REUNION EVENTS INCLUDE:

- Medical Education Today Session
- Alumni Awards & Reception
- Medical Alumni Picnic
- Tours of the College
- Clinical Simulation Lab
- Nostalgia Hour
- Class Receptions

For more information visit uvm.edu/medicine/alumni

RECONNECT FOR REAL!
This year we launched our new Teaching Academy to recognize the quality of our faculty, and nurture excellence in teaching and the scholarship of medical education. The Academy proudly inducted 53 inaugural members, and we were glad to welcome Kathryn Huggett, Ph.D., from Creighton University, as the new Teaching Academy director in the fall. We also welcomed a number of other new leaders at the College, including Mitchell Nowotny, M.D., as Chair of Surgery; Beth Kerkpatrick, M.D., as Interim Associate Dean for Clinical Research; and Mark Levine, M.D., as Associate Dean for Graduate Medical Education. We also announced a new Senior Associate Dean for Research, Gordon Jensen, M.D., Ph.D., from Penn State, who joins us as of 2016 begins. In addition, we are actively recruiting for department chairs in Anesthesiology and Microbiology & Molecular Genetics.

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The creation of our clinical network, and the rebranding of our longstanding hospital affiliate The Western Connecticut Health Network (WCHN) has expanded to include Norwalk Hospital, in addition to Danbury and New Milford Hospitals. In the year ahead, we’ll be working to create a formalized clinical campus with WCHN.

Our research enterprise continues to hold its own in a difficult funding climate, with over $81 million in awards last year. Recent milestone grants like the $18.5 million from the Patient-Centered Outcomes Research Institute (PCORI) to Benjamin Littenberg, M.D., and colleagues, and $3.6 million from the National Institute on Child Health and Human Development awarded to the Vermont Center on Behavior and Health, show that the College is continuing on this successful pathway.

The creation of our clinical network, and the rebranding of our longstanding hospital partner under the University of Vermont name was a very notable event. I’m pleased that our interdependence and aligned missions have now been clarified, as reflected in the new affiliation agreement between our institutions. A little farther afield, our clinical education affiliate The Western Connecticut Health Network (WCHN) has expanded to include Norwalk Hospital, in addition to Danbury and New Milford Hospitals. In the year ahead, we’ll be working to create a formalized clinical campus with WCHN.

All of our efforts are underpinned by the continuing support of our philanthropic donors. This year UVM fundraising reached a record in excess of $60.5 million, and giving to the College of Medicine represented a substantial portion of that amount. We continue to benefit from an extremely engaged body of alumni and friends.

So we have many reasons to feel proud of our work, and I appreciate all the work of our faculty, staff, students and friends who make our College of Medicine such an outstanding place to work and learn.

Frederick C. Morin III, M.D.
Dean, University of Vermont College of Medicine
College of Medicine faculty, staff, and students showcased the work of the College during the gala celebration of the Move Mountains campaign on October 2. At top, Professor of Psychiatry James Hudziak, M.D., spoke about his concussion research; at center, Clinical Simulation Laboratory technician Jim Court demonstrated a patient simulator used in education and training; above, Gary Hahn holds the medallion honoring the creation of the Larner Professor of Medical Education endowed by his father, Robert Larner, M.D.’42.

CAMPAIGN GOALS AT THE COLLEGE OF MEDICINE

The Move Mountains campaign presents the College of Medicine with a landmark opportunity to increase support for the students and faculty that are at the heart of its mission.

For Students: **$56 million**
**OUR GOAL** ▶ Raise $35 million in medical student aid and $21 million in endowed fellowships to enroll the best students and minimize our graduates’ educational debt.

For Faculty: **$53 million**
**OUR GOAL** ▶ Create endowed professorships, chairs, and director positions to attract and retain the best faculty and fuel their innovative work without limitation.

For Research and Innovation: **$9 million**
**OUR GOAL** ▶ Advance our interdisciplinary education and research programs across the biomedical sciences, including neuroscience and health behaviors, and expand research and education on health care delivery.

UVM SET TO move Mountains WITH ITS COMPREHENSIVE CAMPAIGN

This October, UVM announced its largest and most ambitious fundraising campaign ever, a **$500 million** initiative that will transform and reshape the University.

Nearly 60 percent of the $500 million goal is focused on faculty and students. Move Mountains: The Campaign for The University of Vermont will make new investments in endowed faculty positions designed to recruit and retain top scholars to teach and conduct research, as well as new scholarships and graduate fellowships aimed at making a UVM education financially accessible for all qualified students.

The Move Mountains campaign will also make strategic investments to advance UVM’s strongest programs – in human health, the environment, the humanities, and STEM, among others. Significant upgrades to selected facilities on campus are planned as well, such as the STEr Complex now under construction, the Alumni House on Summit Street and the UVM Medical Center’s new Inpatient Building.

“The time has come for UVM to move forward, to pursue excellence with even greater confidence and to assert our position among the nation’s finest public research universities,” said UVM President Tom Sullivan. “To move mountains is to change lives. This is our passion and our calling.”

As of the October announcement, the University had already, in the “silent phase” of the campaign since 2011, raised over $247 million of the $500 million goal. The October 2 announcement gala capped a two-day “crescendo of giving” that added more than $40 million in new gifts touching nearly every corner of campus.

At the College of Medicine, the major gift announcement was the $9 million gift from Robert Larner, M.D.’42 and his wife, Helts Larner, of Woodland Hills, Calif. ‘The Larners’ generous gift, which will be directed to the existing Larner Endowed Medical Education Fund, will largely help medical students by supporting initiatives to expand the use of technology and innovative teaching methods at the College, said Dean Rick Morin. The gift announcement was followed by a special Investiture ceremony during which UVM President Tom Sullivan presented new College of Medicine Teaching Academy Director Kathryn Huggett, Ph.D., as the inaugural Robert Larner, M.D.’42 Endowed Professor in Medical Education.
UVM College of Medicine Mission Statement

The Vision of the University of Vermont (UVM) is to be among the nation’s premier small research universities, preeminent in our comprehensive commitment to liberal education, environment, health, and public service.

In support of this vision, the Mission of the UVM College of Medicine is to educate a diverse group of dedicated physicians and biomedical scientists to serve across all the disciplines of medicine; to bring hope to patients by advancing medical knowledge through research; to integrate education and research to advance the quality and accessibility of patient care; and to engage with our communities to benefit Vermont and the world.

FACTS + FIGURES

ACADEMIC YEAR 2015

Student Body

Academic Year 2014–15

- Total Medical Students: 457
- Ph.D. & Masters Students: 129
- Residents & Fellows: 307

Medical students at the College come from 23 states across the U.S.

Class of 2019

- The College received nearly 6,054 applications for the 114 positions in the Class of 2019, who began their first year in August 2015.

Alumni/Graduates

Alumni

- Number of living alumni of the College: 4,507
- Percentage of alumni who practice in New England: 44%

Approximate Percentage of Vermont physicians educated or trained at the University of Vermont College of Medicine and/or University of Vermont Medical Center: 38%

Percentage of alumni who contribute philanthropically: 32%

Class of 2015

- Medical Graduates of 2015 went on to residencies at 69 institutions across the nation, including Brown University, Case Western University Hospitals, Children’s Hospital Boston, Danbury Hospital, Duke University Medical Center, Einstein/Montefiore Medical Center, Johns Hopkins Hospital, Kaiser Permanente, Los Angeles, Massachusetts General Hospital, New York Presbyterian/Weill Cornell Medical Center, Oregon Health & Science University, San Antonio Uniformed Services, Stanford University, UCLA Medical Center, University of Washington, University of Vermont Medical Center, and Yale-New Haven Hospital.

UVM College of Medicine Funding Report

External Research Support

- Total Dollars, Fiscal Year 2015: $81.4 million
- Private Gift Revenues: $12.4 million
- Total Endowment Value: $30,218,271
- Endowment (as of June 30, 2015): $115,476,652
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Research Support

- Total Dollars, Fiscal Year 2015: $81.4 million
- A total of 294 research projects were active at the College in 2015.
- College of Medicine funding represents nearly 62% of total UVM research funding.

Philanthropy giving to support the missions of the College of Medicine totaled $12.4 million for Fiscal Year 2015 (July 1, 2014–June 30, 2015). For more detailed information about philanthropy, see page 42.

The College of Medicine by-the-Numbers

- Endowment (as of June 30, 2015)
  - Faculty & Department Support: $85,258,380
  - Scholarship Giving: $30,218,271
  - Total Endowment Value: $115,476,652

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Teaching Academy Welcomes Inaugural Director
Kathryn Huggett, Ph.D., joined the College of Medicine faculty in 2015 as the inaugural director of the Teaching Academy. Huggett came to UVM as a professor of medicine and pathology and associate dean and was formally invested as the Larner Professor of Medical Education and Director of the Teaching Academy.

Huggett succeeded Ann Guillet, M.D., professor of pediatrics and director of pediatric nephrology, who served as interim director of the Teaching Academy since July 2014. The assistant dean for medical education at Creighton University School of Medicine in Omaha, Neb., since 2010, Huggett had also served as director of medical education development and assessment since 2004. She now directs the Academy and its support of education and educators at the College of Medicine, and organizes the development and implementation of Teaching Academy programs. She provides educational expertise and collaborates across the academic medical center to facilitate high quality educational programs, medical education research, and faculty development.

The Teaching Academy at the UVM College of Medicine was launched in December 2014, with a mission to foster a scholarly approach to medical education, nurture faculty development, and guide curricular innovation. Charter members include 33 faculty across the College who were honored as either Distinguished Educators, Master Teachers or Members. More members were added in December, along with a new “Protégé” category for residents.

Class of 2019 Marks Their First Milestone with White Coat Ceremony
Dealing with challenges, varying emotions and general stress is consistent with becoming and being a physician. These challenges were recognized in October as the Class of 2019 marked their entry into clinical education with the College’s annual White Coat Ceremony at UVM’s Ira Allen Chapel. This annual ceremony or a similar rite now takes place for first-year medical students at about 90 percent of schools of medicine and osteopathy in the United States, and is supported by the Arnold P. Gold Foundation.

The ceremony opened with welcome remarks from Senior Associate Dean for Academic Affairs and UVM President Tom Sullivan during the 2015 UVM faculty recipient of the The Distinguished Graduate Alumnus Award is presented every year to an alumna/us from the College of Medicine’s Ph.D. or M.S. programs who has demonstrated outstanding achievement in basic, clinical or applied research; education; industry; public service/humanitarianism; and/or outstanding commitment to the College of Medicine community. The graduate award recipient is selected in the spring and invited to return to campus the following fall to speak to current graduate students.

College Honors Distinguished Graduate Alumnus
Wong, Showcases Student Research
Patrick Wong, Ph.D. ’75, received the University of Vermont College of Medicine’s 2015 Medical Alumni Association Distinguished Graduate Alumnus Award at the Annual Graduate Student Research Showcase Award Presentation and Reception in October. A professor emeritus of pharmacology at New York Medical College and chair and CEO of BioProst Pharmaceuticals, Wong is a pioneer in elucidating the role of prostaglandins in inflammation, cardiovascular disease, and cancer.

Wong was mentored by former UVM associate professor of biochemistry and lipid biochemist Roy Wuthier, Ph.D., while a doctoral student at the College of Medicine. It was while working with Wuthier that Wong discovered a class of lipids now known as prostaglandins. In addition to his long-held positions at New York Medical College and BioProst Pharmaceuticals, Wong has served twice as a Fogarty Senior International Research Fellow and Visiting Professor working with Nobel Laureate Professor Bengt Samuelsson at the Karolinska Institute in Stockholm, Sweden.

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Excellence in Teaching Recognized with Kroepsch-Maurice Award

College of Medicine faculty member Maria Mercedes Avila, Ph.D., was among the recipients of the 2015 Kroepsch-Maurice Excellence in Teaching Awards. The annual awards recognize UVM professors for excellent quality of instruction (including learning experiences outside the traditional classroom); their capacity to animate students and engage them in the pursuit of knowledge and understanding; their innovation in teaching methods and/or curriculum development; their demonstrated commitment to cultural diversity; their ability to motivate and challenge students, and for evidence of excellent advising.

Dr. Avila is assistant professor in the Department of Pediatrics. Since joining the department, she has been involved in several federal programs, including: SAMHSA Youth Suicide Prevention, HRSA Health Careers Opportunity Program, MCH Leadership Education in Neurodevelopmental Disabilities, and Vermont Department of Health’s State Artistic Services for Children and Youth with Disabilities National Multicultural Council Award for Leadership in Diversity.

The Kroepsch-Maurice awards memorialize Robert H. and Ruth M. Kroepsch and her parents, Walter C. and Mary L. Maurice. Robert H. Kroepsch served as registrar and dean of administration at UVM from 1946-56. His wife, Ruth, graduated from UVM in 1938 and her father, Walter Maurice, graduated from UVM in 1909. All four family members were teachers.

VUM Announces New Master of Medical Science Degree Program

Starting in fall 2015, UVM began offering a new medical science master’s program for students with a limited background in science and those whose undergraduate grades do not reflect their true academic ability.

UVM’s Master of Medical Science degree is a 30-credit, one-year, on-campus program, which includes a cohesive set of core courses that cover the major biomedical disciplines and provides a foundation of understanding how the human body works. In addition to biochemistry, cell biology, and physiology, the core curriculum includes a six-credit human anatomy course, something not offered in many similar programs across the country, and also covers the fundamentals of pharmacology and biostatistics.

This is a competitive, robust biomedical master’s program designed to help students who may not have considered medical school in their undergraduate years and are now refocusing their careers,” says Program Director Chris Berger, Ph.D., associate professor of molecular physiology and biophysics at the UVM College of Medicine.

Geared toward students whose undergraduate grades are not an accurate reflection of their potential in the medical sciences field, the program gives students the tools they need to not only be successful medical school candidates, but to succeed in a rigorous medical school curriculum once they are admitted.

“My style — I hope — keeps moving and changing.”

Teaching the Intersection of Art and Science at Cold Hollow Sculpture Park

Professor of Medicine Jason Bates, Ph.D., develops computer models and devices to help better understand and improve lung function. Nationally-known artist David Stromeyer creates soaring sculptures out of steel. Although they work in vastly different fields, the two men hosted a conversation this past autumn at Cold Hollow Sculpture Park in Enosburg Falls about the ways in which their work in science and art frequently intersects.

The Walking Conversations at Cold Hollow Sculpture Park series brought to the park a variety of experts, and paired them with sculptor David Stromeyer for a talk and a stroll through more than 50 sculptures, all conceived and created by Stromeyer, on display in the rolling fields outside Enosburg Falls. Previous guests for the Walking Conversations series have included a composer, poet, and museum curator. One of the goals for the series, said Program Developer Rosie Brannon Gill is to invite guests to see the park in different ways, and to think about the creative process from multiple angles.

For Bates and Stromeyer, the conversation touched on the creative process and more. They also discussed the genesis of an idea and how it develops, delved into questions of motivation for artists and scientists, and considered questions about how modeling plays into their work.

Bates, a bioengineer who holds multiple patents, characterized the computer models he develops as much more than “abstract equations.” “You have to have a picture in your mind,” he says. “The model is your hypothesis.” For Stromeyer, models of his sculptures are built on the scale of one inch to one foot, allowing him to visualize the sculpture in space. At this stage, he says he rules out questions about material and transport, and focuses on the vision. He’ll put the models on a Lazy Susan to see if it viewers would as they walk around it. Like Bates, he says there is an element of visualization to his work, to the point that his state of mind can be almost subconscious or “half asleep” as he brings shape to an idea.

The two men started with a strong interest in the other’s chosen field. Bates trained as a classical pianist and had a “keen interest in composing.” Stromeyer considered majoring in mathematics. This brought up questions of vocation, and how science and art may draw out similar qualities in their practitioners.

“There’s a space of unknown out there,” Bates said of his work as a scientist. “I’m trying to pick out pieces.” “My progress is not necessarily linear, but it is connected,” said Stromeyer of his more than four decades as a sculptor. “My style — I hope — keeps moving and changing.”
SPARK-VT Spurs Research Innovation at UVM

With proposals ranging from low-cost ground-penetrating radar to a lung sealant derived from seaweed, six research teams from the University of Vermont pitched their ideas to a panel of experts at the first university-wide SPARK-VT session in June 2015, all hoping to receive a seed grant to help move their innovative work one step closer to the marketplace.

Launched in 2013 by the Department of Medicine, SPARK-VT aims to support researchers as they navigate the tricky terrain between developing an idea for a new device or therapy and making it a reality. Its premise hinges on feedback from experts inside and outside of the university. A panel of 12 leaders from biotech, pharmaceutical, business, engineering, finance, and legal fields are invited to listen to presentations from top researchers. Panel members ask questions, challenge presenters on the details of their plans and ultimately offer useful suggestions.

All participants get tips and suggestions, but the winners receive seed funding from UVM’s Office of the Vice-President for Research.

SPARK is part of a global initiative. Professor of Medicine Mercedes Rincon, Ph.D., represented the UVM SPARK-VT program at the first SPARK International Conference in Taipei, Taiwan, in August of 2015. She was invited to give a talk at the conference on her work with SPARK-VT.

A proposal by Jon Ramsey, Ph.D., a research associate in the Department of Biochemistry, Professor of Medicine Claire Verschraegen, M.D., and Professor Emeritus of Chemistry William Geiger, Ph.D., regarding a new family of compounds called cyanamides that disrupt autophagy, a process cancer cells use to develop drug resistance. The SPARK-VT funds will be used to test a cyanamidine compound in animal models of metastatic melanoma, as well as in other cancers.

A proposal by Jon Bognar, Ph.D., and Jason Botten, Ph.D., from the University of Vermont, pitched their idea at the first SPARK International Conference in Taipei, Taiwan, in August 2015. The proposal involved testing a new family of compounds derived from seaweed, six research teams from UVM colleges submitting proposals. After a selection process, the six teams invited to present this year included faculty from the UVM College of Medicine, the College of Engineering and Mathematical Sciences, and the College of Arts and Sciences.

Among the four successful proposals were two initiatives involving College of Medicine faculty:

- An innovative easy-to-use, non-toxic, lung sealant patch/band-aid that could be used for lung surgeries or other emergency sealant needs developed by Assistant Professor of Mechanical Engineering Rachael Oldinski, Ph.D., and Professor of Medicine Daniel Weiss, M.D., Ph.D. SPARK-VT funds will aid the team in testing the long-term durability and reliability of the innovative alginate material in animal models, before later moving on to humans.

- A proposal by Jon Bognar, Ph.D., and Jason Botten, Ph.D., received a three-year, $2.2 million grant this year from the Bill and Melinda Gates Foundation to study the immunological basis of protection from dengue fever, a mosquito-borne viral disease that affects as many as 400 million people annually.

A reported 40 percent of the world’s population — 2.5 billion people — are at risk for dengue infection, with a rising number of home-grown cases occurring in the U.S. over the past decade. However, no directed therapeutic options or licensed vaccines exist, says Diehl, an assistant professor of medicine. Currently there is no dengue virus circulating in Vermont. In addition to UVM VTC investigators, the team includes researchers from the Johns Hopkins Bloomberg School of Public Health, the National Institute of Allergy and Infectious Disease (NIAID), the La Jolla Institute for Allergy and Immunology, the University of North Carolina, and Atreca, Inc.

Kirkpatrick, a UVM professor of medicine and VTC director, Diehl, and their colleagues are conducting and coordinating research that examines how the immune system recognizes dengue virus in an effort to confirm the protective effects of new vaccines in development. The new award builds on nine years of collaboration between the team at the UVM VTC and Johns Hopkins’ Center for Immunization Research led by Associate Professor of International Health Anna Durbin, M.D., and the National Institute of Allergy and Infectious Diseases Stephen Whitehead, Ph.D., to test new candidate dengue vaccines. Whitehead designed the vaccine candidates.

Dengue infection is caused by any of four related viruses and can cause fever, headache, intense joint and muscle pain, and rash. Although some infections are asymptomatic, severe infections can cause hemorrhagic fever and dengue shock syndrome, and have a higher risk of complications and death.

Like all infections, dengue activates the immune system and that’s the goal for the dengue vaccines as well: to build up the body’s immunity to completely prevent the disease. A major focus of this new study is the antibodies and T-cell responses produced in the blood in response to the dengue.

“We are so excited to have this wonderful group of collaborators,” says Durbin, who adds that the focus of the new study originated from an idea she, Diehl, and Kirkpatrick developed. “We are well positioned to tackle these questions about dengue immunology and hope that by gaining a greater understanding of dengue, we can help develop the most effective vaccines possible.”

UVM’s effort to understand the dengue immune response will be bolstered by Botten, an assistant professor of medicine, and Boyson, an associate professor of surgery, who will investigate the role of T cells, another type of immune cell, with colleagues from the La Jolla Institute for Allergy and Immunology.
MISSION: RESEARCH

One wall of Neil Borden’s office at the University of Vermont Medical Center is lined with dozens of books showing images of the brain. Some show cerebral slices. Others contain unlabeled images, but none is a comprehensive, all-encompassing reference of a full variety of cranial views.

During his more than 30 years of practice, Borden, a UVM associate professor of radiology and former endovascular neurosurgeon, came to realize that no single book illustrated the brain in its entirety or provided the encyclopedic breadth of everything from the hippocampus to the vascular structure. So he decided to publish one himself.


“This is something I’ve wanted to do for a long time,” says Borden, who started outlining the project with two colleagues this summer, as he prepared to enter the Medical College of Georgia. It wasn’t until he arrived at the College of Medicine in early 2015 that he began the arduous process of pulling together all the images for the book.

Board-certified in diagnostic radiology and neuroradiology, Borden has published two other textbooks in the field of neuroradiology, including 3D Angiographic Atlas of Neuoroanatomic Anatomy and Pathology (Cambridge University Press, 2006), Pancreas Recognition Neuroanatomy (Cambridge University Press, 2011). With this latest volume, he applied his decades of experience to give students and future radiologists exactly what they’ll need to know in practice. Borden completed another book later in the year titled Imaging Anatomy of the Human Spine, which was released in December.

Study Finds Blood Type and Memory Loss Link

People with blood type AB may be more likely to develop memory loss in later years than people with other blood types, according to a study published in Neurology, the medical journal of the American Academy of Neurology, by Kristine Alexander, Ph.D., postdoctoral fellow in medicine, Mary Cushman, M.D., M.S.C., professor of medicine, and their colleagues.

AB is the least common blood type, found in only about four percent of the U.S. population. The study found that people with AB blood were 82 percent more likely to develop the thinking and memory problems that can lead to dementia than people with other blood types. Previous studies have shown that people with type O blood have a lower risk of heart disease and stroke, factors that can increase the risk of memory loss and dementia.

The study was part of a larger study (the REasons for Geographic And Racial Differences in Stroke, or REGARDS Study) of more than 30,000 people with other blood types. Previous studies have shown that people with type O blood have a lower risk of heart disease and stroke, factors that can increase the risk of memory loss and dementia.

“Blood type is also related to other vascular conditions like stroke, so the findings highlight the connections between vascular issues and brain health. More research is needed to confirm these results,” says Borden.

In the Neurology study, researchers also looked at blood levels of factor VIII, a protein that helps blood to clot. High levels of factor VIII were related to higher risk of cognitive impairment. People in this study with higher levels of factor VIII were 24 percent more likely to develop thinking and memory problems than people with lower levels of the protein. People with AB blood had a higher average level of factor VIII than people with other blood types.

Another recent study that also looked at this association was published in the Journal of Thrombosis and Haemostasis by Neil Zakai, M.D., assistant professor of medicine, and colleagues including Cushman. Also using the REGARDS study, those researchers reported that blood type AB was associated with increased stroke risk.

Medical Student is First Author of Mesothelioma Treatment Study

University of Vermont College of Medicine student Mutlay Sagan ‘15 led a study that points toward new therapy for mesothelioma, a type of lung cancer that has been notoriously difficult to treat. MM, caused by exposure to asbestos or similar carcinogens, is relatively rare but carries a high mortality rate. According to the American Cancer Society, about 3,000 new cases are diagnosed in the U.S. annually, with a five-year survival rate of between five and 10 percent. Sayan and a team of co-authors in the Department of Pathology and Laboratory Medicine studied human cell lines from two histological forms of MM: epithelioid (HME30), the most common type of MM, and sarcomatoid (H2373), the most aggressive form of the cancer and the most resistant to treatment.

Their paper, published online in the American Journal of Respiratory Cell and Molecular Biology, identifies two novel cell survival resistance pathways — ERK5 and cAMP response element binding protein (CREB) — that are inhibited by a combination of two therapies. This is the first time these pathways have been shown to interact with these drugs in a way that reduces the proliferation of MM cells, Sayan says, noting that the initial goal was to “come up with different drug combinations to tackle this disease.” This novel finding may be an alternative approach to treat MM.

Next steps will include applying this work done with human cell lines to animal models, with the goal of conducting clinical trials. A recent increase in the number of mesothelioma deaths in Sayan’s home country of Turkey adds extra urgency to this work. The high number of cases — about 600 to 800 times higher than the world average, according to some reports — in the Cappadocia region is believed to be caused by a mineral rock to rock in the area that has been used in construction. Sayan’s work in the lab pre-dates his entrance to medical school; he has been conducting research in the lab of UVM Distinguished Professor of Pathology Brooke Mossman, Ph.D., a co-author on the study, since his undergraduate years at UVM. “It has been a privilege to work with her,” Sayan says, as Mossman is one of the pre-eminent researchers in the MM field. Second author of the study is Associate Professor of Pathology Arti Shukla, Ph.D., who is well known for her work on CREB pathway, and has been a great contributor in this project. Sayan says. Other co-authors include Maximilian Brian MacPherson, Sherrill L. Macura, Ph.D., Jedd M. Hillegas, Ph.D., Timothy N. Perkins, Ph.D., Joyce K. Thompson, Stacie L. Beuschel; and Jill M. Miller, M.D., all affiliated with the UVM Department of Pathology.

Scholarly Projects Showcase Breadth of Research from Class of 2015

When do emergency first responders in Vermont decide to turn on lights and sirens? Can narrative medicine help curb physician burnout? How do disadvantaged students fare during the admissions process for medical school? There are just some of the questions explored by fourth-year students at the College of Medicine through their scholarly projects. Students work with a faculty mentor to identify a topic and carry out the research.

Tyler Lemay, M.D.’15, a Vermont native with extensive experience as an Emergency Medical Technician, focused his scholarly project on the use of lights and sirens during ambulance transport. Since there’s growing consensus about the dangers of using them when not necessary — and no established protocol in Vermont regarding their use — it’s an issue ripe for further study.

Lemay partnered with Kaleb Freeman, M.D., Ph.D., assistant professor of surgery and emergency medicine specialist, and a team of undergraduates enrolled in a surgery course Freeman teaches to the Institutional Review Board-approved study. The students, whose course participation includes staffing the UVM Medical Center Emergency Department in shifts 16 hours per day, asked emergency first responders to complete a survey related to when they turn on lights and sirens. Their responses have provided a nuanced look at how emergency Medical Technicians in Vermont make decisions about transport.

“What we’re hoping is that it will identify targets to reduce the use of lights and sirens,” Lemay says. “Nobody has really looked at why they’re being used.”

Sayan’s work in the lab pre-dates his entrance to medical school; he has been conducting research in the lab of UVM Distinguished Professor of Pathology Brooke Mossman, Ph.D., a co-author on the study, since his undergraduate years at UVM. “It has been a privilege to work with her,” Sayan says, as Mossman is one of the pre-eminent researchers in the MM field. Second author of the study is Associate Professor of Pathology Arti Shukla, Ph.D., who is well known for her work on CREB pathway, and has been a great contributor in this project. Sayan says. Other co-authors include Maximilian Brian MacPherson, Sherrill L. Macura, Ph.D., Jedd M. Hillegas, Ph.D., Timothy N. Perkins, Ph.D., Joyce K. Thompson, Stacie L. Beuschel; and Jill M. Miller, M.D., all affiliated with the UVM Department of Pathology.

Elyse Goveia ’15 presents her scholarly project during a poster session in May.

N ORMLEXICON
The patient is at the core of our education of future physicians, from the first days in the lecture hall and anatomy lab to that moment four years later when those new physicians head into residency. And in research, our faculty and graduate students always work toward results that improved patient care.


New Family Medicine Residency Program in Upstate New York

For physicians looking for leading edge training while practicing medicine in a close-knit community, there’s a new opportunity just a short ferry ride across Lake Champlain from Burlington, Vt. This year marked the launch of a new family medicine residency training program at UVM Health Network — Champlain Valley Physicians Hospital in Plattsburgh, N.Y. The program received accreditation July 1, 2015, and the first four residents began their training in June of 2016. The three-year curriculum includes rotations in a variety of specialties, including emergency medicine, sports medicine, and surgery.

at UVM, NIPN works to advance quality and transform healthcare for children and their families by establishing partnerships between public and private entities, focusing on issues like immunizations, obesity, asthma, and others. Since 1999, Shaw has also been executive director of the Vermont Child Health Improvement Program (VCHIP), an organization that in 2015 garnered the Outstanding Collaboration Award from the KidSafe Collaborative of Chittenden County. The collaborative noted VCHIP’s varied efforts, including initiatives to prevent suicide, lead poisoning, and abusive head trauma, and to promote safe sleep, gun safety and a protective environment.

VCHIP has become the “go-to” resource for any efforts to improve pediatric care in Vermont, says Shaw. She spends much of her time bringing together various entities invested in the well-being of Vermont’s youth — state health officials, physicians, UVM researchers and faculty, Medicaid representatives and potential funding sources — and figuring out ways to enhance their care of children. "Doctors don’t get paid to stop and measure how they’re doing and think about how to improve it,” she explains. “What we do in VCHIP is help the physicians look at the systems obstacles that stand in the way.”

As the proverb goes, “It takes a whole village to raise a child.” Associate Professor of Pediatrics Judith Shaw, Ed.D., M.P.H., R.N., has been working tirelessly for over 15 years to make sure Vermont — and the nation — has that village at the ready.

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In late 2014, Margaret Tandoh, M.D., and Majid Sadigh, M.D., traveled to Liberia to treat Ebola patients at the height of the epidemic in West Africa. They spent countless hours in the Ebola treatment units hastily set up to handle the influx of people seeking care, tending to the sickest patients despite a lack of basic resources. For their efforts, they were part of the group named by Time Magazine as 2014 People of the Year.

Despite the many challenges, Tandoh and Sadigh left a lasting impact: The Ebola treatment unit they helped to set up had 151 national staff shortly after they left the country, and much more of the fundamental equipment necessary for treatment. Still, they have said they deserve no glory for their work. Sadigh credited those fighting the disease in their home countries while losing family members and living in poverty with the true hero status. “I admire the resiliency of the West Africans,” said Sadigh shortly after his return. “Despite being at the epicenter of Ebola, their life continues. I learned so much from that nation.”

Tandoh, a native Liberian, has been equally humble. “People are willing do what it takes to see their fellow human get better,” she said during a local television interview after her arrival back in Vermont.

Margaret Tandoh, M.D., speaks with Liberian children.

Improving Care for Children in Vermont

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On behalf of the National Improvement Partnership Network (NIPN), a multi-state coalition of child health care programs that she leads, she accepted the 2015 Health Care Delivery Award from the American Pediatric Association. Housed at UVM, NIPN works to advance quality and transform healthcare for children and their families by establishing partnerships between public and private entities, focusing on issues like immunizations, obesity, asthma, and others. Since 1999, Shaw has also been executive director of the Vermont Child Health Improvement Program (VCHIP), an organization that in 2015 garnered the Outstanding Collaboration Award from the KidSafe Collaborative of Chittenden County. The collaborative noted VCHIP’s varied efforts, including initiatives to prevent suicide, lead poisoning, and abusive head trauma, and to promote safe sleep, gun safety and a protective environment.

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Associate Professor of Medicine Majid Sadigh, M.D., in full protective gear at the clinic in Liberia where he treated Ebola patients.

Margaret Tandoh, M.D., speaks with Liberian children.
16 out of 124 original applications to receive Primary Care,” was selected as one of four organizations. The five-year research project, in funding from the Patient-Centered Medicine researchers led by Benjamin Littenberg, M.D., Henry and Carleen Tufo Chair in General Internal Medicine and Rodger Kesker, Ph.D., Assistant Professor of Family Medicine. The UVM PCORI team: (left to right) Constance Van Eeghen, Dr.P.H., Assistant Professor of Medicine, UVM cardiologist, heart rhythm specialist, and Professor of Medicine Peter Spector, M.D., has described atrial fibrillation (AF) — a common heart rhythm disorder affecting millions of Americans — as a “tornado” of disorganized electricity that spreads through the heart, causing anxiety and in some cases life-threatening complications. By harnessing the power of computer modeling, and aided by a $1 million grant from Vermont residents Tom and Mary Erwin, Spector is on the path to curing the disorder. Past treatments for AF have been ‘one size fits all’ ventures — either medication or catheter ablation, a procedure that creates scar tissue in the heart to stop the errant electricity in AF from spreading. Sometimes the procedure works, sometimes it doesn’t, in part because there hasn’t been a reliable method to pinpoint specific areas of the heart to treat on a patient-by-patient basis. Until now: Spector and colleagues have developed a computer model of the heart’s electrical activity, using this to help identify what they believe is responsible for perpetuating AF. The modeling has led to the creation of a patient-specific target tool — catheters and a mapping system capable of locating the sites responsible for AF. Although not yet ready for human trials, animal model studies have shown promising results. “If our therapy is even 10 percent more effective, it will help an enormous number of people,” says Spector. Spector’s work has led to creation of an impressive intellectual property portfolio. Over the past nearly three years, Spector has worked with the UVM Office of Technology Commercialization to develop a patent portfolio of both U.S. and international patent applications covering the catheters, signal processing algorithms and other aspects of his research. He was awarded the first of these U.S. patents in November 2014, and as of January 2015, a second patent application has been allowed. UVM has separately entered a collaborative research agreement with California-based Biosense Webster, Inc., the global leader in developing medical technology for the diagnosis and treatment of heart rhythm disorders. Spector’s research is also yielding new ways to teach the next generation of physicians about the inner workings of the human heart. He’s founded a private company — Visible Electrophysiology, LLC. — which focuses on the development of educational tools that use interactive modeling to enhance learning of clinical electrophysiology.

Introducing Medical Students to Eider Care

The Generations course — part of Level 1 of the Vermont Integrated Curriculum — introduces medical students to the complexity of the human lifespan. Coursework covers human life cycle development, the male and female reproductive system, age related illnesses, and diversity with respect to LGBTQ health and disability. When it comes to elder care, students leave the classroom behind to get a first-hand look at the options available to seniors. During Generations, students fan out to a dozen locations in the Burlington, Vt. area to meet with residents of skilled nursing and assisted living facilities, and visit participants in adult day care programs. They also tour facilities, and have the opportunity to meet staff members. Generations Course Director and Associate Professor of Family Medicine Charlotte Reback, M.D., says the elder care facilities event is designed to introduce students — prior to clerkships — to this growing patient population, as well as get them thinking about the varying needs of this group and the different levels of care available.

MISSION: PATIENT CARE

17

The UVM PCCOR team: (left to right) Constance Van Eeghen, Dr.P.H., Assistant Professor of Medicine, Benjamin Littenberg, M.D., Henry and Carleen Tufo Chair in General Internal Medicine and Rodger Kesker, Ph.D., Assistant Professor of Family Medicine.
Girls Gain a Deeper Understanding of Science

From conducting blood coagulation experiments to trying out tools like a tongue depressor and stethoscope, more than 90 middle-school aged girls had the chance to try on the role of scientist and physician during Girls Science Discovery Day in May. Sponsored by the UVM chapter of the American Medical Women’s Association, the event brought seventh and eighth grade girls from 29 Vermont schools to campus for a day filled with workshops and events. Medical students served as hosts, showing students around campus and taking a break mid-day to have lunch with the group. And the day was busy: The “Paris is Paris” workshop — led by Ellen Black, Ph.D., Lauren Arms, Ph.D., and Diane Jaworski, Ph.D., anatomy professors from the department of neurological sciences — featured hands-on activities with real anatomical specimens in the Gross Anatomy Lab. Medical students taught the “Say ‘Ahh’” workshop, which focused on practicing simple physical exam skills and using the skills on a patient. “Lessons from the Dead” with Rebecca Wiccs, M.D., associate professor of pathology and Pamela Gibson, M.D., associate professor of pathology and director of anatomic pathology, used pathology specimens to teach attendees about pathologic changes that play a role in a patient’s life and death. The middle-schoolers saw first-hand how the clinical mentors work with the “Hal” Family — full-body mannequins that breathe and talk — in a safe teaching environment. The student groups also had an opportunity to conduct a blood-clotting experiment with Paula Tracy, Ph.D., professor of biochemistry, and Beth Bouchard, Ph.D., assistant professor of biochemistry, and join in a lunchtime discussion and tour of the UVM College of Medicine and UVM Medical Center campus. The event — now hosted annually for 15 years — has made an impact in that time on girls’ career choices. “This event not only provides real role models to Vermont girls already interested in careers in science, but also exposes girls from more rural areas, perhaps with limited science experience, to the challenging and diverse field of science,” says UVM Professor of Pathology Sharon Mount, M.D., AMWA faculty advisor. “How rewarding to see several young women who attended Girls in Science Day when they were in eighth grade now enrolled in medical school! Other girls have gone on to pursue majors and careers in basic sciences.”

Guiding High School Interest in Medical Careers

Medical students deep in the throes of their exams, labs, and exams have had the chance to try on the role of teacher and mentor through a partnership with Essex High School’s STEM Academy (where students focus on science, technology, engineering, and mathematics). Led by the Med Mentors Student Interest Group (SIG), the program matches high school seniors who have expressed an interest in a career in medicine with medical student mentors to embark on a semester-long research project. The STEM Academy enrolls students after their first year of high school, providing opportunities to dig deeper into a science or engineering field of interest as they get ready for college. The Med Mentor partnership serves as the senior capstone project for those in the medical track. This year, the six pairs have been meeting via Skype to talk about the research project — which for each student focuses on a disease of their choice — as well as get to know each other and swap stories about science and medicine. “In some ways, we are in the same shoes as the high school students,” says Ethan Harlow ’18, one of the SIG’s student organizers. “This is helping us get comfortable with teaching, and the mentors have thrived in this role.” Lindsay Patacknick ’19 says he hopes his perspective — as someone who came to medicine after graduating college as a history major — can help his mentee appreciate the value in the many different types of intelligence people possess. “Med mentors is a starting point to engage young people and reach out to others who might not have thought about medicine,” he says. “Recruiting as much diversity as possible can only enhance the profession.” For Kristen Bartlett ’19, Med Mentors is an opportunity to pass on some of the knowledge she’s accumulated. “As many of us can appreciate, the journey to medical school can be overwhelming, so I would like to aid in navigating and encouraging my mentee’s progression in any way I can,” she says. After their research projects are complete, the Essex STEM Academy students are learning how to communicate science to different audiences through a presentation to a group of their peers, teachers, and other staff. Students also have the opportunity to shadow a physician at the UVM Medical Center, and visit the College of Medicine in the spring as part of a larger county-wide medical exploration day. Med Mentors expanded their reach to different high schools over the winter by hosting panel discussions about the college application process, college life, and the journey to med school.

Learning and Making a Difference Across the Globe

Alexandra Miller ’18 arrived in Kampala, Uganda, as a first-year medical student in the summer of 2015 unsure of her role alongside more experienced physicians and health professionals. But after a six-week global health elective, she found herself a valued member of the team, gaining clinical skills, making connections with patients and their families, and coming away with a new understanding of how empathy and good listening skills can go a long way in patient care…” In the high risk labor and delivery suite, I found that there were many things I could do. I soon realized that at Mulago Hospital, the simplest things can make the biggest difference," she wrote in a reflection for the UVM College of Medicine’s Global Health Diaries blog. Students like Miller are fanning out to locations around the world through the burgeoning Global Health Program, a partnership between the College of Medicine and clinical affiliate Danbury Hospital/Western Connecticut Health Network. First and fourth-year students, along with faculty from both institutions, are completing elective rotations at affiliate sites in the Dominican Republic, Vietnam, Russia, Uganda, and Zimbabwe. First-year students fulfill their clinical component by carrying out research projects, while senior medical students and residents complete a clinical rotation in
addition to optional research. Students are given a rich cultural experience through a variety of historical and language seminars, field trips, and the host family program. Health professionals from partner institutions are also visiting the United States for training and capacity building opportunities at Danbury Hospital. The second group of Global Health Scholars — including the new site director for the Dominican Republic satellite program — completed training in the U.S. in the past year. The program is receiving recognition on an international level. In December 2014, the WCHS/UVM program was accepted as a member of the Consortium of Universities for Global Health, based in Washington, D.C., a worldwide organization of 130 academic institutions and other groups working to address global health challenges. Students and faculty presented five posters at the 2015 annual conference in Boston. As College of Medicine students continue to complete electives at the different affiliate sites, they promise to help bring home a new understanding of the role physicians and other professionals can play in fostering a truly global health care community.

“Until next time Malago — and thank you to all the wonderful resilient people that make this such a special place,” wrote Miller of her time in Uganda.

Public Health Project Helps Vermont CARES Gain Funding

The Public Health Projects — a five-month course in the Foundations level of the Vermont Integrated Curriculum — has for over ten years been matching student groups with community agencies to embark on projects that meet a particular need. Through the course students learn the tenets of population health, and gain experience in advocacy work and community action. For one group of students in the Class of 2017, their work helped lead to significant funding for Vermont CARES — the state’s largest and longest-serving AIDS Service Organization — to start a Vermont Hepatitis C case management pilot project. Vermont CARES was one of only eight programs nationwide that received this $40,000 in funding from Janssen Therapeutics.

“We absolutely could not have successfully written this proposal without [the students’] steadfast support and thoughtful research,” says Peter Jacobsen, executive director of Vermont CARES. “It was definitely the backbone of our application.”

Titled “Improving Care and Treatment for People Who Inject Drugs (PWID): Living with Hepatitis C and Hepatitis C,” the grant funds a staff position, peer outreach workers and a web-based information clearinghouse. In Vermont, there are an estimated 1,630 cases of hepatitis C (HCV) per 1,000 people, according to the report on the “Living with Hepatitis C: A Vermont Needs Assessment” public health project, which was conducted in collaboration with Jacobsen and Vermont CARES. Many HCV patients “are aware of their status, but do not seek treatment because of the demands of poverty and ineligibility due to IV drug use,” the students state in their project introduction.

The students created a 20-question survey to assess demographics and the applicability of existing services at VT CARES, which was completed by HCV patients at seven sites throughout Vermont. Based on their findings, the students — who included Class of ‘17 members Alexandra Brown, Justin Gentianao, Julia Powers, Samy Ramadan, Amy Schrader, Matthew Shear and Katherine Wang — recommended that Vermont CARES expand their services to include clients with HCV. UVM Professor of Pediatrics Jerry Larabee, M.D., was the faculty advisor.

“The new grant, made possible by the students’ research, allows us to expand care and support options for those with hepatitis C, and this is a huge next step for Vermont,” says Jacobsen. “The College’s commitment to local connections and impact really pays health dividends, and this is a great example of a strong connection.”

Med Students Give Back: Serving the Community

Life as a medical student can be busy — with studying, labs, lectures, team-based learning sessions, and more studies — but College of Medicine students still manage to find time to give back to the community. This year alone, they have participated in dozens of events and activities, from trail work with the Green Mountain Club to food drives to benefit local community agencies to cooking meals for residents at the Ronald McDonald House in Burlington. COM CARES — an organization that grew out of a student-led Schweitzer Fellows project in 2007 — now sponsors many community initiatives for students, faculty and staff, in cooperation with the Office of Diversity and Inclusion. And the College’s many and varied Student Interest Groups host a legion of events that offer opportunities to give back. A few examples: The student-led Microscope Exchange works to place microscopes and other supplies in resource poor areas around the world, and hosts local fundraisers to help offset transportation costs. Students in Smile DOCS visit area elementary schools to teach children using real pathology specimens, models, and interactive learning activities. The Running Student Interest Group raises money every year for a deserving cause through running a 5K race. The Nepal Rotary International Rotary Club raised $25,000 to support the Kingdom Kids Children’s Hospital. The Microscope Exchange Program spearheaded by medical students, that stand to have a big impact, like the Pediatric Student Interest Group gathering one afternoon to make fleece blankets for the University of Vermont Children’s Hospital. It all adds up to a stronger community and physicians who understand first-hand the value of giving back.

Graphic Storytelling for Better Reflection

You may not often hear ‘medical school’ and ‘comics’ in the same sentence, but a two-day workshop held at the College of Medicine in late 2014 brought those two worlds together, inviting participants to explore identity in the context of healthcare. Hosted by UVM James Marsh Professor-at-Large and acclaimed graphic novelist Alison Bechdel, the workshop introduced faculty, staff and students to the burgeoning field of graphic medicine. The approach uses storytelling — in the form of pictures — to help healthcare providers better understand patients and themselves. The value of storytelling has increasingly been recognized in medical education as a way for physicians to develop empathy, explore difficult situations and emotions, and prevent burn-out. The workshop, co-sponsored by the College’s offices of diversity and inclusion and medical student education, took this as a jumping-off point to focus on LGBTQ identity as related to the healthcare field. Participants walked away with a 12-panel comic that explored an experience or interaction, offering the opportunity to reflect on its meaning and impact. Bechdel proved to be an insightful and encouraging guide for medical students and faculty who may not have ‘drawing’ at the top of their skill set. Bechdel’s work, including Fun Home (which has been adapted into an award-winning Broadway play), and Are You My Mother? earned her a MacArthur Genius grant. She charted with students about their storylines, offered tips on how to develop a compelling narrative, and provided examples from her own work that helped to underscore the impact storytelling can have.
Faculty in the Department of Anesthesiology have been active in all areas of the mission, with several main themes developing in research and education, including anesthetic neurotoxicity in children, perioperative and practice management, multicenter perioperative outcomes, and medical simulation.

Robert Williams, M.D., has initiated a second major investigation into the cognitive impact of anesthetic drugs administered during infancy. This large-scale, multi-year study will examine the effect of multiple anesthetic exposures in childhood.

The scope of projects by Mitchell Tsai, M.D., M.M.M., includes application of time-driven activity-based costing to look for savings in various surgical procedures, including interventional cardiac procedures with Jacob Martin, M.D.; multi-state surveys of how hospitals govern their operating rooms; and the effectiveness of a web-based tutorial to train anesthesia residents in perioperative management. Dr. Tsai also offers a popular reading elective on medical leadership to fourth-year medical students. This one-month course is designed to expand students’ understanding of conceptual frameworks of leadership, management, and organizational change, aiming to foster growth in critical analytic skills.

Another popular course is the Perioperative Bridge Week, taught by Kathleen MacDonald, M.D. This program combines clinical simulation and hands-on experiences to give third-year medical students an exposure to acute care medical skills such as airway management, invasive and non-invasive monitoring, and cardiovascular support, as well as communication and teamwork skills that will be useful in any medical discipline. Vincent Miller, M.D., continues his work as associate director of anesthesia simulation for UVM’s Clinical Simulation Laboratory, where he is developing an operating room simulator as well as establishing an ultrasound curriculum.

Interim Chair David Adams, M.D., with colleagues from the Departments of Psychiatry and Obstetrics, Gynecology, and Reproductive Sciences, have developed an educational project to improve our learning environment for residents and medical students as well as faculty, allied practitioners, and staff. The team created a professional-quality film, background materials, and a discussion guide, presenting them at well-received grand rounds lectures in 13 departments over the past year. The film and related materials are available on MedEdPortal.

• Faculty published in such journals as Journal of Clinical Monitoring and Computing, Critical Care Medicine, British Journal of Anaesthesia, JAMA Pediatrics, and American Journal of Surgery.

• Department faculty serve on editorial boards for Critical Care Medicine, Journal of Critical Care, Medical Acupuncture Journal, British Journal of Anaesthesia, Survey of Anesthesiology, Regional Anesthesia and Pain Medicine, and Anesthesiology.

• Faculty serve on 15 study sections and committees for national organizations including the American Society of Anesthesiologists, the Society for Education in Anesthesia, the American Board of Anesthesiology, and the Society for Critical Care Medicine.
The Department of Biochemistry is providing transformative advances in biomedical research and education. Faculty and students are collaborating with colleagues throughout the College of Medicine, the University and The University of Vermont Medical Center to conduct leading edge research and educate the next generation of scientists. In education, Paula Tracy, Ph.D., and Stephen Everse, Ph.D., have been instrumental in developing a team-based, interactive learning curriculum for medical students. Christopher Francklyn, Ph.D., Beth Bouchard, Ph.D., Jay Silvera, Ph.D., Rob Hinds, Ph.D., and Scott Monical, Ph.D., have aligned the Biochemistry undergraduate and graduate programs with expanding dimensions and perspectives in mechanistic and application-based biochemistry. Janet Stein, Ph.D., Jane Lian, Ph.D., in collaboration with basic science and clinical colleagues throughout the University, presented a cancer biology course that was attended by undergraduate and graduate students as well as postdoctoral and clinical fellows. A Biochemistry Master’s Program has been initiated.

Biochemistry faculty, students and staff are pursuing cutting edge cancer and cardiovascular research. A National Institutes of Health (NIH) research grant was awarded to Dr. Francklyn, Dr. Janet Stein, Brian Sprague, Ph.D. and a colleague in the Department of Pathology, Donald Weaver, M.D., for an NIH grant for collaborative initiatives, as did Kenneth Moir, Ph.D., Kathleen Brummel-Ziedins, Ph.D., Jane Lian, Ph.D., and Gary Stein, Ph.D. An American Cancer Society Grant was awarded to fund partnerships of scientists and physician investigators who are initiating collaborative cancer research programs.

Biochemistry investigators are making prominent contributions to the mechanistic understanding and clinical treatment of cancer and cardiovascular diseases, providing breakthroughs in genetic and epigenetic parameters of cell cycle and growth control, characterization of stem cells, the biology and pathology of coagulation and thrombosis, cancer metastasis to bone, genomic instability, and metabolic regulation.

The Department of Biochemistry is actively engaged in community education and advocacy for cancer and cardiovascular disease prevention, early detection, treatment and survivorship. Service to the national and international biomedical research communities includes leadership for NIH and disease-based foundation research grant review panels, membership on executive committees for professional organizations, membership on editorial boards for biomedical research journals, and service on scientific advisory boards for cancer centers as well as for the biotechnology and pharmaceutical industries. Biochemistry faculty are science policy advisors for foreign governments, and serve on editorial boards for major biomedical research journals.

SELECTED HIGHLIGHTS

- Gang Stein, Ph.D., was awarded a honorary professorship at the University Andres Bello in Chile.
- Many Biochemistry faculty have been awarded NIH funding for their research, including Christopher Francklyn, Ph.D., Janet Stein, Ph.D., Brian Sprague, Ph.D., Kenneth Moir, Ph.D., Kathleen Brummel-Ziedins, Ph.D., Jane Lian, Ph.D., and Gary Stein, Ph.D.
- The Department of Biochemistry has successfully launched a Biochemistry Master’s Program, providing students both a theoretical and practical knowledge of fundamental biochemical concepts while preparing students for careers in research.

The Department of Family Medicine continues to thrive in all areas of our mission. Our medical student education programs consistently receive excellent evaluations from students. Faculty are dedicated to teaching medical students on campus, at their practice sites, and in the hospital, with over 150 Family Medicine physicians, residents and allied health professionals participating in Foundations, Clerkship, and Advanced Integration Level activities. Family Medicine faculty are education leaders at all levels of the medical curriculum, and provide leadership with interprofessional education. Newer faculty include Jennifer Baltimore, M.D., Katherine Mariani, M.D., Megan Malgeri, M.D., and Patricia Whitney, M.D.

The Department of Family Medicine has been awarded NIH funding for their research, including Christopher Francklyn, Ph.D., Janet Stein, Ph.D., Brian Sprague, Ph.D., Kenneth Moir, Ph.D., Kathleen Brummel-Ziedins, Ph.D., Jane Lian, Ph.D., and Gary Stein, Ph.D.

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The Family Medicine TOPMed curriculum (Team-Oriented, Patient-Centered Medical Education), supported by a five-year Health Resources and Services Administration grant, has been integrated in all four years at the College, inspiring students to appreciate and practice TOPMed principles. Students, residents and faculty regularly present their scholarly work at regional and national conferences, and participate on national curricular boards.

Our clerkship and our regional affiliations have created opportunities for innovation and enhanced curricular elements. Within the clerkship, we have developed an effective skill and knowledge building week to prepare students to be engaged and competent at their precceptor sites. The clerkship allows students to appreciate two key aspects of Family Medicine — comprehensiveness and continuity. Our residency thrives with innovations in quality improvement curriculum, and the adoption of competency-based Family Medicine Milestones. We began the implementation of the first Accountable Care Unit this fall at The University of Vermont Medical Center. Family Medicine established a second family medicine residency in northern New York in conjunction with The University of Vermont Health Network. The first four residents are expected in June 2016. Residents present regionally and nationally on sports medicine, men’s health, and quality improvement initiatives. The department continues to develop the palliative care service and division to support clinical care, education, workforce development, and scholarship.

Family Medicine Continuing Medical Education (CME) includes the Family Medicine Review Course, Cultural Awareness Workshop, Sports Medicine Conference, regional CME and academic detailing presentations, and the Bridging the Divide collaborative care conference.

Vermont Medicine family medicine faculty scholarship includes projects in the delivery of behavioral medicine, nutrition, promotion of breastfeeding, pediatric obesity, motivational strategies for chronic disease, community wellness, and screening brief intervention and referral to treatment for alcohol and substance abuse.

Our Transforming Primary Care results have been presented at the UVM Medical Center Quality Forum, at the Conference on Practice Improvement, as well as at the University Health Consortium.

Family Medicine continues to thrive in all areas of our mission. Faculty and staff support the community through free clinics, wilderness rescue, boards and foundations service, and invited lectures and articles on topics from lactation medicine to palliative care medicine. The department’s five patient-centered medical homes practices have maintained National Committee for Quality Assurance Level 3 recognition. Our Urgent Care has gone through a Quality Improvement Process, resulting in dramatic reductions in visit duration. Family Medicine directs the UVM Office of Health Promotion Research, which focuses on cancer registry research.
The Department of Medicine had another excellent year with significant contributions in all areas of our mission. To support all of those missions we continue to grow. This year, we welcomed new faculty in Cardiology, Dermatology, Hematology/Oncology, Immunology, and Primary Care Internal Medicine, new residents in Internal Medicine and Dermatology, fellows in all of our subspecialty areas, and graduate students and post-doctoral trainees in our laboratories.

The department expanded its clinical practice to include our University of Vermont Health Network partners in Cardiology, Critical Care, Dermatology, Hematology/ Oncology, Immunology, and Primary Care Internal Medicine, new residents in Internal Medicine and Dermatology, fellows in all of our subspecialty areas, and graduate students and post-doctoral trainees in our laboratories.

The department expanded its clinical practice to include our University of Vermont Health Network partners in Cardiology, Critical Care, Dermatology, Hematology/Oncology, Immunology, and Primary Care Internal Medicine, new residents in Internal Medicine and Dermatology, fellows in all of our subspecialty areas, and graduate students and post-doctoral trainees in our laboratories.

Cardiovascular, Respiratory & Renal Systems course, directed by D. Lecler, won the award for Outstanding Foundations Course. William Hopkins, M.D., received the Silver Stethoscope Award, and Lynn Fiesta, M.D., a third-year resident, received the Gold Honor Society Humanism and Excellence in Teaching Award from the UVM College of Medicine Class of 2016.

In aggregate, members of the department, including students, residents, and fellows (M.D. and Ph.D.), continue to publish more than 300 manuscripts, reviews, chapters and books annually. Faculty are invited from around the world to present at scientific meetings and to visiting professors, and they are elected to leadership in national societies. The SPARK IT program, initiated in the Department of Medicine to encourage the translation of novel ideas into therapies and diagnostics, was expanded to the entire UVM campus with the support of UVM Provost David Rosowsky, Ph.D. With the continued support of an exceptional panel of community consultants, the program included a series of educational workshops. Four new projects received funding, including two with investigators from the Department of Medicine, Claire Verschraegen, M.D., and Daniel Weiss, M.D., Ph.D. Although research funding continues to be a challenge, funding to the department significantly increased this year. Highlights this year include a large federal subcontract from Johns Hopkins University awarded to Beth Kirkpatrick, M.D., the competitive renewal of a multi-site study awarded to Mary Couchman, M.D., M.Sc., and the competitive renewal of the Pulmonary Lung Center’s NHLBI TR3 training grant, awarded to Dr. Irvin. The resurgence of RD1 mechanism funding — with key awards going to Markus Meyer, M.D., Jason Bates, Ph.D., and Dr. Weiss — is a further testament to the quality of research executed in the department.

SELECTED HIGHLIGHTS

• Members of the department published research in such journals as the Journal of Infection Disease, New England Journal of Medicine, Journal of Allergy and Clinical Immunology, and FASEB Journal.

• Faculty continue to hold leadership roles with many study sections, national associations, and federal advisory boards, including the American College of Whee Surgery, NIH Hepatitis B Research Network, American Heart Association Council on Epidemiology and Prevention, American Society of Tropical Medicine and Hygiene, and American Thoracic Society.

• In recognition of their contributions to resident education, William Hopkins, M.D., received the E.L. Amidon, M.D., Award for Excellence in Teaching from the UVM College of Medicine.

• The department of Microbiology and Molecular Genetics (M&MG) has 16 faculty members who play important roles in the research and educational missions of the College and the University. The department has a vibrant graduate program with 15 Cell and Molecular Biology doctoral students, teaches medical students in the Vermont Integrated Curriculum, and offers two undergraduate degrees, one in microbiology, and the other in molecular genetics, with a total of 134 students.

The department has three principal research foci, microbiology and microbial pathogenesis, where faculty interact with adjunct M&MG faculty from Infectious Diseases and work together in the Immunology and Infectious Diseases CORE Program, Protein, Nucleic Acid Transitions, where faculty interact with adjunct M&MG faculty from Biochemistry and are nucleated by a National Cancer Institute-funded Program Project, and Computational Biology, which has a small but growing group of faculty whose research underpins, interfaces with, and supports the research of the bench scientists in the department and the College.

Faculty are members of over a dozen editorial boards including such prestigious journals as Structure, PLOS Biology, Molecular Oral Microbiology, Journal of Virology, Journal of Bacteriology, and Evukarhy Cell. Gregory Gilmartin, Ph.D., is an associate editor of HHRR's RNA; Markus Thal, Ph.D., is an academic editor of PLOS One, and Susan Wallace, Ph.D., is an associate editor of DNA Repair. Gary Ward, Ph.D., is the co-director of the Biology of Parasitism course at Woods Hole. M&MG faculty have given numerous presentations at national and international meetings and at universities all over the world. Arvind Shen, Ph.D., was an invited speaker at the Annual Society for General Microbiology Meeting in Birmingham, England. Sylvie Doublé, Ph.D., was an invited speaker at the Pow Scholars Reunion. Matthew Wargo, Ph.D., was chair of the Host-Pathogen Interaction Session of the American Society for Microbiology Pneumonias Drugs Committee, Dr. Thal was an invited speaker at the Vander Cancer Center Conference on Tetraspanins, and Dr. Wallace was an invited speaker at the International Conference on Radiation Research in Kyoto, Japan.

M&MG faculty also serve as frequent ad hoc reviewers on NIH and NSF panels, over 15 this year. Dr. Thal is a permanent member of the NIH AIDS Molecular and Cellular Biology Study Section, while Dr. Doublé is a permanent member of the NH NMeular and Cellular Biology Study Section. Dr. Wallace served as a reviewer on the first NCIS Outstanding Investigator Award Review Panel.

SELECTED HIGHLIGHTS

• Notable grants to department faculty include: Keith Hertz, Ph.D., received an NH D50S grant for “Interrnections of the oral pathogen, A. actinomycetemcomitans, with collagen;” Aimee Shen, Ph.D., received an NH D50S grant for “Proteolytic regulation of iron cernatin in E. coli;” Markus Thal, Ph.D., received an NIH D50S grant for “Multiscale analysis of NMD assembly, release, and cell-to-cell transmission.”

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The Department of Molecular Physiology & Biophysics continues to garner international recognition and success in the areas of cardiovascular research, cell division, and protein structure and function. A common research focus is directed at understanding the molecular basis of cellular movement, whether associated with cell division or muscle contraction. By studying genetic alterations in cellular movement, special emphasis is directed at defining normal and diseased contraction function of the heart, blood vessels, and processes associated with cell division, e.g. chromosome segregation during mitosis. The department is considered the premier center of muscle and non-muscle cell motility research in the United States. An additional research focus is on protein molecular structure, with expertise in high-resolution three-dimensional electron microscopy.

The department faculty is involved with two highly prestigious NIH Program Project Grants to study genetic forms of heart failure and aortic aneurysms. These multi-investigator grants serve as the foundation for collaborative efforts within the department and across institutions (Johns Hopkins, UMass, University of Cincinnati, UMass Lowell, and UPhila). Kathleen Trybus, Ph.D., was awarded a new NIH R21 award to study the molecular basis of malaria parasite movement and cell invasion, while Michael Previs, Ph.D., received a much sought after NIH K99/R00 award for junior investigators to investigate the molecular basis of genetic forms of cardiomyopathies. During this fiscal challenging time, the department continues to compete effectively for limited extramural funds, with all tenure-track faculty being funded. The faculty published numerous articles in prestigious journals such as Proceeding of the National Academy of Science, Molecular Biology of the Cell, and the Journal of Biological Chemistry, as well as serving on editorial boards for several journals.

Faculty have been honored as organizers and invited speakers at prestigious international meetings such as Dr. Trybus, who co-chaired the Gordon Research Conference at Mt. Snow, Vermont, on Muscle and Protein Structure and Function, and was a speaker at the Welcome Trust Center Symposium of Molecular Parasitology in Glasgow, Scotland. Christopher Berger, Ph.D., spoke at the World Congress of Biomechanics in Boston. Michael Radermacher, Ph.D., and Teresa Ruiz, Ph.D., organized a symposium at the Microscopy & Microanalysis Meeting in Hartford, Conn. Dr. Stumpff spoke at the International Dynamic Kinetochore Workshop in Copenhagen, Denmark. Faculty play key service roles on review panels for the NIH and National Science Foundation. Dr. Berger was honored as a Whitman Research Fellow of the Marine Biological Laboratory in Woods Hole, Mass.

In education, faculty contribute substantially to both medical and graduate programs, and have been nominated for teaching awards in the medical school curriculum. Dr. Berger serves as Director of Graduate Education for the College of Medicine and was instrumental in the successful launch of the new Master of Medical Science Degree Program. Dr. Radermacher and Ruiz continue to offer a “Practical Course on Three-dimensional Cryo Electron Microscopy of Single Particles” that attracts over 20 international scientists.

Professor Margaret Vizzard, Ph.D., in her laboratory.

The Department of Neurological Sciences is devoted to becoming one of the best translational research departments in the country through integration of the basic neurosciences with the clinical neurosciences in each of our three missions: research, teaching and clinical care. To this end we continue to foster collaborative interactions between basic scientists and clinicians with shared interests in understanding neurological functions in health and disease. Areas of investigation have emerged from these interactions involving the study of gastrointestinal symptoms associated with common neurological disorders — specifically, multiple sclerosis (MS) and migraine. Gargi Mawe, Ph.D., who studies the enteric nervous system, has teamed up with MS specialist Angela Applebee, M.D., and headache/migraine specialist Robert Shapiro, M.D., Ph.D., to initiate new translational studies addressing gastrointestinal symptoms in MS and in migraine.

In fiscal year 2015, Neurological Sciences faculty continued to seek out grant funding with a strong record of success, including a new ROI from the NIH to Marilyn Cipolla, Ph.D., entitled “Targeting Parenchymal Arterioles in Acute Stroke Treatment.” Similarly, Margaret Vizzard, Ph.D., was awarded a competing renewal to her ROI from the NIH entitled “Developmental Plasticity of Migrational Receptors,” while Andrew Solomon, M.D., likewise received a renewal of his National Multiple Sclerosis Society pilot project “Migrasnois in MS: A Multicenter Database Pilot Study.” Rodneg Scott, M.D., Ph.D., received additional funding from the NIH in the form of an R21 award entitled “Summer Research Experience in Neuroscience for Undergraduates.”

• Faculty published numerous articles in prestigious journals such as the Journal of Biological Chemistry, Science Advances, Molecular Oral Microbiology, Cytoskeleton, and Molecular Biology of the Cell.
• Christopher Berger, Ph.D., was honored as a Whitman Research Fellow of the Marine Biological Laboratory in Woods Hole, Mass.
• Michael Previs, Ph.D., received a much sought after NIH K99/R00 award for junior investigators to investigate the molecular basis of genetic forms of cardiomyopathies.

SELECTED HIGHLIGHTS

- Dr. Radermacher and Ruiz continue to offer a “Practical Course on Three-dimensional Cryo Electron Microscopy of Single Particles” that attracts over 20 international scientists.
- In education, faculty contribute substantially to both medical and graduate programs, and have been nominated for teaching awards in the medical school curriculum.
- Dr. Berger serves as Director of Graduate Education for the College of Medicine and was instrumental in the successful launch of the new Master of Medical Science Degree Program.
- Dr. Radermacher and Ruiz continue to offer a “Practical Course on Three-dimensional Cryo Electron Microscopy of Single Particles” that attracts over 20 international scientists.
- Understanding the basic underpinnings of neurological disorders remains central to our educational and clinical missions. Our clinical programs at the University of Vermont Medical Center continued to provide excellent neurological care to patients throughout FY 2015 while Neurological Sciences faculty remained active in clinical trials.
- Dr. Cipolla was chosen as one of four University Scholars for 2015–2016. The University Scholars program recognizes distinguished UVM faculty members for sustained excellence in research, creative, and scholarly activities. Dr. Cipolla has made significant scientific discoveries and contributions to the field of smooth muscle biology encompassing the disciplines of cell biology, pharmacology, and physiology. Her contributions to our understanding of smooth muscle physiology have been applied to the medical disciplines of neurology, including obstetrics and gynecology, where she has made contributions to our understanding of cerebral arteries in stroke and preeclampsia.

Finally, in FY 2015, the department welcomed new educator pathway faculty members Sean Flynn, Ph.D., Liana Merril, Ph.D., and Sarah McCarthy, Ph.D. As well as new clinical faculty members Argyssou Moustakas, M.D. (General Neurology and Neuro-Oncology), Danilo Vitorovic, M.D. (Epilepsy), Alissa Thomas, M.D. (Neuro-Oncology), and Deborah Hirtz, M.D. (Pediatric Neurology).
The Department of Obstetrics, Gynecology and Reproductive Sciences has seen a change in divisional leadership in the last year. Elizabeth Wegner, M.D. has taken over the Generalists division, replacing Robert Hayward, M.D., who served as interim director for two years.

Anne Dougherty, M.D., M.A., is in the second year of her Frymoyer Scholar Award focusing on developing a global women’s health education program. Along with Marjorie Meyer, M.D., and Cheung Weng, M.D., they have been instrumental in developing the ultrasound and surgical skills of resident and junior attending physicians at Makerere University in Kampala. In June, Mulago National Referral Hospital in Kampala performed their first laparoscopic surgery for the treatment of an ectopic pregnancy under the direction of Drs. Dougherty and Weng. In addition Dr. Dougherty was appointed to the Association of Professors of Gynecology and Oncology Global Health Committee to work on development of national global women’s health competencies for medical students. Elisa Everett, M.D., organized the first Northern New England Regional Ob/Gyn Bootcamp, a collaborative resident readiness program coordinating 38 faculty and 13 fourth-year medical students from three New England medical schools.

Stephen Brown, M.D., George Osl, Ph.D., and Ira Bernstein, M.D., all served on National Institutes of Health study sections this year, with Dr. Osl appointed as a regular member of the Pregnancy and Neonatology study section. Elizabeth Bonney, M.D., M.P.H., director of the division of Reproductive Investigation, served as an American Heart Association grant reviewer, and was appointed chair of the Society for Reproductive Investigation, Career Development and Diversity Committee. David Jones, M.D., director of the fetal diagnostic center, was chosen to serve as the vice-chair of the Vermont Board of Medical Practice. In research and scholarship, Drs. Osl and Bonney both received new NIH research grant rewards examining venoarterial signaling in the uterine circulation and erythroid cell modulation of T cell function respectively. Drs. Wegner and Jones remain regular contributors to UpToDate.

The Department of Orthopaedics and Rehabilitation experienced a very productive academic year in 2015. Recruitments, promotions, and awarded grants reflect the ongoing excellence within the department. David Holsey, M.D., and Adam Shahirst, M.D., were promoted to the rank of Professor in the Clinical Scholar Pathway. Jennifer Lisle, M.D., was promoted to Associate Professor in the Clinical Scholar Pathway. These individuals have distinguished themselves nationally, and continue to focus a spotlight on the academic excellence of the department.

S. Elizabeth Ames, M.D., our Orthopaedic Surgery Residency Program Director, has assumed the post of Chair of The American Orthopaedic Association’s Council of Orthopaedic Residency Directors (CORD). This is a position that will significantly influence Orthopaedic Surgery Graduate Medical Education. Dr. Ames continues to refine the evolutionary first-year resident curriculum at The University of Vermont Medical Center. The residency program continues to draw from a national pool of highly qualified candidates.

We have been fortunate to recruit two new junior faculty. Nathan Morrel, M.D., [hand and upper extremity] and Patrick Schottla, M.D., [orthopaedic trauma] will complement the growing cadre of young faculty members who represent the future of the department.

Timothy Tourville, Ph.D., was awarded a K08 award from the National Institutes of Health. Along with his co-investigators, Michael Tath, Ph.D., and Bruce Beginn, Ph.D., he will investigate skeletal muscle size after ACL injury. James Slaterbeck, M.D., was awarded a research grant from the Orthopaedic Research and Education Foundation (BREF) to evaluate the efficacy of the FIFA 11+ injury prevention program on lower extremity injuries in high school athletes.

Clinically, the Physical Medicine and Rehabilitation faculty have been consolidated with the Orthopaedic Surgery practices at the Orthopaedic and Rehabilitation Center in South Burlington. This move serves to further exploit the clinical synergies within the department.

The department is thriving. Educationally, we are on the cutting edge of resident education. Clinically, we anticipate working within the University of Vermont Health Network to define a strategy and tactics to optimize and coordinate care with our partners. We will continue to engage in inquiry to move the field ahead.

Assistant Professor and Frymoyer Scholar Anne Dougherty, M.D.

SELECTED HIGHLIGHTS

- Faculty published in such journals as Reproductive Sciences, American Journal of Obstetrics and Gynecology, and Journal of Vascular Research.
- Anne Dougherty, M.D., was appointed to the Association of Professors of Gynecology and Oncology Global Health Committee to work on development of national global women’s health competencies for medical students.
- Members of the department served on nine study sections or national committees.
- The Preeclampsia Foundation medical advisory board, and the Vermont Oxford Neonatal Network Board of Directors. Dr. Hayward serves as vice-chair of the Vermont Board of Medical Practice.
- In research and scholarship, Drs. Osl and Bonney both received new NIH research grant rewards examining venoarterial signaling in the uterine circulation and erythroid cell modulation of T cell function respectively. Drs. Wegner and Jones remain regular contributors to UpToDate.
SELECTED HIGHLIGHTS

- Faculty published in such journals as the New England Journal of Medicine, Journals of the American Medical Association, American Journal of Surgical Pathology, Pathology, Diabetes Care, and Annals of Internal Medicine.

- New extramural grants were received from the Department of Defense, the National Heart, Lung and Blood Institute, Vanderbilt University, and the University of Washington.

- Several faculty have received notable awards this year. Christina Wojewoda, M.D., was named an American Society for Clinical Pathology Top 40 Under 40 Pathologist; Russell Tracy, Ph.D., received the Distinguished Scientist Award from the American Heart Association; and Debra Leonard, M.D., Ph.D., received the College of American Physicians’ Lifetime Achievement Award.

- The department welcomed eight new faculty in 2015, with new faculty joining us in the upcoming year in hematology-oncology, infectious diseases, neonatology, neurology, emergency medicine, pulmonology and quality sciences, and child psychiatry.

- We look forward to continuing to foster our educational, research, clinical, and advocacy missions in 2015 – 2016.

DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE

Debra G.B. Leonard, M.D., Ph.D., Chair

The Department of Pathology and Laboratory Medicine has had a productive year providing patient care at the University of Vermont Medical Center and regional hospitals, training graduate students, post-doctoral fellows, medical students, residents, and clinical fellows, conducting basic science and clinical research, and providing leadership through participation on local and national committees. Faculty have published 106 peer-reviewed papers, seven textbook chapters and one book, have given 68 presentations and 23 posters at conferences, submitted 42 funded grant applications, and taught 19 courses.

The department offers degree-granting research opportunities, a 12-month clinical training fellowship for UVM medical students [since 1955], a medical student and resident exchange program with four medical schools in Japan, and a research and education affiliation with the University of Massachusetts.

Our department faculty and staff continue to receive accolades. Lin Kristensen, MT (ASCP), received the UVM Medical Laboratory and Radiation Sciences Program Breen Award for excellence in medical technologist student teaching. The College of Medicine Class of 2037 recognized Rebecca Wilcox, M.D., with the Foundations Teaching Award, and Pamela Gibson, M.D., with the American Medical Women’s Association Gender Equity Award.

In 2017, recognized Rebecca Wilcox, M.D., was named the Connections Course Director, and Dr. Wilcox was named the Nutrition, Metabolism, Gastrointestinal System in Health and Disease Course Director. Dr. Wilcox and Tamara Williams, Ph.D., became Flymoyer Scholars for integrating genomics into the Vermont Integrated Curriculum. Department faculty comprise about a third of UVM College of Medicine Teaching Academy members, with Dr. Gibson and Doug Satge, Ph.D., inducted as Distinguished Educators, the highest level of achievement. Don Oukette from our Autopsy Service received a UVM Medical Center Vision Award for his care of our deceased patients and their families. Christina Wojewoda, M.D., was named an American Society for Clinical Pathology Top 40 Under 40 Pathologist. Russell Tracy, Ph.D., received the Distinguished Scientist Award from the American Heart Association. Finally, Debra Leonard, M.D., Ph.D., received the College of American Physicians’ Lifetime Achievement Award.

Our faculty has obtained over $9 million in grant funding to study redox biology and pathology, asthma, pulmonary fibrosis, mesothelioma, breast cancer, thrombosis, cardiovascular disease, and improving laboratory test utilization. Nationally, faculty serve on the American Council for Graduate Medical Education, American Association of Blood Banks, American Heart Association, American Society of Clinical Pathology, American Society of Cytopathology, College of American Pathologists, Institute of Medicine, NHLBI, and NIH committees.

During the past year, the Department of Pediatrics and the University of Vermont Children’s Hospital maintained and enhanced its academic mission of improving the health of children through clinical, research, educational, and service activities that make a difference for these living in our community, and in turn can be shared with others throughout the country and the world.

Educationally, our department continued to teach actively in all four years of the Vermont Integrated Curriculum. We were fortunate to have our department honored for the third year in a row by the graduating class as Clinical Department of the Year. It was wonderful to see three-fourths of our house staff and a number of our faculty be nominated for the Gold Humanism Award, and to see one of our house staff, Mark Shwayder, M.D., and a faculty member, Alicia Viet, M.D., receive this award. It was also nice to see a third of our house staff nominated for Clinical Resident Teacher of the Year, and again multiple faculty members be named finalists for Clinical Teacher of the Year with Chief of Pulmonology, Thomas Lahiri, M.D., receiving the Graduate Medical Education Teacher of the Year Award.

We also awarded second-year resident, Aaron Burley, M.D., the Ann Guillo Prize in Resident Teaching. The first year this award has been given in honor of Dr. Guillo’s superb quarter of being our residency program director.

In addition, the number of fourth-year students choosing pediatrics as a career was 25 percent (above the national average of 10 percent), and the number of applicants to our residency program increased another 25 percent over the prior year’s record-breaking increase. Our nationally-lauded Continuing Medical Education course, the Vermont Pediatric Summer Seminar, sold out again, and brought attendees from all over the country to Vermont.

Nationally, our faculty continue to serve in leadership roles in all the major pediatric educational organizations. We continue to serve for the 45th year in a row as the editorial home of the American Academy of Pediatrics Journal Pediatrics, the national and international leading peer-reviewed pediatric journal.

From a research perspective, we continue to be fortunate to receive significant federal, state, and foundation grant funding, especially in the area of health services research. The Vermont Oxford [Neonatal] Network, ImproveCareNow, the AAP’s Pediatric Research in Office Settings, and the Vermont Child Health Improvement Program [VCHIP] expanded their projects and programs. Translational research also flourished in areas such as metabolism, nutrition, and cystic fibrosis, with additional growth noted in the areas of infectious diseases and hematology-oncology. Our efforts in health services research were rewarded with VCHIP.
The Department of Pharmacology, with its international reputation in neuroscience research, continues to play an important role in the research and educational missions of the College of Medicine and the University. Faculty members have been invited to present at important international meetings and academic institutions around the world. The department hosted two international research meetings at UVM for the Fondation Leducq study of cerebral small vessel disease, co-led by Mark Nelson, Ph.D.

Research highlights included the identification of an enzyme, phosphodiesterase 9, by Wolfgang Dostmann, Ph.D., and collaborators from John Hopkins University, which is involved in the development of substance use in adolescents, and risk and resilience in children. Each laboratory has post-doctoral fellows, graduate students, and/or undergraduate students designing and carrying out their own projects utilizing the MRI Center. In addition, Psychiatry faculty continue to mentor junior faculty in other College of Medicine and UVM departments as they learn to apply MRI methods to their own research. Magdalena Najw, M.D., Ph.D., and her graduate students published and presented extensively on intrinsic brain connectivity, changes associated with chronic pain, and its treatment with cognitive behavioral therapy.

The Vermont Center for Children, Youth, and Families, under the direction of James Hudziak, M.D., launched a new residential life program, called the Wellness Environment program, for UVM undergraduate students. Also joining the faculty were Elizabeth Signor, Ph.D., this year at CVMC. Justin Knapp, M.D., Jesse Ritvo, M.D., and the America Heart Association; peer review committees for the National Institutes of Health and the American Heart Association; Program faculty published over 30 peer reviewed articles in top biomedical journals, and were cited nearly 15,000 times. Dr. Nelson was honored as the Kakey Lecturer and awarded the American Physiological Society’s Reviewer Award at Experimental Biology 2016. He was invited to speak at the National Heart, Lung and Blood Institute/National Institute of Neurological Disorders and Stroke workshop “Small Blood Vessels: Big Health Problems?” with a goal to foster nationwide interdisciplinary collaboration in the broad research area of small blood vessel biology in health and disease. Dr. Nelson became chair of the newly formed Steering Committee for the O’Brien Urology Cooperative Centers for the National Institutes of Health (NIH). The department is committed to designing and carrying out their own projects utilizing the MRI Center. In addition, Psychiatry faculty continue to mentor junior faculty in other College of Medicine and UVM departments as they learn to apply MRI methods to their own research. Magdalena Najw, M.D., Ph.D., and her graduate students published and presented extensively on intrinsic brain connectivity, changes associated with chronic pain, and its treatment with cognitive behavioral therapy.

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The Department of Radiology continues to gain national and international prestige through cutting-edge quality improvement programs, excellent clinical and research programs, and world-class, state-of-the-art imaging technology. The department represents the only 24/7 subspecialty radiology referral center in the region, and our faculty provide expert care to patients referred from many institutions throughout the state of Vermont and neighboring states.

The department has expanded its imaging“high reliability” program. In addition to a completed tomography (CT) monitoring system that tracks the Westmore radiation dose for patients, the department is in the process of integrating a decision support software tool into the radiology test ordering process that helps providers know which radiology test is the most appropriate for the disease condition or clinical question being asked. New software in interventional radiology has reduced radiation exposure by up to 50 percent. The department is also using new processes to monitor outcomes for patients when a follow-up radiology test is recommended—this is the best way to ensure the highest level of quality and safety.

The department has experienced clinical advancements in the last year. In breast imaging, we have increased the use of 3D mammography to help reduce our “callback” mammography rate. This has helped reduce our“callback” mammography rate and increased the cancer detection rate. The 3D technology also helps to expedite the diagnostic workflow, saving time, anxiety and cost for patients.

The UVM Radiology Lung Cancer Screening Program has provided a means for detection of early stage lung cancer with improved survival. The Lung Cancer Screening Program has been successfully coordinated with the UVM Lung Transdisciplinary Team, offering patients a wide array of treatment options and clinical trials for lung cancer. The UVM Department of Radiology was one of the first sites in the nation to receive the American College of Radiology Designated Lung Cancer Screening certification, which distinguishes this service to patients and providers as providing high quality lung cancer screening services. This service was extended to examinations performed at Central Vermont Medical Center.

Radiology faculty and residents are academically active, presenting abstracts at national and international meetings, co-authoring textbooks, and publishing widely in academic journals. Department faculty collaborated with the divisions of Pediatrics, Neurology, Psychology, Psychiatry, Surgery, Anesthesia, and the University of Vermont Cancer Center. The UVM MRI Center was selected to be the lead Philips site for a large $200 million NIH-funded multi-center study of “Adolescent Behavior and Cognitive Development.” The study includes 10,000 children followed over a period of 10 years. This study was extended to examinations performed at Central Vermont Medical Center.

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The Center for Clinical and Translational Science (CCTS) is dedicated to the pursuit of transdisciplinary research that translates knowledge from the cellular and molecular level into interventions for individuals and populations. The center offers a Certificate, a Master of Science, or a Doctor of Philosophy degree under the auspices of the CCTS Educational Program led by Benjamin Littenberg, M.D. Four faculty members engage in research. They are Indra Neel Sarakar, Ph.D. and Elizabeth Chen, Ph.D., bioinformaticians; Christopher Jones, D.Phil., health care economist, and Thomas Simpatico, M.D., public psychiatry and medical director of the Vermont Medicaid Program. Combining their skills they have forged novel interdisciplinary interactions with others at the University, the UVM Medical Center and throughout the state.

Dr. Sarakar is an ad hoc member of five National Institutes of Health (NIH) study sections, and received three years of NIH funding for his grant “In Silico Identification of Phyto-Therapies.” Dr. Chen is principal investigator on an NIH grant, “Leveraging the EHR to Collect and Analyze Social, Behavioral & Familial Factors,” and is an ad hoc member on five NIH study sections. Dr. Jones is a pilot investigator on Dr. Higgins’ Vermont Center on Behavior and Health grant. He reviews for the International Society for Pharmacoeconomics and Outcomes Research, and the Society for Medical Decision Making. Dr. Simpatico is principal investigator on a Department of Veterans Affairs grant, “Supportive Services for Veteran Families.” These four investigators, along with Russell Taczy, Ph.D. who directs both the laboratory for Clinical Biochemistry Research and Translational Technologies in the CCTS, also make their unique skills available to other investigators within the University.

In May of 2015, the UVM Board of Trustees approved the re-alignment of the CCTS to the Office of Clinical and Translational Science. Its mission remains the same.

**SELECTED HIGHLIGHTS**

- Benjamin Littenberg, M.D., the Harry and Carlene Ttilo Chair in General Internal Medicine, heads the CCTS Educational Program.
The Neuroscience COBRE also created a Transitional Core to facilitate interactions between clinical and basic neuroscientists and supported a summer undergraduate research program. During the first ten years of funding, the Neuroscience COBRE supported nine multi-year research projects and eight pilot projects for junior investigators. In 2011, five additional years of funding, the Neuroscience COBRE was obtained. This transitional COBRE grant provides continued support for the Center was obtained. This transitional COBRE grant. This new confocal imaging system is housed in the COBRE Imaging Facility located in the Given Building, and adds a new dimension to imaging capabilities of this multi-user research core. This past year the Neuroscience COBRE provided funds to facilitate recruitment of a new Neurological Diseases faculty member, Matthew Weston, Ph.D. Dr. Weston is an outstanding young investigator who combines biophysical measurements, imaging, and molecular biology approaches to understand membrane ion channels that regulate neuronal excitability under normal and disease conditions. In sum, the Neuroscience COBRE continues to support research cores that broaden faculty research capabilities, and access to these core facilities has significantly increased the competitiveness of neuroscience faculty for extramural funding.

### Vermont Center for Immunology and Infectious Diseases

**Ralph Budd, M.D., Director**

The Vermont Center for Immunology and Infectious Diseases (VCID) is a multidisciplinary team of scientists and clinicians elucidating microbial pathogenesis and the immune response to infections. Our goal is to devise new strategies for the detection, prevention, and treatment of infectious and inflammatory diseases. Our research is also highly relevant to other diseases, such as cancer, autoimmune disorders, and atherosclerosis. The VCID comprises 26 faculty in eight departments in four UVM colleges who interact on a daily basis through weekly joint research-progress meetings. Recent breakthroughs include:

- Genes on the Y chromosome can affect susceptibility of female mice to a model of multiple sclerosis.
- Identification of genes critical for the sporulation of Closstridium difficile, a serious hospital-acquired infection.
- A novel protein known as MC1 regulates mitochondrial function that can affect several cell functions, including the immune response during infections.
- Identification of a subset of T lymphocytes known as NKT cells are important for control of lung infection with Pseudomonas aeruginosa.

Clinical investigations of infectious diseases are conducted through the College of Medicine’s Division of Infectious Diseases, and for autoimmune and rheumatic diseases through the Division of Rheumatology and Clinical Immunology. An important development in 2015 was the opening of the new Vermont Department of Health Building at the UVMMC Colchester Research Facility, which includes a joint research laboratory with UVM investigators to study complicated infectious organisms. The center’s vibrant research training program for undergraduate and graduate students and postdoctoral fellows is supported by funds from a National Institutes of Health (NIH) COBRE Center of Biomedical Research Excellence (COBRE) Grant and an NIH Training Grant.

An active seminar series bring to campus outstanding investigators in immunology and microbiology. The center also supports core facilities in next-generation sequencing, microarray, bioinformatics, proteomics, cell imaging, and flow cytometry.

The VCID is affiliated with the UVM Vaccine Testing Center (VTC), a research team committed to decreasing the global burden of infectious diseases. The VTC performs clinical trials of candidate vaccines and monitors the human immune response, and also conducts international field trials of vaccines and therapeutics for infectious diseases. Current vaccine research at the VTC focuses on Dengue, West Nile virus, rotavirus, polio, and cholera.
The University publicly announced “Moos Mountains: The Campaign for the University of Vermont” in early October, celebrating the more than $247 million already raised in the campaign toward the goal of $500 million.

Giving to the College of Medicine for fiscal 2015 totaled $12.4 million, and represented a significant part of the University’s record-setting total of $60.5 million. The College of Medicine received a total of nearly $4.9 million in new gifts, more than $2.1 million in new pledges, and more than $5.3 million in new bequests.

A notable gift that helps the College fulfill its educational mission is the Department of Pathology and Laboratory Medicine Student Fellowship Endowment. Founded in 1996, it is one of the oldest programs of its kind in the country. More than $540,000 has been raised to date, and, under the leadership of Chair of Pathology and Laboratory Medicine Debra Leonard, M.D., Ph.D., faculty of the department this year agreed to dedicate $250,000 to the fellowship.

Thanks to our loyal graduates, the College continues to be among the top five medical schools in the nation for percentage of alumni support, with more than 32 percent of alumni participating in annual giving this year. Among the many notable alumni gifts were:

THOMAS M. ACHELKOVA, PH.D. & LESLIE AKERMANN REES, PH.D.
JAMES S. ALEXAS, PH.D. & GENE SMITH ALEXAS
ELLEN ANDREWS, MD’75
RAYMOND JOSEPH ATTINELLO, M.D.’70 & WENDY JOHNATTINELLO
ROBERT A. ARMITAGE, MD’85 & BARBARA ARMITAGE
DAVID BABBOTT, MD’91 & MERLEDA BABBOTT
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PATRICIA WILSON BOVE
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JUDITH & ALAN HESSELL BULLOCK, M.D.
JAYSTADUMAR
PAUL M. CARTER, MD’91 & KATHRINE PARE CARTER
RICHARD C. CASALS, MD’10 & CAROL CASALS
J. DONALD CAPRA, M.D.’63 & KATHRYN PARE CAPRA
JULY 1, 2014–JUNE 30, 2015 2015 YEAR IN REVIEW
FISCAL YEAR 2015 PHILANTHROPY SUPPORT
$12.4 million
NEW GIFTS & PLEDGES FY 2015
5,360 TOTAL DONORS FY 2015
The College of Medicine gratefully acknowledges private support received in fiscal year 2015. For a complete list of donors, please consult the official report in this issue or online. Please accept our apologies and notify the UVM Foundation office at (802) 656-4014.

The Ira Allen Society recognizes UVM’s most loyal donors by acknowledging individuals whose cumulative lifetime gifts and commitments to UVM reach or exceed $100,000, with special recognition given to donors of $1 million or more.

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Jane Wilson Coon, Ph.D.
Mary Lou Weinger
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Charlotte Vayda Poston
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John F. Young, M.D.
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Annual Ira Allen Society plays a critical role in the success of the University of Vermont, providing continuing, steadfast support after year one. A gift of $2,500 or more in any one fiscal year (July 1—June 30) qualifies a College of Medicine donor as an annual member of the Ira Allen Society. An annual gift of $100 for each of the first ten years after graduation qualifies Young Alumni Patrons.

### Green and Gold (Class that gave the most already)

- **Class of 2015**
  - John H. Perry-Hooker, M.D.’47
  - Rockland, ME
  - 19 Gifts

- **Class of 2014**
  - Mark A. Leonard, M.D. ’10
  - West Boylston, MA
  - 12 Gifts

- **Class of 2013**
  - David F. Landon, M.D.’11
  - Dedham, MA
  - 10 Gifts

### Leadership Contributors ($10,000+)

- **John C. Mesch, M.D.’61**
- **George A. Little, M.D.’65**
- **Marvin A. Nierenberg, M.D.’60**

### Leadership Contributors ($5,000–$9,999)

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- **Edward W. Jenkins, M.D.’51**
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- **John A. M. Hinsman, Jr.’75**
- **Allan L. Gardner, M.D.’80**

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- **Mary C. Romney, M.D.’45**
- **Charles G. Brennan, M.D.’61**
- **Arnold H. Becker, M.D.’43**

### Leadership Contributors ($50–$249)

- **Charles R. Brinkman, III, M.D.’60**
- **Allan H. Greenfield, M.D.’62**
- **J. John Goodman, M.D.’48**

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- **Agent ........... Joseph H. Vargas III**
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### Young Alumni Patrons

- **Robert J. Hobbie, M.D.’50**
- **John A. M. Hinsman, Jr.’75**
- **Allan L. Gardner, M.D.’80**

### Juniors

- **John H. Perry-Hooker, M.D.’47**
- **Michael Evans Berman, M.D.’80**
- **Emily Therese Keller, M.D.’13**

### I RA LEN SOCIETY ANNUAL MEMBERS ...
<table>
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<tr>
<th>Year</th>
<th>Contributions ($1–$999)</th>
<th>Annual Ira Allen Society</th>
<th>Leadership Contributors</th>
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Class of 2015 Academic and Honors

The Alpha Omega Alpha Honor Medical Society
Students elected to this honor society, in the opinions of their classmates and the faculty, have given promise of becoming leaders in their profession.

Lu Almazrour
Reynaldo Rodriguez
Calvin Hagen
Katherine Ausden
Matthew Marcussen
Kaitlyn Flowers
Peter Weimersheimer
Nicole Mendryk
Anisha Patel
Amanda Perez
Michele Vantorno
Hope Lu

The Gold Humanism Honor Society
Students elected to this honor society are recognized for their demonstrated excellence in clinical care, leadership, compassion, and dedication to service.

D. J. M. Alver
Megan A. Najarian
Elizabeth Landell
Dominique Villa
Tiler Larmyn
James McLoughlin
Johanna Jones
Anisha Patel
Amanda Perez
Kaitlyn Flowers

The American Academy of Neurology Medical Student Prize
for excellence in Neurology
Alvan Woodhead Fund

The Loebner Student Award for outstanding performance in Internal Medicine
Amanda Brooks Piel

The Dean Robert F. Carden Award and Seeing Award
Christopher Locke Amersh

The Dean William Eustis Brown Award
for broad cultural interests, and loyalty to the College of Medicine
John Paul Kaldai

The Dean William Eustis Brown Award
for leadership.

The Dean William Eustis Brown Award
for excellence in Pathology
James Christian McKinley

The Carolina Award for academic excellence in Ophthalmology, Gynecology, and Reproductive Sciences
Hagley, Jane MacLaughlin

The James E. Demarest Surgical Research Prize
First place: Adam Nicholas Paine
Second place: Ryan James Hendrix
Third place: Nicole Alyson Mendryk

* indicates awarded by vote of the class
Class of 2015 Academic Awards and Honors (continued)

The Family Medicine John P. Peguey, M.D. Leadership Award
Charles Stern Hackett

The Edward E. Friedman Award for promise of excellence in the practice of Family Medicine
Zoe Alexandra Fiedler Agoos

The Dr. and Mrs. Nathaniel Gould, M.D. ’39 Prize for outstanding achievements in Orthopaedic Surgery
Brian David Brown

The Harry Howe, M.D. ’55 Senior Student Award for excellence in Surgery
Nicola Alexia Holdren

The Karen Family Prize for service to the community
TamerNova Mahone Golding

The Lamb Fellowship Award for best exemplifying concern for the total patient
Matthew Bokunov

The John V. Maersch, M.D. ’59 Roba Recipient for overall excellence in Obstetrics, Gynecology and Reproductive Sciences
Emily Anne Schafft

The Herbert Martin Sr., M.D. ’27 Award for excellence in Neurology
James Lee Ford

The John E. Mazuzan, Jr., M.D. ’54 Award for excellence in Anesthesiology
James Christian McHoy

The H. Gordon Page, M.D. ’35 Award for excellence in Surgery
William Christian Crannell

The Leonard Tow Humanism in Medicine Awards presented by The Arnold P. Gold Foundation for excellence in both compassionate patient care and scientific achievement
Felicite, Naeli Ver, M.D.
Student: Jessica Elizabeth Evangelista

The Pitcher Award for representing the qualities of Eleanor L. and Leon Pitcher in devotion to family, and patients, with high regard for ethics and honesty
Elizabeth Landell

The Radiology Achievement Award for excellence in Radiology
Jason Jachtem Hain

The Mires A. Reardon, M.D. ’27 Award for service to the University of Vermont College of Medicine
Benjamin R. Clements
Emily Anne Schafft

The B. Albert Ring, M.D. ’46 Memorial Grant Award for best exemplifying compassion, humor, humility, devotion to family and friends, and intellectual curiosity
Benjamin thanks Boman

The Charles T. Schuchman, M.D. ’26 Award for Social Excellence

First place: James Christian McHoy
Second place: Naeli Ver, M.D.
Third place: Elizabeth Evangelista
Fourth place: Charles Stern Hackett
Fifth place: Amanda Brooks Peel

The Durwood Smith Award for excellence in Pharmacology
James Christian McHoy

The Society for Academic Emergency Medicine Award for excellence in Emergency Medicine
Alon Weissfield Award

Summer Research Fellowship Honors Awards
Matthew Bivona
Whitney Grace Creed
Adam Nicholas Paine

The Ralph D. Daumans, M.D. ’138 Medical Alumni Award for excellence in Pediatrics
Anisha Patel Tiwaryan

The William Swanson Award for excellence in Pharmacology
Matthew William MacKinnon

The Harry & Phyllis Maguire Thompson Prize for excellence in the Basic Sciences
Jason Jachtem Hain
James Christian McHoy

The Laura Wood, M.D. ’13 Award for qualities of excellence, service, and commitment in Internal Medicine
Calvin Maxim Kagan

The Ephraim Woll Award for excellence in General Pathology
James Christian McHoy

Scholarship Support

Choosing to become a physician requires a love of medicine and a commitment to caring, and an investment in hard work, dedication and sacrifice. Philanthropic support of the students who make that commitment is not only an investment in the future, but an opportunity to share in their successes as they make a difference with their patients, in their communities, and around the world. We are grateful to the supporters of the following scholarship and loan funds that provide assistance to medical students at the University of Vermont College of Medicine.

Benjamin Adams, M.D. ’1500 Fund
Elbow M. Algie, M.D. ’15 Memorial Fund
Diana Anthony-McNamara, M.D. ’15 Fund
David Baldabimb, M.D., MD & GWQ Award Fund
Mark H. Beers, M.D. ’152 and Stephen K. Vacek Fund
Elbow M. Algie & DWQ Award Fund
Peary B. Berger, M.D. ’150 Fund
John L. Berg, M.D. ’151 and Kathleen M. Berg Fund
Albert Blenker, M.D. ’153 Medical Fund

Moses D. Cates Fund
Lewis Chait, M.D. ’158 Fund
Margaret and Charles Clark Fund
Len C. Clauss Fund
Roger S. Cotter, M.D. ’159 Fund
Jack & Genette Cooper Fund
Lucan J. Cote, M.D. ’154 Fund
Dali-Saken Family Fund

Douchet C. Duferey Fund
Gale & Arthur O’Brien, M.D. ’155 Fund
Vernon F. Douglas, M.D. ’15 Fund
Hamer Dustin, M.D. ’34 Fund
Willey Ogilvy Fund
Gloria Ermey Fund

John J. and John Seeling Endowment, M.D. ’33 Fund
Edward Veronica Fund, M.D. ’13 Fund
Starky J. Fieber, M.D. ’140 Fund
Jean and Wilford Forrest, M.D. ’151 Fund
Freeman Foundation Legacy Fund
E. Philip Galen, M.D. ’38 and Edith Galen Family
Amos Grey Fund
Alan Godfrey, M.D. ’137 and Helen Godfrey Fund
The Margaret S. and Hamilton. Goldwein, M.D. ’52 Memorial Fund
Arnold^ Gomes, M.D. ’135 and Rachel Godfrey Fund
James Robert Green, M.D. ’13 Fund
Harold Haskel, M.D. ’12 Fund
Edward Hawes Fund
The Robert Family Fund
Clifford Hergenhan, M.D. ’33 Fund
Robert T. and Cynthia, Hoyt Fund
Pamela T. Hydes, M.D. ’13 Fund
Robert W. Hyde, M.D. ’14 Fund
Samaras and Harold Joseph Hove Fund
Bernard N. Kaye, M.D. ’14 Fund
John P. Kiwanie, M.D. ’15 Fund
Joseph E. Kelly, M.D. ’15 Fund

Fourth place: Whitney Grace Creed

H. David Reines, M.D. ’15 (center) and his wife, National Public Radio correspondent Nina Totenberg (right), who have established a scholarship fund in their name, join Dean Rick Morris and Trayn Morement at Commencement 2015. Nina Totenberg received an honorary degree from the University at Commencement.

85 2015 YEAR IN REVIEW 85 2015 YEAR IN REVIEW
October 23, 2015
4:05 p.m.

Class of 2019 members who have just received their white coats make use of the “selfie zone” at the post-ceremony reception.

photographed by Andy Duback
REUNION EVENTS INCLUDE:

- Medical Education Today Session
- Alumni Awards & Reception
- Medical Alumni Picnic
- Tours of the College
- Clinical Simulation Lab
- Nostalgia Hour
- Class Receptions

For more information visit uvm.edu/medicine/alumni