# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INTRODUCTION</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>FACULTY ROSTER AND CLINICAL / RESEARCH INTERESTS</strong></td>
<td>2 - 7</td>
</tr>
<tr>
<td><strong>DIVISIONAL STAFF</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>FELLOWSHIP TRAINING PROGRAM</strong></td>
<td>9 - 37</td>
</tr>
<tr>
<td>Mission, Clinical Rotations, Research</td>
<td>9 - 11</td>
</tr>
<tr>
<td>Supplemental Training Programs</td>
<td>11 - 13</td>
</tr>
<tr>
<td>Current and Former Infectious Diseases Fellows</td>
<td>14 - 18</td>
</tr>
<tr>
<td>Publications by Current and Recent Fellows</td>
<td>19 - 23</td>
</tr>
<tr>
<td><strong>CURRENT RESEARCH AND TRAINING GRANTS, 2017-2018</strong></td>
<td>24 - 26</td>
</tr>
<tr>
<td><strong>RESEARCH FACULTY PROFILES</strong></td>
<td>27 - 37</td>
</tr>
</tbody>
</table>

- Barry Brause, MD ........................................................................................................................................ 27
- Adeel Ajwad Butt, MD, MS
- Leah Burke, MD
- David Calfee, MD, MS ................................................................. 28
- Jennifer A. Downs, MD, MSc
- Kathryn Dupnik, MD
- Daniel W. Fitzgerald, MD............................................................... 29
- Marshall J. Glesby, MD, PhD
- Linnie M. Golightly, MD
- Roy (Trip) M. Gulick, MD, MPH.......................................................... 30
- Barry J. Hartman, MD
- Stephen Jenkins, PhD
- Warren D. Johnson, Jr., MD ............................................................. 31
- Laura A. Kirkman, MD
- Kristen M. Marks, MD, MS
- Jyoti Mathad, MD ................................................................................. 32
- Andy O. Miller, MD
- Henry W. Murray, MD
<table>
<thead>
<tr>
<th>Research Training Faculty in Other Departments &amp; Institutions</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Programs:</td>
<td></td>
</tr>
<tr>
<td>Hepatitis</td>
<td>39 - 40</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>40 - 41</td>
</tr>
<tr>
<td>Hospital Epidemiology and Infection Control</td>
<td>42 - 44</td>
</tr>
<tr>
<td>Human Papillomavirus (HPV)</td>
<td>44 - 45</td>
</tr>
<tr>
<td>Influenza</td>
<td>45</td>
</tr>
<tr>
<td>Malaria/Babesia</td>
<td>46 - 48</td>
</tr>
<tr>
<td>Musculoskeletal Infections</td>
<td>48</td>
</tr>
<tr>
<td>Transplantation - Oncology Infectious Diseases (fungal, bacterial, viral pathogens)</td>
<td>49 - 52</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>52 - 53</td>
</tr>
<tr>
<td>International Programs</td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>53 - 54</td>
</tr>
<tr>
<td>Haiti</td>
<td>54 - 55</td>
</tr>
<tr>
<td>India</td>
<td>55</td>
</tr>
<tr>
<td>Tanzania</td>
<td>56</td>
</tr>
</tbody>
</table>
The mission of the Division of Infectious Diseases (ID) at Weill Cornell Medicine and New York-Presbyterian Hospital (NYPH) is to conduct cutting-edge research; to provide outstanding clinical care; and to provide the highest quality education and training in infectious diseases. The Division has over 75 full-time, affiliated, voluntary and adjunct faculty members and includes basic, translational, clinical, and epidemiologic research programs; the ID clinical services at NYPH-Weill Cornell Medical Center; and the ID Fellowship Training Program.

The Division of ID facilities include over 12,000 square feet of research and administrative space. There are 10 research laboratories (7,500 sq. ft.) in the medical college and the new Belfer Research Building equipped for basic and translational molecular, microbiological, and immunologic studies. Major laboratory research projects investigate antibiotic and antifungal drug development, bacterial pathogenesis, influenza, malaria/babesia, and tuberculosis. Major clinical research projects investigate antimicrobial drug resistance, hepatitis, HIV/AIDS, hospital epidemiology/infection control, human papillomavirus, respiratory viruses, and transplantation/oncology ID. In collaboration with the Center for Global Health, we have clinical, research and training programs in Brazil, Haiti, India and Tanzania, with full-time faculty and/or fellows at each site. Research interests include diarrheal diseases, HIV/AIDS, HTLV-1, leprosy, malaria, leishmaniasis, schistosomiasis, and tuberculosis. Current annual funding for sponsored research and training in the Division of ID in 2017-2018 exceeds $12 million.

The clinical facilities of the division serve both outpatients and inpatients from the New York City area. ID Associates, located across the street from the medical school at 1305 York Avenue, includes the ID faculty and fellow outpatient practices, serving both immunocompetent and immunosuppressed patients, and the Travel Medicine service that is staffed by the faculty and provides travel advice and immunizations for 2,000–3,000 travelers annually. Inpatients are seen at New York Presbyterian Hospital, a large 867-bed tertiary care hospital, and the Hospital for Special Surgery, a 172-bed rheumatology and orthopedic specialty hospital, co-located on the Upper East Side of Manhattan. The HIV/AIDS Program provides care to over 2,500 HIV-infected persons, in addition to conducting translational and clinical research. The Center for Special Studies (the HIV primary care clinic) and the Cornell HIV Clinical Trials Unit (CCTU) outpatient facilities occupy two floors of NYPH as well as an off-site location in the Chelsea neighborhood of Manhattan (West 23rd Street and 6th Avenue). Other major clinical programs in the division are the Transplantation/Oncology ID Service, serving patients with stem cell transplants, solid organ transplants (kidney, pancreas, liver) and/or malignancies with clinical care and clinical research studies, and the Hospital Epidemiology/Infection Control Program.

The Fellowship Training Program in ID provides intensive clinical and research training for developing physician-scientists and academic clinicians. Graduates of the program are highly qualified to conduct research, provide clinical care, and/or assume leadership roles in ID. Our fellows typically go on to academic faculty appointments and/or positions in state, federal, or international public health organizations. The ID fellowship training program emphasizes both inpatient and ambulatory clinical training during the first year. The second and third years emphasize basic, translational, clinical, or epidemiologic research at Weill Cornell, Rockefeller University, Memorial Sloan-Kettering Cancer Center, and other affiliated programs. Fellow research training is supported by an NIH-sponsored T32 Training Grant (AI007613; Gulick, 1999-2019). Additional training is available through Master’s degree programs in clinical investigation or clinical epidemiology/health services research and other specialized training programs in preventive medicine. In addition, our division offers clinical electives in ID and HIV/AIDS for residents and medical students and sponsors educational programs for providers at NYPH and in the community.
## DIVISION OF INFECTIOUS DISEASES FACULTY

**Roy M. Gulick, MD, MPH**  
Professor of Medicine and Chief, Division of Infectious Diseases

<table>
<thead>
<tr>
<th>Faculty Name</th>
<th>Specialty</th>
<th>Faculty Name</th>
<th>Specialty</th>
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</thead>
</table>
| **Susan Ball, MD, MPH**  
Associate Professor of Clinical Medicine | Clinical HIV | **Daniel Fitzgerald, MD**  
Professor of Medicine, Immunology and Microbiology  
Co-Director, Center for Global Health | Global Health |
| **Barry Brause, MD**  
[Hospital for Special Surgery]  
Professor of Clinical Medicine | Bone and Joint Infections | **Marshall J. Glesby, MD, PhD**  
Professor of Medicine and Public Health; Associate Chief, Division of Infectious Diseases | HIV clinical research |
| **Leah Burke, MD**  
Assistant Professor of Medicine | Clinical Trials of HIV | **Linnie M. Golightly, MD**  
Associate Professor of Clinical Medicine | Malaria |
| **Adeel Butt, MD**  
[Qatar]  
Professor of Medicine  
Hamad Medical Corporation | Hepatitis | **Catherine C. Hart, MD**  
Clinical Associate Professor of Medicine | Clinical Infectious Diseases |
| **David Calfee, MD, MS**  
Professor of Medicine and Public Health; Chief Hospital Epidemiologist | Hospital Epidemiology/Infection Control | **Barry J. Hartman, MD**  
Clinical Professor of Medicine | Antibiotic Therapy, Clinical Infectious Diseases |
| **Jennifer A. Downs, MD, MSc**  
[Tanzania]  
Assistant Professor of Medicine | HIV and Schistosomiasis | **David C. Helfgott, MD**  
Clinical Assistant Professor of Medicine | Infections in Immunocompromised Hosts |
| **Alexander C. Drelick, MD**  
Instructor of Medicine | Transplant – Oncology Infectious Diseases | **Michael Henry, MD**  
[Hospital for Special Surgery]  
Assistant Professor of Medicine | Bone/Joint and Rheumatologic-Associated Infections |
| **Lewis M. Drusin, MD**  
Professor of Clinical Medicine | Nosocomial Infections; STDs | **Flonza Isa, MD**  
Instructor in Medicine | Tuberculosis |
| **Kathryn Dupnik, MD**  
[Brazil], Haiti  
Assistant Professor of Medicine | Leprosy | **Jonathan L. Jacobs, MD**  
Professor of Clinical Medicine; Executive Director, Center for Special Studies | Clinical HIV |
<table>
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<th>Name</th>
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<tbody>
<tr>
<td>Stephen G. Jenkins, PhD</td>
<td>Professor of Pathology and Laboratory Medicine Director, Clinical Microbiology Laboratory</td>
<td>Clinical Microbiology</td>
<td>Clinical Infectious Diseases</td>
</tr>
<tr>
<td>Warren D. Johnson, Jr., MD</td>
<td>Professor of Medicine; Director, Center for Global Health</td>
<td>Global Health</td>
<td>HIV/HCV Co-infection</td>
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<tr>
<td>Sian Jones, MD</td>
<td>Associate Professor of Clinical Medicine</td>
<td>Clinical HIV</td>
<td>Tuberculosis</td>
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<tr>
<td>Shashi Kapadia, MD</td>
<td>Instructor of Medicine</td>
<td>Treatment Access disparities in HIV and HCV</td>
<td>Clinical HIV</td>
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<tr>
<td>Selin Somersan Karakaya, MD</td>
<td>Assistant Professor of Medicine</td>
<td>Tuberculosis Drug Development</td>
<td>Clinical HIV</td>
</tr>
<tr>
<td>Jason Kendler, MD</td>
<td>Clinical Associate Professor of Medicine</td>
<td>Clinical Infectious Diseases</td>
<td>HIV; Leishmaniasis; Travel Medicine</td>
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<tr>
<td>Laura A. Kirkman, MD</td>
<td>Assistant Professor of Medicine, Microbiology and Immunology; ID Fellowship Program Associate Director - Research</td>
<td>Malaria, Babesia</td>
<td>Clinical Infectious Diseases</td>
</tr>
<tr>
<td>Rosy P. Kodiyanplakkal, MD</td>
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<td>Transplant – Oncology Infectious Diseases</td>
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<tr>
<td>Chester Lerner, MD</td>
<td>Assistant Professor of Clinical Medicine</td>
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<td>Douglas MacQueen, MD</td>
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<td>Assistant Professor of Medicine; ID Fellowship Director</td>
<td>Global Health</td>
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<td>Jyoti Mathad, MD</td>
<td>Assistant Professor of Medicine</td>
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<td>Usha Mathur-Wagh, MBBS, MPH</td>
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<td>Samuel T. Merrick, MD</td>
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<td>Henry W. Murray, MD</td>
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<td>Thomas Nash, MD</td>
<td>Clinical Assistant Professor of Medicine</td>
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<tr>
<td>Oksana Ocheretina, PhD</td>
<td>Assistant Professor of Microbiology in Medicine</td>
<td>Global Health</td>
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<tr>
<td>Jean W. Pape, MD</td>
<td>Professor of Medicine</td>
<td>Clinical Infectious Diseases</td>
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<tr>
<td>Usha Mathur-Wagh, MBBS, MPH</td>
<td>Assistant Professor of Clinical Medicine</td>
<td>Clinical HIV</td>
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<tr>
<td>Name</td>
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<tr>
<td>Lalitha Parameswaran, MD</td>
<td>Infectious Diseases &amp; Antimicrobial Stewardship</td>
<td>Assistant Professor of Medicine; Associate Hospital Epidemiologist</td>
<td>Hospital Epidemiology/Infection Control; Cost-Effectiveness of Infectious Diseases</td>
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<tr>
<td>Robert N. Peck, MD [Tanzania]</td>
<td>Global Health</td>
<td>Assistant Professor of Medicine and Pediatrics</td>
<td>Transplant/Oncology ID</td>
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<tr>
<td>Kyu Y. Rhee, MD, PhD</td>
<td>Antibiotic Development; Drug Resistance; Tuberculosis</td>
<td>Associate Professor of Medicine</td>
<td>Clinical HIV</td>
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<td>Howard E. Rosenberg, MD</td>
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<td>Kohta Saito, MD</td>
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<td>Transplant/Oncology ID</td>
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<td>Mirella Salvatore, MD</td>
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<td>Clinical Infectious Diseases</td>
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<tr>
<td>Michael J. Satlin, MD</td>
<td>Transplant/Oncology ID; Drug-Resistant Organisms</td>
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<td>Bruce R. Schackman, PhD</td>
<td>Health Policy and Cost-Effectiveness</td>
<td>Assistant Professor of Clinical Medicine</td>
<td>Clinical HIV</td>
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<tr>
<td>Lawrence Siegel, MD</td>
<td>Clinical HIV; STDs</td>
<td>Assistant Professor of Clinical Medicine</td>
<td>Outpatient ID; Travel Medicine</td>
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<tr>
<td>Matthew Simon, MD</td>
<td></td>
<td>Assistant Professor of Medicine; Associate Hospital Epidemiologist</td>
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<tr>
<td>Catherine Small, MD</td>
<td></td>
<td>Assistant Professor of Medicine (Interim); Director, Transplant/Oncology ID – Clinical Service</td>
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<tr>
<td>Duane M. Smith, MD</td>
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<td>Assistant Professor of Clinical Medicine; Associate Medical Director, Center for Special Studies</td>
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<td>Paul T. Smith, MD</td>
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<td>Rosemary Soave, MD</td>
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<td>Charles Steinberg, MD</td>
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<td>Professor of Medicine</td>
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<td>Ian Ting, MBBS [Lower Manhattan Hospital]</td>
<td>Clinical Instructor in Medicine</td>
<td>Assistant Professor of Clinical Medicine</td>
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<td>Carlos Vaamonde, MD, MSPH</td>
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<td>Ole Vielemeyer, MD</td>
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<td>Professor of Medicine; ID Fellowship Program Associate Director- Clinical</td>
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<td>Lawrence Siegel, MD</td>
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<tr>
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<tr>
<td>Mary A. Vogler, MD</td>
<td>Associate Professor of Clinical Medicine</td>
<td>Clinical HIV; HIV Clinical Trials; Infections in women and pregnancy</td>
<td>Clinical Microbiology</td>
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<tr>
<td>Lars F. Westblade, PhD, (ABMM)</td>
<td>Assistant Professor, Pathology and Laboratory Medicine Associate Director, Clinical Microbiology Laboratory</td>
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<tr>
<td>Thomas Walsh, MD</td>
<td>Professor of Medicine, Microbiology and Immunology, and Pediatrics; Director, Transplant/Oncology Infectious Diseases Service</td>
<td>Transplant/Oncology ID; Fungal Pathogenesis</td>
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<tr>
<td>Cecilia Yoon, MD</td>
<td>Assistant Professor of Medicine</td>
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<td>Clinical HIV; Medical Education</td>
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<tr>
<td>Timothy J. Wilkin, MD, MPH</td>
<td>Associate Professor of Medicine</td>
<td>HIV Clinical Trials; HPV</td>
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</tbody>
</table>
Division of Infectious Diseases Faculty (not all inclusive)

**Back Row – Left to Right:**
Catherine Small, Stephen Jenkins, Sian Jones, Flonza Isa, Barry Brause, MD, Catherine Hart, Mary Vogler, Andy Miller

**Middle Row – Left to Right:** Thomas Walsh, Leah Burke, Harjot Singh, Linnie Golightly, Barry Hartman, Matthew Simon, Usha Mathur-Wagh, Ole Vielemeyer, Lars Westblade

**Front Row – Left to Right:**
Dave Calfee, Marshall Glesby, Trip Gulick, Kristen Marks, Laura Kirkman
<table>
<thead>
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<tr>
<td>Bisrat Abraham, MD</td>
<td>HIV AIDS</td>
<td>Jose R. Lapa e Silva, MD, PhD</td>
<td>TB Pathogenesis</td>
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<tr>
<td>[New York City Department of Health]</td>
<td></td>
<td>[Universidade Federal do Rio de Janeiro, Brazil]</td>
<td>Adjunct Professor of Immunology in Medicine</td>
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<tr>
<td>Clinical Assistant Professor of Medicine</td>
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<tr>
<td>Department of Public Health</td>
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<tr>
<td>Edgar M. Carvalho, MD, PhD</td>
<td>Immunology; Leishmaniasis; HTLV-1</td>
<td>Susan C. Nicholson, MD</td>
<td>Skin and Soft Tissue Infections</td>
</tr>
<tr>
<td>[Universidade Federal da Bahía, Brazil]</td>
<td></td>
<td>Assistant Professor of Medicine and Pharmacology</td>
<td>(courtesy)</td>
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<td>Adjunct Professor of Medicine</td>
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<tr>
<td>Edgar M. Carvalho, MD, PhD</td>
<td>HIV, Monoclonal Antibodies</td>
<td>Steven G. Reed, PhD</td>
<td>Antigen Discovery</td>
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<tr>
<td>[Universidade Federal da Bahía, Brazil]</td>
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<td>[U. of Washington]</td>
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<tr>
<td>Marina Caskey, MD</td>
<td>HIV, Monoclonal Antibodies</td>
<td>Lee W. Riley, MD</td>
<td>Molecular Epidemiology</td>
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<tr>
<td>[Rockefeller University]</td>
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<td>[U. California, Berkeley]</td>
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<tr>
<td>Yehuda Cohen, MD</td>
<td>HIV, Monoclonal Antibodies</td>
<td>Richard B. Roberts, MD</td>
<td>Antimicrobial Resistance</td>
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<td>[Rockefeller University]</td>
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<tr>
<td>R. Gordon Douglas, Jr., MD</td>
<td>Vaccines</td>
<td>Mark Y. Stoeckle, MD</td>
<td>DNA Barcoding</td>
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<td>Professor of Immunology in Medicine</td>
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<td>Mark Y. Stoeckle, MD</td>
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DIVISIONAL STAFF

Top Left to Right: Tabitha Pitre, Merlyn Polanco, Marisol Valentin, Glenn Sturge, Bottom Row: Mufida Rosiana, Roy (Trip) Gulick, MD

<table>
<thead>
<tr>
<th>Staff Member</th>
<th>Title</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roy (Trip) Gulick, MD</td>
<td>Division Chief</td>
<td><a href="mailto:rgulick@med.cornell.edu">rgulick@med.cornell.edu</a></td>
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<tr>
<td>Mufida Rosiana</td>
<td>Division Administrator</td>
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</tr>
<tr>
<td>Glenn Sturge</td>
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<tr>
<td>Marisol Valentin</td>
<td>Fellowship Coordinator, Operations Manager</td>
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<tr>
<td>Tabitha Pitre</td>
<td>Executive Assistant</td>
<td><a href="mailto:tap7005@med.cornell.edu">tap7005@med.cornell.edu</a></td>
</tr>
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</table>
Mission
The major goal of our program is the training of academic clinicians and physician-scientists. We provide a wide variety of clinical training experiences in different venues including: the inpatient consult services of New York-Presbyterian (NYPH)/Weill Cornell (general and immunocompromised), the Hospital for Special Surgery (orthopedics, rheumatology), and Memorial Sloan Kettering Cancer Center; weekly outpatient clinic experiences encompassing general ID, HIV/AIDS, and travel medicine; clinical elective rotations; clinical microbiology laboratory and hospital epidemiology rotations; and a sexually transmitted disease rotation at the NYC Department of Health. All fellows develop a research project in collaboration with one or more faculty mentors from Weill-Cornell, Rockefeller University, or Memorial Sloan-Kettering Cancer Center. Fellows’ research projects span basic, translational, clinical, and epidemiologic and outcomes research in diverse areas of investigation. The majority of our fellowship graduates seek careers either in academia, government, industry, or with private foundations.

Clinical Rotations
The New York-Presbyterian Hospital-Weill Cornell Medical Center is the primary institution of our fellowship training program located in a large clinical and research complex on the Upper East Side of Manhattan. New York-Presbyterian Hospital (NYPH) is the result of a merger of two formerly distinct institutions: the Cornell-New York Hospital and the Columbia-Presbyterian Medical Center. NYPH is one of the largest health care facilities in the larger New York metropolitan area, ranked number one in New York City and among the most prestigious in the world. The Greenberg Pavilion of the New York-Presbyterian Hospital (Cornell campus) is a one million square foot facility with 867 patient beds. While the hospitals are merged, Weill Cornell Medicine and Columbia College of Physicians and Surgeons remain independent institutions with separate I.D. fellowship programs.

The clinical rotations are concentrated in the first year of training. First-year fellows spend ~10 months on clinical rotations and second-year fellows spend ~2 months, with the majority of this time spent on the inpatient consultation service. Our active consultation service serves a broad range of complex medical and surgical patients. It manages on average 80-90 inpatient-consults per month from both New York-Presbyterian Hospital as well as from the Hospital for Special Surgery (affiliated 172-bed hospital renowned for treatment of orthopedic and rheumatologic conditions). An infectious-disease trained specialty PharmD participates actively on the consult service as do Cornell’s Internal Medicine residents and 4th year medical students. In addition to the NYPH general ID consult service, fellows rotate on our immunocompromised host and transplant services (leukemia, lymphoma, bone marrow and solid organ transplantation including kidney, liver, and pancreas). They also spend one month on the Memorial Sloan-Kettering Cancer Center (MSKCC) inpatient consultation service, located just across the street. MSKCC is a tertiary care cancer hospital with a separate freestanding infectious diseases fellowship program. Fellows furthermore rotate through selected clinical electives including cardiovascular and neurologic infections, HIV/AIDS, orthopedic and rheumatologic infections, and pediatric infectious diseases. Finally, fellows spend at least two weeks each in NYPH’s Clinical Microbiology Laboratory and in the Hospital Epidemiology/Infection Control Department. Fellows also have the option of an international elective at Weill Bugando Medical Center in Tanzania or other affiliated sites in third world countries.

First- and second-year fellows follow patients in a weekly continuity outpatient clinic that alternates between care for patients with general infectious diseases and for patients with HIV/AIDS. Here, fellows build a panel of patients whom they will follow over the course of the entire clinical fellowship, with guidance from a faculty preceptor. Fellows also participate actively in the care of patients seeking consultation prior to international travel.
A sample schedule of the first two fellowship years follows:

<table>
<thead>
<tr>
<th>Month</th>
<th>First Year</th>
<th>Second Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>NYPH Consult Service</td>
<td>Research</td>
</tr>
<tr>
<td>August</td>
<td>Epidemiology Rotation *</td>
<td>NYPH Consult Service</td>
</tr>
<tr>
<td></td>
<td>Microbiology Rotation *</td>
<td></td>
</tr>
<tr>
<td>September</td>
<td>NYPH Consult Service</td>
<td>STI Clinic Rotation Research</td>
</tr>
<tr>
<td>October</td>
<td>NYPH Consult Service</td>
<td>Research</td>
</tr>
<tr>
<td></td>
<td>Research</td>
<td></td>
</tr>
<tr>
<td>November</td>
<td>Vacation</td>
<td>Research</td>
</tr>
<tr>
<td></td>
<td>Clinical Elective #1</td>
<td></td>
</tr>
<tr>
<td>December</td>
<td>NYPH Consult Service</td>
<td>Research</td>
</tr>
<tr>
<td></td>
<td>Research</td>
<td>Vacation</td>
</tr>
<tr>
<td>January</td>
<td>Memorial Sloan Kettering Cancer Center Consult Service</td>
<td>NYPH Consult Service</td>
</tr>
<tr>
<td>February</td>
<td>Transplant Oncology Infectious Diseases**</td>
<td>Research</td>
</tr>
<tr>
<td>March</td>
<td>Transplant Oncology Infectious Diseases**</td>
<td>Research</td>
</tr>
<tr>
<td></td>
<td>Research</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>NYPH Consult Service</td>
<td>Research</td>
</tr>
<tr>
<td></td>
<td>Research</td>
<td>Vacation</td>
</tr>
<tr>
<td>May</td>
<td>Clinical Elective #2</td>
<td>International Elective (Tanzania)</td>
</tr>
<tr>
<td></td>
<td>Vacation</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>NYPH Consult Service</td>
<td>Research</td>
</tr>
<tr>
<td></td>
<td>Clinical Elective #3</td>
<td></td>
</tr>
</tbody>
</table>

* During the epidemiology and microbiology rotations, the fellows may see patients in Travel Medicine once per week.

**Leukemia, Lymphoma, Stem Cell Transplant and Solid Organ Transplant

Clinical Elective offerings:
- Cardiovascular/Neurosurgical Infections – Barry Hartman, MD
- HIV Outpatient Interdisciplinary Care Team – Harjot Singh, MD
- Orthopedic/Rheumatologic Infections – Barry Brause, MD
- Pediatric Infectious Diseases – Christine Salvatore, MD
Basic, Translational, Clinical, and Epidemiologic Research

Research training occupies the majority of the second and third years of fellowship. Fellows select from a broad range of research opportunities in basic, translational, clinical, epidemiologic or outcomes research. Fellows conduct their research in the Weill-Cornell Division of Infectious Diseases, other divisions within the Department of Medicine (e.g. Gastroenterology/Hepatology), other departments within the Medical College (e.g. Department of Microbiology and Immunology, Department of Healthcare Policy and Research), Rockefeller University, or the Memorial-Sloan Kettering Cancer Center. Faculty mentorship from these institutions allows a wide diversity of research opportunities.

The Division has an NIH-sponsored T32 training grant to support research training of developing physician-scientists that supports fellows during their research years (AI007613; Gulick, 1999-2019). The objective is to train physician-scientists in biomedical research, with an emphasis on the pathogenesis of infectious diseases. Weill Cornell also has an NIH-funded Clinical and Translational Science Center (CTSC; TR00457; Imperato, 2007-2022) with state-of-the-art facilities for conducting translational and clinical research.

Our fellowship graduates have generally received independent research awards following their fellowship, primarily from the NIH, including K08 (Mentored Clinical Scientist Research Career Development Award), K23 (Mentored Patient-Oriented Research Career Development Award), and KL2 Post-Doctoral Scholars awards. Of fellows to complete our program in the past 15 years, 16 received K awards, 1 received a Fogarty fellowship award, 3 received clinical scholar awards, one received a merit award from the Veteran’s Administration, one received a Minority HIV Investigator award from the NIH-sponsored AIDS Clinical Trials Group (ACTG), 3 received industry fellowship awards, and 8 received foundation grants.

Supplemental Training Programs

Other training programs within the medical college are available to supplement fellowship training, depending on the fellow’s specific interests.

Clinical Research Training: Certificate and Master’s Degree Programs
http://weill.cornell.edu/ctsc/training_and_education/ - The Graduate Program in Clinical and Translational Investigation at Weill Cornell Medical College trains patient-oriented researchers to conceive, design, and conduct independent clinical research in a well-structured cross-disciplinary team environment. The National Institutes of Health funds this program through their Clinical & Translational Science Award. The curriculum offers two tracks that are designed for rigorous training in clinical investigation. The first track covers a core curriculum providing the basic skills of clinical investigation, and leads to a Certificate of Clinical Investigation. It includes training in the development of research hypotheses and methods of hypothesis testing; grant writing and manuscript preparation; data collection, construction of databases and data management systems; computer programs for data analysis; statistical analysis and the appropriate use of various statistical techniques in clinical research; basic epidemiologic principles in clinical research; design and conduct of meta-analyses and clinical trials; ethics and human subjects protection in the conduct of patient-oriented research; regulatory requirements of clinical research; preparing protocols for the Institutional Review Board and other agencies; grants management and intellectual property; and general and specific state-of-the-art research tools and techniques.
The second track leading to a **Master's Degree in Clinical and Translational Investigation** from Cornell University includes the core curriculum; additional electives in the trainee’s area of interest; and a clinical research project mentored in its design and implementation by a clinical investigator. Members of the Infectious Disease Division (Drs. Glesby, Gulick, and Wilkin) serve as faculty for this training program. Many of our fellows and junior faculty members have used this program to supplement their training as clinical researchers. A K30 training grant covers tuition for those accepted to the program.

**Master of Science in Health Informatics at Weill Cornell Graduate School of Medical Sciences**

http://hpr.weill.cornell.edu/education/programs/health-informatics/

The Master of Science in Health Informatics prepares students for careers at the intersection of health and information technology, through training in research, innovation and analysis. As our nation strives to improve health and healthcare, these skills are vital to positions in health analytics, policy and management in academia, industry and government. The innovative curriculum addresses the need for systems science perspectives in healthcare, and incorporates a transdisciplinary approach by fusing traditional methods from health services research with computational and informatics techniques. This program provides a vibrant alternative to traditional training in health services research, health care management, health information technology and related fields.

**Master of Science in Health Policy and Economics**

http://hpr.weill.cornell.edu/education/programs/health-policy-and-economics/

The program provides a strong foundation in healthcare research methods with specialized training in health economics, health policy, data analytics, and implementation science. Each student acquires hands-on experience through a faculty-mentored research project. In contrast to an MPH program, it covers a broader policy perspective to include payment policy, health insurance coverage, and structural issues related to the healthcare delivery system. Additionally, this program is mostly practice-based while M.P.H. programs tend to be more theoretical.

**Preventive Medicine Training**

http://hpr.weill.cornell.edu/training/general_preventive_medicine.html – Weill Cornell’s Department of Healthcare Policy and Research offers a General Preventive Medicine Training Program, for which ID fellows may apply after their initial year of clinical ID training. As part of the General Preventive Medicine Program, fellows enroll in the Master’s Degree Program in Clinical Investigation. At the end of the program, they are eligible for certification by the American Board of Preventive Medicine. The program emphasizes epidemiology, biostatistics, clinical and preventive medicine, medical care organization, medical sociology, and health economics and education. Fellows participate in Cornell’s Public Health seminars. Fellows also undertake an original research project. Each fellow will have an individual program designed to meet his/her specific professional goals. Fellows have used this program to supplement their training in hospital epidemiology and public health.
The Graduate Program in Clinical Epidemiology & Health Services offers an 8-week intensive summer program or a 2-year Master of Science (MS) degree in Clinical Epidemiology & Health Services Research from Cornell University. The program is designed for fellows who wish to plan, implement and analyze quantitative and qualitative research studies, using appropriate research designs. The core of the curriculum includes research methodology, biostatistical techniques, data management, decision analysis, health economics and program evaluation. Graduates of the Master’s program will be prepared to pursue academic careers in a variety of settings where data is required to answer complex questions. The emphasis is on training clinician researchers to teach research methods, conduct methodologically rigorous and scientifically sound studies, evaluate programs and perform cost-effectiveness and cost-benefit studies in a variety of populations. Many of our fellows doing international research have supplemented their clinical research training by participating in this program’s Global Health track. Members of the Infectious Diseases Division (Drs. Fitzgerald, Glesby) serve as faculty for this training program.

Conferences:

A variety of conferences are offered to support education and training of Infectious Diseases Fellows. These include:

- Advanced Topics in Infectious Diseases (weekly lectures from WCMC and MSKCC faculty or outside speakers on ID-related topics)
- Careers in Infectious Diseases Seminar (monthly presentation and discussion)
- Clinical Case Conference (weekly discussion of cases led by the fellows)
- Department of Microbiology and Immunology Research-In-Progress talks (monthly)
- Donald Armstrong Infectious Disease Rounds formerly known as “Intercity” Infectious Disease Rounds (weekly rotating with other institutions in the New York area)
- Divisional Journal Club and Research Conference (alternating, every 2 weeks)
- Fellow Core Topics in Infectious Diseases (weekly basic lectures during the summer and every other week during the year)
- Fellow Journal Club (every other week)
- HIV Conference (weekly alternating with journal club, lectures, and discussion of ongoing clinical trials)
- ID Fellow Research-In-Progress talks (monthly)
- Medical Grand Rounds (weekly)
- Microbiology Laboratory Plate Rounds (weekly review of interesting specimens, often from the clinical service)
- Outpatient ID Clinical Conference (monthly)
- Topics in Transplant Oncology ID (monthly)
<table>
<thead>
<tr>
<th>Name</th>
<th>Year of Fellowship</th>
<th>Medical School</th>
<th>Internal Medicine Residency</th>
<th>Research Project</th>
</tr>
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<tbody>
<tr>
<td>Charles Vorkas, MD</td>
<td>4</td>
<td>Weill Cornell</td>
<td>University of North Carolina, Chapel Hill</td>
<td>Host immunity during Mycobacterium tuberculosis infection</td>
</tr>
<tr>
<td><a href="mailto:ckv2001@med.cornell.edu">ckv2001@med.cornell.edu</a></td>
<td></td>
<td></td>
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<tr>
<td>Ayana Morales, MD</td>
<td>3</td>
<td>Brown University</td>
<td>Boston University</td>
<td>Kaposia Sarcoma Virus (HHV8)</td>
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<tr>
<td><a href="mailto:aem9002@nyp.org">aem9002@nyp.org</a></td>
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<tr>
<td>Maroun Sfeir, MD</td>
<td>3</td>
<td>Lebanese University Faculty of Medical Sciences</td>
<td>University of Miami</td>
<td>Microbiological characterization of multidrug-resistant bacteria</td>
</tr>
<tr>
<td><a href="mailto:mas9469@nyp.org">mas9469@nyp.org</a></td>
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<tr>
<td>Miriam Torchinsky, MD, PhD</td>
<td>3</td>
<td>Mount Sinai</td>
<td>University of British Columbia</td>
<td>Microbiome analysis and mechanisms of colonization resistance in infections with proteobactereiaceae</td>
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<td><a href="mailto:mbt9002@nyp.org">mbt9002@nyp.org</a></td>
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<tr>
<td>Christopher Brown, MD</td>
<td>2</td>
<td>University of Wisconsin</td>
<td>New York Presbyterian Hospital</td>
<td>Tuberculosis Aerosol Biology</td>
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<tr>
<td>Grant Ellsworth, MD</td>
<td>2</td>
<td>University of Utah</td>
<td>University of Utah</td>
<td>HPV in Anal Dysplasia</td>
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<tr>
<td>Carrie Johnston, MD</td>
<td>1</td>
<td>Virginia Commonwealth University</td>
<td>New York Presbyterian Hospital</td>
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<td><a href="mailto:cmd9008@nyp.org">cmd9008@nyp.org</a></td>
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<tr>
<td>Maiko Kondo, MD</td>
<td>1</td>
<td>Albert Einstein College of Medicine</td>
<td>New York University School of Medicine</td>
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<td><a href="mailto:mak9239@nyp.org">mak9239@nyp.org</a></td>
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<tr>
<td>Reed Magleby, MD</td>
<td>1</td>
<td>New York University School of Medicine</td>
<td>New York Presbyterian Hospital</td>
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<tr>
<td>Tina Wang, MD</td>
<td>1</td>
<td>University of Michigan</td>
<td>Mount Sinai/Beth Israel</td>
<td>TBD</td>
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<td><a href="mailto:tiw9040@nyp.org">tiw9040@nyp.org</a></td>
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</tbody>
</table>
CURRENT INFECTIOUS DISEASES FELLOWS

Top Row (Left to Right): Tina Wang, Ayana Morales, Maroun Sfeir

Bottom Row (Left to Right): Christopher Brown, Carrie Johnston, Grant Ellsworth

(Not pictured) Maiko Kondo, Reed Magleby and Charles Vorkas
<table>
<thead>
<tr>
<th>Name</th>
<th>Medical School</th>
<th>Internal Medicine Residency</th>
<th>Period of Fellowship Training and Research Topic</th>
<th>Current Position / Career Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kohta Saito, MD, MPH</td>
<td>Harvard</td>
<td>Mt. Sinai Medical Center</td>
<td>2013 – 2017 Tuberculosis biology</td>
<td>Instructor in Medicine, Weill Cornell Medicine</td>
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<tr>
<td>Thomas Baker, MD</td>
<td>Temple</td>
<td>NewYork Presbyterian Hospital</td>
<td>2014 – 2017 Antimicrobial Resistance in GNR</td>
<td>Associate Medical Director, Janssen Pharmaceuticals Spring House, PA</td>
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<tr>
<td>Shashi Kapadia, MD</td>
<td>Rutgers New Jersey Medical School</td>
<td>Rutgers New Jersey Medical School</td>
<td>2014 – 2017 Disparaties in HCV care</td>
<td>Instructor in Medicine, Weill Cornell Medicine</td>
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<tr>
<td>Benjamin Eckhardt, MD</td>
<td>Albert Einstein College of Medicine of Yeshiva Univ</td>
<td>New York University</td>
<td>2013-2016 HCV in injection drug users</td>
<td>Instructor in Medicine, New York University Medical School- Bellevue</td>
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<tr>
<td>John Humphrey, MD</td>
<td>Ben-Gurion University of the Negev, Israel</td>
<td>Weill Cornell Medicine</td>
<td>2013-2016 Diarrheal diseases of migrant workers in Qatar</td>
<td>Assistant Professor of Medicine and Pediatrics, Indiana University (Kenya Program)</td>
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<tr>
<td>Ashita Batavia, MD, MSc</td>
<td>Weill Cornell</td>
<td>Weill Cornell Medicine</td>
<td>2012-2015 Long-term effects of delayed ART initiation on inflammation and chronic disease in a Haitian cohort</td>
<td>Assistant Professor of Medicine, Weill Cornell Medicine</td>
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<tr>
<td>Name</td>
<td>University 1</td>
<td>University 2</td>
<td>Years</td>
<td>Research/Career Highlights</td>
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<td>-------------------------------</td>
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<tr>
<td>Daniel Eiras, MD, MPH</td>
<td>Mount Sinai</td>
<td>New York University</td>
<td>2012-2015</td>
<td>Hospital acquired Infections, and multidrug-resistant gram-negative bacterial infections</td>
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<tr>
<td>Flonza Isa, MD</td>
<td>New York University</td>
<td>Weill Cornell Medicine</td>
<td>2012-2015</td>
<td>Biomarkers for M. Tuberculosis</td>
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<tr>
<td>Leah Burke, MD</td>
<td>Boston University</td>
<td>Yale</td>
<td>2011-2014</td>
<td>Acute HCV in HIV Infection</td>
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<tr>
<td>Matthew McCarthy, MD</td>
<td>Harvard</td>
<td>Columbia</td>
<td>2011-2014</td>
<td>Fungal diseases</td>
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<tr>
<td>Samantha Jacobs, MD, MSc</td>
<td>University of Pennsylvania</td>
<td>Mount Sinai</td>
<td>2010 – 2013</td>
<td>Rhinovirus in transplant/oncology patients</td>
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<td>Daniel Shirley, MD, MSc</td>
<td>University of Kansas</td>
<td>University of Colorado</td>
<td>2010 – 2013</td>
<td>COPD in HIV</td>
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<tr>
<td>Name</td>
<td>Institution 1</td>
<td>Institution 2</td>
<td>Years</td>
<td>Research Focus</td>
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<tr>
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<tr>
<td>Matthew Simon, MD, MSc</td>
<td>Albert Einstein</td>
<td>Weill Cornell Medicine</td>
<td>2010 – 2013</td>
<td>Cost effectiveness of ID; Screening tests</td>
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<td>Kathryn Dupnik, MD</td>
<td>University of Virginia</td>
<td>Columbia</td>
<td>2009 – 2012</td>
<td>Leprosy in Brazil</td>
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<tr>
<td>Jyoti Mathad, MD, MSc</td>
<td>Albany Medical College</td>
<td>University of Maryland</td>
<td>2009 – 2012</td>
<td>Latent TB and HIV in pregnancy in India</td>
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<tr>
<td>Selin Somersan-Karakaya, MD</td>
<td>Harvard</td>
<td>Weill Cornell Medicine</td>
<td>2009-2012</td>
<td>Tuberculosis drug discovery</td>
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<tr>
<td>Meera Pahuja, MD, MSc</td>
<td>Virginia Commonwealth University</td>
<td>Weill Cornell Medicine</td>
<td>2008 – 2011</td>
<td>HIV peripheral neuropathy in South Africa</td>
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<tr>
<td>Rituparna Pati, MD, MPH</td>
<td>University of Connecticut</td>
<td>Weill Cornell Medicine</td>
<td>2008 – 2011</td>
<td>HIV prevention in adolescents</td>
</tr>
<tr>
<td>Name</td>
<td>University</td>
<td>College</td>
<td>Years</td>
<td>Research Focus</td>
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</tr>
</tbody>
</table>
| Michael Satlin, MD, MSc     | University of Virginia | Weill Cornell Medicine   | 2008 – 2011    | Multi-drug resistant gram-negative bacteria | Assistant Professor of Medicine, Weill Cornell Medicine  
KL-2 Post-doctoral Scholars Award  
K23 Mentored Patient-oriented Research Career Development Award |
| Elizabeth Alexander, MD, MSc| Weill Cornell   | Mt. Sinai                | 2007 – 2010    | Staph. Aureus drug resistance          | Director, Clinical Development, Infectious Diseases  
(Rempex Team)  
The Medicines Company  
KL-2 Post-doctoral Scholars Award |
| Jennifer Downs, MD, MSc     | Weill Cornell   | Columbia                 | 2007 – 2010    | Female genital schistosomiasis        | Assistant Professor of Medicine, Weill Cornell Medicine  
KL-2 Post-doctoral Scholars Award  
K23 Mentored Patient-oriented Research Career Development Award |


Selected current research and training grants of the faculty and fellows in the Division of Infectious Diseases are listed below. There are opportunities for fellows to participate in these research projects, as well as with investigators at Rockefeller University or Memorial Sloan-Kettering Institute.

10. Influenza Clinical Trials Site. MJ Glesby; RM Gulick; M Salvatore; TJ Wilkin. NIH Division of Clinical Research. 2009-2017.


23. Behavior change associated with treating hepatitis C in People who Inject Drugs. WMC CTSC Community Engagement Award. K Marks; B Eckhardt; B Edlin. 2015-16.


37. Preclinical studies of the mechanisms, safety, efficacy, and pharmacokinetics of investigational antibacterial and antifungal agents in preclinical in vitro and in vivo model systems. T Walsh; V Petraitis; R Petraitiene; and M Satlin. 2016-2020.

38. Clinical studies of investigational antifungal and antibacterial agents in in transplantation and oncology. T Walsh; C Small; D Helfgott; S Jacobs; R Petraitiene; M Satlin; R Soave. 2016-2020.

PROFILES OF FACULTY CONDUCTING RESEARCH

Barry Brause, MD  Professor of Clinical Medicine and Director of Infectious Diseases at Hospital for Special Surgery. Dr. Brause’s clinical research has focused on musculoskeletal infections and particularly on infections associated with indwelling foreign materials and prostheses. Dr. Brause has taken part in major national meetings and workshops as an invited participant including the National Institute of Arthritis and Musculoskeletal Disease, the American Dental Association, Council on Dental Therapeutics, the Infectious Diseases Society of America, and the American Society of Microbiology/Interscience Conference on Antimicrobial Agents and Chemotherapy (2014). He has authored chapters on bone and joint infections in the previous five editions of Principles and Practice of Infectious Diseases and on “Osteomyelitis” in three recent editions of Cecil-Textbook of Medicine. Dr. Brause is a Fellow of the Infectious Diseases Society of America (FIDSA), the American College of Physicians (FACP) and a member of the Society for Healthcare Epidemiology of America (SHEA).

Adeel Ajwad Butt, MD, MS, FACP, FIDSA, is Professor of Medicine and Professor of Healthcare Policy and Research at Weill Cornell Medical College. Dr. Butt held the posts of the inaugural Chief Quality Officer at Hamad Medical Corporation (HMC) and the first Director of Hamad Healthcare Quality Institute (HHQI). He is currently the Vice Chair, Department of Medicine and Director, Clinical Epidemiology Research Unit at HMC. Dr. Butt completed his residency in Internal Medicine in New York and a fellowship in Infectious Diseases in New Orleans. He also holds a Masters in Science degree in Clinical Effectiveness and Outcomes Research from the University of Pittsburgh School of Medicine. Dr. Butt’s work, education and training experience spans several countries over five continents. He has been the recipient of numerous national and international awards, including a Fulbright Scholarship, Yale-Johnson and Johnson Award in International Health, a National Talent Pool Scholars Award and IDSA Training Faculty award to Africa, in addition to Excellence in Research Awards from various institutions in the US, the UAE and Qatar. He has lectured extensively around the world and provided consultations to governmental and non-governmental organizations in building research, educational and training capacity in resource limited settings. He has published over 135 papers in high impact medical journals, and presented over 140 abstracts at major international conferences.

Leah A. Burke, M.D.  Assistant Professor of Medicine. Dr. Burke received her M.D. from Boston University School of Medicine. She completed Internal Medicine residency training at Yale-New Haven Hospital and Infectious Diseases fellowship at New-York Presbyterian/Weill Cornell. She is an Investigator with the Cornell HIV Clinical Trials Unit, the national AIDS Clinical Trials Group (ACTG), and The Rockefeller University. She serves as the Vice Chair for the ACTG Monoclonal Antibodies Working Group and cares for patients with viral hepatitis infections at the Cornell Liver Clinic. During fellowship, Dr. Burke conducted research on treatment outcomes in patients with HIV and hepatitis C co-infection. Her current research focuses on clinical trials investigating novel strategies to improve adherence and treatment in HIV-infected patients.
David Calfee, MD, MS  Associate Professor of Medicine and Healthcare Policy & Research, Chief Hospital Epidemiologist (NYP/WC), and Deputy Medical Director of Infection Prevention and Control (NYPH). Dr. Calfee trained in internal medicine and infectious diseases at the University of Virginia, and received his MS in health evaluation sciences (epidemiology) at the University of Virginia. His research and clinical interests focus on the epidemiology and prevention of healthcare-associated infections, including the clinical and molecular epidemiology and prevention of transmission of multidrug-resistant bacteria. He is the Principal Investigator of a five-year New York State Department of Health-funded multisite project designed to reduce infections due to C. difficile and multidrug-resistant gram-negative pathogens through improvements in hospital environmental cleaning and antibiotic stewardship. He is the site principal investigator for a multicenter study of the frequency of and factors associated with healthcare worker contamination during the care of patients with carbapenem-resistant Enterobacteriaceae (CRE) and methicillin-resistant S. aureus (MRSA). Recently completed studies include a multicenter of the benefits of universal gown and gloving for the prevention of healthcare-associated infections and transmission of multidrug-resistant organisms.

Jennifer A. Downs, MD, PhD  Assistant Professor of Medicine. Dr. Downs received her M.D. from Weill Cornell Medical College and her PhD in Parasitology from Leiden University (the Netherlands). She completed her Internal Medicine residency training at Columbia University College of Physicians and Surgeons, followed by her Infectious Diseases fellowship at New York-Presbyterian Hospital-Weill Cornell Medical College. Her research focuses on urogenital schistosomiasis and HIV susceptibility in women of reproductive age in Tanzania, where she has worked since 2007. Her research in Tanzania has been recognized by the Infectious Diseases Society of America Fellowship Award in International Infectious Diseases (2009), the Weill Cornell Department of Medicine Outstanding Junior Faculty Investigator Award (2011), a Bill and Melinda Gates Grand Challenges Explorations research grant (2014), an NIH/NIAID K23 Mentored Patient-Oriented Research Career Development Award (2014), a Gilead Sciences Research Scholars in HIV Award (2017), and an American Society for Clinical Investigation Young Physician-Scientist Award (2017).

Kathryn M. Dupnik, MD, Assistant Professor of Medicine. Dr. Dupnik received her M.D. from the University of Virginia and completed her clinical training in Internal Medicine at New York-Presbyterian Hospital - Columbia University Medical Center. She stayed in New York City to complete training in infectious diseases at New York-Presbyterian Hospital-Weill Cornell Medical College. Dr. Dupnik completed her fellowship research training in northeastern Brazil, where she conducted research on the pathologic immune reactions associated with Mycobacterium leprae infection. Dr. Dupnik’s current research focuses on host-pathogen response in mycobacterial infections. She continues to study M. leprae infection, and is a co-investigator with the WCMC Tuberculosis Research Unit (TBRU) focusing on differential gene expression and macrophage infectivity by M. tuberculosis in different clinical presentations of TB.
Daniel W. Fitzgerald, MD  Professor of Medicine and Co-Director, Center for Global Health. Dr. Fitzgerald trained in internal medicine and infectious diseases at the Massachusetts General Hospital. He conducts research and training in Haiti and Tanzania. His areas of interest include HIV/AIDS and tuberculosis clinical and translational studies, studies of HIV induced chronic inflammation and studies on HIV mucosal immunity and schistosomiasis in Tanzania. Other interests include improving informed consent and empirical studies to inform ethical guidelines for the conduct of clinical research in resource-poor countries. The training of clinician scientists in the United States, Haiti, and Tanzania is an integral part of his research activity.

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Marshall J. Glesby, MD, PhD  Professor of Medicine and Healthcare Policy and Research and Associate Chief, Division of Infectious Diseases. Dr. Glesby trained in internal medicine and in infectious diseases at Johns Hopkins and also received a Ph.D. in clinical investigation from the Johns Hopkins School of Hygiene and Public Health. His research interests include metabolic, cardiopulmonary, and aging-related complications in HIV-infected patients, and viral co-infections in HIV. He also collaborates with colleagues in Brazil on studies of HTLV-I infection and leishmaniasis. Dr. Glesby directs the HIV/AIDS Clinical Trials Unit at Weill Cornell and is the Director of the Participant and Clinical Interactions Component of the Weill Cornell Clinical and Translational Science Center.

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Linnie M. Golightly, MD  Associate Professor of Clinical Medicine and Microbiology. Dr. Golightly trained in internal medicine at Harlem Hospital and in infectious diseases and molecular parasitology at Harvard University. Dr. Golightly’s current research interests include: (1) Pathogenesis of cerebral malaria as mediated by microvascular damage/repair. These studies are in collaboration with Dr. Ben Gyan at the NMIMR in Ghana. (2) Development of a cell phone-imaging probe for diagnosing cerebral malaria. The project is in collaboration with Dr. Alberto Bilenca of the Ben-Gurion University in Israel. (3) Studies of Plasmodium falciparum parasite resistance and population structure in collaboration with investigators in Gheskio in Port-au-Prince Haiti. Dr. Golightly has recently been appointed Associate Dean of Diversity and Inclusion.

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Roy (Trip) M. Gulick, MD, MPH  The Rochelle Belfer Professor in Medicine and Chief of Division of Infectious Diseases. Dr. Gulick trained in internal medicine at Columbia and in infectious diseases at Harvard, and received his MPH in clinical trial design from the Harvard School of Public Health. His research focuses on clinical trials of antiretroviral therapies for treatment and prevention of HIV infection. Dr. Gulick currently serves as Principal Investigator of the Weill Cornell Medical College-New Jersey Medical School Clinical Trials Unit of the NIH-sponsored AIDS Clinical Trials Group (ACTG). He also serves as co-chair of the U.S. Department of Health and Human Services Panel for Clinical Practices for Treatment of HIV Infection (DHHS Guidelines Panel), Member of NIH Office of AIDS Research Advisory Committee (OARAC) and is a Board Member of the International Antiviral Society-USA. Current projects include evaluating treatment strategies for both antiretroviral therapy-naïve and experienced HIV-infected patients, and using antiretroviral therapy as a prevention strategy (PREP, pre-exposure prophylaxis).

Barry J. Hartman, MD  Clinical Professor of Medicine. Dr. Hartman completed his medicine and infectious disease fellowship training at Cornell. Dr. Hartman did his basic research in the Alexander Tomasz laboratory of the Rockefeller University in New York City studying the mechanism for methicillin-resistance in the Staphylococcus aureus. His current focus is clinical care and education and his interests include antibiotics and antibiotic resistance, surgical infections and endocarditis. He has received several teaching awards from students and house staff. He has been the Formulary & Therapeutics Committee Chairman and Co-Chairman at the New York-Presbyterian Hospital for the past 20 years.

Stephen G. Jenkins, PhD, D(ABMM), F(AAM) Professor of Pathology and Laboratory Medicine; Professor of Pathology in Medicine. Dr. Jenkins received his Ph.D. in Medical Microbiology from the University of Vermont. He completed his postdoctoral residency in Clinical and Public Health Microbiology at the Mount Sinai Medical Center in Milwaukee, WI. Dr. Jenkins’ current research focuses on the epidemiology and detection of antimicrobial resistance as well as the rapid diagnosis of Infectious Diseases and related antibiotic resistance mechanisms. He currently serves as a voting member of the Subcommittee on Antimicrobial Susceptibility Testing of the Clinical and Laboratory Standards Institute (CLSI). In addition, he is a member of the New York City Advisory Committee on Bioterrorism and Emerging Pathogens and the NYS Organ Transplant Infectious Diseases Working Group.
Warren D. Johnson, Jr., MD  The B.H. Kean Professor of Tropical Medicine, Director of the Center for Global Health. Dr. Johnson’s career has been committed to research and training in infectious diseases, particularly in resource poor countries. His interests have included studies of AIDS, tuberculosis, schistosomiasis, and leishmaniasis. His research has received uninterrupted NIH and foundation support in Brazil (1969-2017), Haiti (1979-2021), including a NIH Merit Award (1990), and in Tanzania (2006-2018). He has chaired numerous NIH Research Committees and served on the NIH and the NIAID National Advisory Councils. He also served as a Director of the ABIM, Chair of the ABIM Infectious Diseases Subspecialty Board, and as a Councilor of the IDSA. He is a member of the Brazilian National Academy of Science. Dr. Johnson was honored by having the GHESKIO medical center in Haiti named for him. In 2016, Dr. Johnson receive the Columbia University College of Physicians and Surgeons Gold Medal for Excellence in Clinical Medicine.

Laura A. Kirkman, MD Assistant Professor of Medicine and ID Fellowship Associate Program Director. Dr. Kirkman received her M.D. from Albert Einstein College of Medicine with distinction in research. She completed her clinical training in Internal Medicine at Yale-New Haven Hospital and her Infectious Disease training at the New York-Presbyterian-Weill Cornell Medical Center followed by a postdoctoral fellowship in the laboratory of Dr. Kirk Deitsch in the Department of Microbiology and Immunology. Dr. Kirkman’s current research focuses on the DNA repair mechanisms in the human malaria parasite, Plasmodium falciparum, and how DNA damage and repair in the parasite relates to pathogenesis. Specifically examining the generation of genetic diversity in genes that encode the key proteins implicated in antigenic variation and the generation of drug resistance. Dr. Kirkman also conducts basic and clinical research on the tick borne parasite that causes babesiosis. Dr. Kirkman is the recipient of an NIH K08 grant.

Kristen M. Marks, MD, MS  Assistant Professor of Medicine and ID Fellowship Program Director. Dr. Marks received internal medicine and ID fellowship training at New York-Presbyterian Hospital, where she focused her clinical training and research on HIV and hepatitis virus infections and completed Weill Cornell’s Master’s Degree in Clinical Investigation. Her current research focuses on improving treatment outcomes in patients with HIV and hepatitis virus co-infections and includes studies in people living with HIV and people who inject drugs. She also serves as a co-investigator in the Cornell HIV/AIDS Clinical Trials Unit and Center for Study of Hepatitis C and sits on the AASLD/IDSA panel for “HCV Guidance: Recommendations for Testing, Managing, and Treating Hepatitis C”.

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Jyoti S. Mathad, MD, MSc, Assistant Professor of Medicine. Dr. Mathad received her M.D from Albany Medical College and completed her clinical training in Internal Medicine at the University of Maryland, where she served as Chief Resident. She returned to New York for training in infectious diseases at New York Presbyterian-Weill Cornell Medical College. During her fellowship, Dr. Mathad obtained a masters in Clinical Epidemiology and conducted research on the performance of latent tuberculosis screening tests in pregnant women in Pune, India. Now, her research focuses on the immune changes that occur during pregnancy and how they affect the diagnosis and treatment of infectious diseases. Dr. Mathad is also an investigator in the International Maternal, Pediatric and Adolescent AIDS Clinical Trials Group (IMPAACT) and chairs a trial on the safety, efficacy and tolerability of isoniazid/rifapentine for TB prevention in pregnant and postpartum women.

Andy O. Miller, MD Assistant Professor of Clinical Medicine and Assistant Attending Physician at the Hospital for Special Surgery. Dr. Miller received his B.Sc. at Yale College and his M.D. at Harvard Medical School. He then trained in Internal Medicine at Columbia-Presbyterian and in Infectious Diseases at NYU. From 2007 to 2010 he was an ID physician at Bronx-Lebanon Hospital Center. Dr. Miller provides consultative ID services to patients at both HSS and NYH, and participates in divisional education of ID fellows. He is developing collaborative clinical research programs to study orthopedic infections, focusing mainly on prevention, diagnosis, and treatment of orthopedic surgical infections.

Henry W. Murray, MD The Arthur R. Ashe Professor of Medicine. He is an expert in macrophage activation; immunopathogenesis of infection caused by intracellular pathogens, in particular, Leishmania, and the chemo- and immunochemotherapy of leishmaniasis. Dr. Murray’s long-term, NIH-supported research was focused on immunoregulation of the host response to antileishmanial chemotherapy in experimental visceral leishmaniasis (kala-azar). This work in part formed the basis of experimental treatment trials in Indian patients at the internationally-recognized kala-azar clinical trials unit he previously co-directed in Bihar State, India. Dr. Murray received the Squibb Award (1989) from the Infectious Diseases Society of America for outstanding achievement in Infectious Diseases, and previously was Chief of the Division of Infectious Disease (1983-1995) and Associate Chairman of Medicine for Clinical Research (1995-2007). Dr. Murray is currently Director of the Arthur Ashe Endowment for the Defeat of AIDS, Editor of the travel medicine web site, Tropimed U.S., director of the Medical College’s new Translational Science course, and co-chairs the Department of Medicine’s Quality Assurance Committee and chairs the Medical College’s Curriculum and Faculty Evaluation Committee. In 2016, Dr. Murray received the Special Achievement Award from the Medical College’s Alumni Association, an Education Innovation award and was named Student Ombudsperson.
Jean W. Pape, MD, Howard and Carol Holtzmann Professor of Clinical Medicine, Center for Global Health, Division of Infectious Diseases, Weill Cornell Medical College, NY USA, and Director, Les Centres GHSKIO, Port-au-Prince, Haiti. Dr Pape joined the Cornell Faculty in 1980. He developed an effective care model for infants with diarrhea in Haiti. Expansion of the model nationwide resulted in a 50% decrease in national infantile mortality. Dr Pape is credited with the recognition and 1st comprehensive description of AIDS in the developing world. In 1982, he established GHSKIO (Haitian Study Group on Kaposi Sarcoma and Opportunistic Infections) as one of the 1st AIDS centers in the world. More than three decades later, GHSKIO continues as one of the largest AIDS /TB treatment, training and research center in the Americas providing free care to >250,000 patients with HIV infection, STIs and TB, annually. He received many awards including the Légion d’Honneur (France, 2002), member of the Institute of Medicine (USA, 2003); Carlos Slim Health Research, Institut de France’s Christophe Mérieux, Gates Global Health, Clinton Global Citizen, WHO Stop TB Partnership Kochon Award. In 2014, he received Haiti’s highest honors, ‘Honneur et Mérite, Grade Commandeur’.

Robert N. Peck, MD MS DTM&H Assistant Professor in Medicine and Pediatrics. Dr. Peck is boarded in medicine and pediatrics with additional training in epidemiology and tropical diseases. Since 2007 he has been working full-time in Mwanza, Tanzania as a faculty member of Weill Cornell and the Weill Bugando School of Medicine (WBSM). He coordinates the collaboration between WCMC and WBSM and also works at WBSM as an intensive care physician and medical educator. His research focuses on non-communicable diseases (NCDs), particularly hypertension, and the interactions between NCDs and infectious diseases such as HIV and renal disease and tuberculosis and diabetes mellitus. He also collaborates with the Tanzanian National Institute of Medical Research (NIMR) on community surveys for non-communicable diseases and is working on a cluster-randomized trial to evaluate a health systems intervention to improve health outcomes for adults living with chronic diseases. Current projects include studies of new-onset hypertension in young adults in Tanzania and the association between chronic inflammation, infections and hypertension.

Kyu Y. Rhee, MD, PhD Associate Professor of Medicine and Microbiology and Immunology. He received his M.D. and Ph.D. from the University of California, Irvine through a medical scientist training program. He then received clinical training in internal medicine and infectious diseases at the New York Presbyterian-Weill Cornell Medical Center where he also completed a postdoctoral fellowship in the laboratory of Dr. Carl Nathan (Department of Microbiology and Immunology). Dr. Rhee’s research focuses on biochemical approaches to drug target discovery against M. tuberculosis, the causative agent of tuberculosis, using mass spectrometry-based tools. Work in his laboratory is currently funded by grants from the NIH, Bill & Melinda Gates Foundation, Burroughs Wellcome Foundation, and Institut Merieux. Dr. Rhee also serves as Director of the Department of Medicine’s Physician-Scientist Residency Training program.
Mirella Salvatore, MD  Assistant Professor of Medicine at Weill Cornell Medical College. Dr. Salvatore completed her M.D. summa cum laude at the Catholic University Medical School in Rome, Italy. In the United States she completed Internal Medicine Residency training and Infectious Diseases fellowship at Mount Sinai School of Medicine. Her laboratory at Weill Cornell University focuses on studying the immune responses to influenza virus infection and influenza vaccines development. In particular, she is using integrase-defective lentiviral vectors as a platform for vaccination and antibody delivery. Dr. Salvatore is participating in collaborative studies on the longitudinal characterization of the respiratory microbiome during influenza and other respiratory viral infection.

Michael J. Satlin, MD, MS  Assistant Professor of Medicine. Dr. Satlin received his M.D. from the University of Virginia School of Medicine. He completed residency training in internal medicine and fellowship training in infectious diseases at Weill Cornell Medical College. He is a member of the Transplantation-Oncology Infectious Diseases Program and provides infectious diseases supportive care to immunocompromised hosts. Dr. Satlin’s research interests are in the epidemiology, diagnosis, and treatment of multidrug-resistant Gram-negative bacterial infections in immunocompromised hosts. He is the recipient of a K23 Mentored Patient-Oriented Career Development Award through NIAID entitled “Rapid Identification of Neutropenic Patients at High Risk of CRE Bacteremia” and a grant from the CDC to investigate the impact of antibacterial therapy on the proliferation and spread of antibiotic resistance genes in neutropenic patients. Dr. Satlin is also a Member of the Clinical and Laboratory Standards Institute (CLSI) Subcommittee on Antimicrobial Susceptibility Testing and the Infectious Diseases Society of America (IDSA) Antimicrobial Resistance Committee.

Bruce R. Schackman, PhD  Saul P. Steinberg Distinguished Professor of Healthcare Policy and Research in the Department of Healthcare Policy and Research, and Professor of Healthcare Policy and Research in Medicine in the Division of Infectious Diseases. He holds an MBA and a doctorate in health policy from Harvard University. Dr. Schackman is the Director of the Center for Health Economics of Treatment Interventions for Substance Use Disorder, HCV, and HIV (CHERISH), a multi-institutional Center of Excellence, funded by the National Institute on Drug Abuse. His current research includes economic evaluations of HIV and hepatitis C screening and treatment in substance use treatment settings, and economic evaluations of medication-assisted treatment of opioid use disorder. He has taught in cost-effectiveness analysis at Weill Cornell and in Haiti. He is a member of the AIDS Clinical Trials Group and National Drug Abuse Clinical Trials Network.
Matthew S. Simon, MD, MS. Assistant Professor of Medicine and Associate Hospital Epidemiologist. Dr. Simon received his M.D. from Albert Einstein College of Medicine in 2006. He completed his clinical training in internal medicine and infectious disease at New York Presbyterian/Weill Cornell Medical Center. He received a Master’s of Science in Clinical and Translational Investigation from Cornell’s Clinical and Translational Science Center in 2013. Dr. Simon’s research focuses on evaluating the clinical effectiveness and cost-effectiveness of novel preventive and diagnostic interventions to combat emerging infectious disease problems. Prior work has included collaboration with New York Blood Center to examine the cost-effectiveness of blood donor screening for Babesia microti and work with the New York City Department of Health and Mental Hygiene to study the cost-effectiveness of meningococcal vaccination. A current area of interest is the impact of rapid molecular diagnostic tests on antimicrobial prescribing and clinical and economic outcomes.

Harjot K. Singh, MD, ScM Assistant Professor of Clinical Medicine. Dr. Singh completed a Combined Internal Medicine/Pediatrics Residency program at the University of Rochester and her Infectious Disease Fellowship at Johns Hopkins University Hospital. She received her Master’s degree in Clinical Investigation at JHH Bloomberg School of Health. Her clinical expertise includes immunocompromised hosts. She provides infectious disease consultation for transplant, oncology, and HIV inpatients at NYPH and outpatients at ID Associates. Dr. Singh’s research interests include HIV and quality improvement. She has established an HIV and Aging grant-funded clinical program in conjunction with the Department of Geriatrics. She serves on several NYPH committees including the Department of Medicine Quality Improvement Committees, Subcommittee on Anti-infective Use, and the Combined Microbiology and Infectious Disease Committee. In addition, she teaches medical students, residents, and ID fellows.

Catherine Butkus Small, MD, Assistant Professor of Medicine (Interim) and Associate Director, Transplantation/Oncology Infectious Diseases Program; Medical Director of the Clinical Transplantation/Oncology Infectious Diseases Program and Director of the Clinical Trials Research Unit. She was an Infectious Diseases Research Fellow at Montefiore Hospital/Albert Einstein College of Medicine and was the Medical Director of the HIV Program at Montefiore/North Central Bronx Hospital. She was also the Medical Director of the HIV Program at Westchester Medical Center/New York Medical College until 2014. Dr. Small has a clinical immunology research laboratory and has been the principal investigator on over 40 clinical research trials. Her major research interests include: HIV and transplantation; HIV and malignancies; viral infections (including respiratory) in immunocompromised hosts; sinusitis in immunocompromised hosts, as well as the immunological mechanisms associated with these diseases.
Selin Somersan-Karakaya, M.D.  Assistant Professor of Medicine. Dr. Somersan-Karakaya received her M.D. from Harvard Medical School Harvard-MIT Health Sciences and Technology Program. She completed her training in Internal Medicine followed by Infectious Diseases at Weill Cornell Medical College. After a postdoctoral fellowship in the laboratory of Dr. Carl Nathan, she successfully competed for an NIH K08 award and is appointed as the Nan and Stephen Swid Research Scholar in Medicine. Her research focuses on understanding the host pathogen interactions of *Mycobacterium tuberculosis* (Mt); a global pathogen that killed 1.5 million people in 2014. One mechanism Mt uses to evade host defenses is by becoming non-replicating, a state which current regimens are only minimally effective. Understanding mechanisms to kill the non-replicating state of Mt will enable design of improved therapeutics. Additional work in her laboratory includes evaluation of the effect of host sphingolipids on mycobacterial pathogenesis.

Ole Vielemeyer, MD  Associate Professor of Clinical Medicine, Medical Director ID Associates & Travel Medicine, Associate Program Director (Clinical) ID Fellowship Program. Dr. Vielemeyer obtained his M.D. degree from the University of Leipzig Medical School in Germany. After some postgraduate training in Germany, he moved to the U.S. and completed Internal Medicine residency at the University of Rochester, NY. He then obtained dual fellowship training in Infectious Diseases and Medical Microbiology at Yale University. Prior to joining WCMC/NYPH, he worked at Drexel College of Medicine in Philadelphia, PA as a clinician-educator and directed the Infection Control program at Hahnemann University Hospital. Dr. Vielemeyer currently is the Medical Director of ID Associates and Travel Medicine where he sees patients. He guides and precepts fellows in ID clinic, and also directs the outpatient parenteral antibiotic therapy (OPAT) program. Aside from his passion for teaching Infectious Diseases, where he is now intimately involved in shaping the clinical years of the fellowship program his interests lie in clinical research studying patients with chronic/complex infections, especially those needing OPAT.

Mary A. Vogler, MD  Associate Professor of Clinical Medicine. Dr. Vogler trained in internal medicine at the University of Connecticut School of Medicine and in infectious diseases at New York University School of Medicine where she served on the faculty prior to coming to Weill Cornell in 2004. Dr. Vogler serves as an HIV/AIDS primary care provider in the Center for Special Studies both for HIV-infected adults and adolescents. She also participates actively as an investigator in the NIH-funded Cornell HIV/AIDS Clinical Trials Unit (CCTU). Her area of expertise is in the care of HIV-infected women, including pregnancy and prevention of mother-to-child transmission. She received the AIDS Clinical Trials Group (ACTG) Women’s Health Investigator award in 2007. She has recently joined the NYP Antimicrobial Stewardship Program as a clinical representative.
Thomas Walsh, MD, PhD (hon). Professor of Medicine, Pediatrics, Microbiology & Immunology, and Founding Director of the Transplantation-Oncology Infectious Diseases Program. Dr. Walsh completed ten post-doctoral years of laboratory investigation, clinical research and patient care leading to boards in Medicine, Infectious Diseases and Oncology and laboratory expertise in pharmacology, host defenses, and mycology. Following a distinguished career in the Pediatric Oncology Branch of the National Cancer Institute, Dr. Walsh joined Weill Cornell to found and direct the Transplantation-Oncology Infectious Diseases Program. The mission of the Program is three-fold: to provide expert clinical care to complex immunocompromised patients; to conduct leading edge multidisciplinary translational research in diagnosis, treatment, and prevention of life-threatening infections in immunocompromised pediatric and adult patients; and to train the next generation of clinicians, physician-scientists, and other professionals in the field of infections in immunocompromised hosts. Current laboratory and clinical investigations include antimicrobial pharmacology, immunopharmacology of innate host defense, biofilm diseases, and molecular diagnosis of emerging infections in pediatric and adult patients caused by bacterial and fungal pathogens.

Lars F. Westblade, PhD Assistant Professor of Pathology and Laboratory Medicine. Dr. Westblade received his Ph.D in Biochemistry from the University of Birmingham, Birmingham, UK. He completed postdoctoral studies in protein crystallography/structural biology at The Rockefeller University, New York, NY and pursued his postdoctoral Fellowship in Medical and Public Health Laboratory Microbiology at Washington University School of Medicine in St. Louis, St. Louis, MO. Dr. Westblade’s current research focuses on antimicrobial resistance, in particular the detection and characterization of novel resistance determinants, development of non-antibiotic-based therapeutics, and implementation/evaluation of novel platforms/tests for infectious diseases diagnostics.

Timothy J. Wilkin, MD, MPH Associate Professor of Medicine. Dr. Wilkin received his undergraduate degree in Mathematics at the University of Texas at Austin and attended medical school at Ohio State University. He went on to complete his residency in Internal Medicine at the University of Chicago Hospitals. He received fellowship training in Infectious Diseases at Columbia University and was supported by an Individual National Research Service Award from the National Institutes of Health. While at Columbia, he completed a Master’s of Public Health with a concentration in Patient-Oriented Research. He was recruited to the faculty of Weill Cornell Medical College in 2002. He received a K23 Grant (Mentored Patient-Oriented Research Career Development Award) from the National Institutes of Health to study human papillomavirus infection and anal dysplasia in HIV-positive and HIV-negative men. He is an active clinical researcher in the AIDS Clinical Trials Group and the AIDS Malignancy Consortium. His current work focuses on HPV vaccination and the treatment of HPV-associated dysplasia in HIV-infected populations.
**Research Training Faculty**

ID Fellows have the opportunity to work in laboratories or programs within the Division of Infectious Diseases, other divisions in the Department of Medicine (e.g. Gastroenterology and Hepatology), other Departments at WCMC (Microbiology and Immunology, Pathology, Healthcare Policy and Research), as well as Memorial Sloan-Kettering Cancer Institute, and the Rockefeller University, including the Aaron Diamond AIDS Research Center.

### T32 RESEARCH TRAINING FACULTY IN OTHER DEPARTMENTS & INSTITUTIONS

<table>
<thead>
<tr>
<th>Faculty Mentor Name</th>
<th>Research Specialty</th>
<th>Web Link</th>
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| **Francis Barany, PhD**  
Weill Cornell Dept. of Microbiology and Immunology | Coferons (new class of antibacterials); Detection of blood-borne pathogens | [http://vivo.med.cornell.edu/display/cwid-barany](http://vivo.med.cornell.edu/display/cwid-barany) |
| **Jean-Laurent Casanova, MD, PhD**  
Rockefeller University | Genetic determinants of infectious diseases | [https://www.rockefeller.edu/search/?q=Jean-Laurent+Casanova%2C+MD%2C+PhD](https://www.rockefeller.edu/search/?q=Jean-Laurent+Casanova%2C+MD%2C+PhD) |
| **Ethel Cesarm an, MD, PhD**  
Weill Cornell Dept. of Pathology | KSHV-HHV8 and EBV pathogenesis/ HIV-related malignancies | [http://vivo.med.cornell.edu/display/cwid-ecesarm](http://vivo.med.cornell.edu/display/cwid-ecesarm) |
| **Kirk W. Deitsch, PhD**  
Weill Cornell Dept. of Microbiology and Immunology | Malaria gene expression and antigenic variation | [http://vivo.med.cornell.edu/display/cwid-kwd2001](http://vivo.med.cornell.edu/display/cwid-kwd2001) |
| **Sabine Ehrt, PhD**  
Weill Cornell Dept. of Microbiology and Immunology | Molecular mechanisms of M. tuberculosis virulence | [http://vivo.med.cornell.edu/display/cwid-sae2004](http://vivo.med.cornell.edu/display/cwid-sae2004) |
| **Michael Glickman, MD**  
Memorial Sloan-Kettering Cancer Center | Immunology of M. tuberculosis infection | [https://www.mskcc.org/research-areas/labs/michael-glickman](https://www.mskcc.org/research-areas/labs/michael-glickman) |
| **John Moore, PhD**  
Weill Cornell Dept. of Microbiology and Immunology | HIV-1 entry and its inhibition by antibodies and drugs | [http://vivo.med.cornell.edu/display/cwid-jpm2003](http://vivo.med.cornell.edu/display/cwid-jpm2003) |
| **Carl F. Nathan, MD**  
Weill Cornell Dept. of Microbiology and Immunology | Host-pathogen relations and drug discovery for M. tuberculosis | [http://vivo.med.cornell.edu/display/cwid-cnathan](http://vivo.med.cornell.edu/display/cwid-cnathan) |
| **Michel Nussenzweig, MD, PhD**  
Rockefeller University | Molecular aspects of adaptive and innate immune responses | [http://www.rockefeller.edu/research/faculty/labheads/MichelNussenzweig/](http://www.rockefeller.edu/research/faculty/labheads/MichelNussenzweig/) |
| **Eric Pamer, MD**  
Memorial Sloan-Kettering Cancer Center | Listeria; Microbiome | [https://www.mskcc.org/research-areas/labs/eric-pamer](https://www.mskcc.org/research-areas/labs/eric-pamer) |
| **Charles Rice, PhD**  
Rockefeller University | Hepatitis C virus | [http://www.rockefeller.edu/research/faculty/labheads/CharlesRice/](http://www.rockefeller.edu/research/faculty/labheads/CharlesRice/) |
| **Dirk Schnappinger, PhD**  
| **Alexander Tomasz, PhD**  
Rockefeller University | Structure and function of gram positive bacterial cell walls | [http://www.rockefeller.edu/research/faculty/labheads/AlexanderTomasz/](http://www.rockefeller.edu/research/faculty/labheads/AlexanderTomasz/) |
HEPATITIS:

Clinical Studies of Viral Hepatitis: Burke, Butt, Edlin, Glesby, Kapadia, Marks. Hepatitis C infection is the leading cause of end stage liver disease and need for liver transplantation in this country. Current studies focus on treatment of HCV infection in special populations including people living with HIV and people who inject drugs (PWID). This includes an R01-funded study of a randomized trial investigating a community-based strategy of HCV treatment in PWID. CCTU investigators have conducted ACTG studies of direct-acting antivirals for acute and chronic HCV infection. The Center for the Study of Hepatitis C, a multidisciplinary center involving Rockefeller University, Weill Cornell Medical College, and New York Presbyterian Hospital, provides additional opportunities for translational research, access to a serum and tissue bank, and collaboration with experts in the field of virology and hepatitis treatment (e.g. Dr. Charlie Rice).

Butt AA, Ren Y, Marks K, Shaikh OS, Sherman KE; ERCHIVES study. Do directly acting antiviral agents for HCV increase the risk of hepatic decompensation and decline in renal function? Results from ERCHIVES. Aliment Pharmacol Ther. 2017; 45(1):150-159.


HIV/AIDS:

Observational Studies. Glesby, Gulick, Jacobs, Marks, Merrick, Siegler, Singh, Vaamonde, Vogler, Wilkin. The Center for Special Studies (HIV clinic) at New York-Presbyterian-Weill Cornell Center uses an electronic medical records system that is an invaluable resource for clinical research. Over 10,000 records of HIV-infected patients dating back to 1991 are available. Completed projects include case-control studies of osteonecrosis, diabetes mellitus, and polycythemia in HIV-infected patients, a retrospective review of the safety and efficacy of antiretroviral regimens containing three protease inhibitors, temporal trends in hospital admission diagnoses, hepatic steatosis, clinical use of the HIV tropism assay and archived genotypic resistance test. Ongoing studies are focusing on anal cancer screening in HIV-infected women and utility of geriatric consultation in HIV care (in collaboration with Dr. Eugenia Siegler, Division of Geriatrics and Palliative Medicine). Other projects utilize data from the Women’s Interagency HIV Study (WIHS, a cohort study of women with or at high risk for HIV infection) and the New York City Department of Health to investigate HIV-related outcomes and racial disparities in health care through ongoing collaboration. Fellows have the opportunity to design, conduct, and analyze studies using the databases.


Clinical Trials of HIV/AIDS. Burke, Caskey, Glesby, Gulick, Marks, Vogler, Wilkin. The Cornell HIV/AIDS Clinical Trials Unit (CCTU) designs and conducts clinical trials in HIV-infected individuals and those at risk for HIV. The CCTU participates actively in studies sponsored by four NIH-funded networks: the AIDS Clinical Trials Group (ACTG), the HIV Prevention Network (HPTN), the International Network for Strategic Initiatives in Global HIV Trials (INSIGHT), and the NIH-funded AIDS Malignancy Consortium (AMC). Other studies are sponsored by the New York City Economic Development Corporation and the pharmaceutical industry. Current clinical investigation centers on three broad areas: (1) antiretroviral agents and strategies for treatment and prevention; (2) treatment and prevention of HIV-related complications, including co-infections and complications of antiretroviral therapy; and (3) early studies of HIV cure. Additional areas of investigation are pharmacokinetics of HIV drugs and HIV-infected women’s health. Current specific projects include studies of the initiation of antiretroviral therapy (INSIGHT START study); novel antiretroviral regimens (dolutegravir/lamivudine in naïve [ACTG 5353] and experienced patients [ASPIRE]) novel adherence interventions (investigator-initiated HABIT study); studies of investigational antiretroviral drugs (CD4 attachment inhibitor, fostemsavir) and broadly neutralizing monoclonal antibodies (3BNC117 and 10-1074); observational study of HIV reservoirs (ACTG 5321); proof-of-concept interventional studies to dampen inflammation and/or reduce HIV reservoir size (ACTG 5336, 5337, 5346); novel pre-exposure prophylaxis (PrEP) regimens (HPTN 083); treatment of HPV-associated anal dysplasia (AMC 076, 084, 088, ANCHOR); safety, efficacy, and observational study of treated HCV/HIV co-infection (ACTG 5320); observational study of aging in HIV (Investigator-initiated aging cohort; ACTG 5322); CMV and immune activation (investigator-initiated study); primary prevention of cardiovascular disease (REPRIEVE study); antiretroviral intensification for HIV-associated Neurocognitive Dysfunction (ACTG 5324); and, doxycycline for COPD in HIV (NIH R34).

There are opportunities for fellows to participate in all aspects of HIV/AIDS clinical trials. Fellows may spend their fellowship research years conducting HIV/AIDS clinical research as part of the clinical trials unit under the mentorship of one of the HIV clinical trials investigators, and participate in the K30 program (Master’s Degree Program in Clinical and Translational Investigation).


Safety and Tolerability of Maraviroc-containing regimens to prevent HIV infection in Men who have Sex with Men (HPTN069/ACTG A5305). J Infect Dis 2017;215:238-246


HOSPITAL EPIDEMIOLOGY AND INFECTION CONTROL:

Healthcare-Associated Infections. Calfee, Simon. The Hospital Epidemiology Program at New York Presbyterian Hospital-Weill Cornell Medical Center has research activities ranging from traditional epidemiologic studies of infection control risk factors and outcomes to intervention trials of infection control policies and procedures. The primary goal of the research program is to improve patient safety by reducing the risk of healthcare-associated infections. Observational studies can be carried out utilizing infection control surveillance data, clinical microbiology data, and a robust hospital-based clinical database, which can be queried electronically. Previous and ongoing projects have studied patient-oriented and systems-based factors associated with transmission of multidrug-resistant organisms, device-related infections, procedure-related infections, and antimicrobial stewardship. In addition, the program has the potential for performing individual and cluster randomized trials of infection control interventions at Weill Cornell and in collaboration with Columbia University Medical Center. Funding for the research program currently includes a 5-year grant from the New York State Department of Health. Fellows, residents, and students interested in epidemiologic research can choose from a wide variety of large or small projects depending on their needs.

For fellows interested in a career in hospital epidemiology, there is opportunity to receive intensive training in this exciting field by participating in the Masters of Science in Clinical and Translational Investigation Program, or the Graduate Program in Clinical Epidemiology and Health Services and through direct participation in the Hospital Epidemiology Program.


**Antibiotic Stewardship:**

NewYork-Presbyterian Hospital has a long-standing antimicrobial stewardship program (ASP). The ASP is a joint effort between the Divisions of Infectious Diseases, the Departments of Pharmacy and the Departments of Microbiology across Cornell, Columbia and other NYPH campuses. The program aims to (1) optimize antimicrobial use through promoting judicious and effective antimicrobial prescribing and (2) improve patient outcomes by reducing antimicrobial resistance, the likelihood of adverse drug reactions, the risk of *Clostridium difficile* infection (CDI) and healthcare costs. There is ample opportunity for fellows to participate in ASP-related research at Cornell and collaborate across all NYPH campuses. Examples of recent ASP-related research include:


**HUMAN PAPILLOMAVIRUS (HPV):**

HPV clinical trials Wilkin. HPV is the most common sexually transmitted disease and is associated with premalignant lesions of the cervix and anus (squamous intraepithelial lesions or SIL). Anal carcinoma is increased among HIV-infected people. Ongoing studies are assessing the efficacy of the quadrivalent HPV vaccine in HIV-infected adults for prevention of anal and oral infections. Other clinical trials are assessing the efficacy of ablative and topical therapies for the treatment of anal cancer precursors. The ANCHOR study is an NCI-sponsored clinical trial assessing whether treatment of anal cancer precursors prevents invasive anal cancer. Cervical cancer is a major cause of morbidity and mortality in areas of the world without access to cervical cancer screening. Dr. Wilkin is chairing an ongoing international clinical trial investigating a promising alternative screening strategy, a novel HPV test-and-treat strategy with immediate cryotherapy for those women detected with HPV. Dr. Wilkin collaborates with South African investigators on studies of the novel point-of-care diagnostics for HPV infection, and a clinical trial investigating the role of HPV vaccination as an adjunct to treatment of cervical cancer precursors.


INFLUENZA BASIC AND CLINICAL RESEARCH STUDIES.

Glesby, Gulick, Kaner, Salvatore. The CCTU is a site for observational studies of influenza in outpatients and inpatients conducted through the NIH-funded INSIGHT network and is participating in an NIH-funded clinical trial of influenza in collaboration with Robert Kaner and David Berlin in the Pulmonary and Critical Care Medicine division. Dr. Salvatore is participating in collaborative studies with Dr Ghedin at NYU on the longitudinal characterization of the respiratory microbiome during influenza and other respiratory viral infection. She is also conducting basic research studies on the use of integrase-defective lentiviral vectors for immunization and antibody delivery against influenza.


MALARIA/BABESIA:

Malaria. Golightly, Bilenca, Gyan, Charles. Despite its virulence, the pathophysiologic basis of \textit{P. falciparum} disease and cerebral malaria is poorly understood. Sequestration of infected red blood cells (iRBCs) in the microvasculature is a major pathologic finding in \textit{P. falciparum} infections. The repair of microvasculature damaged by infection may occur either by the proliferation or migration of local endothelial cells, or the recruitment of bone marrow-derived circulating endothelial progenitor cells (EPCs). We hypothesize that \textit{P. falciparum} infection results in an imbalance between microvascular damage and repair. Cerebral malaria occurs when circulating EPCs are diminished and damaged endothelial cells cannot be replaced. To test this hypothesis, EPC levels and markers of bone marrow activation in \textit{P. falciparum}-infected patients with different degrees of disease severity are being compared with normal uninfected controls. These studies are being performed in collaboration with the Noguchi Memorial Institute for Medical Research in Accra, Ghana.

In collaboration with Dr. Alberto Bilenca at the University of the Negev in Israel, a cell phone imaging system that can non-invasively detect malaria parasites in the blood is being developed. This project was funded as part of a Bill and Melinda Gates Foundation Grand Challenges Explorations to Create Low-Cost Cell Phone-Based Applications for Priority Global Health Conditions.

Endemic malaria has been eradicated from the Caribbean but remains on the Island of Hispaniola. An initiative to eradicate malaria “Haiti Zero” is being funded by the Bill and Melinda Gates Foundation in collaboration with the CDC Foundation. Critical to this effort is knowledge regarding the presence of parasites resistant to chloroquine, a safe, cheap and effective drug. In addition, knowledge of the population structure of parasites in Haiti could provide vital knowledge regarding sporadic reports of resistant parasites and whether they were potentially imported rather than due to ongoing transmission. We recently published with colleagues at GHESKIO in Haiti and collaborations at Harvard/Broad Institute regarding the apparent absence of ongoing transmission of parasites harboring alleles that confer CQ resistance. Analysis of the parasite population structure reveals that it is distinct from others in the region. The work provides useful information upon which to build as the eradication efforts proceed. Additional studies are being planned.


**Genetic variation and drug resistance of *Plasmodium falciparum***. Kirkman. Malaria, a vector borne disease, causes great morbidity and mortality in tropical and subtropical regions of the world. Crucial to the continuing burden of disease is the parasite’s ability to evade clearance in the host; both the ability to evade the host immune system by changing surface proteins inserted into the host red blood cell, a process termed antigenic variation, and the ability to develop drug resistance. Important to both of these parasite adaptations is the capacity of this eukaryotic pathogen, with a haploid genome for most of its lifecycle, to generate and incorporate DNA mutations. We aim to study malaria DNA recombination and repair in the context of disease pathogenesis, focusing on antigenic variation and the development of drug resistance.

To better understand the generation of genetic diversity within the multi-copy gene family, we are manipulating the parasite genome to determine how the parasite repairs damaged DNA. Similarly, we are studying the mechanisms by which a parasite becomes resistant to antimalarials by focusing on the ways in which the parasites acquire mutations in DNA. Using genetically modified parasites we are studying the ability of the parasite to generate point mutations and gene duplications that have been previously associated with drug resistance in the field. We are able to manipulate both copy number and specific sequences in order to further study the interplay of different pathways implicated in parasite drug resistance.


**Babesiosis**. Kirkman. Babesiosis is a tickborne zoonotic disease found worldwide. This once relatively obscure disease has been gaining recognition in the New York region as “the local malaria.” In a new initiative, we have started working with *Babesia divergens* in initial drug screening assays and studies of clinical samples of the local parasite, *Babesia microti*.
Musculoskeletal Infections:

The care of patients with diverse musculoskeletal infections has constituted a critical part of the subspecialty of Infectious Diseases since the development of antibiotics, and remains so today. As populations of the aged and immunocompromised expand, as the microbiological and surgical complexities of patients increase, and as the indications for and popularity of orthopedic infections continue to grow, the role of infectious disease-trained physicians in the prevention, diagnosis and therapy of these infections has grown. Hospital for Special Surgery (HSS), across the street from New York Presbyterian Hospital / Weill Cornell campus, specializes in the Orthopedic and Rheumatologic needs of patients. HSS is nationally ranked as #1 for Orthopedics and #3 in Rheumatology (US News & World Report; August, 2017) and has the highest volume of orthopedic surgery in the United States. Infectious diseases at HSS are likely to involve patients with infections of prosthetic joints or other orthopedic grafts and hardware, and patients with infectious complications of a variety of rheumatologic diseases. They may be immunosuppressed by their underlying collagen vascular disease or by their immunomodulatory therapy. The Infectious Diseases Fellowship rotation includes a substantial clinical exposure to our patient population, and the clinical problem-solving process we have developed to analyze, diagnose and treat these patients.


TRANSPLANTATION-ONCOLOGY INFECTIOUS DISEASES:

Translational Research: Walsh, Small, Soave, Helfgott, Satlin, Harjot, Drellick, Kodiyanplakkal, Petraitie, Petraitis, Pantazatos, Mavridou. Infectious diseases are important causes of morbidity and mortality in immunocompromised patients with cancer and those undergoing transplantation. The research mission of the transplantation-oncology infectious diseases program is to develop new strategies for diagnosis, treatment, and prevention of life-threatening infections in immunocompromised children and adults with transplantation and neoplastic diseases through multidisciplinary translational research. The tools of this research include epidemiology, pathogenesis, antimicrobial pharmacology, immunopharmacology, and molecular diagnostic microbiology.

Following the observations at the bedside, we work systematically through in vitro systems, laboratory animal models, phase I-II clinical trials, and, where applicable, to multicenter phase III clinical trials. Our clinical trials are conducted with consortia composed of seasoned clinical investigators with expertise in immunocompromised patients. Among the pediatric and adult patient populations studied within the Program are those with hematological malignancies, aplastic anemia, myelodysplasia, hematopoietic stem cell transplantation, and solid organ transplantation. Our strategy for translational research is predicated on an iterative process of bedside to bench to bedside with an emphasis on the critical role of the physician-scientist in this process. These studies are conducted in collaboration with our colleagues in Pediatrics, Oncology, Hematology, Nephrology, Hepatobiliary Transplantation Surgery, Clinical Microbiology, Pharmacology, Microbiology & Immunology, Critical Care Medicine, and Ophthalmology. We have a long and successful tradition of mentoring the future leaders in the field of infections in immunocompromised patients.


Invasive Fungal Infections: Recognizing the severe morbidity and mortality cause by invasive mycoses, the study of invasive fungal infections with specific emphasis on Candida spp., Aspergillus spp., the Mucorales (Zygomycetes), and emerging pathogens such as Fusarium spp., and Scedosporium spp., is a critical element of our mission. We conduct translational research in three major areas of medical mycology: antifungal pharmacology (Dr. Petraitis, Dr. Pantazotas), molecular diagnosis (Dr. Petraitieiene), and innate host defenses (Dr. Katragkou). Among our recent advances are the identification of the critical role of antifungal therapy in improving survival in patients with severe aplastic anemia, the combination antifungal therapy of Candida biofilms, transcriptional profiles and immunomodulatory activity of lipid formulations of amphotericin B on human monocytes, development and validation of the first multispecies PCR system for Aspergillus spp and Mucorales to be made available in a U.S. reference laboratory, plasma pharmacokinetics of posaconazole, in vitro and in vivo interspecies analysis of virulence in experimental pulmonary mucormycosis: correlation with circulating molecular biomarkers, sporangiospore germination and hyphal metabolism, in vitro and in vivo antifungal combination studies against medically important fungi, treatment of osteoarticular mycoses (collaboration with Hospital for Special Surgery), pathogenesis and treatment of fungal biofilms. Ongoing clinical trials include pharmacokinetic studies of novel triazoles (Dr. Helfgott and Dr. Walsh) and diagnostic biomarkers in immunocompromised children and adults (Dr. Petraitieiene).


**Multidrug Resistant Bacterial Infections:** The Program is developing new strategies for pharmacodynamically rational methods for administration of existing antibacterial agents, as well as development of new antimicrobial compounds against multidrug resistant bacterial pathogens, particularly Pseudomonas aeruginosa, carbapenem-resistant Enterobacteriaceae, and MRSA. Dr. Satlin is currently characterizing the molecular epidemiology of carbapenem-resistant Enterobacteriaceae in patients with hematological malignancies, as well as investigating molecular diagnostic approaches to rapid identification of resistant bacteria as a guide to empirical antibacterial therapy of febrile neutropenic patients. Drs. Petraitis and Petraitiene are conducting laboratory studies of the pharmacokinetics, and pharmacodynamics of ceftazidime/avibactam and polymyxin B in the treatment of experimental pneumonia caused by carbapenemase-producing Klebsiella pneumoniae in immunocompromised and immunocompetent rabbits, study of the pharmacokinetics, and pharmacodynamics of ceftolozane/tazobactam in treatment of experimental Pseudomonas aeruginosa pneumonia, and telavancin in treatment of experimental MRSA osteomyelitis. As a logical extension of these studies, we also are preparing clinical trials in Pseudomonas aeruginosa ventilator-associated pneumonia and multidrug resistant Gram-negative bacteremia.


Viral Infections: In an effort to better understand the epidemiology of community associated respiratory viruses; Dr. Small is characterizing the epidemiology and risk factors for development of human rhinovirus (HRV) respiratory tract infections in HSCT recipients, as well as pursuing an ongoing prospective observational study characterizing the molecular epidemiology of these HRV infections. Dr. Small is conducting clinical trials with novel antiviral agents against viral respiratory tract infections. Studies of other parainfluenza compounds will provide our patients with new agents that may improve outcome from these serious infections in our immunocompromised population. The epidemiology of respiratory viral infections in these patients continues to evolve and will be the subject of further study. Immunization is an important adjunct to the management of viral infections in immunocompromised patients. To that end, Dr. Small is conducting studies of solid organ transplantation in HIV-infected patients with myeloma. Dr. Small is leading an innovative research effort for development of novel approaches to the management of HIV infection in patients with neoplastic diseases and in those undergoing HSCT.


TUBERCULOSIS:

TB Drug Development. Rhee. A defining interest of our laboratory is the identification of new antibiotic targets and mechanisms. Unlike virtually every other field of medicine, infectious diseases is the only discipline to become progressively less and less effective over time. The reasons for this are multifactorial. However, it is a commonly overlooked fact that virtually all antibiotics in clinical use were discovered with little foresight and often serendipitously. As a result, we lack sufficient knowledge of what defines a good drug target and how to develop new antibiotics from it. We aim to address this deficiency by applying novel mass spectrometry-based metabolomics approaches to gain insight into the underlying biology of the microbes we wish to target and their responses perturbation at the pharmacologically relevant level of metabolites. Current efforts focus chiefly on Mycobacterium tuberculosis, but have previously included studies of Staphylococcus aureus and Enterococcus faecium.


INTERNATIONAL PROGRAMS

The Division of Infectious Diseases collaborates closely with the Weill Cornell Center for Global Health (CGH), with 9 faculty members shared between the two groups, including full-time faculty who live on-site or travel frequently to programs in Brazil, Haiti, India, and Tanzania.

BRAZIL: Carvalho, Dupnik, Glesby, Johnson

The collaboration between Cornell University and the Federal University of Bahia started in 1964 and is the longest collaboration of its type in the world today. To date, over 20 Cornell faculty members and ~120 students and fellows have participated in the program, and over 250 peer reviewed journal publications have emerged from the research. The program has been funded by the Commonwealth Fund and the Rockefeller Foundation, and since 1979, by the NIH. The current NIH funding supports our Tropical Medicine Research Center and a research training program in infectious diseases in Salvador, Brazil. A second program collaborates with the Federal University of Rio Grande do Norte (UFRN). Active areas of research include the pathogenesis, diagnosis, complications, and management of HTLV-1, leprosy and leishmaniasis.


**HAITI:** Fitzgerald, Dupnik, Johnson, Mathad, Ocheretina, Pape, Schackman

The Cornell program in Haiti began in 1980 with the establishment of a unit for the study and treatment of infantile diarrhea at the State University Hospital in Port au Prince. The Cornell team began its AIDS research in 1982 and was instrumental in the formation of Groupe Haitien d’Etude du Sarcome de Kaposi et des Infections Opportunistes (GHESKIO). Since 1983, Cornell and GHESKIO have had uninterrupted NIH support resulting in over 130 publications. Cornell-GHESKIO conducts NIH-sponsored HIV and tuberculosis clinical trials. With support from the U.S. President’s Emergency Program for AIDS Relief (PEPFAR), GHESKIO provides services to ~500,000 persons annually. Current areas of research are HIV/AIDS, HPV, and tuberculosis.


**INDIA:** Mathad

A newer collaboration exists between Weill Cornell and Byramjee Jeejeebhoy Government Medical College (BJGMC) in Pune, India. BJGMC has received NIH funding for 20 years, producing over 100 publications in peer-reviewed journals. As an NIH international HIV clinical trials unit, research at BJGMC focuses on HIV and co-infections occurring in pregnant women and children. Since the collaboration began with Cornell in 2011, our fellows and students have conducted research on topics such as tuberculosis in pregnancy and dengue virus. Dr. Jyoti Mathad is conducting an R01-funded NIH study on the immune changes of pregnancy and the impact on the development of tuberculosis. BJGMC is currently conducting multiple trials as part of the NIH-sponsored International Maternal Pediatric Adolescent AIDS Trials Group (IMPAACT) and AIDS Clinical Trials Group (ACTG).


Tanzania: Downs, Fitzgerald, Johnson, Peck

In 2006, a formal affiliation was established between WCMC and the Weill Bugando School of Medicine (WBSM) / Bugando Medical Center (BMC) in Mwanza, Tanzania. BMC is a 900-bed tertiary care center serving a population of ~13 million Tanzanians. WBSM admits approximately 150 medical students per class, per year. The goal of the Weill Cornell collaboration is to aid in the development of the WBSM/BMC infrastructure and training programs by the exchange of faculty, fellows, residents and students. Long-term goals are to create a platform for self-sustaining research programs and clinical knowledge transfer. WCMC rotates approximately 40 senior teaching residents and fellows in medicine, pediatrics, surgery, and obstetrics and gynecology to Tanzania and brings 10 Tanzanian physicians to New York for clinical and research training. Active areas of research are HIV/AIDS, schistosomiasis, sexually transmitted infections, tuberculosis, and non-communicable diseases, such as hypertension.


