“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
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
Good things are happening!

National Academy of Sciences Elects UVM’s Mark Nelson to Its Membership
Peer-reviewed Publications

![Graph showing the number of peer-reviewed publications from 2013 to 2018. The numbers for each year are as follows: 2013 - 992, 2014 - 1048, 2015 - 926, 2016 - 1168, 2017 - 1220, 2018 - 1028.](image)
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.
Research Funding

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

**Notable Active Grants**

<table>
<thead>
<tr>
<th>Grant Description</th>
<th>Count and Type of Awards</th>
</tr>
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<tbody>
<tr>
<td>Northern New England Clinical and Translational Research Network</td>
<td>62 x R01 Grant Awards</td>
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<tr>
<td>3 x Centers of Biomedical Research Excellence (COBRE)</td>
<td>4 x Training Grant Awards</td>
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<tr>
<td>1 x R37 Career Merit Award</td>
<td>1 x Patient-Centered Outcomes Research Institute (PCORI)</td>
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<tr>
<td>2 x R35 Outstanding Investigator Awards</td>
<td>1 x NCI-funded Program Project</td>
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<tr>
<td>2 x R61 Clinical Trial Awards</td>
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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
# LCOM New Faculty Hires

## Faculty Hires

<table>
<thead>
<tr>
<th>Pathway</th>
<th>FY19</th>
<th>FY 18</th>
<th>FY 17</th>
<th>FY 16</th>
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<tbody>
<tr>
<td>Tenure</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Research</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Faculty Scientist</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>3</td>
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## Open Recruitments

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Current</th>
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<tbody>
<tr>
<td>Tenure</td>
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<tr>
<td>Research</td>
<td>2</td>
</tr>
<tr>
<td>Faculty Scientist</td>
<td>0</td>
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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
     ◦ 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
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
Projects
• Working on research projects with:
  • Clinical partners, community practice providers, UVMMC 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
Firestone Medical Research Building

DESIGN STATUS: Transitioning to Construction Documents (CD) stage of design; estimated project costs remain at ≤$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 UVMMC users
• Flexibility and modularity to serve interdisciplinary hubs of investigator teams
Research Cores and Services
http://med.uvm.edu/research/corefacilities

**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
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
     [Link to website]
     [Email address]

     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
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 GridlON 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
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.
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
Dean’s Excellence in Research Awards
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
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.
Dean’s Excellence in Research Awards

I. **Graduate Student – Outstanding Research Publication**

II. **Blas Guigni** – mentor Michael Toth, Ph.D.

Dean’s Excellence in Research Awards

I. Medical Student – Outstanding Research Publication

II. Charles Nicoli – mentor Nataniel Lester-Coll, M.D.

Dean’s Excellence in Research Awards

I. **Postdoctoral Fellow – Outstanding Research Publication**

II. **Daniel Douce, M.D.** – mentor Neil Zakai, M.D.

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.

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

RECEPTION IS IN THE HOEHL GALLERY