

# William C. Beckerson, Ph.D. – Curriculum Vitae

## Contact Information:



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## Research:



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WCBeckerson/

## Socials:



@WCBeckerson



@WilliaMycete



@aBitofBiology

## Languages: (CEFR)



English - C2  
Native



Spanish - A2.1  
Elementary



Dutch - A1.1  
Elementary

[What is CEFR?](#)



[WilliamCBeckersonPhD.com](http://WilliamCBeckersonPhD.com)

## EDUCATION

Doctor of Philosophy in Biology 08/2015-08/2020

Program on Disease Evolution

University of Louisville - ♡ Louisville, Kentucky, USA

Master of Science in Biology 08/2015-05/2017

Program on Disease Evolution

University of Louisville - ♡ Louisville, Kentucky, USA

Bachelor of Science in Biology / Minor: Business Management 08/2009-12/2013

Department of Biology

Georgetown College - ♡ Georgetown, Kentucky, USA

## RESEARCH EXPERIENCE

### Postdoctoral Research:

**ERC: Marie Skłodowska-Curie Action Postdoctoral Fellowship Awardee** ([link](#))

Universiteit Utrecht - ♡ Utrecht, NL

08/2023-07/2025

PI: Sander van den Heuvel

Research project title: Characterizing the neuronal effects of *Ophiocordyceps* secreted proteins using *C. elegans*.

**NSF: Postdoctoral Research Fellowship in Biology Awardee** ([link](#))

University of Central Florida - ♡ Florida, USA

08/2021-07/2023

PI: Charissa de Bekker

Research project title: Linking parasite genomes, environmental ques, and host phenomes in *Ophiocordyceps*.

### Dissertation Research:

Ruhr-Universität Bochum - ♡ Bochum, DE

08/2018-07/2019

Collaborator: Dominik Begerow

Research project title: Implementation of CRISPR Cas9 in *Microbotryum lychnidis-dioicae*.

**AdF: Chateaubriand Fellowship Awardee** ([link](#))

Université Paris-Sud - ♡ Orsay, FR

05/2016-08/2016

Collaborator: Tatiana Giraud

Research project title: Comparative genomics of species-specific effectors in the *Microbotryum* genus.

University of Louisville - ♡ Kentucky, USA

08/2015-08/2020

PI: Michael Perlin

Research project title: Molecular analysis of secreted proteins in the *Microbotryum* genus.

### Pedagogical Research:

University of Louisville - ♡ Kentucky, USA

09/2017-07/2021

PI: Deborah Yoder-Himes

Research project title: Analyzing the impact of active learning on different student of different social personalities.

## PUBLICATIONS

I preferentially support the publication of research findings in societal journals who value open access. As such, I have published the majority of my research in journals from the Animal Behavior Society (*Animal Behaviour*), the American Society for Microbiology (*mBio*), and the National Science Teaching Association (*Journal of College Science Teaching*). These journals are known for their rigorous review processes led by field-specific experts, their emphasis research quality, and for reaching a broad scientific audience.

### Peer Reviewed Research Articles:

- Tsai MC, Barati MT, Kuppireddy VS, Beckerson WC, Long G, Perlin MH. (2024). Characterization of *Microbotryum lychnidis-dioicae* secreted effector proteins, their potential host targets, and localization in a heterologous host plant. *Journal of Fungi* 10(4), 262. <https://doi.org/10.3390/jof10040262>
- Beckerson WC, Anderson JO, Kulkarni S, Perpich JD, Yoder-Himes D. (2024). It's About Time: Exploring the dose-dependent effects of active learning on students of different social personalities in an upper-level biology course. *Journal of College Science Teaching*. <https://doi.org/10.1080/0047231X.2024.2316378>
- Will I, Beckerson WC, de Bekker C. (2023). Using machine learning to predict protein-protein interactions between a zombie ant fungus and its carpenter ant host. *Scientific Reports* 13, 13821. <https://doi.org/10.1038/s41598-023-40764-8>
- Beckerson WC, Krider C, Mohammad UA, de Bekker C. (2023). 28 Minutes Later: Investigating the role of aflatrem-like compounds in *Ophiocordyceps* parasite manipulation of zombie ants. *Animal Behaviour* 203, 225-240. <https://doi.org/10.1016/j.anbehav.2023.06.011>
- De Bekker C, Beckerson WC, Carolyn Elya. (2021). Mechanisms Behind the Madness: How do zombie-making fungal entomopathogens affect host behavior to increase transmission? *mBio* 12(5), e01872-21. <https://doi.org/10.1128/mBio.01872-21>
- Beckerson WC, Anderson JO, Perpich JD, Yoder-Himes D. (2020). An Introvert's Perspective: Analyzing the impact of active learning on social personalities in an upper-level biology course. *Journal of College Science Teaching* 49(3), 47-57. [https://doi.org/10.2505/4/jcst20\\_049\\_03\\_47](https://doi.org/10.2505/4/jcst20_049_03_47)
- Beckerson WC, de la Vega RCR, Hartmann FE, Duhamel M, Giraud T, Perlin MH. (2019). Cause and Effectors: Whole genome comparisons reveal shared but rapidly evolving effector sets among host-specific plant-castrating fungi. *mBio* 10:e02391-19. <https://doi.org/10.1128/mBio.02391-19>
- Kuppireddy VS, Uversky VN, Toh SS, Tsai M-C, Beckerson WC, Cahill CC, Carman B, Perlin MH. (2017). Identification and initial characterization of effectors of an anther smut fungus and the potential host target proteins. *International Journal of Molecular Science* 18, 2489. <https://doi.org/10.3390/ijms18112489>

### Peer Reviewed Teaching Lessons:

- Beckerson WC, de Bekker C. (2024). Zombie Ants VR: Using virtual reality to teach about coevolution and extended phenotypes. *CourseSource*. - **In Preparation**
- Beckerson WC. (2024). Replicating Darwin's Theory: Teaching evolution with microbiology by means of replica plating. *CourseSource*. - **Accepted**
- Beckerson WC. (2022). Small Organisms with Big Consequences: Understanding the microbial world around us. *CourseSource*. <https://doi.org/10.24918/cs.2022.27>

### Science Journal for Kids:

- De Bekker C, Beckerson WC, Carolyn Elya. (2021). Mechanisms Behind the Madness: How do zombie-making fungal entomopathogens affect host behavior to increase transmission? In: Panayotova E & Firth F. *Science Journal for Kids*. - **In Preparation**. adapted from: <https://doi.org/10.1016/j.anbehav.2023.06.011>
- De Bekker C, Beckerson WC, Carolyn Elya (2023). How do some fungi turn insects into zombies? In: Panayotova E & Firth F. *Science Journal for Kids*. <https://www.sciencejournalforkids.org/articles/how-do-some-fungi-turn-insects-into-zombies/>. adapted from: <https://doi.org/10.1128/mBio.01872-21>

### Textbooks:

- Beckerson WC, Laraba I, Torres-Cruz TJ, Steinkraus D, Hajek A. (2024). *Mechanisms of Host Manipulation and Mimicry in Fungi*. In: Haelewaters D. (ed.) *Biodiversity and Evolution of Fungal Parasites and Pathogens*. Amsterdam, Netherlands: Elsevier. (ISBN: [9780323885331](https://doi.org/10.22541/au.172124619.90197485/v1)) – **Preprint** <https://doi.org/10.22541/au.172124619.90197485/v1>
- Savchenko K, Beckerson WC, Aime C. (2024). *Economically Important Plant Parasites: Rusts and smuts*. In: Haelewaters D. (ed.) *Biodiversity and Evolution of Fungal Parasites and Pathogens*. Amsterdam, Netherlands: Elsevier. (ISBN: [9780323885331](https://doi.org/10.22541/au.172175972.21516456/v1)) – **Preprint** <https://doi.org/10.22541/au.172175972.21516456/v1>
- Perlin MH, Beckerson WC, Gopinath A, Cobbs G. (2019). *Molecular and Cellular Genetics: Laboratory Studies*. San Diego, California United States: Cognella Academic Publishing. **2<sup>nd</sup> Edition**. ISBN: [9781793514943](https://doi.org/10.22541/au.172175972.21516456/v1)

## FUNDING

### Extramural Funding and Fellowships (\$519,210 & €213,446):

HORIZON Marie Skłodowska-Curie Actions Postdoctoral Fellowship - ♀ NL	(€203,464)	📅08/2022
Grant agreement ID: I01108298 (DOI: <a href="#">10.3030/101108298</a> )		
NSF Postdoctoral Research Fellowship in Biology - ♀ USA	(\$138,000)	📅06/2021
Award number: <a href="#">2109435</a>		
GSA Fungal Genetics Conference Travel Award - ♀ USA	(\$250)	📅03/2019
DAAD Short Term Research Grant - ♀ DE	(\$4,075)	📅11/2018
Chateaubriand STEM Fellowship - ♀ FR	(\$5,280)	📅05/2016

### Intramural Funding: Utrecht University (€9,982):

Public Engagement Seed Fund - ♀ NL	(€9,982)	📅07/2024
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### Intramural Funding: University of Central Florida (\$55,000):

Preeminent Postdoctoral Program - ♀ USA	(\$55,000)	📅08/2020
Co-written with: Dr. Charissa de Bekker		

### Intramural Funding: University of Louisville (\$3,236):

Biology 1970's Cohort Fund Grant - ♀ USA	(\$200)	📅06/2019
Graduate Student Council Travel Grant - ♀ USA	(\$350)	📅01/2019
Graduate Network of Arts and Science Travel Grant - ♀ USA	(\$250)	📅01/2019
Graduate Student Council Travel Grant - ♀ USA	(\$350)	📅05/2018
Arts & Science Research & Creative Activities Grant - ♀ USA	(\$500)	📅04/2018
Biology Graduate Student Association Travel Grant - ♀ USA	(\$175)	📅02/2018
Joint Arts & Science Research & Creative Activities Grant - ♀ USA	(\$1,311)	📅04/2016
Co-written with: Venkata S. Kuppireddy		
Graduate Network of Arts and Sciences Research Fund - ♀ USA	(\$100)	📅01/2016

### Significant Contributions and Other Grants (\$313,369):

NSF Gordon Research Seminar Standard Grant - ♀ USA	(\$16,480)	📅04/2024
Co-written with: Andrew Swafford & Anna Selmecki      Award number: 2424381		
NSF Track I International Research Experience for Students - ♀ USA	(\$296,889)	📅08/2018
Co-written with: (PI) Dr. Michael H. Perlin      Award number: 1824851		

## TEACHING

### Teaching Qualifications:

Universiteit Utrecht Teaching Qualification Program - ♀ Utrecht University, NL	📅02/2024-10/2024
The "Basis Kwalificatie Onderwijs, or "BKO", is a mark of quality used by all Dutch universities. It functions as a reliable frame of reference with respect to one's didactic skills. The BKO track consists of modules that allow lecturers to assess and develop all facets of teaching. At the end of the track, the participant is awarded a BKO certificate and is qualified for all Dutch universities. ( <a href="#">link</a> )	

### Preparing Tomorrow's Faculty Program - ♀ University of Central Florida, USA

Participants in the Preparing Tomorrow's Faculty (PTF) course meet weekly and engage in a learning community facilitated by Faculty Center staff. By the end of the semester, the participant assembles a teaching portfolio. The course includes the following modules: Student learning and motivation, Integrated course design, Teaching pedagogies, Assessment and feedback, Course climate, Career development. Official certification can be found at: ( <a href="#">link</a> )	📅08/2021-12/2021
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### Teaching Experience:

Invited Group Lecturer for Developmental Biology - ♀ Wageningen University, NL	📅05/2024
EZO30306: Developmental Biology of Animals	
I sections      120 min      16 students      One class      Spring 2024	
MSCA Postdoctoral Research Fellow - ♀ Universiteit Utrecht, NL	📅08/2023-07/2025
B-MEBIFB19: Fungal Biology	
I section      165 min/class      12 students      Once/week      Autumn 2024	

MBLS-107: Functional Biology	2 sections	120 min/class	5 & 5 students	Once/month	Spring 2024
B-MEBIFB19: Fungal Biology	1 section	105 min/class	13 students	Once/week	Autumn 2023

### NSF Postdoctoral Research Fellow - ♡ University of Central Florida, USA

📅08/2021-07/2023

Concurrent teaching for the duration of a PRFB fellowship is prohibited as outlined on pg. 15 of the administrative guide for the Postdoctoral Research Fellowships in Biology program: ([link](#))

### Adjunct Faculty of Record - ♡ Georgetown College, USA

📅08/2019-04/2020

BIO 100: Introductory Biology for Non-Majors (100% Remote Learning)	1 section	75 min/class	24 students	Four/week	Summer 2020
BIO 111: Introductory Biology for Majors	1 section	75 min/class	24 students	Twice/week	Autumn 2019
BIOL 111: Introductory Biology Lab	1 section	110 min/class	24 students	Once/week	Autumn 2019

### Invited Group Lecturer for Biotechnology Methods - ♡ University of Louisville, USA

📅08/2018-12/2018

BIOL 416: Biotechnology Methods	2 sections	240 min/class	4 & 5 students	Twice/week	Autumn 2018
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### Teaching Innovation Learning Lab in Microbiology - ♡ University of Louisville, USA

📅08/2017-12/2019

BIO 357: General Microbiology	1 section	75 min/class	64 students	Eight/Semester	Autumn 2019
BIO 357: General Microbiology	1 section	75 min/class	49 students	Four/Semester	Autumn 2018
BIO 357: General Microbiology	1 section	75 min/class	43 students	Four/Semester	Spring 2018
BIO 357: General Microbiology	1 section	75 min/class	65 students	Four/Semester	Autumn 2017

### Graduate Teaching Assistant - ♡ University of Louisville, USA

📅08/2015-04/2020

BIOL 331: Genetics and Molecular Biology	2 sections	110 min/class	20 & 20 students	Twice/week	Spring 2020
BIOL 331: Genetics and Molecular Biology	2 sections	110 min/class	20 & 22 students	Twice/week	Autumn 2019
BIOL 331: Genetics and Molecular Biology	2 sections	110 min/class	20 & 22 students	Twice/week	Spring 2019
BIOL 331: Genetics and Molecular Biology	1 section	110 min/class	19 students	Twice/week	Autumn 2018
BIOL 104: introduction to Biological Systems	2 sections	110 min/class	14 students	Three/week	Summer 2018
BIOL 331: Genetics and Molecular Biology	2 sections	110 min/class	20 & 21 students	Twice/week	Spring 2018
BIOL 331: Genetics and Molecular Biology	1 section	110 min/class	8 students	Twice/week	Autumn 2017
BIOL 258: Microbiology	2 sections	90 min/class	15 & 6 students	Four Days/week	Summer 2017
BIOL 331: Genetics and Molecular Biology	2 sections	110 min/class	17 & 21 students	Twice/week	Spring 2017
BIOL 331: Genetics and Molecular Biology	1 section	110 min/class	16 students	Twice/week	Autumn 2016
BIOL 244: Principles of Biology	2 sections	110 min/class	27 & 28 students	Twice/week	Spring 2016
BIOL 104: Introduction to Biological Systems	3 sections	110 min/class	33, 33, 33 students	Once/week	Autumn 2015

## STUDENTS MENTORED

I have supervised a diverse group of students including 6 master's students and 11 undergraduates, 10 of whom identified as female, 6 as male, and 1 as transgender male, 11 of whom described themselves as Caucasian, 5 as black, and 1 as middle eastern, and 11 who were born in the United States of America, 4 in the Netherlands, 1 in Germany, and 1 in Spain. For the master's students, I acted as a collaborator for 3 of them and as the daily supervisor for the other 3. As their daily supervisor, I was responsible for guiding the students through the completion of their theses. With regards to the undergraduate students, I was the supervisor for all 11 on a variety of research projects.

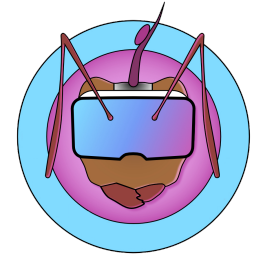
## Virtual Reality Videogame Project: **Zombie Ants VR**

- Associate Producer, Concept Artist, Voice Director -

Website: <https://www.williambeckersonphd.com/outreach>

Steam download: [https://store.steampowered.com/app/2416150/Zombie\\_Ants\\_VR/](https://store.steampowered.com/app/2416150/Zombie_Ants_VR/)

Zombie Ants VR is a short (5-10 minute) educational experience that takes the player through the life cycle of *Ophiocordyceps*, a fungus that drives creatures (in this case ants) to change their behavior in order to propagate the fungus then ultimately kills them. This fungus was a large inspiration for the video game series Last of Us and is often affectionately referred to as the "Zombie Fungus".



### VR Events:

📅 11/2024

Pathways to Sustainability Conference 2024 - 📍 Utrecht, NL

📅 11/2024

Utrecht University Faculty Club Event - 📍 Utrecht, NL

## Pint of Science

- Presenter and Coordinator

Pint of Science is an annual science festival that aims to communicate contemporary scientific developments to the public by bringing scientists to pubs, cafés and other public places to share their research and findings. The festival takes place annually in the month of May and covers all aspects of research. Each year, thousands of researchers across more than 400 cities and 25 countries share and discuss their findings with people.



### VR Events:

📅 05/2025

Event Coordinator - 📍 Utrecht, NL

📅 05/2024

Presenter: A Fungus and its Zombie Ant: A very real example of zombie-making parasites ([link](#)) - 📍 Utrecht, NL

## Community Science Initiative: the **Zombie Fungus Foray**

- Creator -

Website: <https://wcbeckerson.wixsite.com/thezombiefungusforay>

iNaturalist: <https://www.inaturalist.org/projects/the-zombie-fungus-foray>



### K-12 Classroom Outreach:

📅 10/2022

Amsterdam International Community School - 📍 Amsterdam, NL

📅 10/2021

Wharton High School: National Honor Society - 📍 Tampa, FL, USA

📅 10/2021

Freedom High School: Environmental Science Periods I-7 - 📍 Tampa, FL, USA

📅 10/2021

Wharton High School: SPLASH Club, and Biology Sections I-6 - 📍 Tampa, FL, USA

📅 2/2021

Mica Mountain High School: Sections III & VI - 📍 Tucson, AR, USA

📅 10/2020

Jackson Heights Middle School: Ecology - 📍 Oviedo, FL, USA

📅 10/2020

Oviedo High School: Sophomore Biology Sections 2, 3, 6, & 7 - 📍 Oviedo, FL, USA

📅 10/2020

Oviedo High School: AP Biology Sections I & II - 📍 Oviedo, FL, USA



### iNaturalist Curator:

📅 8/2020-current

Curator for the *Ophiocordyceps* genus

📅 8/2020

The Zombie Fungus Foray Project Creator



### Seminole County Parks Partnership:

📅 10/2021

Chuluota Wilderness Area Guided Hike for Zombie Ants - 📍 Geneva, Florida, USA

📅 7/2021

Eco Camp: Grossology Week Guide to Zombie Ants - 📍 Geneva, Florida, USA

📅 6/2021

Eco Camp: Biology Bootcamp Guide to Zombie Ants - 📍 Geneva, Florida, USA





### Orlando Science Center Partnership:

- 2/2022 Otronicon: 3-day Alpha testing of ZombieAntVR with kids - ♡ Orlando, Florida, USA
- 10/2021 Pumpkins and Protons Halloween Party Exhibit - ♡ Orlando, Florida, USA
- 10/2019 Spooky Science Week Exhibit: Real-life Zombie Ants! - ♡ Orlando, Florida, USA



### stemCONNECT Partnership:


- 10/2021 Spooky Themed Month Virtual Presentation - ♡ Orlando, Florida, USA  
Real-life Zombies and Where to Find Them
- 4/2021 EARTH DAY Virtual Presentation - ♡ Orlando, Florida, USA  
Real-life Zombies and Where to Find Them



### TikTok:

- 6/2021-2022 @TheZombieFungusForay ([link](#))

## Other Outreach:

- Interview with a student from Esuela Maranatha Cristiana - ♡ El Escalón, SV 09/2024  
5<sup>th</sup> Grade Oral Presentation on a scientist
- Interview with a student from Russelberg Highschool - ♡ Tessengerlo, BE 04/2024  
What is *Ophiocordyceps*, how does it infect ants, and is it similar to the *Cordyceps* in “The Last of Us”
- Adaptation of our work for Science Journal for Kids and Teens ([link](#)) - ♡ Texas, USA 11/2023
- Museum of Natural Sciences: International Microorganism Day - ♡ Brussels, BE 10/2023  
In collaboration with the Young Belgian Society for Microbiology
- Guest on Val 202’s Frekvenca X show about “The Last of Us” ([link](#)) - ♡ SI 03/2023
- Guest on NPR’s The Colin McEnroe Show: “The Last of Us” ([link](#)) - ♡ Connecticut, USA 02/2023
- Correspondent for Inverse: Science behind “The Last of Us” ([link](#)) - ♡ New York, USA 01/2023
- Correspondent for Newsweek: Science behind “The Last of Us” ([link](#)) - ♡ New York, USA 01/2023
- Orlando MegaCon Presenter ([link](#)) - ♡ Florida, USA 05/2022  
Examining the Science Behind Zombie Movies
- Orlando Taste of Science - Science Festival, Scientists Inc. ([link](#)) - ♡ Florida, USA 04/2022  
Real-life Zombies and Where to Find Them
-  TikTok: 12/2021-082022  
@aBitofBiology ([link](#))
- Orlando MegaCon Panelist - ♡ Florida, USA 08/2021  
The Last Damn Zombie Science Panel You’ll Ever Need!
- Interview a Biologist - ♡ Vermont, USA 10/2021  
with Stacey Grimaldo Garcia of Middlebury College
- Skype a Scientist Live: Orlando - ♡ Florida, USA 02/2021  
Spooky Science: Real Life Zombies and Where to Find Them ([link](#))
- Beer with a Scientist: Monnik Beer Company - ♡ Kentucky, USA 03/2020  
Our Friends the Fungi: The many types of fungi and the history of how we’ve used them
- Skype a Scientist 04/2019-10/2021
  - 10/2020 Creekside Middle School: Sixth Grade Class – Bentonville, Arizona, USA
  - 5/2019 Marie Curie Institute: Fourth and Fifth Grade Class – Amsterdam, New York, USA
  - 5/2019 Corry Area High School: Ninth Grade Class – Corry, Pennsylvania, USA
  - 4/2019 Newark Central: Second Grade Class – Newark, New York, USA
  - 4/2019 E.K. Powe Elementary School: First Grade Class – Durham, North Carolina, USA
  - 4/2019 Annunciation Catholic School: Seventh Grade Class – Denver, Colorado, USA
- Guest Speaker at University of Louisville: Meet the Professor - ♡ Kentucky, USA 04/2019  
Science Information Literacy & Oral Communication
- Guest Speaker at Lexington Christian Academy High School - ♡ Kentucky, USA 12/2018  
The history of genetic modification of our food
- Guest Speaker at Lexington Christian Academy High School - ♡ Kentucky, USA 02/2016  
What is a GMO?
- ExBEERiment: Socialize with Science at Louisville Science Center - ♡ Kentucky, USA 09/2016  
The science of brewing beer

# CONFERENCE PRESENTATIONS

## Conference Chair:

Gordon Research Seminar: Cellular Molecular Fungal Biology - ♡ New Hampshire, USA 07/2022-06/2024  
Chaired with co-chair Andrew Swafford

## Oral Presentations:

Host-Microbe Genetics Meeting - ♡ Leiden, NL 10/2024

“The First of Us: Yeast two-hybrid unveils a novel scramblase binding protein in the repertoire of *Ophiocordyceps* effectors”

Gordon Research Conference: Cellular Molecular Fungal Biology - ♡ New Hampshire, USA 06/2024

CEREBRALfungi: Characterizing the neuronal effects of behavioral-modifying protein from the zombie fungi, *Ophiocordyceps*, using *C. elegans*

8<sup>th</sup> Conference on Physiology of Yeasts and Filamentous Fungi - ♡ Cork, IR 06/2023

Using Yeast to heterologously study the behavior-modifying effects of recalcitrant zombie fungi biomolecules

Gordon Research Seminar: Cellular Molecular Fungal Biology - ♡ New Hampshire, USA 06/2022

28 Minutes Later: Analyzing the role of aflatrem-like effectors in the behavioral manipulation of Zombie Ants

Animal Behavior Society Online Conference - ♡ Online 08/2021

28 Minutes Later: The role of secreted effectors in the behavioral manipulation of zombie ants

Ruhr-Universität Bochum *Microbotryum* Symposium - ♡ Bochum, DE 07/2019

An Unorthodox CRISPR Approach for an Unorthodox Fungus

Asilomar Fungal Genetics Conference: Smut Convergence - ♡ California, USA 03/2019

Cause and Effectors: Secretome comparison of members from the anther-smut pathogen species complex, *Microbotryum violaceum*

Gordon Research Seminar Cellular Molecular Fungal Biology - ♡ New Hampshire, USA 06/2018

The First Cut is the Deepest: Implementing CRISPR Cas9 as a transformation system for site specific gene disruptions in the fungal pathogen species complex *Microbotryum violaceum*

Kentucky Academy of Science Conference - ♡ Kentucky, USA 11/2016

Identifying unique small-secreted proteins in divergent species of the fungal pathogen complex *Microbotryum violaceum*

Ruhr-Universität Bochum *Microbotryum* Symposium - ♡ Bochum, DE 06/2016

Analyzing the role of protein-protein interactions in host/pathogen co-evolution

## Poster Presentations:

European Worm Meeting - ♡ Utrecht, NL 07/2024

Zombie Worms: Using *C. elegans* to characterize the behavior-modifying effects of an *Ophiocordyceps* zombie fungus protein

Gordon Research Conference: Cellular Molecular Fungal Biology - ♡ New Hampshire, USA 06/2024

CEREBRALfungi: Characterizing the neuronal effects of behavioral-modifying protein from the zombie fungi, *Ophiocordyceps*, using *C. elegans*

European Conference on Fungal Genetics - ♡ Innsbruck, AT 03/2023

28 Minutes Later: A proof of concept for testing behavior-manipulating compounds from zombie-making fungi

Gordon Research Conference Cellular Molecular Fungal Biology - ♡ New Hampshire, USA 06/2022

28 Minutes Later: Analyzing the role of aflatrem-like effectors in the behavioral manipulation of Zombie Ants

National Association of Biology Teachers: Professional Conference - ♡ Gorgia, USA 11/2021

It's About Time: Exploring the dose-dependent effects of active learning on student social personality in an upper-level biology course

National Association of Biology Teachers: Professional Conference - ♡ Gorgia, USA 11/2021

The Zombie Fungus Foray: Community science outreach using iNaturalist to discover Zombie Ants

National Association of Biology Teachers: Professional Conference - ♡ Illinois, USA 11/2019

An Introvert's Perspective: Analyzing the impact of active learning on multiple levels of class social personalities in an upper-level biology course

Asilomar Fungal Genetics Conference - ♡ California, USA 03/2019

Cause and Effectors: Secretome comparison of members from the anther-smut pathogen species complex, *Microbotryum violaceum*

Gordon Research Conference Cellular Molecular Fungal Biology - ♡ New Hampshire, USA 06/2018

The First Cut is the Deepest: Implementing CRISPR Cas9 as a transformation system for site specific gene disruptions in the fungal pathogen species complex *Microbotryum violaceum*

## PROFESSIONAL PRESENTATIONS

<b>Universiteit Utrecht Faculty Pedagogical Journal Club - ♡ Utrecht, NL</b>	📅02/2024
The dose-dependent effect of group-based active learning on students with different social personalities.	
<b>Arkansas State University Queretaro STEM Week Invited Speaker - ♡ Queretaro, MX</b>	📅02/2023
Real-life Zombies and Where to Find Them: How fungi manipulate animal behavior!	
<b>Utrecht U. Molecular Life Sciences Honors Program Invited Speaker - ♡ Utrecht, NL</b>	📅10/2022
Observations from the Crypt: The science behind zombie ants and their fungal parasites	
<b>University of Oxford Invited Speaker - ♡ Oxford, UK</b>	📅09/2022
28 Minutes Later: The role of secreted effectors in the behavioral manipulation of zombie ants	
<b>University of Louisville Invited Speaker Series - ♡ Kentucky, USA</b>	📅09/2020
Comparative secretomics and functional analysis of effectors utilized by the <i>Microbotryum</i> genus of anther-smut fungal pathogens, and their role in host-specificity	
<b>University of Central Florida Invited Speaker Series - ♡ Florida, USA</b>	📅09/2020
Comparative secretomics and functional analysis of effectors utilized by the <i>Microbotryum</i> genus of anther-smut fungal pathogens, and their role in host-specificity	
<b>Georgetown College Invited Speaker Seminar - ♡ Kentucky, USA</b>	📅11/2019
Cause and Effectors: How rapidly evolving effectors lead to host-specificity between <i>Microbotryum</i> and Caryophyllaceae	
<b>Belknap Academic Building Anniversary Event - ♡ Kentucky, USA</b>	📅08/2019
An Introvert's Perspective: Analyzing the impact of active learning on multiple levels of class social personalities in an upper-level biology course	
<b>Ruhr-Universität Bochum Invited Speaker - ♡ Bochum, DE</b>	📅06/2019
The History and Future of CRISPR Cas9	
<b>Ruhr-Universität Bochum Invited Speaker - ♡ Bochum, DE</b>	📅06/2018
The First Cut is the Deepest: CRISPR Cas9 and how to get started	
<b>Georgetown College Invited Speaker Seminar - ♡ Kentucky, USA</b>	📅10/2016
Here and Back Again: A GCPALS tale	
<b>Université du Paris Sud Chateaubriand Fellowship Invited Speaker - ♡ Orsay, FR</b>	📅05/2016
Identification of Small-Secreted Proteins in the <i>Microbotryum</i> genus	

## PROFESSIONAL DEVELOPMENT & SERVICE

### Training/Workshops/Conferences:

<b>Fiji ImageJ Software Workshop - ♡ Utrecht, NL</b>	📅10/2024
<b>Teaching and Learning Inspiration Days Conference - ♡ Utrecht, NL</b>	📅01/2024-02/2024
Feb 1 <sup>st</sup> Using open educational resources	
Jan 30 <sup>th</sup> AR/VR: Experience the future of learning	
Jan 30 <sup>th</sup> Evidence-informed educational change	
Jan 29 <sup>th</sup> Education with societal partners in practice	
<b>Parametric Modeling for 3D Printing w/ Fusion – Basics Workshop - ♡ Utrecht, NL</b>	📅01/2024
<b>Fused Deposition Modeling for 3D Printing – Basics Workshop - ♡ Utrecht, NL</b>	📅12/2023
<b>2023 Royal Dutch Association for Microbiology Mycology Conference - ♡ Utrecht, NL</b>	📅11/2023
<b>Public Engagement Academy for Postdocs - ♡ Utrecht, NL</b>	📅11/2023-11/2024
Founding member of an academy to teach and facilitate outreach by postdoctoral scholars including the following modules:	
Aug 6 <sup>th</sup> Dialogue training	
May 14 <sup>th</sup> Media training Popular science writing	
Apr 2 <sup>nd</sup> Engaging children	
Feb 20 <sup>th</sup> Public communication skills	
Jan 9 <sup>th</sup> Impact measurements	
<b>Wetenschnapps: Public Engagement - recognition and rewards in practice - ♡ Utrecht, NL</b>	📅11/2023
<b>Universiteit Utrecht Professional Media Communication Training - ♡ Utrecht, NL</b>	📅11/2023
<b>2022 Royal Dutch Association for Microbiology Mycology Conference - ♡ Utrecht, NL</b>	📅11/2022
<b>NSF Improving Undergraduate STEM Education Program - ♡ Florida, USA</b>	📅03/2022-05/2022
Mar-May The Inclusive STEM Teaching Project	
<b>Collaborative Institutional Training Initiative - ♡ Florida, USA</b>	📅01/2021-03/2021
Mar 3 <sup>rd</sup> Human Subjects Research – Group 2	
Feb 24 <sup>th</sup> Social/Behavioral Research Investigators and Key Personnel	
Feb 10 <sup>th</sup> Communicating Research Findings	
Jan 13 <sup>th</sup> Conflict of Interest	



NIH Grant Writing Virtual Conference - ♡ Florida, USA	📅05/2020
Training with Remote Teaching Options for COVID-19 - ♡ Kentucky, USA	📅02/2020
Research Academy RUHR: Open Access Science Workshop - ♡ Bochum, DE	📅08/2019
Faculty Search Committee: Diversity Training - ♡ Kentucky, USA	📅02/2019

### Professional Societies/Organizations:

Animal Behavior Society	📅08/2021-current
American Society for Microbiology	📅08/2021-2023
National Science Teaching Association	📅11/2019-2023
National Association of Biology Teachers	📅11/2019-2023
2021-2022 Justice, Equity, Diversity, and Inclusion Committee	
2019-2020 Community Science Committee	
Genetics Society of America	📅03/2018-current
2022 Science Communication Virtual Networking Moderator for the 31 <sup>st</sup> FGC	
Kentucky Academy of Science	📅11/2014-7/2020

### University Services:

Utrecht Selective Life Sciences Extra Curricular Track selection committee 2024 - ♡ Utrecht, NL	📅11/2024-1/2025
Utrecht Selective Life Sciences Extra Curricular Track selection committee 2023 - ♡ Utrecht, NL	📅11/2023-1/2024
2022 University of Louisville Biology Alumni Advice Panel - ♡ Kentucky, USA	📅11/2022
2021 University of Louisville Biology Alumni Advice Panel - ♡ Kentucky, USA	📅08/2021
Chair of the University of Central Florida Invited Speaker Series - ♡ Florida, USA	📅08/2021-04/2022
Diversity, Equity, and Inclusion: Classroom Isolation Subcommittee - ♡ Florida, USA	📅02/2021
Biology Undergraduate Student Association: Graduate Student Panel - ♡ Kentucky, USA	📅10/2019
Biology Faculty Search Committee: Graduate Student Representative - ♡ Kentucky, USA	📅02/2019
Student Grievance & Discipline Committee - ♡ Kentucky, USA	📅08/2016-4/2017
2016-2017 Natural Science Division Representative	
Graduate Network of Arts & Sciences - ♡ Kentucky, USA	📅08/2016-4/2018
2017-2018 Vice President	
2017 Natural Science Rep. for Grant Review Committee	
2016-2018 Department of Biology Representative	
Biology Graduate Student Association - ♡ University of Louisville, USA	📅08/2015-7/2020
2019-2020 President	
2018-2019 Graduate Student Rep.	
2016-2017 Social Chair	
2016 & 2020 Webmaster	
2016-2020 Member	

### Community Services:

Florida Undergraduate Research Conference Abstract Reviewer - ♡ Florida, USA	📅06/2021
UCF Student Scholar Symposium for Undergraduate Research Judge - ♡ Florida, USA	📅03/2021
DuPont Manual Regional Science Fair Judge - ♡ Kentucky, USA	📅06/2019
DuPont Manual Regional Science Fair Judge - ♡ Kentucky, USA	📅06/2018
Louisville Regional Science & Engineering Fair Judge - ♡ Kentucky, USA	📅03/2018

### Peer Review Services:

Reinvention Journal of Undergraduate Research	1 primary research article	📅2024
Genome Biology and Evolution	2 primary research article	📅2024
Molecular Ecology	2 primary research articles	📅2022-2023
CourseSource	3 primary research articles	📅2020-2024
	1 conference publication	
Society for Molecular Plant-Microbe Interactions	1 primary research article	📅2020

## HONORS & AWARDS

European Worm Meeting 2024 – 2 <sup>nd</sup> Place for outstanding poster ( <a href="#">link</a> ) - ♡ Utrecht, NL	📅03/2023
UU News: MSCA fellowships for five Utrecht researchers ( <a href="#">link</a> ) - ♡ Utrecht, NL	📅03/2023
UCF Today: Stories of impact + innovation ( <a href="#">link</a> ) - ♡ Florida, USA	📅02/2021
Graduate Dean's Citation ( <a href="#">link</a> ) - ♡ Kentucky, USA	📅12/2020
Graduate Student Publication Award - ♡ Kentucky, USA	📅04/2020

Graduate School of Arts and Sciences Student Spotlight ( <a href="#">link</a> ) - ♡ Kentucky, USA	📅 03/2020
Introductory Biology Lab Development Award - ♡ Kentucky, USA	📅 07/2019
Graduate Student Research Presentation Award - ♡ Kentucky, USA	📅 04/2019
Biology Department Service Award - ♡ Kentucky, USA	📅 04/2019
College of Arts and Science Student Profile ( <a href="#">link</a> ) - ♡ Kentucky, USA	📅 02/2016

## REFERENCES

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