Thomas Guillerme

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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

2018 - Present: Postdoctoral Research Fellow in Vera Weisbecker's group
School of Biological Sciences
University of Queensland, St Lucia, Australia

2016 - 2018: 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
2^{nd} year project: *Molecular clocks and evolutionary rates among primates: a palaeontological and genomic approach.*
1^{st} year project: *Southern France Upper Cretaceous Theropod teeth variability.*

2007 - 2010: BSc in Biology, Université de Montpellier

PUBLICATIONS

Peer reviewed - Google Scholar profile: Thomas Guillerme

2016: Kane, A., Healy, K., **Guillerme, 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

2016: **Guillerme, 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

2016: **Guillerme, 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

2014: 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.
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

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, SEAview, 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/TGuillerme/mulTree
`R{dispRity}`:	Measuring disparity in `R`. *Role: main author*. GitHub page: github.com/TGuillerme/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 (LaTeX, 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: 2^{nd} year MSc students: Statistics with R
Teaching assistant, full semester, Trinity College Dublin - IE

2013-14: 4^{th} year undergraduate students: Evolution
Teaching assistant, full semester, Trinity College Dublin - IE

2012-13: 4^{th} year undergraduate students: Statistics with R
Teaching assistant, full semester, Trinity College Dublin - IE

2012-13: 1^{st} 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 -4^{th} year project) *Orbit size and nocturnality in living and fossil primates.* - Co-supervised with Natalie Cooper.

2013-2014: Maura Judge (Trinity College Dublin -4^{th} 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:	1^{st} 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 Dinosaures (FR) – *animator*