Dr Kevin Healy

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Research summary

My research focuses on the ecology and evolution of animal aging, venom potency and foraging behavior. I also aim to develop predictive tools for stable isotope analysis and bioprospecting. Since joining NUIG I have published four papers, my H-index increased from 6 to 9 and my research has gained an additional 230 citations. I supervise one PhD student in NUIG and co-supervise one PhD student based in Trinity College Dublin.

Academic Career

2019 - Present: Lecturer in Zoology (Below the Bar), The National University of Ireland, Galway.

2017 - 2018: Marie Skłodowska-Curie Individual Fellow, The University of St Andrews. Funded by Horizon 2020.

2015 - 2017: Post Doctoral research position in Zoology, Trinity College Dublin.
Funded by Science Foundation Ireland.

Education

2011 - 2015: Ph.D. in Zoology, Trinity College Dublin.
Funded through the Earth and Natural Sciences Doctoral Studies Programme.

2007-2011: B.A. Mod in Zoology, First class honours (77%), Trinity College Dublin.

Awards and Grants

2019: College of Science Scholarship (€48000, plus student levy fee).
2019: British Ecology Society workshop fund (€1,200).
2017: Marie Skłodowska-Curie Individual Fellowship (MSCA-IF). Funded by Horizon 2020 (€183,454.80).
2017: Government of Ireland Postdoctoral Fellowship. Funded by the Irish Research Council (€91,330) *I declined this award to accept the MSCA-IF.
2014: Gordon Research Seminar mentoring program position. Funded by Gordon Research Conferences and the National Science Foundation. (€1,300)
2011: Awarded Gold medal in my B.A Mod. Zoology for ”exceptional merit at degree examinations”

Publications

I have published 12 peer review publications to date, four of which I published since joining NUIG in 2019. My publications have been cited a total of 631 times, my H index is 9 and my H-10 index is 8 (Google Scholar).

Mooney, A., Conde, A, D., **Healy, K.,** and Buckley, Y.M. 2020. A system wide approach to managing zoo collections for visitor attendance and in situ conservation. ***Nature Communications***, **11**, 1-8. ddoi.org/10.1038/s41467-020-14303-2. Link to paper. Journal impact factor = 11.880.

Lyons, K., Dugon, M, M., **Healy, K.** 2020. Diet Breadth Mediates the Prey Specificity of Venom Potency in Snakes. ***Toxins***, **12**, 74. doi.org/10.3390/toxins12020074. Link to paper. Journal impact factor = 3.273.

Healy, K., Ezard, T.H.G., and Jones, O.R., Salguero-Gómez, R., and Buckley, Y.M. 2019. Animal life history is shaped by the pace of life and the distribution of age-specific mortality and reproduction. ***Nature Ecology and Evolution***, **3**, 1217-1224. doi.org/10.1038/s41559-019-0938-7. Link to paper. Journal impact factor = 10.965, 9 Google scholar citations.

Healy, K., Carbone, C., and Jackson, A.L. 2019. Snake venom potency and yield are associated with preyevolution, predator metabolism and habitat structure. ***Ecology Letters***, **22**, 527-537. doi:10.1111/ele.13216. Link to paper. Journal impact factor = 8.699, 8 Google scholar citations.

Healy, K., Guillerme, T., Kelly, S.B.A., Inger, R., Bearhop, S., Jackson, A.L. 2017. SIDER: an R package for predicting trophic discrimination factors of consumers based on their ecology and phylogenetic relatedness. ***Ecography***. doi:10.1111/ecog.03371. Link to paper. Journal impact factor = 4.52, 29 Google scholar citations.

Adam Kane, **Healy, K.,**, Guillerme, T., Ruxton, G., and Jackson A.L. 2017. A recipe for scavenging and natural history. ***Ecography***. doi:10.1111/ecog.02817. Link to paper. Journal impact factor = 4.52, 13 Google scholar citations.

Kane, A., ***Healy, K.,** Ruxton, G.D., and Jackson, A.L. 2016. Body size drives importance of scavenging in theropods. ***The American Naturalist***. **6** (187), 706-716. DOI: 10.1086/686094. Link to paper. *Joint-First author. Journal impact factor = 4.265, 9 Google scholar citations.

Donohue, I., Hillebrand, H., Montoya, J.M., Petchey, O.L., Pimm, S.L., Fowler, M.S., **Healy, K.,** Jackson, A.L., Lurgi, M., McClean, D., O'Connor, N.E., O'Gorman, E.J., Yang, Q. 2016. Navigating the complexity of ecological stability. ***Ecology Letters***. **19** (9), 1172-1185. doi:10.1111/ele.12648. Link to paper. Journal impact factor = 8.699, 149 Google scholar citations.

Healy, K., Guillerme, T., Finlay, S., Kane, A., Kelly, S.B.A., McClean, D., Kelly, D.J., Donohue, I., Jackson, A.L. and Cooper, N., 2014. Ecology and mode-of-life explain lifespan variation in birds and mammals. ***Proceedings of the Royal Society B***, **281**(1784), 20140298. DOI:10.1098/rspb.2014.0298. Link to paper. Journal impact factor = 4.304, 118 Google scholar citations.

Healy, K., McNally, L, Ruxton, G., Cooper, N. and Jackson, A.L. 2013. Metabolic rate and body size linked with perception of temporal information. ***Animal Behaviour***. **86**, 685-696. DOI:10.1016/j.anbehav.2013.06.018. Link to paper. Journal impact factor = 2.675, 105 Google scholar citations.

Donohue, I., Petchey, O.L., Montoya, J.M., Jackson, A.L., McNally, L., Viana, M., **Healy, K**., Lurgi, M., OConnor, N.E. and Emmerson, M.C. 2013. On the dimensionality of ecological stability. ***Ecology Letters***. **16**, 421-429. DOI:10.1111/ele.12086. Link to paper. Journal impact factor = 8.699, 165 Google scholar citations.

Comment response
Healy, K. 2015. Eusociality but not fossoriality drives longevity in small mammals. *Proceedings of the Royal Society B*, **282**, 20142917. DOI:10.1098/rspb.2014.2917. Link to paper. I carried out additional analysis in response to a comment on my 2014 paper where I show eusociality but not fossoriality is a driver of longevity in mammals. Journal impact factor = 4.304, 10 Google scholar citations.

Statistical packages
Guillerme, T., **Healy, K.,** 2014. mulTree: a package for running MCMCglmm analysis on multiple trees. ZENODO. DOI: 10.5281/zenodo.12902. This package has been cited 16 times and is hosted on GitHub (https://github.com/TGuillerme/mulTree).

Teaching

National University of Ireland, Galway
- I teach one third of the second year Invertebrate Biology module (5 ECTs, ZO218)
- I teach one third of the third year Concepts in Population and Community Ecology module (5 ECTs, ZO320).
- I teach half of the fourth year Marine and Coastal Ecology module (5 ECTs, ZO417)
- I teach one third of the fourth year Advanced Zoology Topics module (5 ECTs, ZO414)
- I teach one sixth of the fourth year Integrative Zoology module (5 ECTs, ZO416)
- I supervised four final year zoology projects in 2019 (15 ECTs, ZO416)
- I assigned five fourth year Literature Reviews (5 ECTs, ZO425)
- I assigned three fourth year Marine Science Essays (5 ECTs, MR409)

University of St Andrews
- Lecture: Introduction to the metabolic theory of ecology for the first year Biology Comparative Physiology module.
- Contributed to the development of a third year Biology module on Animal-Plant Interactions.

Trinity College Dublin
- I developed and taught a Macroevolution series for the Zoology final year Evolution module.
- I delivered lectures on ”Altruism” as part of the 2nd year Introduction to Evolution module.
- I led Research Comprehension classes for final year Zoology students.
- Field assistant for the 3rd year Zoology Terrestrial Ecology field course.
- I ran a walk-in thesis statistics help workshops for final years students.

Workshop Teaching
- I organised the upcoming ”An introduction to Bayesian approaches in Macroecology” in NUIG.
- I ran a two day comparative analysis workshop in University College Cork
- I ran a component for the ”Comparative Approaches in Ecology and Evolution” workshop at the Max Plank Institute for Demographic Research, Rostock, Germany.

Student supervision
- I am currently acting as the supervisor for one PhD student based in NUIG (Funded by a College of Science Scholarship) and I co-supervisor a PhD based in Trinity. College Dublin (Funded by SFI).

Academic service and Outreach

Academic service

- I initiated and run the Galway Ecology and Evolution group (GEEK club).
- I am a committee member for the BES Macroecology Special Interest Group and I was on the organising team for the Special Interest Groups annual meeting in St Andrews 2018.
- Expert reviewer for the Deutsche Forschungsgemeinschaft (German Research Foundation)
- Member of the Open Scholarship Community Galway Group.
- I co-organised the symposium ”Exploring life history evolution across multiple scales” at the II Joint Congress on Evolutionary Biology in Montpellier, 2018.
- Committee member for the Irish Ecological Association from 2016 to 2018.
- Postgraduate representative for the Zoology Department, Trinity College Dublin, 2014-15.
- I regularly act as a reviewer for international journals

Academic service to NUIG

- Committee member on the SNS Learning, Teaching and Assessment board.
- Committee member on the Thomas Crawford Hayes board.
- Member of the Biodiversity and Bioresources research cluster.
- I act as the second year course coordinator for Zoology
- I act as the module coordinator for ZO208 and ZO209

Outreach

- I wrote an RTE Brainstorm article on aging in animals in 2020. (link to article).
- I discussed my research on the BBC ”A Sense of Time” podcast (link to podcast).
- I contributed to the NPR Invisibilia podcast series (to be aired 2020).
- I gave a TEDxUCD talk on lifespan evolution in animals in 2015 (link to talk).
- I featured in the documentary ”Superpowers of naked mole rats” which was broadcasted on French-German channel Arte early in 2018.
- I co-organised three Discover Research Night events (2013-15) in the Zoology Museum, Trinity College Dublin, receiving an average attendance of 200 each year.

Conferences and public speaking

Invited and Keynote talks

2020: Invited seminar speaker to University College Dublin
”The Macroecology of life and death”

2018: Invited seminar speaker to Swansea University
”The Macroecology of animal trophic ecology and life history strategies”

2016: Invited seminar speaker to the Animal and Plant Sciences Department in The University of Sheffield. ”Mapping animal life-history strategies”

2015: TEDxUCD speaker. ”Listening to evolutionary oddities”.

2015: Invited speaker to the Dublin Science Gallery Dark Secrets event.
”BIOLUMINESCE: How living organisms produce and emit light”

2014: Keynote student speaker at the BES Macroecology meeting, Nottingham.
”Ecology and mode-of-life explain lifespan variation in birds and mammals”.

2014: Invited speaker to the Irish Longitudinal Study on Aging group (TILDA).
”Ecology and mode-of-life explain lifespan variation in birds and mammals”.

2014: Invited speaker to the Dublin Science Gallery DEAD BEATS event.
”Why so venomous?”.

Professional Training

2020: Enrolled to CEL6102 Teaching online module as part of th the CELT postgraduate diploma in academic practice. National University of Ireland, Galway.

2019: One day T4 training website editing workshop, National University of Ireland, Galway.

2019: One day Research Supervisor Workshop. National University of Ireland, Galway.

2018: Passport to Research Futures: Structured development programme aimed at professional development for early career researchers. University of St Andrews.