

PATHWAYS

DEPARTMENT OF PATHOLOGY & LABORATORY MEDICINE

Robert Larner, M.D. College of Medicine | The University of Vermont Health Network



INSIDE: DEPARTMENT CELEBRATES INAUGURAL RESEARCH DAY

Letter from the Chair

I can hardly believe that I joined the department five years ago. Time flies and we were reminded of the limited time each of us has to make a difference in this world through the untimely and sudden death of our colleague, Dr. Nancy Jenny. Her loss has been felt across our department, UVM, nationally and internationally. We are pleased that UVM has honored Nancy posthumously with the status of Associate Professor Emerita.

During this past year, we've celebrated many accomplishments. As the first UVM Health Network Department, we are being recognized as leaders in trust-building and collaboration to ensure high quality and timely services for our patients. Our academic pathologists keep our clinical practice current with best practice guidelines, and in many cases are contributing to the development of those guidelines. Our faculty are the leaders at the Larner College of Medicine as we transition to total active learning for medical students. Our investigators have received almost \$10 million of research funding, and our publications reflect the excellence of our department with over 100 publications in top journals, including *Nature Medicine*.

Finally, I want to recognize the amazing gift from our own Professor Emerita, Sally Huber, Ph.D. Sally has bequeathed \$5 million in two endowed early career professorships named for her parents, Elmer



Debra G.B. Leonard, M.D., Ph.D.
Chair and Professor of Pathology & Laboratory Medicine

R. Huber and Blodwen S. Huber. Her gift is truly visionary, and I am personally very grateful to Sally for her generosity.

Please enjoy this fourth edition of our PATHways newsletter!

Debra G.B. Leonard, M.D., Ph.D.
Chair and Professor of Pathology
and Laboratory Medicine

On the cover: Yvonne Janssen-Heininger, Ph.D., and Nicholas Heintz, Ph.D., at the first-ever Department of Pathology and Laboratory Medicine Research Day.

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Community practice pathologists at Central Vermont Medical Center. Top row (L to R): Susan Sharp, M.D.; Marcia Wills, M.D. Bottom row: Cathy Palmer, M.D.; Malcolm Schinstine, M.D.

At A Glance

PATHOLOGY & LABORATORY MEDICINE

Total Faculty: **56**
Tenure Pathway: **7**
Clinical Scholar Pathway: **33**
Research Scholar Pathway: **10**
Clinical Practice Physicians: **4**
Faculty Scientists: **2**

Residents: **17**
Clinical Fellows: **4**
Student Fellows: **2**
Graduate Students: **8**
Postdoctoral Trainees: **8**

Total Grants Awarded in 2017-2018:
\$9,916,908



The Department of Pathology and Laboratory Medicine 2018 faculty, residents and clinical fellows

News

In Memoriam: Nancy Jenny, Ph.D.

On June 13, 2018, UVM Associate Professor of Pathology and Laboratory Medicine **Nancy Jenny, Ph.D.**, passed away unexpectedly. The suddenness of Nancy's passing makes her loss particularly painful. In addition to her family and her research, Nancy's third great passion was horses. While working with her horses, an unfortunate accident occurred which resulted in her death. Her loss is felt across our department, the university and internationally.

She began her career at UVM as a postdoctoral fellow working with Professor Emeritus of Biochemistry **Kenneth Mann, Ph.D.**, after receiving a Ph.D. from Rensselaer Polytechnic Institute in 1990. She then joined the Department of Pathology's Laboratory for Clinical Biochemistry Research, where she established her expertise in the field of molecular epidemiology, earning numerous honors and awards. She was an outstanding researcher, with hundreds of collaborations nationwide and more than 170 publications in top-tier scientific journals and major textbooks.

Nancy's special interest was the associations of the immune system with aging-related diseases like cardiovascular disease and dementia. Her national reputation was evident in her appointment to many American Heart Association (AHA) committees, including most recently as a member of the AHA Epidemiology and Prevention Council Leadership Committee. She was also invited to serve on the editorial board of the journal Arteriosclerosis, Thrombosis and Vascular Biology.

Nancy was not only well-respected, but also well-liked. To honor her memory and recognize all her accomplishments, UVM has posthumously awarded Nancy the rank of Associate Professor Emerita. She was a wonderful person and a great colleague and friend. We miss her deeply.



Nancy Jenny, Ph.D.

A Remarkable Gift

UVM Professor Emerita **Sally Huber, Ph.D.**, bequeathed \$5 million for two endowed early career professorships named for her parents, Elmer R. Huber and Blodwen S. Huber. These two planned professorships will eventually support junior research faculty for seven years per professorship period. This support will allow our junior research faculty time and funds to gain independence. Over time, this will allow our department to continue to recruit strong junior faculty focused on a research career. This gift is truly visionary, and we are grateful to Sally for her generosity.



L to R: Department Chair Debra Leonard, M.D., Ph.D., with Sally Huber, Ph.D.

International Exchange Program Sends Faculty & Resident to Japan



Britni Bryant, M.D. (third from left), with colleagues during her trip to Japan.

This past December, **Scott Anderson, M.D.**, and **Masatoshi Kida, M.D.**, travelled to Fukushima Medical University and spoke about U.S. medical education and residency programs, highlighting the Larner College of Medicine and our unique active learning teaching format. Dr. Kida developed Affiliated Programs in Pathology Learning and Education (APPLE), which features a wide variety of exchanges and is one of the few programs in the United States sponsoring J-1 visas for medical students.

In March of 2018, fourth-year pathology resident **Britni Bryant, M.D.**, traveled to Japan. She visited six community and academic hospitals, including Osaka International Cancer Institute. She worked extensively in the pathology department at Kansai Medical University Hospital in Hirakata. This summer, Nozomu Kurose, M.D., Ph.D., a senior assistant professor at Kanazawa Medical University, came to Vermont to work in our department. As a result of their exchanges, Drs. Kurose and Bryant co-authored a paper which they will be submitting this fall.

"Beaker" Implementation Underway

The implementation of Epic Lab Module, appropriately named "Beaker," began this past May, with the majority of the laboratories in our network expected to be on the same Laboratory Information System (LIS) system in three years. The migration to one system will give us ready access to data across the medical centers, ensuring best practice workflows are used across our network. Ultimately, this will result in consistent and high quality patient care across the continuum. In order to achieve this enormous task we have formed a Beaker Core Team consisting of members from all the laboratories in our network department.

Implementation Milestones

- Adoption: Finalize System Design, July – February 2018
- Testing: February – September 2019
- Training: September – November 2019

Go Live Dates

- UVM Medical Center: November 2019
- Central Vermont Medical Center and Porter Medical Center: November 2020
- Champlain Valley Physicians Hospital: November 2021
- Alice Hyde Medical Center, Elizabethtown Community Hospital and Inter-Lakes Health: TBD

New and Notable

AWARDS AND HONORS

In July of 2018, **Masatoshi Kida, M.D.**, and his wife were recognized at the Vermont State House by the Consul-General of Japan in New England for their

“distinguished service in contributing to the deepening of mutual understanding and friendship between Vermont and Japan.”

Nick Heintz, Ph.D., received the 2018 UVM Medical Alumni Association's Distinguished Graduate Alumni Award, presented to alumni who have demonstrated outstanding achievement in basic, clinical or applied research; education; industry; public service/humanitarianism; and/or outstanding commitment to the College community.

Rebecca Wilcox, M.D., was recognized by the Association of American Medical College's (AAMC) Chief Medical Education Officer for her contributions to the AAMC's Leadership Education and Development Certificate Program. She was also named a 2018 Frymoyer Scholar for her project titled “Culinary Medicine Teaching Kitchen” Medical Student Elective.

Laura Greene, M.D., received the Excellence in Medical Education Poster Award at the 2018 AAMC Northeast Group on Educational Affairs in April of 2018.

Tania Hong was honored with the UVM Medical Center's Living the Leadership Philosophy Award, given to leaders who exemplify the mission and values of our organization as an academic health center.

Jan Schwarz received the Lifetime Achievement in Safety Award from the Larner College

of Medicine Safety Team for her work with the Microscopy Imaging Center. **Vicci Letourneau** also received an award for her outstanding work as a Laboratory Safety Officer in the Laboratory for Clinical Biochemistry Research.

Shawney Bushey, MLS II, received the Mary Breen Award, which recognizes a technologist who exemplifies the qualities of an excellent teacher.

Clayton Wilburn, M.D., received the Pathology Attending Teaching Award and **Kristin Day** received the Medical Technologist Teaching Award from our residents at the Annual Trainee Graduation Celebration.

Christine Sheehey received the UVM Medical Center Good Catch Award for uncovering a serious instrumentation issue affecting IFA testing and invalidating many previously reported results. It was found to also need correction at other sites nationwide.

Retirements and Farewells

UVM Professor Emeritus of Pathology and Neurology **William Pendlebury, M.D.**, director of the UVM Center on Aging, will focus solely on his work in neurology at the end of September. He will continue to work in our department on a per diem basis. For more than 30 years, he has cared for patients and conducted research focused on basic science and clinical aspects of Alzheimer disease.

Jan Schwarz officially retired from our department, but it seems she's as busy (if not busier) than ever! She is still working one day per week in the Pathology Museum/Teaching Lab as well as doing Project MICRO outreach in the schools and community libraries.

Michelle Yang, M.D., left the department in March to take a position at the University of Massachusetts where she can be closer to her family.

Marcia Wills, M.D., will leave the department later this year to take a position in a private practice in Pennsylvania, which is closer to her family.

This year, as he approached his 89th birthday, **Thomas Trainer, M.D.**, officially retired. A dedicated faculty member since 1960, he has served in numerous roles, including director of laboratories. He is well-known for his expertise in both gastrointestinal pathology and genitourinary pathology, as well as general surgical pathology.

Leadership Changes & Promotions

Nikoletta Sidiropoulos, M.D., was promoted to Associate Professor.

Scott Anderson, M.D., was promoted to Professor.

Abiy Ambaye, M.D., was promoted to Professor.

Bronwyn Bryant, M.D., became Associate Residency Program Director.

Alexandra Kalof, M.D., became Director of Surgical Pathology.

Mark Fung, M.D., Ph.D., is our new Vice Chair for Population Health.

Michael Lewis, M.D., M.B.A., is now Vice Chair for Quality and Clinical Affairs.

Andy Goodwin, M.D., will serve as the Division Chief for Laboratory Medicine at UVM Medical Center.

Cathy Palmer, M.D., Ph.D., is our new Division Chief for Community Practice Pathology.

Rebecca Wilcox, M.D., has become our new Vice Chair for Education.

Department Babies

Congratulations to the many members of our department who welcomed babies in recent months!



Baby Maddie
UVM Health Network Business Director **Michael Towle**



Baby William
UVM Assistant Professor **David “Bebo” Seward, M.D., Ph.D.**



Baby Charles
UVM Assistant Professor **Katie Devitt, M.D.**



Baby Warren
Clinical Instructor and Resident **Justin Rueckert, D.O.**



Baby Zoe
Clinical Instructor and Resident **Ali Krywanczyk, M.D.**



Baby Isabelle
Clinical Instructor and Resident **Ryan Coates, M.D.**



Baby Odin
UVM Assistant Professor **Maryam Zenali, M.D.**

Research News

Department Hosts First Annual Research Day



Attendees of Research Day gathered in UVM's Davis Center for presentations, a poster session and other events.

On September 7, 2018, the Department of Pathology and Laboratory Medicine hosted its first Research Day under the direction of Vice Chair for Research **Yvonne Janssen-Heininger, Ph.D.**, Assistant Professor **Nels Olson, Ph.D.**, and Dermatopathology Fellow **Tom S. Rogers, D.O.** The organizing committee had three main goals: Highlight the ongoing research in the department; allow trainees and junior faculty an opportunity to publicly discuss their work; and explore areas for collaboration within the department.

After opening remarks from Department Chair **Debra Leonard, M.D., Ph.D.**, introductory talks highlighting the major research areas in the department (Laboratory for Clinical Biochemistry Research, Clinical Research, Redox Biology & Pathology Research, Population Health and Genomic Medicine) were presented. To keep the day fun, an “elevator pitch” competition was held, where poster presenters were given one minute and one slide to convince the audience to attend their poster.

Participants then had an opportunity to visit the 25 posters and discuss research findings. Roundtable discussions were held over lunch, which included

conversations on how to integrate clinical and basic sciences, how to remove barriers and maximize research opportunities for students, post-docs, fellows and residents within the department, and a S.W.O.T. discussion of the **Strengths, Weaknesses, Opportunities and Threats** for research in the department. This was a great opportunity for senior faculty, trainees, basic scientists and clinicians to share a seat at the table and help shape future collaborative research within our department. The

afternoon session featured scientific talks on specific areas of research, followed by closing remarks by Dr. Janssen-Heininger. A reception and cocktail hour closed out the day. The organizers felt that the first Pathology and Laboratory Medicine Research Day was a huge success and will become an annual event. A special thanks to **Claire McCullough** for all her hard work coordinating the logistics of the event.

Research Day Elevator Pitch Competition Winners

Best Basic Science Elevator Pitch:
PHILLIP MUNSON, GRADUATE STUDENT

Best Clinical Elevator Pitch:
ALISON KRYWANCZYK, M.D., PGY4 RESIDENT

Best Faculty Elevator Pitch:
DAVID (BEBO) SEWARD, M.D., PH.D., ASSISTANT PROFESSOR

Publication Highlights

Recommendations for Pathologic Evaluation of Reduction Mammoplasty Specimens: A Prospective Study with Systematic Tissue Sampling. **Ambaye AB, Goodwin AJ**, MacLennan SE, Naud S, **Weaver DL**. *Arch Pathol Lab Med* 2017 10 Aug; PMID:28795842

Reducing protein oxidation reverses lung fibrosis. **Anathy V**, Lahue KG, Chapman DG, Chia SB, Casey DT, Aboushousha R, **van der Velden JLJ**, Elko E, Hoffman SM, McMillan DH, Jones JT, Nolin JD, Abdalla S, Schneider R, **Seward DJ**, Robertson EC, Liptak MD, Cousins ME, **Butnor KJ, Taatjes DJ**, Budd RC, Irvin CG, Ho YS, Hakem R, Brown KK, Matsui R, Bachschmid MM, Gomez JL, Kaminski N, **van der Vliet A, Janssen-Heininger YMW**. *Nature Medicine* 2018 09 Jul; PMID:29988126

Use of an Additional 19-G EBUS-TBNA Needle Increases the Diagnostic Yield of EBUS-TBNA. Garrison G, Leclair T, **Balla A**, Wagner S, **Butnor K, Anderson SR**, Kinsey CM. *J Bronchology Interv Pulmonol* 2018 12 Jun; PMID:29901535

Transition to Subspecialty Sign-Out at an Academic Institution and Its Advantages. **Conant JL, Gibson PC**, Bunn J, **Ambaye AB**. *Acad Pathol* ;4:2374289517714767; PMID:28815203

Improving the performance of virtual crossmatch results by correlating with nationally-performed physical crossmatches: Obtaining additional value from proficiency testing activities. Wrenn SM, Marroquin CE, Hain DS, **Harm SK**, Pineda JA, **Hammond PB**, Shah DH, Hillyard SE, **Fung MK**. *Hum Immunol* 2018 01 Jun; PMID:29864460

Age-Associated Changes in Estrogen Receptor Ratios Correlate with Increased Female Susceptibility to Coxsackievirus B3-Induced Myocarditis. **Koenig A, Buskiewicz I, Huber SA**. *Front Immunol* 2017;8:1585; PMID:29201031

Long chain n-3 polyunsaturated fatty acids are not associated with circulating T-helper type 1 cells: Results from the Multi-Ethnic Study of Atherosclerosis (MESA). Sagawa N, **Olson NC**, Ahuja V, Vishnu A, **Doyle MF**, Psaty BM, **Jenny NS**, Siscovick DS, Lemaitre RN, Steffen LM, Tsai MY, Sekikawa A. *Prostaglandins Leukot Essent Fatty Acids* 2017 Oct;125:37-42; PMID:28987720

Genome-wide association study of homocysteine in African Americans from the Jackson Heart

Study, the Multi-Ethnic Study of Atherosclerosis, and the Coronary Artery Risk in Young Adults study. Raffield LM, Ellis J, **Olson NC**, Duan Q, Li J, Durda P, Pankratz N, Keating BJ, **Wassel CL, Cushman M**, Wilson JG, Gross MD, **Tracy RP**, Rich SS, Reiner AP, Li Y, Willis MS, Lange EM, Lange LA. *J Hum Genet* 2018 Mar;63(3):327-337; PMID:29321517

Associations of activated coagulation factor VII and factor VIIa-antithrombin levels with genome-wide polymorphisms and cardiovascular disease risk. **Olson NC**, Raffield LM, Lange LA, Lange EM, Longstreth WT, Chauhan G, Debette S, Seshadri S, Reiner AP, **Tracy RP**. *J Thromb Haemost* 2018 Jan;16(1):19-30; PMID:29112333

Elevations in neutrophils with obstructive sleep apnea: The Multi-Ethnic Study of Atherosclerosis (MESA). Geovanini GR, Wang R, Weng J, **Tracy RP, Jenny NS**, Goldberger AL, Costa MD, Liu Y, Libby P, Redline S. *Int J Cardiol* 2018 Apr 15;257:318-323; PMID:29506719

IL-1/inhibitory δ B kinase δ -induced glycolysis augment epithelial effector function and promote allergic airways disease. Qian X, Aboushousha R, van de Wetering C, Chia SB, Amiel E, Schneider RW, **van der Velden JLJ**, Lahue KG, Hoagland DA, Casey DT, Daphtary N, Ather JL, Randall MJ, Aliyeva M, Black KE, Chapman DG, Lundblad LKA, McMillan DH, Dixon AE, **Anathy V**, Irvin CG, Poynter ME, Wouters EFM, Vacek PM, Henket M, Schleich F, Louis R, **van der Vliet A, Janssen-Heininger YMW**. *J Allergy Clin Immunol*. 2018 Aug;142(2):435-450. Epub 2017 Nov 3. PMID: 29108965.

TGF- δ 1-induced deposition of provisional extracellular matrix by tracheal basal cells promotes epithelial-to-mesenchymal transition in a JNK1-dependent manner. **van der Velden JL**, Wagner DE, Lahue KG, Abdalla ST, Lam YW, Weiss DJ, **Janssen-Heininger YMW**. *Am J Physiol Lung Cell Mol Physiol* 2018 22 Feb; PMID:29469614

Femoral Artery Atherosclerosis Is Associated With Physical Function Across the Spectrum of the Ankle-Brachial Index: The San Diego Population Study. **Wassel CL** Ellis AM Suder NC Barinas-Mitchell E Rifkin DE Forbang NI Denenberg JO Marasco AM McQuaide BJ **Jenny NS Allison MA** Ix JH Criqui MH. *J Am Heart Assoc* 2017 20 Jul;6(7); PMID:28729408

Research News

Awards and Recognition

Yvonne Janssen-Heininger, Ph.D., was inducted as a 2018-2019 University Scholar. The University Scholar program recognizes distinguished UVM faculty members for sustained excellence in research, creative, and scholarly activities.

Abiy Ambaye, M.D., Pamela Gibson, M.D., and **Douglas Taatjes, Ph.D.**, were awarded a UVM Health Network Medical Group Innovation in Critical Care Grant for “Determination of Diagnostic Concordance Between Whole Slide Imaging and Conventional Light Microscopy for Select Routine Surgical Pathology Applications in the University of Vermont Health Network.”

Brian Cuniff, Ph.D., and **Vikas Anathy, Ph.D.**, each received grants from the Larner College of Medicine Internal Grant Program. Dr. Cuniff’s project is “Miro1 mediated mitochondrial reorganization in lung epithelium during allergen induced inflammation.” Dr. Anathy’s project is “Trial of TUDCA in Asthma.”

New Pathology Grant Awards 2017-2018

PRINCIPAL INVESTIGATOR	PROJECT TITLE	SPONSOR
Vikas Anathy, Ph.D..	Endoplasmic Reticulum Stress Signaling in Allergen-induced Airway Remodeling	National Heart, Lung, and Blood Institute/ NHLBI/NIH
Iwona Buskiewicz, Ph.D.	Rig-I Pathway Inhibition Studies	EMD Serono R&D Institute, Inc.
Iwona Buskiewicz, Ph.D.	Oxidized RNA in SLE Pathology	National Institute of Arthritis and Musculoskeletal and Skin/NIAMS/NIH
Margaret F. Doyle, Ph.D.	Tissue Sodium, Inflammation, and Blood Pressure in MESA	Vanderbilt University Medical Center
Margaret F. Doyle, Ph.D.	Transition for Risk Factors to Heart Failure: Prevalence, Pathogenesis, and Phenomics	Wake Forest University
Nicholas Heintz, Ph.D.	Mitochondrial Metabolism in Mesothelioma	Paredox Therapeutics, LLC
Yvonne Janssen-Heininger, Ph.D.	S-Glutathionylation Chemistry in Fibrotic Lung Remodeling	National Heart, Lung, and Blood Institute/ NHLBI/NIH
Andreas Koenig, Ph.D.	Genomic Variation in the Lipid Anchor Biosynthesis Protein PIGC as Cardiovascular Risk Factor	Harold S. Geneen Charitable Trust
Michael Lewis, M.D., M.B.A.	Biomarkers of Caloric Restriction in Humans: The CALERIE Biorepository	Duke University
Michael Lewis, M.D., M.B.A.	Vitamin D to Prevent Type 2 Diabetes (D2d)	Tufts Medical Center
Nels C. Olson, Ph.D.	Immune Activation and Immunosenescence Biomarkers and Cardiovascular Disease Risk	National Heart, Lung, and Blood Institute/ NHLBI/NIH
Douglas J. Taatjes, Ph.D.	Nikon A1R-ER Confocal Microscope for the Microscopy Imaging Center	Office of the Director/NIH

Russell P. Tracy, Ph.D.	Impact of Early Antiretroviral Therapy on Kidney Disease Outcomes	Mount Sinai School of Medicine
Russell P. Tracy, Ph.D.	Cardiovascular Health Study - Biospecimen Repository	National Heart, Lung, and Blood Institute/ NHLBI/NIH
Russell P. Tracy, Ph.D.	Molecular Transducers of Physical Activity Consortium Coordinator Center	University of Florida
Russell P. Tracy, Ph.D.	HIV Biomarker Testing	University of Minnesota
Russell P. Tracy, Ph.D.	Microglial, Inflammatory, and Omics Markers of Cerebral Small Vessel Disease in the CHARGE Consortium	Boston University
Russell P. Tracy, Ph.D.	Non-Esterified Fatty Acids and Cardiometabolic Disease in Older Adults	Brigham and Women’s Hospital
Russell P. Tracy, Ph.D.	Comprehensive Evaluation of Aging-Related Clinical Outcomes and Geroproteins (CARGO)	California Pacific Medical Center
Russell P. Tracy, Ph.D.	CHS Research Resources for CV Health of Older Adults	University of Washington
Russell P. Tracy, Ph.D	Thrombosis Genetics in African Americans	University of Washington
Russell P. Tracy, Ph.D	ENRGISE (Enabling Reduction of Low-Grade Inflammation in Seniors)	University of Florida
Russell P. Tracy, Ph.D	MESA Task 1 and 3	University of Washington
Russell P. Tracy, Ph.D	Immune Function and the Risk of CVD among HIV Infected and Uninfected Veterans	Vanderbilt University Medical Center
Russell P. Tracy, Ph.D	Role of Innate Immunity in HIV Related Vascular Disease: Biomarkers and Mechanisms	Albert Einstein College of Medicine
Russell P. Tracy, Ph.D	T-cell Subsets as Risk Factors for CVD in CHS and Mesa	University of Washington
Russell P. Tracy, Ph.D	Multi-Ethnic Study of Atherosclerosis (MESA) - Task Order 02: Cohort Exam 6	University of Washington
Albert van der Vliet, Ph.D.	S-Glutathionylation Chemistry, Glycolysis and Obese Allergic Asthma	National Heart, Lung, and Blood Institute/ NHLBI/NIH
Albert van der Vliet, Ph.D.	DUOX1 and Mitochondria in Obese Asthma	National Heart, Lung, and Blood Institute/ NHLBI/NIH
Albert van der Vliet, Ph.D.	DUOX1 Silencing in Age-Related COPD	National Institute on Aging/NIA/NIH
Albert van der Vliet, Ph.D.	E-cig Flavors and Their Effects on Respiratory Innate Immune Responses	University of North Carolina
Christina Wassel, Ph.D.	Genetic Epidemiology of Causal Variant Across the Life Course (CALiCo)II	University of North Carolina
Rebecca Wilcox, M.D.	A National Curriculum in Cancer Genomics for Residents and Medical Students	Beth Israel Deaconess Medical Center

Education News

The Shift to Active Learning



Jinal Gandhi '20 engages in active learning sessions in Dr. Wilcox's Nutrition, Metabolism, and Gastrointestinal System course.

At the Robert Larner, M.D. College of Medicine at the University of Vermont, the traditional lecture is on its way out. Motivated by data showing that active learning increases student success in terms of test scores and information retention, alumnus Robert Larner, M.D., created an endowment to support the shift to this education philosophy. The goal is to transition all teaching sessions in the medical student curriculum to active learning by August of 2019.

Active learning methods rely on student engagement to construct knowledge rather than passively absorbing it from an expert. The focus of an active learning session is on students demonstrating and

using their knowledge. Students engaged in active learning spend time recalling prior knowledge, analyzing knowledge in the context of a question or prompt from faculty, and working with peers to solve problems or answer questions.

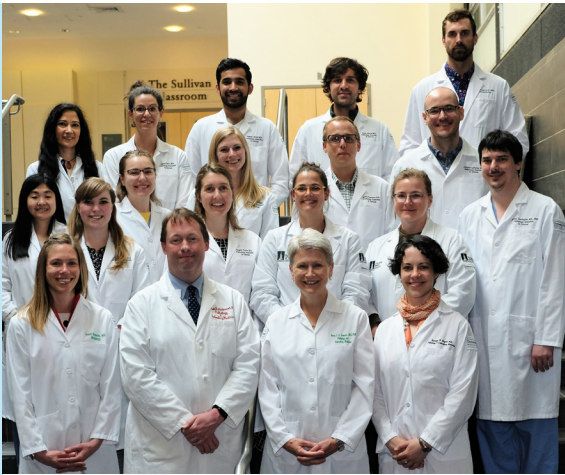
“When students work through clinical problems and experience it as a process, it sticks,” says UVM Associate Professor of Pathology and Laboratory Medicine **Rebecca Wilcox, M.D.** “This is great for retention and it helps them grow as team players and as communicators, which are all essential skills for practicing medicine.”

Community Outreach

This year our department piloted two forms of youth community outreach. On April 6th, staff members conducted a field trip to Williston Central School for lab science education. The team consisted of **Tyler Sanville** from Microbiology, **Tim Brodsky** from Phlebotomy, **Eleanor Fortner-Buczala** from Autopsy (now Cytopathology), **Ellen Riley** from Cytopathology, and **Kayla O'Toole** from Chemistry. “Learning about autopsy can be difficult, but the students treated the samples and information with care and maturity,” says Fortner-Buczala. “I’m excited to see how they use this information in the future.” Due to the excellent work by this team, other local schools have reached out looking for similar opportunities. On April 18th, the department hosted students from The Schoolhouse Learning Center in the department, in areas including Cytogenetics, Autopsy, and Anatomic Pathology. “The program is an excellent way to engage with the community,” says Brodsky. “It provides an opportunity to connect what kids learn in science class to the real world, and to introduce them to a side of the medical field that may be unknown or unfamiliar to them.”



Phlebotomist Tim Brodsky leads a session for students at Williston Central School.



Bottom row, L to R: Christina Wojewoda, Scott Anderson, Debra Leonard, Bronwyn Bryant. Second row, L to R: Casey Rankins, PGY1; Angela Theiss, PGY2; Elizabeth Doughty, Student Fellow; Elizabeth Carson, Student Fellow; Jeff Covington, PGY1. Third row, L to R: Ting Chen, PGY1; Adina Bodolan, PGY2; Britni Bryant, PGY4; Justin Rueckert, PGY2; Clayton LaValley, PGY2. Fourth row, L to R: Sahar Nozad, clinical fellow; Agnes Balla, PGY4; Nomad Javed, PGY1; Ryan Coates, PGY3; Tom Rogers, PGY4. Missing: Prajesh Adhikari, PGY3; Elaine Amoresano, PGY3; Alison Krywanczyk, PGY4; Mustafa Mohammad, PGY4; Andrew LaMar, PGY2.

**PG years are as of May 2018*

PGY1 RESIDENTS

Matthew Dinehart, M.D., M.Ed.
University of Arkansas for Medical Sciences
College of Medicine
Liam Donnelly, M.D.
University of Vermont Larner College of Medicine
Frederick (Fritz) Eyerer, M.D.
Tufts University School of Medicine
Nicole Mendelson, M.D.
University of Vermont Larner College of Medicine
Jonathan Wilcock, D.O.
AT Still University Kirksville College of
Osteopathic Medicine

CLINICAL FELLOWS

Thomas Rogers, D.O., M.P.H., Dermatopathology
Michael McFall, D.O., M.S., Hematopathology
Britni Bryant, M.D., Surgical Pathology
Ramin Zargham, M.D. Ph.D., Cytopathology

Congratulations and Farewell

to our 2018 residency and fellowship graduates!

PGY4 RESIDENTS

Agnes Balla, M.D., M.H.S., will be a surgical pathology fellow at the University of Vermont Medical Center.
Britni Bryant, M.D., is a surgical pathology fellow at the University of Vermont Medical Center.
Alison Krywanczyk, M.D., will be a forensic pathology fellow at Cuyahoga County Medical Examiner's Office in Cleveland, OH.
Mustafa Mohammad, M.D., is a dermatopathology fellow at Tufts Medical Center in Boston, MA.
Thomas Rogers, D.O., M.P.H., is a dermatopathology fellow at the University of Vermont Medical Center.

FELLOWS

Jamen Bartlett, M.D., completed a dermatopathology fellowship (2018) and a surgical pathology fellowship (2017) and is now a pathologist at Southern Ohio Pathology Consultants in Cincinnati, OH.

Sahar Nozad, M.D., completed a hematopathology fellowship (2018) and is currently a selective surgical pathology fellow at Washington University School of Medicine in St. Louis, MO.
Olga Voronel, M.D., completed a surgical pathology fellowship (2018) and a hematopathology fellowship (2017) and is currently an associate laboratory medical director at Adirondack Medical Center in Saranac Lake, NY.
Michael Waisberg, M.D., Ph.D., completed a cytopathology fellowship (2018) and is currently a pathologist at Quest Diagnostics in Las Vegas, NV.

PATHOLOGY STUDENT FELLOWSHIP

The highly successful pathology student fellowship program is entering its 62nd year! Recently, two medical students completed the year-long program: **Elizabeth (Liz) Carson, M.S.,** and **Elizabeth (Beth) Doughty, Ph.D., M.S.** We welcome two new student fellows: **Erica Worswick** and **Ben Smith.**

NEW FACULTY

Jason Brazelton, M.D.
Community Practice Pathologist
Martin Chang, M.D., Ph.D.
Breast Pathology
Brian Cuniff, Ph.D.
Research Faculty in Redox Biology & Pathology Group

John Dewitt, M.D., Ph.D.
Neuropathology and Autopsy
Peter Durda, Ph.D.
Faculty Scientist in Laboratory for Clinical Biochemistry Research
Nora Frisch, M.D.
Cytopathology and Surgical Pathology

Nels Olsen, Ph.D.
Research Faculty at Laboratory for Clinical Biochemistry Research
Malcolm Schinstine, M.D.
Community Practice Pathologist

Clinical News



The High Value Patient Care Council Receives Better Together Award

The High Value Patient Care Council (HVPCC) of the Department of Pathology and Laboratory Medicine received the Better Together Award, which recognizes employees, leaders, physicians, volunteers, patient advisors and community members who are part of an exemplary team committed to providing the best possible care while delivering high quality patient and family experience across our network.

News and Notes

Network Team Effort for Flu Season

In anticipation of a heavy flu season last year, UVM Medical Center stocked up on the 30-minute flu test kit, and also had a supply of one-hour kits. When a manufacturer shortage affected our network partners, we were able to provide them, along with some of our clients, with test kits. This is a great example of the advantages of a hospital network.

UVM Medical Center Stroke Program Recognized

UVM Medical Center again has been recognized with the prestigious Gold Plus Award for its high quality care and rapid treatment of patients with a stroke due to a blood clot. This year, the medical center also received the Honor Roll Elite Plus Award, which recognizes the rapid time from patient arrival to

therapeutic intervention for stroke patients for at least four consecutive quarters. Congratulations to the laboratory staff for their rapid processing and testing of the Stroke Code specimens!

Successful Laboratory Accreditation

The College of American Pathologists and the American Association of Blood Banks recently inspected Pathology and Laboratory Medicine at UVM Medical Center, scrutinizing all sections of the Clinical and Anatomic Laboratories as well as the Fanny Allen Laboratory and the Electron Microscopy facility. The inspectors left with high praise for the quality of work, with comments like: "Your Quality Program is amazing, and your lab is so clean, bright and organized." It was a great team effort. This certification is valid for two years.

Who Knew?

The 100-milers

Senior Histotechnologist **Landon Fenimore** recently ran the world's oldest 100-mile race, the Western States 100 Mile Endurance Run. He ran the race in an impressive 25:57:33 while facing temperatures ranging from 45 to 103 degrees, climbing more than 18,000 feet, and descending nearly 23,000 feet before crossing the finish line. He finished 148th of 369 racers. Fenimore is not the only ultra-marathoner among us – congratulations also go out to Technical Specialist **Kristen Lundy**, whom we've featured in the past, as she completed the Vermont 100 this July.



Going Over the Edge

Administrative Assistant **StaciAnne Grove** pushed her limits and went Over the Edge™ by rappelling off of a nine-story building in Burlington. Her efforts raised more than \$1,500 for the Flynn Center for the Performing Arts cultural and education programs.

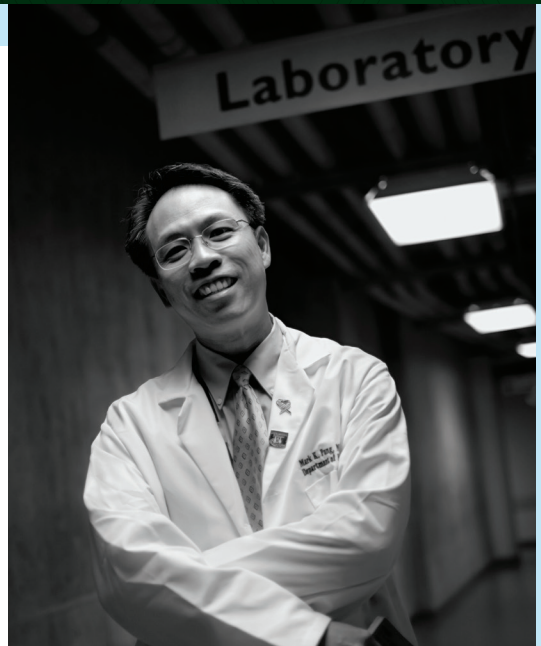
An Author Among Us

In February of this year, Executive Assistant **Kaela Coble** achieved her lifelong dream of becoming a published author. Her novel, *Friends and Other Liars*, is about a group of childhood friends reunited in adulthood when one of them passes away. When they get together, they find that their friend has left behind each of their biggest secrets in envelopes, and they must choose between revealing them to each other or risk them coming out publicly in a trap he devised before his death. The book is set in a fictional Vermont town, although Kaela says: "It's no secret that it's based on St. Albans, where I grew up and recently moved back to. Unsurprisingly, the largest concentration of sales came from the people who wanted to see if they recognized themselves and their favorite landmarks!"



Meet the Clinical Innovator

MARK FUNG, M.D., PH.D.



Utilizing his past local, national, and international experience with developing transfusion guidelines, **Mark Fung, M.D., Ph.D.**, has taken on a role as the department's new Vice Chair for Population Health. Population health places a greater emphasis on wellness, prevention, screening, standardized care, and precision-guided care. "It's about assuring the good health of patients in our region in a value-conscious manner, while considering the patient's experience in our healthcare system," says Dr. Fung.

While noting that excellence in generating accurate and informative diagnoses and results will remain a cornerstone of our specialty, the reality is that "our future clinical funding will be less about the number of tests we perform, but on the type and quality of our services—all services, traditional and new." In his vice chair role, he is focused on how we demonstrate our value as systems-level consultants, play a greater role in helping to risk-stratify patients, improve laboratory test ordering, and improve follow through with delivery of patient care based on the results we generate.

"One thing I have not forgotten is that we are an academic institution, which means it is important for us to generate generalizable and useful knowledge from these activities," he says. To that end, he has been engaging residents, student fellows, and medical students on related projects, and is mentoring faculty on grant funding opportunities and publications.