

CURRICULUM VITAE

David Christopher Gilley***Professional Experience***

<i>present</i>	<i>Professor</i>
2018 - 2011	<i>Associate Professor</i>
2011 - 2006	<i>Assistant Professor</i>
	William Paterson University of New Jersey Department of Biology
2006 - 2003	<i>Post-doctoral Research Associate</i>
	USDA, Agricultural Research Service Carl Hayden Bee Research Center, Tucson, Arizona

Education

2003	<u>Ph.D., Cornell University</u> Department of Neurobiology & Behavior Advisor: Dr. T.D. Seeley
1997	<u>B.A., Cornell University</u> Biological Sciences, <i>magna cum laude</i> With distinction in all subjects

Publications

- In preparation: Gilley DC, Emanuel I, Poletti L. Behavioral activity of waggle-dance hydrocarbons in foraging honeybee colonies. *Journal of Insect Behavior*.
- Gilley DC, Courtright TJ, Thom C (2018) Phenology of honey bee swarm departures in New Jersey, USA. *Environmental Entomology* 47(3):603-608.
- Gilley DC, Miller N, Courtright TJ, Thom C (2018) Behavioral activity of hydrocarbons emitted by honeybee waggle dancers. *Journal of Insect Behavior* 31: 83-90.
- Gilley, DC & Thom C (2015) Waggle-dancing bees emit body odors: new evidence of an important role for scent in bee foraging communication. *Bee Culture* Sept 2015, 33-37.
- Gilley DC (2014) Hydrocarbons emitted by waggle-dancing honey bees increase forager recruitment by stimulating dancing. *PLoS ONE* 9(8):e105671.
doi:10.1371/journal.pone.0105671.
- Gilley DC, Kuzora JM, Thom C (2012) Hydrocarbons emitted by waggle-dancing honey bees stimulate colony foraging activity by causing foragers to exploit known food sources. *Apidologie* 43:85-94. DOI: 10.1007/s13592-011-0080-2.

Publications (continued)

- Kronforst MR, Gilley DC, Strassmann JE, Queller DC (2008) DNA methylation is widespread across social Hymenoptera. *Current Biology* 18(7): R287-288.
- Thom C, Gilley DC, Hooper J, Esch HE (2007) A scent to the waggle dance. *PLOS Biology* 5(9): e228. doi:10.1371/journal.pbio.0050228.
- DeGrandi-Hoffman G, Gilley DC, Hooper JE (2007) The influence of season and volatile compounds on acceptance rates of introduced European honey bee queens into European and Africanized colonies (*Apis mellifera* L.). *Apidologie* 38 :230-237.
- Gilley DC (2006) Nest odour changes following queen loss in *Apis mellifera*. *Journal of Apicultural Research* 45(3): 160-162.
- Gilley DC, Degrandi-Hoffman G, and Hooper J (2006) Volatile compounds produced by live honey bee queens. *Journal of Insect Physiology* 52(5): 520-527.
- Gilley DC and Tarpy DR (2005) Three mechanisms of queen elimination in swarming honey bee colonies. *Apidologie* 36: 461-474.
- Schneider SS, Deeby T, Gilley DC, and DeGrandi-Hoffman G (2004) Nest usurpation by African honey bees in the southwestern U.S. *Insectes Sociaux* 51: 359-364.
- Tarpy DR, Gilley DC, and Seeley TD (2004) Levels of selection during queen replacement in honey bees: conflict, cooperation, or both? *Behavioral Ecology and Sociobiology* 55: 513-523.
- Tarpy DR and Gilley DC (2004) Group decision making during queen production in colonies of highly eusocial bees. *Apidologie* 35: 207-216.
- Gilley DC, Tarpy DR, and Land BB (2003) Effect of queen quality on interactions between workers and dueling queens in honeybee (*Apis mellifera* L.) colonies. *Behavioral Ecology and Sociobiology* 55: 190-196.
- Gilley DC (2003) Absence of nepotism in the aggressive interactions between workers and dueling queen honey bees. *Proceedings of the Royal Society B* 270 (1528): 2045-2049.
- Thom C, Gilley DC, and Tautz J (2003) Worker piping in honey bees (*Apis mellifera*): the behavior of piping nectar foragers. *Behavioral Ecology and Sociobiology* 53: 199-205.
- Gilley DC (2001) The behavior of honey bees (*Apis mellifera ligustica*) during queen duels. *Ethology* 107: 1-22.
- Starks PT and Gilley DC (1999) Heat Shielding: A novel method of colonial thermoregulation in honey bees. *Naturwissenschaften* 86: 438 – 440.
- Gilley DC (1998) The identity of nest-site scouts in honey bee swarms. *Apidologie*. 29: 229 – 240.

Recent Scholarly Presentations

- March 2020 [pandemic conditions have disrupted research presentations since this date]
- Nov 2019 New Jersey State Beekeepers, Mahwah, New Jersey, invited talk
- Oct 2019 Annual Garden State LSAMP Conference, co-authored student posters
- June 2019 Rutgers Environmental Stewards, West Orange, New Jersey, invited talk
- April 2019 William Paterson University Explorations, co-authored student poster
- Oct 2018 Annual Garden State LSAMP Conference, co-authored student posters
- April 2018 William Paterson University Explorations, contributed talk
- Feb 2018 New Jersey State Beekeepers, Edison, New Jersey, invited talk
- Oct 2017 Annual Garden State LSAMP Conference, co-authored student poster
- June 2017 Rutgers Environmental Stewards, Pompton Plains, New Jersey, invited talk
- Feb 2017 Rutgers Extension (Passaic County), Wayne, New Jersey, invited talk
- July 2016 Eastern Apicultural Society, Galloway, New Jersey, contributed talk
- April 2016 New Jersey State Beekeepers, Basking Ridge, New Jersey, invited talk
- March 2015 Northwest New Jersey Beekeepers Association, New Jersey, invited talk
- Feb 2015 Connecticut Beekeepers Association, Woodbury, CT, invited talk
- Aug 2014 International Society for Behavioral Ecology, New York, NY, contributed talk
- April 2014 Global Food Sustainability Panelist, William Paterson University, invited talk
- March 2014 Sussex County Beekeepers Association, New Jersey, invited talk
- April 2013 William Paterson University Scholarship Day, contributed talk
- Oct 2012 International Union for the Study of Social Insects (NAS), Greensboro NC, poster
- Sept 2012 NE New Jersey Beekeepers Association, New Jersey, invited talk
- May 2011 WPU Friends of the Library, invited public seminar
- April 2011 William Paterson University Scholarship Day, contributed talk
- July 2010 47th Annual Meeting Animal Behavior Society, Williamsburg, Virginia, contributed talk
- April 2010 William Paterson University Scholarship Day, contributed talk
- April 2009 William Paterson University. Keynote Address for University Scholarship Day
- Feb 2009 Fairleigh Dickinson University (Dept of Chemistry), New Jersey, invited seminar
- Oct 2008 Rutgers University, New Jersey, invited seminar
- Oct 2008 New Jersey State Beekeepers Association, New Jersey, invited seminar
- Oct 2008 William Paterson Alumni Association, Haledon, New Jersey, invited talk
- Sept 2008 Penn State University, University Park, Pennsylvania, invited seminar
- Sept 2008 Clifton Garden Club, Clifton, New Jersey, invited public talk
- Aug 2008 12th International Behavioral Ecology Conference, Ithaca, New York, contributed talk

Student research mentoring

[since Spring 2020, pandemic conditions have interrupted research mentoring]

Isabelle Emanuel	Spring 2019 - Spring 2020	Summer Research Intern
Joshua Leavitt-Shaffer	Spring 2019 - Spring 2020	Summer Research Intern
Anthony Navarette	Summer 2019	Summer Research Intern
Danielle Dix	Summer 2019	Summer Research Intern
David Salame	Fall 2018	Undergraduate Research Assistant
Shawn Couyoute	Summer 2018 - Fall 2018	Undergraduate Research Assistant
Olivia Nakamura	Summer 2018, 2019 Fall 2018 - Spring 2019	Summer Research Intern Undergraduate Research Assistant
Lauren Poletti	Fall 2017 - Summer 2018 Summer 2018 - Spring 2019	Undergraduate Research Assistant Undergraduate Independent Research
Eric Howard	Fall 2017 - Spring 2018	Undergraduate Research Assistant
Sarafina Cartelli	Fall 2017 - Spring 2018	Undergraduate Research Assistant
Kristen Rigolizzo	Fall 2017 - Spring 2018	Undergraduate Research Assistant
Nicole Miller	Summer 2016 Spring 2016 - Fall 2017	Summer Research Intern Undergraduate Independent Research
Trevor Courtright	Summer 2016 Fall 2016 - Spring 2018	Summer Research Intern Undergraduate Independent Research
Adalyne Arafet	Summer 2016	Summer Research Intern
William Manzo	Summer 2015 - Spring 2016	Graduate Research Assistant
Virginia Hislop	Spring 2015 - Fall 2015	Undergraduate Independent Research
Nina Ramdedovich	Fall 2014 - Spring 2015	Undergraduate Research Assistant
Kevin Penkoski	Summer 2014 - Spring 2015	Graduate Research Assistant
Alanna Nolan	Summer 2013 - Spring 2014	Undergraduate Research Assistant
Melissa Gallo	Fall 2012 - Spring 2013 Fall 2012 - Spring 2014	Graduate Research Assistant Master's Thesis Committee
Jessika Santamaria	Summer 2012 - Spring 2013 Summer 2013 - Fall 2013	Undergraduate Research Assistant Undergraduate Independent Research
Keith Malinak	Summer 2012	Roche STEM Mentor
Raza Elias	Summer 2012 - Fall 2012	Undergraduate Research Assistant
Erin Crehan	Spring 2012 - Fall 2013	Undergraduate Independent Research
Roy Feliciano	Fall 2011 - Spring 2013 Spring 2013	Graduate Research Assistant Graduate Independent Reading
Ashley Miranda	Summer 2011 - Fall 2011	Undergraduate Independent Research
Brian Smith	Summer 2010 - Fall 2010	Undergraduate Research Assistant

Corey Stein	Summer 2010	Undergraduate Research Assistant
Krystle Frederick	Summer 2009	Undergraduate Research Assistant
Kara Malone	Spring 2009	Undergraduate Independent Research
Jacqueline Kuzora	Summer 2008 - Spring 2010 Summer 2010 - Fall 2011	Undergraduate Research Assistant Undergraduate Independent Research
Chad Socha	Summer 2007 - Fall 2008	Undergraduate Research Assistant
Murat Mamkegh	Summer 2007 - Fall 2008	Undergraduate Research Assistant
Kristina Kupryk	Summer 2007	Undergraduate Research Assistant

Research Funding Activity

Donations and new facilities

- May 2017 Honey bee hive-status monitors, gift-in-kind from New Jersey Beekeepers Association
- April 2016 Founded WPU Student Research Apiary with a \$950 gift-in-kind of honey bee colonies from New Jersey Beekeepers Association.

External grant proposals

- In preparation USDA/New Jersey Department of Agriculture Specialty Crop Block Grant Program, in collaboration with New Jersey Beekeeping Association (maximum award of \$40,000)
- May-Aug 2020 Contributor to working group for NSF Improving Undergraduate STEM Education: Hispanic-Serving Institutions (not funded)
- Jan 2015 Collaborator for “MRI: Acquisition of a Next Generation Sequencing System”, NSF MRI Program (not funded).
- April 2014 PI for “Behavioral chemistry of a honeybee foraging pheromone”, USDA AFRI (\$149,277; recommended as high priority for funding; not funded)
- June 2011 PI for “Developing the Honey Bee Waggle-Dance Pheromone as an Agricultural Tool”, USDA AFRI (\$149,525; not funded)
- June 2010 PI for “Developing the Honey Bee Waggle-Dance Pheromone as an Agricultural Tool”, USDA AFRI (\$159,500; not funded)
- April 2009 PI for “Developing the Honey Bee Waggle-Dance Pheromone as an Agricultural Tool”, USDA AFRI (\$299,777; not funded)
- Jan 2007 Co-PI for National Science Foundation: Behavioral Systems (\$55,593; not funded)

TEACHING

Course Experience

Majors Courses, Introductory

BIO 1620: General Biology: Evolution Ecology Biodiversity Lecture (2 semesters)^{RC}

BIO 1620: General Biology: Evolution Ecology Biodiversity Lab (2 semesters)^{RC}

BIO 1640: General Biology II Lecture (4 semesters)

BIO 1640: General Biology II Laboratory (7 semesters)

Majors Courses, Intermediate

BIO 2040: General Biology: Physiology (1 semester)^R

BIO 2490: Ecology Evolution and Behavior (19 semesters)

Majors Courses, Upper-Level

BIO 3500: Animal Behavior (16 semesters)^R

BIO 3180: Zoology (4 semesters)^R

BIO 3990: Parasitology (2 semesters)^D

BIO 4430: Evolutionary Medicine (7 semesters)^D

Majors Courses, Capstone

BIO 4800: Biology Capstone Seminar (12 semesters)^R

Graduate Biology Courses

BIO 5430: Evolutionary Medicine (crosslisted; 7 semesters)^D

BIO 5990: Parasitology (crosslisted; 2 semesters)^D

BIO 5990: Special Topics: Advanced Ecology (1 semester)

BIO 7700: Seminar in Organismal Biology (1 semester)

Non-majors/General-education Courses

BIO 1200: Human Biology Lecture (6 semesters)^C

BIO 1200: Human Biology Laboratory (5 semesters)^C

BIO 1400: Introduction to Animal Behavior (5 semesters)^D

^D *Course that I created, developed, and taught*

^R *Course for which I led an official major revision*

^C *Course for which I have served as Coordinator*

Teaching-Mode Experience

- In-person lecture/discussion including flipped and structured classroom approaches
- In-person laboratories
- In-person seminars
- Writing Intensive: developed and taught two WI courses
- Remote: developed and taught an asynchronous on-line course
- Hybrid: mixed synchronous/asynchronous/in-person courses

Teaching Qualifications

- General biology (all topics at a basic level)
- Animal behavior (basic, intermediate, advanced)
- Invertebrate zoology (basic, intermediate, advanced)
- Vertebrate zoology (basic, intermediate, advanced)
- Entomology (basic, intermediate, advanced)
- Parasitology (basic, intermediate, advanced)
- Evolution (basic, intermediate, advanced)
- Ecology (basic, intermediate, advanced)
- Animal physiology (basic, intermediate, advanced)
- Evolutionary physiology (basic, intermediate, advanced)
- Evolutionary medicine (basic, intermediate, advanced)
- Neurobiology (basic, intermediate, advanced)
- Developmental biology (basic, intermediate, advanced)
- Scientific writing (basic, intermediate, advanced)
- Biology literature seminar (basic, intermediate, advanced)
- Biological math modeling (basic, intermediate, advanced)
- Biological statistics (basic, intermediate, advanced)
- Biological/scientific ethics (basic, intermediate, advanced)
- Human physiology (basic, intermediate)
- Cell biology (basic, intermediate)
- Genetics (basic, intermediate)
- Microbiology (basic)

Pedagogy Workshops

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| Spring 2021 | Microcredential course “Creating an Inclusive and Supportive Online learning Community”, Association of College and University Educators |
| Fall 2016 | Invited panelist at CTE forum “How to get students to read and prepare for class” |
| Spring 2013 | Invited panelist at CTE forum “The New UCC – Two Years Out” |
| Spring 2013 | Author of CTE Newsletter piece on design of UCC science courses |
| Fall 2011 | Invited panelist at CTE forum “Designing Courses for New UCC: Reconceptualizing Not Just Revising” |

SERVICE

Committee Memberships and Service Positions Held

University and College

Fall 2016 - 2017	Faculty representative for Open-access publishing pilot program
Fall 2011 - 2016	Senate Research & Scholarship Council, Science & Health representative, Chairperson for two years
Fall 2013 - 2015	College of Science & Health Center for Research, Biology representative
Fall 2012 - 2013	Strategic Plan Implementation Team 1D, faculty representative
Fall 2010 - 2012	Curriculum Committee, College of Science & Health
Fall 2010 - 2012	AFT Representative from Dept of Biology
Fall 2009 - 2011	University Library Advisory Committee
Summer 2010	Faculty Facilitator for Reforms II Grant
Spring 2010	NSSE Task Force

Department of Biology

Fall 2021 - present	Coordinator for BIO 1620: General Biology EEB
Fall 2021 - present	Independent Study Committee
Fall 2020 - present	Department Council Member
Fall 2015 - present	Scheduling Committee
Fall 2020 - 2021	Assistant Chairperson
Fall 2015 - 2017	Undergraduate Curriculum Committee
Fall 2015 - 2017	Assessment Committee
Fall 2014 - 2015	Faculty Search Committee
Fall 2013 - 2015	Department Council
Fall 2010 - 2014	Assessment Committee
Fall 2011 - 2013	Independent Study Committee
Fall 2010 - 2013	Technician Review Committee
Fall 2007 - 2011	Coordinator for Bio 1200: Human Biology
Fall 2008 - 2010	Undergraduate Curriculum Committee
Fall 2007 - 2010	Student Retention & Recruitment Committee
Fall 2008 - 2009	Department Secretary
Fall 2007 - 2009	Warner/Spivak Fund Committee

Community Service

- Clifton Garden Club
- Connecticut Beekeepers Association
- Marshall Hill Elementary School, West Milford NJ
- New Jersey State Beekeepers
- Northeast New Jersey Beekeepers Association
- Northwest New Jersey Beekeepers Association
- Rutgers Cooperative Extension (Passaic County)
- Sussex County Beekeepers Association
- Wayne High School Science Program
- Wildlife Habitat Council