

Thomas Guillaume

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RESEARCH INTERESTS

I am interested in macroevolutionary biology; the stories behind the history of Life and the methodologies with which it is investigated. I am particularly interested in ways of combining classical methods such as descriptive palaeontology with modern bioinformatic tools such as phylogenomics and mathematical modelling.

ACADEMIC CAREER

2016 - Present: 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)

- 2016: Kane, A., Healy, K., **Guillaume, T.**, Ruxton, G., and Jackson, A.L. 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, S.B.A., McClean, D., Kelly, D.J., Donohue, I., Jackson, A.L. 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

Total grants awarded €52k.

- 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: github.com/mbrazeau/Morphy

PRESENTATIONS

Invited seminars

- 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

- 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*; *Molecular Phylogenetics and Evolution*; *The Royal Society: Interface focus*, *Systematic Biology*.

Workshops:

- 2014: Tip-Dating workshop — *helper*
Nicholas Matzke & April Wright, SVP Annual meeting - Berlin
- 2014: Software Carpentry Bootcamp - R and UNIX — *helper*
Devasena Inupakutika & Aur Saraf, University of Nottingham

Academic memberships:

- 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:

- 2017: Silwood [Ecology and Evolution Seminar Series](#) organiser
- 2016-present: 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: 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

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