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CONTACT DETAILS

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EDUCATION

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| 10/02/2012 – 29/07/2016 | University of Queensland, Australia <ul style="list-style-type: none">• PhD Chemical and Biological Sciences• Visual Ecology Laboratory• <i>Understanding colour and chemical diversity in nudibranchs</i>• Supervisors: Dr. Karen Cheney, Prof. Mary Garson, Dr. Nerida Wilson, Dr. Simon Blomberg, Prof. Justin Marshall |
| 04/10/2010 – 07/11/2011 | University of Exeter, UK <ul style="list-style-type: none">• MSc Evolutionary and Behavioural Ecology• Behaviour Research Group• <i>Maternal effects and warning signal honesty in the eggs and offspring of an aposematic ladybird beetle</i>• Supervisor: Prof. Jon Blount |
| 17/10/2006 – 15/05/2010 | The University of Southern Mississippi, USA <ul style="list-style-type: none">• BSc (with honours) Environmental Biology• Aquatic Insect Ecology Lab• <i>Variation in performance of two co-occurring mosquito species across diverse resource environments: insights from nutrient and stable isotope analysis</i>• Supervisor: Dr. Donald Yee |

EMPLOYMENT: RESEARCH AND TEACHING

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| 01/12/2020 – Present | Marie Skłodowska-Curie Individual Research Fellow
College of Life and Environmental Science
Sensory Ecology Laboratory
University of Exeter, United Kingdom |
| 18/03/2019 – 30/11/2020 | Post-doctoral Researcher
Department of Biological and Environmental Sciences
Predator Prey Interactions Laboratory
University of Jyväskylä, Finland

Lectures
EKOS1078 – Evolutionary Ecology and Life Histories <ul style="list-style-type: none">• Signal Evolution• Predator-Prey Interactions |

24/03/2016 – 08/02/2017	Research Assistant Visual Ecology Laboratory University of Queensland, Australia
17/06/2013 – 08/02/2017	Teaching Assistant School of Biological Sciences University of Queensland, Australia Heron Island Research Station: • Stanford University Bing Overseas Program • BIOL3023 – Tropical Marine Ecosystems • Hobart, William Smith, and Union Colleges International Programs – Marine Ecology Moreton Bay Research Station: • MARS2005 – Australia's Marine Environment • Hobart, William Smith, and Union Colleges International Programs – Marine Ecology • Science Camps for Queensland high schools Brisbane Campus Laboratories: • BIOL3207 – Animal Behaviour • BIOL2204 – Zoology • BIOL1030 – Global Challenges in Biology

SUPERVISING AND MENTORING

2019 – 2021	University of Jyväskylä, Finland Predator Prey Interactions Laboratory • Jenna Lomi – Masters Student • Marjut Mähönen – Masters Student • Riccardo Tambornini – Masters Student Erasmus + scheme traineeship
2014 – 2016	University of Queensland, Australia Visual Ecology Lab • Sean Youn – SIT Rainforest, Reef, and Cultural Ecology • Natalie Meiklejohn – Advanced Studies Program in Science • Isaac Towers – UQ Summer Research Scholarship Program

PUBLICATIONS

- Ottocento C., **Winters A.E.**, Rojas B., Mappes J. Burdfield-Steel E. (*in prep*) Variation in chemical defence across wood tiger moth *Arctia plantiginis* populations and its relevance in defence against birds
- Winters, A. E.**, Chan, W., White, A. M., van den Berg, C. P., Garson, M. J., & Cheney, K. L. (2021). Weapons or deterrents? Nudibranch molluscs use distinct ecological modes of chemical defence against predators. *Journal of Animal Ecology*. DOI: 10.1111/1365-2656.1364.13643
- Winters, A. E.**, Lommi, J., Kirvesoja, J., Nokelainen, O., & Mappes, J. (2021). Multimodal aposematic defenses through the predation sequence. *Frontiers in Ecology and Evolution*, 512. DOI: 10.3389/fevo.2021.657740
- Lindstedt, C., Suisto, K., Burdfield-Steel, E., **Winters, A.E.**, & Mappes, J. (2020). Defence against predators incurs high reproductive costs for the aposematic moth *Arctia plantiginis*. *Behavioral Ecology*. DOI: 10.1093/beheco/araa033

- Winters, A.E.**, White, A.M., Cheney K.L., & Garson, M.J. (2019) Geographic variation in diterpene-based secondary metabolites and level of defence in an aposematic nudibranch mollusc. *Journal of Molluscan Studies*. 85(1): 133-142. DOI: 10.1093/mollus/eyy057
- Winters, A.E.**, Wilson, N.G., van den Berg, C.P., How, M.J., Endler, J.A., Marshall, N.J., White, A.M., Garson, M.J., & Cheney, K.L. (2018). Toxicity and taste: unequal chemical defenses in a mimicry ring. *Proceedings of the Royal Society B: Biological Sciences*. 285(1880): 20180457. DOI: 10.1098/rspb.2018.0457.
- Winters, A.E.**, White, A.M., Dewi, A.S., Mudianta, I.W., Wilson, N.G., Forster, L.C., Garson, M.J., & Cheney, K.L. (2018) Distribution of defensive metabolites in nudibranch molluscs. *Journal of Chemical Ecology*. 44(4): 384-396. DOI: 10.1007/s10886-018-0941-5.
- **Journal Cover Image**
- Winters, A.E.**, Green, N.F., Wilson, N.G., How, M.J., Garson, M.J., Marshall, N.J., & Cheney, K.L. (2017). Stabilising selection on individual pattern elements of aposematic signals. *Proceedings of the Royal Society B: Biological Sciences*. 284(1861): 20170926. DOI:10.1098/rspb.2017.0926.
- Forster, L. C., **Winters, A.E.**, Cheney, K.L., Dewapriya, P., Capon, R.J., & Garson, M.J. (2016). Spongian-16-one Diterpenes and Their Anatomical Distribution in the Australian Nudibranch *Goniobranchus collingwoodi*. *Journal of Natural Products*. 80(3): 670-675. DOI: 10.1021/acs.jnatprod.6b00936.
- Wilson, N G., **Winters, A.E.**, & Cheney, K.L. (2016) Tropical range expansion for the temperate, endemic south-eastern Australian nudibranch *Goniobranchus splendidus* (Angas, 1864). *Diversity*. 8(3):16. DOI:10.3390/d8030016.
- White, A. M., Dewi, A.S., Cheney, K.L., **Winters, A.E.**, & Garson, M.J. (2016). Oxygenated diterpenes from the Indo-Pacific nudibranchs *Goniobranchus splendidus* and *Ardeadoris egretta*. *Natural Product Communications*. 11(7): 921-924.
- Hirayama, Y, Katavic, P.L., White, A.M., Pierens, G.K., Lambert, L.K., **Winters, A.E.**, & Garson, M.J. (2016). New cytotoxic norditerpenes from the Australian nudibranchs *Goniobranchus splendidus* and *Goniobranchus daphne*. *Australian Journal of Chemistry*. 69(2): 136-144. DOI:10.1071/CH15203.
- Cheney, K.L., White, A.M., Mudianta, W., **Winters, A.E.**, Quezada, M., Capon, R.J., Mollo, E., & Garson, M.J. (2016). Choose your weaponry: selective storage of a single toxic compound, latrunculin A by closely related nudibranch molluscs. *PloS one*. 11(1): e0145134. DOI:10.1371/journal.pone.0145134.
- White, A.M., Pierens, G.K., Forster, L.C., **Winters, A.E.**, Cheney, K.L., & Garson, M.J. (2015). Rearranged Diterpenes and Norditerpenes from three Australian *Goniobranchus* Mollusks. *Journal of Natural Products*. 79(3): 477- 483. DOI:10.1021/acs.jnatprod.5b00866.
- Winters, A.E.**, Stevens, M., Mitchell, C., Blomberg, S.P., & Blount, J.D., (2014). Maternal effects and warning signal honesty in the eggs and offspring of an aposematic ladybird beetle. *Functional Ecology*. 28(5): 1187-1196. DOI:10.1111/1365-2435.12266.
- Mudianta, W., White, A.M., Katavic, P.L., Krishnaraj, R.R, **Winters, A.E.**, Mollo, E., Cheney, K.L., & Garson, M.J. (2014). Chemoecological studies on marine natural products: terpene chemistry from marine mollusks. *Pure and Applied Chemistry*. 86(6): 995-1002. DOI:10.1515/pac-2013-1111.
- Cheney, K.L., Cortesi, F., How, M.J., Wilson, N.J., Blomberg, S.P., **Winters, A.E.**, Umanzör S, & Marshall, N.J. (2014). Conspicuous visual signals do not coevolve with increased body size in marine sea slugs. *Journal of Evolutionary Biology*. 27(4): 676-687. DOI:10.1111/jeb.12348.
- **Journal Cover Image**
- Wayan, M., Challinor, V.L., **Winters, A.E.**, Cheney, K.L., DeVoss, J.J., & Garson, M.J.

(2013). Synthesis and determination of the absolute configuration of (-)-(5R, 6Z)-dendrolasin-5-acetate from the nudibranch *Hypselodoris jacksoni*. *Beilstein Journal of Organic Chemistry*. 9(1): 2925-2933. DOI:10.3762/bjoc.9.329.

Winters, A.E., & Yee, D.A. (2012). Variation in performance of two co-occurring mosquito species across diverse resource environments: insights from nutrient and stable isotope analysis. *Ecological entomology*. 37(1): 56-64. DOI:10.1111/j.1365-2311.2011.01337.x.

PRESENTATIONS

Winters, A.E., (2021) Chemical defenses of aposematic species: disrupting attack with weapons and signals. European Society for Evolutionary Biology satellite symposium: Evolution of Multiple Prey defences. (**keynote**)

Winters, A. E., Lommi, J., Kirvesoja, J., Nokelainen, O., & Mappes, J. (2021) Multimodal aposematic defenses through the predation sequence. Arctiinae Research Community Meeting. (talk)

Winters, A.E., (2019) Nudibranch anti-predator defences. University of Jyväskylä Department seminar series. Jyväskylä, Finland. (talk)

Winters, A.E., Green, N.F., Wilson, N.G., How, M.J., Garson, M.J., Marshall, N.J., & Cheney, K.L. (2019). Stabilising selection on individual pattern elements of aposematic signals. Congress of the European Society for Evolutionary Biology. Turku, Finland. (poster)

Winters, A. E., Wilson, N.G., van den Berg, C.P., How, M.J., Endler, J.A., Marshall, N.J., White, A.M., Garson, M.J., & Cheney, K.L. (2016). Marine butterflies: warning signals and mimicry in nudibranch molluscs. Anti-Predator Coloration Symposium Exeter Penryn Campus, UK. (talk)

Winters, A.E., Wilson, N.G., How, M.J., Garson, M.J., & Cheney, K.L. (2016). Marine butterflies: a putative mimicry ring in nudibranch molluscs. ISBE Exeter, UK. (poster)

Winters, A.E., Garson, M.J., Wilson, N.G., How, M.J., White, A.M., & Cheney, K.L. (2015) Warning signal variation in the nudibranch mollusc *Goniobranchus splendidus*. Behaviour, Cairns, Australia. (talk)

Winters, A.E. Nudibranchs of Moreton Bay. Moreton Bay Research Station Open Day Public Lecture Series, Stradbroke Island, Australia. (talk)

Winters, A.E., Garson, M.J., White, A.M., Mudianta, W., & Cheney, K.L. (2014) Understanding colour and chemical diversity in nudibranchs. International Society for Behavioural Ecology, NYC, USA. (talk)

Winters, A.E., Garson, M.J., Wilson, N.G., Marshall, N.J., Blomberg, S.P., & Cheney, K.L. (2012) The evolution of chemical defence and visual warning signals in nudibranchs. European Meeting of PhD Students in Evolutionary Biology 19th Annual Meeting, Exeter Penryn Campus, UK. (talk)

Winters, A.E & Yee, D.A. (2010) Are you what you eat? Development times, mass, and stable isotope ratios of the mosquitoes *Culex restuans* and *Aedes albopictus* grown on different detritus types. Ecological Society of America's 95th Annual Meeting, Pittsburgh Pennsylvania, USA. (talk)

Winters, A.E & Yee, D.A. (2010) Patterns of Oviposition for *Culex* mosquitoes in response to *Aedes albopictus* larvae. Mississippi Academy of Sciences, Hattiesburg Mississippi, USA. (poster)

Winters, A.E & Yee, D.A. (2010) *Culex* oviposition in response to *Aedes albopictus* larvae and

development of *Culex restuans* and *Aedes albopictus* in different detritus types. Mississippi Mosquito Vector and Control Association. Pearl Mississippi, USA. (talk)

Winters, A.E & Yee, D.A. (2010) Development of *Culex restuans* and *Aedes albopictus* on different detritus types. University of Southern Mississippi, E3 Lecture Series. Hattiesburg Mississippi, USA. (talk)

AWARDS AND FUNDING

2019	Marie Skłodowska-Curie Actions Individual Fellowship (319,400 EURO)
2016	Conference travel grant to ISBE (1,700 USD)
2016	UQ Travel Grant to Behaviour (800 AUD)
2014	Experiment.com crowd funded project (2,010 USD)
2014	Conference travel grant to ISBE (2,000 USD)
2013	Australian Geographic Sponsorship (1,500 AUD)
2013	Conference travel grant to EMPSEB 19 (400 EUR)
2013-2014	Moreton Bay Research Station Scholarship (1,000 AUD)
2012-2015	University of Queensland International Scholarship (Tuition)
2012-2015	Endeavour Postgraduate Award (PhD) (228,500 AUD)
2011	University of Exeter MSc Commendations: Best Research Project Mark Best Overall MSc Mark Dean's Commendation for Exceptional Performance
2010	Ecological Society of America Best Undergraduate Presentation Award
2010	Distinguished Senior in Biological Sciences, USM

MEDIA AND OUTREACH

2020	Contributions to Evolution in Action Science Education Project material
2019	PBS News Hour article 'Why these sea slugs look so much like David Bowie'
2018	Biosphere Magazine article 'Spot the Difference'
2017	Science Daily article 'How fish recognize toxic prey'
2017	AAS EurekAlert article 'Researchers discover how fish recognize toxic prey'
2016	IFL Science 'Sea slugs stock upon toxic chemicals from the sponges they eat'
2016	Scope (Australian TV Series) Season 3, episode 103 'Animals vs Science'
2016	Lab representative at Nelson Bay 'Sea Slug Census' citizen science project
2014	Talk at the Moreton Bay Research Station Open Day Public Lecture Series
2013	Totally Wild (Australian TV Series) Season 21, episode 82 'Colours'
2013	Voted 2 nd place poster by the public at University of Exeter's 'For the Love of Science' public engagement event

PROFESSIONAL SERVICE

- Journal Referee for: American Naturalist, Biology Letters, Proceedings of the Royal Society B, Behavioural Ecology, Scientific Reports, PeerJ, Royal Society Open Science
- Grant Referee for: French National Research Agency (ANR)
- Thesis Referee: Masters thesis evaluation for Burak Dogan "Weather fluctuation-induced constraints of adaptive coloration of the wood tiger moth" – University of Jyväskylä.
- Chair of talk sessions 1 & 2: Warning signal diversity and evolution, Anti-predator Colouration Symposium, Exeter Penryn Campus, UK

ORGANIZED RESEARCH EXPEDITIONS

- Lizard Island Research Station, Great Barrier Reef, Australia: Specimen collection (SCUBA) and behavioural experiments with triggerfish. (15/01/2013 – 13/02/2013) and (22/05/2014 – 13/06/2014)
- Moreton Bay Research Station, Stradbroke Island, Australia: Collection (intertidal) and behavioural experiments with toadfish: 6 trips totalling 2 months in 2014
- Nelson Bay, & Sydney, New South Wales, Australia: Specimen collection (SCUBA) and photography of nudibranchs. (10/11/2013 – 16/11/2013)
- Coffs Harbour, New South Wales, Australia: Specimen collection (SCUBA) and photography of nudibranchs. (20/10/2014 – 24/10/2014)

OTHER RELEVANT SKILLS

- Full, clean USA driver's license
- Scientific Diver (Part 1R: Restricted Occupational, Australian Diver Accreditation Scheme), Advanced Diver (Scuba Diving International), Open Water Diver (PADI)
- Marine Radio Operators Certificate of Proficiency