Amanda Lee Skarlupka

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PEER-REVIEWED PUBLICATIONS

In Preparation/Submission (available upon request):

13. Ying Huang, **Amanda L. Skarlupka**, Hyesun Jang, and Ted M. Ross. "SARS-CoV-2 and Influenza A virus Co-infections in Ferrets." In preparation.

Accepted/Published:

12. **Amanda L. Skarlupka**, Anne Gaelle Bebin-Blackwell, Spencer F. Sumner, and Ted M. Ross. (2021) "Universal influenza virus neuraminidase vaccine elicits protective immune responses against human seasonal and pre-pandemic strains." J Virol. Jun 23:JVI0075921. DOI: 10.1128/JVI.00759-21.

11. **Amanda L. Skarlupka** and Ted M. Ross. (2021) "Inherent serum inhibition of influenza neuraminidase." Front. Vet. Sci. 8:677693. DOI: 10.3389/fvets.2021.677693

10. Z. Beau Reneer, **Amanda L. Skarlupka**, Parker J. Jamieson, and Ted M. Ross. (2021) "Broadly Reactive H2 Hemagglutinin Vaccines Elicit Cross-Reactive Antibodies in Ferrets Pre-Immune to Seasonal Influenza A Viruses." Accepted to mSphere. bioRxiv: DOI: 10.1101/2021.02.17.431747.

9. Z. Beau Reneer, Parker J. Jamieson, **Amanda L. Skarlupka**, Ying Huang, and Ted M. Ross. (2020) "Computationally Optimized Broadly Reactive H2 HA Influenza Vaccines Elicited Broadly Cross-Reactive Antibodies and Protected Mice from Viral Challenges." J Virol. JVI.01526-20. DOI: 10.1128/JVI.01526-20.

8. Jeffrey W. Ecker, Greg A. Kirchenbaum, Spencer R. Pierce, **Amanda L. Skarlupka**, Rodrigo B. Abreu, R. Ethan Cooper, Dawn Taylor-Mulneix, Ted M. Ross, and Giuseppe A. Sautto. (2020) "High-yield expression and purification of recombinant influenza virus proteins from stably-transfected mammalian cell lines." *Vaccines (Basel).* 8(3):E462. DOI:10.3390/vaccines8030462

7. **Amanda L. Skarlupka**, Andreas Handel, and Ted M. Ross. (2020) "Dataset of antigenic distance measures, hemagglutination inhibition, viral lung titers, and weight loss in mice and ferrets when exposed to HA-based vaccination or sub-lethal A(H1) influenza infection." *Data Brief.* 32:106118. DOI:10.1016/j.dib.2020.106118.

6. **Amanda L. Skarlupka**, Andreas Handel, and Ted M. Ross. (2020) "Influenza hemagglutinin antigenic distance measures capture trends in HAI differences and infection outcomes, but are not suitable predictive tools." *Vaccine.* 38(36):5822-5830. DOI:10.1016/j.vaccine.2020.06.042

5. **Amanda L. Skarlupka** and Ted M. Ross. (2020) "Immune Imprinting in the Influenza Ferret Model." *Vaccines (Basel).* 8(2):E173. Review. DOI: 10.3390/vaccines8020173

4. **Amanda L. Skarlupka**, Zachary B. Reneer, Rodrigo B. Abreu, Ted M. Ross, and Giuseppe A. Sautto. (2020) "An influenza HA Computationally Optimized Broadly Reactive Antigen elicits antibodies endowed with group-1 heterosubtypic breadth against swine influenza viruses." Journal of Virology Mar 2020, 94 (8) e02061-19; DOI: 10.1128/JVI.02061-19

3. **Amanda L. Skarlupka**, Simon O. Owino, Lui P. Suzuki-Williams, Corey J. Crevar, Donald M. Carter, and Ted M. Ross. (2019) "A computationally optimized broadly reactive vaccine based upon swine H1N1 influenza hemagglutinin sequences protects against both swine and human isolated viruses." Human Vaccines & Immunotherapeutics, 15:9, 2013-2029, DOI: 10.1080/21645515.2019.1653743

2. Kalyan K. Dewan, Dawn L. Taylor-Mulneix, Laura L. Campos, **Amanda L. Skarlupka**, Shannon M. Wagner, Valerie E. Ryman, Monica C. Gestal, Uriel Blas-Machado, Brian T. Faddis, Eric T. Harvill. (2019) "A model of chronic, transmissible Otitis media in mice." PLoS Pathogen 15(4):e1007696.

1. Kalyan K. Dewan, **Amanda L. Skarlupka**, Israel Rivera, Laura E. Cuff, Monica Gestal, Dawn L. Taylor-Mulneix, Shannon M. Wagner, Valerie E. Ryman, Coralis Rodriguez, Hamidou Illiassou Soumana, Bruce Levin, Eric T. Harvill. (2018). "Development of macrolide resistance in *Bordetella bronchiseptica* is associated with the loss of virulence." Journal of Antimicrobial Chemotherapy. 73(10):2797-2805. DOI: 10.1093/jac/dky264

OTHER PUBLICATIONS

1. **Amanda L. Skarlupka**, Bodo Linz, Jennifer Maynard, and Eric T. Harvill. (2018) Basics of pertussis pathogenesis. Pertussis: Epidemiology, Immunology, and Evolution. P. Rohani and S. Scarpino, Oxford University Press.

PRESENTATIONS

14. "Antigenic cartography and landscapes of influenza strains with preimmune human sera."
    Poster Presentation
    5th Annual Workshop on Viral Dynamics
    October 4-6, 2021

13. "Broadly protective computationally designed influenza neuraminidase vaccine in the ferret animal model"
    Poster Presentation
    International Society for Vaccines Annual Congress 2021

September 13-15, 2021

12. "N1 COBRA neuraminidase vaccines in the ferret animal model"
    Oral Presentation
    CIVIC – NIH/NIAID Annual Meeting
    August 7-11, 2021

11. "N1 COBRA Neuraminidase Broadly Inhibits Viruses with Divergent N1 NA proteins"
    Oral Presentation
    CIVR-HRP Virtual Annual Meeting 2021
    April 26, 2021

10. "Development of Swine Influenza H1 Vaccine using the Computationally Optimized Broadly Reactive Antigen Methodology"
    Oral Presentation
    American Society for Virology 38th Annual Meeting 2019
    University of Minnesota, Minneapolis
    July 22, 2019

9. "Sequence data and Antigenicity: Optimized Selection of Vaccine Candidates"
    Poster Presentation
    Joint Symposia on Inflammation, Infection, and Immunity
    Georgia State University, 55 Gilmer St, Atlanta, GA
    June 12, 2019

8. "Zoonotic Transmission of Influenza: Preventing the Next Pandemic"
    Invited Departmental Seminar – Hosted by Dr. Janice Crook-Hill
    Department of Biology
    University of North Georgia – Dahlonega
    Health and Natural Sciences Building, 159 Sunset Drive, Dahlonega, GA, 30533
    April 10, 2019

7. "Broadly Reactive Hemagglutinin-based Vaccine Designed for Swine Protects Against All Human and Swine H1N1 Influenza Viruses"
    Poster Presentation
    International Society for Vaccines Annual Congress 2018
    Atlanta Marriott Marquis, 265 Peachtree Center Ave, Atlanta, GA 30303
    Oct 30, 2018

6. "Swine-based Broadly Reactive Hemagglutinin Vaccine Protects Against Both Human and Swine H1 Influenza Viruses"
    Poster Presentation
    Department of Infectious Diseases Annual Retreat 2018
    Special Collections Library, 300 South Hull Street, Athens, GA 30605
    Oct 19, 2018

5. "A Novel Otitis Media Mouse Model"
    Oral Presentation
    Georgia Bordetella Symposium
    College of Veterinary Medicine, 501 D. W. Brooks Drive, Athens, GA

Oct 30, 2017

4. "*The Aftermath of Genome Mining: Discovery of Pertussis-like Toxin in* Bordetella pseudohinzii"
   Poster Presentation
   Department of Microbiology Recruitment 2017
   Paul D. Coverdell Center, Athens, GA 30605
   Feb 4, 2017

3. "*Effect of Thermal Adaptation on Thermal Inactivation Rates of* Salmonella *in Roast Beef at Low Cook Temperatures*"
   Poster Presentation
   Annual Meeting for International Association for Food Protection
   Oregon Convention Center, 777 Northeast Martin Luther King Junior Boulevard, Portland, OR
   July 25-28, 2015

2. "*Thermal Adaptation and Validation of* Salmonella *Inactivation in Roast Beef at 130°F*"
   Poster Presentation
   Annual Meeting for Food Research Institute
   Pyle Center, University of Wisconsin-Madison, 702 Langdon Street, Madison, WI
   May 20, 2015

1. "*The Effect of CYP Gene Deletion in* Aspergillus fumigatus *on PAH Metabolism*"
   Oral and Poster Presentation
   Food Research Summer Research Scholar Presentations
   Microbial Sciences Building, University of Wisconsin, 1550 Linden Drive, Madison, WI
   August 6, 2013

GRANT SUBMISSIONS

Unfunded:

2. Discovery Grant – Peer Reviewed Medical Research Program - Department of Defense – Aug 2017

1. "Identifying Novel Factors Involved in the Transmission of Respiratory Pathogens". Graduate Research Fellowship Program – National Science Foundation – Oct 2016

PATENTS

PCT/US2021/12695 (patent application)

Inventors: **Amanda L. Skarlupka**, Z. Beau Reneer, Ivette Nunez, Hyesun Jang, Michael Carlock, James Allen, Ying Huang, and Ted M. Ross. (Order of inventor is irrelevant)

AWARDS AND HONORS

Dissertation Completion Award 2021-2022
- $21,000 assistantship over 10 months

Collaborative Influenza Vaccine Innovation Centers (CIVIC)
Trainee Program Awardee 2020-2021
- Trainer: Dr. Stephan Bour; Digital Infuzion, Gaithersburg, Maryland

Stanford PRISM 2020 Cohort 2020
- Networked and interviewed with Stanford professors to develop collaborations

UGA Graduate Education Advancement Board Fellowship 2020
Roswell Chapter M Nominee for 2020 PEO International Scholar Award 2019
UGA Nominee for 2020 Lindau Nobel Laureate Meeting 2019
International Society for Vaccines Congress Trainee Award 2018
Microbiology High Achievement Award 2014
- Department of Bacteriology | University of Wisconsin

Graduated with Distinction from University of Wisconsin
Dean's List of the University of Wisconsin 2010-2014
Food Research Institute Summer Research Scholar 2013
Kettle Moraine Garden Club Scholarship 2014
Phillip Lautenbach and Wilma Lautenbach Vollendorf Academic Merit Award 2013
Wisconsin Cheese Makers' Association Supplier Member Scholarship 2013
Catholic Order of Foresters' Scholarship 2010

EDUCATION

Ph.D., Infectious Disease 2018-Present
University of Georgia

M.S., Epidemiology and Biostatistics 2021 – Present
Emphasis: Data Analysis and Modeling
University of Georgia

B.S., Microbiology and Botany 2010-2014
University of Wisconsin – Madison, WI

Hazard Analysis and Critical Control Point (HACCP) Certification Oct 2013
Covance, Madison, WI

RESEARCH EXPERIENCE

University of Georgia
Graduate Research Assistant Jan 2018 - Present

Dr. Ted Ross, Center for Vaccines and Immunology, Department of Infectious Diseases, Athens, GA
NIH Center for Influenza Vaccine Research for High-Risk Populations (CIVR-HRP)

- Biosafety Level 3 and Federal Select Agent trained and approved for independent research
- Ferret and mouse animal work
- Formed collaborations with Dr. Constantinos Kyriakis, of Auburn University, Alabama, USA and Dr. Kristen Ghent University, Ghent, Belgium for COBRA vaccine protection studies in swine
- Formed collaboration and working relationship between Ross Lab and Handel Research Group

University of Georgia
Graduate Research Assistant Jan 2017 – Dec 2017
Dr. Eric Harvill, Department of Infectious Disease, Athens, GA

- Studied *Bordetella* spp. interactions within the mouse model system

Food Research Institute
Associate Research Specialist July 2014 – July 2016
Dr. Kathleen Glass: Applied Food Laboratory, Madison, WI

- Approved for the Tier 1 Federal Select Agent Program.
- Wrote protocols and procedures for different food studies including inactivation and growth studies

University of Wisconsin - Madison
Undergraduate Researcher Feb 2013 – May 2014
Dr. Jae-hyuk Yu Laboratory, Department of Bacteriology, Madison, WI

- Molecular manipulation of filamentous fungi for the creation of gene deletion mutants.

INDEPENDENTLY DEVELOPED RESEARCH SKILLSET

Data Analytics and Biostatistics

Working knowledge of different biostatical programs including: SAS and R.

Relevant UGA Coursework:

- Introductory Epidemiology I & II (SAS and R coding)
- Biostatistical Consulting (SAS and R coding)
- Introductory Biostatistics I & II (SAS and R coding)
- Mathematical Statistics (R coding)
- Research Data Management and Computing (SAS coding)
- Linear and Generalized Linear Models (R coding)
- Regression and ANOVA (R coding)
- Computational Workshops (R coding) – Spatial and SIR models
- Modern Applied Data Analysis (R coding)
- Introduction Coding in R for Public Health (R coding)
- Infectious Disease Epidemiology - A model-based approach

10X Genomics Symposium Nov 20, 2019
Single-cell sequencing research day covering in depth techniques, uses, strengths and limitations of the current state of the field
Hosted: Dr. Steve Bosinger, Genomics Core, Emory University

Microbial Challenge Testing for Foods Workshop May 24-25, 2015
Workshop focusing on the analysis and development of food safety challenge study protocols based on National Advisory Committee on Microbiological Criteria for Foods (NACMCF) recommendations
Sanctioned by: International Association for Food Protection (IAFP)
Chicago, IL, USA

PROFESSIONAL ORGANIZATIONS

American Statistical Association	2021
American Physical Society	2021
American Society for Virology	2019
International Society for Vaccines	2018-2019
International Association for Food Protection	2015

EDITORIAL EXPERIENCE

"The Immune System and Infectious Disease"
Edited and critiqued pre-publication versions
Author: Dr. David P. Adams; Point University 2019-2020

TEACHING

Graduate Teaching Assistant Spring 2018
Microbiology Introductory Lab (MIBO 3510L)
Department of Microbiology
University of Georgia

MENTORING

Research mentor for undergraduate students, University of Georgia

Lui Suzuki-Williams — Jan 2019 – Dec 2019
Characterization of antibody binding to the swine 2015 North Carolina influenza virus (H1N2)

Ross Lima — Aug 2019 - Jan 2020
Production of tetrameric influenza neuraminidase proteins

Spencer Sumner — Aug 2020 - Present
Serological assays to describe and quantify neuraminidase-specific antibodies

Research mentor for Malcom Bridge Middle School students. FFA Agriscience Fair — Jan – April 2018
Assisted with the design and analysis of projects including effects of pasteurization on mold inhibition of baked goods and the ability of home-made vs store-bought toothpaste to decrease canine oral bacterial populations

Research mentor for undergraduate student, University of Wisconsin - Madison — Spring 2016
Katie-Jo Osterbauer
Characterization of *Clostridium perfringens* growth in uncured and cured pork product during a thermoprocess.

SERVICE

Paper reader. 42-46th Georgia Junior Science and Humanities Symposium (GJSHS). Reviewed and scored research papers to determine invitees to GJSHS. January,2017- 2021. UGA Office of Academic Special Programs

Poster Judge. 42nd, 44th and 46th Georgia Junior Science and Humanities Symposium. Evaluated students' poster presentations and interview the students about their work. February 26, 2017, February 24, 2019, and February 26, 2021. UGA Office of Academic Special Programs

Science Fair Judge. Clark County School District Science and Engineering Fair. January 6, 2018 and January 11, 2020. 1235 Baxter Street, Clarke Middle School, Athens, GA 30606

Lesson Planner. Scientific Research and Education Network – Lesson Plan Showcase Event. February 17, 2017. Sandy Creek Nature Center, Athens GA

Science Fair Judge. Clark County School District Elementary Young Scientist Fair. February 11, 2017. 205 Alps Road, Alps Elementary School, Athens, GA 30606

Science Fair Judge. Clark County School District Science and Engineering Fair. January 14, 2017. 1300 Cedar Shoals Drive, Cedar Shoals High School, Athens, GA 30606