

PROF\_RAMSEY@COLORADO.EDU

## SAMUEL D. RAMSEY, Ph.D.

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### CURRENT POSITIONS

**Marvin H. Caruthers Endowed Assistant Professor**, (2022-Present)  
BioFrontiers Institute & Department of Ecology and Evolutionary Biology  
University of Colorado, Boulder

**Founder/Director, Ramsey Research Foundation** (2020-Present)

**Host/Science Lesson Manager, Crash Course Biology** (2022-Present)

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### PREVIOUS POSITIONS

**Science Lesson Producer, Khan Academy** (2021)

**Visiting Researcher Appointment, Chiang Mai University** (2017)  
Faculty of Science  
Honey Bee Protection Laboratory

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### EDUCATION & TRAINING

**Post-Doctoral Research Fellow, USDA-ARS** (2018-2022)  
Bee Research Laboratory  
PI: Jay Evans, Daniel Sonenshine, Steve Cook  
Focus: Kleptocytosis: A NOVEL PARASITIC STRATEGY FOR ACCELERATED REPRODUCTION VIA HOST PROTEIN STEALING IN *VARROA DESTRUCTOR*

**Doctor of Philosophy in Entomology**  
**University of Maryland, College Park, MD** (2012-2018)  
Focus: Parasitic/Predatory Arthropod Behavior; Symbiosis & Insect Ecology  
Dissertation: "NOVEL ADAPTATIONS IN MORPHOLOGY, DEVELOPMENT, AND NUTRIENT ACQUISITION FOR HOST EXPLOITATION IN THE MESOSTIGMATID HONEY BEE PARASITE *VARROA DESTRUCTOR*"  
Advisor: Dennis vanEngelsdorp

**Bachelor of Science in Entomology**  
**Cornell University, Ithaca, NY** (2007-2011)  
Thesis: "WHY IS *HARMONIA AXYRIDIS* THE CULPRIT IN COCCINELLID BITING INCIDENTS? AN ANALYSIS OF MEANS, MOTIVE, AND OPPORTUNITY".  
Advisor: John Losey

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## PUBLICATIONS

**Ramsey S**, Cook S, Gulbranson C, vanEngelsdorp D, Evans J, Posada F, Sonenshine D (2022) Kleptocytosis: A Novel Parasitic Strategy for Accelerated Reproduction via Host Protein Stealing in *Varroa destructor*. Proceedings of the National Academy of Sciences (in Review).

Avanesyan A, Waterworth RA, **Ramsey S**, Stelzig O, Shrewsbury PM (2022) -Submitted- "Interspecific and Intraspecific Interactions of *Anastatus redivii*, an Egg Parasitoid of the Brown Marmorated Stink Bug (BMSB), *Halyomorpha halys* Stål (Hemiptera: Pentatomidae)" *Biological Control* (in Review)

**Ramsey S** (2021) "Foreign Pests as Potential Threats to North American Apiculture: *Tropilaelaps mercedesae*, *Euvarroa* spp., *Vespa mandarinia*, and *Vespa velutina*" *Veterinary Clinics of North America: Food Animal Practice*.

**Ramsey S**, Ochoa R, Bauchan G, Gulbranson C, Mowery J, Cohen A, Lim D, Joklik J, Cicero J, Ellis J, Hawthorne D, vanEngelsdorp D. (2019) "*Varroa destructor* (Varroidae) Feeds on Honey Bee Fat Body Tissue Not Hemolymph" *Proceedings of the National Academy of Sciences* 116(5):1792-1801

- **"Highly Cited" study receiving more than 105 times more citations than average article published in PNAS**
- **Featured article in PNAS Volume 116**
- **Cover Image for PNAS Volume 116**

**Ramsey S**, Gulbranson C, Mowery J, Ochoa R, vanEngelsdorp D, Bauchan G. (2018) "A Multi-Microscopy Approach to Discover the Feeding Site and Host Tissue Consumed by *Varroa destructor* on Host Honey Bees" *Microscopy and Microanalysis* 24(S1):1258-1259

Chantawannakul P, **Ramsey S**, Khongphinitbunjong K, vanEngelsdorp D, Phokasem P. (2018) "The *Tropilaelaps* Mite: An Emerging Threat to European Honey Bees." *Current Opinions in Insect Science* 26:69-75.

Chantawannakul P, **Ramsey S**. (2017) "Chapter 1: Introduction to Beekeeping in Asia: Parasites, Pathogens, and Other Stress Factors." *Asian Beekeeping in the 21<sup>st</sup> Century* pp. 4-37

Khaliunaa Tsevegmid, Selenge Dooshin, **Ramsey S**. (2017) "Chapter 6: Beekeeping in Mongolia." *Asian Beekeeping in the 21<sup>st</sup> Century* pp. 94-109

Neumann P, Williams G, Chantawannakul P, **Ramsey S**. (2017) "Chapter 9: Conclusions and Future Perspectives." *Asian Beekeeping in the 21<sup>st</sup> Century* pp. 154-159

**Ramsey S**, vanEngelsdorp D. (2016) "*Varroa destructor*: Beekeeping Public Enemy Number One." *Journal of Beekeeping/Arıcılık Dergisi* 16(1): 1-4

**Ramsey S**, and Losey J. (2012) "Why is *Harmonia axyridis* the Culprit in Coccinellid Biting Incidents? An Analysis of Means, Motive and Opportunity." American Entomologist. 58:166-170.

Losey J, Perlman J, Kopco J, **Ramsey S**, Hesler L, Evans E, Allee L, and Smyth R. (2012). "Potential Causes and Consequences of Decreased Body Size in Field Populations of *Coccinella novemnotata*." Biological Control. 61:98-103.

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## HONORS AND AWARDS

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|-------------|---|
| 2023        | American Association of Professional Apiculturist Award for Outstanding Research Presentation                   |
| 2022        | American Association of Professional Apiculturist Award for Outstanding Research Presentation                   |
| <b>2022</b> | <b>National Geographic Wayfinder Award for innovative pursuit of knowledge on a Global Scale</b>                |
| <b>2021</b> | <b>University of Maryland's "Alumni Excellence Award" for "significant transformational impact in research"</b> |
| 2020        | American Beekeeping Federation's Roger Hoopingarner Award for "Best Scientific Presentation"                    |
| 2019        | American Association of Professional Apiculturist Travel Award  |
| 2019        | American Beekeeping Federation's Roger Hoopingarner Award for "Best Scientific Presentation"                    |
| <b>2018</b> | <b>Acarological Society of America's Highest Award for Advances in Acarology</b>                                |
| <b>2017</b> | <b>First Place and People's Choice Winner of the International Three-Minute Thesis Competition</b>              |
| 2017        | First Place in Maryland State Three-Minute Thesis Competition   |
| <b>2017</b> | <b>American Bee Research Conference's Award for Distinguished Research</b>                                      |
| 2017        | Represented the University of Maryland at the Agricultural Research Congressional Exhibition and Reception      |
| 2012        | University of Maryland College of Computer, Mathematical and Natural Sciences Merit Award                       |

2010

President's Award for Outstanding Undergraduate Research at Entomological Society of America Meeting

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## RESEARCH GRANTS AND FELLOWSHIPS

**National Geographic Explorer Grant**, 100,000\$ "Documenting the Pandemic Potential of Non-native Honey Bee Parasites & Pathogens" (2022-2024). (Ramsey S (PI))

**CU Empowers Grant for Early Career Faculty**, 10,000\$

**APHIS Cooperative Agreement**, 101,067\$ "Determination of the Genetic Distribution of *Vespa mandarinia/Vespa soror* within Native Range as a Means of Determining Origin and Likely Transport Vectors of Pacific Northwest Population" (2022-2023). (Ramsey S (lead PI), Childers A, Evans J, contract to Ramsey Research Foundation)).

**National Honey Board & Project *Apis mellifera* (Pam) Grant**, 49,834\$ "Evaluation of Novel Methods for Control of Parasitic Mites: *Varroa destructor*, *Tropilaelaps mercedesae*, and *Euvarroa sinhai*" (2022). (Ramsey S (lead PI), Suwannapong G).

**Crowd-Sourced Funding**, \$114,848 "Understanding the Biology of the Honey Bee Parasite *Tropilaelaps mercedesae* as It Expands Its Host and Geographic Range" (2019-2021). (Ramsey S (lead PI)).

**Project *Apis mellifera* (PAm) Research Grant**, \$34,347 "Exploration of a Recently Discovered Reproductive Pathway in *Varroa destructor* with Potential to Inhibit Egg Production" (2018-2020). (Ramsey S (lead PI), Cook S, Daniel Sonenshine, vanEngelsdorp D, Evans J).

**APHIS Cooperative Agreement**, \$50,000 "Are Brood Food Components Utilized by *Varroa destructor*" (2016-2017). (vanEngelsdorp D (lead PI), Ramsey S (co-PI), Chantawannakul P).

**APHIS Cooperative Agreement**, \$58,800 "Does Parasitism by *Varroa destructor* Produce a Quantifiable Wing Asymmetry in Eventual Adult Honey Bees Indicative of Overall Health" (2016). (vanEngelsdorp D (lead PI), Ramsey S (co-PI)).

**Project *Apis mellifera* (Pam) Research Grant**, \$28,600 "Do *Varroa* Feed on Host Hemolymph?" (2015-2016). (vanEngelsdorp D (lead PI), Ramsey S (co-PI)).

**Jackie Robinson Foundation Extra Innings Grant**, \$12,000 (2014).

**Gahan Graduate Research Fellowship**, \$10,000 (2013-2015).

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CONFERENCE PRESENTATIONS (Oral/Poster)

**"Current Research Initiatives and Efforts to Exclude *Vespa mandarinia* in the Pacific Northwest"**

**Ramsey S**

Honey Bee Veterinary Consortium, September 22<sup>nd</sup>, 2020. (Virtual)

**"Understanding the *Tropilaelaps* Mite: Analysis of Behavior, Lifecycle, and Potential Treatment Options"**

**Ramsey S**, Chantawannakul P, Evans J, Cook S.

COLOSS Asia Conference, February 7<sup>th</sup>, 2020. Chiang Mai, Thailand.

**"Deformed wing virus induces a posttranslational modification to AKT that leads to a reduction in the biochemical compounds required for sustained flight in the European honey bee *Apis mellifera*"**

Heerman MC, Cook SC, Ryabov E, **Ramsey S**, Y Chen.

Entomological Society of America 67<sup>th</sup> Annual Meeting, November 19<sup>th</sup>, 2019. Louisville, Kentucky.

**"Novel Adaptations in Nutrient Acquisition in *Varroa destructor*: Kleptocytosis of Host Fat Body Proteins"**

**Ramsey S**, Sonenshine D, Evans J, Cook S.

Entomological Society of America 66<sup>th</sup> Annual Meeting, November 11-14<sup>th</sup>, 2018. Vancouver, Canada.

**"*Varroa destructor*: A Paradigm Shift on What and Where They Feed"**

**Ramsey S**, Ochoa R, Bauchan G, Gulbranson C, Mowery J, vanEngelsdorp D.

Acarological Society of America Annual Meeting, November 11-12<sup>th</sup>, 2018. Vancouver, Canada.

**"A Multi-Microscopy Approach to Discover the Feeding Site and Tissue Consumed by *Varroa destructor* on Host Honey Bees"**

**Ramsey S**, Gulbranson C, Mowery J, Ochoa R, vanEngelsdorp D, Bauchan G.

Microscopy and Microanalysis Annual Meeting, August 5-9<sup>th</sup>, 2018. Baltimore, Maryland.

**"*Varroa destructor* Does Not Have a Phoretic Phase, Feeding on Adult Bees via Extra-oral Digestion"**

**Ramsey S**, Ochoa R, Bauchan G, Mowery J, Gulbranson C, vanEngelsdorp D.

American Bee Research Conference 75<sup>th</sup> Annual Meeting, January 9-13<sup>th</sup>, 2018. Reno, Nevada.

**"*Varroa destructor* Feeds Primarily on Honey Bee Fat Body not Hemolymph"**

**Ramsey S**, Ochoa R, Bauchan G, Gulbranson C, Mowery J, Cohen A, Lim D, Joklik J, Cicero J, Ellis J, Hawthorne D, vanEngelsdorp D.  
American Bee Research Conference 74<sup>th</sup> Annual Meeting, January 10-14<sup>th</sup>, 2017. Galveston, Texas.

**"Identifying the Primary Host Tissue Composing the Diet of a Honey Bee Parasitic Mite *Varroa destructor*"**

**Ramsey S**, Gulbranson C, Mowery J, Ochoa R, vanEngelsdorp D, Bauchan G.  
International Congress of Entomology 25<sup>th</sup> Meeting, September 25-30<sup>th</sup>, 2016. Orlando, Florida.

**"Novel In-Vitro Rearing System for Honey Bee Parasitic Mite *Varroa destructor*"**

**Ramsey S**, Ochoa R, vanEngelsdorp D.  
International Conference in Pollinator Biology, Health, and Policy 3<sup>rd</sup> Meeting, July 18-20<sup>th</sup>, 2016. University Park, Pennsylvania.

**"Spatial Preference of *Varroa destructor* on Adult Honey Bees"**

**Ramsey S**, Ochoa R, vanEngelsdorp D.  
American Bee Research Conference 73<sup>rd</sup> Annual Meeting, January 5-9<sup>th</sup>, 2016. Jacksonville, Florida.

**"Investigation of Interactions Between a Native and Exotic Egg Parasitoid of The Brown Marmorated Stink Bug, *Halyomorpha halys* (Hemiptera: Pentatomidae)"**

**Ramsey S**, Dieckhoff C, Hoelmer K, Shrewsbury P.  
Entomological Society of America 62<sup>nd</sup> Annual Meeting, November 16<sup>th</sup>-19<sup>th</sup>, 2014. Portland, Oregon.

**"Biting Behavior of Beneficial Beetles: Quantification of Coccinellid Propensity to Bite Humans"**

**Ramsey S**, Losey J.  
Entomological Society of America 58<sup>th</sup> Annual Meeting, December 12-15<sup>th</sup>, 2010. San Diego, California.

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**NON-REFEREED PRESENTATIONS**

**"Asian Giant Hornets in North America: The Battle Begins"**

**Ramsey S**

- Michigan Beekeepers Association Monthly Meeting, March 5, 2021. (Virtual).
- Audubon Naturalist Society Speaker Series, February 11, 2021. (Virtual)
- Missouri Beekeepers Association Monthly Meeting, October 10, 2020. (Virtual).

- West Virginia Beekeepers Association Fall Conference, October 3, 2020. (Virtual).

**“Biodiversity and Diversity in Bio: The Necessity of Both and Barriers to Achieving Them”**

- University of Massachusetts Amherst, March 9, 2020. (Virtual)
- Audubon Naturalist Society Speaker Series, July 28th, 2021. (Virtual)

**“Invasive Species: The Vexing Reality of our Global Ecosystem”**

**Ramsey S**

- Beekeepers' Guild of San Mateo County, November 5, 2020. (Virtual)
- Nevada County Beekeepers Association, October 1, 2020. (Virtual)
- Audubon Naturalist Society, September 14, 2020. (Virtual)

**“Invasive Species: Why North America Gets More than it Gives”**

**Ramsey S**

- Audubon Naturalist Society, November 17, 2020. (Virtual)

**“*Varroa* & *Tropilaelaps*: Ongoing Research Efforts to Fight the Mites”**

**Ramsey S, Suwannapong G., Chantawannakul P., Sonenshine D., Evans J.**

- University of Colorado Boulder, September 10, 2021 (Virtual)
- New Hampshire Beekeepers Association, April 10, 2021. (Virtual)
- Bees Beyond Borders, April 1, 2021. (Virtual)
- Calgary Beekeepers Association, March 24, 2021. (Virtual)
- British Columbia Honey Producers, March 20, 2021. (Virtual)
- Susquehanna Beekeepers Association, March 10, 2021. (Virtual)
- University of Massachusetts Amherst, March 8, 2020. (Virtual)
- Maryland Entomological Society, February 19, 2021. (Virtual)
- Anne Arundel Beekeepers, February 16, 2021. (Virtual)
- Buncombe County Beekeepers Association, February 1, 2021. (Virtual)
- Chicago Bee, October 18, 2020. (Virtual)
- Missouri State Beekeepers Association, October 10, 2020. (Virtual)
- Beekeepers’ Guild of San Mateo County, September 10, 2020. (Virtual)
- Alameda County Beekeepers Association, September 8, 2020. (Virtual)
- Eastern Piedmont Beekeepers Association, August 17, 2020. (Virtual)
- Tennessee Valley Beekeepers Association, July 14, 2020. (Virtual)

**“Understanding the Mysterious *Tropilaelaps* Mite: Research Findings from Southeast Asia”**

**Ramsey S, Duangpakdee O., Chantawannakul P., Suwannapong G.**

- Howard County Beekeepers Association, June 8, 2021. (Virtual)
- Long Island Bee Club, May 19, 2021. (Virtual)
- Orange County Beekeepers Association, January 14, 2021. (Virtual)
- American Honey Producers Association Winter Conference, December 3, 2020. (Virtual)
- Texas Beekeepers Association, November 7, 2020. (Virtual)
- Virginia State Beekeepers Association, October 8, 2020. (Virtual)
- West Virginia Beekeepers Association Fall Conference, October 3, 2020. (Virtual)
- Montgomery County Beekeepers Association, June 25, 2020. (Virtual)

### **“The Honey Bee Landlord: Understanding Symbiosis”**

**Ramsey S**

- Honey Bee Veterinary Consortium Conference, Sept 1<sup>st</sup>, 2021 (Virtual)
- Texas Beekeepers Association, November 7, 2020. (Virtual)
- West Virginia Beekeepers Association, October 2, 2020. (Virtual)
- Audubon Naturalist Society, September 14, 2020. *Chevy Chase, MD (Virtual)*

### **“Tropilaelaps mercedesae: A Fate Worse than Varroa destructor”**

**Ramsey S**, Suwannapong G.

- Portland Urban Beekeepers, August 4, 2020 (Virtual)
- New Hampshire Beekeepers Association, October 17, 2020. (Virtual)
- El Dorado Beekeepers, CA, October 12, 2020. (Virtual)
- Nevada County Beekeepers Association, July 6, 2020. *(Virtual)*

### **“Tropilaelaps Up Close and Personal: Face to Face with a Mysterious Bee Mite”**

**Ramsey S.**, Khongphinitbunjong K, Chantawannakul P.

- American Beekeeping Federation Conference 2020, January 8, 2020. Schaumburg, Illinois.

### **“Tropilaelaps: An Emerging Threat to Western Apiculture”**

**Ramsey S**, Khongphinitbunjong K, Chantawannakul P.

- Central Ontario Beekeepers Association , July 14, 2021. (Virtual)
- ApiNZ Conference and Trade Exhibition, June 27-29, 2019. *Rotorua, New Zealand.*
- British Beekeepers Association Spring Convention, April 12-14, 2019. Harper Adams University, *Shropshire, England.*
- Chester County Beekeepers Association Annual Beekeeping Conference, March 9, 2019. *West Chester, Pennsylvania.*



- Tri-County Beekeepers Association Spring Workshop, March 2, 2019. *Wooster, Ohio.*
- Integrated Pest Management Workshop, February 4-5, 2019. *Leduc, Alberta, Canada.*
- Maryland State Beekeepers Spring Meeting, February 2, 2019. *Bel Air, Maryland.*
- American Beekeeping Federation Annual Conference, January 8-9, 2019. *Myrtle Beach, South Carolina.*
- Catskill Mountain Beekeepers Club Meeting, November 27, 2018. *East Durham, New York.*
- Massachusetts Beekeepers Association Fall Meeting, November 16-17th, 2018. *Fall River, Massachusetts.*
- Iowa Honey Producers Annual Meeting, November 9-10<sup>th</sup>, 2018. *Ames, Iowa.*
- Pennsylvania State Beekeepers Association Meeting, November 3<sup>rd</sup>, 2018. *State College, Pennsylvania.*
- Long Island Beekeeping Club Meeting, October 14<sup>th</sup>, 2018. *Smithtown, New York.*
- Florida State Beekeepers Association Annual Meeting, October 12-13<sup>th</sup>, 2018. Institute of Food and Agricultural Science Research Extension Center; *Gainesville, Florida.*
- West Virginia Beekeepers Association Annual Conference, August 24-25<sup>th</sup>, 2018. *Fairmont, West Virginia.*
- Eastern Apicultural Society 30<sup>th</sup> Annual Meeting, August 13-17<sup>th</sup>, 2018. *Hampton, Virginia.*
- Frederick County Beekeepers Association, August 1<sup>st</sup>, 2018. *Frederick, Maryland.*
- Heartland Apicultural Society 17<sup>th</sup> Annual Meeting, July 11-13<sup>th</sup>, 2018. *Washington University – St. Louis, Missouri.*
- Seminole/Volusia County Beekeepers Joint Meeting; June 6<sup>th</sup>, 2018. *Sanford, Florida.*
- Alameda/Marin County Beekeepers Joint Meeting; April 7<sup>th</sup>, 2018. *San Rafael, California.*
- Mason Valley Nevada Beekeepers Symposium; February 24<sup>th</sup>, 2018. *Yerington, Nevada.*

**“Pollinators: Underpaid, Understaffed, and Underappreciated”**

**Ramsey S**, vanEngelsdorp D.

- New Hampshire Beekeepers Association, January 28, 2021. (Virtual)
- Audubon Naturalist Society Annual Meeting, October 18, 2018. *Chevy Chase, Maryland.*

**“Varroa Management: How Mites Should be Treated”**

**Ramsey S**, vanEngelsdorp D.

- Honey Bee Veterinary Consortium Conference, Sept 1, 2021. (Virtual)
- Rhode Island Beekeepers Association, June 10, 2021. (Virtual)

- Tennessee Valley Beekeepers Association, May 25, 2021. (Virtual)
- Summit County Beekeepers Association, April 15, 2021. (Virtual)
- Kansas Honey Producers Spring Conference, March 6, 2021. (Virtual)
- New Hampshire Beekeepers Association Monthly Meeting, February 22, 2021. (Virtual)
- Santa Clara Bee Guild, November 2, 2020. (Virtual)
- Chester County Beekeepers Association, August 13, 2020. (Virtual)
- Urban Toronto Beekeepers Association, August 4, 2020. (Virtual)
- Langley Bee Club, June 2, 2020. *British Columbia, Canada.* (Virtual)
- Chester County Beekeepers Association Annual Beekeeping Conference, March 9, 2019. *West Chester, Pennsylvania.*
- University of Florida Bee College, October 12-13, 2018. University of Florida Bee Research Extension Laboratory; *Gainesville, Florida.*
- Mason Valley Nevada Beekeepers Symposium; February 24, 2018. *Yerington, Nevada.*

### **“Honey Bee Internal Anatomy: A Live Guided Dissection”**

**Ramsey S,** Ochoa R.

- West Virginia Beekeepers Association Annual Conference, August 24-25, 2018. *Fairmont, West Virginia.*
- Bee Day Arkansas 5<sup>th</sup> Annual Festival, May 5, 2018. *Little Rock, Arkansas.*
- Honey Bee Forum on Nutrition 9<sup>th</sup> Annual Conference, March 25, 2018. *Chicago, Illinois.*

### **“Varroa Anatomy and Why It Matters to Your Bees”**

**Ramsey S,** Gulbranson C, Mowery J, Bauchan G, vanEngelsdorp D, Ochoa R.

- Honey Bee Veterinary Consortium Conference, Sept 1, 2021 (Virtual)
- Nevada County Beekeepers Association, May 3, 2021. (Virtual)
- Missouri State Beekeepers Association, October 10, 2020. (Virtual)
- Montgomery County Beekeepers Association, February 13, 2019. *Derwood, Maryland.*
- Heartland Apicultural Society 17<sup>th</sup> Annual Meeting, July 11-13, 2018. *Washington University – St. Louis, Missouri.*

### **“Drivers of Honey Bee Colony Losses: What the Data Actually Say”**

**Ramsey S,** Steinhauer N, vanEngelsdorp D.

- Honey Bee Veterinary Consortium Conference, Sept 1, 2021 (Virtual)
- New Hampshire Beekeepers Association, April 10, 2021. (Virtual)
- Kansas Honey Producers Spring Conference, March 6, 2021. (Virtual)
- Frederick County Beekeepers Association, November 4, 2020 (Virtual)
- Institute of Northern Ireland Beekeepers, October 19, 2019. *Dublin, Ireland*

- ApiNZ Conference and Trade Exhibition 2019, June 27-29, 2019. *Rotorua, New Zealand.*
- Chester County Beekeepers Association Annual Beekeeping Conference, March 9, 2019. *West Chester, Pennsylvania.*
- Iowa Honey Producers Annual Meeting, November 9-10, 2018. *Ames, Iowa.*
- University of Florida Bee College, October 12-13, 2018. University of Florida; *Gainesville, Florida.*
- National Honey Bee Day Festival, August 18, 2018. *University of Florida IFAS Extension – Orlando, Florida.*
- Southern Adirondack Beekeepers Association Annual Seminar, March 10, 2018. Ballston Spa, New York.
- Coastal Virginia Beekeepers Association Annual Seminar, January 27, 2018. *Hampton, Virginia.*
- Bristol County Beekeepers Association Annual Meeting, August 19, 2017. *North Dighton, Massachusetts.*
- Mason Valley Nevada Beekeepers Symposium; February 24-25, 2017. *Yerington, Nevada.*

**“*Varroa destructor* (Varroidae) Feeds on Honey Bee Fat Body Tissue Not Hemolymph”**

**Ramsey S**, Ochoa R, Bauchan G, Cohen A, Mowery J, Gulbranson C, Lim D, Joklik J, Cicero J, Ellis J, vanEngelsdorp D.

- Essig Museum of Entomology Brunch Seminar, October 30, 2020. (Virtual)
- New Hampshire Beekeepers Association, October 17, 2020. (Virtual)
- Burapha University Doctoral Thesis Seminar, August 19, 2020. (Virtual)
- Wellington Beekeepers Association Meeting, July 1, 2019. *Wellington, New Zealand*
- ApiNZ Conference and Trade Exhibition 2019, June 27-29, 2019. *Rotorua, New Zealand.*
- Northern Virginia Beekeepers Association Meeting, April 30, 2019. *Annadale, Virginia.*
- British Beekeepers Association Spring Convention, April 12-14, 2019. Harper Adams University, *Shropshire, England.*
- Backyard Beekeepers Association Meeting, March 26, 2019. *Weston, Connecticut.*
- Prince William Regional Beekeepers Association Meeting, March 12, 2019. *Manassas, Virginia.*
- Chester County Beekeepers Association Annual Beekeeping Conference, March 9, 2019. *West Chester, Pennsylvania.*
- Knox County Beekeepers Association, March 3, 2019. *Mount Vernon, Ohio.*
- Tri-County Beekeepers Association Spring Workshop, March 2, 2019. *Wooster, Ohio.*
- Integrated Pest Management Workshop, February 4-5, 2019. *Leduc, Alberta, Canada.*

- Maryland State Beekeepers Spring Meeting, February 2, 2019.  
*Bel Air, Maryland.*
- Ulster County Beekeepers Association Meeting, November 26, 2018.  
*Hudson Valley, New York.*
- Massachusetts Beekeepers Association Fall Meeting, November 16-17th, 2018. *Fall River, Massachusetts.*
- Iowa Honey Producers Annual Meeting, November 9-10<sup>th</sup>, 2018.  
*Ames, Iowa.*
- Pennsylvania State Beekeepers Association Meeting, November 3<sup>rd</sup>, 2018.  
*State College, Pennsylvania.*
- Long Island Beekeeping Club Meeting, October 14<sup>th</sup>, 2018.  
*Smithtown, New York.*
- Florida State Beekeepers Association Annual Meeting, October 12-13<sup>th</sup>, 2018. Institute of Food and Agricultural Science Research Extension Center; *Gainesville, Florida.*
- EurBee 8<sup>th</sup> International Congress of Apidology, September 20<sup>th</sup>, 2018.  
*Ghent, Belgium.*
- Buncombe County Beekeepers Association, September 1<sup>st</sup>, 2018.  
*Fletcher, North Carolina.*
- West Virginia Beekeepers Association Annual Conference, August 24-25<sup>th</sup>, 2018. *Fairmont, West Virginia.*
- Eastern Apicultural Society 30<sup>th</sup> Annual Meeting, August 13-17<sup>th</sup>, 2018.  
*Hampton, Virginia.*
- Coastal Maine Botanical Gardens Special Topic Seminar on Honey Bees, July 27<sup>th</sup>, 2018. *Boothbay, Maine.*
- Carroll County Beekeepers Association Meeting, July 18<sup>th</sup>, 2018.  
*Westminster, Maryland.*
- Heartland Apicultural Society 17<sup>th</sup> Annual Meeting, July 11-13<sup>th</sup>, 2018.  
*Washington University – St. Louis, Missouri.*
- Danish Beekeepers Association Annual Summer Webinar, July 6<sup>th</sup>, 2018.  
*Aarhus, Denmark.*
- Vermont Beekeepers Association Annual Conference, June 23<sup>rd</sup>, 2018.  
*Burlington, Vermont.*
- Barnstable County Beekeepers Association Meeting, June 12<sup>th</sup>, 2018.  
*Barnstable, Massachusetts.*
- Seminole/Volusia County Beekeepers Joint Meeting; June 6<sup>th</sup>, 2018.  
*Sanford, Florida.*
- Honey Bee Forum on Nutrition 9<sup>th</sup> Annual Conference, March 25<sup>th</sup>, 2018.  
*Chicago, Illinois.*
- Susquehanna Beekeepers Association Meeting, March 14<sup>th</sup>, 2018.  
*Fallston, Maryland.*
- Southern Adirondack Beekeepers Association Annual Seminar, March 10<sup>th</sup>, 2018. *Ballston Spa, New York.*
- Honey Bee Health Coalition Hive Management Working Group Webinar, *March 3<sup>rd</sup>, 2018.*
- Howard County Beekeeping Association Meeting, February 13<sup>th</sup>, 2018.  
*West Friendship, Maryland.*

- Seminole County Beekeepers Association Meeting, February 7<sup>th</sup>, 2018. *Sanford, Florida.*
- Coastal Virginia Beekeepers Association Annual Seminar, January 27<sup>th</sup>, 2018. *Hampton, Virginia.*
- Nevada County Beekeepers Association Meeting, April 2<sup>nd</sup>, 2018. *Grass Valley, California.*
- Alameda County Beekeepers Association Meeting, April 3<sup>rd</sup>, 2018. *Oakland, California.*
- Marin County Beekeepers Association Meeting, April 5<sup>th</sup>, 2018. *San Anselmo, California.*
- USDA Special Symposium, December 13<sup>th</sup>, 2017. *Washington, DC.*
- Chiang Mai University Beekeeper Symposium, September 25<sup>th</sup>, 2017. *Chiang Mai, Thailand.*
- Philadelphia Beekeeper Guild Symposium, February 4<sup>th</sup>, 2017. *Philadelphia, Pennsylvania.*
- Eastern Missouri Beekeepers Association Meeting, June 14<sup>th</sup>, 2017. *St. Louis, Missouri.*
- Central Maryland Beekeepers Association Meeting, July 11<sup>th</sup>, 2017. *Cockeysville, Maryland.*
- Bristol County Beekeepers Association Annual Meeting, August 19<sup>th</sup>, 2017. *North Dighton, Massachusetts.*
- USDA APHIS Special Seminar, May 15<sup>th</sup>, 2018. *University of Maryland – College Park, Maryland.*
- Bee Day Arkansas 5<sup>th</sup> Annual Festival, May 5<sup>th</sup>, 2018. *Little Rock, Arkansas.*
- York County Beekeepers Association Meeting, August 24<sup>th</sup>, 2017. *York, Pennsylvania.*
- Virginia State Beekeepers Association Meeting, June 16-17<sup>th</sup>, 2017. *Ferrum, Virginia.*
- Mason Valley Nevada Beekeepers Symposium; February 24-25<sup>th</sup>, 2017. *Yerington, Nevada.*
- Frederick County Beekeepers Association, July 5<sup>th</sup>, 2017. *Frederick, Maryland.*
- Southern Maryland Beekeepers Association, January 21<sup>st</sup>, 2017. *Hughesville, Maryland.*
- Dickinson College's Clark Forum on Beekeeping, March 1<sup>st</sup>, 2017. *Carlisle, Pennsylvania.*
- Capitol Area Beekeeper Association Tri-Country Meeting, March 7<sup>th</sup>, 2017. *Hershey, Pennsylvania.*
- New Jersey Beekeeper Association Winter Meeting, February 11-12<sup>th</sup>, 2017. *Bordentown, New Jersey.*
- Geezer Ridge Farm Beekeeper Continuing Education Course, September 19<sup>th</sup>, 2016. *Martinsburg, West Virginia.*
- Eastern Apicultural Society 28<sup>th</sup> Annual Meeting, July 25-29<sup>th</sup>, 2016. *Calloway, New Jersey.*
- Bowie-Upper Marlboro Beekeeping Club Meeting, October 6<sup>th</sup>, 2016. *Greater Upper Marlboro, Maryland.*

- Maryland State Beekeeper Association Meeting, November 12<sup>th</sup>, 2016. *Annapolis, Maryland.*
- Long Island Beekeeping Club Meeting, November 27<sup>th</sup>, 2016. *Smithtown, New York.*
- Honey Bee Health Coalition Meeting, October 17-18<sup>th</sup>, 2016. University of Maryland – *College Park, Maryland.*

**“How to Communicate Science”  
Ramsey S**

- National Junior Science and Humanities Symposium, May 2-5<sup>th</sup> 2018, *Hunt Valley, Maryland.*

**“Insects: The Most Interesting Thing You’ve Ever Stepped On”  
Ramsey S**

- TEDx Montgomery Blair, April 6<sup>th</sup>, 2017. *Silver Spring, Maryland.*

**“The Merits of Biological Control in Lieu of Chemical Treatment in Sensitive Government Accounts”  
Ramsey S**

- National Library of Medicine at the National Institutes of Health Special Topics Seminar, September 11<sup>th</sup>, 2014. *Bethesda, Maryland.*

**SERVICE**

Served on University of California Riverside’s: Entomology Careers in Academia & Beyond Panel  
*June 2<sup>nd</sup>, 2021*

Partnered with Scholastic to Organize Earth Day Event Elementary and Middle School Students  
*April 22<sup>nd</sup>, 2021*

Partnered with Burapha University in Chonburi, Thailand to Teach Students Essential Skills for a Professional Career as a Researcher  
*2020-Present*

Partnered with Multiple School Systems to Encourage Minority Students to Pursue Careers in STEM via Appearances at Career Days and Other Enrichment Events  
*2018-Present*

Partnered with Maryland Department of Agriculture in Facilitating Maryland Pollinator Protection Plan Summit  
*January 20<sup>th</sup>, 2016. College Park, Maryland.*

Acarology Symposium Moderator at the International Congress of Entomology.  
*September 25-30<sup>th</sup>, 2016. Orlando, Florida*

Created "Doctor Buggs Online Outreach Initiative"  
*October 6<sup>th</sup>, 2015-Present.*

Adjunct Training Faculty Member for Government Pest Management Professionals with American Pest Management  
*2014-2017. Fulton, Maryland.*

Created the Head First Program: "Learning How to Jump In" Designed to Narrow the Achievement Gap Between Minority/Underprivileged Students and Their Peers  
*January 23<sup>d</sup>, 2015-2016. College Park, Maryland.*

"Celebrity Scientist" for Museum Without Walls Children's Science Center  
*August 3<sup>d</sup>, 2014. Fairfax, Virginia.*

University of Maryland Entomology Department Insect Zoo Coordinator  
*April 27<sup>th</sup>, 2013-2017. College Park, Maryland.*

Local Career Day Presenter/Extension Outreach Researcher  
*2011-Present. Maryland; Washington D.C.; Virginia.*

Collaborated with Superintendent of Prince Georges County Public Schools to Reform Science Education on the Secondary School Reform Advisory Council  
*2011-2014. Lanham, Maryland*

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## INTERVIEWS/MEDIA CONTRIBUTIONS

- Seeker, "The Threat to Bees that You Haven't Heard About: Tropi Mites" September 23<sup>rd</sup>, 2021
- Cheddar News, "First Asian Giant Hornet of the Year Discovered in Residential Area in Washington State" June 25<sup>th</sup>, 2021.
- The Today Show, "Cicadas are Just Like Us After the Pandemic, Entomologist Says" June 13<sup>th</sup>, 2021.
- WJLA News (ABC Local Affiliate), "Cicada Expert Tells 7 News Why Thousands of Cicadas Washed Up on This Maryland Beach". June 11<sup>th</sup> 2021.

- CBS News, "Brood X Cicadas Light Up National Weather Radar as U.S. Grapples with Swarms". June 10<sup>th</sup>, 2021.
- WJLA News (ABC Local Affiliate), "Why Did Cicadas Swarm the White House Press Plane? We Asked Dr. Buggs". June 9<sup>th</sup>, 2021.
- WUSA News (CBS Local Affiliate), "Entomologist Explains How to Protect Your Trees, Gardens from Cicadas". May 7<sup>th</sup>, 2021.
- CBS This Morning, "Trillions of Cicadas as Loud as Lawnmowers Emerge in 15 States" May 6<sup>th</sup>, 2021.
- Scholastic Classroom, "This is What an Entomologist Looks Like" April 15, 2021.
- Good Morning America, "Researchers Trap Murder Hornet" August 3<sup>rd</sup>, 2020.
- National Public Radio, "Bug Hunt: Bumblebee Millipede That Could Be a Pet." July 7<sup>th</sup>, 2020.
- National Public Radio, "Bug Hunt: Fuzzy-Reddish Nonflying Ant That is Actually A Wasp". July 20<sup>th</sup>, 2020.
- The Washington Post, "A Quarantine Project That's a Win for You, Your Garden and Pollinators". June 24, 2020.
- The Pollinators (Documentary). June 23<sup>rd</sup>, 2020.
- BBC World Bee Day, "The State of Our Bees". May 20<sup>th</sup>, 2020.
- Roland Martin Unfiltered, "Tell Me About These Murder Hornets Doc". May 17<sup>th</sup>, 2020.
- WUSA News (CBS Local Affiliate) "Doctor Warns of Impact Murder Hornets Could Have on Humans". May 11<sup>th</sup> 2020
- WJZ News (CBS Local Affiliate) "It's 'Highly Unlikely' That 'Murder Hornets' are in Maryland, State Says After Getting Many Calls When Insect Was Found in Washington State". May 4<sup>th</sup> 2020.
- WJZ News (CBS Local Affiliate) "Maryland Entomologist Working to Understand, Control Threats to Honey Bee Population". July 23<sup>rd</sup> 2019.
- The Project New Zealand, "Impending Bee Extinction?" June 26<sup>th</sup>, 2019
- WJZ News (CBS Local Affiliate) "There's a Decline in the Honey Bee Population. A UMD Researcher Has Found the Cause". February 7<sup>th</sup>, 2019.



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## PROFESSIONAL PROFILE ARTICLES

- University of Maryland Alumni Association, "Profile on Research Award Winner: Samuel Ramsey Ph.D. '18" January 12, 2021
- The Washington Post, "Cicada Season Started with a Police Encounter and Ended with a Love Song for this Entomologist" 2020
- *Bee Culture Magazine*, "Annual Interview: Meet Dr. Samuel Ramsey" December 1<sup>st</sup>, 2018
- *Detusches Bienen-Journal* (German Bee Journal) "Werwölfe Statt Vampire (Werewolves Instead of Vampires)" November 3<sup>rd</sup>, 2018
- *Bee Culture Magazine*, "Downtown New Hope in the Fight Against Varroa" January 1<sup>st</sup>, 2018
- University of Maryland's *GradTerp Magazine* "PhD Student Wins International Thesis Competition" December 20<sup>th</sup>, 2017
- Stem Prof Issue 70, "PhD Student Wins Three-Minute Thesis" December 5<sup>th</sup>, 2017
- *Diamondback* "Honey Bees are Dying. In Three Minutes, a UMD Student Can Tell You Why" November 2<sup>nd</sup>, 2017
- *The Times Higher Education* "Bee Decline PhD Student Wins Three-Minute Thesis Prize" October 31<sup>st</sup>, 2017
- Featured in University of Maryland "Fearless Researcher" Advertising Campaign August 4<sup>th</sup>, 2016
- *Atlas Obscura's* "Insect Rearing" for "Bug Week" (2016) June 21<sup>st</sup>, 2016.
- *Pest Control Technology Magazine* titled "Future Leader" September 28<sup>th</sup>, 2012

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## TECHNICAL SKILLS/EXPERIENCE

- Able to Speak Thai Conversationally
- Proficiency with *Noldus Observer* Behavioral Observation Software
- Experienced with Analytical Chemistry and Immunodetection
- Proficiency with fine scale histology and fluorescent labeling of tissues & proteins
- Proficiency with in-vitro rearing of parasitic mites and a diverse range of insects
- Proficiency in beekeeping and honey bee pest management
- Proficiency in effective science communication to researchers and general public

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## SCIENCE COMMUNICATION EXPERIENCE

- |   |                           |
|---|---------------------------|
| Crash Course<br>Science Educator/Host   | October 2022-Present      |
| Tasked with communicating complex scientific concepts in an engaging way to high school and college students in educational videos      |                           |
| Khan Academy<br>Science Educator  | January 2021-October 2021 |
| Tasked with communicating complex scientific concepts to high school and college students via accurate and entertaining teaching videos |                           |
| Twig Education<br>Science Educator  | January 2021-Present      |
| Tasked with communicating complex scientific concepts to middle and high school students through distance learning                      |                           |
| Mystery Science<br>Science Educator   | October 2020-2021         |
| Tasked with communicating complex scientific concepts to kindergarten and elementary school students through distance learning          |                           |
| NPR Shortwave Podcast<br>Entomology Expert  | July 2020-Present         |
| Tasked with explaining the complexities of insect biology to an unspecialized audience  |                           |

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## TEACHING EXPERIENCE

- 2022  
Instructor  
University of Colorado Boulder, CO  
Taught students about the diversity of insects, constructed active learning activities, and field trips for hands on engagement with entomology.  
*EBIO 4660: Insect Biology*
- 2019  
Guest Lecturer  
University of Maryland College Park, MD  
Honey Bee Research: What's Left to Learn?  
Presented about recent findings in honey bee research that reveal that we still have much to learn about this celebrated organism.  
*BSCI121: Introduction to Beekeeping*
- 2019  
Organizer/Presenter  
Greenwich High School Greenwich, CT  
Developing A Solid Thesis Project  
Presented to an auditorium of high school students what will be demanded of them should they choose to pursue a graduate level education and how they can best go about developing a project from conception to fruition.
- 2018  
Co-Organizer/Presenter  
American Society of Agronomy Baltimore, MD  
"Engaging Science 101: Effective Communication by Video in the YouTube Generation"  
  
Structured workshop to familiarize researchers with how to make use of the unique offerings of YouTube to educate the general populace about complicated scientific concepts. This work was conducted in partnership with the Crop Science Society of America, The Canadian Society of Agronomy, and the American Society of Agronomy.
- 2018  
Teaching Assistant  
University of Maryland College Park, MD  
Presented weekly lectures to supplement content from the main lectures, developed and organized engaging lab lessons, created assignments, managed online grading system, corresponded with students  
*BSCI120: The Insects*
- Apr 11, 2017  
Guest Lecturer  
University of Maryland College Park, MD  
"Diversity in Arthropoda"  
Discussed the wide-ranging diversity of arthropods and why they are classified into their respective groups  
*BSCI120: The Insects*
- Fall 2013-2017  
Staff Instructor  
American Pest Management Fulton, MD  
"Keeping the "I" in IPM"

Created presentations to teach pest control professionals about aspects of insect biology that would promote problem solving and translate to greater efficiency on the job

2016                      University of Maryland                      College Park, MD  
Lab Instructor  
Presented weekly supplementary lectures and organized hands-on lab lessons  
*BSCI105: Principles of Ecology and Evolutionary Biology*

2015                      University of Maryland                      College Park, MD  
Lab Instructor  
Organized hands-on lessons, maintained equipment to be used by students, graded assignments and exams as necessary  
*BSCI121: Introduction to Beekeeping*

2015                      University of Maryland                      College Park, MD  
Guest Lecturer                      "*Biology of Parasitoids*"  
Prepared and presented lecture about the unique life strategies of parasitoids  
*BSCI106: Principles of Biology*

2014                      University of Maryland                      College Park, MD  
Lab Instructor  
Presented weekly supplementary lectures and organized hands-on lab lessons  
*BSCI105: Principles of Ecology and Evolutionary Biology*