

Celebration of Excellence in Research

Tuesday, November 13, 2017

THE ROBERT LARNER, M.D. COLLEGE OF MEDICINE
THE UNIVERSITY OF VERMONT



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Graduate Student / Postdoc Research Showcase

- I. Held Friday afternoon, November 10, 2017**
- II. Congratulations to all participants and award recipients!**

Post-Doc Division

First Place: Gabriela Bucini
Runner-up: Kirsten Tracy

Senior Graduate Division

First Place: Dominique Lessard
Runner-up: Devin Champagne

Junior Graduate Division

First Place: Leslie Sepaniac
Runner-up: Alex Thompson



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2017 UVM Medical Alumni Association Distinguished Graduate Alumni Award

- I. **David Warshaw, Ph.D. '79, Professor & Chair, UVM Molecular Physiology and Biophysics**
- II. He is widely recognized for his research to understand the mechanisms underlying familial hypertrophic cardiomyopathy.
- III. Earlier today, he received the Distinguished Graduate Alumni Award and gave a wonderful talk titled "Networking and Personal Branding: Two Keys to Success".



Agenda for this afternoon's session

- I. Welcome – Dean Morin**
- II. State of Research – Senior Associate Dean Jensen**
- III. Dean's Excellence in Research Awards**
 - Trainees
 - UVM Health Network Medical Group
 - LCOM Faculty
- IV. Keynote Address – Jon Lorsch, Ph.D.**
- V. Wine and Cheese Reception**



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Welcome to our 2nd annual LCOM research day

FREDERICK C. MORIN, III, M.D.

DEAN

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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

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Good things are happening!

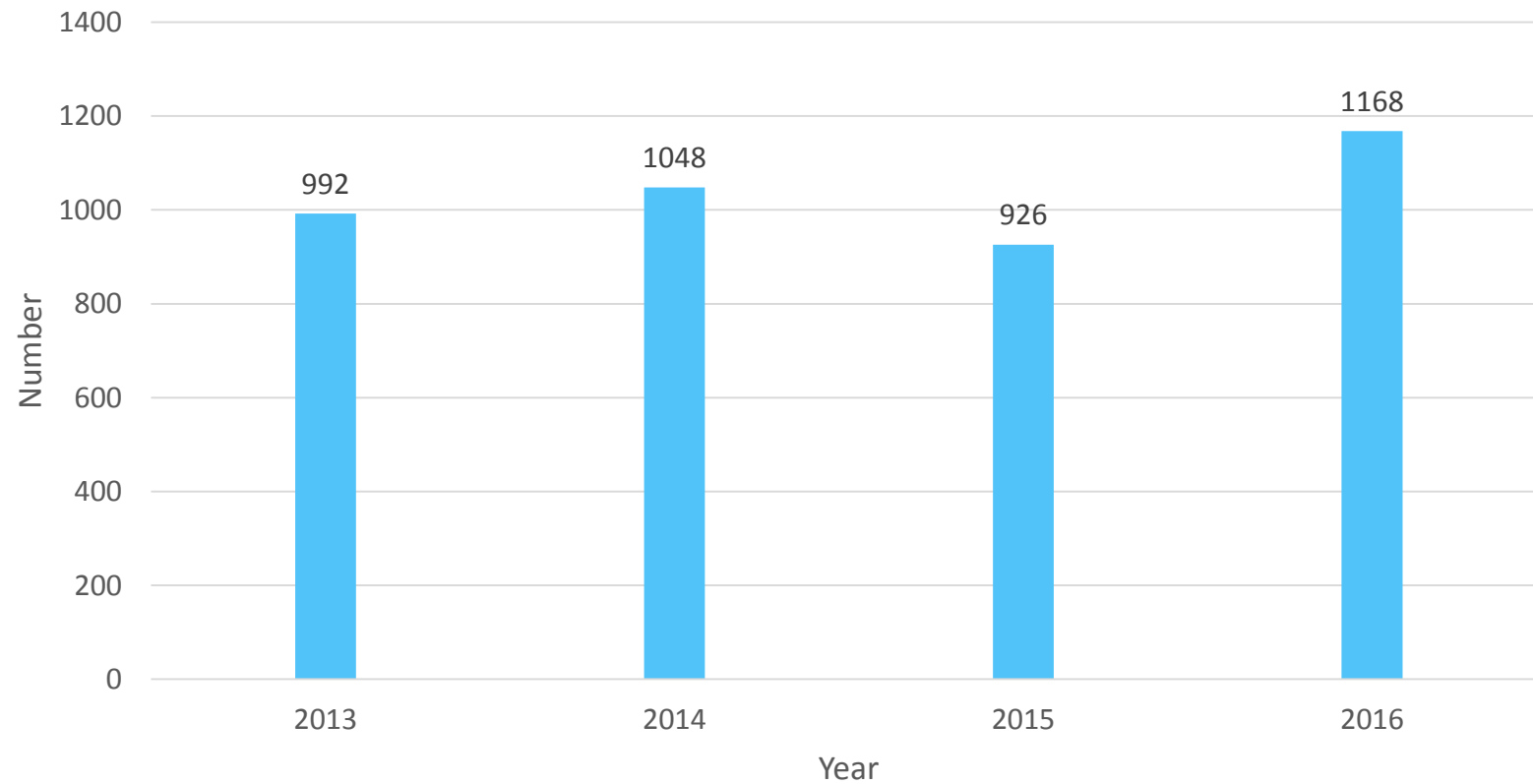


**Research Performance
Metrics are Favorable**



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Peer-reviewed Publications



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Research Funding

- I. Research grant funding to the Larner College of Medicine fluctuates between \$70-90 million annually.
- II. Vermont is among the top ten states in per capita federal research funding.



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Major Grant Awards FY 2017

- | | |
|-------------------------------------|---|
| I. S Higgins – NIH - \$3.8 | VI. K Cowan – NIH - \$1.8 |
| II. J Shaw – VT Dept Health - \$3.4 | VII. R Budd – NIH - \$1.2 |
| III. S Higgins – NIH - \$2.2 | VIII. H Garavan – Oregon Health - \$1.1 |
| IV. B Kirkpatrick – Hopkins - \$2.0 | IX. M Lewis – Tufts - \$1.1 |
| V. S Wallace – NIH – \$1.8 | X. Y Janssen-Heininger – NIH - \$0.9 |

All awards in \$ millions



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

- I. Vermont Lung Center
- II. Neuroscience Center of Biomedical Research Excellence
- III. Vermont Center for Immunobiology and Infectious Diseases
- IV. Vermont Center on Behavior and Health
- V. **Brand new** - Northern New England Clinical and Translational Research Network



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Northern New England
Clinical & Translational Research
Network

- July 3, 2017 awarded 5-year \$20 million CTR grant by NIH with our Maine partners.
- UVM leadership – G. Stein and G. Jensen
- Maine leadership – C. Rosen and T. Gridley
- The NNE-CTR network is a regional consortium focused upon rural health across the northern tier of New England.
- Mission – Enhance the health of people in Northern New England by fostering and coordinating clinical, translational and educational research activities.

Northern New England Clinical and Translational Research Network (NNE-CTR)

Maine Medical Center, University of Vermont,
University of Southern Maine, and partners

Internal Advisory Committee

Peter Bates MD
Scot Remick MD
Thomas Peterson MD
Patricia Prelock PhD
Andrew Coburn PhD

Administrative Core Principal Investigators

Clifford Rosen MD
Gary Stein PhD
Program Coordinators
Thomas Gridley PhD
Gordon Jensen MD/PhD

External Advisory Committee

Professional Development

Donald St. Germain MD, Director
Kimberly Luebbers MSHS/RN

Pilot Projects Program

Jane Lian PhD, Director
Douglas Sawyer MD/PhD

Clinical Research Design, Epidemiology

Susan Santangelo PhD, Director
Bernard Cole PhD

Translational Research Technologies

Frances Carr PhD, Director
Robert Friesel PhD

Rural Health Research and Delivery

Jan Carney MD/MPH, Director
Neil Korsen MD

Tracking and Evaluation

Brenda Joly PhD/MPH,
Director
Erika Ziller PhD

Northern New England
Clinical & Translational Research
Network

- **Pilot projects program - request for funding proposals**
 - Directors: Jane B. Lian (UVM) and Douglas B. Sawyer (MMC)
- **Dates of Submission, Review and Award Notice for Year 1**
 - Cycle 1 – 2017 LOI – Sept 15; Full application - October 25; Award Notice – December 4th
 - Cycle 2 – 2018 LOI – spring 2018

Ongoing Strategic Programs and Investments

- I. Health services**
- II. Research cores**
- III. Bioinformatics and biostatistics**
- IV. Research support**
- V. Salary support for PI's for major institutional grant opportunities**
- VI. Targeted pilot research funds**
- VII. Faculty incentive program**
- VIII. Laboratory space allocation**
- IX. Research day: Celebration of Excellence in Research**



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Health Services Research

- I. Committed to development of a new Health Services Research Center**
 - Research, training and service components
 - Collaborative enterprise – LCOM, UVM, UVM Medical Center/Network, Population Health and Quality, Jeffords, and partners
- II. Initial investments**
 - \$2.5 million committed by LCOM
 - \$1.0 million invested by UVMMG Development Fund
- III. Director of the Health Services Research Center**
 - Successful search has just been completed



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Health Services Research Center

- **Adam Atherly, Ph.D.** will be Director and Professor of Medicine starting February 1, 2018.
- He comes from the Colorado School of Public Health at UC-Denver where he served as Professor and prior Head of the Department of Health Systems, Management, and Policy.
- His research focus is health economics and the Medicare program.



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Research Cores

I. Directors Group

II. Comprehensive core assessments

- Completed reviews of Bioinformatics, Biostatistics, Flow Cytometry and Cell Sorting cores
- Reviewing duplication of resources/services
- Evolution of cores – new proposals and sun downing

III. Core subsidy issues

- Space charges – Dean's Office has assumed more than \$200K
- Co-location and sharing of space

IV. Integrated business model

- Shared business manager
- Staffing/cross-training
- Scheduling/billing
- Marketing/outreach



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Bioinformatics and Biostatistics

I. Faculty Working Group

II. Discussion of compute and data storage needs going forward

- Health services research and “omics” priorities
- Vermont Advanced Computing Core and cloud-based options

III. Investments by COM - \$2.5 million

- \$2.0 million
 - New recruitments targeting consultative needs – **Adelaide Rhodes, Ph.D. - Bioinformatics**
 - Defray consultation costs
- \$500K – joint faculty recruitment with CEMS



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Research Support

I. Navigators / coordinators

- First navigator hired – **Emily Tarleton, Ph.D.**
- Discern needs and make referrals
- Resource clearing house
- Education and training
- Regulatory and oversight functions

II. Support team for major institutional grants - pending

- Grant writer
- Administrative support
- SPA resources



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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. In 2017 support has been awarded to Janet Stein, Beth Kirkpatrick, Matthew Poynter, and Charlie Irvin.
- 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



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. First round in 2017 targeted health services research - \$50K awarded to Brian Sprague and \$50K awarded to Prema Menon.**
- III. Next round will come out in the New Year and will target new methodologies in basic research.**



Research Incentive Program

- I. Faculty Working Group providing guidance.**
- II. LCOM budgeted \$1 million per year over 5 years.**
- III. Amount of incentive was based on a percentage of total F&A brought in by each qualified faculty member. Can be used as unrestricted fund or additional pay.**
- IV. Fall 2017 awards have gone out to 66 Ph.D.'s and 11 M.D.'s; 65% overall received as discretionary account and 35% as bonus payment.**
- V. Monitoring outcomes**



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Space Resources and Allocation

- I. Faculty Working Group providing guidance.**
- II. Annual comprehensive assessment of LCOM facilities**
- III. Developed/implemented new laboratory space guidelines**
- IV. Working on new office space guidelines**
- V. New shared swing space lab facility is now available – Given E215**
 - Direct inquiries to Elayna.Mellas-Hulett@med.uvm.edu



Strategic Research Planning: Faculty Committee Basic Science Report

- Research cores
- Funding to basic science departments
- Salary support for teaching/service
- Support grad students/post-doc's
- Pilot funding support
- Faculty incentive plan?
- Support to centers?
- Hire/support basic science faculty
- Cross-departmental infrastructure/resources
- Development of research teams
- Fund raising activities for basic research
- Outcome assessments



Strategic Research Planning: Chair Committee Basic Science Report

I. Create a Chairs Research Council

- Strategic planning, guide use of available resources, coordinate faculty recruitments, sharing best practices, and communication

II. Develop expectations for research performance metrics and accountability

- High priority – Sub-committee chaired by Mark Nelson and Greg Holmes

III. Explore development of centralized research administrative support functions that are currently at department level



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Research Resources – New Developments

I. Facilities planning

- Aging research infrastructure
- New research building
- Renovation of Given Building

II. Electronic medical record and claims databases

III. Electronic IRB

IV. Wireless connectivity for laboratories

V. Research data backup for devices not currently connected to College enterprise storage



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Strategic Research Priorities

- I. High priority to build regional consortia focused on research, education and training.**
 - Rural health theme
 - Northern tier of New England
 - Capitalize on shared resources
 - Enhance our competitive stature for funding
 - Unique opportunities for research – Vermont All-Payer ACO model
- II. Health services and rural health represent major domains of alignment of interest for the UVM Health Network and LCOM.**



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Research Day: Celebration of Excellence in Research

- I.** Looking to make this a thriving annual event
- II.** Please be sure to forward your suggestions
- III.** Thanks to Charles Irvin, Chris Berger, Brittany Willette, Jennifer Nachbur, Joann McVeigh, and Erin Montgomery for their kind assistance in pulling this event together.
- IV.** Thanks to everyone that made award nominations.
- V.** Thanks to the faculty reviewers that participated.



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Dean's Excellence in Research Awards



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Trainee Award Nominees for Outstanding Research Publication

I. Graduate students

- Devin Champagne
- Katharine Cheung
- Deli Hong
- Andrew Lombardo
- Jamie Stern
- Arvis Sulovari
- Emily Tarleton
- Joyce Thompson
- Phyu Thwe
- Chris Ziegler



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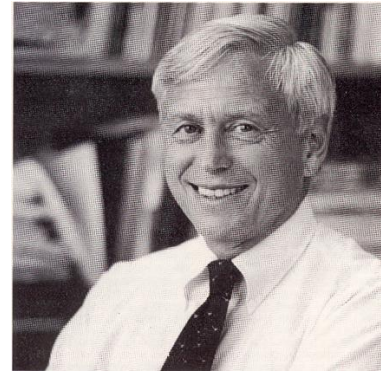
Dean's Excellence in Research Awards

- I. Graduate Student – Outstanding Research Publication
- II. Andrew Lombardo – mentor David Warshaw
- III. Lombardo AT, Nelson SR, Ali MY, Kennedy GG, Trybus KM, Walcott S, Warshaw DM. Myosin Va molecular motors manoeuvre liposome cargo through suspended actin filament intersections in vitro. Nature Communications 2017; 8:15692



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Norman R. Alpert Award



- Professor and Chair of the Department of Molecular Physiology and Biophysics (1966-1995).
- An outstanding teacher, internationally renowned investigator of cardiac hypertrophy, and founder of BioTek Instruments.
- An inspiring mentor to young scientists.

The **Norman R. Alpert Research Prize** honors his commitment to training emerging talent in the biosciences, and is awarded annually for the best peer-reviewed research article by a CMB student.

The 2017 awardee, **Jamie Stern**, a 4th year doctoral candidate in the laboratory of Dr. Christopher Berger in the Department of Molecular Physiology & Biophysics, was recognized for her paper in *Molecular Biology of the Cell*, entitled “Phosphoregulation of Tau Modulates Inhibition of Kinesin-1 Motility”.



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Trainee Award Nominees for Outstanding Research Publication

I. Medical students

- Mustafa Chopan
- Katherine Runte



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Dean's Excellence in Research Awards

- I. Medical Student – Outstanding Research Publication
- II. Katherine Runte – mentor Markus Meyer
- III. Relaxation and the Role of Calcium in Isolated Contracting Myocardium from Patients with Hypertensive Heart Disease and Heart Failure with Preserved Ejection Fraction. K. Elisabeth Runte, Stephen P. Bell, Donald E. Selby, Tim N. Häußler, Takamuru Ashikaga, Martin M. LeWinter, Bradley M. Palmer, Markus Meyer, Circulation Heart Fail. 2017 Aug;10(8). pii: e004311.



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Trainee Award Nominees for Outstanding Research Publication

I. Post-doctoral fellows

- Matthew Albaugh
- John Winters



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Dean's Excellence in Research Awards

- I. Postdoctoral Fellow – Outstanding Research Publication
- II. Matt Albaugh – mentor Hugh Garavan
- III. Albaugh MD, Orr C, Chaarani, et al, Inattention and Reaction Time Variability are Linked to Ventromedial Prefrontal Volume in Adolescents. 2017; <http://dx.doi.org/10.1016/j.biopsych.2017.01.003>.



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Trainee Award Nominees for Outstanding Research Publication

I. Residents

- Kara Landry



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Dean's Excellence in Research Awards

- I. Resident – Outstanding Research Publication
- II. Kara Landry – mentor Mary Cushman
- III. Landry KK, Alexander KS, Zakai NA, Judd SE, Kleindorfer DO, Howard VJ, Howard G, Cushman M. Association of stroke risk biomarkers with stroke symptoms: the Reasons for Geographic and Racial Differences in Stroke (REGARDS) cohort. J Thromb Haemost 2017;15:21-7.



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UVM Health Network Medical Group

I. Faculty Practice - Junior Researcher of the Year

- Nominees Kim Dittus, M.D., Ph.D. and Andrew Solomon, M.D.

II. Award Recipient - Kim Dittus, M.D., Ph.D.

- Assistant Professor of Medicine, Hematology/Oncology Division
- Clinical Director, Oncology Rehabilitation

III. Highlights

- Developed first of its kind nationwide oncology rehabilitation program that provides a platform for her research program.
- Author of 42 peer-reviewed publications.
- Sustained history of generating extramural grant support.



UVM Health Network Medical Group

I. Faculty Practice - Senior Researcher of the Year

- Nominees Beth Kirkpatrick, M.D. and Richard Wasserman, M.D., M.P.H.

II. Award Recipient - Beth Kirkpatrick, M.D.

- Professor of Medicine, Division of Infectious Disease
- Director of the Vaccine Testing Center

III. Highlights

- Widely recognized for her contributions in vaccine development and testing.
- Founding Director of the Vermont Vaccine Testing Center.
- Author of 57 peer-reviewed publications.
- Substantial extramural funding record – Gates Foundation.



UVM Health Network Medical Group

I. Faculty Practice – Research Grant Award #1

- P.I. Andrew Solomon, M.D., Neurological Sciences, and Co-P.I. Richard Watts, Ph.D., Radiology

II. “Improving Diagnosis of Multiple Sclerosis Through the Integration of Novel MRI Biomarkers”

- Evaluate novel automated imaging techniques to improve early specificity and sensitivity for MS compared to current criteria
- Develop a computational prediction method using support vector machines that integrate and analyze permutations of three techniques to identify combinations that provide the highest specificity and sensitivity for MS diagnosis



UVM Health Network Medical Group

I. Faculty Practice – Research Grant Award #2

- P.I. Sarah Guth, M.D., Psychiatry, Co-Investigator Jim Hudziak, M.D., Psychiatry, and Co-Investigator Marjorie Meyer, MD, Obstetrics and Gynecology

II. “The Vermont Family Based Approach in the Perinatal Period”

- Demonstrate the ability of the Vermont Family Based Approach (VFBA) to engage women from diverse socioeconomic backgrounds in health promotion, as indicated by participation in wellness-related activities.
- Test the efficacy of the VFBA to improve health outcomes for expecting mothers
- Test the impact of the VFBA on parenting outcomes



UVM Health Network Medical Group

I. Faculty Practice – Innovation Grant Award #1

- Leigh-Anne Ciofreddi, M.D., Erica Gibson, M.D., Abigail Crocker, Ph.D., Andrea Villanti, Ph.D. and Daniel Wolfson, M.D.

II. “Developing a Multidisciplinary Model to Improve Care of Emerging Adults with Alcohol and Substance Abuse”

- Long-term, create, implement and evaluate an interdisciplinary intervention to improve identification and treatment of alcohol and substance abuse in adolescents and emerging adults.
- This project will specifically identify the characteristics of patients most likely to benefit from SBIRT (Screening, Brief Intervention and Referral to Treatment) and determine the current perceptions and barriers to implementation of SBIRT in ED and inpatient settings.



UVM Health Network Medical Group

I. Faculty Practice – Innovation Grant Award #2

- Abiy Ambaye, M.D., Pamela Gibson, M.D. and Douglas Taatjes, Ph.D.

II. “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”

- Evaluate the diagnostic equivalence between Whole Slide Imaging (WSI) and conventional light microscopy for Surgical Pathology diagnosis in the UVM Health Network.
- Demonstrate that digital diagnosis of Surgical Pathology cases can be performed by Network pathologists with different levels of experience.
- Demonstrate that the digital diagnosis of Surgical Pathology cases can be performed by pathologists in community as well as academic settings.



LCOM Faculty Award Nominees

I. Research Mentorship

- Yvonne Janssen-Heininger, Ph.D.
- Renee Stapleton, M.D., Ph.D.
- Richard Watts, Ph.D.



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Dean's Excellence in Research Awards

I. Dean's Research Mentorship Award

II. Yvonne Janssen-Heininger – **nominated by Debra Leonard**

- Professor/Vice-Chair for Research, Dept. Pathology / Laboratory Medicine

III. Highlights

- Mentees include 5 high school students, 16 undergraduates, 16 PhD students, and 12 post-doctoral fellows.
- Mentees have won prestigious awards including NRSA post-doctoral fellowships, Parker Francis Foundation fellowships, and NIH R01's.
- Seven of her mentees currently hold faculty appointments at academic institutions.



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LCOM Faculty Award Nominees

I. Rising Star(Assistant Professor)

- Vikas Anathy, Ph.D.
- C. Matthew Kinsey, M.D.
- Joshua Nickerson, M.D.
- Michael Previs, Ph.D.
- Benedek Erdos, M.D., Ph.D.



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Dean's Excellence in Research Awards

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

II. Vikas Anathy, Ph.D. - nominated by Debra Leonard

- Assistant professor of Pathology and Laboratory Medicine

III. Highlights

- Research focused on endoplasmic reticulum stress in allergic asthma
- Funding from American Thoracic Society, Allergy and Asthma Foundation of America, Parker B. Francis Foundation, and NIH (R01)
- Published 28 peer-reviewed research papers



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LCOM Faculty Award Nominees

I. Mid-Career (Associate Professor)

- Chris Huston, M.D.
- Sally Herschorn, M.D.
- Alan Howe, Ph.D.



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Dean's Excellence in Research Awards

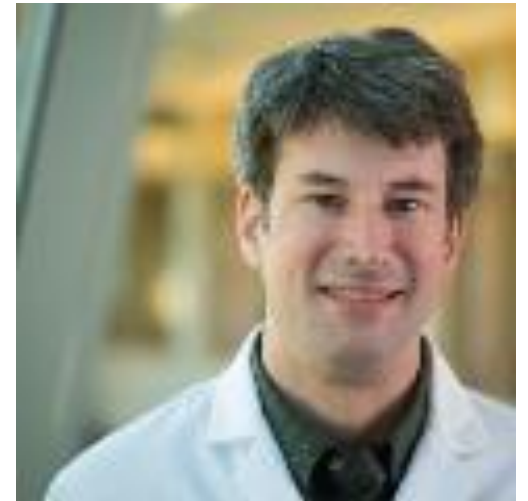
I. Dean's Mid-Career Investigator Award (Associate Professor)

II. Chris Huston, M.D. - nominated by Charlie Irvin

- Associate Professor of Medicine
- Infectious Disease Medicine

III. Highlights

- Research focus on Cryptosporidium drug development and testing
- Funding by NIH and Gates Foundation
- Published 31 peer-reviewed research papers



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LCOM Faculty Award Nominees

I. Research Laureate (Professor)

- Bruce Beynnon, Ph.D.
- Jason Bates, Ph.D.
- Sylvie Doublie, Ph.D.
- Christopher Francklyn, Ph.D.
- Stephen Higgins, Ph.D.
- Gary Stein, Ph.D.
- Roger Soll, M.D.
- Donald Weaver, M.D.
- Marie Wood, M.D.
- Jane Lian, Ph.D.



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Dean's Excellence in Research Awards

I. Dean's Research Laureate Award (Professor)

II. Gary Stein, Ph.D. - nominated by Fran Carr

- Director of the University of Vermont Cancer Center
- Professor and Chair of Biochemistry and Professor of Surgery
- Arthur Jason Perelman, M.D.'52 Professor in Cancer Research.

III. Highlights

- Research focus on genetic and epigenetic regulation of cell proliferation and differentiation with emphasis on cancer.
- Published more than 900 research papers.
- Continuous funding by NIH including R01's, program grants, and new CTR grant
- Fellow of the American Academy of Sciences



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