

Thomas Guillaume

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RESEARCH INTERESTS

I'm interested in evolutionary biology at a large scale: the stories behind the history of life and the methodologies with which it is investigated. By combining classical methods such as descriptive palaeontology with modern bioinformatics tools and mathematical modeling, I work on understanding how to use morphology in evolutionary biology: from phylogenetic theory to macroevolution and macroecology.

ACADEMIC CAREER

- 2017 - Present: Postdoctoral Research Fellow in Vera Weisbecker's group
School of Biological Sciences
University of Queensland, St Lucia, Australia
- 2016 - 2017: Research Associate in Martin Brazeau's group
Faculty of Natural Sciences, Department of Life Sciences
Silwood Park Campus, Imperial College London, UK

EDUCATION

- 2012 - 2015: PhD in Zoology, Trinity College Dublin
Macroevolution with living and fossil species
Awarded as it stands.
<http://dx.doi.org/10.6084/m9.figshare.1583337>
- 2010 - 2012: MSc in Palaeontology (honours), Université de Montpellier
2nd year project: *Molecular clocks and evolutionary rates among primates: a palaeontological and genomic approach.*
1st year project: *Southern France Upper Cretaceous Theropod teeth variability.*
- 2007 - 2010: BSc in Biology, Université de Montpellier

PUBLICATIONS

Peer reviewed - [Google Scholar profile: Thomas Guillaume](https://scholar.google.com/citations?user=goo.gl/OP1XQG)

- 2018: **Guillaume T.** dispRity: a modular R package for measuring disparity. *Methods in Ecology and Evolution*, DOI: [10.1111/2041-210X.13022](https://doi.org/10.1111/2041-210X.13022)
- 2018: **Guillaume T** and Cooper N. Time for a rethink: sub-sampling methods in disparity-through-time analysis. *Palaeontology*, DOI: [10.1111/pala.12364](https://doi.org/10.1111/pala.12364)
- 2017: Healy K, **Guillaume T**, Kelly SBA, Inger R, Bearhop S, Jackson AL. SIDER: an R package for predicting trophic discrimination factors of consumers based on their ecology and phylogenetic relatedness. *Ecography*, DOI: [10.1111/ecog.03371](https://doi.org/10.1111/ecog.03371)

- 2017: Turvey SA, Crees JJ, Hansford J, Jeffree TE, Crumpton N, Kurniawan I, Setiyabudi E, **Guillaume T**, Paranggarimu U, Dosseto A, van den Bergh GD. Quaternary vertebrate faunas from Sumba, Indonesia: implications for Wallacean biogeography and evolution *Proceedings of the Royal Society B*, 284 20171278, DOI: [10.1098/rspb.2017.1278](https://doi.org/10.1098/rspb.2017.1278)
- 2016: Kane A, Healy K, **Guillaume T**, Ruxton G, and Jackson AL. A Recipe for Scavenging - the natural history of a behaviour. *Ecography*, 39:001011, DOI: [10.1111/ecog.02817](https://doi.org/10.1111/ecog.02817)
- 2016: **Guillaume T** and Cooper N. Assessment of available anatomical characters for linking living mammals to fossil taxa in phylogenetic analyses. *Biology Letters*, 12 20151003 DOI: [10.1098/rsbl.2015.1003](https://doi.org/10.1098/rsbl.2015.1003)
- 2016: **Guillaume T** and Cooper N. Effects of missing data on topological inference using a Total Evidence approach. *Molecular Phylogenetics and Evolution* 94:146158, DOI: [10.1016/j.ympev.2015.08.023](https://doi.org/10.1016/j.ympev.2015.08.023)
- 2014: Healy K, **Guillaume T**, Finlay S, Kane A, Kelly SBA, McClean D, Kelly DJ, Donohue I, Jackson AL and Cooper N. Ecology and mode-of-life explain lifespan variation in birds and mammals. *Proceedings of the Royal Society B*, 281(1784). DOI: [10.1098/rspb.2014.0298](https://doi.org/10.1098/rspb.2014.0298)

In review/in press - see my [publications](#) page.

AWARDS AND GRANTS

- 2017: Royal Society International Scientific Seminar Award (£5000)
co-awarded with Prof. Phillip Donoghue FRS and Dr Natalie Cooper
- 2017: Marie Skłodowska-Curie Action [Seal of Excellence](#)
- 2014: BES Photo Competition Student Prize (Ecology and Society)
- 2012: Trinity Postgraduate Research Studentship (€46800)

COMPUTER SKILLS

- Coding: **R***, **C***, C++, **Bash***, HTML, **LaTeX***, **git***
- Phylogenetics: PAUP, **MrBayes***, **BEAST***, RAxML, PhyloBayes, CoEvol
MACSE, MAFFT, SEAvew, Tracer, Mesquite, R{ape}
R{phytools}, R{diversitree}, R{MCMCglmm}, R{caper}, ...
- Morphometrics: R{geomorph}, MorphoJ, TPS
- Graphics: Adobe Illustrator, Adobe Photoshop, Gimp, Inkscape

* Skills taught at workshops or courses (see below)

Developed software:

- R{mulTree}: Performs MCMCglmm on multiple phylogenetic trees. *Role: main author.*
GitHub page: github.com/TGuillaume/mulTree
- R{dispRity}: Measuring disparity in R. *Role: main author.*
GitHub page: github.com/TGuillaume/dispRity
- R{SIDER}: Stable Isotope Discrimination Estimation in R. *Role: co-author.*
GitHub page: github.com/healyke/SIDER
- Morphy: A C library for morphological characters phylogenetic analysis. *Role: co-author.*
GitHub page: www.morphyproject.org/

PRESENTATIONS

Invited seminars

- 2017: *ISEM seminar series* - Université de Montpellier, France
Talk: Disparate views on mammalian disparity at the K-Pg.
- 2017: *Silwood Social Seminars Series* - Imperial College London, UK
Talk: Multidimensionality in morphology.
- 2016: *Palaeobiology Discussion Group* - University of Bristol, UK
Talk: Do we still need morphological characters data?

International Conferences

- 2018: *Reconciling disparate perspectives on the evolution of disparity* - Royal Society International Scientific Meeting - Chicheley Hall, UK - **Organiser**
- 2017: *BES Macro SIG meeting 2017* - London, UK
conference co-organiser
- 2017: *Evolution 2017* - Portland OR, USA
Talk: Blue tail, red tail: a solution to inapplicable data in phylogenetics
Available here: goo.gl/g68NTZ
- 2016: *BES Macro SIG meeting 2016* - Oxford, UK
Talk: Moving away from the consensus in Phylogenetic Comparative Methods
Available here: goo.gl/1PsRfi
- 2016: *Evolution 2016* - Austin TX, USA
Palaeobiology/macroevolution session chair
Talk: New approaches to disparity-through-time analysis
Available here: goo.gl/nnSpVS
- 2015: *Systematics Association Biennial* - Oxford, UK
Talk: Total evidence phylogenies, the data issue
Available here: goo.gl/MVwMTY
- 2014: *SVP annual meeting* - Berlin, Germany
Symposium presentation (**invited talk**): *Putting fossils in trees*
Talk: Total evidence phylogenies and missing data
Available here: goo.gl/CBqSVJ
- 2014: *BES Macroecology SIG meeting* - University of Nottingham, UK
Talk: Trees with fossil and living species: the data issue
Available here: goo.gl/Sdcxon
- 2014: *Evolution 2014* - Raleigh NC, USA
Symposium presentation: *Ernst Mayr Symposium*
Talk: Total evidence phylogenies: the missing data issue
Available here: goo.gl/oPfHZE
- 2014: *Challenges in Macroecology: Scaling the Time Barrier* - Natural History Museum London, UK
Talk: Trees with fossil and living species: the missing data issue
Available here: goo.gl/c1RBER
- 2013: *European Society for Evolutionary Biology Congress* - Lisbon, Portugal
Poster: Combining fossils and molecular phylogenies
Available here: goo.gl/3HcRGH
- 2013: *11th International Mammalogical Congress* - Queen's University, Belfast, UK
Poster: Combining fossils and molecular phylogenies
Available here: goo.gl/3HcRGH

PROFESSIONAL SERVICE

Reviewing: *Biology Letters* ([Top reviewer for 2016](#)), *International Journal of Primatology*, *Methods in Ecology and Evolution*, *Molecular Phylogenetics and Evolution*, *Palaeontology*, *PLoS ONE*, *The Royal Society*:

Interface focus, Scientific Reports, Systematic Biology.

Workshops:

- 2018: Repeatability workshop: Organize your research from the get-go! — **organiser**
Australian Mammals Society Annual meeting - Brisbane, Australia
- 2014: Tip-Dating workshop — *helper*
Nicholas Matzke & April Wright, SVP Annual meeting - Berlin, Germany
- 2014: Software Carpentry Bootcamp - R and UNIX — *helper*
Devasena Inupakutika & Aur Saraf - Nottingham, UK

Conferences:

- 2018: *Reconciling disparate perspectives on the evolution of disparity* - Royal Society
International Scientific Meeting - Chicheley Hall, UK — **organiser**
- 2017: *BES Macro SIG meeting 2017* - London, UK — *co-organiser*

Academic memberships:

- 2017-present: Member of the Society for the Study of Evolution
- 2015-present: Member of the Systematic Association
- 2014-present: Member of the Society of Vertebrate Palaeontology
- 2013-present: Member of Society of Systematic Biologists
- 2013-present: British Ecological Society (BES) including Macroecology Special Interest Group

Departmental services:

- 2018-2019: UQ Biology Postdocs monthly meetings co-organiser.
- 2016-2017: Silwood [Ecology and Evolution Seminar Series](#) organiser
[Biweekly Silwood Park Campus computer workshops](#) organiser (L^AT_EX, version control, webpages, R packages, etc.)
- 2013-2015: Trinity Zoology Postgraduate student social committee chair

TEACHING

Academia

All my teaching material is available on the following [GitHub page](#).

- 2017: MSc students: C for biologists
Co-teacher, 30 hours, Imperial College - UK
- 2017: MSc students: Phylogenetic Comparative Methods
Teaching assistant, 6 hours, Natural History Museum - UK
- 2017: MSc students: morphometrics
Co-teacher, 6 hours, Natural History Museum - UK
- 2016: MSc students: Rocks 'n' clocks (including a MrBayes practical)
Teacher, 6 hours, Imperial College London - UK
- 2014: MSc students: Timing Evolution
Teacher, 6 hours, Trinity College Dublin - IE
- 2014: Software Carpentry Bootcamp - R and UNIX
Helper, full day, University of Nottingham - UK
- 2013-14: 2nd year MSc students: Statistics with R
Teaching assistant, full semester, Trinity College Dublin - IE
- 2013-14: 4th year undergraduate students: Evolution
Teaching assistant, full semester, Trinity College Dublin - IE
- 2012-13: 4th year undergraduate students: Statistics with R
Teaching assistant, full semester, Trinity College Dublin - IE
- 2012-13: 1st year undergraduate students: Introduction to Biodiversity Evolution and the Environment
Teaching assistant, full semester, Trinity College Dublin - IE

Student supervision

- 2017: Joe Craig (Imperial College London - MSc project) *How does adding data change node age estimation in morphological phylogenies?*
- 2017: Danielle Moraviec & Hayley Swalund (Imperial College London - MSc mini projects)
- 2016: Victoria Stanley Tsui (Imperial College London - MSc) *A preliminary study on the suture morphology of skull roofs in early gnathostomes and their ancestors.* - Co-supervised with Martin Brazeau.
- 2016: Asiem Sanyal (Imperial College London - MSc mini project)
- 2014-2015: Luke Hannon (Trinity College Dublin -4th year project) *Orbit size and nocturnality in living and fossil primates.* - Co-supervised with Natalie Cooper.
- 2013-2014: Maura Judge (Trinity College Dublin -4th year project) *Bite force and diet in mammals.* - Co-supervised with Natalie Cooper.

FIELDWORK AND DATA COLLECTION

- 2013-14: Museum data collection: Smithsonian Institute Natural History Museum (Washington DC), American Museum of Natural History (New York), Museum of Comparative Zoology (Cambridge, MA), Muséum National d'Histoire Naturelle (Paris)
- 2011-12: Excavations in Cruzy, France
Southern France, Continental Cretaceous
- 2011: Excavations in Krasiejów, Poland
Southern Poland, Continental Trias
- 2009-10: Excavations in Espéraza, France - Site fore-person
Southern France, Continental Cretaceous

PUBLIC ENGAGEMENT AND OUTREACH

- Regular contributor to [EcoEvo@TCD](#) blog; rated [best Irish Science and Technology blog \(2014\)](#) and [Bronze Award Irish Blog \(2015\)](#).
- Complete list available here: goo.gl/MAq9oA
- Featured posts: [How do lego cars evolve?](#); [If you please – draw me a dino...](#); [The more the better?](#).
- [Threesis video](#) (*early stage* thesis project explained in three minutes – winner of the NERD club threesis award 2013).

Outreach Events

- 2015 & 2014 & 2013: Trinity College Dublin Zoology Department, Researcher's night – *participant*
- 2014: 1st Soapbox Science Ireland – *helper*
- 2014: "What can we learn from skeletons", comparative anatomy practical – *Co-organiser*
- 2013: Trinity College Zoology Museum guided tours – *tour guide*
- 2010: Introduction to palaeontological excavations, Musée des Dinosauriens (FR) – *animator*