

**“THE STATE OF RESEARCH AT THE LARNER COLLEGE
OF MEDICINE”
&
DEAN’S CELEBRATION OF EXCELLENCE IN RESEARCH
AWARDS CEREMONY**

PRESENTED BY

Gordon Jensen, M.D., Ph.D.,
Senior Associate Dean for Research

Tuesday, October 29th, 2019

4:30 PM - 6:00 PM

Davis Auditorium, UVM Medical Center

*Reception to follow in Hoehl Gallery



**CELEBRATING
EXCELLENCE
IN RESEARCH**

OCTOBER 28 AND 29



The University of Vermont
LARNER COLLEGE OF MEDICINE

Dean's Excellence in Research Celebration

- I. Welcome by Dean Page**
- II. Remarks by UVM President, Suresh Garimella**
- III. State of Research at LCOM by Senior Associate Dean Jensen**
- IV. Awards** – nominees are listed in the handout
 - Grad student & postdoctoral trainee research showcase awards
 - Trainee awards - outstanding research publication
 - UVM Health Network Medical Group
 - UVM LCOM Faculty
- V. Reception in Hoehl Gallery**



State of Research at LCOM

GORDON L. JENSEN, M.D., PH.D.

SENIOR ASSOCIATE DEAN FOR RESEARCH

THE ROBERT LARNER, M.D. COLLEGE OF MEDICINE

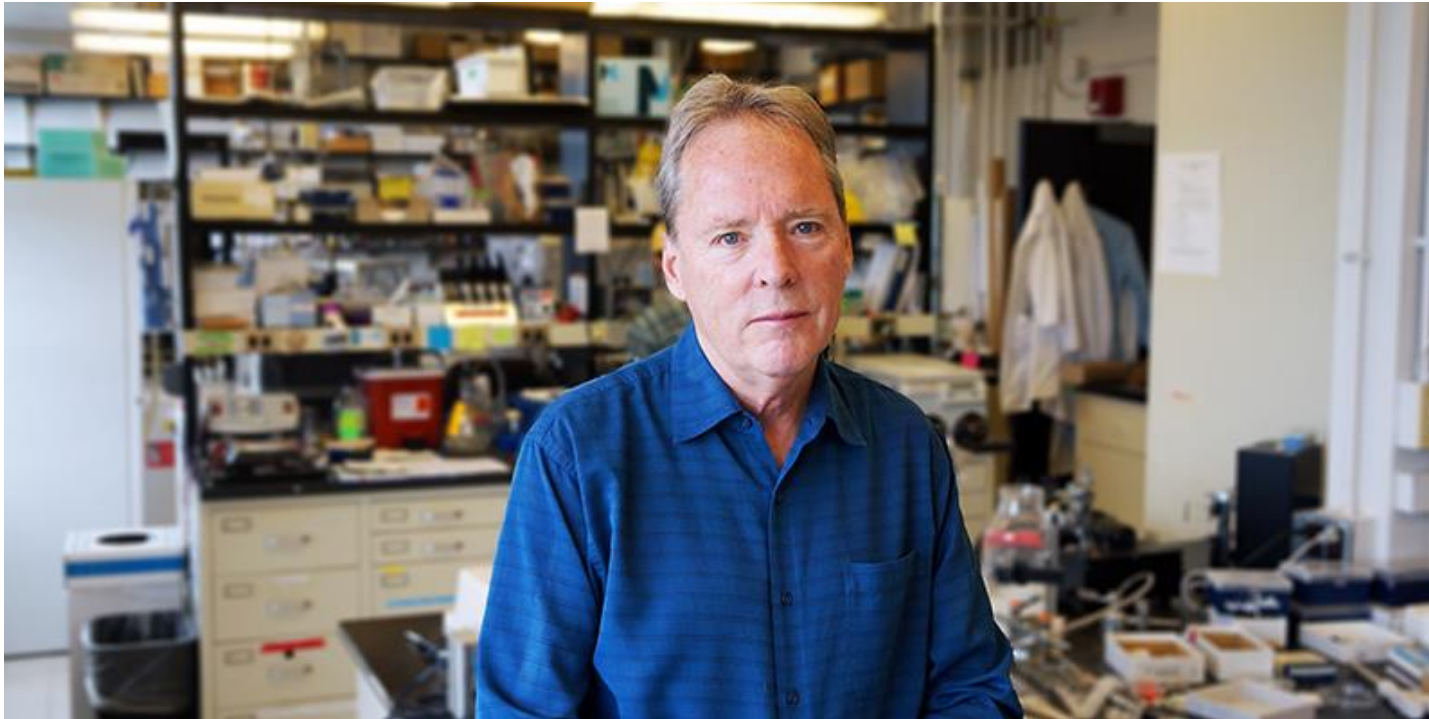
THE UNIVERSITY OF VERMONT



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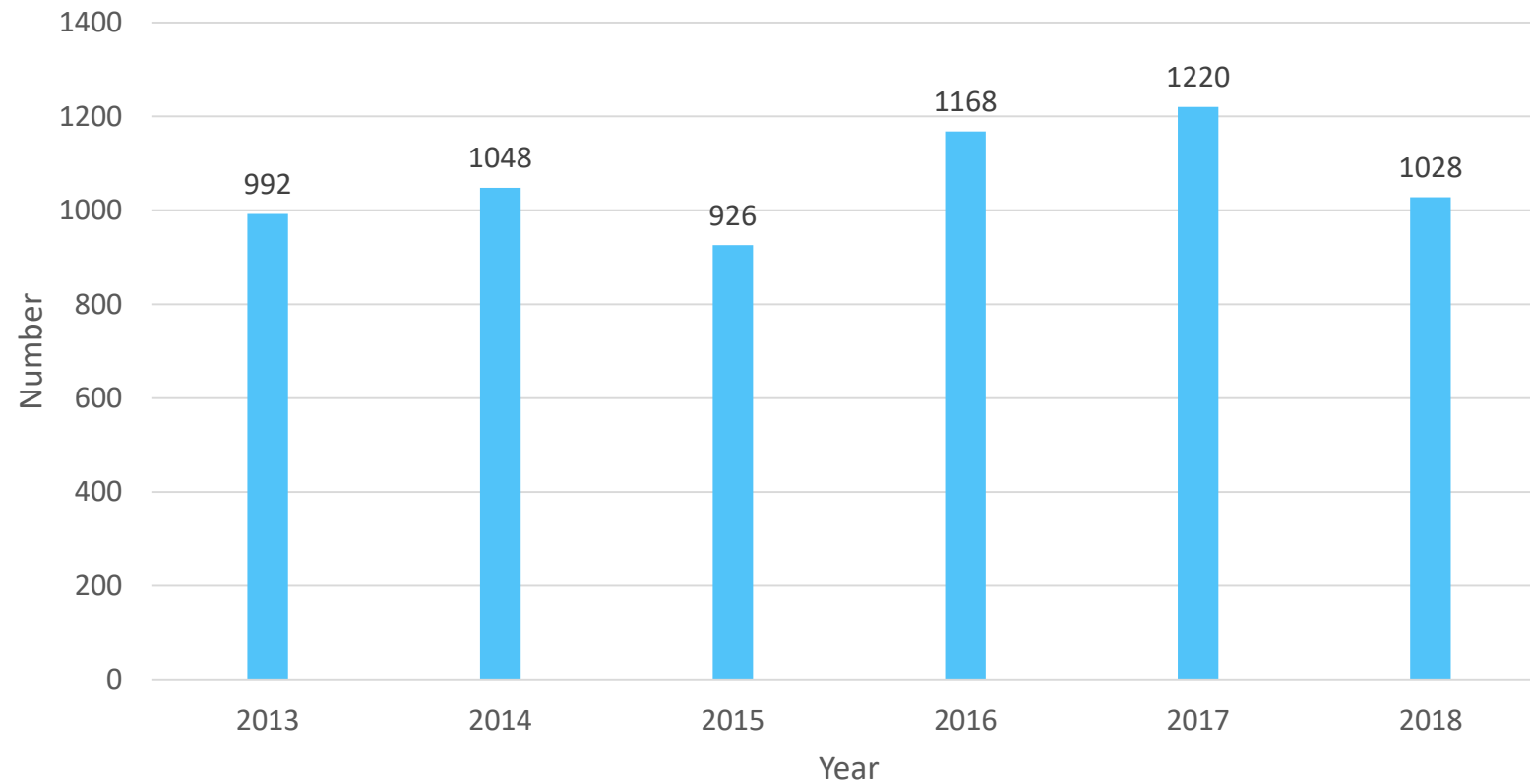
Good things are happening!

National Academy of Sciences Elects UVM's Mark Nelson to Its Membership



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Peer-reviewed Publications



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Highly Cited Researchers

- I. **Three LCOM faculty members (R. Page, R. Tracy, and M. Cushman) were recognized among the top 1 percent of all scholars whose work has been cited by others. The prestigious Highly Cited Researchers list is compiled and published annually by Clarivate Analytics.**



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Research Funding

- Total annual grant funding for FY18: \$84.5M
- Total grant funding from federal sponsors for FY18: \$73M

Notable Active Grants

Northern New England Clinical and Translational Research Network	62 x R01 Grant Awards
3 x Centers of Biomedical Research Excellence (COBRE)	4 x Training Grant Awards
1 x R37 Career Merit Award	1 x Patient-Centered Outcomes Research Institute (PCORI)
2 x R35 Outstanding Investigator Awards	1 x NCI-funded Program Project
2 x R61 Clinical Trial Awards	

Major Grant Awards FY 2018

- I. S Higgins – NIDA - \$3.8
- II. R Tracy – NIH, U Florida - \$3.4
- III. B Kirkpatrick – NIGMS - \$2.6
- IV. S Higgins – NIGMS - \$2.1
- V. D Weiss – DOD – \$1.7
- VI. G Stein – NIGMS - \$1.7
- VII. T Sympatico – VA - \$1.4
- VIII. B Kirkpatrick – Gates - \$1.3
- IX. H Garavan – Oregon Health - \$1.3
- X. J. Hudziak – Apple - \$1.2

All awards in \$ millions



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LCOM New Faculty Hires

Faculty Hires				
Pathway	FY19	FY 18	FY 17	FY 16
Tenure	2	2	1	6
Research	8	5	3	3
Faculty Scientist	1	5	1	3
Open Recruitments				
Pathway	Current			
Tenure	7			
Research	2			
Faculty Scientist	0			



Center of Biomedical Research Excellence (COBRE) and Clinical Translational Research (CTR) Grants

- I. Vermont Center for Immunobiology and Infectious Diseases
- II. Vermont Center on Behavior and Health
- III. Translational Global Infectious Disease Research (TGIR)
- IV. Vermont Center for Cardiovascular and Brain Health – **In review**
- V. Northern New England Clinical and Translational Research Network (NNE-CTR)



University of Vermont Center on Rural Addiction



I. Senator Leahy

II. Health Resources and Services Administration (HRSA) released competitive RFA

- Funded 3 national centers at \$6.7 million each for 3 years

III. Stacey Sigmon – PI, Department of Psychiatry

IV. Cores

- Administration – S. Sigmon, S. Heil
- Surveillance and Evaluation – A. Villanti, V. Harder
- Best Practices – G. Rose, A. Kurti, K. Peck, S. Higgins, R. Rawson, M. Meyer, S. Maruti, J. Brooklyn
 - Physician Advisory Group – M. Meyer, S. Maruti
- Education & Outreach – S. Higgins, D. Gaalema

V. Sub-awards

- University of Southern Maine – L. Smith
- University of New Hampshire – J. Ryer



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University of Vermont Center on Rural Addiction

- I. Resource for scientific and technical assistance. Provide information and training to clinicians, programs, and policymakers seeking guidance on how to address substance use disorder challenges in their rural communities.**
- II. Disseminate evidence-based practices relying on partnerships with collaborators throughout New England.**
- III. Stakeholders - University of Vermont, Larner College of Medicine, UVM Health Network Medical Group, Medical Center and Health Network, and the people of Vermont and northern New England.**
- IV. Serve rural counties of VT, NH, and Maine.**



Programs and Investments

- I. Health services
- II. Firestone Medical Research Building
- III. Research cores
- IV. Research support
- V. Salary support for PI's for major institutional grant opportunities
- VI. Training grants
- VII. Targeted pilot research funds
- VIII. Faculty incentive program
- IX. UVM Health Network
- X. Medical student research



Center for Health Services Research Update

Projects

- **Working on research projects with:**
 - Clinical partners, community practice providers, UVMHC leadership
 - Current projects include faculty from five different academic departments
 - Topics range from narrow clinical questions to state and region-wide policy analyses
- **Multiple papers with residents now under review**
- **Grants submitted to federal agencies, state agencies, non-profit foundations and internal projects**



New Hires

Sarah Nowak in Pathology from Rand Corporation and Andrew Wilcock in Family Medicine from Harvard (post-doc)

- Expertise in claims analysis, simulation modeling, network analysis
- **Addition of interns and administrative structure**
- **Current faculty appointments in four different academic departments**



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Firestone Medical Research Building - North & East Facades



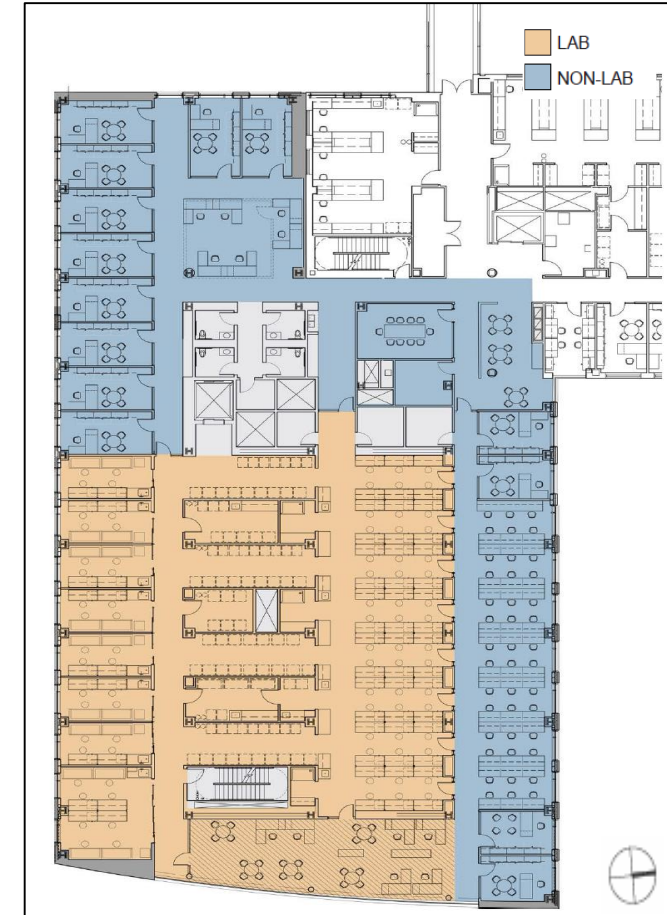
Firestone Medical Research Building

DESIGN STATUS: Transitioning to Construction Documents (CD) stage of design; estimated project costs remain at \leq \$45M.

SUMMARY: 4 floors totaling ~60,000 GSF; research & research support purpose; centralized location of LCOM campus.

PROGRAMMING VISION:

- Consolidated laboratories & write-up zones to facilitate multidisciplinary collaboration
- Improved security & efficiency; readily accessible by UVM and UVMHC users
- Flexibility and modularity to serve interdisciplinary hubs of investigator teams



Research Cores and Services

<http://med.uvm.edu/research/corefacilites>

LCOM Cores

Microscopy Imaging

Flow Cytometry

VT Integrative Genomics

- DNA Analysis
- Microarray
- Massively Parallel Sequencing
- Bioinformatics

MRI Center

Biostatistics

Office of Clinical Trials Research (OCTR)

Clinical Research Center (CRC)

Other Resources

Genomic Medicine Laboratory

BSL-3 Facility

Investigational Pharmacy

Medical Simulation Center

VT Advanced Computing Center

Instrumentation and Model Facility

Mass Spectrometry

Proteomics

Biobank

Animal Research



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Clinical Research Support

I. Directed by Kim Luebbers, MSHS, RN, BSN, OCN, Asst. Dean for Clinical Research

- Office of Clinical Trials Research (OCTR)
 - Assists with regulatory, contact and budget support - FY19: 177 Agreements
 - Research staff support – FY19: 164 projects
 - Total profit \$255,220, half of which was returned to the departments
 - 11 Research QA reviews conducted
- Clinical Research Center (CRC)
 - Inpatient Research Unit, 12 inpatient beds, research nurses, bionutrition kitchen and nutrition staff, physiology and exercise physiology staff, Informatics (REDCap) and support staff
 - Supporting laboratory, interventions, and procedures for research projects
 - 48 current protocols
 - FY19: 2854 outpatient visits
 - Provided \$674,424 in services with \$592,190 subsidized by LCOM



Research Support

I. Research Navigators

- Navigate the research resources at UVM and UVM Medical Center
- Online intake form – request a consultation to clarify your research pathway
- Education and training opportunities
- Quality assurance reviews

<http://www.med.uvm.edu/clinicaltrials/researchnavigator>
Research.Navigator@med.uvm.edu

802-656-9404 or 802-656-9407
Given Building C423

II. New initiative

- Working on development of training program for clinical investigators and their research staff



Jennifer Holmes



Annie Penfield-Cyr



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Research Support

I. Electronic IRB

- Purchased Huron Click
 - \$3 million shared investment by LCOM, Health Network, and VP for Research
- Implementation and roll out completed.

II. Clinical trials management system

- Work in progress to identify funding

III. Biomedical statistics support for consultation

- Up to 5 hours of assistance per grant application is available
- LCOM faculty members or trainees
- Contact Laura.Clayton@uvm.edu



Salary support for PI's for major institutional grant opportunities

- I.** LCOM has budgeted \$100K annually to provide 20-40% effort of PI salary at the NIH cap for a maximum of 3 months to support development and submission of training or other major institutional grant opportunities.
- II.** Should support 3-9 faculty members annually depending upon the award amounts.
- III.** Recent support has been awarded to Fran Carr, Gary Ward, Mary Cushman, & Mark Nelson.
- IV.** Announcement with instructions has been disseminated.
 - Maximum 3 page outline application including requested details.
 - Supporting letter from department head.
 - Biosketch in NIH format.
- V.** Ad hoc committee review
- VI.** This support has already been associated with successful COBRE and training grant applications.



Salary support for PI's of active funded training grants

- I. LCOM will provide 5% effort for the PI of a funded T32 training grant at the NIH cap for up to 5-years corresponding to the period of grant funding. If there are two Co-PI's, then the salary support can be split.**
- II. NIH T32 pre-doctoral and post-doctoral training grants are eligible.**
- III. To request support please submit the following to the Senior Associate Dean for Research.**
 - Copy of training grant award letter.
 - If the grant is anything other than a funded NIH T32, then please provide a description of the training program and funding source.
 - To be eligible for consideration, a training grant must support multiple trainees and it should not provide salary support for PI's or Co-PI's.



Targeted Pilot Research Funds

- I. **LCOM has budgeted \$100K annually for targeted pilot research funds for faculty. These will be over and above funds expended in our existing pilot and bridge programs.**

- II. **Innovative current round targeted new methodologies in basic research in conjunction with a research core.**
 - Phase 1 – Learn new methodology - Funded 5 teams - \$20K
 - Phase 2 – Competed for \$80K to implement new methodology
 - Funded GridION Sequencing – J. Dragon
 - Funded Upgrade Nikon A1R confocal microscope – D. Taatjes



Research Incentive Program

- I. LCOM budgeted \$1 million per year over 5 years.**
- II. Amount of incentive based on a percentage of total F&A brought in by each qualified faculty member. Can be used as unrestricted fund or additional pay.**
- III. Fall awards have gone out to 41 Ph.D.'s and 8 M.D.'s; 61% overall received as discretionary account and 39% as additional pay.**
- IV. Monitoring outcomes with faculty working group.**



UVM Health Network Research Opportunities

- I. Senior Associate Dean for Research is now also the Director of Research for the UVM Health Network**
- II. Network retreat**
 - Identify key leaders/stakeholders
 - Objectives, resources, support, and impediments
- III. Priority - enhance clinical trial opportunities/capabilities**
 - TriNetX
 - Electronic data repository



Medical Student Research Year

- I. Exploring offering a research gap year between years 3 and 4**
- II. Student and mentor teams**
- III. Options**
 - Sarnoff fellowship program cardiovascular research
 - Internally funded program



Strategic Research Planning Updates: Faculty Committee Basic Science Report

- Funding to basic science departments hire/support faculty ✓
 - Committed funds to support new tenure line faculty positions
- Research cores ✓
- Support grad students/post-doc's ✓
- Pilot funding support ✓
- Faculty incentive plan ✓
- Support to centers ✓
 - Review annual reports and funding
 - Chairs Research Council explored definition
- Cross-departmental infrastructure & resources ✓
 - Work in progress – facilities and cores
- Development of research teams ✓
 - Priority in context of new facilities
 - Priority in education and training
- Fund raising activities for basic research ✓
- Outcome assessments ongoing ✓
- Salary support for service activities?



Strategic Research Priorities

- I. Support research and training** - basic, translational, and clinical
 - New round of strategic planning with input from faculty, staff, and trainees
 - Invest our resources in targeted strategic manner
 - Aspire to Tier 1 status – metrics include research expenditures and Ph.D. degrees

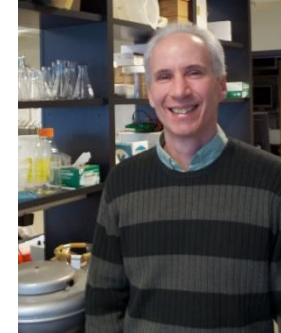
- II. Build regional consortia focused on research, education and training**
 - Rural health theme across northern New England
 - Capitalize on shared resources – alignment with Medical Center & Health Network
 - NNE-CTR
 - Gund Institute collaboration
 - Vermont Center on Rural Addiction
 - NIH R24 proposal, F. Carr, PI, to develop a regional shared resource center based at LCOM with Maine and New Hampshire partners



New Appointments

I. Chris Berger

- Associate Dean for Graduate Student and Postdoctoral Training



II. Peter Callas

- Director of the Biomedical Statistics Research Core



III. Julie Dragon

- Director of the Bioinformatics Shared Resource and Advanced Genome Technologies Core



IV. Anne Dixon

- Director of the Vermont Lung Center



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Charles Irvin, Ph.D.

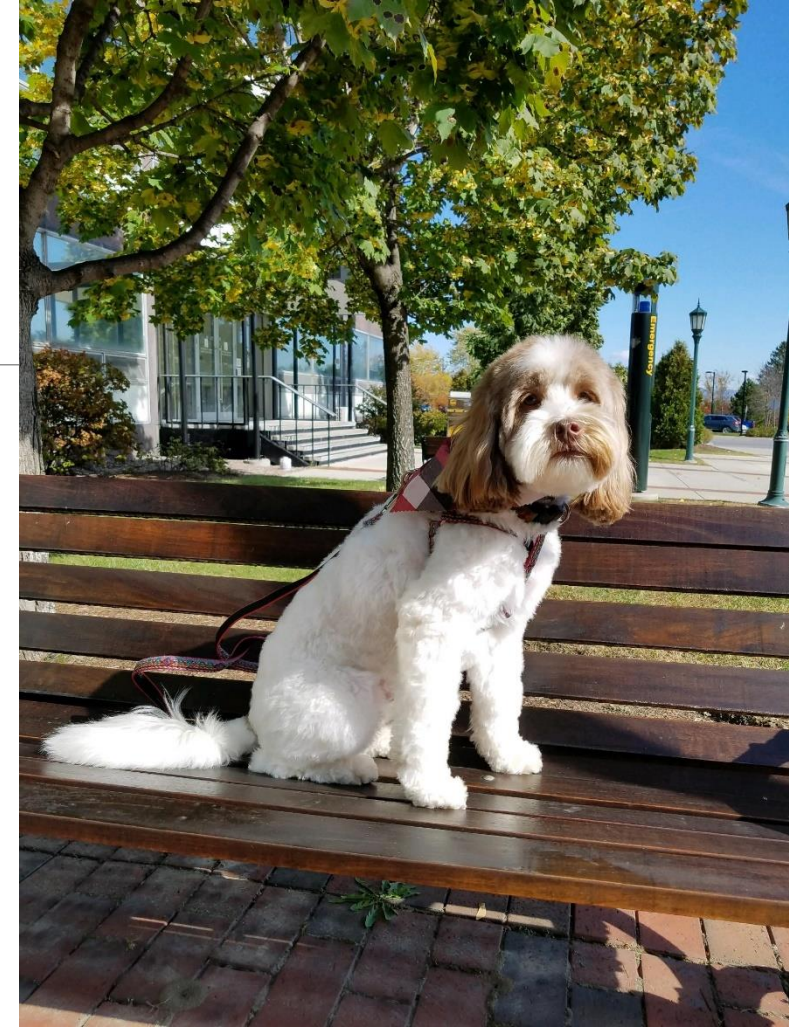
- I.** Professor of Medicine and Associate Dean for faculty affairs.
- II.** Appointed as the Vermont Lung Center's director in 1998.
- III.** Became a Center of Biomedical Research Excellence in 2000. Secured 15 years of funding from the NIH/NIGMS.
- IV.** Selected as one of only 15 American Lung Association Airways Clinical Research Centers.
- V.** Led multiple successful renewals of the Lung Biology & Disease NIH training grant (T32). First funded 2004.
- VI.** Total grant funding as PI approximately \$48 million.
- VII.** We would like to acknowledge Dr. Irvin's passion, commitment, and leadership in his 21 years of service as director of the Vermont Lung Center.



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State of Research at LCOM

- I. We will disseminate my presentation.**
- II. Please reach out with any questions or feedback.**
- III. Gordon.jensen@med.uvm.edu**



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Dean's Excellence in Research Awards



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2019 UVM Medical Alumni Association Distinguished Graduate Alumni Award

- I. Presented yesterday to Richard L. Moss, PhD, University of Wisconsin-Madison, School of Medicine
- II. Senior Associate Dean for Basic Research, Biotechnology and Graduate Studies
- III. Presentation entitled “Trials and Trails in Science: Opportunity at Every Fork in the Road (but which to take?)”



Keynote Address: Earlier Today

- I. “The Joy & Tribulations of Pragmatic Trials: The Journey of One Clinician Scientist”
- II. Joshua Chodosh, M.D., MSHS
 - Michael L. Freedman Professor of Geriatric Research and Professor of Medicine & Population Health, NYU School of Medicine; Director, Freedman Research Center on Aging, Technology, and Cognitive Health



Graduate Student / Postdoc Research Showcase

I. Held earlier Congratulations to all participants and award recipients!

Post-Doc Division

First Place: Elias Klemperer, Ph.D.

Runner-up: Kirsten Tracy, Ph.D.

Senior Graduate Division

First Place: Christopher Dustin

Runner-up: Nicolas Chamberlain

Junior Graduate Division

First Place: Lucy Pilcher

Runner-up: Levi Bonnell, M.P.H.



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Dean's Excellence in Research Awards

- I. Graduate Student – Outstanding Research Publication
- II. **Blas Guigni** – mentor Michael Toth, Ph.D.
- III. **Guigni BA**, Fix DK, Bivona JJ III, Palmer BM, Carson JA, Toth MJ. Electrical stimulation prevents doxorubicin-induced atrophy and mitochondrial loss in cultured myotubes. Am J Physiol Cell Physiol. Sept 18, 2019 ePub ahead of print DOI: 10.1152/ajpcell.00148.2019



Dean's Excellence in Research Awards

- I. Medical Student – Outstanding Research Publication
- II. **Charles Nicoli** – mentor Nataniel Lester-Coll, M.D.
- III. **Nicoli CD**, Sprague BL, Anker CJ, Lester-Coll NH. Association of Rurality With Survival and Guidelines-Concordant Management in Early-stage Non-Small Cell Lung Cancer. Am J Clin Oncol. 2019 Jul;42(7):607-614.



Dean's Excellence in Research Awards

- I. Postdoctoral Fellow – Outstanding Research Publication
- II. **Daniel Douce, M.D.** – mentor Neil Zakai, M.D.
- III. **Douce DR, Holmes CE, Cushman M, MacLean C, Ades S, Zakai NA.** Risk factors for cancer associated venous thromboembolism: The venous thromboembolism prevention in the ambulatory cancer clinic (VTE-PACC) study. *J Thromb Haemost.* 2019;00:1-8. <https://doi.org/10.1111/jth.14614>



Dean's Excellence in Research Awards

- I. Resident – Outstanding Research Publication
- II. **Mayo Fujii, M.D.** – mentors Christos Colovos, M.D. and Gary An, M.D.
- III. **Fujii MH**, Hodges AC, Russell RL, Roensch K, Beynnon B, Ahern TP, Holoch P, Moore JS, Ames SE, MacLean CD. Post-Discharge Opioid Prescribing and Use after Common Surgical Procedure. J Am Coll Surg. 2018 Jun;226(6):1004-1012. doi: 10.1016/j.jamcollsurg.2018.01.058. Epub 2018 Feb 28. PMID: 29499361



UVM Health Network Medical Group

I. UVM Health Network Medical Group Awards

- Presented by **Claude Deschamps, M.D.**, President and Chief Executive Officer, UVM Health Network Medical Group and LCOM Senior Associate Dean for Clinical Affairs



UVM Health Network Medical Group

Research Grant

- I. **PI – William Tharp, MD, PhD, Assistant Professor of Anesthesiology**
 - Intraoperative Pulmonary Mechanics and Immune Activation in Obesity.

- II. **PI – Jessica Heath, MD, Assistant Professor of Pediatrics (Heme/Onc) and Assistant Professor of Biochemistry**
 - Estrogen as a Factor in Acute Lymphoblastic Leukemia Chemotherapy Resistance.



UVM Health Network Medical Group

Innovation Grants

- I. **PI – Steven Lidofsky, M.D., Ph.D., Professor of Medicine (Gastroenterology)**
Co-PI - Andrew Hale, M.D., Assistant Professor of Medicine (Infectious Disease)
 - Empowering hepatitis C management in primary care by electronic linkage to specialty guidance.

- II. **PI – Peter Jackson, M.D., Assistant Professor of Psychiatry**
 - Decreasing Transgenerational Perpetuation of Substance Use Disorders.



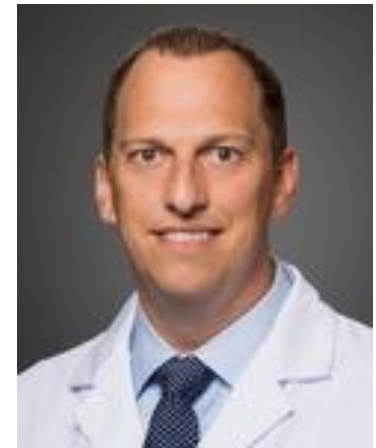
UVM Health Network Medical Group

I. Faculty Practice - Junior Researcher of the Year: C. Matthew Kinsey, M.D., M.PH.

- Assistant Professor of Medicine, Division of Pulmonary Disease and Critical Care

II. Highlights

- Director of Interventional Pulmonary Program at the UVMMC
- Nationally and internationally recognized
- Recipient of NIH Mentored Career Development Award (K23)
- Lectures at prominent professional meetings
- Peer-reviewed research papers, n = 23
- Elected to the Board of Directors of the American Association of Bronchology and Interventional Pulmonology



UVM Health Network Medical Group

I. Faculty Practice - Senior Researcher of the Year: Renee Stapleton, M.D., Ph.D.

- Professor of Medicine, Division of Pulmonary Disease and Critical Care

II. Highlights

- Nationally and internationally recognized for her expertise in ICU clinical trials, ICU nutrition, and communication with seriously and critically ill patients.
- Director of LCOM medical student research.
- Vice-Chair of the American Thoracic Society (ATS) Scientific Advisory Committee.
- Extensive extramural funding record. She is PI for two current NIH R01's for multicenter randomized controlled trials.
- Peer-reviewed research papers, n = 33, including high impact journals; e.g. JAMA and NEJM.



Dean's Excellence in Research Awards



I. Dean's Research Mentorship Award

II. **Matthew Poynter, Ph.D. – nominated by Charles Irvin & Mary Cushman**

- Professor of Medicine, Dept. of Medicine, Division Pulmonary Disease and Critical Care

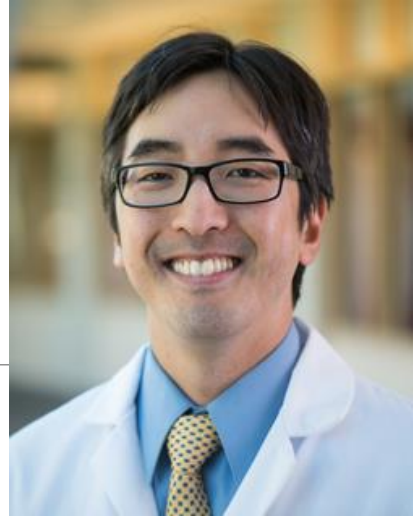
III. **Highlights**

- Published >100 peer-reviewed articles and served on multiple NIH study sections
- Mentees include undergraduates, graduate students, postdoctoral fellows, and fellows.
- Many of his protégées have gone on to pursue careers as researchers.
- Serves as the Director of Cell and Molecular and Biomedical Sciences program
- Spearheaded the successful renewal of the Lung Biology & Disease NIH training grant (T32)



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Dean's Excellence in Research Awards



I. Dean's Rising Star New Investigator Award (Assistant Professor)

II. Benjamin Lee, M.D. - nominated by Beth Kirkpatrick and Lewis First

- Assistant Professor of Pediatrics, Division Infectious Disease

III. Highlights

- Peer-reviewed papers, n=14
- Junior faculty project leader - NIH/NIGMS COBRE.
- Research focused on the unnecessary morbidity/mortality from vaccine-preventable diseases, particularly rotavirus.
- International field trials in Bangladesh.
- Understanding the genetic contribution of human blood group antigens to rotavirus infections and vaccine effectiveness.



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Dean's Excellence in Research Awards



- I. **Dean's Mid-Career Investigator Award (Assoc. Professor)**
- II. **Neil Zakai, M.D., M.Sc. – nominated by Charles Irvin and Mary Cushman**
 - Associate Professor, Dept. of Medicine, Division Hematology and Oncology

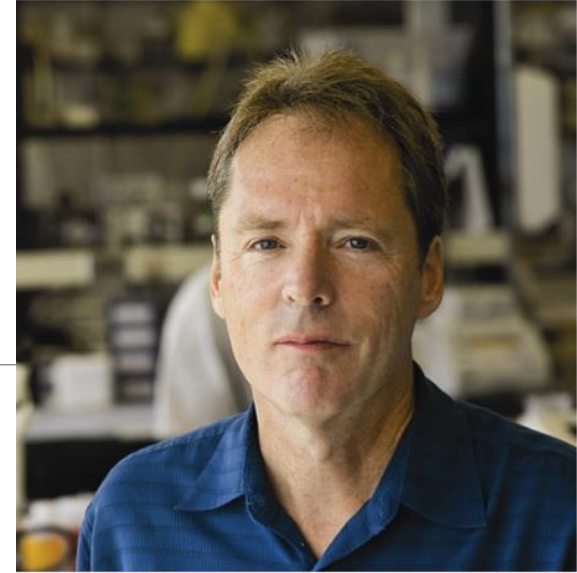
III. **Highlights**

- International expert in epidemiology and risk factors for arterial and venous thrombosis.
- 101 peer-reviewed original articles, many in high impact journals.
- Multiple national and international presentations.
- Strong extramural funding record including recent multisite R01 investigating a critical gap in knowledge on thrombosis prevention.
- Extensive mentorship and service activities.



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Dean's Excellence in Research Awards



I. Dean's Research Laureate Award (Professor)

II. Mark Nelson, Ph.D. - nominated by David Warshaw

- University Distinguished Professor and Chair of Pharmacology

III. Highlights

- Contributions span 37 years with key breakthroughs in understanding molecular mechanisms governing smooth muscle activation/contraction and relationships with systemic and neuro-vascular biology.
- 250 publications/32,000 citations
- Fellow of American Heart Association and Biophysical Society
- Recent NIH Merit Award and NIH Outstanding Investigator Award (R35)
- First UVM faculty member elected to National Academy of Sciences



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This concludes our 2019 Dean's
Excellence in Research Celebration.
Congratulations to all!

RECEPTION IS IN THE HOEHL GALLERY