based simulation. The center serves M.D., physician assistant and nursing students, residents/fellows and health care professionals pursuing continuing education. Turn to page 16 to learn more.
Almost 46,000-square feet of the building is dedicated to research by OHSU, Portland State University and Oregon State University. In addition to organic/nano-chemistry, biochemistry and biomedical wet lab benches and computational analysis areas – which are all designed to maximize daylight and an interdisciplinary flow of people and ideas – there is a specially engineered, low-vibration lab for advanced imaging technologies. There, researchers from the OHSU Center for Spatial Systems Biomedicine and elsewhere are using some of the most sophisticated imaging instrumentation and methodologies on the planet to better understand disease from the nanoscale to organ level across four dimensions, including time.
Approximately 3,000 students from OHSU, Portland State University and Oregon State University are projected to use the building each day. The building features a graduate student lounge complete with banks of computers and microwaves, eco-roof deck for fresh air and Willamette River views, a student resource center (a.k.a. library) with studying and meeting areas, showers, lockers, a retail eatery, coffee shops and a secure underground bike facility. A highlight of the bike facility is a large bay door that – with badge access – slides open from the outside; people bike right into the building.
The Revisionist

Questions for nationally-renowned educator George Mejicano, M.D.

Most medical schools are content to tinker with the time-honored model of American undergraduate medical education. The OHSU School of Medicine is revising it completely.

George Mejicano, M.D., senior associate dean for education, is overseeing the YOUR M.D. rollout. The point man for change, Dr. Mejicano is no stranger to debate, both polite and heated.

As he leads one of the most significant revisions of UME in a generation, Dr. Mejicano keeps an eye on the goalpost: Physicians versatile at meeting society’s needs. Here, he discusses the school’s new model and its implementation.

Q With your new approach, M.D. students will eventually enter and exit the medical school at different times, with graduation contingent on demonstrating competency in areas you’ve prioritized. What was the problem with the old way – that is, enrolling a cohort of students and teaching them foundational science and the skills of clinical practice in lockstep?

A There are a number of issues, but the most important is that all students are the same. We end up equating someone who has served as a medic in Afghanistan or a person who was a veterinary surgeon with a French major. It’s just bad pedagogy. We need to be able to distinguish them – how they learn, what they need and what their interests and skill sets are. Then we can customize their curricula. I expect that most of the curricula are going to be very similar, but some will be radically different.

Q What’s an example of a customized approach that would be considered more radical?

A A person who is a practicing physician assistant decides to apply to medical school. They have been working in a pediatric clinic for two years as a PA. They could conceivably skip much of the basic science content because they took it already when they were earning their PA master’s degree, as well as numerous rotations – including pediatrics since they actually worked as a frontline clinician in a pediatric clinic – such that they could graduate much earlier than a typical medical student.

Q You’re also seeking to better integrate basic science education with clinical practice – in part by having scientists and clinicians collaborate on the design of courses. What’s been the problem with handling them discretely?

A The separation, which has been going on for more than 100 years in most medical schools across the country, has led to all sorts of bad behavior and outcomes. The classic problem is the binge-and-purge mentality. I learn anatomy,
The journey to becoming a physician

* These elements will be phased in after 2014.
Continued from page 12

and that's all I'm learning. I take my final exam on Friday, and on Monday I've probably forgotten much of what I learned, but it doesn't matter because I'm on to the next thing. We hope that by showing the immediate application of basic science to clinical practice, more of the material will stick. That's why we're bringing biochemists, physiologists, radiologists, psychiatrists, pediatricians and internists together to design our six educational blocks on organ systems. Their disciplines have to be intertwined. Clinical medicine demands it. That's a big theme of our reforms.

Q Will the classroom experience differ in other ways as well?
A Yes. I'll contrast it to when I was a student many years ago. I could sit in the back of the lecture hall and never talk to anybody. Going forward, we have to be able to engage students to see if they really understand the material. Part of that requires being much better at incorporating new teaching modalities, including team-based learning, simulations and case-based learning. We also plan to weave in other things - we call them threads - such as health policy, informatics and professionalism. We want to convince students that achieving high-quality care is not only about assessing your skills and improving yourself, but it's also about improving the care processes where you work to ensure that the system is facilitating the delivery of optimal care.

Q You've said you're trying to create doctors who can meet future needs. How did you determine what a high-performing doctor would look like in the future?
A We asked many people in a lot of different places what kind of doctor they would want to hire in 2020 or 2030. One person, the CEO of a health system that operates rural and suburban hospitals in Oregon, said he wanted two things: number one, people with emotional intelligence, and number two, people who are competent in predictive analytics, so they can look at populations of patients and predict which ones are going to have problems down the road.

Q Why is emotional intelligence so important?
A Because you can never take the human element out of health care, and in order to provide patient-centered care, you need to be able to understand what the patient wants out of the experience. You also need to be able to read verbal and nonverbal cues to tell if a patient is too shocked by the diagnosis to absorb information or how to ask for an organ donation from a family whose kid was just killed in a motorcycle accident. These decisions and skills are not algorithmic.

Q Does this change the criteria you use to select students?
A Yes, because there are some things that are teachable and some things that aren't. I use a basketball analogy - we can teach you how to guard and play defense, but we can't teach you height. In medical school, we can teach skills like motivational interviewing, but we need to ensure students have communication skills because some of those are fixed. So there's a lot of filtering that happens in the interview process. And that assessment of ability and skill continues throughout their education. Students get feedback not only from attendings and residents supervising the student, they are also getting feedback from patients and their families. Some are going to say, “You know what? You don't know how to talk to people.” We are also using what we call curricular or portfolio coaches to assess performance - a faculty member who tells you how you are really doing. The analogy I use is a high school or college coach. They are not your friend; they want you to perform really well. Here, we don't hesitate to point out that the person isn't cut out for the job. In many places there's an unspoken rule that once you get into medical school, it's likely you'll graduate. I have no qualms about kicking out students who don't pass muster: I don't want them treating my family or yours or anyone else's.

“We want to convince students that achieving high-quality care is not only about assessing your skills and improving yourself, but it's also about improving the care processes where you work to ensure that the system is facilitating the delivery of optimal care.”

– Dr. Mejicano

Q How about self-assessment. How do you go about teaching that?
A I compare it to assessing or analyzing the quality of a dinner party. There are a variety of things that contribute to a successful party: you need a good recipe – that's medical knowledge. You need to know what kind of kitchen you are working with – how many burners, how big is the microwave – that's like assessing the strengths and weaknesses of the system in which you're operating. There's the cooking skill. Do you know how to sauté or flip a pancake? That's patient care and procedure skills. There's also the communication piece – was the dinner conversation fun and inclusive or was it awkward? Then there's the professionalism piece – have guests asked about bringing a dish or do they offer to wash the dishes? And finally there's the review of the dinner party – how did it go, what went wrong? In the past, medical education has emphasized the recipes; that is, the acquisition of knowledge. But all six matter, and they matter equally.

Q It sounds like there are a lot of moving pieces to your plan, which makes us wonder what sort of resources you've had to devote to this.
A We’ve benefited from a $1 million grant from the AMA [American Medical Association] Accelerating Change in Medical Education and have submitted other proposals for more external funds. In addition, we have invested about $2.5 million ourselves. But part of it is spending differently. In the past, we paid faculty based on the hours they spent teaching, rather than using outcomes as a metric for compensation. We’re testing whether we can pay for outcomes with a select group of faculty who were hired on one-year contracts. It may work, because the primary job for most faculty is not education; they are mainly clinicians or researchers. We’re also devoting resources to teaching faculty about the art and science of teaching. Up until now, they have been learning it experientially because one rarely is taught how to teach in higher education.

Q As you implement this model, are you seeing interest in it from other medical schools?

A Yes. There are 11 schools that were funded by the AMA initiative, and we are actively collaborating with each other so that best practices can be vetted and rapidly shared with other schools. The AMA has received numerous inquiries about the initiative, including from many other schools, as well as from a wide variety of stakeholders who are keenly interested in what we all are doing.

Q How will you evaluate its success?

A We will be using well-known benchmarks to assess traditional knowledge acquisition (e.g., examination scores at the local and national level). In addition, we’ll be using multimodal assessment methods to determine milestone and competency achievement, including patient experience-of-care surveys, global impressions by clinicians, standardized patient examinations, objective-structured clinical examinations, procedural logs, quality improvement data, reflection narratives, standardized self-examinations and peer-assessment tools. We also will develop new tools to assess proficiency in working in teams, applying quality improvement science and clinical informatics. We also want to assess whether our graduates are “residency ready” by using surveys of our former students, as well as the residency program directors that have accepted them into their training programs. We hope to use students in the other AMA consortium schools as “controls” for some of the innovations we’ll put into place – and we’ll serve as the other schools’ controls for their interventions.

Editor’s note: Q&A reprinted with permission from The Commonwealth Fund and edited for length. The full version of this article first appeared in Quality Matters, April/May 2014.

Teaching the 21st Century Physician

We know many of the reasons students compete to attend OHSU: outstanding reputation, hands-on training and the beautiful Oregon setting. Now we can add a pioneering new M.D. curriculum to that list.

As Beaverton native, Afghanistan and Iraq veteran and now first-year medical student Alex Nielson said, “There is no better place to learn how to be a skilled, yet caring, physician in the 21st century than OHSU.”

Help us continue to attract outstanding students such as Alex by lowering financial barriers to the remarkable education and training here at OHSU. The level of student indebtedness is high. We have been working hard to find solutions, increasing the availability of student grants-in-aid and addressing education costs.

The school is making progress, but the need remains great. Your vital scholarship support ensures that others can experience all that OHSU offers, and in particular, the collaborative, interprofessional and innovative M.D. curriculum.

To learn more, contact the Alumni Relations and Educational Development Office at 503 552-0689 or sm-alum@ohsu.edu.
The potential to improve clinical education programs through simulation made a huge advance this summer with the opening of two new OHSU facilities – a 20,000-square-foot Simulation Center in the Collaborative Life Sciences Building (CLSB), and a 9,000-square-foot VirtuOHSU Simulation and Surgical Skills Center in Richard Jones Hall.

By tripling and reorganizing the space previously available for simulation, these facilities can foster the collaboration increasingly emphasized in the delivery of patient care.

**Quality care, patient safety**

At the CLSB, eight simulation theaters are used with lifelike manikins and/or standardized patients, actors portraying patients with scripted symptoms and life stories. The manikins’ vital signs respond via software, allowing learners to monitor the result of treatments they administer. Actors may be at the bedside playing the parts of family members. These flexible spaces can be equipped to suit the training – for example, for surgery, labor and delivery, emergency care, even as a patient’s home. Five video cameras in each theater allow learners’ activities to be transmitted throughout the center. There are control and debriefing rooms for every theater.

A Standardized Patient Center at the CLSB has 20 rooms for different patient scenarios, including patient exams, compared with 12 previously in Emma Jones Hall.

On Marquam Hill, VirtuOHSU includes a wet lab space with movable walls that can expand up to 7,000 square feet and additional spaces for dry and wet lab classrooms. Ten stations can be equipped as operating bays. Learners at all levels, from undergraduates to practicing physicians, can become proficient in minimally invasive surgery, microsurgery and ultrasound, among other things. Mastery of these skills equips learners for the more difficult surgical task of making critical decisions under pressure. Audiovisual capabilities will allow for observation of skills, teamwork and behavior in the future.

VirtuOHSU was designed for graduate and continuing medical education, although it is also ideally suited to teach medical undergraduates.

**Interprofessional learning**

A key goal of the Simulation Center is to foster interprofessional learning. Physicians, physician assistants, nurses, pharmacists and others can all learn together and from each other.

The controlled environment of the Simulation Center means everyone can get the same learning experience. “The ultimate goal in all of this is patient safety and outcomes,” said Donn Spight, M.D., medical director for VirtuOHSU and associate professor of surgery. “I’ve heard from colleagues that they can see the difference in the performance of residents who come to them from OHSU.”
How to Prevent Physician Burnout

Pediatrics resident initiates first-ever formal curriculum

By Sara Kaufman

Nearly half of all U.S. physicians experience burnout at some point in their careers, according to a 2012 study published in the Archives of Internal Medicine (now JAMA Internal Medicine).

As a first step toward prevention, pediatrics resident Megan Furnari, M.D., has initiated a new wellness curriculum for OHSU primary care residencies. The formal curriculum is the first of its kind to be implemented at the graduate medical education level at an American academic medical center.

“Residency, you are in the hospital more than your own home,” said Dr. Furnari. “To find work-life balance through all of this is a challenge, but it is essential. To practice medicine to the best of your ability, you must be happy.”

Dr. Furnari discovered that the medical students involved in the program were personally benefiting from the wellness practices they were teaching.

The Accreditation Council for Graduate Medical Education cites resident/fellow wellness as a crucial component of the Next Accreditation System, and ways to promote physician wellness and prevent burnout with regard to patient safety have been the subjects of research and discussion within the larger medical community.

Dr. Furnari said the program has a trickle-down effect on patient care. “If it can reach even one resident, think about how many patients they will see in their career,” she said.

The GME-funded “Well Resident” curriculum consists of five lectures delivered by local wellness experts from inside and outside of OHSU, with donated take-away items related to each lecture. The lectures dive into topics covering exercise, nutrition, yoga, sleep and mindfulness-based stress reduction.

Piloted with the pediatrics program in the spring, it was extended this summer to include the internal medicine and family medicine programs.

Although the problem of physician burnout is well documented, Dr. Furnari observed there are few formal courses for house officers that address prevention. A little over a year ago, she began discussions with chief residents and physician leaders about creating a formal wellness curriculum for primary care specialties: internal medicine, pediatrics and family medicine.

“This will do much to promote the health and well-being of residents and fellows, and our hope is that this pilot can be scaled up to include all programs next year,” said Patrick Brunett, M.D., associate dean for graduate medical education.

Dr. Furnari’s interest in physician wellness extends back to medical school at the University of Massachusetts, where she started a program for adult cancer patients, incorporating modalities such as yoga, meditation and guided relaxation. There, she discovered that the medical students involved in the program were personally benefiting from the wellness practices they were teaching.
After a tectonic shift in Ph.D. careers, biomedical graduate education is retooling itself to ready students for professions beyond the academic lab.

One evening last spring, more than 100 OHSU Ph.D. candidates and postdoctoral fellows crowded into the atrium of Richard Jones Hall. They were drawn there to explore career options outside academia, where the funding crisis bedeviling the National Institutes of Health has clouded prospective career opportunities in university research labs. A couple of dozen professionals, at least half of them OHSU alumni, representing pursuits ranging from biopharmaceuticals to patent law were posted around the atrium. For two hours they fielded questions from students in a kind of speed-dating format.

Kateri Spinelli, Ph.D. ’12, a postdoctoral fellow in neurology, found research administration and regulatory affairs particularly interesting. Others sat down with Kyle Ambert, Ph.D. ’13 – who oversees life science collaborations for Intel’s Graph Analytics Operation – to learn how they might fit into industry.

The path graduate students have traditionally followed for decades – almost by rote – went from the research lab of their Ph.D. mentor, who nurtured them at the start, to a postdoctoral fellowship or two in other research labs and ultimately to a faculty position in a lab of their own, supported in significant part by research grant money from the National Institutes of Health or National Science Foundation.

But more than a few brambles have made that path more difficult, and the robust turnout at this first Graduate Studies Career Networking Night, sponsored by the School of Medicine Alumni Association, spoke volumes about the shifting terrain in the biomedical sciences.

Career outlook

Though 98 percent of Ph.D.-trained scientists land jobs within a few years of earning their degree, just 23 percent of them – compared to 34 percent in 2003 – now move into tenure-track academic positions as faculty and principal investigators (PIs) overseeing their own lab, according to the 2012 NIH Biomedical Research Working Group Report. The report was produced by an advisory committee co-chaired by Shirley Tilghman, Ph.D., former president of Princeton University, and Sally Rockey, Ph.D., NIH deputy director for extramural research.

Why? “Because they know they have only a 15 percent chance of getting a lab funded through NIH, and there’s a lot of work that goes into putting those proposals together,” Dr. Rockey told an audience at the University of California, San Francisco, last year. That compares to a 30 percent funding success rate during NIH’s salad days, a decade ago or so. About a quarter of the buying power of the NIH budget has been lost since 2003, said Dr. Rockey.

Consequently, the doctoral workforce has diversified.
CONTEMPLATING THE FUTURE
Lillian Klug, fourth-year Ph.D. student, is part of a generation of students acutely aware of the difficulty in landing or keeping an academic research job as a faculty member and principal investigator. Industry employment of biomedical scientists increased almost five percentage points between 1993 and 2008, the group noted. And it has been growing steadily for two decades while job growth in government and the non-profit sector has been stagnant, according to the National Research Council of the National Academy of Science in a 2011 report.

Little wonder, then, that alternate career paths are a hot topic among current graduate students and postdocs.

Examining the future
Lillian Klug, a fourth-year Ph.D. student in the Cancer Biology Graduate Program, is torn. "I'm weighing, 'Do I want to struggle to try to get funding from NIH or do I want to have a family and have more of a work-life balance?' And that's what a lot of my peers are weighing."

Given the growing challenges of obtaining independent federal funding for biomedical research, students at OHSU and across the country are increasingly asking themselves this question with significant implications for the future of the U.S. biomedical research workforce. But despite these challenges, there are many non-traditional opportunities for new graduates to apply their knowledge in ways that advance research and health.

Kate Placzek, Ph.D., in her sixth year as a postdoctoral researcher in the Department of Physiology and Pharmacology, loves lab research and wants to stay in academic science but as a permanent staff scientist rather than a PI. Others, like Dr. Ambert, are agnostic about where they pursue their careers, as long as they can follow their passions.

While graduate students and postdocs want and need other career options, it's clear that the value of the education they are receiving remains unchanged, says Gary Westbrook, M.D, professor of neurology, director of the Neuroscience Graduate Program and co-director of the Vollum Institute. "A Ph.D. is not so much narrow training in a specific problem, but a way of learning to think rigorously and thoroughly enough to gain confidence in solving a highly complex problem," he said. Just the type of skill set demanded by a global marketplace.

Fundamental changes
Yet preparing for non-traditional careers during those Ph.D. years hasn't been easy. The system of supporting Ph.D. trainees on research grants awarded to the laboratories of their mentors has historically locked both students and mentors into a focus on the academic research track. However much PIs might wish to broaden a student's training beyond the specific work of the lab, doing so could jeopardize the research grant under current rules. The Tilghman/Rockey group suggested NIH take steps to correct that.

In response, this year NIH is requiring that all its 27 centers and institutes offer individual grants – called F awards – to support U.S. graduate students.

Every OHSU Ph.D. student will now be encouraged to apply for these training grants, says Allison Fryer, Ph.D., professor of medicine and associate dean for graduate studies, herself a PI overseeing a lab. "This is an enormous and forward-thinking change that we fully support," she said. "In every way, this is much better for students. It will allow them to be educated as students, as well as to continue to enhance our research enterprise."

New resources
NIH hasn't mandated it yet, but the writing is on the wall that universities need to educate graduate students for a variety of careers. At the OHSU School of Medicine, this shift is already underway, with expanded training in big-data quantitative analysis, collaborative team-based science, project management and communication skills.

In addition, the School of Medicine is offering additional resources to assist its graduate students. A new Professional Development Center, headed by Jackie Wirz, Ph.D. '10, will offer training sessions on everything from leadership and presentation skills to resume writing.

Dr. Wirz is herself a poster child for the alternate career path. She earned her doctorate from the OHSU Biochemistry and Molecular Biology Graduate Program. But, after some soul searching, she decided that science education rather than bench research was her calling.

The education OHSU's graduate students receive, Dr. Wirz says, already arms them with an impressive list of proficiencies. "We can help direct them into areas beyond always working as a PI in an academic research lab," she said. "These other paths are fulfilling and contribute substantially to research in different but no less important ways."

"In the end," Dr. Kateri Spinelli points out, "it is in the hands of each trainee to seek out new and interesting ways to apply their Ph.D. and create their own path."

Alumni: Are you interested in volunteering for a professional interest group and mentoring graduate students about careers and/or participating in a future Career Networking Night? Contact the Professional Development Center at pdc@ohsu.edu.
SMAA in Action

News from the School of Medicine Alumni Association

New school, old school

I recently had the opportunity to tour the new Collaborative Life Sciences Building. Wow.
From the study lounge where OHSU and OSU students mingle to the Learning Studio where first-year M.D. students work in small groups to the state-of-the-art Simulation Center and stunning Willamette River views, the space is incredible.

Together with the new M.D. curriculum, it represents a new direction in health education that will ultimately, I believe, result in better patient care. Working in teams. Integration of disciplines. Customizable curricula. A place built for the flow of ideas and knowledge.

As an “old school” alumna, I’m proud of these changes, and the effort the OHSU School of Medicine is making to prepare students for a changing health care future. The job doesn’t end here – much work remains. But at 2730 S.W. Moody, the vista is promising.

I encourage you to visit and see for yourself. Please share your thoughts at sm-alum@ohsu.edu.

Michele Mass, M.D. ’83 R ’89
OHSU School of Medicine Alumni Association President

Advisors needed for continuing education

Interested in giving the school’s Division of Continuing Medical Education your two cents? The division is looking for alumni to review and give input on the planning of OHSU’s continuing medical education programs with the aim of helping ensure that the needs of community physicians are being met. The time commitment is minimal, and committee members don’t need to be in the Portland area. For more information or to volunteer, please contact Leslie Doering, CME director, at 503 494-4899 or doeringl@ohsu.edu.

Nominations wanted for Alumni Awards

Our annual Alumni Awards recognize exceptional members of our 17,000-member community. There are many alumni who deserve to be recognized – which is why your participation in our alumni awards program is critical. Throughout the year, we accept nominations in several award categories. Nominate a classmate or a colleague by Dec. 19 for the 2015 awards. Instructions and more details can be found at www.ohsu.edu/somalumniawards.

But wait! There’s more

Visit www.ohsu.edu/somnews anytime to get news about the School of Medicine. Plus, receive timely updates via our redesigned monthly e-journal, Medicine Matters. Email somdeansoffice@ohsu.edu to subscribe.

Send us your email!

We’re sending more news and event information electronically. Don’t be left out.
Email sm-alum@ohsu.edu to update your contact information.
Also, introducing the OHSU Alumni “Email Address for Life.” This program offers alumni an OHSU email address for their personal use. Contact sm-alum@ohsu.edu to learn more.
At a time when all medical students were required to spend six weeks in pediatrics, one peds professor stood out.

With irresistible enthusiasm, Robert Meechan, M.D. ‘53 R ’56, conveyed complex information in a down-to-earth manner that endeared him to students, residents, nurses and fellow faculty as well as patients and their families.

“He loved all the minor problems that bother parents,” said Larry Hall, M.D. ’63, a retired pediatrician from Glide, Ore., who was Dr. Meechan's student. “Rashes, constipation, colic – Bob would put everybody at ease. He was vibrant, energetic and cheerful, and he made parents feel great.”

For 32 years, Dr. Meechan served on the faculty and directed OHSU’s pediatric outpatient clinic (now general pediatrics) from 1957 until his retirement in 1989.

A practicing pediatrician through and through, Dr. Meechan brought that sensibility to his formal instruction, livening up classes with props, such as slides of every childhood rash he’d ever seen and a vast baby food collection.

“He imparted not only the knowledge of medicine but the joy of being involved with these families,” said Dr. Hall. “He made medicine fun.”

Medical students chose Dr. Meechan six times for the Allan J. Hill, Jr. Clinical Teaching Award. Dr. Meechan also chaired the M.D. program admissions committee and served as assistant dean of admissions in the school from 1980 to 1986.

“I doubt that there is a county in Oregon or southern Washington in which Bob’s effect on health care is not felt,” said Lawrence J. Wolff, M.D. R ’68, professor of pediatrics, who was chief resident under Dr. Meechan in the 1960s.

Dr. Meechan died in 2008 at age 82. In his honor, friends and family worked with OHSU and OHSU Doernbecher Children’s Hospital to establish the Robert J. Meechan, M.D., Resident Award for Excellence in General Pediatrics.

Alumni: Nominate teachers and mentors who had an impact on you for our “Lasting Legacy” column. Reach us at sm-alum@ohsu.edu.
We welcome your news and photos. Email sm-alum@ohsu.edu or write a note to Bridges Class Notes c/o Rachel Shafer OHSU School of Medicine, 3181 SW Sam Jackson Park Road MC L102, Portland, OR 97239. Please write a maximum of 250 words and include your name, degree/training information and graduation/completion year. We may not be able to publish all items and may edit for length and clarity.

1950s
Denison (Dinny) M. Thomas, M.D. ’52, of Prineville, Ore., wrote, “I’m a retired family doc who practiced in Prineville for 40 years. This old sign (pictured right) is currently on display in our local museum and dates back to 1956. My son Gregory A. Thomas, M.D. ’81 (pictured below, left), grew up in Prineville, graduated from Vanderbilt University and then from OHSU in 1981. He is now an associate professor of pediatrics at OHSU. At 90, I remain active with community volunteer stuff and still take a keen interest in medical affairs.”

Medicine is a tradition in the Straufmford family. Jon Vidalin Straumfjord, M.D. ’29, practiced internal medicine in Astoria from 1934 until he retired in 1968. He founded the Astoria Clinic, wrote the first paper in medical literature on the influence of Vitamin A on acne and served in the State Medical Examiner’s Division. He died in 1969. Elder son Jon Vidalin Straumfjord, Jr., M.D., Ph.D. ’53, of Salem, Ore., was a clinical pathologist and chair of pathology at University of Wisconsin at Milwaukee before moving back to Oregon upon retirement in 2002. Brother Agnar Allen (Al) Straumfjord, M.D. ’54 R ’62, R ’65, M.S. ’55, of Sisters, Ore., held several positions, including ones at OHSU and Oregon State Hospital. Most recently, he was a psychiatrist for the Benton County Mental Health Clinic. He retired at age 70. His wife Marianne Straumfjord, M.D. ’69, MBA, also a psychiatrist, was medical director for Trillium Family Services, and now works for Deschutes County Mental Health Clinic in Bend, Ore. Robert W. (Bob) Straumfjord, M.D. ’59 R ’60, trained in orthopedic surgery and practiced for many years in the San Diego area before he died in 2011.

1980s
In August, The Oregonian reported on the work of Deborah Eisenhut, M.D. ’81, of Salem, Ore., who provided care to Ebola patients in Liberia. There, she also cared for the two Americans who contracted the disease but who recovered after receiving treatment in Atlanta. Dr. Eisenhut did not contract the disease and has since returned to the U.S.

Oregon State Medical Examiner Karen Gunson, M.D. ’81 R ’85, of Sherwood, Ore., was honored with the Gift of Sight Award by the Eye Bank Association of America for her advocacy and support of eye and corneal donation. Dr. Gunson has worked for the State Medical Examiner’s Division for more than 28 years and has been the chief medical examiner since 1999.

The Washington Academy of Family Physicians named Carl Olden, M.D. R ’84, FFAFP, of Yakima, Wash., its Family Physician of 2014. One colleague described Dr. Olden (pictured below) as “a brilliant mind and compassionate heart.” Another said, “He has been a guiding light for many of us throughout the state in promoting quality care.”

1990s
Andrew Schmidt, M.D. R ’93, of Plymouth, Minn., was named chief of orthopedics at Hennepin County Medical Center in Minneapolis. A professor at the University of Minnesota Medical School, Dr. Schmidt is co-editor of the text Surgical Management of Orthopedic Trauma, which won the 2007 Excellence in Clinical Medicine award by the Association of American Publishers.

2000s
Rachel Solotaroff, M.D. R ’07, MCR ’09, of Portland, Ore., is medical director of Portland’s Central City Concern and affiliate assistant professor of medicine in the OHSU School of Medicine. This summer, she received the Karen Rotondo Award for Outstanding Service at the National Healthcare for the Homeless Conference.

Paul Meyer, Ph.D. ’05, of East Amherst, N.Y., is an assistant professor in the Behavioral Neuroscience Program in the Department of Psychology, University at Buffalo, SUNY. His lab is focused on determining the precise role of the brain’s reward circuitry in appetitive learning and drug addiction.

2010s
Allison Anacker, Ph.D. ’12, of Northampton, Mass., appeared on NPR’s Science Friday this spring talking about the findings of a study she conducted with Andrey Ryabinin, Ph.D., professor of behavioral neuroscience, called “Drinking alcohol has sex-dependent effects on pair bond formation in prairie voles.” The study garnered quite a bit of media attention, including Time, The Smithsonian and Popular Science. Dr. Anacker (pictured below) is a postdoctoral fellow at Smith College studying epigenetic mechanisms in the social behavior of meadow voles.
In Memoriam is also online at www.ohsu.edu/som/alumni.

Mark Your Calendar

**Upcoming Events**

2014–2015 OHSU Marquam Hill Lectures

- **Thursdays, 7 p.m.**
- For more details, visit www.ohsu.edu/mhlectures. Each lecture is recorded and posted to the website.

- Nov. 20: “Beating Cancer with Exercise” Presented by Kerri Winters-Stone, Ph.D.
- May 21, 2015: “Declaring War on Melanoma” Presented by Sancy Leachman, M.D., Ph.D.

School of Medicine Alumni Association Holiday Reception

- Dec. 7, 2–4 p.m.
- The Town Club, Portland
- For more information and to RSVP, please call 503 552-0745.

OHSU Research Week

- May 2015
- Marquam Hill Campus
- For the latest information and more events, go to www.ohsu.edu/som/alumni.

**Upcoming CME**

46th Annual Primary Care Review

- Feb. 9–13, 2015
- Sentinel Hotel, Portland

Focus on Choosing Wisely*

- April 15, 2015
- Sentinel Hotel, Portland

22nd Annual Internal Medicine Review

- April 16–17, 2015
- Sentinel Hotel, Portland

Sommer Memorial Lectures/OHSU School of Medicine Alumni Scientific Meeting

- May 14–15, 2015
- Multnomah Athletic Club, Portland

10th Annual Pediatric Review

- May 21–22, 2015
- Sentinel Hotel, Portland

Infectious Disease for the Non-Specialist*

- June 3–4, 2015
- Resort at the Mountain, Welches

Musculoskeletal Medicine Update for Primary Care*

- June 19–20, 2015
- Skamania Lodge, Stevenson, Wash.

*New programs for 2015!

Schedules are subject to change.

Please contact 503 494-8700 or cme@ohsu.edu for brochures and program updates. For the latest information on these and other CME events, visit www.ohsu.edu/som/cme.

**Keep in Touch**

- **Email** us at sm-alum@ohsu.edu
- **Write** to Bridges Editor c/o Rachel Shafer, 3181 S.W. Sam Jackson Park Road MC L102, Portland, OR 97239
- **Join** our LinkedIn group, www.ohsu.edu/som/alumni and click on the LinkedIn icon
- **Web** resources and information at www.ohsu.edu/som/alumni

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Dan Handel, M.D., MBA ’14, of Mt. Pleasant, S.C., was hired as the chief medical officer and executive medical director at Medical University of South Carolina.

Cassandra Graziano, M.S. ’14, wrote, “As an OHSU graduate student in clinical nutrition, I participated in a course on ‘Big Food’ corporations and how they’ve shaped our national and global food environment. Since taking the class, I’ve worked with our local dietetic association to encourage discussion and analysis of Big Food corporations sponsoring health organizations such as the Academy of Nutrition and Dietetics.”

In Memoriam

William Fletcher, M.D. R ’60, of Portland, Ore., died July 12 at age 87. Dr. Fletcher was a professor emeritus of surgery.

Ed Keenan, Ph.D., of Portland, Ore., died Aug. 14 at age 66. Dr. Keenan, a professor of physiology and pharmacology/surgery and former associate dean for medical education, was an important catalyst of change and innovation within the school for many years and made a significant mark on medical students. Information about the TFME Edward J. Keenan, Ph.D., Medical Student Scholarship fund is at www.tfme.org.

Donald T. Arai, M.D. ’70, of Mesa, Ariz., died June 29 at age 69.

Stephen Cox, M.D. ’58, of Redding, Calif., died July 20 at age 84.

Charles Deeks, M.D. ’52, of Eugene, Ore., died July 21 at age 93.

Edward Hendricks, M.D. ’48, of Portland, Ore., died Aug. 27 at age 89.

Dale Hunsaker, M.D. ’50, of Madison, Wisc., died June 21 at age 92.

Michael S. Mason, M.D. ’55, of Portland, Ore., died July 3 at age 85.

Ann Meagher, M.D. ’57, of Tiburon, Calif., died July 30 at age 83.

John Medica, M.D. ’91, of Kennewick, Wash., died Aug. 27 at age 53.

Richard Redfern, M.D. ’61, of Albion, Calif., died Feb. 19 at age 78.

Vincent A. Reger, M.D. ’81, of Portland, Ore., died Aug. 28 at age 57.


Patricia Starr, M.D. ’70, of Portland, Ore., died June 19 at age 79.

Peter Sakellaris, Ph.D. ’71, of Portland, Ore., died Jan. 17 at age 80.

Gilford Wong, M.D. ’52, of Fresno, Calif., died Aug. 9 at age 88.
Student support is a priority.

Join the School of Medicine as we continue to respond to student indebtedness.

Scholarships make a positive and profound difference in the educational experience of our medical students. We are actively building our scholarship fund so we can offer more deserving students, like Tony, the opportunity for tuition support.

Our alumni understand the immense need for financial aid. As a catalyst for critical student support you can create a named endowed scholarship fund as a perpetual legacy of your support for the next generation of physicians.

To find out more, contact Sadie Williams at the OHSU Foundation at 503 552-0689 or willisad@ohsu.edu.

Left: Donor and alumna Myungja Mia Lee, M.D., ’89 with scholarship recipient and first-year medical student Tony Tran