

# Phillip Alexander Burnham

5 Calarco Ct. Burlington, VT 05401  
Phone: 802-379-0548 E-Mail: pburnham@uvm.edu

**Objective:** To obtain a full-time position as a research biologist in the field of pollinator pathology.

## Education

### University of Vermont

2014-Present

B.S. in zoology - (anticipated graduation date: 2017)  
Cumulative GPA: 3.54/4.0

GPA in Major: 3.7/4.0

M.S. in biology - (anticipated graduation date: 2018)  
Cumulative GPA: 3.7.0/4.0

GPA in Major: 3.7/4.0

### Community College of Vermont

2011-2014

Liberal studies  
Cumulative GPA: 4.0/4.0

GPA in Major: 4.0/4.0

## Experience

### Field Assistant and Lab Tech and data analyst for Ph.D. Candidate, Samantha Alger

2015-Present

- Assisted in field surveys and sample collection at 32 field sites in Northern Vermont
- Assisted in bumblebee rearing and summer field experiment maintenance
- Extracted RNA from samples, measured concentration using spectrophotometry
- Made qPCR master-mixes, set up and ran PCR plates to determine viral levels in specimens
- Data analyst for field and lab experiments pertaining to RNA viruses in bumble bees

### Undergraduate Research in Bumblebee Parasitology

2015-Present

- Dissected over 300 bumblebee specimens (documenting parasite loads)
- Counted *Nosema* (fungal) spores and tracheal mites in specimens
- Looking at correlations between parasite abundance, species type and geographic location

### Graduate Research in Bumblebee Pathology (with Dr. Alison K. Brody)

2016-Present

- Mathematical modeling (R-based) of *Nosema* prevalence in response to density
- Parasite competition experiments and models
- *Bombus* survey to look at viral and parasite loads throughout the year
- *Bombus* pathogen survivability experiments due to overwintering stressors
- RNA virus and parasite coinfection experiments in bumble bee hosts
- Looking at correlations between parasite abundance, species type and geographic location

### Honeybee Research Collaborations with Hamilton College (Dr. Herman Lehman)

2016-Present

- Research looking at differential success of local and imported honeybee stocks
- Conducting mathematical modeling and data analyses for experiment

### National Honeybee Survey (APHIS)

2015-Present

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- Collected samples from 24 Vermont apiaries (over 200 colonies) for USDA labs
- Identified and documented hive maladies and parasites during hive inspections

## Island Def Jam Recording Artist

2010-Present

- Signed by L.A. Reid as lead guitar player of the band "Burnham"
- Released EP *Almost Famous* with Island Def Jam Records
- Radio interviews with Z100, Ryan Seacrest and Billboard
- Toured North America on "My World Tour" (Justin Bieber) and on two headlining tours

## EMI Songwriter

2011-Present

- Signed to a publishing deal as a songwriter in the band "Burnham"
- Charted on Billboard top 100 and Radio Disney's top 10
- Wrote and recorded with Ryan Tedder (OneRepublic), Benji Madden (Good Charlotte), Claude Kelly (Whitney Houston and Miley Cyrus), Toby Gad (Fergie and Beyoncé)

## Skills

**Research:** RNA extraction, DNA extraction, Nanodrop (spectrophotometry) Qubit (fluorometry), insect rearing and dissection, microscopy, real-time qPCR (Applied Biosystems), field survey and specimen (insect) collection, data management manipulation and analysis, mathematical modeling (R and Python)

**Computer:** Microsoft Office (Word, Excel, PowerPoint etc.), JMP (Statistical Analysis), StepOnePlus Real-Time qPCR software, Fluent in the R programming language, HTML, Markdown, LaTeX & familiar with Python

## Activities and Honors

- |   |              |
|---|--------------|
| • Spoke on pathogens in migratory vs. stationary bee operations (Southern Adirondack Beekeeper's Association)       | 2017         |
| • Spoke on local adaptation in honeybee queens (Vermont Beekeeper's Association meeting)                            | 2017         |
| • Spoke on the threat of pathogens to native pollinators at VT statehouse (Pollinator Protection Committee meeting) | 2016         |
| • APLE Research Award Recipient   | 2015         |
| • Awarded the Ronald Suiter Prize (funded ABF conference)   | 2015         |
| • UVM Merit Scholarship   | 2014-2016    |
| • Invited to Golden Key International Honor Society   | 2016-2016    |
| • Member of TriBeta National Biology Honors Society   | 2016-Present |
| • UVM Dean's List   | 2014-2015    |
| • Member of the UVM Bee Club  | 2015-Present |
| • CCV President's List Honors   | 2013-2014    |
| • SAG-AFTRA member  | 2010-2014    |
| • <i>International Songwriting Competition</i> Semifinalist   | 2014         |
| • Song placed top 3 in the <i>John Lennon Songwriting Contest</i>   | 2013         |
| • <i>International Songwriting Competition</i> Finalist   | 2013         |