

## **Margaret V. Powers-Fletcher, Ph.D., D(ABMM)**

Assistant Professor  
Infectious Diseases Division, Internal Medicine  
University of Cincinnati College of Medicine

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### **EDUCATION**

2019 – Present	M.S., Clinical and Translational Research, University of Cincinnati College of Medicine, Cincinnati, OH
2019 – Present	Fellow, IMSTAR Clinical Outcomes Research Fellowship, University of Cincinnati College of Medicine, Cincinnati, OH
2018	Workshop Participant, Alan Alda Center for Communicating Science, Stony Brook University, Stony Brook, NY
2014 – 2016	Fellow, Medical and Public Health Laboratory Microbiology Fellowship Program, University of Utah, Salt Lake City, UT
2013 – 2014	Postdoctoral Fellow, University of Cincinnati College of Medicine, Cincinnati, OH
2013	Ph.D., Pathobiology & Molecular Medicine Program, University of Cincinnati College of Medicine, Cincinnati, OH
2009	B.S., Biology, Alma College, Alma, MI

### **PROFESSIONAL POSITIONS**

2020 – Present	Assistant Professor, Secondary Appointment, Pathology and Laboratory Medicine, University of Cincinnati College of Medicine, Cincinnati, OH
2019 – Present	Consultant, Clinical Microbiology Laboratory, Pathology, VA Medical Center, Cincinnati, OH <ul style="list-style-type: none"><li>• <i>Provides technical and clinical expertise related to infectious disease diagnostic testing</i></li></ul>
2019 – Present	Assistant Professor, Infectious Diseases Division, Internal Medicine, University of Cincinnati College of Medicine, Cincinnati, OH <ul style="list-style-type: none"><li>• <i>Develops a research and medical education program related to appropriate infectious disease diagnostic test utilization and interpretation</i></li></ul>
2019 – Present	Clinical Laboratory Research Consultant, Office of Clinical Research, UC Health, Cincinnati, OH <ul style="list-style-type: none"><li>• <i>Acts as a liaison between clinical research teams and laboratory leadership to optimize clinical laboratory support for clinical and translational research</i></li></ul>
2016 – 2019	Technical Director, Microbiology and Molecular Diagnostics, University of Cincinnati Medical Center, Cincinnati, OH <ul style="list-style-type: none"><li>• <i>Provided technical direction and clinical microbiological expertise related to classical microbiology and molecular diagnostics for infectious diseases in an academic medical center laboratory setting</i></li><li>• <i>Ensured that implementation and validation of new testing, as well as quality control and management of on-going operations in clinical microbiology, met and exceeded regulatory guidelines</i></li><li>• <i>Coordinated with clinical teams, Infection Control and Prevention, and Antimicrobial Stewardship Program leaders to ensure clinical microbiology</i></li></ul>

*laboratory services appropriately supported all patient care and quality improvement initiatives*

2016 – 2019

Assistant Professor, Pathology and Laboratory Medicine, University of Cincinnati College of Medicine, Cincinnati, OH

- *Provided fellow-, resident-, and graduate-level medical education and research mentorship related to infectious disease diagnostic testing*

## **BOARD CERTIFICATION**

August 2016, American Board of Medical Microbiology Certification (#1226)

## **AWARDS**

- 2021 Silver Apple Teaching Award, University of Cincinnati, Cincinnati, OH  
2021 *Optime Magistrum* Teaching Award, University of Cincinnati, Cincinnati, OH  
2021 Gold Foundation Champion of Humanistic Care, University of Cincinnati, Cincinnati, OH  
2020 UC College of Medicine Gratitude Award, University of Cincinnati, Cincinnati, OH  
2019 *Optime Magistrum* Teaching Award, University of Cincinnati, Cincinnati, OH  
2018 Pathology Pilot Research Award, University of Cincinnati, Cincinnati, OH  
2018 *Optime Magistrum* Teaching Award, University of Cincinnati, Cincinnati, OH  
2018 Department of Pathology Excellence in Undergraduate Teaching Award, University of Cincinnati, Cincinnati, OH  
2017 Pathology Professional Development Award, University of Cincinnati, Cincinnati, OH  
2017 Pathology Pilot Research Award, University of Cincinnati, Cincinnati, OH  
2017 Pathology Travel Award, University of Cincinnati, Cincinnati, OH  
2016 Pathology Fellows' Research Award (2<sup>nd</sup> Place), University of Utah, Salt Lake City, UT  
2014 Student Travel Grant Recipient, ASM 2014 General Meeting, Boston, MA  
2012 American Heart Association Pre-Doctoral Training Grant (12PRE112050300)  
2012 Albert J. Ryan Fellowship, University of Cincinnati College of Medicine, Cincinnati, OH  
2012 Medical Mycological Society of the Americas Travel Award, ASM 2012 General Meeting, San Francisco, CA  
2012 University Research Council Graduate Student Research Fellowship, University of Cincinnati, Cincinnati, OH

## **TEACHING/MENTORING EXPERIENCE**

### **Teaching**

- 2020 – Present Multi-Systems Co-Director, University of Cincinnati  
2019 – Present Graduate Introductory Methods Course, Communication Instructor, University of Cincinnati  
2018 "Communicating Your Science" Co-Instructor, University of Cincinnati  
2018 – Present Medical Student Lecturer, Multi-Systems and Fundamentals Courses, University of Cincinnati  
2017 – Present Pathology Resident Core Education Series Lecturer, University of Cincinnati  
2017 – Present Infectious Disease Fellows Core Curriculum Lecturer, University of Cincinnati  
2016 – Present Medical Explorer Program Lecturer, University of Cincinnati  
2016 – Present Undergraduate Medical Microbiology Lecturer, University of Cincinnati  
2014 – 2016 Laboratory Technologists and Infectious Disease Fellows Case Conference Lecturer, University of Utah and ARUP Laboratories

## **Mentoring**

### Doctoral Students

Brynne Whitacre (Pathobiology and Molecular Medicine), 2017 – Present  
Kombo (Flore) N'guessan (Pathobiology and Molecular Medicine), 2018 – 2020  
Aaron Albee (Pathobiology and Molecular Medicine), 2019 – Present  
Madeleine Stevenson (Pathobiology and Molecular Medicine), 2020 – Present  
Christina Cox (Pathobiology and Molecular Medicine), 2021 – Present

### Undergraduate Students

Ahilya Bali (Medical Explorers Program), 2018 - 2020  
Lauren Styczynski (Medical Sciences Baccalaureate Program), 2019 – 2020  
Saagar Chokshi (Medical Science Baccalaureate Program), 2021 – Present

## **UNIVERSITY SERVICE**

2021 – Present      College of Medicine Improving Gender Equity in Medicine Taskforce Working Group on Workplace Environment and Anti-Harassment Co-Lead, University of Cincinnati  
2021 – Present      Department of Internal Medicine Gender Equity Committee Member, University of Cincinnati  
2020 – Present      Department of Internal Medicine Mentorship Committee Co-Lead, University of Cincinnati  
2020 – Present      COVID-19 Return to Campus Task Force, University of Cincinnati  
2020 – Present      Pathobiology and Molecular Medicine Graduate Program Co-Director, University of Cincinnati  
2019 – Present      University of Cincinnati NASEM Action Collaborative on Preventing Sexual Harassment in Academic Settings Representative, University of Cincinnati  
2019 – Present      Women in Medicine and Science Executive Committee Member, University of Cincinnati  
2018 – Present      Pathobiology and Molecular Medicine Graduate Committee Member, University of Cincinnati  
2017 – 2019      Clinical Competency Committee, Department of Pathology and Laboratory Medicine, University of Cincinnati  
2017 – 2019      Visiting Professor Committee, Department of Pathology and Laboratory Medicine, University of Cincinnati  
2017 – 2019      Clinical Pathology Quality Committee, Department of Pathology and Laboratory Medicine, University of Cincinnati  
2017 – 2018      UCP Clinical Practice and Standards Committee Representative, University of Cincinnati

## **ACADEMIC SERVICE**

2018 – 2021      ASM Microbe 2019 – 2021 Program Committee Member, ASM  
2016 – Present      College of American Pathologists – ad hoc laboratory inspector  
2016 – Present      Open Forum Infectious Diseases – ad hoc reviewer

## **SOCIETY MEMBERSHIPS**

2020 – Present      Society for Medical Decision Making (SMDM) Member  
2010 – Present      American Society for Microbiology (ASM) Member

## **PUBLICATIONS**

Eckman MH, **Powers-Fletcher MV**, Forrester JW, Fichtenbaum CJ, Lofgren R, Smulian AG. Take Your Best Shot: Which SARS-CoV-2 Vaccine Should I Get? *MDM Policy & Practice*. July 2021. doi:10.1177/23814683211031226

Stevenson MC, Slater JC, Sagi HC, Palacio Bedoya F, **Powers-Fletcher MV**. Diagnosing fracture related infections: Where are we now? *J Clin Microbiol*. 2021 Jun 16;JCM0280720. doi: 10.1128/JCM.02807-20.

**Powers-Fletcher MV**, McCabe EE, Luken S, Wu D, Hagedorn PA, Edgerton E, ... Lee, JJ. Convergence in Viral Epidemic Research: Using Natural Language Processing to Define Network Bridges in the Bench-Bedside-Population Paradigm. *Harvard Data Science Review*. (2021) <https://doi.org/10.1162/99608f92.cc479d52>

Terrero D and **Powers-Fletcher MV**. Updates in Laboratory Diagnostics for Invasive Fungal Infections. *J Clin Microbiol* (2020), 58(6).

Terrero D, Powell E, Smulian AG, **Powers-Fletcher MV**. Actual clinical practice related to contaminated blood cultures may limit the cost savings associated with interventions to reduce contamination rates. *J Clin Microbiol* (2020), 58(4).

Jagadeesan V, **Powers-Fletcher M**, Hanson K. Preemptive antifungal therapy: Do diagnostics help? *Antifungal Therapy, Second Edition*. (2019). Productivity Press.

Shakir SM, **Powers-Fletcher MV**, Fisher MA. *Helicobacter canis* bacteremia and Cellulitis in a patient with End Stage Renal Disease. *JMM Case Reports*. (2017), 4(11).

**Powers-Fletcher MV** and Hanson KE. Molecular Diagnostic Testing for Aspergillus. *J Clin Microbiol*. (2016), 54(11).

**Powers-Fletcher M** and Barker A. Matrix Assisted Laser Desorption Ionization Time of Flight (MALDI-TOF) for Microorganism Identification. *Clin Micro Pro Handbook, Fourth Edition* (2016). ASM Press.

**Powers-Fletcher MV**, Kendall B, Griffin A, Hanson K. Filamentous Fungi. *Diagnostic Microbiology of the Immunocompromised Host, Second Edition*. (2016), 4(3).

**Powers-Fletcher MV** and Hanson K. Non-Culture Diagnostics in Fungal Disease. *Infect Dis Clin North Am*. (2016), 30(1):37-49.

Walker B\*, **Powers-Fletcher MV\***, Schmidt RL, Hanson KE. Cost-effectiveness analysis of multiplex PCR with magnetic resonance detection versus empiric or blood culture directed therapy for managements of suspected candidemia. *J Clin Microbiol*. (2016), 54(3):718-26. **\*B.W. and M.V.P.-F. contributed equally to this work.**

**Powers-Fletcher MV**, Couturier MR. Non-*Helicobacter pylori* *Helicobacter* species associated with human disease: a primer for the clinical microbiology laboratory. *Clinical Microbiology Newsletter* (2015), 37(12).

**Powers-Fletcher MV**, Feng X, Krishnan K, Askew DS. Deletion of the *sec4* homologue *srgA* from *Aspergillus fumigatus* is associated with an impaired stress response, attenuated virulence and phenotypic heterogeneity. *PLoS ONE* (2013), 8(6): e66741.

doi:10.1371/journal.pone.0066741

Krishnan K, Feng X, **Powers-Fletcher MV**, Bick G, Woollett L, Askew DS. Effects of a defective ERAD pathway on the stress response, virulence and antifungal drug susceptibility of the mold pathogen *Aspergillus fumigatus*. *Eukaryot Cell* (2013), 12(4):512-9. doi: 10.1128/EC.00319-12.

**Powers-Fletcher M**, A Review of the Biology and the Laboratory Diagnosis of *Treponema pallidum* Infections. *Journal of Continuing Education Topics & Issues* (2011) 13:3, 80-93.

**Powers-Fletcher MV**, Jambunathan K, Brewer JL, Krishnan K, Feng X, Galande AK, Askew DS. Impact of the Lectin Chaperone Calnexin on the Stress Response, Virulence and Proteolytic Secretome of the Fungal Pathogen *Aspergillus fumigatus*. *PLoS ONE* (2011), 6(12): e28865. doi:10.1371/journal.pone.0028865.

Richie DL, Feng X, Hartl L, Aimanianda V, Krishnan K, **Powers-Fletcher MV**, Watson DS, Galande AK, White SM, Willett T, Latge J-P, Rhodes JC, Askew DS. The virulence of the opportunistic fungal pathogen *Aspergillus fumigatus* requires cooperation between the endoplasmic reticulum-associated degradation pathway (ERAD) and the unfolded protein response (UPR). *Virulence* (2011) 2:1, 12-21.

Feng X, Krishnan K, Richie DL, Aimanianda V, Hartl L, Grahl N, **Powers-Fletcher MV**, Zhang M, Fuller KK, Nierman WC, Long JL, Latge J-P, Woollett L, Newman SL, Cramer RA Jr., Rhodes JC, Askew DS. HacA-Independent Functions of the ER Stress Sensor IreA Synergize with the Canonical UPR to Influence Virulence Traits in *Aspergillus fumigatus*. *PLoS Pathog* (2011), 7(10): e1002330. doi:10.1371/journal.ppat.1002330.

## **CONFERENCE PROCEEDINGS**

Weinert-Stein KE, Slater JC, Sagi HC, **Powers-Fletcher MV**, Palacio F. 316. Application of New Consensus Definition Identifies High Numbers of Fracture Related Infections with Negative Cultures, Open Forum Infectious Diseases, Volume 7, Issue Supplement\_1, October 2020, Page S230, <https://doi.org/10.1093/ofid/ofaa439.512>

Farahani S, Kikyo F, Cui C, Palacio F, **Powers-Fletcher M**. Distribution of Joint Involvement for Arbovirus-Associated Persistent Arthralgia May Help Distinguish Between Similar Diseases, Open Forum Infectious Diseases, Volume 7, Issue Supplement\_1, October 2020, Page S232, <https://doi.org/10.1093/ofid/ofaa439.515>

**Powers-Fletcher MV**, Robertson J, Costea A, Eckman MH. Extraction Is an Effective Strategy for Infected Leads from Cardiac Implantable Electronic Devices Compared to Treatment with Antibiotics Alone. Oral Abstract Presentation, SMDM Annual North America Meeting, 2020, Virtual Meeting.

N'guessan KF, Stegner V, **Powers-Fletcher M**. Impact of Reducing the Number of Sputum Specimens Submitted for Culture on the Isolation of Non-Tuberculous Mycobacteria. Poster Presentation, ASM Microbe, 2019, San Francisco, CA.

Heiser Dickerson M, Stegner V, Liao S, **Powers-Fletcher M**. On-Demand Testing for HSV Molecular Detection from CSF Specimens Improves Laboratory Workflow and Decreases Antiviral Usage. Poster Presentation, ASM Microbe, 2019, San Francisco, CA.

**Powers-Fletcher MV**. "Update on Serology Test Utilization for the Diagnosis of Infectious Diseases." Medicine Grand Rounds, University of Cincinnati Medical Center, 2018, Cincinnati, OH

**Powers-Fletcher MV.** “The Importance of Active Infection Testing for *Helicobacter pylori* Diagnosis.” Capstone Healthcare Webinar Series, 2018

**Powers-Fletcher MV,** et al. “QuizBusters!”, ASM Microbe, 2018, Atlanta, GA

Stegner VE, Oblack DL, **Powers-Fletcher MV.** Cefepime Susceptibility Testing for *Enterobacteriaceae* Using Current CLSI Interpretive Criteria is Inconsistent between Multiple Testing Platforms. Poster Presentation, ASM Microbe, 2018, Atlanta, GA.

Whitacre BE and **Powers-Fletcher MV.** Direct Phenotypic Antimicrobial Susceptibility Testing is an Accurate Method to Guide De-Escalation and Improve Patient Care. Poster Presentation, ASM Microbe 2018, Atlanta, GA

**Powers-Fletcher MV.** “Clinical Significance of *Helicobacter pylori* Infection and Clarithromycin Resistance.” Meridian Biosciences National Sales Meeting, 2017, Cincinnati, OH

**Powers-Fletcher MV.** “Zika: General Overview for Health Care Providers.” AAMA Annual Conference, 2017, Cincinnati, OH

**Powers-Fletcher MV.** “MOLDI: Use of MALDI-TOF MS for Identification of Moulds” Diagnostic Infectious Disease Testing Laboratory Continuing Education Series, Cincinnati Children’s Hospital Medical Center, 2017, Cincinnati, OH

**Powers-Fletcher,** et al. “QuizBusters - Battle Royale: Mentors versus Mentees”, ASM Microbe, 2017, New Orleans, LA

**Powers-Fletcher MV.** “Zika: What Health Care Professionals Should Know.” SWOCMA Meeting, 2017, Cincinnati, OH

**Powers-Fletcher MV.** “Current Diagnostics in Infectious Diseases.” Medicine Grand Rounds, University of Cincinnati Medical Center, 2017, Cincinnati, OH

Slechta ES, **Powers-Fletcher MV,** Lunt T, Barker AP, Hanson KE. Impact of MALDI-TOF MS on the Cost and Time to Identification of Filamentous Fungi. Poster Presentation, ASM Microbe 2016, Boston, MA

Couturier B, **Powers-Fletcher M,** Hymas W, Kalp K, Couturier MR. Molecular Detection of GI Pathogens Offers Greater Diagnostic Yield Versus Conventional Ordering Practices for Diarrheal Illness in a Large Academic Hospital System. Poster Presentation, ASM Microbe 2016, Boston, MA

Couturier B, **Powers-Fletcher M,** Hymas W, Khot P, Kalp K, Couturier MR. Multiplex real-time PCR detection of enteropathogenic Microsporidia. Poster Presentation, ASM Microbe 2016, Boston, MA

Hopper A, **Powers-Fletcher MV,** Holt S, Phillips A, Grand-Pre R, Dickey M, Blaschke A, Couturier MR, Daly JA. Evaluation of the Portrait Staph ID/R Blood Culture Panel in Pediatric and Adult Patient Populations. Poster Presentation, ASM Microbe 2016, Boston, MA

Walker B\*, **Powers-Fletcher MV\***, Schmidt R, Hanson K. Is Direct Molecular Detection of *Candida* from Blood Cost Effective? Poster Presentation, ICAAC/ICC 2015, San Diego, CA  
**\*B.W. and M.V.P.-F. contributed equally to this work**

**Powers-Fletcher MV,** Hanson K. Impact of the Revised CLSI Interpretive Criteria on *Candida*

Resistance Rates Using the YeastOne® Y09 Antifungal Panel. Poster Presentation, ASM General Meeting 2015, New Orleans, LA

Slecht S, **Powers-Fletcher MV**, Barker A, Hanson K. Identification of Filamentous Fungi using MALDI-TOF MS: A Comparison of Extraction Methods and Spectral Libraries. Poster Presentation, ASM General Meeting 2015, New Orleans, LA

**Powers-Fletcher MV**, Stegner VE, Rhodes JC. Charcoal-Containing Blood Culture Bottles Are Suitable Specimens for Rapid Pathogen Identification Using AdvanDx QuickFISH™ BC Assays. Poster Presentation, ASM General Meeting 2014, Boston, MA

**Powers-Fletcher MV**. “Gone FISHing: One Laboratory’s Experience with the Validation and Implementation of AdvanDx QuickFISH Assays Using Charcoal-Containing Bottles.” South Central Association for Clinical Microbiology (SCACM) Exhibitor Workshop, 2014, Cincinnati, OH

**Powers-Fletcher MV**, Krishnan K, Feng X, Askew DS. Loss of Sec4 Impairs the Growth of *Aspergillus fumigatus* but Paradoxically Increases Resistance to the Aminoglycoside, Hygromycin. Poster Presentation, ASM General Meeting 2012, San Francisco, CA

**Powers-Fletcher MV**. “An Unexpected Link Between Sec4 and Hygromycin Resistance in *Aspergillus fumigatus*.” Medical Mycological Society of the Americas (MMSA) Annual Meeting and Dinner, 2012, San Francisco, CA

### **CURRENT RESEARCH SUPPORT**

Co-Principal Investigator, Cincinnati COVID-19 Repository, Academic Health Center (04/01/2020 – 04/01/2022); Development of a biospecimen and data repository for COVID-19 patients and negative controls during the SARS-CoV-2 pandemic.

Sub-Investigator, CoVPN 3001 Moderna Phase III Award (07/01/2020 – 09/30/2022); Evaluating the safety and efficacy of the mRNA-1273-P301 vaccine at protecting against SARS-CoV-2 infection and severe COVID-19.

Principal Investigator, CoVPN 5002 COMPASS Award (08/01/2020 – 08/01/2021); Community Prevalence of SARS-CoV-2 study.

Principal Investigator, University of Cincinnati Internal Medicine Junior Faculty Pilot Award (01/01/2021 – 01/01/2022); Simulation Software to Assess and Identify Medical Decision-Making Best Practices

Principal Investigator, University of Cincinnati Internal Medicine Associate Chairs Award (07/01/2021 – 07/01/2022); Identification of Novel Transmission and Risk Factors for *C. difficile* Infection

Principal Investigator, University of Cincinnati Collaborative Research Advancement Award (07/01/2021 – 06/01/2023); Enhancing the Diagnosis and Management of Orthopedic Infections to Promote Dignity and Equity in Healthcare for People Who Inject Drugs

### **PREVIOUS RESEARCH SUPPORT**

Principal Investigator, University of Cincinnati Pathology Pilot Research Award (08/01/2017 – 06/01/2018); Investigation into the accuracy and impact of direct phenotypic antimicrobial susceptibility testing from positive blood culture bottles

Principal Investigator, University of Cincinnati Internal Medicine Outcomes Research Award (01/01/2020 – 12/31/2021); Defining laboratory diagnostic testing algorithms and interpretation to improve care for patients with urinary tract infections.