Department of Medicine

ANNUAL REPORT

July 1, 2016 – June 30, 2017

Submitted by:

Polly E. Parsons, MD

E.L. Amidon Professor and Chair Department of Medicine

Date: September 25, 2017
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Chair’s Executive Summary

The Department of Medicine had another incredible year: we welcomed 20 faculty (with an additional 14 new faculty already hired to start in the current calendar year), and celebrated the numerous achievements and recognition awards of our faculty, staff, housestaff and students.

The Department continues to further its integration into the new Health Network through the recruitment of new faculty and the expansion of clinical services. New faculty have joined the divisions of Cardiology, Infectious Disease, Nephrology, Hematology/Oncology, Pulmonary and Critical Care Medicine, Rheumatology, Endocrinology, Dermatology, Hospital Medicine, General Internal Medicine and Geriatrics. They are helping to further collaboration between community and faculty colleagues and increase access to services in the region. In addition, they bring new services and expertise including bariatric care (Endocrinology), bone metabolism (Endocrinology), vasculitis (Rheumatology), ventricular ablation (Cardiology), and Pediatric Dermatology. Our Hospital Medicine program expanded to provide collaborative care for inpatient Hematology/Oncology and Geriatrics is working collaboratively with the neurology (Memory Center) to continue to enhance the care provided to our aging population. In General Internal Medicine, our focus remains on growing our capacity as population health takes center stage.

Under the leadership of the Vice Chairs – Allen Repp, MD (Quality); Benjamin Suratt, MD (Faculty Affairs); and Charles Irvin, PhD (Research), the department has substantially increased our focus and opportunities in quality (http://www.med.uvm.edu/medicine/quality); faculty development (http://www.med.uvm.edu/medicine/subspecialty/Academic-Affairs/faculty-development-committee); and research (http://www.med.uvm.edu/medicine/research).

Education is a core mission for the department. Faculty continue to engage innovative new programs at UVM as well as at our affiliate sites. To further enhance and integrate our education mission, we established an Education Council, chaired by Kathryn Huggett, PhD. Members of the Council include Mark Pasanen, MD, Program Director Internal Medicine; Joseph Pierson, MD, Fellowship Programs liaison; Roberta O’Brien, MD, Clinical Clerkship; and Jan Carney, D, Public Health and Undergraduate Education. Garth Garrison, MD, E. Rosy Hill, MD, and Joel Schnure, MD became members of the Teaching Academy, and Emily Hadley Strout, MD became a Protégé of the Academy. The faculty continue to receive awards including an Early Achievement Award presented to Kristen Pierce, MD from the UVM Medical Alumni Association; Gilman Allen, MD, Ryan Clouser, MD, and Joshua Farkas, MD have been awarded the UVM Health Network Better Together Awards recognizing the ICU collaboration.
between UVM Medical Center and Central Vermont Medical Center; and Marvin Klikunas, MD was honored by the Larner College of Medicine Class of 2017 with the Leonard Tow Humanism in Medicine Award. Dennis Beatty, MD, Halle Sobel, MD, and David Rand, DO received 2017 Frymoyer Scholar awards. Polly E. Parsons, MD was awarded the 2017 Critical Care Lifetime Achievement Award from the Assembly on Critical Care of the American Thoracic Society. Jan Carney, MD MPH was honored as the recipient of the 2017 Crystal Heart Award at the American Heart Association’s 10th annual Vermont Go Red for Women Luncheon.

Several faculty received awards from the University of Vermont Medical Group in December, 2016:

Senior Investigator of the Year – Anne Dixon, MD
Junior Investigator of the Year – Michael LaMantia, MD
CME Teacher of the Year – Patricia O’Brien, MD
Research Grant – Richard Zubari, MD
Education Grant – Stephanie Mann, MD PI, and Mark Levine, MD as Co-PI
Education Grant – Laurie Leclair, MD

The Department continues to be a nationally/internationally recognized leader in research with contributions to new scientific knowledge. The breadth and depth of research throughout our divisions continues to be a testament to our talented investigators. Key grant awards include: Dr. Michael LaMantia’s project entitled “Delirium Evaluation in the Emergency Department for Seniors (DEEDS),” Dr. Mary Cushman’s project entitled, “The National Longitudinal Study of Adolescent Health,” Dr. Dimitry Krementsov’s project entitled, “Mechanisms of Sex-Specific p38 MAPK-Mediated Pathogenesis in CNS Autoimmunity,” Dr. Christopher Huston’s project entitled, “PATH Cryptosporidium Strain/Species Comparative Studies,” and Dr. Anne Dixon’s project entitled, “Pilot of Lifestyle in Asthma Intervention (PLAN).” In addition, Several faculty received awards at the Dean’s Excellence in Research Awards event at the Larner College of Medicine in November, 2016:

Research Mentorship – Charles Irvin, PhD
Research Laureate – Ralph Budd, MD
Trainee Award for Outstanding Research Publication/Graduate Student – E. Ross Colgate, MPH (Mentor, Beth Kirkpatrick, MD)
Trainee Award for Outstanding Research Publications/Postdoctoral Fellows – Nicholas Farina, PhD (Mentors for the Department of Medicine - Marie Wood, MD and Steven Ades, MD)
Trainee Award for Outstanding Research Publication/Postdoctoral Fellows – Vicki Hart, PhD, principal (Mentor – Julian Sprague, MD

In aggregate, members of the department including students, residents, fellows (MD and PhD) published in high impact journals, as detailed within this report. They were asked to lead and serve on NIH study sections and advisory councils, FDA review panels and editorial boards. They are invited from around the world to present at scientific meetings and to be visiting professors, and they are elected to leadership in national societies.

Administrative Team:

Physician Leader and Chair Polly E. Parsons, MD
Vice Chairs
Department of Medicine, University of Vermont Division Chiefs
R. Budd, MD, Immunobiology
B. Libman, MD, Rheumatology
W. Kemper Alston, MD, Infectious Diseases
G. Goldman, MD, Dermatology
J. Leahy, MD and Joel Schnure, MD, Endocrinology, Metabolism, & Diabetes
B. Littenberg, MD, General Internal Medicine Research
J. Gilwee, MD, General Internal Medicine & Geriatrics
C. Holmes, MD, Interim, Hematology/Oncology
A. Dixon, MD, Pulmonary and Critical Care Medicine
Schneider, MD, Cardiolovascular
R. Solomon, MD, Nephrology
J. Vecchio, MD, Gastroenterology

Total faculty: 203
By rank –
Assistant Professors: 97
Associate Professors: 48
Professors: 52
Clinical Practice Physicians: 6

By gender – 82 female; 121 male
By track – Tenured: 37
Research Scholar Pathway: 8
Tenure Pathway: 7
Clinical Scholar Pathway: 139
Education Scholar Pathway: 6
Clinical Practice Physician – 6

Faculty Actions:
FALL 2016 – Seven (7) promotions; seven (7) annual review reappointments

SPRING 2017 – 26 green sheet reappointments; 13 annual review reappointments; Nine (9) volunteer pathway faculty reappointments.

Promotions (7/1/17):

Shaden Eldakar-Hein – to Associate Professor, CSP
Patricia King – to Professor, CSP
Isaura Menzies – to Associate Professor, CSP
Allen Repp – to Professor, CSP
Julian Sprague – to Associate Professor, CSP
Michael Toth – to Professor, Tenured

Department of Medicine – Standing Committees

Medicine Credentials Committee

G. Goldman, Chair
M. Lazarovich, MD
K. Pierce, MD
D. Schneider, MD
J. Schnure, MD
R. Solomon, MD
J. Vecchio, MD
M. Wood, MD

Committee Mission:
The mission of the Medicine Credentials committee is two-fold. First, the committee is charged with maintaining an up to date policy and procedure / rules and regulations for the Medicine Health Care Service. Second, the committee is charged with ensuring that faculty receive appropriate initial and ongoing performance evaluations to assist the medical staff office with credentialing.

Quality Assurance Committee – Cardiac Catheterization Laboratory
P. Gogo, Chair
H. Dauerman
E. Terrien
M. Watkins
T. Fortner
S. Beausoleil
Committee Mission:
The purpose of the committee is to ensure high quality in the processes of care of the cath lab to ensure excellent outcomes. Some goals are to eliminate outliers, reduce variation, and enhance performance. The QA monthly meeting provides rapid turnover feedback mechanisms. The committee is committed to educational opportunities for the staff and incorporating practice standards and guidelines into the laboratory operation. Internal, regional, and national comparative data is included that address cognitive knowledge, procedural skill, clinical judgment, and procedural outcomes.

Fellowship Directors Education Committee
D. Kaminsky, Chair
F. Keating
N. Ferrentino
E. Gagnon
M. Gilbert
D. Kaminsky
B. Libman
M. Pasanen
K. Pierce
W. Weise
J. Sprague

Committee Mission:
The primary mission of the Fellowship Directors’ Education Committee is to provide a forum and improve the training, education and overall experience for all Fellows throughout the UVMMC and to support, and develop the potential of each Fellow; in doing so, the Fellows will become an asset to the medical community providing outstanding care and contributions.

Resident Research Committee
R. Stapleton, Chair
V. Hood
C. Huston
D. Kaminsky
M. Meyer
M. Pasanen
R. Pinckney
H. Sobel
D. Weiss
Z. Zakai

Committee Mission:
Responsibilities of the Committee are to, in general, provide guidance and resources for residents and fellows, along with their mentors, performing scholarly research projects. More specifically, the Committee has the following duties:
1) Explain the research project process to new R2s at their annual R2 retreat in July
2) Conduct R2 Research Evenings every fall, where each R2 and their mentor present their project to the Committee to ensure feasibility and receive any pertinent advice/feedback
3) Review residents’ proposals for travel to national meetings to present abstracts that have been accepted, so that limited travel funds can be awarded
4) Serve on a discussion panel for medical students interested in research
5) Review R3 and fellow abstracts every spring to select the abstracts that will be presented orally and via poster on Resident Research Day and Fellow Research Day
6) Select winners of the R3 research (Harriet Dustan) and mentor awards annually for presentation at the resident graduation dinner

Clinical Competency Committee
M. Ramundo, Chair
S. Eldakhar-Hein
J. Bartsch
H. Sobel
R. Clouser
E. Ganguly
M. Pasanen
F. Keating
T. Scribner-Metcalf
S. Stoyak
J. O’Toole
D. Shelc

Committee Mission:
The mission of the Clinical Competency Committee is to ensure that the graduates of our training program have the necessary knowledge, skills and attitudes to provide excellent patient care and to promote quality and improvement in the health care system. The Clinical Competency Committee meets a minimum of twice yearly to assess resident progress towards independent practice using the Milestones as a platform. This committee is responsible for issues pertaining to resident promotion, remediation and dismissal. The committee is also responsible for preparing a complete summative evaluation report, based on a review of all available evaluations, for each resident semi-annually.

Housestaff Selection Committee
Shaden Eldakar-Hein, MD - Chair
W. Alston, MD
M. Barry, MD
J. Bartsch, MD
R. Clouser, DO
F. Foerg, MD
E. Ganguly, MD
G. Garrison, MD
S. Grant, MD
Committee Mission:

The Housestaff Selection Committee is responsible for the recruitment of Internal Medicine Residents. This includes a careful review of applications from candidates, interviews of the invited candidates and, finally the compilation of the rank list for Match Day. As we receive over 1300 applications for residency, and interview over 200 applicants, this committee serves a critical role in the success of the residency.

Program Evaluation Committee

M. Pasanen, MD - Chair
V. Agrawal MD
M. Barry, MD
J. Bartsch, MD
R. Clouser, DO
M. Degirmenci
E. Ganguly, MD
F. Keating, MD
M. Burnett, MD (Chief Resident)
E. Monfred, MD
M. Ramundo, MD
J. Halevy, MD (Chief Resident)
D. Shelc
R. McEntee, MD (Chief Resident)
P. Slavik, MD
H. Sobel, MD
J. Wilfong, MD

Committee Mission:

The Program Evaluation Committee meets 1–2 times per month. This committee actively participates in planning, developing, implementing and evaluating all educational activities of the program. This includes reviewing and making recommendations for revision of competency-based curriculum goals and objectives. It also includes addressing areas of noncompliance with ACGME standards and reviewing the program annually using the evaluations of faculty, residents and others. This culminates in an annual report which summarizes a systematic evaluation of the curriculum and renders the official written Annual Program Evaluation.

Quality Assurance Committee – Medicine Health Care Service

<table>
<thead>
<tr>
<th>Allen Repp</th>
<th>Chair</th>
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<tbody>
<tr>
<td>Maria Airoldi</td>
<td>Pharmacy</td>
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<tr>
<td>Gil Allen</td>
<td>Pulmonary &amp; Critical Care Medicine</td>
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<tr>
<td>Susan Bellemare</td>
<td>Nursing</td>
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<tr>
<td>Tammy Berrings</td>
<td>Nursing</td>
</tr>
<tr>
<td>Peg Gagne</td>
<td>Nursing</td>
</tr>
<tr>
<td>Amanda Kennedy</td>
<td>QI Scholar</td>
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<tr>
<td>Farrah Khan</td>
<td>Hematology-Oncology</td>
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<tr>
<td>Michael Latreille</td>
<td>Hospital Medicine</td>
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<tr>
<td>Scott Legunn</td>
<td>Rheumatology</td>
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<tr>
<td>Julie Lin</td>
<td>Dermatology</td>
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<tr>
<td>Allen Mead</td>
<td>Director</td>
</tr>
<tr>
<td>Mary Ramundo</td>
<td>Infectious Disease</td>
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<tr>
<td>Jeffrey Rimmer</td>
<td>Nephrology</td>
</tr>
<tr>
<td>Marie Sandoval</td>
<td>GIM &amp; Geriatrics</td>
</tr>
<tr>
<td>Ross Stemmler</td>
<td>Resident</td>
</tr>
</tbody>
</table>
Committee Mission:
To monitor, assess and continuously improve the quality and safety of health care provided by the UVMMC by reviewing, evaluating, and continuously improving the care delivered by the Medicine Health Care Service.

**Faculty Engagement Committee**

J. Lin, Chair  
P. Menon  
K. Cheung  
A. Teleron  
C. Noyes  
F. Khan  
A. Gutierrez  
S. Legunn  
J. Pierson  
P. gogo  
M. Velez  
T. Stockton  
I. Menzies

**Committee Mission:**
We are tasked with facilitating interaction between the different divisions in Medicine. We sponsor gatherings at different times of the year and encourage meeting events between divisions. Our goal is to “open up” the department, to encourage inter divisional discourse, and promote mentorship.

**Medical Grand Rounds Education Program Committee**

R. Budd, MD  
C. Irvin  
T. Jetton  
S. Lidoňsky  
M. Wood  
M. Takla  
B. Everett  
L. Burgess

**Committee Mission:**
The Grand Rounds Committee reviews the format for Grand Rounds and its speakers to insure that it is scientifically sound, presenting up-to-date information, and assisting the medical residents and medical students in becoming familiar with the research going on within the Department. We also review candidates nominated for the Tisdale Lectureship.

Scientific Integrity Committee
R. Budd, Chair
C. Irvin

Committee Mission:
Scientific Integrity Committee advises the Chair on issues related to policies for reviewing possible scientific fraud.

Medicine Operations Committee
Keating, Friederike K - Chair
Schnure, Joel J.
Bethina, Narandra
Grant, Steven M.
Haddock, Diane
Holmes, Todd E.
Folefac, Edmund
Everett, Brendan T.
Smith, Lindsay M.
Kumar, Abhishek
Zubarik, Richard S.
Clouser, Ryan D.
Mead, Allen
Tammy Stockton

Committee Mission:
The Department of Medicine Operations Committee serves to improve operational efficiency and cross.divisional collaboration. To that end, the committee reviews operational data and compares practices across the Divisions, and advises the Departmental leadership (Chair and Unit Chiefs) regarding operational matters.

Department of Medicine Faculty Development Committee
The Faculty Development is composed of 1-2 faculty from each division in the Department of Medicine and meets monthly. The charge of the committee is to work with the Vice Chair for Academic Affairs on matters related to faculty development, including faculty mentoring, career development, and promotion. The committee serves as a forum for junior and mid-level faculty to discuss faculty development within the DOM and to foster new initiatives to support the DOM faculty. Current efforts include the development and dissemination of:

- Faculty mentoring and career development support tools
- Promotion dossier (Green Sheet) guidance and a standardized Larner College of Medicine CV format
- Metrics and guidelines for career development and promotion within the Clinical Scholar Pathway
- Mechanisms to recognize and address faculty burnout
- The Quarterly Faculty Development newsletter for the DOM

The current membership of the committee is listed below. Please contact Ben Suratt or your divisional representative with questions.

<table>
<thead>
<tr>
<th>Member</th>
<th>Division/Position</th>
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</thead>
<tbody>
<tr>
<td>Benjamin Suratt, MD</td>
<td>Committee Chair, Vice Chair of Medicine for Academic Affairs</td>
</tr>
<tr>
<td>Laurie St. Gelais</td>
<td>Administration</td>
</tr>
<tr>
<td>Maura Barry, MD</td>
<td>Hematology/Oncology</td>
</tr>
<tr>
<td>Narandra Bethina, MD</td>
<td>Rheumatology</td>
</tr>
<tr>
<td>Jason Botten, PhD</td>
<td>Immunobiology</td>
</tr>
<tr>
<td>Garth Garrison, MD</td>
<td>Pulmonary &amp; Critical Care Medicine</td>
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<tr>
<td>Nicholas Ferrentino, MD</td>
<td>Gastroenterology</td>
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<tr>
<td>Matthew Gilbert, DO</td>
<td>Endocrinology</td>
</tr>
<tr>
<td>Farrah Khan, MD</td>
<td>Hematology/Oncology</td>
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<tr>
<td>Robert Lobel, MD</td>
<td>Cardiology</td>
</tr>
<tr>
<td>Rachel McEntee MD</td>
<td>Hospitalist Medicine</td>
</tr>
<tr>
<td>John Miller, MD</td>
<td>Primary Care Medicine</td>
</tr>
<tr>
<td>Member</td>
<td>Division/Position</td>
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</tr>
<tr>
<td>Kristen Pierce, MD</td>
<td>Infectious Disease</td>
</tr>
<tr>
<td>Marios Prikis, MD</td>
<td>Nephrology</td>
</tr>
<tr>
<td>Mario Velez, MD</td>
<td>Gastroenterology</td>
</tr>
<tr>
<td>Christine Weinberger, MD</td>
<td>Dermatology</td>
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</tbody>
</table>
Department of Medicine Reappointment, Promotions, and Tenure Committee

The Reappointment, Promotions, and Tenure Committee is composed of 3 subcommittees: The Tenure Pathway and Promotions Subcommittee, The Clinical Scholar Evaluation and Reappointment Subcommittee, and The Volunteer Pathway Reappointment Subcommittee. Each are composed of selected faculty from the divisions of the Department of Medicine. All three subcommittees participate in the Spring RPT cycle which addresses faculty reappointments, while the Tenure Pathway subcommittee also meets for the Fall RPT cycle as well to evaluate faculty going up for promotion.

The current membership of the committee is listed below. Please contact Ben Suratt with questions.

**Tenure Pathway and Promotions Subcommittee**

<table>
<thead>
<tr>
<th>Member</th>
<th>Division/Position</th>
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<tbody>
<tr>
<td>Jason Bates, PhD</td>
<td>Chair</td>
</tr>
<tr>
<td>George Atweh, MD</td>
<td>Hematology/Oncology</td>
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<tr>
<td>Harold Dauerman, MD</td>
<td>Cardiology</td>
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<tr>
<td>Christopher Huston, MD</td>
<td>Infectious Disease</td>
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<tr>
<td>Beth Kirkpatrick, MD</td>
<td>Infectious Disease</td>
</tr>
<tr>
<td>Benjamin Littenberg, MD</td>
<td>GIM</td>
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<tr>
<td>Charles Maclean, MD</td>
<td>GIM</td>
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<tr>
<td>Joseph Pierson, MD</td>
<td>Dermatology</td>
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</tbody>
</table>

**Committee Mission:**

The mission of the Department of Medicine Tenure Pathway and Promotions Subcommittee is to provide support to the RPT Chair in the preparation of summary information required for reappointment and promotion of Department of Medicine faculty members on the Tenure Track Pathway, and for promotion dossiers of faculty on all promotion tracks. The Committee is charged with reviewing the content of dossiers, assembled by each faculty member under
consideration and corresponding unit director, and with writing summaries that highlight accomplishments in the areas of teaching, research and scholarship, and service to the institution and beyond. Each summary will also serve to generate constructive feedback to the faculty member under consideration, so that the goals for future promotion can be achieved. The Subcommittee will meet at least once during the faculty review cycle to finalize the summaries, which will then be forwarded by the Subcommittee Chair to the RPT Committee Chair.

**Clinical Scholar Evaluation and Reappointment Subcommittee**

<table>
<thead>
<tr>
<th>Member</th>
<th>Division/Position</th>
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<tbody>
<tr>
<td>Kristen Pierce, MD</td>
<td>Chair</td>
</tr>
<tr>
<td>Tanya Bertsch, MD</td>
<td>GIM</td>
</tr>
<tr>
<td>Shaden Eldakhar-Hein, MD</td>
<td>Hospitalist Medicine</td>
</tr>
<tr>
<td>Matthew Gilbert, DO</td>
<td>Endocrinology</td>
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<tr>
<td>Chris Holmes, MD, PhD</td>
<td>Hematology/Oncology</td>
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<tr>
<td>Chi Chi Lau, MD</td>
<td>Rheumatology</td>
</tr>
<tr>
<td>Carolyn Lyon, MD</td>
<td>Hospitalist Medicine</td>
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<tr>
<td>Doris Strader, MD</td>
<td>Gastroenterology</td>
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<tr>
<td>Peter Van Buren, MD</td>
<td>Cardiology</td>
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**Volunteer Pathway Reappointment Subcommittee**

<table>
<thead>
<tr>
<th>Member</th>
<th>Division/Position</th>
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<tbody>
<tr>
<td>Claudia Berger, MD</td>
<td>Chair</td>
</tr>
<tr>
<td>Roberta O'Brien, MD</td>
<td>GIM</td>
</tr>
<tr>
<td>Garth Garrison, MD</td>
<td>Pulmonary &amp; Critical Care Medicine</td>
</tr>
</tbody>
</table>
Committee Mission:

The mission of the Department of Medicine Volunteer Pathway Reappointment Subcommittee is to provide support to the RPT Chair in the preparation of summary information required for reappointment of Department of Medicine faculty members on the Volunteer Pathway. The Committee is charged with reviewing the content of dossiers, assembled by each faculty member under consideration and corresponding unit director, and evaluating eligibility of the faculty member for reappointment on the Volunteer Pathway. The Subcommittee will meet at least once during the faculty review cycle to finalize the recommendations, which will then be forwarded by the Subcommittee Chair to the RPT Committee Chair.

Research Committee

C Irvin, PhD, chair
R. Budd, MD
M. Poynter, PhD
B. Kirkpatrick, MD
T. Jetton, PhD
M. Toth, PhD
E. Gagnon - Staff
M. Cushman, MD
M. Bui, MD PhD
S. Lidofsky, MD PhD
M. Meyer, MD
R. Solomon, MD
A. Repp, MD
C. MacLean, MD
C. Lyon, MD
T. Mazuzan – Staff
M. Rowen – Staff

Committee Mission:

The Department of Medicine’s Research Committee is Chaired by the Vice Chair for Research with faculty representation from each Division/Center and financial/operations leadership staff. The committee meets monthly to discuss a wide range of issues pertaining to the research mission and activities of the department’s faculty. A major focus of the committee is to advise the Chair on decisions that impact the research endeavors of the department’s faculty. Other topics include the development and review policies and procedures relating to research, funding requests, new funding opportunities, changes in Federal policies, dissemination of information and setting new initiatives to enhance the research activities of the department.

Quality Assurance Committee – Dermatology
T. Holmes, MD
Medical Service

Patient Days: 51,255 (inpatients and bedded outpatients)
Ambulatory Care Visits: 238,292 (168,647 specialty care and 69,645 primary care)
Work RVUs: 573,305 work RVUs

UVMMC Practice Sites:

Ambulatory Care Center – Medicine has a presence in five Modules:

- Medicine: Infectious Disease (including Travel Medicine), Osteoporosis Center, Rheumatology and Clinical Immunology, and Pulmonary (including PFTs), Lung Cancer Multidisciplinary Clinic
- Dermatology including Mohs Surgery (occupying two modules)
- Cancer Center: Hematology/Oncology, Breast Care Center and Multidisciplinary Clinic, Vermont Regional Hemophilia Treatment Center, and
- Surgery: Gastroenterology, Thrombosis Center [part of Hem/Onc and Vascular Surgery], and Gastrointestinal Cancer Multidisciplinary Center

University Health Center

- Nephrology
- Sleep Medicine

Tilley Drive, South Burlington

- Cardiology and Cardiac Rehabilitation, Oncology Rehabilitation, Pulmonary Rehabilitation
- Endocrinology and Endocrine Clinical Research

Fanny Allen Hospital

- Memory Clinic
- Vermont Lung Center (Pulmonary Research)
UVMMC Outreach Sites:

Vermont

Brattleboro (BMH) – Infectious Disease
Morrisville (Copley Hospital) – Cardiology
St. Albans (Northwestern Medical Center) – Nephrology and Cardiology
St. Johnsbury (Northeastern Medical Center) - Infectious Disease
Barre (Central Vermont) – Nephrology, Dermatology (Telederm), Pulmonary, Hem/Onc
Rutland (Rutland Regional) – Nephrology, Cardiology, Infectious Disease
Middlebury (Porter) – Cardiology, Hem/Onc
Newport (Newport Memorial) – Nephrology, Dermatology (Telederm)

New York

Malone (Alice Hyde) – Cardiology
Ticonderoga (Moses Luddington Hospital) – Dermatology
Canton- Potsdam – Cardiology
Massena (MMH) – Cardiology
Plattsburgh (CVPH) – Cardiology, Infectious Disease

Massachusetts

Mass General Hospital, Boston – Cardiology

Primary Care Sites (General Internal Medicine and Geriatrics):

South Burlington
Essex Junction
Burlington (University Health Center)
Williston

Nursing Homes and Other Locations:

Starr Farm Nursing Facility
The Arbors at Shelburne
Birchwood Terrace Nursing Facility
Green Mountain Nursing Facility
Visiting Nursing Association of Vermont
The Department also participates in many multidisciplinary clinics:

Department of Medicine Multidisciplinary Clinics and Case Conferences/Tumor Boards
(examples of participants in parentheses)

Active

- Maternal Fetal Medicine/Gestational Diabetes (Endocrine, Women’s)
• Upper GI MDC and Tumor Board (Gastroenterology, Hematology/Oncology, Rad. Oncology, Pathology, Radiology, Surgery)

• Lung MDC and Tumor Board (Pulmonary, Surgery, Radiation Oncology, Hematology/Oncology, Pathology, Radiology)

• Breast MDC and Tumor Board (Hematology/Oncology, Radiology, Surgery, Radiation Oncology, Pathology)

• Hem Malignancy Conference (Hematology/Oncology, Pathology)

• Brain Tumor Board (Hematology/Oncology, Surgery, Radiology, Radiation Oncology)

• Sarcoma Tumor Board (Hematology/Oncology, Orthopaedics, Radiology, Pathology, Radiation Oncology)

• ENT Tumor Board (Hematology/Oncology, Surgery, Radiation Oncology)

• GU MDC and Tumor Board (Hematology/Oncology, Surgery, Pathology)

• Melanoma Tumor Board (Dermatology, Surgery, Hematology/Oncology, Pathology)

• Familial Cancer Program Conference (Genetic counseling, medical oncology, pathology, surgical oncology, ob/gyn).

• Geriatrics/Memory Center (Geriatrics and Neurology)

• Interstitial Lung Disease (Pulmonary and Rheumatology)

• Cystic Fibrosis (Pulmonary, Endocrinology, Social Work, Nutritional Services)

• Bone Metabolism (Endocrinology and Rheumatology)

• Stone Clinic (Endocrinology and Urology)

• Transplant Clinic (Nephrology and Transplant Surgery)

• Oncology Rehabilitation (Hematology/Oncology, Cardiology, Physical Therapy)

• Pulmonary Rehabilitation (Pulmonary, Cardiology, and Physical Therapy)

• Heart Failure (Cardiology and Primary Care)

• TAVR (Cardiology and Surgery)

• Accredited Stem Cell Transplant Program (Hematology and Pathology/Laboratory)
• Pediatric Hemophilia Clinic (Hematology/Oncology and Pediatrics)

Under Development

• Dermatology and OB/GYN
1. Leadership

Mark E. Pasanen, M.D., FACP – Program Director
Mary Ramundo, M.D. – Associate Program Director
Shaden Eldakar-Hein, M.S., M.D., FACP – Associate Program Director
Dorothy Shelc – Program Administrator

2. Summary of Program Highlights 2016-2017

Enhancements to Curriculum:

We launched our innovative approach to resident learning in January 2017. After over a year of planning, we replaced our noon lecture-based approach with Academic Half-Days. In this format, we have all of our first-year residents free from clinical duties one afternoon/week. During these weekly sessions, we utilize active-learning techniques, focusing on core material critical for success as an R1. For the senior resident half-day, we are able to expand to more complex concepts, but still utilize interactive and engaged learning. In addition, we have incorporated wellness activities, a robust improvement science curriculum (under the leadership of Dr. Allen Repp) and a Resident-As-Teacher series into these sessions.

We continue to provide MKSAP, the premier board review product, for all of our residents, and utilize MKSAP questions in many of our teaching sessions. In addition, for the third year we provided all 2nd and 3rd year residents with subscriptions to NEJM Knowledge (+), a mobile question-based board review product with an adaptive learning interface as part of our commitment to ABIM Board success – resulting in a three-year board pass rate above the national mean (and 100% of our 2016 graduates).

Continuity Clinic Update:

We completed our 5th year in a block schedule (4+1), and with the continued leadership of Drs. Halle Sobel and Rich Pinckney, small group learning sessions continue to be developed as part of a comprehensive 3-year curriculum. At the core of the experience is providing care for a diverse population of primary care patients. In addition, we’ve incorporated the PEAC self-learning modules along with the Yale Ambulatory Curriculum into the formal educational experience.

Wellness:

Over the last two years, we have started a Resident Wellness Committee, with the goal of promoting resiliency by creating opportunities for our residents to engage in activities with each other and our
community. This has included providing and serving monthly dinners at the Hope Lodge, where patients and families stay while undergoing cancer treatments.

Improvements in Evaluation/Assessment:

With leadership from Dr. Ramundo, our Clinical Competency Committee reviews all of our residents at least bi-annually, providing milestone-based evaluations and feedback. In addition, this group now provides insight and guidance for residents who would benefit from a more structured improvement plan.

Recruitment:

With leadership from Dr. Eldakar-Hein, we had another incredibly successful resident recruitment season. Given the significant increase in the number of programs each student applies to, it continues to be critical to interview a relatively large number of candidates – requiring numerous faculty to volunteer their time for this critical process.

3. List of Senior Residents (as of July 1, 2017 – Graduating Residents and Match Results below)

**PGY-3**

Sarah Gillett  University of Vermont  
Caitlin Greenberg  University of New England College of Osteopathic Medicine  
Elena Kozakewich  Albany Medical College  
Lauren Miller  Drexel University (Primary Care)  
Gatha Nair  University of Arizona  
Hank Ng  University of Vermont  
Nehpreet Pandhair  JJM Medical College, India  
Anthony Provenzano  Wayne State University  
Vishal Shah  University of Vermont  
Kelsey Sheahan  University of Vermont (Primary Care)  
Ross Stemmeler  Florida State University  
Umer Syed  Chicago Medical School at Rosalind Franklin University  
Kathleen Whitbread  University of Buffalo  
Heather Wright  University of New England College of Osteopathic Medicine  
Ann Vo  Touro University-California College of Osteopathic Medicine

**PGY-2**

Categorical

Sean Bullis  University of Vermont  
Alejandro Castro  University of Vermont
Gurpinder Gill  University of Vermont
Gary Gilmond  University of Vermont (Primary Care)
Emily Hadley Strout  University of Vermont (Primary Care)
Shah Khan  University of Texas – San Antonio
Elizabeth Levine  University of Texas – San Antonio
Julia Powelson  University of Alabama
Brennan Rigby  University of Utah
Avneet Singh  University of Toledo
Michael Stutzman  University of Minnesota
Elizabeth Wahlberg  University of Washington
Kramer Wahlberg  University of Washington
Sasha Waldstein  University of Rochester

Chief Medical Residents

Lee-Anna Burgess  University of Queensland, Australia
Brendan Everett  Rutgers Robert Wood Johnson
Moussa Takla  University of Connecticut

4. Resident Awards

- The Harriet P. Dustan, M.D. Award
  Lakshmi Nambiar, MBBS
  
  Brendan Everett, MD

- The Frank L. Babbott, M.D. Memorial Award
  Lee-Anne Burgess, MD

- Richard E. Boucher, M.D. Excellence in Primary Care Award
  Sara Roberts, M.D.

- E.L. Amidon, M.D. Award
  Outstanding Teacher of the Year
  Subspecialty Medicine
  William Hopkins, M.D

- William Osler, M.D. Award
  Outstanding Teacher of the Year
  General Internal Medicine
Emily Greenberger, M.D.

- Fellow Award for Outstanding Teaching
  Amir Azarbal, M.D.

5. Resident presentations at meetings and publications

Abstracts at VT ACP Meeting 2016

Clinical Vignettes:

Acquired Brugada from a Fentanyl Variant?
Vishal Shah MD MS, Jacqueline O'Toole DO, Elizabeth Hall MD, Charlotte Teneback, MD
*Winner VT ACP Chapter Poster Session for Clinical Vignette Oct 2016

Leptomeningeal Carcinomatosis Masquerading as Bell’s palsy
Julia Powelson MD

Thrombotic Thrombocytopenic Purpura presenting as Acute Coronary Syndrome
Lakshmi Nambiar MD

Duplicated superior vena cava: a case with clinical consequence
LeeAnna Burgess MD

Fulminant myocarditis in adult patient with hemophagocytic lymphohistiocytosis/macrophage activation syndrome in the setting of systemic lupus erythematosus.
Trace Barrett MD

Methotrexate Toxicity in Dialysis Patients
Hank Ng, MD

Piggyback infections: A tick-borne co-infection presenting with fevers, headache, transaminase elevation, and thrombocytopenia
Sara Roberts MD

Familial idiopathic pulmonary fibrosis - A case of short telomere syndrome
Javaneh Tamiji MD

Research/Quality Improvement:

ACLS Team leadership curriculum to improve team leader confidence and adherence to AHA ACLS time lines
Umer Syed MD, Amy Lynn Teleron MD
*Winner VT ACP Chapter Poster Session for Research/Quality Improvement October 2016

Evaluation of the relationship between psychological distress and risk for breast cancer
Kaitlyn Vennard DO, Abigail M Crocker, PhD, Ogheneruona O. Apoe M.D., Melissa Cuke MSc, Marie E Wood, MD
6. Graduating Residents – where are they going?

**Caitlin Baran** – University of Vermont
Palliative Care Fellowship – Harvard

**Trace Barrett** – Albany Medical College
Cardiovascular Disease Fellowship - University of Vermont Medical Center

**Lee-Anna Burgess** – University of Queensland, Australia
Chief Medical Resident – University of Vermont Medical Center

**Brendan Everett** – Rutgers Robert Wood Johnson
Chief Medical Resident – University of Vermont Medical Center

**Steven Jarzembowski** – George Washington University
Pulmonary / Critical Care Fellowship – Tufts University

**Shea Lambirth** – University of Kentucky
Hospitalist – KY

**Kevin Leadholm** – Albany Medical College
Hospitalist – Lahey Hospital & Medical Center, MA

**Erica Monfred** – University of Maryland
Primary Care Practice – VT

**Lakshmi Nambari** – Royal College of Surgeons, Ireland
Cardiovascular Disease Fellowship - University of Vermont Medical Center

**Sara Roberts** – Pennsylvania State University
Primary Care – University of Vermont Medical Center

**Moussa Takla** – University of Connecticut
Chief Medical Resident – University of Vermont Medical Center
**Javaneh Tamiji** – Royal College of Surgeons, Ireland

Rheumatology Fellowship – University of Vermont Medical Center

**Kaitlyn Vennard** – NY Institute of Tech College of Osteopathic Medicine

Endocrinology Fellowship – University of Vermont Medical Center

7. **MATCH RESULTS - Spring 2017**

**PGY-1**

**Categorical**

Calvin Gilkey
University College Cork, Ireland

Edwin Goncharuk
University of New England College of Osteopathic Medicine

Benjamin Irvine
University of Wisconsin

Darren Knox
University of Wisconsin

Daniel Krakauer
Virginia Tech Carillion School of Medicine

Yao Li
Albany Medical College

Steven O’Neill
West Virginia University

Katherine Peterson
University of New England College of Osteopathic Medicine

Louis-Bassett Porter
Pennsylvania State University

Elly Riser
University of Washington

Brendan Thoms
Imperial College of Medicine, United Kingdom

Shawn Wayne
University of Wisconsin

Andrew Wilks
Tufts University

Scott Young
University of Washington

**Primary Care**

Christopher Wargo
University of Queensland, Australia

**Preliminary**

Elizabeth Cozart
University of Rochester (Neurology)

Sidarth Dasari
Indiana University (Neurology)

Danielle Kostrubiak
Stony Brook University (Radiology)

Jameson Loyal
University of Vermont (Dermatology)

Lisa Midboe
West Virginia School of Osteopathic Medicine (Neurology)

Nicole Piccirillo
Edward Via College of Osteopathic Medicine (Neurology)

Daniel Rycewicz
Oregon Health & Science University (Radiology)

**Preliminary Anesthesia shared with Surgery**

Richard Dobson
Campbell University, School of Osteopathic Medicine

Benjamin Jorgensen
University of Vermont

Danielle Leahy
University of Vermont
Christopher Mayhew  University of Vermont
Caroline Rekuc  Lake Erie College of Osteopathic Medicine
Benjamin Sanofsky  Stony Brook University
Cardiovascular Division

David J. Schneider, MD, Director

https://www.uvmhealth.org/medcenter/Pages/Departments-and-Programs/Cardiology.aspx

During the 2016-2017 academic year, the cardiovascular division developed new clinical programs, added new faculty members, established an endowed professorship in cardiovascular prevention, and pursued scholarly activity in education and research.

The Division continues to provide outstanding cardiovascular care and offers newly developed treatments to our patients. Dan Lustgarten participated in the multicenter trial demonstrating the clinical value of left atrial occlusion to prevent embolic complications of atrial fibrillation in patients who are not good candidates for long term anticoagulation. During the past academic year, Dan in collaboration with Daniel Correa de Sa initiated the clinical program of left atrial occlusion with the Watchman device. This is an important clinical alternative for selected patients. Harry Dauerman introduced mitral clip for the treatment of mitral regurgitation in patients with degenerative mitral valve disease who are not good surgical candidates. Similar to the Watchman device, this is an important clinical alternative for selected patients.

An electrophysiologist, Daniel Correa de Sa, joined our faculty in August 2016. Because of our growth in structural heart interventions, we added an interventional cardiologist who has expertise in structural heart interventions. We are pleased that Rony Lahoud will join our faculty in August 2017. He completed his cardiovascular training at the Cleveland Clinic. Recent additions within the University of Vermont Health Network, Dr. Preeth Sundaran and Dr. Aderonke Adeniyi perform clinical rotations at University of Vermont Medical Center.

Clinical integration and coordination of cardiovascular services across the network remains a focus for the cardiovascular service line. During the past academic year, CVPH recruited a new cardiologist, Teimuraz Apridonidze who recently completed his training at Dartmouth. Samer Siouffí left CVPH and Pierre Znojkiewicz moved his electrophysiology practice from Canton Potsdam Hospital to CVPH. Johannes Steiner began a subspecialty clinic at CVPH for patients with advanced heart failure. William Hopkins offers subspecialty care at CVPH for patients with pulmonary hypertension and congenital heart disease.

Dr. Philip Ades has been named the inaugural Philip Ades Professor of Cardiovascular Disease Prevention. His selection recognizes his extensive scholarly contributions throughout his career. Dr. Michael Toth was promoted to Professor of Medicine with tenure. William Hopkins
was once again recognized for his outstanding teaching being named the outstanding teacher by both residents in internal medicine as well as the fellows in cardiovascular training.

Scholarly activities are a major focus of the division. The cardiovascular division has active training programs in cardiovascular disease, cardiovascular intervention, and electrophysiology. Updating our teaching technique with the elimination of traditional didactic lectures is a focus of our educational efforts. Clinical and translational research remain active with both investigator initiated research as well as participation in multicenter clinical trials. The faculty of the cardiovascular division authored 45 publications in the past fiscal year.

### Faculty

**David J. Schneider, MD**

Professor of Medicine  
Director, Cardiovascular Division  
Medical Director, Cardiovascular Services, University of Vermont Health Network

Research and clinical interests

- thrombosis  
- platelet biology  
- atherosclerosis/ischemic heart disease  
- preventive cardiology

**Aderonke Adeniyi, MD**

Assistant Professor of Medicine

Research and clinical interests

- cardiovascular disease

**Philip A. Ades, MD**

Professor of Medicine  
Director, Cardiac Rehabilitation

Research and clinical interests
- cardiac rehabilitation
- preventive cardiology
- ischemic heart disease

William Bradley, MD

Interventional Cardiology

Clinical interests
- ischemic heart disease
- cardiac catheterization
- coronary intervention

Mark Capeless, MD

Professor of Medicine

Research and clinical interests
- clinical cardiac electrophysiology

Kevin Carey, MD

Assistant Professor of Medicine

Research and clinical interests
- coronary intervention
- cardiac catheterization
- ischemic heart disease

Daniel Correa de Sa, MD

Assistant Professor of Medicine

Research and clinical interests
- clinical cardiac electrophysiology
- catheter ablation
- pacemaker and ICD implantation

Harold L. Dauerman, MD

Professor of Medicine

Director of UVMMC Cardiovascular Services
Research and clinical interests

- coronary intervention
- cardiac catheterization
- structural heart intervention
- ischemic heart disease
- vascular biology

**John Fitzgerald, MD**

Assistant Professor of Medicine

Research and clinical interests

- preventive cardiology
- ischemic heart disease
- valvular heart disease

**Timothy Garrand, MD**

Interventional Cardiology

Clinical interests

- ischemic heart disease
- cardiac catheterization
- coronary intervention

**Eric Gauthier, MD**

Assistant Professor of Medicine

Clinical interests

- ischemic heart disease
- cardiac catheterization
- coronary intervention

**Prospero B. Gogo, MD**

Associate Professor of Medicine  
Director, Cardiovascular Catheterization Laboratory  
Director Interventional Cardiology Training Program

Research and clinical interests
- cardiac catheterization
- percutaneous coronary intervention
- percutaneous treatment of structural heart disease

William E. Hopkins, MD
Associate Professor of Medicine
Director, Pulmonary Hypertension and Adult Congenital Heart Disease Program

Research and clinical interests
- pulmonary hypertension
- adult congenital heart disease
- genetic heart disease
- valvular heart disease
- echocardiography

Roger Ischac, MD
Assistant Professor of Medicine

Clinical interests
- ischemic heart disease
- cardiac catheterization
- coronary intervention

Friederike Keating, MD
Associate Professor of Medicine
Director, Nuclear Cardiology and Stress Laboratory
Program Director, Cardiovascular Fellowship
Leader, Women’s Cardiac Care Program
Subspecialty Coordinator for Cardiology, Internal Medicine Residency Program

Research and clinical interests
- cardiovascular disease in women
- cardiovascular imaging
- thrombosis
- platelet biology
Robert J. Kelm, Jr., PhD

Associate Professor of Medicine
Associate Professor of Biochemistry

Research interests

- molecular biology of cell differentiation
- mechanisms of cardiovascular remodeling
- regulation of gene expression
- protein-nucleic acid interactions

Martin M. LeWinter, MD

Professor of Medicine and Molecular Physiology and Biophysics
Director, Heart Failure and Cardiomyopathy Program

Research and clinical interests

- heart failure and cardiomyopathies
- cardiac hypertrophy
- heart failure with preserved ejection fraction
- effects of hypertension and diabetes on the myocardium
- pericardial disease

Robert Lobel, MD

Assistant Professor of Medicine

Research and clinical interests

- clinical cardiac electrophysiology
- catheter ablation
- pacemaker and ICD implantation

Daniel Lustgarten, MD

Professor of Medicine

Research and clinical interests

- clinical cardiac electrophysiology
- catheter ablation
- pacemaker and ICD implantation

Markus Meyer, MD
Associate Professor of Medicine
Research and clinical interests
- cardiac imaging and stress testing
- general cardiology
- heart failure and cardiomyopathy

Peter S. Spector, MD
Professor of Medicine
Director, Cardiac Electrophysiology
Director, Electrophysiology Fellowship Training Program
Research and clinical interests
- catheter ablation
- atrial fibrillation

Jeffrey L. Spees, PhD
Associate Professor of Medicine
Director, Stem Cell Core Facility
Research interests
- adult stem cell biology
- regenerative medicine
- repair of cardiac and CNS tissues
- vascular biology

Johannes Steiner, MD
Assistant Professor of Medicine
Research and clinical interests
- advanced heart failure
- echocardiography
- structural heart disease

Edward Terrien, MD

Associate Professor of Medicine
Director, Ambulatory Cardiovascular Clinic
Research and clinical interests
- coronary intervention
- cardiac catheterization
- peripheral vascular intervention
- ischemic heart disease

Marc D. Tischler, MD

Associate Professor of Medicine
Director, Echocardiography Laboratory
Co-Director, Cardiac MRI Laboratory
Research and clinical interests
- magnetic resonance imaging and echocardiography
- valvular heart disease
- ischemic heart disease
- congestive heart failure

Michael J. Toth, PhD

Professor of Medicine
Research interests
- skeletal muscle physiology
- heart failure
- aging
- physical disability
- muscle disuse
**Peter Van Buren, MD**

Associate Professor of Medicine  
Associate Professor of Molecular Physiology and Biophysics  
Director Cardiac Care Unit  
Associate Director Cardiovascular Training Program  

Research and clinical interests  
- specialist in heart failure  
- echocardiography  
- nuclear cardiology

**Matthew W. Watkins, MD**

Professor of Medicine  
Director of Interventional Cardiology  

Research and clinical interests  
- interventional cardiology  
- ischemic heart disease

**Joseph Winget, MD**

Associate Professor of Medicine  

Research and clinical interests  
- clinical cardiac electrophysiology  
- catheter ablation  
- pacemaker and ICD implantation

**Pierre Znojkiewicz, MD**

Assistant Professor of Medicine  

Research and clinical interests  
- clinical cardiac electrophysiology  
- catheter ablation  
- pacemaker and ICD implantation
Fellows

Abraham Abernethy  Sherrie Khadanga
Imran Alkhalil     Rony Lahoud
Amir Azarbal       Laksimi Nambiar
Trace Barrett      Mehdi Rambod
David Cleary       Ashwini Sharma
Christine DeStephan Daniel Silverman
Jonathan Halevy    Samvit Tandan
Margaret Infeld

Nurse Practitioners and Physician Assistants

Elizabeth Carney, APRN  Margaret MacDonald, NP
Gregory Ehle, PA         Cheryl McNeil, APRN
Karen Farrell, APRN      Nancy Strong, APRN
Susan Ann Hamlyn-Prescott, APRN  Barbara Worgan, APRN
Ann Laramee, APRN

Graduate Students, Post-doctoral Fellows, MD PhD Students

Robert J. Kelm, Jr., PhD
Lauren A. Ferris, PhD student, Biochemistry Graduate Program
Andrea Foote, PhD Student, Cellular, Molecular and Biomedical Sciences Graduate Program

Martin M. LeWinter, MD
Abraham Abernethy
Katherine Runte
Amir Azarbal
Peter S. Spector, MD
Bryce Benson, PhD candidate, Biomedical Engineering
Laura Unger, MSc Electrical Engineering and Information Technologies, KIT Germany

Jeffrey L. Spees, PhD
John McInnis, B.S.
Nicholas Toker, B.S.

Michael J. Toth, PhD
Blas Guigni, CMB doctoral candidate
Damien Callahan, PhD, post-doctoral fellow
Timothy W. Tourville, PhD, post-doc/K08 mentee

Leadership in Professional Societies

Harold L. Dauerman, MD
National Proctor and Faculty, Corevalve TAVR
Section Editor, Interventional Cardiology
Journal of the American College of Cardiology
American College of Cardiology, Fellow
American Heart Association, Fellow
Society of Cardiac Angiography and Intervention, Fellow
UVM Cardiovascular Research Institute, Board of Directors

Prospero B. Gogo, MD
Vermont Chapter of the American College of Cardiology, Governor and member
Novation Cardiovascular Council

William E. Hopkins, MD
American College of Cardiology, Fellow
American College of Physicians, Fellow
Pulmonary Hypertension Association
International Society for Adult Congenital Cardiac Disease

**Friederike Keating, MD**
New England Chapter of the American College of Cardiology – Governor
Choosing Wisely Subcommittee of the Board of Governors, College of Cardiology – Chair
Health Policy Committee, American Society of Nuclear Cardiology
Cardiovascular Training Section, Leadership Council, American College of Cardiology
Workgroup:Program Director Resources, CV Training Council, American College of Cardiology

**Robert J. Kelm, Jr., PhD**
UVM Institutional Biosafety Committee, Chair
Student Progress Committee, Cellular, Molecular,and Biomedical Sciences Graduate Program, Chair
Graduate Studies Committee, Department of Biochemistry, Chair
Biochemistry Graduate Program, Director

**Martin M. LeWinter, MD**
Research Committee, Heart Failure Society of America
Council of Faculty and Academic Societies, AAMC
Self-Evaluation Exam Committee, ABIM
Ad-Hoc Grant Reviewer, NHLBI

**Daniel Lustgarten, MD**
Heart Rhythm Society, Fellow
American College of Cardiology Political Action Committee, Member
Paul Dudley White Society - Cardiology Division, Member

**Marc D. Tischler, MD**
American College of Cardiology, Fellow
American Heart Association, Fellow
American College of Physicians, Fellow
Editorships and Editorial Boards

Philip A. Ades, MD
Consulting Editor (former Editor-in-Chief): *Journal of Cardiopulmonary Rehabilitation*
Consulting Editor: *Prevention, Rehabilitation and Prevention*
Editorial Boards: *Coronary Artery Disease, Circulation*

Harold L. Dauerman, MD
Editor-in-Chief: *Coronary Artery Disease*, 2013-current
Section Leader, Interventional Cardiology: *Journal of the College of Cardiology*, 2014-current
Editorial Board: *Circulation Cardiovascular Interventions*, 2014-current
Journal of the American College of Cardiology, 2005-current
Journal of Thrombosis and Thrombolysis, Associate Editor, 2009-current
Circulation: Cardiovascular Interventions, 2012-current

Prospero B. Gogo, MD
Reviewer: *American Journal of Cardiology and Coronary Disease*

William E. Hopkins, MD
Associate Editor: *Coronary Artery Disease*

Friederike Keating, MD
Editorial Board: *Coronary Artery Disease*

Martin M. LeWinter, MD
Associate Editor: Circulation, Coronary Artery Disease
Section Editor: Myopericardial Disease, Up-To-Date
Book Review Editor, Circulation
Editorial Boards: Heart and Vessels, Experimental and Clinical Cardiology, Current Cardiology Reviews, Heart Failure Reviews

Daniel Lustgarten, MD
Editorial Board: *Journal of Innovations in Cardiac Rhythm Management*
David J. Schneider, MD
Associate Editor: Coronary Artery Disease
Editorial Boards: American Journal of Cardiology, Diabetes Care

Marc D. Tischler, MD
Associate Editor: Coronary Artery Disease

Michael J. Toth, PhD

Matthew W. Watkins, MD
Advisory Board, Green Mountain Care Board, State of Vermont, FAHC physician representative
Clinical advisory role in the design and implementation of the Vermont State global health care reform.

Northern New England Cardiovascular Disease Study Group (NNE)
Multi-institutional, regional collaboration focusing on improving patient outcomes in Interventional Cardiology and Cardiac Surgery. Recent projects include regional analysis of length of stay, STEMI outcomes and management of cardiogenic shock.

Peter Van Buren, MD
Editorial review for: Biochemistry, Circulation Review, Coronary Artery Disease

Study Sections, National Advisory Boards, National/International Invited Talks

Philip Ades, MD
June 2017, NHLBI Mentored Patient Oriented Research Review Committee, Ad hoc reviewer

Harold L. Dauerman, MD
Association of University Cardiologists (Arizona): STEMI; Cedars Sinai Medical Center (Los Angeles): STEMI

ACC New England Regional Meeting (New Hampshire): TAVR: From Low Risk to Expanded Use

American College of Cardiology Interventional Board Review Course: Oral and Intravenous Antiplatelet Therapy for PCI; Genetics and Drug Interactions in PCI Pharmacology

Westchester Cardiovascular Symposium: Is There Still a Role for Fibrinolysis in STEMI?

Corevalve Transcatheter Aortic Valve Replacement: Best Practices, Chicago, Boston, Washington DC, New York City

William E. Hopkins, MD

14th Annual Update in Pulmonary Hypertension 2015

Cambridge, MA

“Group 2 PH”

Martin M. LeWinter, MD

Management of Acute Pericarditis”, Annual Jeresaty Symposium, Hartford Hospital, Hartford, CT

“Mechanisms of Diastolic Dysfunction in LV Hypertrophy and HFpEF”, Association of University Cardiologists, Phoenix, AZ

Daniel Lustgarten, MD

Medtronic Co-Management Council of Advisors, 2008-present

CardioFocus HeartLight Trial, Chair of the Data and Safety Monitoring Board

AdaptResponse Trial, Events Adjudication Committee, Member


Peter S. Spector, MD
Atrial Fibrillation Association-US (AFA-US), Medical Board 2011 to present

Jeffrey L. Spees, PhD
Reviewer for Maine Medical Center, Cancer Grants - 2016
Member, NIH BMBI Study Section - 2016
Member, AHA Study Section, Brain R1 - 2016

Reviewer, American Cancer Society; IRG Review Committee – 2016, 2-17
Member, NIH ZRG1 CB-J (55), Special Emphasis Panel for Stem Cell Animal Models - 2017
Member, NIH BMBI Study Section - 2017

Oschner Lifelong Learning Institute, Stowe, VT, Invited lecture - 2017

Michael Toth, Ph.D.
Ad hoc member: NIH SMEP study section: 6/17

Peter Van Buren, MD
Medtronic Co-Management Council of Advisors, 2008-present
Matthew W. Watkins, MD
Green Mountain Care Advisory Board, State of Vermont, UVMCC physician representative
Northern New England Cardiovascular Disease Study Group – a multi-institutional, regional collaborative focused on improving outcomes in Interventional Cardiology and Cardiac Surgery

Major Faculty Honors and Awards

Philip A. Ades, MD
2014: Distinguished Investigator: Cardiovascular Research Institute of Vermont
2015 University Scholar University of Vermont
2016 University of Vermont Philip Ades Endowed Professor of Cardiac Prevention

Harold L. Dauerman, MD
2016 - Induction into Association of University Cardiologists
2016 - Simon Dack Award for Outstanding Scholarship, ACC

William H. Hopkins, MD
2017 - E. L. Amidon, MD Award: Outstanding Teacher of the Year, Subspecialty Medicine, Outstanding Teacher Award. Cardiovascular Fellowship.
2017 - Nominated for the “Foundations Teaching Award”, University of Vermont College of Medicine
2017 - Nominated for the “Clinical Faculty of the Year Award”, University of Vermont College of Medicine

Martin M. LeWinter, MD
Cited in “Best Doctors in the Northeast” and “Best Doctors in America”

Markus Meyer, MD
Lakshmi Nambiar MD: Resident Research Award
Mehdi Rambod MD: Fellow Research, Oral Presentation
Anita Li MS: CVRI merit award
Betsy Runte MD: AHA Scientific Session 2016, Presentation

Peter S. Spector, MD
US patent application #13_844753: “Catheters, systems and related methods for mapping, minimizing and treating cardiac fibrillation” Patent awarded 03/23/2017

Jeffrey L. Spees, PhD
2016 - Featured in INQUIRY: a publication for Research, Scholarship and the Arts at UVM. Article: Innovate and Incubate, by Jeffrey Wakefield.
2016 - News feature on WCAX (Channel 3) about a new biologic called “VasaPlex”, designed/developed by the Spees Lab and receipt of NIH R01 to fund pre-clinical testing to treat reperfusion injury after myocardial infarction.
2016 - Krithika S. Rao, Ph.D. (Spees Lab graduate student): Nominated for Dean's Excellence in Research Award
2016 - Matthew LeComte, M.D., Ph.D. (Spees Lab graduate student): Received Dean's Excellence in Research Award
2017 - Spees Lab selected to present research to UVM Provost and Board of Trustees

Michael Toth, PhD
LCOM Foundations Awards Ceremony 2017: Nominee for Foundations Teaching Award

Grants

Philip A. Ades, MD
NIH: The National Institute of General Medical Sciences - P20GM103644-01A1
Vermont Center for Behavior and Health (2013-2018)
Role: Associate Director and Co-Principal Investigator (Steven Higgins, PI)

National Institute on Drug Abuse and U.S. Food and Drug Administration - P50DAO36114
Tobacco Centers of Regulatory Science Award (2013-2018)
Role: Investigator (Steven Higgins, PI)

Harold L. Dauerman, MD

Boston Scientific
EVOLVE SHORT DAPT: A National Registry of 3 Months Dual Antiplatelet Therapy in Conjunction with SYNERGY Bioresorbable Polymer Drug Eluting Stent for Patients at High Risk of Bleeding, National Steering Committee.
Role: Site Principal Investigator

REPRISE IV: Randomized Trial of Lotus vs Sapien 3 TAVR in Intermediate Risk Patients.
Role: Site Principal Investigator

Edwards Lifesciences
Transcatheter Aortic Valve Replacement to UNload the Left Ventricle in Patients with ADvanced Heart Failure: A randomized trial (TAVR UNLOAD)
Role: Site Principal Investigator

Bayer Healthcare
GALILEO: A Randomized Trial of Antiplatelet versus Antithrombotic Strategy with Riviroxiban to Improve Outcomes after TAVR
Role: Site Principal Investigator

Medtronic
CoreValve Transcatheter Aortic Valve Replacement in Patients at Low Risk for Surgical Aortic Valve Replacement
Role: Site Principal Investigator

SURTAVI Randomized Trial--CoreValve TAVR vs Surgical AVR for Patients at Intermediate Risk for Mortality
Role: Site Principal Investigator

Dauerman Research and Education Fund
Acute Kidney Recovery after TAVR.
Role: Investigator Initiated Research, Site Principal Investigator
Trainees: Amir Azarbal, MD (Fellow) and Kevin Leadholm, MD (Resident), in conjunction with Richard Solomon, MD
Correlation of Coronary CT Angiography with Invasive Cardiac Catheterization Assessment in Patients Referred for TAVR.
Role: Investigator Initiated Research, Site Principal Investigator
Trainee: Sreedivya Chava, MD, in conjunction with UVM Biostatistics and George Gentchos, MD (Radiology)

**Friederike Keating, MD**

NIH 1U01HL133817-01

Myocardial Ischemia and Transfusion (MINT)

Role: Site Principal Investigator

Sanofi/Duke NCT01663402

ODYSSEY Outcomes: Evaluation of Cardiovascular Outcomes After an Acute Coronary Syndrome During Treatment With Alirocumab

Role: Site Principal Investigator

**Robert J. Kelm, Jr., PhD**

NIH/NHLBI T32 HL007594-26-30

Hemostasis and Thrombosis Program for Academic Trainees (7/1/2015-6/30/2018)

Role: Research Mentor and Principal Investigator/Program Director

American Heart Association Founders Affiliate Grant-in-Aid 16GRNT31160006

Role of PURB in Controlling the Phenotypic Plasticity of Vascular Smooth Muscle Cells (7/1/2016-6/30/2018)

Role: Principal Investigator

**Martin M. LeWinter, MD**

NIH RO1 HL118524

Myofilament Basis of Diastolic Dysfunction in HFpEF (9/1/2014-6/30/2018)
Role: Principal Investigator

NHLBI U10 HL110342
New England, New York and Quebec Regional Clinical Center (1/1/12-12/31/19)
Role: Principal Investigator

Robert Lobel, MD

Product Surveillance Registry 09-167 Registry Study: Patients who have received specific leads in the past 30 days, examining the longevity of the system/leads once implanted
Role: Principal Investigator

Daniel Lustgarten, MD

WRAP-IT 15-270: Determine the effectiveness of the TYRX absorbable envelope
Role: Principal Investigator

Protego DF4 PAS 15-35: Determine the effectiveness of Biotronik’s DF4 lead
Role: Principal Investigator

CAP2 13-031: Continued access of the Prevail Study
Role: Principal Investigator

Prevail 11-035: Prospective Randomized Evaluation of Warfarin Therapy in Atrial Fibrillation Patients Versus WATCHMAN LAA Closure Technology (PREVAIL).
Role: Principal Investigator

St. Jude Quadripolar Pacing 13-013: Collect additional information on the safety and long-term performance of the St. Jude quadripolar CRT-D device system or any device with quadripolar pacing capabilities and the Quartet LV lead in patients that are indicated for CRT-D
Role: Principal Investigator

TEMPO 15-008: Evaluate the Effect of GS-6615 on Ventricular Arrhythmia in Subjects with an ICD or CRT-D
Role: Principal Investigator

Markus Meyer, MD

NIH NHLBI 1 R01 HL122744-01A1
Tachycardia-Induced Sarcolemmal Calcium Extrusion Defect in Patients with Diastolic Dysfunction (2015-2020)
Role: Principal Investigator

David J. Schneider, MD
Janssen Pharmaceuticals LLC

Novel Markers of Thrombotic Risk (7/1/2014 – 5/31/2017)
Role: Principal Investigator

**Jeffrey Spees, PhD**

NIH/NHLBI R01 HL132264
Vascular Protection by HGF/IgG Protein Complexes that Activate RYK (4/1/2016-3/13/2020)
Role: Principal Investigator

NIH/NINDS/NIGMS R01 NS073815
Control of Reactive Astrocytes by Notch1 and Amyloid Precursor Protein (7/1/2012-6/30/2017)
Role: Principal Investigator

**Peter S. Spector, MD**

Medtronic
SP282 (Evslin Grant)
PSPEC (R&E)
EP (R&E)
BSW

**Michael J. Toth, PhD**

NIH R21 AR069199
Prevention of Skeletal Muscle Adaptations to Traumatic Knee Injury and Surgery
Role: Principal Investigator

NIH R21 CA191532
Alternative Exercise Modalities to Improve Skeletal Muscle Function in Cancer Survivors
Role: Principal Investigator

NIH R01 AR065826
Skeletal Muscle Atrophy and Dysfunction in Human Cancer
Role: Principal Investigator

NIH R01 AG050305
Skeletal Muscle Atrophy and Dysfunction Following Total Knee Arthroplasty
Role: Principal Investigator

Dept. of Medicine Translational Science Award
Nutrition and Exercise in Critical Illness (The NEXIS Trial): A pilot study
Role: Co-Investigator (Renee Stapleton, PI)

LCOM/CEMS Biomedical Engineering Pilot Award
Cyber-physical System Innovations to Monitor and Improve Compliance with At-home Neuromuscular Rehabilitation
Role: Co-Principal Investigator (with Christian Skalka)

**Matthew W. Watkins, MD**

Capricor, Inc.

Randomized, Double-Blind, Placebo-Controlled Phase I/II Study of the Safety and Efficacy of Intracoronary Delivery of Allogeneic Cardiosphere-Derived Cells in Patients With an Anterior Myocardial Infarction and Ischemic Left Ventricular Dysfunction (ALLogeneic Heart STem Cells to Achieve Myocardial Regeneration, ALLSTAR) – Enrollment ongoing
Role: Site Principal Investigator

NIH/Renova Therapeutics
Adenovirus Vector Type 5 (Ad5.hAC60 Expressing Human Adenylyl Cyclase Type 6) 
Administered via Intracoronary Catheterization – enrollment completed 2014, study ongoing

Role: Site Principal Investigator

**Joseph Winget, MD**

AdaptResponse 15-066: Test the AdaptivCRT algorithm in CRT indicated patients
Role: Principal Investigator

QP Excel 17-0163: Confirm safety and effectiveness of the Sentus QP LV lead and BIOTRONIK CRT-D.
Role: Principal Investigator

**Peter VanBuren, MD**

NIH/NHLBI 5U10HL110342

New England, New York and Quebec Regional Clinical Center of the National Heart Failure Research Network (1/1/2012-12/31/2018)

Role: Principal Investigator

**Publications**

Ades PA. Effect of alirocumab dose increase on LDL-lowering and lipid goal attainment: is treatment to goal the way to go? Coron Artery Dis. 2017 May;28(3):186-7.


McMahon SR, Schneider DJ. Use of platelet function testing to guide the timing of coronary artery bypass surgery. Coron Artery Dis. 2017 May; doi: 10.1097/MCA.00000000000507.


Rubin LJ, Hopkins WE. Diagnostic evaluation of pulmonary hypertension in adults. In: UpToDate; Rose BD (Ed); UpToDate, Waltham, MA; 2017.

Rubin LJ, Hopkins WE. Overview of pulmonary hypertension. In: UpToDate; Rose BD (Ed); UpToDate, Waltham, MA; 2017.

Rubin LJ, Hopkins WE. Pathogenesis of pulmonary hypertension. In: UpToDate; Rose BD (Ed); UpToDate, Waltham, MA; 2017.

Rubin LJ, Hopkins WE. Treatment of pulmonary hypertension. In: UpToDate; Rose BD (Ed); UpToDate, Waltham, MA; 2017.


Division of Dermatology

Glenn Goldman, MD, Director
http://www.med.uvm.edu/medicine/Dermatology

Dermatology at the University of Vermont Medical Center is a division of Medicine with five general medical dermatologists, four surgical dermatologists, a new pediatric dermatologist, and four experienced physician assistants. We provide general dermatology care to the community as well as highly-specialized consultation with particular strengths in the treatment of psoriasis, cutaneous lupus, dermatomyositis, cutaneous lymphoma, and all forms of skin cancer including melanoma. This year we will see about 35,000 patients.

This year we have added Drs. David Chen and Keith Morley to our staff. Dr. Morley specializes in pediatric dermatology and will see pediatric and adult patients with all forms of dermatologic disease. Dr. Chen will be performing Mohs surgery, dermatologic surgery, cosmetic dermatology and will perform general skin checks.

Our Veterans Administration clinic continues to offer an outpatient center in Burlington under the direction of Dr. Laura McGevna, and the VA is sponsoring one of our residents.

We continue to volunteer regularly at the Community Health Center Free Clinic. Each month, an attending physician supervises the residents and Physician Assistants in the provision of free care to patients at the Community Health Center in Burlington. This provides a service to the community and is also a superior experience for our residents and fellow, who are able to participate in the care of an underserved population. Dr. Pierson has taken the lead in public education and skin cancer awareness.

Dr. Glenn Goldman is Chair of the American Society for Dermatologic Surgery International Travelling Mentorship Program. Dr. Todd Holmes has been appointed the Chair of the ITMP International Fellowship Program. Dr. Goldman recently travelled to Romania to work with Dr. Mihaela Leventer for her to obtain credentialing by the American Society for Dermatologic Surgery. While there he lectured at the Romanian Society for Plastic Surgery Annual Meeting. In December he will travel to Lahore, Pakistan to review a program there. Dr. Holmes will perform a site visit in the Netherlands in November. This puts UVMMG at the forefront of international education in dermatologic surgery.

Dr. Goldman, Dr. Weinberger, Dr. Holmes, Dr. Lin, Dr. McGevna and Dr. Pierson serve on a number of UMMC committees. Dr. Julie Lin continues her involvement in PRISM, where she is the PRISM representative from the Department of Medicine. This year she has accepted a new leadership position on the PRISM team. We continue to work on developing a functional telemedicine program and this year this venture is on the strategic plan for the institution.

Our residency and procedural dermatology fellowship remain successful and rewarding. This year Dr. Elizabeth Lester completed a fellowship in dermatopathology here at the
University of Vermont College of Medicine. Fellow David Chen has decided to stay on as an attending physician at the UVMMG. We were fortunate this year to train a second fellow, Dr. Lindsey Collins from Dartmouth. She has accepted a position as a Mohs surgeon at the University of Oklahoma. Residency graduate Andrew Hankinson will be training in Mohs surgery at Geisinger in Pennsylvania and Michael Romano has taken a job in New York City performing general dermatology. Residents and fellows present regularly at our local and regional meetings, and the senior residents and fellows are currently involved in a number of publications.

Each month we host several third or fourth year students for rotations in dermatology. On average one or two University of Vermont medical students per year choose to enter the field of dermatology. Due to the tremendously-competitive nature of dermatology as a specialty, each student requires careful guidance and assistance in procuring a residency. As usual, last year our UVM student interested in dermatology matched at an excellent training program. On a special note, one of our home-grown students has begun her residency with us Dr. Katelyn Shea started in dermatology seven years ago as a medical assistant for Dr. Julie Lin. She had an immediate aptitude for dermatology and, after two years of work, matriculated at the UVM COM.
Faculty

Glenn Goldman, MD
Professor of Medicine
Director, Dermatology Division
Director, Procedural Dermatology Program
RUC Representative, American College Of Mohs Surgery
  ▪ Mohs Surgery and Reconstructive Surgery
  ▪ Management of high-risk skin cancers
  ▪ Cosmetic Dermatology
  ▪ Procedural Dermatology Education
  ▪ National Health Care Policy
  ▪ Continuing Medical Education
  ▪ International Dermatologic Surgery
  ▪ Flap tension in vivo research

Jamie Alpert, MD
Associate Professor of Medicine
Chair, Part-Time Faculty Actions Committee
  ▪ General Medical Dermatology

Melanie Bui, MD, PhD
Assistant Professor of Medicine
  ▪ General Medical Dermatology
  ▪ Immunology

Todd Holmes, MD
Associate Professor of Medicine
  ▪ Surgical Dermatology and Cutaneous Oncology
  ▪ Mohs and Reconstructive Surgery
  ▪ Resident and Fellow Education
  ▪ International Education in dermatologic surgery

Julie Lin, MD
Associate Professor of Medicine
Department of Medicine PRISM Representative
  ▪ Cutaneous Lymphoma
  ▪ Electronic Medical Records
  ▪ Bioinformatics
  ▪ Teledermatology

Joseph Pierson, MD, Col US Army
Associate Professor of Medicine
  ▪ General Medical Dermatology
  ▪ Residency Education in Dermatology
Laura McGevna, MD  
Assistant Professor of Medicine  
- UVM Medical Graduate  
- General Medical Dermatology  
- Women’s Dermatology  
- Residency Education in Dermatology

Christine Weinberger, MD  
Assistant Professor of Medicine  
- Mohs Surgery and Reconstruction  
- Mohs Surgery for Melanoma

Fellows  
David Li-Kang Chen, MD  
Procedural Dermatology Fellow 2014-2016

Elizabeth Lester, MD PGY-5  
Dermatopathology Fellow 2016-2017

Residents  
Andrew Hankinson, MD PGY-4/Co-Chief  
Michael Romano, MD PGY-4/Co-Chief  
Patrick Benson, MD, PGY-2  
Corey DeWitt, MD, PGY-2  
Emily Farrell, MD, PGY-3  
Alyssa Fischer, MD, PGY-3  
Ivy Norris, MD, PGY-3

Physician Assistants:  
Deb Roseman, PA:  
Deb has been with us for over ten years. She has decades of experience as a dermatology physician assistant and has a following of thousands of patients for whom she provides care.

Anne Klein, PA  
Anne is a surgical PA, and works with the dermatologic surgeons daily. She trained for years with a plastic surgeon and has exceptional procedural skills. A testament to her skill is that physicians refer patients to her regularly for surgical excisions.

Rich Callahan, PA  
Rich is experienced in dermatology and provides both medical and minor surgical dermatology care. He brings with him many patients from his former practice.

Christine Sowle, PA  
Christine trained with us and stayed on as a dermatology PA. She has been working with us for almost ten years and has a large following of thousands of patients who see her on a regular basis.
Leadership in Professional Societies:

Vermont Dermatologic Society
Dr. Pierson, President

American Medical Association
Dr. Goldman – RUC representative for the American College of Mohs Surgery

American Society for Dermatologic Surgery
Dr. Goldman was appointed Chair of the ASDS International Traveling Mentorship Committee
Dr. Holmes was appointed Chair of the ASDS ITMP Fellowship Subcommittee

Dermatology Foundation
Dr. Goldman – Leader’s Society State / Regional Chair
Dr. Pierson – Leader’s Society State / Regional Vice Chair

American College of Mohs Surgery
Dr. Goldman – Fellowship Training Committee

Study Sections and Federal Advisory Boards:

Publications – Books, Peer reviewed, chapters,

Book Chapter

Peer-reviewed Articles


The 2016-2017 academic year was one of increased research and patient care opportunities for the Division of Endocrinology and Diabetes. The Division serves residents in Vermont and upstate New York, with a goal of delivering seamless, system-wide care within the University of Vermont Health Network for endocrine-related disorders. Our 5 physicians, 2 nurse practitioners, and 4 certified diabetes educators provide consultative and ongoing care through our out-patient clinic at Tilley Drive, which has approximately 14,000 visits per year (4th in the Department of Medicine); the Division also operates a consult service at the UVM Medical Center and continues to develop an endocrine service at CVPH in Plattsburgh, NY.

The Division laid the groundwork this year to expand services to patients in the areas of obesity and osteoporosis/metabolic bone disease. Our graduating fellow, Juan Pablo Perdomo Rodriguez, MD, focused his second year studies on weight management, including an intensive training on clinical interventions for obesity. Following completion of his fellowship, Dr. Perdomo Rodriguez will join our faculty and establish a weight management program in conjunction with Drs. Abu-Jaish and Forgione of Bariatric Surgery and Dr. Mitchell in Hospital Medicine. We also recruited Jennifer Kelly, DO to serve as a physician in the Division and as Co-Director of the Osteoporosis/Metabolic Bone Disease Clinic. Dr. Kelly comes from Upstate Medical University in Syracuse, NY, where she was Director of the Densitometry Lab; she joins our faculty in July.

Our research initiatives continue at both the clinical and basic levels. The Endocrine Clinic is participating in a 6-month pilot study of the Insulia® Diabetes Management Companion, a state-of-the-art prescription-only medical device that provides patients with insulin dose recommendations and educational coaching messages in response to blood glucose values and other diabetes-related data. The study will enroll 30 patients, who will be trained to use Insulia on either their personal smartphone or the web portal; health care providers will also be trained on this new technology. A research project to analyze the records of 200 pregnant women with diabetes who were seen at the UVM MC Maternal Fetal Medicine Clinic will compare serum fructosamine and HbA1c measurements throughout gestation as potential predictors of maternal and neonatal complications.

The Division’s basic research efforts continue to focus on pancreatic islet biology and diabetes, with an emphasis now extending into the effects of dietary plant and dairy-derived bioactive lipids on gut microbiota eubiosis, glucose homeostasis regulation, and aging. This new emphasis is the result of a collaboration with Jana Kraft, PhD, Associate Professor of Animal and Veterinary Sciences, a lipid biochemist with expertise in human nutrition. In September 2016, Dr. Kraft received a secondary appointment to the Division of Endocrinology and
Diabetes. In addition to her research with Drs. Jetton and Gupta, she will begin a clinical study on dietary dairy lipids that will rely on a collaboration with Dr. Matthew Gilbert, DO, MPH, in our Division.

Our faculty participate in educational activities at multiple levels. Clinical faculty work closely with medical students and residents rotating through the Endocrine Service and they train two Fellows in Endocrinology each year—the strength of the training provided by our faculty is evidenced by the commitment of two UVM residents to continue their training with fellowships in our Division: Kaitlyn Vennard, DO, completed her UVM Internal Medicine Residency on June 30, 2017 and began her fellowship training with us the next day; Kelsey Sheahan, MD, will complete her residency next June and has committed to fellowship training with our Division beginning in July 2018.

The Division’s educational mission is also evident by faculty participation in LCOM initiatives: During this academic year, Dr. Schnure was appointed to The Teaching Academy, which promotes education and scholarship of faculty members; Dr. Gilbert was named the Chair of the Inpatient Glycemic Control Committee, whose mission includes education of hospital physicians and staff on glucose management strategies; and Dr. Jetton, as a faculty member of the Cellular, Molecular and Biomedical Sciences Program, was active in development of a new curriculum for the 2017-2018 academic year. Dr. Jetton also continues to teach classes in human structure and function and in human physiology and pharmacology to graduate and medical students, as well as working one-on-one in his basic science lab to train undergraduate and graduate students in research techniques.

Clearly, the 2016-2017 year was a busy and productive one for the Division of Endocrinology and Diabetes and the programmatic and research strides made this year ensure the continued effectiveness of our service and education missions.

Faculty

**John (Jack) L. Leahy, MD**
Professor of Medicine
Sarah Nichols Gruenig Green & Gold Professor in Diabetes Research
Co-Director, Division of Endocrinology and Diabetes
Research and clinical interests:
- Diabetes mellitus
- Islet beta-cell physiology and dysfunction

**Joel J. Schnure, MD**
Professor of Medicine
Co-Director, Division of Endocrinology and Diabetes
Member, The Teaching Academy
Member, DOM Operations and Efficiency Committee
Lead, Diabetes Chronic Care Initiative
Lead, Task Force on In-patient Diabetes Education
Member, In-patient Diabetes Initiative

Research and clinical interests:
- Diabetes care for Type 1, Type 2, and diabetes in pregnancy
- Thyroid disease
- Pituitary disease
- Integration of home glucose monitoring into electronic medical records
- Fructosamine as an alternative to HbA1C in pregnancy
- Web-based algorithms in titration of basal insulin in adults with Type 2 diabetes
- HbA1c and fructosamine in early pregnancy: correlation to 24-28 week OGTT

Sree Susmitha Garapati, MD
Assistant Professor of Medicine
Clinical interests:
- In-patient and out-patient diabetes management
- Thyroid disease, including thyroid ultrasound and biopsy
- Adrenal and pituitary diseases
- PCOS
- Male hypogonadism

Matthew P. Gilbert, DO, MPH
Associate Professor of Medicine
Director, Endocrinology Fellowship Program
Director, Inpatient Diabetes Management
Research and clinical interests:
- Diabetes mellitus
- Thyroid disorders
- Thyroid cancer
- Male hypogonadism

Dhananjay (Jay) Gupta, PhD
Research Assistant Professor
Research interests:
- Pathogenesis of type 2 diabetes and islet biology
- Epigenetic regulation of adaptive islet beta cell response with changing metabolic milieu

Thomas L. Jetton, PhD
Professor of Medicine
Research interests:
- Nutrient and neural regulation of β-cell mass homeostasis
- Diet influence on intestinal microbiota and autoimmune disease susceptibility

Teaching interests:
- Human Structure and Function
- Gastrointestinal Physiology
- Regulation of Energy Homeostasis
Science Communication

Muriel H. Nathan, MD, PhD
Professor of Medicine

Research and clinical interests:
- Diabetes (including use of insulin pumps) and PCOS
- Thyroid cancer, thyroid nodules, and hyper- and hypothyroidism
- Pituitary tumors and dysfunction
- Adrenal disorders, hirsutism
- Inpatient improvement projects funded by the James M. Jeffords Institute for Quality ~ SQ and IV insulin forms, insulin pump, DKA

Fellows

Amanda Fernandes, MD (F4; began training 7/1/2016; expected completion 6/30/2018)
Juan Pablo Perdomo Rodriguez, MD (F5; began training 7/1/2015; completed 6/30/2017)

Nurse Practitioners and Certified Diabetes Educators

Margaret Costello, FNP, MS
Ann Gotham, ANP, MSN, ScM
Kristen Bolton, MS, RD, CDE
Rhonda Lapidow, RN, CDE
Mary Spence, RN, CDE
Linda Tilton, MS, RD, CDE

Graduate Students, Post-doctoral Fellows, MD PhD Students

None

Endowed Professorships

Sarah Nichols Gruenig Green & Gold Professor in Diabetes Research
Held by John (Jack) L. Leahy, MD

Leadership in Professional Societies

Muriel H. Nathan, MD, PhD
New England Thyroid Club, senior member
Thomas L. Jetton, PhD  
Boston-Ithaca Islet Club, senior member

John (Jack) L. Leahy, MD  
Endocrine Society, 2017 Annual Meeting Steering Committee, Clinical Science Chair

**Editorships and Editorial Boards**

Dhananjay (Jay) Gupta, PhD  
Editorial Board: *Journal of Endocrinology, Diabetes and Obesity*  
Reviewer: *Diabetes, Science Reports, Journal of Nutritional Biochemistry, Life Sciences, International Journal of Chronic Diseases*

Thomas L. Jetton, PhD  
Reviewer: *Diabetes, Endocrinology, PNAS, Metabolism, Diabetologia, American Journal of Physiology, PLoSOne*

John (Jack) L. Leahy, MD  
Founding member and member of the Editorial Board: BetaCellsinDiabetes.org  
Associate Editor: *Journal of the Endocrine Society*  
Editorial Board: *Journal of Biological Chemistry*

Joel J. Schnure, MD  
Editorial Board: *Coronary Artery Disease*

**Study Sections and Federal Advisory Boards**

Dhananjay (Jay) Gupta, PhD  
Grant Review Panel, Diabetes UK

Thomas L. Jetton, PhD  
Federal review boards:  
EMNR-Study Section (SBIR and STTR), ad hoc reviewer  
NIDDK/NIH, ad hoc reviewer

John (Jack) L. Leahy, MD  
American Diabetes Association, Grant Review Panel  
Hillblom Foundation, Scientific Advisory Board
<table>
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**Dhananjay (Jay) Gupta, PhD**  
Juvenile Diabetes Research Foundation International  

- Manipulating β-cell Inflammation and Survival via Cholinergic Pathways (09/01/13-08/31/16)  
  Role: Co-Investigator (Thomas Jetton, Principal Investigator)

**Thomas L. Jetton, PhD**  
Juvenile Diabetes Research Foundation International  

- Manipulating β-cell Inflammation and Survival via Cholinergic Pathways (09/01/13-08/31/16)  
  Role: Principal Investigator

**Armin Grams Research Award – UVM Center on Aging**  
Role: Principal Investigator

**Muriel H. Nathan, MD, PhD**  
University of Vermont Medical Center Investigator-Initiated Award  

- Molecular Tumorigenesis of Papillary Thyroid Microcarcinoma (2015-2017)  
  Role: Collaborator (Nikoletta Sidiropoulos and Frances Carr, co-Principal Investigators)

| Publications |


The Gastroenterology and Hepatology Unit at the University of Vermont College of Medicine/University of Vermont Medical Center has eight full-time faculty members, three GI Fellows and three Ph.D.’s. Clinical care, teaching, and both basic science and clinical research are all major elements of the GI Unit. There are plans to add a fourth GI fellow in July 2018.

In January, 2016, the GI Unit welcomed Dr. Gordon Jensen. Dr. Jensen is a world recognized expert in nutritional disorders and as well as Senior Associate Dean of Research at UVM. His clinical and research interests include nutrition assessment in chronic illnesses and short bowel syndrome.

As well, Dr. Mario Velez joined the UVM GI faculty in July 2017. Dr. Velez has special academic pursuits in therapeutic endoscopy and their application to bariatrics.

Cutting edge clinical care and state of the art endoscopy are just two components of the Faculty’s responsibilities. A modern 8-room Endoscopy Center is equipped with the new HD endoscopes and HD monitors. Recently, a teaching audio-visual system has been installed to allow conferencing during therapeutic procedures. There are also plans for a new electronic endoscopic reporting system to be integrated in the fall of 2017. Over 12,500 endoscopic procedures are performed each year. All aspects of diagnostic and therapeutic GI endoscopy are performed. Advanced endoscopic procedures include RFA (radio frequency ablation) of the esophagus and EUS (endoscopic ultrasound) of the stomach, pancreas and colon with onsite cytopathology, balloon enteroscopy and all modes of ERCP (endoscopic retrograde cholangiopancreatography) with cholangioscopy and laser lithotripsy with portable C-arm fluoroscopy are performed. A dedicated, specialized nursing staff and ancillary personnel of the Endoscopy Center ensure a seamless flow of patients each day.

In the Rowell Building of the University of Vermont there is a newly created Simulation Center. At the Simulation Center, GI Fellows may practice their skills in endoscopy on newly designed and highly sophisticated computerized models of the GI tract.

A daily clinical specialty office setting is shared with General Surgery in the Digestive Disease Center located on the 5th floor of the Ambulatory Care Center. There is a very close working relationship with the Colorectal Surgery and General Surgery divisions. There are dedicated liver clinics, and each aspect of luminal gastroenterology is represented in the various clinics. All this is accomplished with an integrated out-patient and in-patient electronic medical record.
All members of the GI Unit are actively involved in a variety of aspects of teaching. The members of the GI Faculty have very active roles in medical school lectures and team-based learning initiatives in the Vermont Integrated Curriculum of the UVM Larner College of Medicine. UVM medical students are team members on the GI consult service and in the clinical office setting. The members of the GI Faculty are responsible for the vast majority of the teaching in the GI Fellowship Program. Members of the GI Faculty give lectures to both medical and surgical residents, preside at Residents’ Morning Report and are part of the integrated Teaching Attending Service at the University of Vermont Medical Center. A weekly clinical GI Conference is held and led by GI Faculty and guest speakers from other divisions. As well, there is a weekly GI Pathology Conference led by specialty trained GI pathologists. There, an in-depth discussion and review of recent GI pathology occurs with the intent to improve diagnosis and clinical outcomes. Two GI Journal Clubs occur each month where detailed analysis and review of recent published articles is accomplished. A monthly Quality Care Review Committee Meeting enables a constant improvement and review of clinical care and of endoscopic practices. Members of the GI faculty are also key contributors at the weekly GI Multidisciplinary Cancer Conference. And finally, a monthly GI Research Meeting of all the GI Faculty and Fellows meets to review present and future research endeavors.

Each Faculty member and each GI Fellow is actively engaged in an academic research pursuit. Research projects to date span the field of gastroenterology and hepatology from celiac disease, to new therapy for Barrett’s esophagus with radiofrequency ablation (RFA), to all aspects of chronic liver disease, new therapies for hepatitis C and fatty liver (NASH and NAFLD), new medications for inflammatory bowel disease (IBD), and irritable bowel syndrome (IBS), fecal microbial transplant (FMT), maintaining nutrition in chronic illness, exploring new methods for early detection of pancreatic cancer and assessing new therapies for motility disorders.

The Gastroenterology and Hepatology Unit at the University of Vermont fosters a close cooperation, collaboration and interaction with other research departments throughout UVM which allows a unique opportunity to explore translational research as it pertains to future aspects of clinical care.

James Vecchio, MD

Professor of Medicine

Director, Gastroenterology and Hepatology Division

Director, Gastroenterology Outpatient Ambulatory Care Center

- GERD
- Celiac Disease
- Inflammatory Bowel Diseases – Crohn’s and Ulcerative Colitis
- Therapeutic Endoscopy
Nicholas Ferrentino, MD
Associate Professor of Medicine
Director, GI Fellowship Program
  - Chronic Viral Hepatitis
  - Management of Cirrhosis
  - General Gastroenterology and General Hepatology
  - Therapeutic Endoscopy

Eric Ganguly, MD
Associate Professor of Medicine
  - Endoscopic Ultrasound and GI Malignancies
  - Barrett’s Esophagus and Radiofrequency Ablation for Barrett’s Esophagus
  - Therapeutic Endoscopy
  - GERD

Gordon Jensen, MD, Ph.D.
Professor of Medicine and Nutrition
Senior Associate Dean of Research
  - Nutrition assessment and therapy in chronic illness
  - Short bowel syndrome

Steven Lidofsky, MD, Ph.D.
Professor of Medicine and Pharmacology
Director, Hepatology Section
Co-Director, Gastrointestinal Research
Director, MD-Ph.D. Program
  - Liver Cell Biology
  - Portal Hypertension
  - Hepatocellular Carcinoma
  - Viral Hepatitis
  - Metabolic Syndrome and the Liver
Gary Mawe, Ph.D.
Professor of Neurological Sciences; Adjunct Professor of Medicine and of Pharmacology

- Neural Regulation of the Digestive Tract
  (understanding changes in enteric neural circuits that contribute to altered gut function in inflammatory bowel disease and irritable bowel syndrome)

Peter Moses, MD
Professor of Medicine
Co-Director, Gastrointestinal Research

- Inflammatory Bowel Disease
- Irritable Bowel Syndrome
- Therapeutic Endoscopy
- Translational research with Human Microbiota; Fecal Microbial Transplant

Doris Strader, MD
Professor of Medicine

- Hepatitis C
- Portal hypertension
- Eosinophilic Esophagitis
- General Hepatology and General Gastroenterology

Richard Zubarik, MD
Professor of Medicine
Director, Endoscopy

- Pancreatic Disorders
- Endoscopy Quality
- Therapeutic Endoscopy and EUS
- Endoscopic Ultrasound

Mario Velez, MD
Assistant Professor of Medicine

- Therapeutic endoscopy
- Endoscopic ultrasound
- Bariatric interventions
Ovais Ahmed, MD
GI Fellow

Sonja Dawsey, MD
GI Fellow

Joseph Frasca, MD
GI Fellow

Leadership in Professional Studies:

Steven Lidofsky, MD, Ph.D.
- Co-Chair Joint Research Awards Committee, American Association for the Study of Liver Diseases and American Liver Foundation
- Selected to the inaugural group of Fellows of the American Association for the Study of Liver Diseases
- AASLD Leadership: abstract review hepatobiliary neoplasia for Liver Meeting and DDW

Gary Mawe, Ph.D.
- Councilor, American Gastroenterological Association, Nerve-Gut Interactions Section, 2014-present
- Fundamentals of Neurogastroenterology - Basic Science Committee, The Rome Foundation, 2012-2014. The purpose of this committee is to develop a summary of the research and literature to date related to functional gastrointestinal disorders, and then offers guidelines or recommendations to help advance future research.
- Scientific Advisory Board, The International Foundation for Functional Gastrointestinal Disorders, 2008 – present
- Chair, Research Committee, American Neurogastroenterology and Motility Society, 2012-2014
- Councilor, American Neurogastroenterology and Motility Society, 2006-present

Peter Moses, MD
- Elected member of the University of VT Professional Standards Committee, 2013-2014

Editorships and Editorial Boards:

Steven Lidofsky, MD, Ph.D.
- Editorial Board, Clinical Therapeutics
- Ad hoc Grants Reviewer for: Burroughs Welcome Foundation, Medical Research Council of Canada, Natural Sciences and Engineering Research Council of Canada


Gary Mawe, Ph.D.

- Reviewing Editor: Journal of Physiology, 2012 – present
- Reviews Editor: Neurogastroenterology and Motility, 2012 – present
- Guest Associate Editor: Gastroenterology, 2012
- Editorial Board: American Journal of Physiology: Gastrointestinal and Liver Physiology, 1999-present
- Editorial Board: Frontiers in Autonomic Neuroscience, 2010-present
- Editorial Board: Frontiers in Gastrointestinal Sciences, 2011-present
- Editorial Board: Journal of Visualized Experiments, (JoVE), 2011-present

Peter Moses, MD

- Editorial Board Member, The Journal of Clinical Gastroenterology (Yale)
- Editorial Board Member, The World Journal of Gastroenterology (China)
- Reviewer, The American Journal of Gastroenterology
- Reviewer, Gastroenterology
- Reviewer, Alimentary Pharmacology
- Reviewer, Neurogastroenterology and Motility

Richard Zubarik, M.D.

- Editorial Board Member, World Journal of Gastroenterology 2012-present
- Reviewer, Gastrointestinal Endoscopy 2004-present
- Reviewer, Evidence-Based Gastroenterology 2001-present
- Reviewer, Journal of Gastroenterology 2006-present
- Reviewer, Archives of Internal Medicine 2010-present
- Reviewer, Digestive Diseases and Sciences 2010-present
- Reviewer, International Journal of Inflammation 2012-present
- Reviewer, American Society for Gastrointestinal Endoscopy Publications Committee

Study Sections and Federal Advisory Boards:
Steven Lidofsky, MD, Ph.D.

- NIH ZDK1 GRBN Special Emphasis Panel

Gary Mawe, Ph.D.

- Member of the Clinical, Integrative, and Molecular Gastroenterology Study Section, Center for Scientific Review, NIH, 2013 - 2017.
- Grant Reviewer, Study Section of the NIH at the National Institute of Biomedical Imaging and Bioengineering (NIBIB)

Doris Strader, MD

- Director of Data Safety Monitoring Board for NIH Hepatitis B Research Network

Grants – list all active by faculty member, PI

Eric Ganguly, MD

- A Multicenter National Prospective Study of Pregnancy and Neonatal Outcomes in Women with Inflammatory Bowel Disease

Steven Lidofsky, MD, Ph.D.

- Pharma trial: Emricisan for NASH with hepatic fibrosis
- Trial: Emricisan for NAFLD cirrhosis with severe portal hypertension
- Trial: Volixibat for NASH
- Study MR fat quantification in hepatic resection for malignant metastases UVMMC Cancer Center

Gary Mawe, Ph.D.

- Neuronal excitability and motility in colitis (G. Mawe, Principal Investigator). NIH RO1 Grant Award (DK 62267); 7/15/02-3/31/2017. 40% effort. The goal of this project is to determine what changes occur in colonic neural circuitry in an animal model of colitis.
- Centers of Biomedical Research Excellence (COBRE) Phase III: Transitional Centers. (Imaging/Physiology Core Director) NIH/NIGMS 7/1/2011-6/30/2016 5% Effort. The primary goal of this grant is to support the continued growth of two sophisticated multi-user research cores: an Imaging/Physiology Core and Cellular/Molecular Core.
- Studies of gastroparesis in monogenic migraine mouse models (R. Shapiro, PI). Migraine Research Foundation. January 1, 2014 – Dec 31, 2014. The primary aim of this pilot exploratory project is to determine whether mice that have been engineered to express genetic mutations causative for human migraine have delayed gastric emptying relative to their wildtype littermate mice.
“Mechanisms of gastrointestinal dysfunction in multiple sclerosis” (G. Mawe, Principal Investigator). National Multiple Sclerosis Society June 1, 2014 – May 30, 2015. This pilot project aims to explore the possibility that altered GI function can be investigated using well-established mouse models of MS (MS mice). In addition, we will test the hypothesis that the blood of individuals with MS contains antibodies that stick to, and interfere with, nerve cells in the GI tract.

Peter Moses, MD

- A Phase II Randomized, Placebo-Controlled, Double-Blind, Dose Ranging Study to Assess the Immunogenicity and Safety of a *Clostridium Difficile* Toxoid Vaccine (ACAM-CDIFF™) in Subjects with *Clostridium Difficile* Infection (CDI)
- Furiex Mu-Delta Agonist for the treatment of IBS with diarrhea
- FMT in Ulcerative Colitis

James Vecchio, MD

- Prospective, Multicenter, Randomized, Double-Blind, Placebo-Controlled Trial Comparing REMICADE® (infliximab) and Placebo in the Prevention of Recurrence in Crohn’s Disease Patients Undergoing Surgical Resection Who Are at an Increased Risk of Recurrence (PREVENT)
- SECURE / A Non-Interventional Long-term Post-Marketing Registry of Patients Treated with Certolizumab Pegol (Cimzia®) for Crohn’s Disease

Richard Zubarik, MD

- Can Endoscopic Ultrasound (EUS) Stigmata of Chronic Pancreatitis Predict the Response to Pancreatic Enzymes
- International Registry for Intraductal Papillary Mucinous Neoplasms
- Prospective Study of Bacteremia and the Infection Rates Following Cholangioscopy with the Spyglass Cholangioscope

Publications – peer reviewed, chapters, etc. (not abstracts)


PubMed ID: 27571792

PubMed ID: 28544480


PubMed ID: 28644925


PubMed ID: 28453391


PubMed ID: 28333596


PubMed ID: 28034565


PubMed ID: 28096124


PubMed ID: 27570944


PubMed ID: 27559852


PubMed ID: 26993988

PubMed ID: 26501700


PubMed ID: 26571354


PubMed ID: 25837700


PubMed ID: 25170218


PubMed ID: 26125107


PubMed ID: 24379581


PubMed ID: 28580281

PubMed ID: 28487547


PubMed ID: 27480173
PubMed CID: PMC5159265 [Available on 2017-11-01]


PubMed ID: 27144618


PubMed ID: 27379643


PubMed ID: 25729851


PubMed ID: 25477375


PubMed ID: 25164154


PubMed ID: 24928959
PubMed ID: 24548255

PubMed ID: 26081368

PubMed ID: 24073825

PubMed ID: 23797870

PubMed ID: 23732648

PubMed ID: 23894272

PubMed ID: 23414509

PubMed ID: 26919263


PubMed ID: 26386400


PubMed ID:


PubMed ID: 24741493

**Textbooks/Journals:**


The Division of General Internal Medicine & Geriatrics specializes in diagnosing, treating, and preventing medical problems in adolescents, adults, and the elderly. Our general internal medicine physicians work with their teams in the outpatient clinics to care for a large proportion of patients in our area. Our geriatricians provide expert consultation in the care of older adults and are responsible for the care delivered at a number of skilled nursing facilities.

Our faculty physicians teach general internal medicine and geriatrics to medical students, resident physicians, professional colleagues, and community members. We hold numerous leadership roles at the College of Medicine and are proud to serve an integral role in our vibrant academic medical center.

**Service:**

Our clinical service includes approximately 40 physicians, nurse practitioners and physician assistants. We have four outpatient sites in Chittenden County. We also see patients at numerous skilled nursing facilities and the memory center.

In the office setting, patients are seen for a variety of acute and chronic medical problems, preventive care, health maintenance and preoperative exams. Our group has been a national leader in developing innovative models for care delivery. All four outpatient sites have been NCQA recognized as level 3 Patient Centered Medical Homes.

Our physicians care for many geriatric patients in Chittenden County, attending to elderly patients living independently, in assisted living, in local nursing homes, and at hospice. Our geriatrics section does consultations for the care of older adults through our Adult Primary Care Williston location and also at the Memory Center.

This year GIM & Geriatrics faculty and providers will conduct approximately 70,000 patient encounters.

Our faculty and providers are extensively engaged in service at the state and national levels. A few examples include:

American College of Physicians (ACP) Board of Regents member, Executive Council for the ACP Board of Governors member, Chair of the ACP Chapter Subcommittee, Chair of the Vermont Board of Medical Practice, President of the Board of Directors of the Federation of
State Medical Boards, member of the State Board Advisory Committee to the USMLE, member of the Vermont Commissioner of Health’s Task Force on Opioid Prescribing, USMLE Composite Committee member, Vermont Medicaid Drug Utilization Board members, Green Mountain Care Board Technical Advisory Group member, OneCare Vermont Accountable Care Organization Clinical Advisory Board member, OneCare Vermont Regional Clinician Representative, Vermont Care Organization Primary Care Advisory Board and Vermont Blueprint for Health Executive Committee.

Education:

Division faculty members play a pivotal role in teaching and directing courses for a broad audience of clinical learners in the outpatient and inpatient settings. Our educational programs cover a wide spectrum, from primary care to tertiary care, communication skills to statistics, and from pre-medical students to post-graduate continuing medical education.

At the UVM College of Medicine, our faculty member’s act as preceptors, instructors, and facilitators for courses at all levels of the Vermont Integrated Curriculum. Additionally, we serve as course directors for Doctoring in Vermont (Dr. Beatty), Convergence (Dr. King), Doctoring Skills (Dr. Rubin) and Outpatient Medicine Clerkship (Dr. O’Brien). Administrative leadership positions at the College of Medicine include Associate Dean for Clinical Education (Dr. Bertsch), Associate Dean for Primary Care (Dr. Maclean).

We also play key roles in the clinical education of the Internal Medicine residents. Our Adult Primary Care Burlington site houses the Internal Medicine Resident Clinic – where the Internal Medicine residents practice under the supervision of our preceptors and firm leaders in a busy clinic environment. Drs. Pinckney and Sobel lead the curricular coordination for the Resident Clinic. In the inpatient setting, hospitalists serve as teaching attendings for the 4 general medicine teaching teams throughout the year – offering clinical supervision, clinical education, lectures, and evaluation to resident physicians and medical students.

Our educational endeavors extend to graduate students in analysis of clinical research, nurse practitioners in palliative care fellowship programs, and nurse practitioner students in clinical compassion. We educate our colleagues locally, regionally and nationally in a variety of venues. An example of this is the Vermont Academic Detailing Program which delivers educational outreach to Vermont’s primary care providers. Additionally, our geriatricians are key presenters at the annual Vermont Geriatrics Conference which is a one-day symposium covering practical and innovative approaches to the medical care of older adults.

Research

Many of our clinical faculty conduct research via the General Internal Medicine Research unit and provide mentorship, resources, and a scholarly community that supports faculty from many
departments in their investigations. We have a diversity of scholarly interests among our faculty including the impact of innovative models for primary care, high value laboratory ordering practices, narcotic prescribing practices in the outpatient setting, the impact on the electronic medical record on patient-provider interactions, increasing advanced care planning documentation and many initiatives around chronic disease management.

Faculty

**Adult Primary Care - Burlington**

**Claudia Berger, MD** (Site Clinical Leader)
Assistant Professor of Medicine

**Mia Hockett, MD, MPH**
Assistant Professor of Medicine

**Robert Karp, MD**
Associate Professor in Medicine (*Emeritus*)
- Geriatric Medicine

**Benjamin Littenberg, MD** (see Division of GIM-Research)
Professor of Medicine
Director, Division of General Internal Medicine - Research

**Scott Luria, MD**
Associate Professor of Medicine

**John Miller, MD**
Assistant Professor of Medicine

**Richard Pinckney, MD, MPH**
Associate Professor of Medicine
Co-Director, Internal Medicine Resident Clinic
Alan Rubin, MD (see Division of GIM-Research)
Professor of Medicine

Halle Sobel, MD
Associate Professor of Medicine
Co-Director, Internal Medicine Resident Clinic

Adult Primary Care - Essex

Tania Bertsch, MD
Associate Professor of Medicine
Associate Dean for Clinical Education

Alberto Gutierrez, MD
Assistant Professor of Medicine

Diane Haddock, MD (Site Clinical Leader)
Assistant Professor of Medicine

Patricia King, MD, PhD
Associate Professor of Medicine
Convergence Course Director, Vermont Integrated Curriculum, UVM College of Medicine

Mark Levine, MD
Professor of Medicine
Associate Chair for Education, Department of Medicine
Designated Institution Official at UVM Medical Center and Associate Dean for Graduate Medical Education at the UVM College of Medicine

Jessica Lunardini, MD
Assistant Professor of Medicine

Charles MacLean, MD (see Division of GIM-Research)
Professor of Medicine
Associate Dean for Primary Care

- Health services research and epidemiology

Roberta O’Brien, MD
Associate Professor of Medicine
Director, Internal Medicine Clerkship

**Adult Primary Care – South Burlington**

Dennis Beatty, MD
Assistant Professor of Medicine
Doctoring in Vermont Course Director, Vermont Integrated Curriculum, UVM College of Medicine

Jennifer Gilwee, MD
Assistant Professor of Medicine
Division Chief, General Internal Medicine and Geriatrics

Jason Gramling, MD
Assistant Professor of Medicine

Diane Hakey, MD
Assistant Professor of Medicine

Jonathan Hayden, MD
Associate Professor of Medicine

Alison Landrey, MD
Assistant Professor of Medicine

Marie Sandoval, MD (Site Clinical Leader)
Associate Professor of Medicine

Susan Weinstein, DO
Assistant Professor of Medicine
David Ziegelman, MD
Assistant Professor of Medicine

Adult Primary Care - Williston

Anne Breña, MD
Assistant Professor of Medicine

Elizabeth Rosy Hill, MD
Assistant Professor of Medicine
  • See also Geriatric Medicine

Marvin Klikunas, MD
Associate Professor of Medicine (Emeritus)
Medical Director, The Arbors
  • See also Geriatric Medicine

Lucy Miller, MD (Site Clinical Leader)
Assistant Professor of Medicine

Dennis Plante, MD
Associate Professor of Medicine

Geriatric Medicine

Zail Berry, MD
Associate Professor of Medicine
Medical Director, Birchwood Terrace
Assistant Medical Director, Hospice for Visiting Nurses Association

Jaina Clough, MD
Assistant Professor of Medicine
Medical Director of Hospice for Visiting Nurses Association

Elizabeth Rosy Hill, MD
Assistant Professor of Medicine
• Geriatric Medicine

Marvin Klikunas, MD
Associate Professor of Medicine (Emeritus)
Medical Director, The Arbors
• Geriatric Medicine

Michael LaMantia, MD
Associate Professor of Medicine
• Chief, Section of Geriatrics

Isaura Menzies, MD
Assistant Professor of Medicine
Medical Director of Starr Farm Skilled Nursing Facility
• Geriatric Medicine

Nurse Practitioners, Physician Assistants, and Mental Health Specialists:

Adult Primary Care - Burlington
Candis Cousins, PA
Gabrielle Mikula, NP
Tracey Niquette, NP

**Adult Primary Care - Essex**

Sarah Bushweller, PA

Alison Hall, PA

**Adult Primary Care - South Burlington**

Tristin Adie, NP

Diane Bell, NP

Rachel Brodie, PA

Ruth Polishuk, NP

**Adult Primary Care - Williston**

Kirsten Berggren, NP

**Starr Farm (Skilled Nursing Facility)**

Katharine Murphy PhD, MS, APRN

**Birchwood Nursing Center (Skilled Nursing Facility)**

Tara Meyer, NP

**Leadership in Professional Societies:**

Mark Levine, MD

- American College of Physicians (ACP) Board of Regents member
- Chair, ACP Education and Publications Committee
- Vice President, VT Medical Society

Sarah Bushweller, PA

- Board of Directors for the Physician Assistant Academy of Vermont
• Vermont representative to the House of Delegates, American Academy of Physician Assistants

**Editorships and Editorial Boards:**

Mark Levine, MD

• Reviewer: Annals of Internal Medicine, MKSAP Syllabus, American College of Physicians, Journal of General Internal Medicine

Halle Sobel, MD

• Reviewer: Annals of Internal Medicine

**Study Sections and Federal Advisory Boards:**

Patricia King, MD, PhD

• Federation of State Medical Boards Advisory Council to the United States Medical Licensing Examination
• National Board of Medical Examiners Standards Setting Committee for USMLE Step 1

**Major Faculty Awards:**

• Frymoyer Grant recipients, October 2016:
  o Dr. Halle Sobel and Dr. Alison Landrey
  o Dr. Mia Hockett

• Dr. Marie Sandoval was promoted to Associate Professor July 2016

**Publications – peer reviewed, chapters, etc. (not abstracts)**


Rose G, Ferraro T, Badger G, MacLean CD, Skelly J, Helzer J. A Randomized Controlled Trial of IVR-Based Alcohol Brief Intervention to Promote Patient-Provider Communication in Primary Care. JGIM 2016, 31: 1148-55.


Matthew R. Jordan, MD, AEMT1,2, Michael F. O’Keefe, MS, NRP1,3, David Weiss, BS, AEMT1, C. Wes Cubberley, MS-I, AEMT1,3, Charles D. MacLean, MD3, Daniel L. Wolfson, MD, FACEP1,3,4 Implementation of the Universal BLS Termination of Resuscitation Rule in a Rural EMS System. Resuscitation, 2017, In press.


Alder CA, Austrom MG, LaMantia MA, Boustani MA. Aging Brain Care: A Model of Integrated Care for Dementia and Depression. Chapter in Psychiatry, Primary Care, and Medical Specialties: Pathways for Integrated Care (R. Feinstein, J. Connelly, and M. Feinstein editors). Oxford University Press.
Hematology Oncology

Chris Holmes, MD, Interim Director
http://www.uvm.edu/medicine/medicine/hemonc/

Executive Summary

The Division of Hematology and Oncology has had a successful clinical and academic year with a continued dedication to our tripartite mission of teaching, cutting-edge research and high quality, patient centered care. The division has 17 faculty members who care for patients with oncologic and hematologic malignancies, benign hematology, as well as thrombotic and bleeding disorders. The clinical care enterprise is also comprised of 6 APPs and over 40 nurses and staff in the outpatient clinic. In 2016-2017, the division cared for about 2,470 new outpatients and provided over 18,000 outpatient consults and visits (in total) in addition to ~1,400 treatment infusion/injection patients and about 6,000 inpatient consults and visits. Inpatient services offered by the division include a hematology consult service, an oncology consult service and a heme-malignancy inpatient service. In addition to subspecialty, tertiary oncologic care and specialized hematology services, the division also provides unique services to our patient population. These include:

- The Thrombosis & Hemostasis Program, (Dr. Cushman, Director)
- The Apheresis Program, (Dr. Sprague, Director)
- The Hemophilia Treatment Center supported by a federal grant, (Dr. Holmes, PI)
- The Stem Cell Transplant Program, reaccredited in 2016, (Dr. Sprague, Director)
- The High Risk Breast Program, a clinical research program, (Dr. Wood, PI)
- Familial Cancer Genetics, (Drs. Wood and Greenblatt, PI’s)
- Oncology Rehabilitation, (Dr. Dittus, Medical Director)
- Lymphedema Services, (Dr. O’Brien)

Research within the division focuses on clinical trials as well as epidemiologic and translational research. In the past year, faculty members have served as the site PI on 26 National Cancer Institute clinical trials; 13 industry sponsored trials and 10 investigator initiated institutional trials. Investigators within the Division receive funding from clinical trials (cooperative group and pharmaceutical trials), NIH NCI, NHLBI, NINDS and ACS, and through the UVM Cancer Center.

The division maintains an active fellowship program comprised of 6 fellows under the direction of Dr. Julian Sprague (Program Director) and Dr. Molly Barry (Associate Program Director). Specialized tracks in thrombosis & haemostasis, familial genetics and breast cancer are available to fellows and promote the academic careers of interested fellows. Fellows maintain an active clinical and research schedule including presentations and posters at relevant regional and national meetings. Hematology and Oncology fellows generated 5 publications this year and Dr. Hibba Rehman (third year fellow) received a Fibrolamellar Cancer Foundation Grant.
Multiple members of the division continue to serve in leading national and international positions. A few highlights include: Dr. Steven Ades was appointed as site PI for the NCI Alliance Network as well as served as the President of the Northern New England Clinical Oncology Society; Dr. Cushman now serves as the inaugural Editor in Chief of RPTH (Research and Practice in Thrombosis and Hemostasis), an international on-line journal dedicated to the dissemination of high quality research and clinical care in thrombosis and hemostasis as well as continued to serve on the Board of Directors for the American Heart Association; Dr. Greenblatt served as the President of the Human Genome Variation Society and member of the International Scientific Advisory Council for the Human Variome Project; Dr. Holmes served as National Chair for the American Society of Hematology Workgroup on Transitions and Member of the Thrombosis Committee for the American Thrombosis and Hemostasis Network; Dr. Nunnink was a member of the Board of Directors for the American Society of Oncology; Dr. Marie Wood served on the Alliance Prevention Committee and is Chair-Elect of the ASCO Continuing Education Committee and Dr. Zakai served as a member of the American Society of Hematology VTE Guidelines Panel and co-chair of the Hemophilia and Thrombosis Research Society, Research Committee.

Additional highlights and accomplishments that round out a successful year in hematology and oncology are found below.

Faculty

**Steven Ades, MD, MSc – Associate Professor**
- Associate Director, Hematology/Oncology Fellowship Program
- Leader, UVM Medical Upper Gastrointestinal Oncology Transdisciplinary Team
- Co-Leader, University of Vermont Medical Center Medical Center Genitourinary Oncology Transdisciplinary Team
- Director, In-Patient Hematology/Oncology—Outgoing
- Clinical Director, Cancer Clinical Trials Office—Incoming
- Member, Vermont Cancer Center Protocol Review and Monitoring Committee
- Member, UVM Faculty Senate Financial & Physical Planning Committee
- Member, UVM Medical Center Hematology/Oncology Fellowship Program Evaluation Committee
- Member, UVM Medical Center Hematology/Oncology Fellowship Clinical Competency Committee
- Member, Hematology/Oncology Division Chief Search Committee
- Research and clinical interests include: GI and GU cancers, supportive care and thrombosis in malignancy

**George F. Atweh, MD-Professor**
- Clinical Director, Cancer Clinical Trials Office—Outgoing
- Member, Protocol Review and Monitoring Committee, UVM Medical Center
- Research interests include: Molecular basis of benign and malignant blood disorders, and clinical trials in malignant hematology
Maura Barry, MD, Assistant Professor  
Associate Director, Hematology/Oncology Fellowship Program  
Member, UVM Medical Center Faculty Development Committee,  
Member, UVM Medical Center Hematology/Oncology Fellowship Program Evaluation Committee  
Member, UVM Internal Medicine Residency Program Evaluation Committee  
Member, UVM Medical Center Hematology/Oncology Fellowship Clinical Competency Committee  
Research and clinical interests include: GI and head and neck cancers

Mary Cushman, MD, MSc – Professor, Medicine and Pathology  
Director, Thrombosis and Hemostasis Program  
Research interests include: Etiology of vascular diseases and other chronic diseases; racial disparities; venous thrombosis and post thrombotic syndrome

Kim Dittus, MD, PhD – Assistant Professor  
Medical Director of Oncology Rehabilitation  
Chair Clinical Committee, Program in Integrative Health  
Chair Research Committee, Program in Integrative Health  
Member, Cancer Control Committee, UVM Medical Center  
Research interests include: Cancer survivorship, diet/nutrition, exercise

Edmund Folefac, MD – Assistant Professor  
Member, Vermont Cancer Center Protocol Review and Monitoring Committee  
Research interests include: Lung cancer and melanoma; clinical trials

Marc Greenblatt, MD – Professor  
Co-Chair, UVM Cancer Center Molecular Mechanisms of Malignancy Program  
Assistant Director, Hematology/Oncology Fellowship Program  
Research and clinical interests include: Cancer genetics and gastrointestinal cancers

Chris Holmes, MD, PhD – Associate Professor  
Interim Director, Hematology/Oncology Division  
Director, Vermont Regional Hemophilia Treatment Center  
Assistant Director, Thrombosis and Hemostasis Program  
Section Chief, Hematologic Malignancies  
Associate Director, Clinical and Translational Research, UVM Cancer Center  
Research interests include: Venous thrombosis, platelet function, coagulation and cancer

Farrah Khan, MD – Assistant Professor  
Member: UVMMC Department of Medicine Faculty Development Committee, Faculty Engagement Committee, QA&I Committee  
Member, UVMMC Department of Medicine Quality Assurance and Improvement Committee
Research and clinical interests include: Breast cancer, lung cancer, mesothelioma and sarcoma

**J. Chris Nunnink, MD, FASCO – Associate Professor**  
Member, UVM Medical Center Clinical Integration Committee  
Member, UVM Medical Center CIC Committee representing Oncology  
Co-Chair, UVM Medical Center Head and Neck Multidisciplinary Clinic  
Director, UVM Cancer Center Network Development  
Clinical interests include: Oropharyngeal Cancer and GU Cancer

**Patricia O’Brien, MD – Assistant Professor Clinical Scholar**  
Director, Lymphedema Program

**Julie Olin, MD – Associate Professor**  
Attending Physician—retired June 30, 2017

**Julian Sprague, MD, PhD – Associate Professor**  
Director, Hematology/Oncology Fellowship Program  
Director, Stem Cell Transplant Program, University of Vermont Medical Center  
Clinical Director, Apheresis Services  
Member, UVM Medical Center, Transfusion Committee  
Member, UVM Medical Center, Ethics Committee  
Member, UVM Medical Center, Medical School Curriculum Committee  
Research and clinical interests include: Myeloma and neurotoxicity, hematologic malignancies

**Eswar Tipirneni, MD—Clinical Practice Physician**  
Physician at CVMC

**Elvira Umyarova, MD—Assistant Professor**  
Director, In-Patient Hematology/Oncology—Incoming  
Research interests include: Malignant hematology, stem cell transplant, clinical trials

**Marie Wood, MD – Professor**  
Director, Familial Cancer Program  
Assistant Director, Hematology/Oncology Division  
Medical Director of the Cancer Clinic  
Research interests include molecular markers of breast cancer risk, attitudes of primary care physicians regarding cancer genetics, breast cancer screening and prevention

**Neil Zakai, MD, MSc – Associate Professor of Medicine and Pathology**  
Chair, Data Safety and Monitoring Board, UVM Cancer Center  
Member, UVMMC Pharmacy and Therapeutics Committee  
Research interests include: Epidemiology and novel risk factors for venous thrombosis and cardiovascular disease. Epidemiology, causes, and consequences of anemia in
diverse populations. Venous thrombosis causes and prevention, post thrombotic syndrome.

**Hematology/Oncology Fellows**
- Hibba Rehman, MD – 3rd year fellow
- Jose Ruades, MD – 3rd year fellow
- Bhargavi Pulluri, MD – 2nd year fellow
- Purva Sharma, MD – 2nd year fellow
- Daniel Douce, MD – 1st year fellow
- Saranya Kodali, MD – 1st year fellow

**NP’s and PA’s**
- Jamie Kelly, PA
- Penny Gibson, PA
- Anne Berkowitz, NP
- Janet Ely, NP
- Patricia Lewis, NP
- Emily Parenteau, MSN, FNP

**Graduate students, post-doctoral fellows, MD PHD students**
- Katharine Cheung, MD, Post-Doctoral Fellow
- Kara Landry, MD, Post-Doctoral, mentored by Mary Cushman
- Elizabeth Hall, MD, LCCRO Fellow
- Daniel Douce, MD, Post-Doctoral Fellow, mentored by Neil Zakai

**Leadership in Professional Societies**

**Steven Ades, MD**
- Immediate Past President, Northern New England Clinical Oncology Society
- Member, Alliance Cooperative Group Symptom Intervention Committee

**Mary Cushman, MD, MSc**
- Member, Scientific Program Planning Committee, World Heart Federation and American Board Director, American Heart Association
- Member of the American Society of Hematology Media Experts Subcommittee.
- Board Director, North American Thrombosis and Hemostasis Society
- President, Board of Directors Vermont District, American Heart Association
- Member, Medical Alumni Executive Committee
- Member, Volunteer Oversight Group, American Heart Association
- Member, Quality Committee, American Society of Hematology
- Member, Media Experts Committee, American Society of Hematology
- Member, Statistics Committee, American Heart Association
- Member, Corporate Relations Review Committee
- Member, ASH Maintenance of Certification Committee
- Member, Medical Advisory Committee for the Foundation for Women and Girls with Blood Disorders
Kim Dittus, MD, PhD
  Member, Cancer Control Committee, UVM Medical Center
  Member, Champlain Valley Healthy Lifestyle Collaborative

Marc Greenblatt, MD
  President, Human Genome Variation Society (HGVS)
  Member, International Scientific Advisory Council, Human Variome Project
  Member, American Association of Cancer Research
  Member, American Society of Clinical Oncology
  Member, American Society of Human Genetics
  Member, Collaborative Group of the Americas on Inherited Colorectal Cancer (CGA-ICC),
  Co-Chair, Working Group on Assessment of Pathogenicity
  Member, International Society of Gastrointestinal Hereditary Tumors (InSiGHT)
  Core Member, Variant Interpretation Committee
  Member, International Mismatch Repair Consortium (IMRC)
  Member, Cancer and Leukemia Group B-Alliance for Clinical Trials
  Member, Vermont Medical Society

Chris Holmes, MD, PhD
  Member, Thrombosis Committee, American Thrombosis and Hemostasis Network, Centers for Disease Control
  National Chair, Hemophilia Transitions, American Society of Hematology Workgroup on Transitions; American College of Physicians Pediatric to Adult Care Transition Initiative
  Executive Board Member, National Network, Health and Human Services New England Comprehensive Hemophilia Diagnostic and Treatment Centers
  Director, Community Counts-Vermont, Centers for Disease Control (CDC) Public Health Monitoring Program, Division of Blood Disorders
  Member, Institutional Review Board, Committee on Human Research in the Medical Sciences (CHRMS), University of Vermont

J. Chris Nunnink MD, FASCO
  Member, American Society of Clinical Oncology Board of Directors
  Member, American Society of Clinical Oncology Strategic Planning Committee
  Member, American Society of Clinical Oncology Clinical Guidelines Committee
  Member, Northern New England Clinical Oncology Society Board of Directors

Julian Sprague, MD
  Member, American Society of Hematology
  Member, American Society of Clinical Oncology
  Member, American College of Physicians
  Member, Committee on Training, American Society of Hematology
Liaison, Committee on Quality from the Committee on Training, American Society of Hematology

**Marie Wood, MD**
- Member, Alliance, Prevention Committee
- Member, Alliance Foundation, Board of Trustees
- Member, American Society of Clinical Oncology, CME Committee
- Member, Northern New England Clinical Oncology Society Board of Directors
- Member, American College of Physicians
- Member, National Surgical Adjuvant Breast and Bowel Project
- Chair-Elect, ASCO Continuing Education Committee

**Neil Zakai, MD**
- Member, American Heart Association, Disparities Research Network Peer Review Committee
- Member, American Society of Hematology VTE Guideline Panel: Prevention of VTE in Medical Patients
- Co-Chair, Hemophilia and Thrombosis Research Society, Research Committee
- Vice Chair, American Heart Association Council on Epidemiology and Prevention, Publications Committee
- Member, American Society of Hematology “Consult a Colleague” program-content expert “Hemostasis/Thrombosis”
- Member, American Heart Association Representative to the American Association of Blood Banks: Blood Banks and Transfusion Services Standards Program Unit
- Member, American Heart Association POP 2 Peer Review Committee
- Member, Hemophilia and Thrombosis Research Society Membership Committee
- Coordinator, Hematology/Oncology Fellowship Quality Project Committee
- Member, UVM Medical Center Hematology/Oncology Fellowship Research Committee
- Member, UVM Medical Center Internal Medicine Residency Research Committee
- Chair, Malignant Hematologist Faculty Search Committee
- Chair, Medication Safety Subcommittee for the Pharmacy & Therapeutics Committee
- Guest Editor, Circulation

**Editorships and Editorial Boards**

- **Neil Zakai**
  - Guest Editor, Circulation
  - Editorial Board, Research and Practice of Thrombosis and Haemostasis

- **Mary Cushman**
  - Editor-in-Chief, Research and Practice in Thrombosis and Haemostasis

**Study Sections and Federal Advisory Boards**

- **Chris Holmes**
NIH, Patient-Centered Outcomes Research Institute (PCORI), merit review panel member, Management of Care Transitions for Emerging Adults with Sickle Cell Disease

NIH, National Heart, Lung, and Blood Institute (NHLBI), ad-hoc member, Clinical Trials Review Committee (CLTR)

Grants

**Steven Ades**
University of Vermont Medical Group   Yang (PI) 01/01/17-12/31/17
Delineating Tumors of Pancreatic Origin
Role: Co-PI

**George Atweh**
NIHUO1 HL117709 Punam, Malik (PI) 08/15/13-05/31/18
Cincinnati Center Excellence in Hemoglobinopathies Research
Role: Co-Investigator

**Maura Barry**
University of Vermont Medical Center Foundation 12/1/15-12/1/17
Victoria Buffum Endowment
Quality of Life Assessment for Head and Neck Cancer Patients Undergoing Treatment in The First Year of Survivorship
Role: PI

University of Vermont Medical Group   Yang (PI) 01/01/17-12/31/17
Delineating Tumors of Pancreatic Origin
Role: Co-PI

**Mary Cushman**
NINDS 08/01/02-11/30/17
U01 NS041588
Etiology of Geographic and Racial Differences in Stroke Mortality
G Howard, PI, University of Alabama at Birmingham
ADC (current Vermont subcontract): $684,296
Role: Subcontract PI, 20%

NHLBI 01/01/98-03/31/20
R01 HL59367
Epidemiology of Venous Thrombosis and Pulmonary Embolism
AR Folsom, PI, University of Minnesota
ADC (current Vermont Contract: $33,723)
Role: Subcontract PI, 10%
NHLBI
HHSN2682015000031
Multiethnic Study of Atherosclerosis
R. McClelland, PI, University of Washington
ADC (current Vermont Subcontract): $92,375 (current cycle)
Role: Subcontract PI, 5%

NIH
07/01/14-06/30/19
P01HD03192116A1
The National Longitudinal Study of Adolescent Health - Wave V
ADC: (Vermont Subcontract): $478,373
K Harris, PI; University of North Carolina, Chapel Hill
ADC: (Vermont Subcontract): $478,373
Role: Subcontract PI, 10%

NIH
09/08/14-05/30/19
P20GM109098
Effects of Perfluoroalkyl Chemicals on Stroke Incidence and Mortality
S Frisbee, PI
ADC (Subcontract): $6,978
Role: Subcontract, PI, 2%

NIH
04/01/16-03/31/21
NICHD
Social Context, Life Course and Genetic Transcription in Add Health
ADC (subcontract): $23,489
Role: Subcontract PI, 2.5%

NIH
06/01/16-05/31/21
Transitions to Family Caregiving and its Impact on Health Indicators
ADC: $75,466
Role: Co-Investigator, 5%

Kim Dittus
NIH-NIGMS
Higgins (PI)
1P20GM103644-01A1
Vermont Center on Behavior and Health, COBRE
Junior Investigator Project: Predictors of Weight Loss Success in Overweight Breast Cancer Survivors
Role: PI, Junior Investigator Project

ACS-IRG
Gell (PI)
04/01/17-03/31/18
BeMobile: A Randomized Control Trial of a Novel, Technology-Based Intervention to Support Physical Activity in Cancer Survivors
Role: Mentor
Marc Greenblatt  
NIH-NHGRI Berg, Jonathan (PI)  11/1/13-10/31/17  
U01 HG007437-01 A Knowledge Base for Clinically Relevant Genes and Variants  
Role: Co-Investigator  
1 ROI CA164944 NIH/NCI  03/01/13-02-28-17  
Classifying DNA Mismatch Repair Gene Variants of Unknown Significance  
Role: Co-PI  

Chris Holmes  
20694075 01/01/16-12/31/18  
The Joint Commission Oversight  
Pfizer & Bristol-Myers Squibb Funding  
Transition of Care for Patients with Venous Thromboembolism at ATHN Affiliated Sites  
Rajpurkar and DeSancho (Co-Is)  
Role: Site PI  
ATHN2011001-1-1 09/30/11-11/09/18  
Brettler (PI)  
Centers for Disease Control and Prevention  
American Thrombosis and Hemostasis Network  
Public Health Surveillance for the Prevention of Complications of Bleeding and Clotting Disorders  
Role: Sub-Investigator  
LCCRO-Pilot Holmes, Thomas (co-PI) 01/01/17-12/31/17  
Venous Thromboembolism (VTE) Prevention in Patients with Malignant Glioma  
ATHN Dream Award 09/16-01/18  
Evolving Real-world use of Standard and EHL Products in Moderate and Severe Hemophilia Patients: A Practical Application of the ATHNdataset  
Role: Site PI  

Marie Wood  
Alliance #A211601 Wood (PI) 02/24/17-02/23/18  
Role: PI  

Alliance 31828 Wood (PI) 08/01/17-11/04/21  
Prevention Committee Co-Chair/Concept  
Role: PI  

Neil Zakai
Publications


Labarthe DR, Howard G, Safford MM, Howard VJ, Judd SE, **Cushman M**, Kissela BM, for the Reasons for Geographic And Racial Differences in Stroke (REGARDS) Investigators. Incidence and case fatality at the county level as contributors to the geographic disparity in stroke mortality. Neuroepidemiology 2016;47:96-102. PMID: 27626792


Howard G, Safford MM, Moy CS, Howard VJ, Kleindorfer DO, Unverzagt FW, Soliman EZ, Flaherty ML, McClure LA, Lackland DT, Wadley VG, Pulley LV, Cushman M.


Roetker NS, Armasu SM, Pankow JS, Lutsey PL, Tang W, Rosenberg MA, Palmer TM, MacLehose RF, Heckbert SR, **Cushman M**, de Andrade M, Folsom AR. Taller height as a risk factor for venous thromboembolism: a mendelian randomization meta-analysis. J


The Division of Hospital Medicine at the Larner College of Medicine at the University of Vermont pursues excellence in academic hospital medicine by:

- Delivering compassionate, responsive, integrated care to medical inpatients 24 hours a day
- Teaching the science, art, and joy of medicine to students, trainees, and colleagues
- Promoting knowledge through research and educational efforts
- Cultivating a collegial and sustainable practice environment
- Collaborating with members of the hospital and university community to improve the quality, safety and value of inpatient care

Our hospitalist faculty physicians are involved in all aspects of the academic teaching hospital mission, including providing valuable clinical services, teaching a broad range of learners, engaging in leadership and system improvement while advancing a broad research agenda.

Service:

The Internal Medicine Hospitalist Service specializes in the diagnosis and treatment of hospitalized adults, both as the primary service and in the role of consultant – with our service providing 24x7 attending coverage. We serve as physician leadership for the rapid response team (CATS Team), which responds to inpatients with medical emergencies throughout the hospital. Our hospitalists work in multi-disciplinary teams to provide effective, safe, timely and patient-centered care. We also offer medical consultation to patients in the inpatient acute rehabilitation program at Fanny Allen Rehabilitation Center.

In the past year, the Internal Medicine Hospitalist Service faculty conducted over 23,000 patient encounters, generating more than 55,000 work RVU’s. This year also marked our largest recruitment effort to date, having added 9 new providers during the last academic year to improve our night coverage and to support patient care and education across new services and patient populations. This included the development and implementation of a
new Medical Oncology service – which works closely with Oncology to provide inpatient care to patients with solid tumors. In addition, we’ve added a swing shift, to provide coverage for night admissions for the Family Medicine and Hematology/Oncology services, along with Medical Consults and cross-coverage of our increased number of non-resident patients. We continue to significantly expand our use and teaching of bedside ultrasound techniques under the expert guidance of Dr. Mohit Jindal. Evidence of strong clinical performance includes a low overall re-admission rate of <5%.

Our Hospitalists have been engaged in numerous institutional quality improvement and safety initiatives. Our most recent successful project focused on improving our communication with primary care providers, which involved standardizing our processes and increasing the rate of verbal sign-out. In the last few years, we have also significantly reduced the number of unnecessary labs performed on our inpatients, improved the completion of accurate problem lists at the time of discharge and decreased the wait time of orders for patients admitted through the Emergency Department.

Education:

Our faculty teaches general internal medicine and hospital medicine to medical students, resident physicians, professional colleagues, and community members.

Hospitalists serve as teaching attendings for the four General Medicine teaching teams throughout the year – offering clinical supervision, bedside education, lectures, and evaluation to resident physicians and medical students. Additionally, our inpatient faculty physicians lead the Medicine Consult elective for residents and medical students, including residents from Orthopedic Surgery.

Our faculty are regular participants and facilitators at Resident Morning Report and Intern Report. Amy Teleron continues to take the lead in updating our Adult Code training for our resident, with a focus on team dynamics and communication – resulting in recognized improvement in code performance. In addition, through the leadership of Dr. Jason Bartsch, we’ve developed the Hospital Medicine academic half-days curriculum. Several of our faculty also serve as preceptors for the Internal Medicine Resident Clinic.

Dr. Pasanen and Dr. Eldakar-Hein serve as the Director and Associate Director for the Internal Medicine Residency Program, respectively. Our faculty members have been recognized numerous times by the resident physicians for teaching excellence. Dr. Greenberger received the William Osler, M.D. Award for Outstanding Teacher of the Year in General Internal Medicine in 2017.

At the UVM College of Medicine, our primary teaching is in the hospital setting, focusing on the Internal Medicine Inpatient Clerkship, Internal Medicine Acting Internship and the Clinical Tutor program (which is directed by one of our Hospitalists, Dr. Bartsch). However, our faculty are also involved in other
teaching activities including Foundations courses as well as Professionalism, Communication and Reflection.

We educate our colleagues locally, regionally and nationally in a variety of venues. This includes our annual University of Vermont Continuing Medical Education Course in Hospital Medicine, attracting a national audience and with faculty largely from the Division of Hospital Medicine and other divisions of the Department of Medicine.

The Internal Medicine Hospitalist Service faculty are also very involved in mentorship and advising. This includes advising numerous medical students on career choice and residency match issues. Residents also frequently seek out our hospitalists to serve as advisors, especially those going into the growing field of Hospital Medicine.

**Research**

In addition to our clinical work and focus on quality and safety, we have a diversity of scholarly interests among our faculty. This includes externally funded clinical trials of immunizations and high value laboratory ordering practices. In addition, internal funding supports work in teamwork with a focus on communication during rapid response calls, a particularly challenging issue. Other areas of interest include opioid-related adverse events in inpatients, interosseus access by EMTs prior to hospitalization, adult code communication and performance and VTE prevention in acute medically ill patients.

**Faculty**

*Divation of Hospital Medicine*

**Jason Bartsch, MD**
Assistant Professor of Medicine
Director of Medical Education, Division of Hospital Medicine

**Maria Burnett, MD**
Assistant Professor of Medicine

**Thi Dang, MD**
Assistant Professor of Medicine

**Shaden Eldakar-Hein, MD**
Associate Professor of Medicine
Associate Program Director, Internal Medicine Residency
Florian Foerg, MD
Assistant Professor of Medicine
Director, Medicine Consult Service

Jon Ford, PA

Zechariah Gardner, MD
Assistant Professor of Medicine

Steve Grant, MD
Associate Professor of Medicine
Associate Director, Hospitalist Service
HR Physician Liaison, UVM Medical Group

Emily Greenberger, MD
Assistant Professor of Medicine

Naomi Hodde, MD
Assistant Professor of Medicine

Mohit Jindal, MD
Assistant Professor of Medicine
Director of Ultrasound Education, Division of Hospital Medicine

Erin Kurek, MD, MPH
Assistant Professor of Medicine

Michael Latreille, MD
Assistant Professor of Medicine
Director of Quality and Safety, Division of Hospital Medicine

Carrie Lyon, MD, MPH
Associate Professor of Medicine
Director, Hospital Medicine CME course
Rachel McEntee, MD  
Assistant Professor of Medicine

Sadie Mills, MD  
Assistant Professor of Medicine

Chad Mitchell, MD  
Assistant Professor of Medicine

Preetika Muthukrishnan, MD  
Assistant Professor of Medicine

Meagan Oakes, PA

Mark Pasanen, MD  
Associate Professor of Medicine  
Program Director, Internal Medicine Residency Program  
Chief, Division of Hospital Medicine

David Rand, DO  
Assistant Professor of Medicine

Allen Repp, MD, MS  
Professor of Medicine  
Vice-Chair for Quality

Paul Slavik, MD  
Assistant Professor of Medicine

Amy Lynn Teleron, MD  
Assistant Professor of Medicine

Dennis Woods, MD  
Assistant Professor of Medicine
**Leadership in Professional Societies:**

The Internal Medicine Hospitalist Service faculty members are extensively engaged in service at the national, state and institutional levels. National and regional involvement includes the OneCare Vermont Clinical Advisory Board, Vermont Chapter for the American College of Physicians (past Governor and advisory council membership) and past president of the UVM Medical Alumni President.

Faculty participation in committees and task forces at the Larner College of Medicine and the University of Vermont Medical Center is also wide-ranging. Highlights include leadership and/or participation on the Tenure and Promotions committee, Committee for Advancement Rapid Response committee, Resuscitation committee, Patient Experience/Patient-Family Centered Care workgroup, Accountable Care Unit workgroup, Operations/Workforce, Quality Improvement, Ethics and PRISM/IT.

There are numerous specific examples of leadership within the faculty. Dr. Chad Mitchell serves a critical role in Utilization Review, providing real-time reviews in coordination with Case Management. Dr. Steven Grant serves as the Physician Human Resources Liaison, leading to significant improvements in Physician Recruitment and Orientation. Drs. Rachel McEntee and Chad Mitchell have been instrumental in helping to optimize PRISM, our electronic health record, through their work and leadership as a Physician Informaticists. Dr. Amy Teleron has provided leadership in significantly improving our Rapid Response and Resuscitation training and implementation. Dr. Repp serves as Vice Chair of Quality for the Department of Medicine.

We have worked closely with other departments in an effort to optimize patient care. This has included the addition of Co-Management services for the Orthopedics Spine Service, in addition to existing Co-Management on the Trauma Service. We have also developed a shared model of care with the Renal Transplant Service.

**Editorships and Editorial Boards:**

Mark E. Pasanen, MD

- Reviewer: MKSAP, American College of Physicians,

Allen Repp, MD, MS

- Reviewer: Journal of Hospital Medicine
- Editorial Board: JSM Clinical Case Reports

**Major Faculty Awards:**
• Dr. Emily Greenberger received the 2017 Osler Award from the IM residents for the general medicine attending who demonstrates excellence in teaching and patient care
• Promotions:
  o Dr. Allen Repp to Professor
  o Dr. Shaden Eldakar-Hein to Associate Professor

**Grants:**

Jason Bartsch, MD and Rachel McEntee, MD

• “Rapid Response Team Simulation: Teaching inter-professional communication and clinical reasoning to improve patient care.” – funded by a Frymoyer Grant

**Publications – peer reviewed, chapters, etc. (not abstracts)**

*Adult Intraosseous Access by Advanced EMTs: A Statewide Non-Inferiority Study.*

Wolfson DL, Tandoh MA, Jindal M, Forgione PM, Harder VS.

*The Live Attenuated Cholera Vaccine CVD 103-HgR Primes Responses to the Toxin-Coregulated Pilus Antigen TcpA in Subjects Challenged with Wild-Type Vibrio cholerae.*

Clin Vaccine Immunol. 2017 Jan 5;24(1)

*Single-dose Live Oral Cholera Vaccine CVD 103-HgR Protects Against Human Experimental Infection With Vibrio cholerae O1 El Tor.*


The Division of Immunobiology currently has seven research faculty and five graduate students. Research covers a variety of areas, including the immune response to infections, autoimmune mechanisms, and inflammation in cancer. Research support includes numerous individuals grants as well as a Center of Biomedical Research Excellence (COBRE) Award from NIH. Now in its 12th year, the COBRE grant supports the activities of the Vermont Center for Immunology and Infectious Diseases (VCIID), which now numbers 25 faculty in 8 departments in 4 colleges and is in close alliance with the Vaccine Testing Center. The VCIID has a weekly joint Research-in-Progress meeting, seminar series, and a journal club. This provides a regular forum for students and postdoctoral fellows to present their research progress as well as for faculty to review hypotheses and specific aims of planned grants. During the first 10 years of COBRE funding, VCIID faculty published 419 articles and received over $92 million in funding. This also provided funds to allow the College of Medicine to build a new BSL3 facility in partnership with the Vermont Department of Health (opened spring, 2016), and to recruit new faculty to the theme of the host response to infection. We also have a T32 Training Grant from NIH to support the salaries of our graduate students.

**Faculty**

**Ralph Budd, MD**

University Distinguished Professor of Medicine and Microbiology & Molecular Genetics

Director, Vermont Center of Immunology & Infectious Diseases

- Key Research Interests: Autoimmune mechanisms, immune cell death, Lyme arthritis, caspase regulation, immune metabolism

**Jason Botten, PhD**

Assistant Professor of Medicine, Adjunct in Microbiology and Molecular Genetics

- Key Research Interests: Virus-host interactions; regulation of viral protein function; development of vaccines and therapeutics; host response to viral infections
Karen Fortner, PhD
Assistant Professor of Medicine

- Key Research Interests: Regulation of T lymphocyte homeostasis through cell death, metabolism, and inhibitory functions; T cell homeostasis and function in obesity and liver disease; autoimmunity

Dimitry Krementsov, PhD
Assistant Professor of Medicine

- Key Research Interests: autoimmunity, genetics, environment, sex differences, microbiome

Mercedes Rincón, PhD
Professor of Medicine and Microbiology & Molecular Genetics

- Key Research Interests: T cell activation and metabolic regulation, allergy/asthma, influenza, T cell development, breast cancer, cancer and inflammation

Cory Teuscher, PhD
Professor of Medicine and Pathology

- Key Research Interests: Immunogenetics

Tina Thornton, PhD
Assistant Professor of Medicine

- Key Research Interests: Understanding the interactions of signaling pathways that control early thymocyte development and survival, interaction of the p38 MAPK pathway and GSK3.

**Graduate Students, Post-doctoral Fellows, MD PhD Students and brief statement on their research study:**

Emily Bruce, PhD (Postdoc) – Role of RAB proteins for arenavirus propagation

Devin Champagne (graduate student) – Role of MCJ as an endogenous inhibitor of mitochondrial respiration in T cell immune response, cancer and fatty liver diseases
Benjamin King (graduate student) – Arenavirus replication dynamics and interactions of the viral nucleoprotein with host cellular machinery

Inessa Manuelyan (graduate student) – Identification of key human proteins required for Zika virus propagation

Felipe Valenca Pereira (postdoc) – Thymocyte development

Abbas Raza (graduate student) – Immunogenetics of EAE and control of sensitivity to vasoactive amines.

Michael Secinaro (graduate student) – The regulation of caspases by the metabolic state of T cells

Christopher Ziegler (graduate student/postdoc) – Posttranslational modification as a means to regulate viral protein function and identification of key host proteins required for arenavirus propagation

Leadership in Professional Societies:

(Budd) Chair of T Cell Biology Section of the American College of Rheumatology Annual meeting, 2017

Editorships and Editorial Boards:

(Budd) Senior Editor for “Textbook of Rheumatology” 11th Edition, Elsevier

(Rincón) J. Immunology; International Journal of Biological Sciences

(Krementsov) reviewer for PLoS One – Metabolic Brain Disease; Brain; Infection and Immunity

Study Sections and Federal Advisory Boards:

(Botten) Ad hoc reviewer, Developmental Research Project Program for the NIH-NIGMS

fundied NE-INBRE Program Awards

(Budd) NIH ZAI1 ZL-1 (M1)1 AITRC Independent SEP

(Budd) NIH ZRG1 F07-J (20) L Fellowships Immunology

(Krementsov) National MS Society Pilot Project Review Committee

(Rincón) Charter member, Cellular and Molecular Immunology NIH study section. CMI-A

Chair of study section

(Teuscher) Ad hoc reviewer for NIH reviewers pool

(Teuscher) Permanent member, grant review panel for the National Multiple Sclerosis Society
Major Faculty / Research Awards:

(Budd) University Distinguished Professor, Senior Research Laureate Larner College of Medicine

(Rincon) The University of Vermont-based biomedical entrepreneurship training program (supported by a $2 million, five-year grant from the National Institutes of Health (NIH) to Professor of Medicine Mercedes Rincon, Ph.D.) called I-Trep sponsored an intense summer course at the Larner College of Medicine at UVM June 16 to 23, 2017. This unique course blended medicine, business, and innovation. Participants included faculty, postdoctoral fellows, and graduate students from Vermont, Maine, New Hampshire, Alaska, and Puerto Rico.

The course’s instructors include Rincon, Erik Monsen, Ph.D., Steven Grossman Endowed Chair in Entrepreneurship and Associate Professor in the Grossman School of Business, and Corine Farewell, D.V.M., M.B.A, Director, UVM Innovations, in the Office of Technology Commercialization. In addition to Monsen and Farewell, the I-Trep course development team includes Charles Irvin, Ph.D., Professor of Medicine and Associate Dean for Faculty Affairs, who provides the course’s ethics training component, and Tina Thornton, Ph.D., I-Trep Coordinator and Assistant Professor of Medicine.

(Teuscher) Department of Medicine Mentor

Grants – list all active by faculty member, PI

Grant Awards 07/01/16 – 06/30/17

NIH funding:

2 - R01
6 – R21
1 – R56
1 – R25
1 – T32
1 – COBRE (P20)
1 – COBRE (P30)
1 – Sub award through University of Utah
1 – Sub award through Drexel University
1 – AAI Fellowship

Foundation funding:

2 – NMSS project

1 - Lupus Research Institute

1- Gates Foundation

Biotech Funding

1-Mitotherapeutix, LLC

State of Vermont

1-Vermont Agency of Commerce & Community

UVM Funding

1 – LCOM IGP

2 – OVPR FISAR

**Budd:**

Title: Metabolic Regulation of Caspases and Survival in T Cells  
Dates of Award: 04/01/16-03/31/18  
Role: PI  
Current Yr funding: $233,438  
Source: NIH/NIAID

Title: Vermont Immunology / Infectious Diseases Center

Dates of Award: 08/01/2006 – 06/30/2017  
Role: PI  
Current Yr funding: $0 NCE  
Source: NIH/NIGMS

Title: Vermont Immunology / Infectious Diseases Center

Dates of Award: 08/05/2016 – 07/31/21  
Role: PI
Current Yr funding: $1,157,709  
Source: NIH/NIGMS

**Title:** Vermont Immunology / Infectious Diseases Training Grant  
**Dates of Award:** 09/01/05 – 08/31/21  
**Role:** PI  
**Current Yr funding:** $288,616  
**Source:** NIH/NIAID

**Title:** Structure and Ligand(s) for Human Synovial TCR-Gamma/Delta  
**Dates of Award:** 01/13/16-12/31/17  
**Role:** PI  
**Current Yr funding:** $192,438  
**Source:** NIH/NIAID

**Title:** RIG-I Regulation of Interferon Signature in SLE  
**Dates of Award:** 01/01/14 – 12/31/17  
**Role:** PI  
**Current Yr funding:** $0 NCE  
**Source:** Lupus Research Institute

**Botten:**

OPP1109415 (Kirkpatrick, B.)  11/5/14-9/30/17  
Bill and Melinda Gates Foundation  
Characterizing the Immunoprotective and Immunopathogenic Responses to Dengue Viruses using the Dengue Human Infection Model.  
Goal: To use advanced immunologic techniques such as immunophenotyping, epitope mapping, and antibody cloning technologies to better understand the immunopathogenesis of dengue infections.  
**Role:** Co-investigator

P20RR021905 (Budd, R.)  7/20/11 - 6/30/17  
NIH/NCRR  
Centers of Biological Research Excellence (COBRE)  
Vermont Immunobiology/Infectious Disease Center
Dr. Botten is the PI of a subproject to define the hantavirus-host protein interactome and is a co-director of the BSL-3 core facility established through this Center of Excellence.

Title: Impact of Defective Interfering particles on host fitness lymphocynic virus infection
Dates of Award: 01/09/17-06/30/19
Role: PI
Current Yr funding: $75,000
Source: LCOM

Title: Arenavirus Attenuation
Dates of Award: 07/01/16-06/30/17
Role: PI
Current Yr funding: $50,000
Source: Vermont Agency of Commerce & Community/ UVM Discoveries

Fortner:

Title: T Lymphocyte Homeostasis in Obesity
Dates of Award: 06/01/14 – 05/31/17
Role: PI
Current Yr funding: $0 NCE
Source: NIH/NIAID

Krementsov:

Title: Interactions Between Host Genetics and the Gut Microbiome in CNS Autoimmunity
Dates of Award: 3/15/17 – 1/31/22
Role: PI
Current Yr funding: $339,883
Source: NIH

Title: Mechanisms of Sex-Specific p38 MAPK-Mediated Pathogenesis in CNS Autoimmunity
Dates of Award: 10/1/16-9/30/19
Role: PI
Current Yr funding: $552,845
Source: NMSS

Title: A biomaterials approach to cell type-specific targeting... in models of MS -LY
Dates of Award: 1/4/16-6/30/17
Role: PI
Current Yr funding: $39,491
Title: Fostering Entrepreneurship in Biomedical Research
   Dates of Award: 04/01/16-02/28/21
   Role: PI
   Current Yr funding: $440,063
   Source: NIH/NIGMS

Title: Regulation of Mitochondrial Function in T Cells
   Dates of Award: 02/10/14 – 01/31/17
   Role: PI
   Current Yr funding: $0 No Cost Extension
   Source: NIH/NIAID

Title: Treatment of Fatty Liver Diseases using Sonoporation...in mouse models
   Dates of Award: 01/04/16-06/30/17
   Role: PI
   Current Yr funding: $39,427
   Source: UVM OVPR

Title: MCJ as a Metabolic Target
   Dates of Award: 05/15/15-05/14/18
   Role: PI
   Current Yr funding: $0 No Cost Extension
   Source: Mitotherapeutix, LLC

Title: IL-6 as a Regulator of Mitochondria Function in T Cells
   Dates of Award: 05/01/16-04/30/18
   Role: PI
   Current Yr funding: $386,041
   Source: NIH/NIAID

Title: Regulation of CD8 Cell Function by IL-6
   Dates of Award: 09/01/15-08/31/16
   Role: PI
   Current Yr funding: $22,920
   Source: AAI

Teuscher:
   Title: Molecular Genetics of Arthritis in Murine Lyme Disease
   Dates of Award: 08/15/2004 – 09/18/19
   Role: Co-PI
   Current Yr funding: $76,250
Source: University of Utah

Title: Identification of Gene-by-Environment Interactions Contributing to CNS Autoimmune Disease
Dates of Award: 4/1/15-3/31/18
Role: PI
Current Yr funding: $450,383
Source: NMSS

Title: Refining the Genetic Basis of EAE to Establish a Model for MS-GWAS Testing
Dates of Award: 10/01/15-09/30/16
Role: PI
Current Yr funding: $84,240
Source: Drexel University (NMSS)

Title: Gene-Environment Interactions in CNS Autoimmune Disease
Dates of Award: 06/15/16-05/31/18
Role: PI
Current Yr funding: $231,688
Source: NIH/NINDS

Title: Genome-wide physical mapping of IAV-QTL using wild-derived inbred mice
Dates of Award: 12/1/16 – 11/30/18
Role: PI
Current Yr funding: $232,688
Source: NIH

Publications – peer reviewed, chapters, etc. (not abstracts)


The Infectious Diseases (ID) Division is comprised of ten attending physicians dedicated to the diagnosis, management, prevention and investigation of infectious diseases. This past year we added a part-time physician assistant to support our nurse practitioner in the outpatient clinic. Last year the Division performed over 1,650 new inpatient consultations. The outpatient clinics remain busy with over 6,000 arrived visits. This effort includes the care of over 470 active patients with HIV in four federally funded Comprehensive Care Clinics in Vermont. In total the ID Division performed over 15,000 work RVU’s last year. In addition to providing care for those living with HIV, the outpatient clinic includes the international travel clinic, refugee clinic, home IV antibiotic management, and care for patients with general infectious diseases. The Division works collaboratively with the Vermont Department of Health on antibiotic stewardship, the diagnosis and treatment of tuberculosis and biological and pandemic influenza preparedness. The ID staff includes the UVM Medical Center Hospital Epidemiologist and Director of Infection Prevention, Director of Antibiotic Stewardship, the Department of Medicine’s Associate Director of Residency Training, UVM’s medical student Clerkship Director for the Department of Medicine and the Director of the Vaccine Testing Center at UVM. Our Division recognizes the retirement of Dr. Christopher Grace after nearly 30 years of leadership and service. We are very excited about the successful recruitment of two new faculty members.

In addition to daily teaching rounds with medical students, residents and fellows, the physicians are actively involved in the Attacks and Defenses, Neural Sciences, Generations, Connections, Convergence and Doctoring in Vermont, medicine clerkships and acting internships sections of the Vermont Integrated Curriculum. The ID Unit is the home of a two year fellowship training program. The graduating fellows have a 100% board certification pass rate over the past 15 years. Our fellows have presented abstracts at national ID meetings, published peer reviewed publications, and authored book chapters.

Within our Division we have several active research laboratories, which support a number of clinical and basic science research projects including those performed by our two PhD faculty members (Sean Diehl, PhD and Jose Teixeira, PhD), graduate and visiting students, laboratory technicians, and often the 2nd year ID Fellow.
Investigations of the Huston laboratory currently center on the molecular biology and pathogenesis of *Entamoeba histolytica*, and *Cryptosporidium* pharmaceutical agent development.

Investigations of the Kirkpatrick laboratories and Vaccine Testing Center (VTC) focus on improving global health through the assessment of candidate vaccines and the understand of human protective immune responses following vaccination and infection. Under the auspices of the VTC, research by Drs. Kirkpatrick, Pierce and Diehl of the ID division (as well as Drs. Botten, Boyson, Lyon and Lee from other divisions/departments) continues to work on development of the NIH’s live attenuated tetravalent dengue vaccine, extensive work on dengue human immunology and correlates of protection, Zika vaccine development and immunology, rotavirus immune correlates of protection and human experimental challenge models for *Cryptosporidium*. New projects in 2017 include a new inpatient study to test a new Adenovirus vaccine (Dr. Lyon), and a higher dose rotavirus vaccine in Bangladesh (Dr. Lee). A phase II trial of the first dengue vaccine in South Asia was completed.

In addition to clinical revenues, financial support is provided by grants from the National Institutes of Health (NIH), especially NIAID; the Health Services Research Administration (HRSA); the Bill & Melinda Gates Foundation; PaxVax and other industry supporters, as well as contracts with regional hospitals and UVM Medical Center directorships. Several large grant and center-development applications are also currently under review at the NIH.

**Faculty**

**W. Kemper Alston, MD, MPH**

Professor

- Director, Infectious Disease Division
- Hospital Epidemiologist and Medical Director of Infection Prevention
- Chair, Infection Prevention Committee, UVM Medical Center
- Tuberculosis Consultant, State of Vermont
- Medical Director, UVMMC Employee Health
- US Food and Drug Administration, Special Government Employee, Antimicrobial Drugs Advisory Committee
- Infection Prevention Consultant, Northwestern Medical Center
- HIV care provider, Brattleboro Memorial Hospital, Comprehensive Care Clinic
- Member, Medical Staff Quality Assessment and Improvement Committee, UVMMC
- Member, Infectious Diseases Practice Subcommittee, Pharmacy and Therapeutics Committee, UVMMC
- Member, Professional Advisory Committee, Visiting Nurse Association
Sean Diehl, PhD
Assistant Professor

- Associate Chair, UVM Institutional Biosafety Committee
- Interests: Vaccine Development, Dengue and Zika Virus, Human immunology and Immune Memory (Vaccine Testing Center)

Christopher Grace, MD, FIDSA
Professor Emeritus

- Director at UVMC Part C, HRSA grant for HIV care
- Director at UVMC Part B, HRSA grant for HIV care (Vermont Dept. of Health)
- Consultant: Pandemic Influenza and Bioterrorism, State of Vermont

Christopher D. Huston, MD
Associate Professor of Medicine with Tenure

- Research Interests: Intestinal protozoan infections including *E. Histolytica* host-parasite infections, Cryptosporidium drug development
- Institutional Biosafety Committee, UVM
- Residency Research Committee, Dept. of Medicine
- Reappointment, Promotions and Tenure Committee, Dept. of Medicine, UVM College of Medicine

Beth D. Kirkpatrick, MD, FIDSA, FASTMH
Professor of Medicine with Tenure

- Director, UVM Vaccine Testing Center
- Research Interests: Vaccine development, vaccine immunology, enteric and flavivirus infections, human experimental infection models.
- Faculty Senate Committee on Research, Scholarship and the Creative Arts. UVM
- Dean’s Research Leadership Group. UVM Larner College of Medicine.
- Physician-Scientist Working Group. UVM Larner College of Medicine
- Reappointment, Promotions and Tenure Committee, Dept. of Medicine, UVM Larner College of Medicine
- Strategic Planning Committee, UVM Larner College of Medicine.

Cindy Noyes, MD
Assistant Professor of Medicine
Kristen K. Pierce, MD

Associate Professor of Medicine

- Director, Infectious Disease Fellowship Training Program
- Lead Clinical Investigator, Vaccine Testing Center
- Research Interests: Development of Live Attenuated Flavivirus Vaccines
- Institutional Review Board

Louis B. Polish, MD

Associate Professor of Medicine

- Director, Department of Medicine Inpatient Medicine Clerkship Program
- Co-Chair, Infectious Disease Practice Committee

Mary B. Ramundo, MD

Associate Professor of Medicine

- Associate Program Director, College of Medicine Residency Program
- Department of Medicine, Medical Education Committee
- Chairman, Housestaff Evaluations Committee

Lindsay M. Smith, MD

Assistant Professor of Medicine

- Director, UVMMC Antimicrobial Stewardship Program
- Co-Chair, Infectious Disease Practice sub-committee, Pharmacy and Therapeutics Committee, UVMMC

Krystine R. Spiess, DO

Assistant Professor of Medicine

- Associate Program Director, UVMMC Part C, HRSA grant for HIV care
- Associate Program Director, UVMMC Part B, HRSA for HIV Care (VDH sub-award)
- Director, AIDS Education Training Center
Jose E. Teixeira, PhD
Research Assistant Professor

- Interests: Intestinal protozoan infections including *E. Histolytica* host-parasite infections, Cryptosporidium drug development

**Fellows**

Porntip Kiatsimkul, MD
Infectious Disease 2nd Year Fellow

- Infectious Disease Fellowship Training Program July 1, 2015 – June 30, 2017
- Research Project: Increasing Evidence of Blastomycosis Infection in Vermont

J. Jacob Enser, MD
Infectious Disease 1st Year Fellow

- Infectious Disease Fellowship Training Program July 1, 2016 – June 30, 2018

**Nurse Practitioners and Physician Assistants:**

Hella Douglas, PsychNP
Comprehensive Care clinic, HIV patient

- HIV Patient Care, mental health

Laura Catoe, ARNP
Nurse Practitioner, Comprehensive Care clinic

- Travel health
- Vermont Refugee Clinic
- General ID

Mary Claire Walsh, NP
Nurse Practitioner, Comprehensive Care Clinic / Vaccine Testing Center
General ID

Graduate Students, Post-doctoral Fellows, MD PhD Students:

Rajiv Jumani – PhD Student, (Huston Laboratory)

Md Mahumul Hasan – PhD Student (Huston Laboratory)

Huy Tu – Graduate Student, Cellular and Molecular Biology Program (Vaccine Testing Center)

Elizabeth Colgate-PhD student, Clinical and Translational Sciences (Vaccine Testing Center)

Leadership in Professional Societies:

Christopher Huston, M.D.

- Chairman for 2017-2018, American Society for Microbiology, Division AA (Free-living, symbiotic, and parasitic protists)
- Member, American Society for Microbiology Council on Microbial Sciences

Beth Kirkpatrick, MD

- Secretary / Treasurer of America Committee of Clinical Tropical Medicine and Traveler’s health
- Scientific Advisory Board. Symposium on Controlled Human Experimental Infection Models. International Alliance for Biologic Standardization (IABS)

External Reviewer, Editorships and Editorial Boards:

W. Kemper Alston, MD

- External reviewer
  - Annals of Internal Medicine,
  - Clinical Infectious Diseases
  - Infection Control and Hospital Epidemiology

Sean Diehl, PhD

- External reviewer
  - Nature Microbiology
  - Journal of Cellular Physiology
  - Nature Scientific Reports
- PLoS Neglected Tropical Diseases

Christopher Huston, MD

- Editorial Board Member – Infection and Immunity
- External reviewer
  - PLoS Pathogens
  - PLoS Neglected Tropical Diseases
  - PLoS ONE
  - Antimicrobial Agents and Chemotherapy
  - Journal of Infectious Diseases
  - Molecular and Biochemical Parasitology
  - Journal of Clinical Microbiology
  - American Journal of Tropical Medicine and Hygiene
  - Member, Drug Screening, Chemistry, and Pharmacology Cryptosporidiosis Working Group; The Bill and Melinda Gates Foundation
  - Member, Cryptosporidium In Vivo Testing Working Group; The Bill and Melinda Gates Foundation

Beth Kirkpatrick, MD

- Section Editor, American Journal of Tropical Medicine and Hygiene 2014-present
- External Reviewer
  - American Journal Tropical Medicine and Hygiene
  - Clinical Infectious Diseases
  - Journal Infectious Diseases
  - Lancet Infectious Diseases
  - PLOS Neglected Tropical Diseases
  - PLOS Pathogens
  - PLOS ONE
  - Vaccine

Kristen Pierce, MD

- External reviewer
  - American Society of Tropical Medicine and Hygiene

**Study Sections and Federal Advisory Boards:**

Sean Diehl, PhD

- 2016 Vaccines for Microbial Diseases, NIH – Study section
2017 NIH Special Emphasis Panel “Zika-related complications” ZRG1-IDM-P-90-S

Christopher Huston, MD

Ad-Hoc Reviewer - National Institutes of Allergy and Infectious diseases
  2017, ZRG1 IDM-M(02) (Vector and Eukaryotic Pathogens Study Section).

Beth Kirkpatrick, MD

Ad-Hoc Reviewer – NIH National Institutes of Allergy and Infectious diseases
  2017, Vaccines for Microbial Diseases (VMD)

Major Faculty Awards:

Beth Kirkpatrick, MD
Elected to Physician Honor Society, American Society for Clinical Investigation (March 2017)
  • Nominated as Fellow, Infectious Disease Society of America (October 2016)
  • Nominated as Fellow, American Society of Clinical Investigations (Fall 2016)

Kristen K. Pierce, MD
Early Achievement Award, UVM Alumni Association
  • June 2017

Grants – list all active by faculty member, PI

Sean Diehl, PhD
Subcontract PI
5R01 AI107731 (DeSilva) NIH/ NIAID
Molecular Basis of Dengue virus Neutralization by Human Antibodies
8/2016-7/2018
$154,000

Sean Diehl, PhD
Co- Investigator
UVM Biomedical Engineering Pilot Research Program
Integrating omics and clinical data to study dengue infection.
5/2017-8/2018
$40,000

Sean Diehl, PhD
Co-Investigator
NIH/ NIAID Intramural Research Contract HHSN272200900010C
Kinetic and Phenotypic Analysis of B cell responses to ZIKA virus exposure
2/2017 – 6/2019
$154,000

Sean Diehl, PhD
CDC BAA 201-N-18041 (DeSilva)
Elucidate the molecular Basis for Humoral Immunity to Flaviviruses
6/1/2007-5/31/2022
$750,000

Christopher Grace, MD FIDSA
Krystine Spiess, MD (Associate PI)
Ryan White Part C Grant for HIV Care
Non-competing grant award
5/1/2016 – 4/30/2017
$ 551,481 Federal HRSA

Christopher Grace, MD FIDSA
Krystine Spiess, MD (Associate PI)
Ryan White Care Act Part B
7/1/2016 – 12/31/2016
$120,242 Federal HRSA Extension

Christopher Grace, MD FIDSA
Krystine Spiess, MD (Associate PI)
Ryan White Care Act Part B (VDH)
Incentives pilot program
7/1/2016 – 12/31/2016
$15,000 Federal HRSA

Christopher Grace, MD FIDSA
Krystine Spiess, MD (Associate PI)
Ryan White Care Act Part B
1/1/2017 – 12/31/2017
$249,636 Federal HRSA

Christopher Grace, MD FIDSA
TB Control and Surveillance, Public Health Preparedness & Response for Bioterrorism
Centers for Disease Control and Prevention Investigations and Technical Assistance
7/1/2016 - 06/30/2017
$26,000.00 Federal
Christopher Huston, MD (Co-Investigator)
Program for Appropriate Technology in Health (PATH) PDS Drug Solutions
Establishment of Cryptosporidium calf infection model and calf pharmacokinetic study 2014-2017
Total annual Costs $205,513

Christopher Huston, MD
Subcontract to Grant #OPP103258 from University of Toronto (Walpole, PI)
Bill and Melinda Gates Foundation
Structure-guided drug discovery for tuberculosis and malaria Cryptosporidium supplement 2015-2017
Total annual costs: 154,299

Christopher Huston, MD
Subcontract from Anacor, Inc. (Huston, PI)
Bill and Melinda Gates Foundation Research Contract
In vivo testing of boron-based anti-Cryptosporidium screening hits 2015-2017
Total annual costs: $46,439

Christopher Huston, MD
Bill and Melinda Gates Foundation
OPP1132796: Using pharmacokinetic and efficacy studies of nitazoxanide and azithromycin to standardize the calf clinical model of cryptosporidiosis 2015-2017
Total annual costs: $806,449

Christopher Huston, MD
Merck-EMD Serono
Screening the Merck Serono mini-library for anti-Cryptosporidium compounds 2016-2017
Total Costs $67,032

Christopher Huston, MD (Co-investigator)
Bill and Melinda Gates Foundation
Using Cryptosporidium human challenge models to advance therapeutics and vaccines 2015-2018
Total Costs $3,283,817

Christopher Huston, MD
Bill and Melinda Gates Foundation Grand Challenges 17
Continuous propagation of Cryptosporidium using small molecule inhibitors of differentiation 2016-2018
Total costs: $100,000

Christopher Huston, MD
Bill and Melinda Gates Foundation
Subcontract from Grant #OPP1032518 to The Broad Institute of MIT and Harvard (Morningstar, M (PI))
Lead optimization of a novel bicyclic azetidine series for treatment of cryptosporidiosis
2016-2017
Total costs:  $154,127

Christopher Huston, MD
NIAID R21 proposal (AI130807)
Continuous in vitro culture and treatment of Cryptosporidium using small molecule differentiation inhibitors
2017-2019
Total costs:  $419,375

Christopher Huston, MD
Program for Appropriate Technology in Health (PATH) PDS Drug Solutions
*Cryptosporidium* strain/species comparative study
Total costs:  $209,564

Christopher Huston, MD
Subcontract from Grant #OPP1161880 from St. Louis University (Griggs, PI)
Bill and Melinda Gates Foundation
Pharmacokinetic and pharmacodynamics profiling of compounds with known anti Cryptosporidial activity to promote their improvement and advancement for clinical development.
2017-2019
Total costs:  $128,369

Christopher Huston, MD
UVM Immunobiology COBRE Pilot Grant Program
Manipulating the gut microbiota to prevent cryptosporidiosis.
2017-2018
Total costs:  $50,000

Beth D. Kirkpatrick, MD Principal Investigator
Using Cryptosporidium Human Challenge Models to Advance Therapeutics and Vaccines.
$3,300,000 (2015-2018) Bill and Melinda Gates Foundation

Beth D. Kirkpatrick, MD Principal Investigator
Improving Rotavirus Vaccination: Refining Correlates of Protection and Evaluating Durability.
$2,200,000 (2015-2018) Bill and Melinda Gates Foundation

Beth D. Kirkpatrick, MD Principal Investigator
The Dengue Human Infection Model: Defining Correlates of Protection and Advancing Vaccine Development.
$2,100,000 (2014-2019)
Beth D. Kirkpatrick, MD  Site Principal Investigator
Operation of a Facility for the Study of Infectious Agents, Vaccines, and Antimicrobials in Adult and Pediatric Human Subjects.
$9,000,000  (2009-2019) National Institutes of Health and Johns Hopkins University

Planning grant for Dengue Human Experimental Infection Model in Bangladesh. Principal Investigator. National Institutes of Health, NIAID, R34.
150,000 (2016-2017)

Lindsay M. Smith, MD
Vermont Department of Health Antimicrobial Stewardship Grant
6/1/17 – 5/30/19
Total Direct Costs $307,939

Krystine Spiess, DO
New England AIDS Education Training
7/1/2016 – 6/30/2017
$51,620 Federal sub-award, UMASS

Publications – peer reviewed, chapters, etc. (not abstracts)

Christopher Huston M.D., Ikuo Igarashi DVM, PhD, Katrin Ingram-Sieber PhD, Maurice A. Itoe PhD, Ajit JadHAV, Amornrat Naranuntarat Jensen, Laran T. Jensen, Rays HY Jiang PhD, Annette Kaiser Ph.D., Jennifer Keiser PhD, Thomas Ketas, Sebastien Kicka PhD, Sunyoung Kim Ph.D., Kiaran Kirk PhD, Vidya Kumar PhD, Dennis E. Kyle PhD., Maria Jose Lafuente, PhD, Scott Landfear Ph.D., Nathan Lee, BS, Sukjun Lee M.Sc, Adele Lehane PhD, Fengwu Li Ph.D., David Little, Liqiong Liu Ph.D., Manuel Llinás Ph.D., Maria I. Loza PhD, Aristeia Lubar B.S., Leonardo Lucantoni PhD, Isabelle Lucet PhD, Louis Maes, DVM, PhD, Nuha R. Mansour PhD, Sandra March PhD, Sheena McGowan PhD, Iset Medina Vera PhD, Stephan Meister Ph.D., Luke Mercer, Jordi Messtres PhD, Alvine N. Mfopa MSc., Raj N. Misra, A.B., Ph.D., Seunghyun Moon Ph.D., John P. Moore PhD, Joachim Müller PhD, Aranza Muriana, Stephen Nakazawa Hewitt M.S., Bakela Nare PhD, Carl Nathan MD, Nathalie Naraydoo PhD, Sujeeni Nawaratna, Kayode K. Ojo PhD, Diana Ortiz Ph.D., Gordana Panic M.Sc., George Papadatos PhD, Silvia Parapini PhD, Kailash Patra Ph.D., Ngoc Pham, PhD., Sarah Prats, David M. Plouffe, Sally-Ann Poulsen PhD, Celal Quevedo PhD, Ronald J. Quinn, PhD., Christopher A. Rice PhD., Mohamed Abdo Rizk, MVS, Andrea Ruecker PhD, Robert St.Onge Ph.D., Jasmeet Samra, B.S., Natalie G., Sanders (now Robinett), BS, Ulrich Schlecht Ph.D., Marjorie Schmitt, PhD, Robert Sindeh PhD, Francesco Silvestrini PhD, Dennis A. Smith, Ph.D., Thierry Soldati, Prof. Dr. Andreas Spitzmüller PhD, Serge Maximilian Stamm, David J. Sullivan MD, William Sullivan Ph.D., Sundari Suresh M.Sc., Brian M. Suzuki M.S., Yo Suzuki Ph.D., S. Joshua Swamidass M.D. Ph.D., Donatella Taramelli PhD, Lauve R. Y. Tchokouaha, MSc., David Thomas MD, PhD, Kathryn F Tonissen PhD, Simon Townsend PhD, Abhai K. Tripathi PhD, Valentin Trofimov PhD, Ken Udenze MPH, Imran Ullah MSc, Cindy Vallieres PhD, Edgar Vigil, Joseph M. Vinet MD, Phat Voong Vinh BSc, Hoan Vu, PhD., Nao-aki Watanabe Ph.D., Kate Weatherby, BSc, Pamela M. White, Elizabeth A. Winzeler PhD, Edward Wojcik Ph.D., Melanie Wree MD, Wesley Wu PhD, Naoaki Yokoyama DVM, PhD, Paul H. A. Zollo, PhD, Benjamin Blasco PhD, Jeremy Burrows PhD, Nada Aba Geiser PharmD, PhD, Benoît Laleu, PhD, Didier Leroy PhD, Thomas Spangenberg, Ph.D., Timothy Wells PhD, Paul Willis PhD  


Jiang NM, Tofail F, Ma JZ, Haque R, Kirkpatrick BD, Nelson CA, Petri WA. Early Life Inflammation and Neurodevelopmental Outcomes in Bangladeshi Infants Growing up in Diversity. AJTMH, accepted.


A. Executive Summary:

Service:

The Nephrology service is in the midst of a significant transition. During the past year, we, like the majority of our colleagues throughout the nation, were unable to fill our fellowship slots. Therefore in July 2017, we began adapting to an attending only in-hospital consult service. This is taking a toll on staff that are already stretched because of the absence of two senior attendings who left in June and July for jobs on the West Coast. We have been able to hire one new attending (Alison Fitzgerald) and are currently interviewing for the second position. We plan to hire a nurse practitioner (two have been interviewed thus far) to manage the hospital dialysis population. The Nephrology fellowship applications opened a few weeks ago and thus far we have 9 qualified applicants.

The service is also aging with three practitioners above the age of 70. One will retire in 2018, one will reduce time/effort to 75% also in 2018. We have started discussions within the group regarding ‘no evening or weekend call’ for those over this age and how to compensate the younger members of the Division.

Education:

Residents in Medicine rotate for 2 weeks on the Nephrology Service. This previously was an inpatient rotation. Starting 4 years ago, the rotation has been split into a one week in-patient and one week outpatient rotation under the supervision of Varun Agrawal. During the outpatient rotation, residents are exposed to the Home dialysis program, the chronic dialysis program, Stone Clinic, Transplant Clinic, and chronic kidney disease clinics. They are assigned a topic for presentation on the last Friday of the rotation. Dr Agrawal has solicited feedback from last year’s graduating residents. This clinic rotation received some of the highest favorable responses. The clinic continues and has been very well received by the medical residents. We have opened the outpatient clinic experience to medical students taking an elective rotation on the Nephrology Service.

Research:

A number of active trials in chronic kidney disease are supported by Pharmaceutical funds (Solomon, Rimmer).
An investigator initiated trial in an early marker of acute kidney injury was funded by the Department of Medicine through a competitive translational grant process (Solomon).

Funding for a study of patient frailty in those with chronic kidney disease approaching dialysis has been obtained (Cheung).

B. Faculty:

Varun Agrawal, MD  
Assistant Professor  
Medical Director of Barre Dialysis Unit  
Resident education

F. John Gennari, MD  
Emeritus Professor  
Electrolyte disorders

Virginia Hood, MD  
Professor of Medicine  
Acid-base physiology

Abhishek Kumar, MD  
Assistant Professor of Medicine

Dana Negoi, MD  
Associate Professor  
Medical Director, St. Albans Dialysis Unit and Home Dialysis Program  
Home based dialysis therapies

Marios Prikis, MD  
Associate Professor of Medicine  
Medical Director of Transplantation

Jeff Rimmer, MD  
Professor of Medicine  
Medical Director Chittenden Dialysis Unit  
Hemodialysis

Alan Segal, MD  
Associate Professor  
Program Director, Renal Fellowship
Sodium and potassium transport within the renal tubule
Hyponatremia/hypotonicity disorders
dominant polycystic kidney disease

Richard Solomon, MD
Professor of Medicine
Director, Division of Nephrology
Acute kidney injury – contrast induced nephropathy
Diabetic kidney disease

Wolfgang Weise, MD
Associate Professor of Medicine
Medical Director, Rutland Dialysis Unit
Primary kidney disease

C. Fellows:

Paul El Azoury
Alison Fitzgerald
Nina Narasimhadevara
Monika Zimna

D. PA/NP:

Margaret Butler, APRN
Caroline Tassey, APRN (per diem)

E. Post-doctoral Fellows (Ph.D.)

Katherine Cheung, MD

F. Endowed Professorship

Patrick Professorship (Dr. Solomon)

G. Leadership in Professional Societies

Kidney Disease Outcome Quality Initiative Education committee, National
Kidney Foundation (Agrawal)

Faculty mentor, American Society of Nephrology Kidney Students and
Residents program. American Society of Nephrology Kidney Week 2016,
Chicago IL. (Nov 17-20, 2016) (Agrawal)

Faculty mentor for the ‘Point of Care Ultrasound for
the Nephrologist.’ Course director: Kenar Jhaveri, MD, FNKF. National Kidney Foundation Spring Clinical Meeting 2017, Orlando FL, USA, April 2018 (Agrawal)

Kidney Disease Outcome Quality Initiative Education committee, National Kidney Foundation (Agrawal)

Chair of ASN abstract section on Educational Research for Kidney Week 2016 (Cheung)

Chair of ASN abstract section on Educational Research for Kidney Week 2016 (Cheung)

Member, UVM Medical Center Board of Trustees, 2014-present (Hood)

Chair, UVM Health Network Population and Quality Committee, 2017-present (Hood)

Member, UVM Health Network Board of Trustees, 2017 –present (Hood)

Member, UVM Health Network Finance Committee, 2017 – present (Hood)

Member Executive Committee, International Society Internal Medicine 2015-present (Hood)

Member, Sydney University Graduate Union North America Board of Trustees (Hood)

Member, ACP Patient Partnership in Health Care Advisory Board (Hood)

President Emeritus, American College of Physicians (Hood)

Member of the European Board of Transplant Medicine (Prikis)

Board Member and Examiner for the Transplant Medicine certification of the European Union of Medical Specialties (UEMS). (Prikis)

H. Editorships and Editorial Boards

Associate Editor: Acid-base and electrolyte disorders, teaching cases, American Journal of Kidney Diseases, (J. Gennari)

Associate Editor, BioMed Central Nephrology. Nov 2016 to present (V. Agrawal)
Associate Editor, Journal of Medical Case Reports. Nov 2014 to present (V. Agrawal)

I. Study Section and Federal Advisory Boards

Biomarker Consortium member for fNIH (Dr. Solomon)

J. Major Faculty Awards

K. Grants (all grant accounts show a positive balance) – active 2016-2017

Grants:

Uppaluri. The Efficacy of 24-hour Urine Evaluations on Kidney Stone prevention. UVM Medical Student Summer Research Fellowship, 2016. $3000.00 (Sternberg K, Hood VL)

Frailty and Resilience in Older Adults with Advanced Kidney Disease. Armin Grams Memorial Research Award, UVM Center on Aging at UVM, 2016-2018. $50,000. (Cheung KL, Hood VL)

Department of Medicine Developmental Fund
Dialysis Nurses’ Perspectives on Advance Care Planning
The goal of this qualitative study is to explore dialysis nurses’ perspectives on their role in advance care planning and to identify barriers and facilitators to implementing advance care planning in the dialysis unit. Dec 2015- Dec 2016
Funding: $15,000 (Cheung KL)

University of Vermont Center on Aging
Trajectories of Frailty and Resilience in Older Adults with Advanced Chronic Kidney Disease
The goal of this study is to identify risk factors for frailty and resilience among older patients with CKD, determine the prevalence and trajectories of frailty and resilience in the period around initiation of dialysis and the outcomes of frailty and resilience in this rural population. June 20160 June 2018.
Funding: $50,000 (Cheung KL, Hood VL)

American Society of Nephrology
The American Society of Nephrology
Communication skills training for dialysis nurses to promote interdisciplinary advance care planning and palliative care. July 2016 – July 2017
Funding: $4878 (Cheung, KL)

Principal Investigator in just approved multi-Center study. Parallel-Group, Placebo-Controlled
Randomized Study Investigating the Effect of Intravenous Iso-osmolar Iodinated Contrast Material Iodixanol (Visipaque™ Injection 320 mgI/mL) on Renal Function in Adults with Chronic Kidney Disease (CKD) Stage III or Stage IV Who Have Undergone Endovascular Aneurysm Repair (EVAR)”. (M Prikis)

Active during the year (multicenter pharmaceutical supported grants)
- **Bayer Figaro and Fidelio Trials**: Use of finerenone for patient with diabetes and chronic kidney disease.
- **Janssen –Credence Trial**: Use of SGLT2 inhibitor in diabetes and chronic kidney disease
- **AbbVie – Sonar trial**: Use of in diabetes and chronic kidney disease
- **Medtronic – Symplicity Trial**: renal denervation for resistant hypertension
- **Otsuka – Tolvaptan** for treatment of polycystic kidney disease (R. Solomon)

Funded but not yet started:
- Transitional Medicine grant: Urinary oxygen in patients undergoing cardiac surgery. $50,000 (R. Solomon)

Submitted:
- NIIH: IMPROVE AKI: A Cluster-Randomized Trial of Team-Based Coaching Interventions to IMPROVE Acute Kidney Injury (subInvestigator) (R. Solomon)

L. Publications


5. Agrawal V. ‘Enteric Hyperoxaluria, Calcium Oxalate Nephrolithiasis and Oxalate Nephropathy after Roux-en-Y Gastric Bypass’ in Pathophysiology of Bariatric Surgery:


**POSTER**


**INVITED SPEAKER**

National and International:

Chronic Kidney Disease: what the internist can do. WCIM, Nusa Dua, Bali, August 23, 2016 (Hood VL)

Ensuring Value for patients in a Cost Conscious World: developing a culture of high value care. (Hood VL)
WCIM, Nusa Dua, Bali, August 24, 2016 (Hood VL)

Cases in electrolyte and acid base disorders: management of acute severe hyponatremia and hyperkalemia. (Hood VL)
Meet the Professor: ACP IM 2017, San Diego CA, March 30, 2017 (Hood VL)

Hypertension Treatment Challenges: Family Medicine 43rd Review Course, Burlington, VT June 7, 2017 (Hood VL)
Division of Pulmonary and Critical Care Medicine

Anne Dixon MA, BM BCh, Director

http://www.med.uvm.edu/medicine/pulmonary

The Pulmonary Critical Care Division has had a very successful year in terms of our clinical programs, and our teaching and research efforts.

The Division manages critically ill patients in the Medical Intensive Care Unit, provides inpatient pulmonary and critical care consults, and has a number of sub-specialty clinics including those in interstitial lung disease, cystic fibrosis, lung cancer, cancer survivorship, pulmonary hypertension, and asthma. The Division provides a full range of pulmonary diagnostic services: these include bronchoscopy, pulmonary function testing, evaluation of sleep disorders, lung cancer screening and evaluation, an interventional pulmonary program, and a nationally certified pulmonary rehabilitation program.

The Division has a national and international reputation in research, especially in the areas of asthma, critical care, stem cell research, and obesity and lung disease. Members of the Division published over 100 peer reviewed articles during the last year, obtained significant funding from the NIH (including a number new RO1 and R34 grants) and foundations, and served as members of a number of national review panels. The Division continues to work with other Departments, and across the campus at the University of Vermont, particularly with the School of Engineering, and has a number of highly successful multi-disciplinary research programs. Members of the Division lead graduate programs in Cell and Molecular Biology, and also in Bioengineering. The research program continues to expand, and enjoys considerable success and major recognition.

Members of the Division continue to have major leadership roles on national committees, national grant review committees, and editorial boards for major publications.

The Division is recognized for its active role in quality improvement and clinical excellence. Drs. Ryan Clouser, Josh Farkas, and Gil Allen, as leaders of the critical care team that led the collaboration with Central Vermont Medical Center, were awarded the “Better Together Award”, this award those who are part of an exemplary team committed to providing the best possible care while delivering high quality patient and family experience across our University of Vermont Health network. Gil Allen was also awarded the UVMMC Vision Award, a quarterly award which recognizes employees and physicians of UVMMC who have significantly contributed to the attainment of our strategic goals through their actions, attitude and results – Gil received this award for his outstanding leadership in critical care for UVMMC and our region. Dr. Allen also received one of the inaugural Department of Medicine Distinguished Clinician Awards for his leadership in Critical Care Medicine.
The Division is committed to education and training. Drs. Laurie Leclair and Garth Garrison direct the Cardiovascular Respiratory and Renal Foundations Course in the second year of the Medical School curriculum: Dr. Leclair was recognized by the medical students with the Dean Warshaw Integration Award – an award that recognizes the faculty member whose teaching best captured the spirit of the VIC. Dr. Garrison also directs the Internal Medicine Acting Internship program. Dr. Huggett, as Assistant Dean for Medical Education is leading major innovations in training the teachers through her leadership of the Teaching Academy. Dr. Jan Carney, as Associate Dean for Public Health leads the very successful MPH program at the University of Vermont.

The last year has been a busy and successful year for the Division as outlined in detail for all members of the Division below.

**Faculty**

Anne E. Dixon, MA, BM BCh  
Professor Medicine  
Director, Pulmonary Disease and Critical Care Medicine  
Director of Clinical Research, Vermont Lung Center

Gilman Allen III, MD  
Professor of Medicine  
Director of Critical Care Services

Jason H.T. Bates, PhD DSc  
Professor of Medicine  
Department of Molecular Physiology & Biophysics

Lynn R. Zanardi Blevins, MD MPH  
Assistant Professor of Medicine  
Public Health Program

Jan Kirk Carney, MD MPH  
Professor of Medicine  
Associate Dean for Public Health

Ryan Clouser, DO  
Assistant Professor of Medicine  
MICU Director

Susan Dunning, MD  
Assistant Professor, Department of Medicine & Department of Neurological Sciences  
Medical Director, UVM Medical Center Sleep Program & Sleep Laboratory  
Fellowship Director, Sleep Medicine
Joshua Farkas, MD
Assistant Professor of Medicine

Garth Garrison, MD
Assistant Professor of Medicine
Co-Director, Lung Cancer Screening Program

Kathryn N. Huggett, PhD
Director, The Teaching Academy at the UVM College of Medicine
Robert Larner, MD ’42 Professor in Medical Education
Assistant Dean for Medical Education
Curriculum design and evaluation
Faculty development
Medical education research

Charles Irvin, PhD
Professor Pulmonary Sciences and Critical Care Medicine
Professor Department of Molecular Physiology & Biophysics
Director, Vermont Lung Center

David Kaminsky, MD
Professor of Medicine
Medical Director, Pulmonary Function Lab
Program Director, Pulmonary and Critical Care Fellowship
Pulmonary physiology, pulmonary function testing, asthma, COPD

C. Matthew Kinsey, MD, MPH
Assistant Professor of Medicine
Director of Interventional Pulmonary
-Quantitative imaging and computational modeling for identification of lung cancer
-Application of endobronchial ultrasound transbronchial needle aspiration for development of novel precision medicine therapies for lung cancer
-Interventional trials for COPD

Laurie Whittaker Leclair, MD
Professor of Medicine
Adult CF Program Director, CF Center Member

Lennart Lundblad, PhD
Associate Professor
Co-Director, Lung Phenotyping Core
Lung physiology and pharmacology
The role of mast cells and bacterial infection

Prema Menon, MD, PhD
Assistant Professor of Medicine

Haitham Nsour, MD
Assistant Professor of Medicine

Polly E. Parsons, MD
E.L. Amidon Professor of Medicine
Chair, Department of Medicine

Matthew E. Poynter, PhD
Professor
Director of the Cellular, Molecular, and Biomedical Sciences Graduate Program
Associate Director of the Vermont Lung Center
Associate Director of the Multidisciplinary Training in Lung Biology T32 Training Grant
Immunobiology of asthma
Pathophysiology of obese asthma
Alcohol-induced immunosuppression

Renee Stapleton, MD, PhD
Associate Professor of Medicine

Benjamin Suratt, MD
Professor of Medicine
Vice Chair, Department of Medicine
Associate Chief, PCCM
Associate Director, PCCM Fellowship Training Program
Pulmonary complications of cancer survivorship
Effects of obesity and the metabolic syndrome on lung disease and critical illness

Charlotte Teneback, MD
Associate Professor
Medical Director, Pulmonary Rehabilitation
Associate Director, Adult Cystic Fibrosis Center
Director, Cystic Fibrosis Therapeutic Development Center
Cystic fibrosis clinical care and research
Pulmonary rehabilitation clinical practice and research

Daniel Weiss, MD, PhD
Professor of Medicine

Fellows
Hill Enuh, MD
Benjamin Keveson, MD
Marta Kokoszyuska, MD
Timothy Leclair, MD
Katherine Menson, DO
Radhika Parikh, MD

Nurse Practitioners and Physician Assistants:
Lily Sender, PA
Sarah Wagner, NP
Suzanne DeCapua, PA

Graduate Students, Post-doctoral Fellows, MD PhD Students:

Jason H. T. Bates, PhD, DSc
  Christa Frodella – PhD student in Bioengineering
  Ubong Peters, PhD – postdoc in Medicine
  Grahame McKlugler – masters student in Mechanical Engineering

Jan Kirk Carney, MD MPH
  As of July 2017, in UVM’s Banner system, there are 122 graduate public health students.

Charles Irvin, PhD
  David Chapman, PhD

C. Matthew Kinsey, MD, MPH
  Tim Leclair (Pulmonary Fellow)
  Greg Roy (Medical Student)

Matthew Poynter, PhD
  Matthew Randall, PhD; post-doctoral fellow

Renee Stapleton, MD PhD
  Prema Menon, MD, Assistant Professor (research mentor)
Timothy Leclair, MD, Senior Fellow (research mentor)
Radhika Parikh, MD, Senior Fellow (research mentor)
E. Ross Colgate, Graduate Student (dissertation committee)
Hill Enuh, Senior Fellow (research mentor)
Jacqueline O’Toole, Fellow (research mentor)
John Halevy, Senior Fellow (research mentor)
Maria Burnett, Assistant Professor (research mentor)

Benjamin Suratt, MD
Joseph Bivona (CMB)

Daniel Weiss, MD PhD

Post-Docs:
Soraia Abreu
Hee-Eon Park
Robert Pouliot
Franziska Uhl
Juan Uriarte

Surgical Residents (research year in the lab)
Jessica Louie
Benefsha Mohammed
Tovah Moss
Zachary Philipps
Alexander Riveron

Grad Students (Visiting)
Lena Thiebes (Aachen, Germany)
Sally Kim (Sydney)

Endowed Professorships:

Kathryn Huggett, PhD
Robert Larner, M.D. ’42 Professor in Medical Education

Leadership in Professional Societies:

Gilman Allen, MD
Program Committee, Society of Critical Care Medicine
Program Committee, Critical Care Assembly, American Thoracic Society

Jason H.T. Bates, PhD, DSc
Co-Chair, Green Mountain Section of the Institute for Electrical & Electronic Engineering
Jan Kirk Carney, MD MPH  
Vermont Governor, American College of Physicians  
National ACP Committees: Health and Public Policy; Patient Partnership in Health Care

Ryan Clouser, DO  
Member ATS critical care program planning committee

Anne E. Dixon, MA, BM BCh  
Member ATS Planning and Evaluation Committee  
Member ATS Nominating Committee  
President Association of Pulmonary, Critical Care and Sleep Division Directors

Susan Dunning, MD  
American Academy of Sleep Medicine - Innovative Fellowship Model Implementation  
Presidential Committee

Kathryn Huggett, PhD  
Academies Collaborative Steering Committee  
International Association of Medical Science Educators (IAMSE)
  a. Program Chair, IAMSE 2017 Annual Meeting  
  b. Member, IAMSE Board of Directors

Senior Representative for the Society of Directors of Medical Education (SDRME) to the AAMC Council of Faculty and Academic Societies (CFAS)

David Kaminsky, MD  
Chair, ATS Proficiency Standards for Pulmonary Function Laboratories Committee  
Chair, ATS Pulmonary Function Laboratory Accreditation Program

Lennart Lundblad, PhD  
Director of the Board of the Pulmonary Research Group

Polly E. Parsons MD  
President-elect, American Thoracic Society  
Council Member, Association of Professors of Medicine  
Parker B. Francis Foundation:
  Scientific Advisory Council:
  Scientific Director, Fellowship Program  
NHLBI PETAL network: DSMB Chair
NHLBI Understanding Health Disadvantages Across High Income Countries

Workshop Member

Renee Stapleton, MD PhD
American Thoracic Society
  a. Critical Care Assembly Program Committee
     • Member, 2009-2012, 2015-present
     • Chair-Elect, 2015-2016
     • Chair, 2016-2017
  b. Scientific Advisory Committee (reviews all ATS grants)
     • Member, 2013-present
     • Vice-Chair, 2016-present
  c. Unrepresented Patients Working Group, member 2016-present

Canadian Critical Care Nutrition Clinical Practice Guidelines Committee, External Panel Member, 2008-present


Chair of Data Safety Monitoring Board, “A Phase 2, Multicenter, Randomized, Double-Blind, Comparator-Controlled Study of the Efficacy, Safety, and Pharmacokinetics of Intravenous Ulimorelin (LP101) in Patients with Enteral Feeding Intolerance, Lyric Pharmaceuticals, Inc., 2016-present.


Charlotte Teneback, MD
Member, Board of Directors, American Association of Cardiopulmonary Rehabilitation

Daniel Weiss, MD PhD
Chief Scientific Officer, International Society for Cellular Therapies
Emeritus Chair, Stem Cell Working Group, ATS

Editorships and Editorial Boards:
Jason H.T. Bates, PhD, DSc
Deputy Editor, Journal of Applied Physiology
Editorial Board, Journal of Clinical Monitoring and Computing
Editorial Board, Critical Reviews in Biomedical Engineering

Kathryn Huggett, PhD
AAMC Medical Education Research Certificate Program (MERC)
Past Chair and Member, Steering Committee
AMA Journal of Ethics Editorial Board
Member

Charles Irvin, PhD
COPD journal, AJRCMB

Lennart Lundblad, PhD
Proceedings Editor for the Pulmonary Research Group

Polly Parsons MD
Up-to-Date: Editor-in-Chief, Pulmonary, Critical Care and Sleep
Section Editor, Critical Care Section 2004-present
Editorial Board: American Journal of Respiratory and Critical Care Medicine
Editorial Board: Chest

Matthew Poynter, PhD
Associate Editor, American Journal of Respiratory Cell and Molecular Biology

Daniel Weiss, MD PhD
Editor, Molecular Therapy

Study Sections and Federal Advisory Boards:

Jason H.T. Bates, PhD, DSc
Standing member of the RIBT study section for NHLBI

Anne E. Dixon, MA, BM BCh
Member VA Merit Review Section
Charles Irvin, PhD
   Chair, COBRE Review, 2GM-1 RCB-9 (C1), NIGMS, National Institutes of Health
   Co-chair, U01 & R21 Innovation Grant Review, ZTR1 C1-4 (01), NCATS, National Institutes of Health
   Ad hoc, LRP panel, Panel 2, NIMND, National Institutes of Health
   Ad hoc, LRP panel, Panel 1, NIMND, National Institutes of Health
   Ad hoc, CTSA Reviews, NCATS, National Institutes of Health

Matthew Poynter, PhD
   NIH Lung Cellular, Molecular, and Immunobiology (LCMI) study section
   Flight Attendant Medical Research Institute review panel

Renee Stapleton, MD PhD
   American Thoracic Scientific Advisory Committee (responsible for reviewing all ATS grants), 2013-present

Daniel Weiss, MD PhD
   NIH Bioengineering R21
   Canadian CF Foundation
   Dutch Lung Foundation
   Ontario Institute for Regenerative Medicine

Major Faculty Awards:

Gilman Allen, MD
   Vision Award, UVM Medical Center, February 2017
   Distinguished Clinician Award, Department of Medicine, UVM COM, June 2017
   Better Together Award, UVM Health Network, May 2017

Jason H.T. Bates, PhD, DSc
   2016-17 UVM University Scholar

Jan Kirk Carney, MD MPH
   2017 Crystal Heart Award, American Heart Association of Vermont

Charles Irvin, PhD
   Larner College of Medicine Dean’s Research Mentorship
   Robert Hyatt Memorial Lecture, Mayo Clinic

Polly Parsons MD
Grants – list all active by faculty member, PI

Jason H.T. Bates, PhD, DSc
R01 HL130847  NHLBI  PI: Jason Bates & Anne Dixon
Non-allergic late-onset asthma of obesity: pathophysiology and therapy

R01 HL124052  NHLBI  PI: Jason Bates
Personalized mechanical ventilation for the injured lung.

T32 HL076122  NHLBI  PI: Charles Irvin  My role: Co-PI
Multidisciplinary Training in Lung Biology

R01 HL133920  NHLBI  PI: Matthew Poynter & Anne Dixon  My role: co-investigator
Obese Allergic Asthma and the Impact of Weight Loss on Airway Epithelial Function

Jan Kirk Carney, MD MPH
Health Resources and Services Administration (HRSA):  2014-2018
New England Public Health Training Center (NEPHTC)
Role: PI, University of Vermont Subcontract.

Anne E. Dixon, MA, BM BCh
Dixon: NIH R34 HL135361: Trial of Roflumilast in Asthma Management (TRIM)
Dixon: NIH R34 HL136755 Pilot of Lifestyle in Asthma Intervention (PLAN) -
Poynter/Dixon  NIH R01HL133920-Obese Allergic Asthma and the Impact of Weight Loss on Airway Epithelial Function
Bates, Dixon - R01 HL130847-01Non-Allergic Late-Onset Asthma of Obesity: Pathophysiology and Therapy
Irvin American Lung Association: Asthma Clinical Research Center:

Kathryn Huggett, PhD

Charles Irvin, PhD
American Lung Association
Asthma Clinical Research Center
Principal Investigator: Charles G. Irvin

National Heart Lung & Blood Institute (NHLBI) T32 HL076122-10-15
Multidisciplinary Training in Lung Biology
Principal Investigator: Charles Irvin

National Institute of General Medical Sciences (NIH/NIGMS) P30 GM103532
Translational Research in Lung Biology and Disease
Principal Investigator: Charles G. Irvin

Others grants:
1P50DA036114-01
National Institutes of Health/DHHS Tobacco Regulatory Science Center and FDA
Principal Investigator: Stephen Higgins

R25GM116701
NIGMS
Fostering entrepreneurship in biomedical research
Principal Investigator: Mercedes Rincon, Ph.D.
Co-PI: Charles Irvin

R35 HL135828
NIH/NHLBI
Title: S-glutathionylation chemistry in fibrotic lung remodeling
Principal Investigator: Janssen-Heininger
Co-Investigator: Charles Irvin

R01 HL122383
NIH/NHLBI
Title: Endoplasmic Reticulum Stress Signaling in Allergen-induced Airway Remodeling
Principal Investigator: Anathy
Co-Investigator: Charles Irvin

David Kaminsky, MD
Lake Champlain Cancer Research Organization
LCCRO 016 Pilot Project (C3)
Ventilation Heterogeneity on CT Imaging and its Association with Lung Cancer
PI: David Kaminsky, MD
07/01/12/31/17
R01 HL130847, NIH/NHLBI
Non-allergic Late-onset Asthma of Obesity: Pathophysiology and Therapy
PI: Anne Dixon, MD
Role on Project: Co-Investigatory (15%)
3/15/16-2/29/20

University of Vermont REACH Award
Ventilation Heterogeneity and its Association with Lung Cancer
PI: David Kaminsky, MD
05/1/15-8/31/17

C. Matthew Kinsey, MD MPH
NIH K23, Kinsey PI

Lennart Lundblad, PhD
1R21AI121076-01 (Hill and Lundblad) 3/01/2016 – 12/31/2017
NIH/NIAID
Role: Co-PI
Toward Rapid, Non-Invasive, Highly Sensitive, Multiplex Detection of Respiratory Pathogens
This project will address the hypothesis that exhaled breath volatiles can be used to diagnose infections of the lung, and specifically, to distinguish between different pathogens, even during co-infection for acute febrile illnesses. The data from this study is expected to support forthcoming studies in humans and the development of analytical devices for use in the clinic.

1R21AI112804-01 (Lundblad) 07/01/2014 – 06/30/17
NIH/NIAID
Role: PI
iNKT cells regulating mast cells: New treatment opportunity for asthma
The aim of this project is to investigate if iNKT cells are involved in the recruitment and maturation of mast cells in allergic lung disease. We will also elucidate the role of IL-33 signaling from iNKT cells.
Specific Aim 1: To determine if elimination of iNKT cells with iNKT Ab reduces airways hyperresponsiveness and allergen-induced acute bronchoconstriction. Specific Aim 2: To determine if IL-33 signaling is sufficient and necessary for the inflammatory and physiological phenotype.

NKT Therapeutics Inc. (Lundblad) 07/01/2013 – (no cost ext.)
NKT Therapeutics Inc.
Role: PI
Selective elimination of iNKT cells on the asthmatic phenotype in experimental asthma
The goal of this pilot project is to study the effects of iNKT cell elimination in mouse model of mast cell independent allergic airway inflammation. We will determine the role of iNKT cells on airways hyperresponsiveness and the airway inflammation in mice sensitized with ovalbumin.

RO1 HL124052 (Bates) 08/01/2014 – 03/31/2018
NIH/NHLBI
Role: Lundblad Co-investigator
Personalized mechanical ventilation for the injured lung
The goal of this project is to develop computational models of how ventilator-induced lung injury develops as a result of the stress and strains of mechanical ventilation, and link these models to lung mechanical function. Experiments will be performed in mouse models of ventilator-induced lung injury.

2R01HL085646-05A1. (van der Vliet) 07/01/2013-06/20/2018
NIH/NHLBI
Role: Lundblad Co-investigator

Dual oxidase in airway epithelial repair and inflammation
The goal of this grant is to establish the role of the NADPH oxidase DUOX1 in IL-33 secretion and subsequent allergic inflammation by protease allergens, to clarify the downstream redox mechanisms by which DUOX1 activation promotes IL-33 nuclear export and secretion, and to determine associations between DUOX1 and IL-33 in allergen-mediated airway inflammation and airway responsiveness in mice and in nasal epithelial cells or secretions from healthy human subjects and subjects with allergic asthma in response to allergen challenge.

1R01HL107291-A1 (Poynter) 04/01/2012 – 03/31/2017
NIH/NHLBI
Role: Lundblad Co-investigator

Serum amyloid A3 in allergic asthma: an endogenous mediator of disease severity
The goal of this project is to determine mechanisms by which pulmonary SAA3 functions to polarize tissue-destructive Th17 responses in severe allergic asthma. In Specific Aim (SA) 1 we will determine quantitative and qualitative patterns of SAA3 expression during the development of allergic asthma in mouse models of disease. In SA2 we will measure the effect of SAA3 on the antigen-specific CD4+ T cell adaptive immune response using wild type and inducible airway epithelial SAA3-expressing mice, as well as TLR2-, Nlrp3-, IL-1Ra-, and FPR2-deficient mice to determine whether SAA3 promotes Th17 polarization, which receptors are involved, whether the activity is directly upon T cells, and whether the effect of SAA3 is glucocorticoid-sensitive. In SA3 we will establish in vivo the sufficiency and necessity of SAA3 for augmentation of allergic asthma severity, addressing mechanisms implicated from the previous specific aims by which SAA3 worsens lung physiologic and structural allergic asthma phenotypes, including the roles of IL-1, IL-17, and glucocorticoid responsiveness.

1R01EB020964 (Oldinski) 9/1/2016-8/31/2020
NIH/NIBIB
Role: Lundblad Co-investigator
Development of a polysaccharide-based patch for use as a therapeutic lung sealant
The goal of the current proposal is to provide a tissue sealant for lung injuries as well as control the release of therapeutics to encourage wound healing. An alginate and hyaluronan blend material will be formed into a patch, for immediate adhesion to lung tissue. The patch shall be elastic, and facilitate wound healing with the introduction of biologics such as fibroblast growth factor.

Harvard School of Public Health (Lundblad) 01/01/16 – 12/31/17
Subcontract through Harvard (Gates Foundation)
Role: PI
Toward development of a human challenge strain: microbial construct assessment for volatile biomarkers
The goal of this project is to evaluate the utility of using volatile molecules to determine the bacterial burden for *Mycobacteria*.

**Prema Menon, MD PhD**  
Improving Communication with Mechanically Ventilated Patients  
University of Vermont FISAR Grant  
$40,000

Improving Family Satisfaction with Communication in the ICU  
UVM Medical Group  
$50,000

Utilizing a novel tool to improve communication with mechanically ventilated patients  
UVM College of Medicine Health Services Pilot Grant  
$50,000

**Matthew Poynter, PhD**  
R01-HL133920 (Poynter & Dixon) 08/15/2016-07/30/2021 3.6 calendar  
NIH/NHLBI  
ADC: $497,231  
Role: MPI

Obese allergic asthma and the impact of weight loss on airway epithelial function  
Our objective is to explore the contribution of the specific cells and their secreted mediators that are released from visceral adipose tissue of obese allergic asthmatics to the mitochondrial function of airway epithelial cells and their activation by allergen, which then cause the structural alterations and methacholine hyperresponsiveness that manifest in severe disease in obese allergic asthmatics.

R01-HL107291 (Poynter) 04/01/2012 – 02/28/2016 3.00 calendar  
No cost extension until 02/28/2017  
NI/NHLBI  
ADC: $250,000

Serum Amyloid A3 in Allergic Asthma: An Endogenous Mediator of Disease Severity  
The goal of this project is to determine mechanisms by which pulmonary SAA3 functions to polarize tissue-destructive Th17 responses in severe allergic asthma. In Specific Aim (SA) 1 we will determine quantitative and qualitative patterns of SAA3 expression during the development of allergic asthma in mouse models of disease. In SA2 we will measure the effect of SAA3 on the antigen-specific CD4+ T cell adaptive immune response using wildtype and inducible airway epithelial SAA3-expressing mice, as well as TLR2-, Nlrp3-, IL-1Ra-, and FPR2-deficient mice to determine whether SAA3 promotes Th17 polarization, which receptors are involved, whether the activity is directly upon T cells, and whether the effect of SAA3 is glucocorticoid-sensitive. In SA3 we will establish in vivo the sufficiency and necessity of SAA3 for augmentation of allergic asthma severity, addressing mechanisms implicated from the previous specific aims by which SAA3 worsens lung physiologic and structural allergic asthma phenotypes, including the roles of IL-1, IL-17, and glucocorticoid responsiveness.
Short-chain alcohol inhibition of NLRP3 inflammasome activation
Our objectives are to further refine the structural requirements for our alcohol-based NLRP3 inflammasome inhibitors and to test the hypothesis that it is through phosphatase activation that this inhibition is elicited.

Endoplasmic Reticulum stress signaling in allergen induced airway remodeling
The over-arching objective of this project is to elucidate the role of the endoplasmic reticulum (ER) in activating allergen mediated death of airway epithelial cells, development of scar in the lung and subsequent decrease in lung function.

iNKT cells regulating lung mast cells: new treatment opportunity for asthma
The objective of the proposed studies is to evaluate the effectiveness of a murineized NTK cell-depleting antibody in a house dust mite model of allergic asthma and to determine the contribution of NKT cells to mast cell metaplasia.

Multidisciplinary training in lung biology
The major goal of this training grant is to produce outstanding, independent biomedical scientists who investigate the mechanisms, manifestations, preventions and cures for lung disorders.

Cigarette smoke-derived electrophilic aldehydes and airway inflammation
The objectives are to explore the impact of acrolein exposure on allergic sensitization and inflammation and to identify protein targets for alkylation that may relate to these functional alterations. Secondly, we aim to determine the importance of two endogenous detoxification mechanisms (GSTP and hydrogen sulfide) in mitigating these responses.
A relevant environmental allergen exposure model for the sensitization to house dust mite and exacerbation of allergic asthma

Our principle objective is to develop an improved mouse model of allergic sensitization that better reflects the natural route, dosing, and duration of allergen exposure experienced by approximately one half of all asthmatics worldwide (house dust mite), with which we can mechanistically dissect its consequences on the most important phenotypes of asthma, specifically methacholine responsiveness, lung remodeling, and immune function, as well as to expose the mice to a battery of asthma-relevant challenges representative of the types that cause disease exacerbation in asthmatic patients.

Renee Stapleton, MD PhD
Nutrition and Exercise in Critical Illness (The NEXIS Trial): A Randomized Trial of Combined Cycle Ergometry and Amino Acids in the ICU
R01 HL132887, 4/01/2017-3/31/2022 NIH/NHLBI Direct: $ 2,884,464
Role: PI

R01 AG050698, 5/01/2016-2/28/2021
“Improving Palliative Care for Older Seriously Ill Hospitalized Patients and Their Families: A Randomized Trial of an Informed Assent Communication Intervention about CPR” NIH/NIA Direct: $2,276,543
Role: PI

Department of Medicine Translational Medicine Pilot Award “Nutrition and Exercise in Critical Illness: A Pilot Study” 6/1/16-6/30/17 Direct: $50,000
Role: PI

UVM Frymoyer Scholar Award
“Enhancing Education, Resources, and Opportunities in Biomedical Research for Doctor of Medicine and Doctor of Nursing Practice Students: Creation of a Research Track” 7/01/16-6/30/18
Direct: $25,000 per year for two years
Role: PI

UVM College of Medicine Bridge Award, 7/1/15-6/30/17
Phase I Study of Zinc in Severe Sepsis Direct: $50,000 over 2 years for research, 0.2 FTE salary for each of 2 years
Role: PI

Charlotte Teneback, MD
Clinical pharmacy support grant, PI. Funding for cystic fibrosis clinical pharmacy support. January 2017-Decemmmber 2019. $200,000. No salary support.

Cystic Fibrosis Therapeutic Developemnt Center Award, January 2017-December 2017. $82,890. Includes salary support.
PIPE Award: Principal Investigator Protected Effort Award, Cystic Fibrosis Foundation, January 2017-December 2017. $24,649. Salary support.

The SOLUTION study: “A phase 3, randomized, open-label, assessor-blind, non-inferiority, active-comparator study evaluating the efficacy and safety of liprotamase in subjects with cystic fibrosis-related exocrine pancreatic insufficiency.” Anthera Pharmaceuticals. Local PI. $107,550.00. Indirect salary support.

The EASY study: An Open-Label Study Evaluating the Efficacy and Safety of Liprotamase in Subjects with Exocrine Pancreatic Insufficiency due to Cystic Fibrosis (Extended Access to Sollpura over Years). Anthera Pharmaceuticals. Local PI. $18,750. Indirect salary support.

A prospective observational study in cystic fibrosis patients with chronic respiratory Pseudomonas Aeruginosa infection treated with TOBI Podhaler or other FDA approved inhaled antipseudomonal antibacterial drugs. Novartis. Local PI. $46,000. Indirect salary support.

Completed:
A point prevalence study to evaluate the prevalence of antibodies to selected porcine viruses in patients with cystic fibrosis who are receiving porcine-derived pancreatic enzyme replacement therapy: A harmonized protocol across sponsors. Abbvie, Aptalis, Janssen. PI. $9,603.00. Completed

Cystic Fibrosis Therapeutic Development Center Award, January 2015-December 2016. $142,500. Completed

ARC research coordinator support award from the Cystic Fibrosis Foundation. January 2015-December 2016. $142,792. Completed

Daniel Weiss, MD PhD
R01 HL127144-01 (DJ Weiss, PI) 4/30/2015-3/31/2019 4.8 calendar
NIH/NHLBI $250,000 Optimizing Functional Recellularization of Acellular Human Lung Scaffolds
The goal of the current proposal is to provide a detailed assessment of effects and utility of the alginate coatings on lung mechanics and on re-cellularization of the de-cellularized human lung pieces. The proposal was submitted in response to PA-12-284, Exploratory/Developmental Bioengineering Research Grants.

R21 EB024329 (DJ Weiss, PI) 02/15/2017-01/31/2019 1.2 calendar
NIH/NHLBI $124,799 Decellularized Avian Lungs for Use in Pulmonary Therapeutics
The goals of this project are to fully characterize de- and recellularization of representative avian lung, develop initial technologies for novel Avian Lung Assist Devices (ALAD) incorporating recellularized avian lungs that could be potentially utilized for independent, portable or implantable lung assist devices.

United Therapeutics Inc. (DJ Weiss PI) 11/1/2015-11/10/2017 0.6 calendar $176,929 direct
Assessing the immunogenicity of decellularized pig lungs as xenogeneic scaffolds for ex vivo lung bioengineering
The goals of this project are to assess potential immunogenicity of transgenic pig lungs for ex vivo lung bioengineering

Cystic Fibrosis Research Grant (DJ Weiss, C dos Santos Co-PIs)
WEISS15XX0 1/1/2016-12/31/2017 0.6 calendar $150,000 direct
Optimization of MSC Based Cell Therapies for CF
The major goal of this project is to understand the effect of the CF lung environment on MSC behavior.

University of Vermont Dept. of Surgery Internal Grant (L Fabricant PI, DJ Weiss Co-I)
8/1/2016-7/31/2017 0 calendar $11,000 total
Assess the use of novel materials including modified alginates in an in vitro porcine lung injury model
The major goal of this project is to assess the use of novel materials including modified alginates in an in vitro porcine lung injury model.

Department of Defense, US Army SBIR Phase 1 (J Fortune PI, DJ Weiss CO-I)
9/1/2016-4/1/17 0 calendar $140,910 total
Devices to Prevent and Treat Retained Hemothorax after Chest Injury
The major goal of this project is to develop a new chest tube device

Cystic Fibrosis Research Grant (DJ Weiss, PI)
WEISS16GO 3/1/2017-2/28/2019 0.90 calendar $100,000 annual direct
Mechanisms of MSC Actions that Ameliorate Bacterial Lung Infections in CF
The major goal of this project is to further understand the mechanisms by which the mesenchymal stromal cells (MSCs) may be beneficial in treating bacterial infections in lungs of CF patients and use this to maximize any potential therapeutic approaches.
Stem Cell, Cell Therapies and Bioengineering in Lung Biology and Lung Diseases

The goals of this project are: 1) To convene national and international experts in stem cells and lung biology to discuss and debate recent advances in the roles of stem cells and cell therapies in lung biology and lung diseases. 2) To address critical issues in this field, including the role of endogenous lung progenitor cells, translational studies, and clinical cell therapy approaches for lung diseases. 3) To address breaking new areas in the field including embryonic stem cells, induced pluripotent stem cells, stem cells and lung cancer, and bioengineering approaches to lung regeneration. 4) To provide a forum for junior investigators, graduate students, post-doctoral associates, and pulmonary research fellows to participate and present data in poster format. 5) To craft a series of recommendations for the NHLBI, FDA, and other relevant organizations to utilize for guiding basic and translational research in stem cells and cell therapy approaches in lung diseases. These same guidelines will also be designed to help investigators pursue NIH and other funding opportunities.

Publications – peer reviewed, chapters, etc. (not abstracts)


Busk MF. Effect of CPAP on Airways Reactivity in Asthma: A Randomized Sham-Controlled Clinical Trial. Ann Am Thorac Soc 2016. PMID: 27398992


infants receiving computed tomography or cardiac catheterization. Mutation Research/Genetic Toxicology and Environmental Mutagenesis. 2017, 820: 8-18


Stapleton RD, Heyland DK. Glycemic control and intensive insulin therapy in critical illness. Up To Date online version 16.3. 2007-present. Last updated June 2017. Section Editors Polly E. Parsons MD and Adrienne G. Randolph MD MSc; Deputy Editor Kevin C. Wilson MD. Website: http://www.uptodate.com/online/content/topic.do?topicKey=cc_medi/13045&selectedTitle=1~150&source=search_result


van der Vliet A, Flemer S, Anathy V, Janssen-Heininger YM. Attenuation of lung fibrosis in mice with a clinically relevant inhibitor of glutathione-S-transferase pi. JCI Insight 2016;1. PMID: 27358914


Division of Rheumatology

Bonita Libman, M.D., Unit Division Chief

http://www.med.uvm.edu/medicine/rheumatology

The members of the Division of Rheumatology and Clinical Immunology provide high quality patient care to residents of Vermont, up-state New York and other contiguous communities, teach UVM Medical Center resident physicians and UVM College of Medicine medical students, and perform both bench and clinical
research. Our faculty consists of seven physicians, a clinician pharmacist and a nurse practitioner. The Rheumatology Division and the Osteoporosis Center (a part of our division) welcomed over 13,000 patients, generating almost 18,000 work RVUs for the academic year. In addition to bone densitometry, we have an on-site infusion center for parenteral rheumatologic and osteoporosis medications, and provide point of care diagnostic and procedural (guided injections) musculoskeletal ultrasound. We offer a metabolic bone clinic in addition to our rheumatology services. We cover inpatient consults at the University of Vermont Medical Center on a 24-7 basis.

Our fully accredited rheumatology fellowship program accepts one new fellow annually in a competitive match. The internal medicine residency program continues to participate in a required outpatient rheumatology rotation where residents work with all of the faculty thus experiencing a variety of practice styles. All faculty participated in the successful launch of the Internal Medicine Academic Half Day. Several medical students completed one month elective rotations in our outpatient clinic. Each year we participate in the Vermont Integrated Curriculum Connections course for 2nd year medical students, teaching them rheumatology, metabolic bone disease, and musculoskeletal physical examination skills.

Our faculty engage in clinical research including the use of IL-17 inhibition on psoriatic arthritis, and analysis of Trabecular Bone Score (TBS) in women with breast cancer on aromatase inhibitors and in kidney transplant patients. Our faculty are actively engaged in QI projects and research such as: development of a fracture liaison service for the inpatient hospital; patient education on monitoring for hydroxychloroquine side effects; liver function test monitoring during methotrexate therapy in rheumatoid arthritis patients. We also continue to collaborate with the Division of Immunobiology on research in molecular physiology in rheumatoid arthritis and lupus patients.

**Faculty**

Narandra Bethina, M.D.

Assistant Professor of Medicine

Associate Program Director, Rheumatology Fellowship Training Program

- Rheumatoid Arthritis
- Psoriatic Arthritis
- Scleroderma
- Sjogren’s Syndrome
- Gout
- Autoimmune disorders
- Musculoskeletal Ultrasound

Dr. Bethina manages patients with multiple rheumatologic conditions. Dr. Bethina is certified in Rheumatology through the American Board of Internal Medicine and in Musculoskeletal Ultrasound by American College of Rheumatology. He is the Rheumatology Division expert in diagnostic and procedural
(guided injections) Musculoskeletal Ultrasound procedures. He is an instructor and mentor for Rheumatology fellows from multiple institutions and rheumatologists in practice who participate in Musculoskeletal Ultrasound training through the USSONAR (Ultrasound School of North American Rheumatologists) training program. He also teaches at the national American College of Rheumatology meeting every year at the Musculoskeletal Ultrasound Course conducted by American College of Rheumatology. Dr. Bethina is the Associate Program Director for the Rheumatology Fellowship Program and in addition to teaching fellows, he teaches Internal Medicine residents during Morning Report and Academic Half Day, and medical students during their 2nd year VIC Connections course and their 4th year Internal Medicine clerkship.

Ralph Budd, M.D.

University Distinguished Professor of Medicine, Microbiology & Molecular Genetics
Director, Immunobiology and Vermont Center for Immunology and Infectious Diseases

- Systemic Lupus Erythematosus (SLE)
- Inflammatory Arthritis (γδ T cells)
- T cell homeostatic proliferation in autoimmune diseases
- Metabolic regulation of cell death in the immune system

Dr. Budd and his team currently have investigations in four projects in immunology. The first is a study of the type I Interferon (IFN-I) signature in SLE. We observe that a mitochondrial protein known as MAVS spontaneously oligomerizes in SLE PBL leading to an IFN-I response, and this is driven by reactive oxygen species. Second, we are defining ligands for γδ T cells that accumulate in inflamed joints in Lyme and rheumatoid arthritis. Third, our studies in T cell homeostatic proliferation reveal that this is enhanced in both mice and humans with SLE. This results in upregulation of several cytolytic molecules that could provoke inflammation of organs. This has implications for why it is important to eliminate these T cells, lest they precipitate autoimmune sequelae. Fourth, we have determined that the metabolic state of T cells greatly influences their susceptibility to cell death. Thus, glycolytic T cells, driven by IL-2, have elevated levels of active caspase-3 and are prone to cell death, whereas non-glycolytic T cells, driven by IL-15, manifest the opposite phenotype. This has important implications for rheumatoid arthritis in which the synovium is rich in IL-15. It is also relevant for which T cells survive an immune response to confer immune memory.

Dr. Budd was invited to give a seminar at the Lupus Research Alliance meeting, New York City, NY (October, 2016)

Dr. Budd is an editor of the *Textbook of Rheumatology* 10th Edition, the Director of the Vermont Center for Immunology and Infectious Diseases, and has been a member of several NIH study sections. He is a UVM University Distinguished Professor. He is a former Pew Scholar in the Biomedical Sciences and former UVM University Scholar. He is also a member of the Association of American Physicians.
Active Grants:

T32 AI 055402 Immunology/Infectious Diseases Training Grant 9/1/05-7/31/21

P20 GM103496-07 Vermont Immunobiology/Infectious Diseases Center (COBRE) 8/1/06-6/30/21

Lupus Research Institute RIG-I Regulation of Interferon Signature in SLE

R21 AI 107298 Structure and Ligand(s) for Human Synovial TCR-Gamma/Delta 2/1/16-1/31/18

R21 AI 119979 Metabolic Regulation of Caspases and Survival in T Cells 3/1/16-2/28/18

Sheldon Cooper, M.D., MACR

Professor of Medicine

- Rheumatoid Arthritis
- Osteoarthritis
- Regional Rheumatic Syndromes

Dr. Cooper provides care for individuals with arthritis and musculoskeletal problems.

He is Principal Investigator and Co-investigator on several research projects that evaluate the effectiveness and mechanism of action of biologic drugs in the treatment of Rheumatoid Arthritis. A focus is on tocilizumab, a monoclonal antibody to the IL-6 receptor. Recent studies performed with Dr. Mercedes Rincon have demonstrated that IL-6 blockade selectively reduces the levels of IgG4 antibodies to citrullinated peptides. Current studies are designed to understand how IL-6 blockade alters B-cell function and the role of IgG4 autoantibodies in the pathogenesis of RA.

Dr. Cooper and Dr. Lau are collaborating on a research project to determine the most appropriate frequency for monitoring blood tests of liver enzymes in patients treated with methotrexate. The thesis is that abnormal liver function tests occur infrequently and irregularly, and rarely lead to changes in methotrexate use. They expect to show that the current recommendation for lab testing every 2-3 months is far too frequent. They are also analyzing what actions were taken when elevated transaminase levels were encountered.

Chi Chi Lau, M.D.

Associate Professor of Medicine
- Systemic Lupus
- Inflammatory arthritis
- Connective tissue disorders

Dr. Lau has a very busy clinical practice providing excellent care to patients with a variety of complex rheumatic diseases. She is responsible for the Rheumatology Unit’s CME reporting and certification. She teaches second year UVM medical students utilizing the innovative Team Based Learning technique, and teaches as part of the Internal Medicine 4th year clerkship. She teaches residents in Morning Report as well as during Internal Medicine Academic Half Day. Dr. Lau presented a well-received lecture on “Fibromyalgia” to the Women’s Health Conference, Burlington, Vermont in September 2016.

Dr. Lau incorporated the Rapid 3, a pain and function measurement tool useful for QI and clinical studies, into the rheumatology clinic. Working with UVM Medical Center computer services, she was able to incorporate the Rapid 3 directly into PRISM. Dr. Lau is currently working on a research project involving frequency of assessment of liver enzymes in patients treated with methotrexate; this project was deemed worthy of biostatistics support awarded by the Department of Medicine. This was presented as a poster (“The Effect of Liver Enzyme Monitoring on Methotrexate Therapy in Rheumatoid Arthritis Patients”) at Internal Medicine Fellow Research Day 6/2/17.

**Scott Legunn, M.D.**

Clinical Assistant Professor of Medicine  
Rheumatoid Arthritis  
Polymyalgia Rheumatica/Giant Cell Arteritis  
Psoriatic Arthritis  
Vasculitis

Dr. Legunn provides specialty care for patients with a variety of rheumatologic diseases. He has been active in the teaching program, working with rotating internal medicine residents in clinic, participating in the Internal Medicine Academic Half Day, and teaching rheumatology fellows. He teaches 2nd year medical students during their VIC Connections course, and also 4th year medical students during their Internal Medicine clerkship. Working with Dr. Budd, he completed a research project on homeostatic T cell proliferation in patients with rheumatoid arthritis and lupus.

**Edward Leib, M.D.**

Professor Emeritus of Medicine  
Director, The Osteoporosis Center, UVM Medical Center  
- Osteoporosis and Metabolic Bone Diseases
Dr. Leib, an emeritus professor, specializes in the study and care of individuals with osteoporosis and other metabolic bone diseases. He is an internationally known leading authority on developing guidelines and positions on the appropriate use of bone densitometry. He presently serves as director of the Osteoporosis Center and heads the Metabolic Bone Clinics at the University of Vermont Medical Center. He continues to be actively engaged in research, most recently utilizing a new technology for ascertaining fracture risk called trabecular bone score (TBS). In 2016, he co-authored two papers, one on bone status in glucocorticoid treated men and women, and the other on TBS in glucocorticoid induced osteoporosis patients treated with alendronate and teriparatide. He mentored two UVM medical students in 2016 and in 2017 is mentoring a medical student for a summer research project and a medical resident, now rheumatology fellow in a quality improvement project improving the identification of fracture patients and promoting ongoing care to prevent further fractures. He is certified to read bone densitometry by the International Society for Clinical Densitometry. Dr. Leib is a reviewer for several osteoporosis related journals, most notably Bone and Osteoporosis International.

Grants:


**Bonita Libman, M.D.**

Professor of Medicine

Division Chief, Rheumatology and Clinical Immunology

Program Director, Rheumatology Fellowship Training Program.

- Connective Tissue Disorders
- Systemic Lupus
- Rheumatoid Arthritis
- Psoriatic Arthritis

Dr. Libman, chief of the rheumatology division and director of the rheumatology fellowship program, was a member of the American College of Physicians (ACP) MKSAP 17 Rheumatology Committee; after successful publication of the MKSAP 17, she became a current member of the ACP MKSAP 18 Rheumatology Committee. She developed and implemented the annual Rheumatology Research Day, aimed at promoting research through communication and collaboration between clinicians and bench researchers. She is a member of the UVM Graduate Medical Education Committee. She chairs the UVM Medical Center Medical Records Committee. She teaches medical students during their 2nd year VIC Connections course and their 4th year Internal Medicine clerkship. She also teaches Internal Medicine residents during Morning Report, Academic Half Day and in clinic.
**Grants:**

**Rheumatology Research Foundation Clinical Preceptorship Award** with UVM

Medical Student Kyna Donohue, $2000, 2017; supports clinical experience for medical student interested in rheumatology as a career choice

**Ongoing Research Support**

2015-present

CAIN457F2336: “A Phase III, Randomized, Double-Blind, Placebo-Controlled Multicenter Study of Subcutaneous secukinumab (150 mg) in Pre-filled Syringe, With or Without Loading Regimen, to Demonstrate Efficacy, Safety and Tolerability up to 2 years in Patients with Active Psoriatic Arthritis (FUTURE 4),”

Role: Principal Investigator

**Suzanne Trost, M.D.**

Osteoporosis

Metabolic Bone Disease

Dr. Trost is a board certified endocrinologist with expertise in metabolic bone disease. She is an attending physician at our affiliated institution, Central Vermont Medical Center. She joins Dr. Leib in metabolic bone clinic providing patient care and teaching rheumatology and endocrinology fellows over their two years of training as part of their metabolic bone rotation.

**Nurse Practitioners and Physician Assistants:**

**Morgan Merchand, APRN**

Before joining the rheumatology division in March 2017, Ms. Merchand obtained her Masters of Science in Nursing: Family Nurse Practitioner degree in 2012 and worked at Dartmouth Hitchcock Medical Center. She is a member of the American Academy of Nurse Practitioners and the Association of Rheumatology Health Professionals.

**Fellows**
Syeda Maria Sayeed, M.B.B.S.

Completed fellowship in June 2017

Kateryna Bertuch, M.D.

Will complete fellowship July 2018

Javaneh Tamiji, M.D.

Will begin fellowship July 2017

Publications – peer reviewed, chapters, etc.


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**Infectious Diseases Total** | $2,645,603 | $744,129 | $3,389,732 | **Nephrology** | Cheung, Katharine L | American Society of Nephrology | Geriatric Nephrology/Palliative Care Small Grant | 01-Jul-16 | 30-Jun-17 | $4,878 | $- | $4,878 |

**Nephrology Total** | $4,878 | $- | $4,878 | **Pulmonary** | Antkowiak, MaryEllen | United Therapeutics Corporation | The Effect of Obesity on Biomarkers of Endothelial Dysfunction and Inflammation in Pulmonary Arterial Hypertension | 06-Jul-16 | 05-Jul-19 | $19,283 | $10,707 | $30,000 |

**Pulmonary Total** | $4,878 | $- | $4,878 | **Pulmonary** | Bates, Jason H. | National Heart, Lung, and Blood Institute/NIH/NIHHS | Non-Allergic Late-Onset Asthma of Obesity: Pathophysiology and Therapy | 01-Mar-17 | 28-Feb-18 | $378,472 | $199,507 | $577,979 |

**Pulmonary Total** | $4,878 | $- | $4,878 | **Pulmonary** | Bates, Jason H. | National Heart, Lung, and Blood Institute/NIH/NIHHS | Personalized Mechanical Ventilation for the Injured Lung | 01-Apr-17 | 31-Mar-18 | $466,695 | $120,504 | $587,199 |

**Pulmonary Total** | $4,878 | $- | $4,878 | **Pulmonary** | Carroll, Jan Kirk | Boston University | New England Public Health Training Center (NEPHTC) | 01-Sep-16 | 31-Aug-17 | $46,296 | $3,704 | $50,000 |

**Pulmonary Total** | $4,878 | $- | $4,878 | **Pulmonary** | Dixon, Anne Elizabeth | National Heart, Lung, and Blood Institute/NIH/NIHHS | Trial of Rofilumast in Asthma Management (TRIM) | 01-May-17 | 30-Apr-18 | $163,395 | $39,883 | $203,278 |
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Pulmonary Total  $4,214,395  $1,315,499  $5,529,893

Grand Total  $14,024,600  $4,901,347  $18,925,948
Department of Medicine
UVM Research Funding (Direct & Indirect), FY13-FY17

FY13: $18,811,095
FY14: $15,283,026
FY15: $18,155,894
FY16: $39,020,893
FY17: $18,925,948
### Department of Medicine

**UVM Research Funding (Direct & Indirect) by Division, FY2013-FY2017**

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<td>$4,124,006</td>
<td>$4,878</td>
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<tr>
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