

RESEARCH INTERESTS

Social insects, Physiology, Neuroethology, Learning and Memory, Behavioral Ecology, Computational Neuroscience.

EDUCATION

2015 to Present: **PhD Thesis: Biology**, Advisor: Prof. Jeffrey A. Riffell (Department of Biology, University of Washington, Seattle, USA). “Visual learning and processing in the honeybee, *Apis mellifera*”

Summer 2018: **Neural System and Behavior** course at the Marine Biology Laboratory, Woods Hole, MA, USA

2013/2014: **MSc degree, 2nd year: Neuroscience, Cognition and Animal Behavior** (University Paul Sabatier, Toulouse, France). Rank 1/15

2012-2013: **MSc degree, 1st year: Biology and Health: Specialization Neuroscience, Cognition and Animal Behavior** (University Paul Sabatier, Toulouse, France). Rank 23/124

2007-2012: **BSc degree: Biology: Specialization Cellular Biology and Physiology**. (2007-2010: University of Strasbourg, France; 2011: University of Valencia, Spain; 2012: University of Toulouse, France).

RESEARCH EXPERIENCES

2015 to Present: **Graduate research fellow**, Advisor: Prof. Jeffrey A. Riffell (Department of Biology, University of Washington, Seattle, USA). “Visual learning and processing in the honeybee, *Apis mellifera*”

November 2012 to June 2014: **Master’s Degree student**, Advisor: Prof. Raphael Jeanson and Prof. Guillaume Isabel (CRCA, CNRS/University of Toulouse, France). “Mechanisms and Modalities of social facilitation during memory retrieval in fruit flies, *Drosophila melanogaster*”

May 2012 to June 2012: **Undergraduate research assistant**, Advisor: Prof. Richard Bon (CRCA, CNRS/University of Toulouse, France). “Collective motion in sheep, *Ovis aries*”

PUBLICATIONS & SEMINARS

Rusch C., Roth E., Vinauger C. and Riffell J.A. (2017) Honeybees in a virtual reality environment learn unique combinations of colour and shape. *J. Exp. Biol.*

Rusch C., Broadhead G.T., Raguso R.A. and Riffell J.A. (2016). Olfaction in context – sources of nuance in plant-pollinator communication. *Curr. Opin. Insect. Sci.* **15**, 53-60

Rusch C., Alonso San Alberto D. and Riffell J.A. Modulation of visual processing by sensorimotor feedback by attention-like processes in *Apis mellifera*. **2019 GRS/GRC Neuroethology** (07/2019, Mount Snow, USA) – **Poster presentation**

Rusch C., Roth E., Vinauger C. and Riffell J.A. Visual learning in honeybees. **Departmental Retreat 2017** (09/2017, Friday Harbor Labs, USA) – **Ignite talk**

Rusch C., Roth E., Vinauger C. and Riffell J.A. Visual learning in tethered honeybees, *Apis mellifera*. **Animal Behavior Society 2017 Annual Meeting** (06/2017, Toronto, Canada) – **Oral presentation**

Rusch C., Roth E., Vinauger C. and Riffell J.A. Visual processing and learning in the honeybee, *Apis mellifera*. **Annual symposium of the HFSP grant** (12/2016, Aspet, France) – **Oral presentation**

Rusch C., Roth E., Vinauger C. and Riffell J.A. Visual learning in a virtual environment. **Final Symposium of the Linnaeus program SLU-ICE3** (05/2016, Alnarp, Sweden) – **Poster presentation**

Rusch C., Roth E., Vinauger C. and Riffell J.A. Neural processing during high-order cognitive task in the honeybee, *Apis mellifera*. **Annual meeting of the Society for Integrative and Comparative Biology** (01/2016, Portland, USA) – **Poster presentation**

Rusch C., Roth E., Vinauger C. and Riffell J.A. *Apis mellifera*, a model for understanding cognitive processing. **Annual symposium of the HFSP grant** (09/2015, Seattle, USA) – **Oral presentation**

Rusch C., Jeanson R. and Isabel G. Mechanisms and Modalities of Social Facilitation during Memory Retrieval in *Drosophila melanogaster*. **44th Conference of the French society for Animal Behavior Research** (SFECA, Paris, July 8-10, 2014) – **Poster presentation**

Rusch C., Jeanson R. and Isabel G. Mechanisms and Modalities of Social Facilitation during Memory Retrieval in *Drosophila melanogaster*. **15th French Conference on Invertebrate Neurobiology** (Toulouse, May 22nd-23rd, 2014) – **Poster presentation**

AWARDS AND FUNDING

2016 – 2018: University of Washington Institute for Neuroengineering Fellowship

Fall 2019: Robin Mariko Harris Graduate Fellowship in Insect Studies (Department of Biology). Lynn Riddiford and James Truman Endowed Fellowship (Department of Biology).

Summer 2018: Grass Foundation - Neural Systems & Behavior Course and NS&B - NIH Grant: Scholarship funds as financial aid support for the course Neural System and Behavior (Marine Biology Laboratory, Woods Hole)

Winter 2018: Robin Mariko Harris Award (Department of Biology)

Winter 2017: Robin Mariko Harris Award (Department of Biology).

ACADEMIC SERVICE AND OUTREACH

Fall 2017 – Present: Officer for the registered student organization SARJE (Scientists Advocating for Representation, Justice and Equity), University of Washington, Seattle, WA, USA

Fall 2018 – Fall 2019: Outreach officer for the Center for Neurotechnology, University of Washington, Seattle, WA, USA

Fall 2018 – Fall 2019: Senator representing the Biology Department at the Graduate and Professional Students Senate, University of Washington, Seattle, WA, USA

Fall 2017 – Summer 2018: Graduate Student Representative on the Research Committee. Department of Biology, University of Washington, Seattle, WA, USA

Summer – Fall 2017: Graduate Student Representative on the Retreat Committee. Department of Biology, University of Washington, Seattle, WA, USA

Fall 2016 – Spring 2017: Graduate Student Notetaker at Faculty Meeting. Department of Biology, University of Washington, Seattle, WA, USA.

2016-Present: Presentation and activities around insect pollinators with elementary and middle schools in Seattle area (Laurelhurst, Bellevue, etc.)

2016-Present: Presentation around honeybees with local association or community groups (Puget Sound Beekeeping Association, Scarabs Association, Whidbey Island Beekeepers Association, St Mary Magdalen Parish etc.)

2016-2019: Volunteer for Brain Awareness Week. UW neurosci. community outreach, Seattle, WA, USA

Fall 2016: Reviewer for the undergraduate journal "Grey Matters". University of Washington, Seattle, WA, USA.

2016/06/28: Oral presentation on history of bee's research. Beekeeping class, ESRM 491D, University of Washington, Seattle, WA, USA

REFEREES

-Professor Jeffrey A. Riffell

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-Professor Clement Vinauger

Department of Biochemistry, Virginia Polytechnic Institute and State University, VA 24061, USA

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e-mail: vinauger@vt.edu

-Professor Thomas L. Daniel

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-Professor J. Nathan Kutz

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