

Benjamin Von Bredow, Ph.D., M(ASCP)

Assistant Professor, Department of Pathology and Laboratory Medicine
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ADDRESS

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3811 West Thirteen Mile Road
Royal Oak, MI 48073

EDUCATION AND TRAINING

- 7/2020 – 6/2022 CPEP Fellow, Medical and Public Health Laboratory Microbiology
Department of Pathology and Laboratory Medicine
University of California Los Angeles (UCLA) School of Medicine, Los Angeles, CA
- 1/2018 – 6/2020 Post-Doctoral Scholar, Clinical Microbiology
Department of Pathology and Laboratory Medicine
Penn State College of Medicine, Hershey, PA
- 8/2013 – 12/2017 Research Intern / Research Associate
Department of Pathology and Laboratory Medicine
University of Wisconsin School of Medicine and Public Health, Madison, WI
- 2017 Doctor rer. nat. Virology (Ph.D. equivalent)
Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany
- 2011 Master of Science, M.S., Cell and Molecular Biology
Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany
- 2009 Bachelor of Science, B.S., Molecular Biotechnology
Universität Bielefeld, Bielefeld, Germany

PROFESSIONAL MEMBERSHIPS

- American Society for Microbiology (ASM)
- Association for Molecular Pathology (AMP)
- Southern California Branch American Society for Microbiology (SCASM)

PROFESSIONAL, ACADEMIC, ADMINISTRATIVE, AND CLINICAL POSITIONS

Academic Positions

- 7/2023 – present Assistant Professor, Department of Pathology and Laboratory Medicine
Oakland University William Beaumont School of Medicine, Rochester, MI

Clinical Positions

7/2023 – present Associate Technical Director, Microbiology
Corewell Health William Beaumont University Hospital, Royal Oak, MI

PUBLICATIONS

Peer-Reviewed

Chawla R, von Bredow B, Deville J, Yang S. Reinfection or relapse? A case study of whole genome sequencing guided genomic characterization of *Mycobacterium abscessus* chronic infection in a cystic fibrosis patient. [Manuscript in preparation]

Adamson PC, Pfeiffer MA, Arboleda VA, et al. Lower Severe Acute Respiratory Syndrome Coronavirus 2 Viral Shedding Following Coronavirus Disease 2019 Vaccination Among Healthcare Workers in Los Angeles, California. *Open Forum Infectious Diseases*. 2021;8(11). doi:10.1093/ofid/ofab526

Taylor SN, Eckert K, Rucki AA, et al. Evaluation of the Onclarity HPV Assay on the high-throughput COR system. *Expert Review of Molecular Diagnostics*. doi:10.1080/14737159.2021.1894132

Beigel JH, Tomashek KM, Dodd LE, et al. Remdesivir for the Treatment of Covid-19 — Final Report. *New England Journal of Medicine*. 2020;383(19):1813-1826. doi:10.1056/NEJMoa2007764 [as ACTT-1 Study Team Member]

Paulson JN, Williams BL, Hehny C, et al. Paenibacillus infection with frequent viral coinfection contributes to postinfectious hydrocephalus in Ugandan infants. *Science Translational Medicine*. 2020;12(563). doi:10.1126/scitranslmed.aba0565

Hehny C, Zhang L, Paulson JN, et al. Complete Genome Sequences of the Human Pathogen *Paenibacillus thiaminolyticus* Mbale and Type Strain *P. thiaminolyticus* NRRL B-4156. *Microbiol Resour Announc*. 2020;9(15). doi:10.1128/MRA.00181-20

von Bredow B, Andrabi R, Grunst M, et al. Differences in the Binding Affinity of an HIV-1 V2 Apex-Specific Antibody for the SIVsmm/mac Envelope Glycoprotein Uncouple Antibody-Dependent Cellular Cytotoxicity from Neutralization. *mBio*. 2019;10(4). doi:10.1128/mBio.01255-19

Pauthner MG, Nkolola JP, Havenar-Daughton C, et al. Vaccine-Induced Protection from Homologous Tier 2 SHIV Challenge in Nonhuman Primates Depends on Serum-Neutralizing Antibody Titers. *Immunity*. 2019;50(1):241-252.e6. doi:10.1016/j.immuni.2018.11.011

Martins MA, Tully DC, Pedreño-Lopez N, et al. Mamu-B*17+ Rhesus Macaques Vaccinated with env, vif, and nef Manifest Early Control of SIVmac239 Replication. *Journal of Virology*. 2018;92(16). doi:10.1128/JVI.00690-18

Richard J, Prévost J, Baxter AE, et al. Uninfected Bystander Cells Impact the Measurement of HIV-Specific Antibody-Dependent Cellular Cytotoxicity Responses. *mBio*. 2018;9(2). doi:10.1128/mBio.00358-18

Martins MA, Shin YC, Gonzalez-Nieto L, et al. Vaccine-induced immune responses against both Gag and Env improve control of simian immunodeficiency virus replication in rectally challenged rhesus macaques. *PLOS Pathogens*. 2017;13(7):e1006529. doi:10.1371/journal.ppat.1006529

Richard J, Prévost J, von Bredow B, et al. BST-2 Expression Modulates Small CD4-Mimetic Sensitization of HIV-1-Infected Cells to Antibody-Dependent Cellular Cytotoxicity. *Journal of Virology*. 2017;91(11). doi:10.1128/JVI.00219-17

Arias JF, Colomer-Lluch M, von Bredow B, et al. Tetherin Antagonism by HIV-1 Group M Nef Proteins. *Journal of Virology*. 2016;90(23):10701-10714. doi:10.1128/JVI.01465-16

von Bredow B, Arias JF, Heyer LN, et al. Comparison of Antibody-Dependent Cell-Mediated Cytotoxicity and Virus Neutralization by HIV-1 Env-Specific Monoclonal Antibodies. *Journal of Virology*. 2016;90(13):6127-6139. doi:10.1128/JVI.00347-16

von Bredow B, Arias JF, Heyer LN, et al. Envelope Glycoprotein Internalization Protects Human and Simian Immunodeficiency Virus-Infected Cells from Antibody-Dependent Cell-Mediated Cytotoxicity. *Journal of Virology*. 2015;89(20):10648-10655. doi:10.1128/JVI.01911-15

Falkowska E, Le KM, Ramos A, et al. Broadly Neutralizing HIV Antibodies Define a Glycan-Dependent Epitope on the Prefusion Conformation of gp41 on Cleaved Envelope Trimers. *Immunity*. 2014;40(5):657-668. doi:10.1016/j.immuni.2014.04.009

Arias JF, Heyer LN, von Bredow B, et al. Tetherin antagonism by Vpu protects HIV-infected cells from antibody-dependent cell-mediated cytotoxicity. *PNAS*. 2014;111(17):6425-6430. doi:10.1073/pnas.1321507111

POSTERS AND PRESENTATIONS

Reinfection or relapse? A case study of whole-genome sequencing guided genomic characterization of *Mycobacterium abscessus* chronic infection in a cystic fibrosis patient. IDWeek [submitted]. Poster 2021.

Identification of Mycobacteria Directly from Liquid Culture Media by Metagenomic Sequencing. World Microbe Forum. Poster 2021.

Evaluation of a Novel Multiplex PCR Diagnostic Device for the Detection of Microorganisms and Antimicrobial Resistance Genes in Synovial Fluid Specimens. World Microbe Forum. Poster 2021.

Zebras in the Clinical Microbiology Lab: Clinical Case Studies. SCASM Spring Symposium. Poster 2021.

Multi-Site Comparative Study of the BD COR™ System and the BD Viper™ LT System Using the BD Onclarity™ HPV Assay. ASCCP. Poster 2021.

Multi-Site Evaluation of BD COR System Using BD Onclarity HPV Assay with Liquid-Based Cytology Specimens. ASCCP. Poster 2021.

Evaluation of the BioFire® Bone and Joint Infection (BJI) Panel for the Detection of Microorganisms and Antimicrobial Resistance Genes in Synovial Fluid Specimens. IDWeek. Poster 2020.

Validation of an Antimicrobial Susceptibility Panel for Lower Fluoroquinolone Breakpoints and Meropenem / Vaborbactam. ASM Microbe. Poster 2020.

Evaluation of a Method for Rapid Identification and Phenotypic Antimicrobial Susceptibility Testing Directly from Positive Blood Culture. ASM Microbe. Poster 2020.

Evaluation of a Multiplex Molecular Assay for The Detection of Respiratory Pathogens from Tracheal Aspirates and Sputa. ASM Microbe. Poster 2020.

Time to appropriate antimicrobial therapy in patients with bloodstream infections due to *Candida* spp. or bacteria with resistance genes identified by a multiplex PCR assay. Vizient Pharmacy Network Resident Poster Session. Poster 2019.

Multi-Site Evaluation of the BD COR System Using the BD Onclarity HPV Assay with Specimens Collected in BD SurePath Media and PreservCyt Solution. Eurogin. Poster 2019.

Multi-Site Comparative Study of the BD COR System and the BD Viper LT System Using the BD Onclarity HPV Assay. Eurogin. Poster 2019.

Evaluation of a Blood Culture Continuous Monitoring System for Detection of Bacterial Contamination in Platelet Concentrates. ASM Microbe. Poster 2019.

Extended Incubation Increases Recovery of Propionibacterium acnes from Cerebrospinal Fluid and Synovial Fluid. ASM Microbe.

Validation of an Antimicrobial Susceptibility Panel for Ceftolozane/ Tazobactam, Ceftazidime / Avibactam, Minocycline and Colistin Using CDC & FDA Antibiotic Resistance (AR) Bank Isolates. ASM Microbe. Poster 2019.

Identification of Filamentous Fungi by MALDI-ToF Using In-Tube and On-Target Extraction Procedures and a Combination of Databases. ASM Microbe. Poster 2019.

Containing the Spread of Multidrug-Resistant Organisms. ASCLA-PA Annual Meeting. Poster 2019.

Multi-Site Evaluation of a New High Throughput Instrument for Sample Processing and Detecting HPV. ASM Clinical Virology Symposium. Poster 2019.

Correlation of Antibody-Dependent Cell-Mediated Cytotoxicity and Virus Neutralization by HIV-1 Env- specific Monoclonal Antibodies. 2016 Presentation at CSHL Retroviruses Meeting.

Envelope Glycoprotein Internalization Protects Human and Simian Immunodeficiency Virus Infected Cells from Antibody-Dependent Cell-Mediated Cytotoxicity. 2015 Presentation at CSHL Retroviruses Meeting.

Envelope Glycoprotein Internalization Protects Human and Simian Immunodeficiency Virus Infected Cells from Antibody-Dependent Cell-Mediated Cytotoxicity. UMN-UW Joint Virology Training Symposium. Poster 2014.