

Curriculum Vitae: Thomas A. Richards

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Qualifications

D. Phil.	University of Oxford and the Natural History Museum, London (BBSRC Studentship)	Awarded: 2006
	Title: Horizontal Gene Transfer and the Evolution of Eukaryotes	
	Supervisors: Prof. T. Martin Embley FRS (University of Newcastle) Prof. Tom Cavalier-Smith FRS (University of Oxford)	
M.Sc.	University of Oxford, (BBSRC studentship)	Awarded: 2001
B.Sc.	University College, London	Awarded: 1999

Appointments

2019-	Professor of Evolutionary Genomics (University of Oxford) & Fellow Merton College Oxford
2015-	Professor of Evolutionary Genomics (University of Exeter)
2014-	Royal Society University Research Fellow (University of Exeter)
2013	Senior Research Fellow (University of Exeter)
2010	80% FTE, Group Leader (Natural History Museum, London) 20% FTE Senior Research Fellow (University of Exeter)
2009	Senior Research Fellow (University of Exeter)
2007	Leverhulme Early Career Fellow (University of Exeter)
2005	DEFRA Postdoctoral Fellow (University of Exeter)

Personal Awards

2019	Royal Society University Research Fellowship Renewal (£483,000 personal salary and research award for 3 years)
2018	Hutner Award (International Society of Protistology, \$1000)
2016/17	Miller Visiting Professorship, University of California Berkeley (\$31,000 salary and travel award for semester sabbatical award)
2015	Elected as Fellow of the American Academy of Microbiology
2014	Philip Leverhulme Award (£100,000)
2014	Royal Society University Research Fellowship (£448,000 personal salary and research award for 5 years)
2012	EMBO Young Investigator (~€70,000 in travel and research awards)
2012	Canadian Institute for Advanced research, Fellow of the Integrated Microbial Biodiversity program (~\$80,000 CAD in travel and research awards)
2012	Berkeley Award, British Mycology Society (£500)
2009	President's Medal for Cell Biology, Society for Experimental Biology

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- 2007 Leverhulme Early Career Fellowship (£60,000 salary and research award for 2 years)
- 2000 NASA Planetary Biology Internship, Rensselaer Polytechnic Institute, USA (\$3500)
- 1999 Royal Society Research Studentship, University College, London (£1600)

Awards for People and Work under My Supervision

- 2020 Marie Curie Fellowship; Luis Javier Galindo (€213,000)
- 2019 Merton College, Oxford, Junior Research Fellowship; Nick Irwin (£90,000)
- 2017 Royal Society Newton Fellowship; Elisabet Alacid-Fernandez (£113,000)
- 2015 Marie Curie Fellowship; Estelle Kilas (€183,454)
- 2013 EMBO Long Term Fellowship; Jeremy Wideman (£70,000)
- 2012 Royal Society Newton Fellowship; Adam Monier (£82,875)
- 2011 EMBO Long Term Fellowship; Aurélie Chambouvet (£50,000)
- 2011 Marie Curie Fellowship; Aurélie Chambouvet (€209,033)
- 2009 Young Systematists' Forum, London, UK: Oral Presentation Prize, James Harrison
- 2009 Fungal Genetics Conference, Asilomar, USA: Eukaryotic Cell Outstanding Young Investigator Prize, Meredith Jones

External Responsibilities and Commissions of Trust

- 2021- PARC PARC Disease-Task-Team (Dept. Interior, U.S. Geological-Survey), attending online-meetings and assisting with writing mitigation/monitoring wildlife-disease factsheets
- 2020- Scientific Advisory Board, NERC Culture Collections Algae Protist (CCAP)
- 2021 Ad hoc reviewer and panel member for The Research Council of Norway
- 2020 Ad hoc reviewer and panel member for Wellcome Trust grant review panel
- 2020-2023 Board of Visitors (Equivalent to Governing Body Member and Trustee) at the Oxford Natural History Museum Oxford
- 2019- Governing Body Member and Trustee, Merton College Oxford
- 2019-23 Member of the Board of Trustee, BBSRC Earlham Institute
- 2017-20 Steering group member for the University of Exeter's Translational Research Exchange
- A £3.5M partnership between the University and the Wellcome Trust (through its ISSF mechanism). The steering group provides advice on the strategic direction and makes decisions on projects to be supported across the institution and its wider network of clinical and academic partners*
- 2017-20 Associate Editor, Environmental Microbiology
- 2012-2015 Elected as council member to The Linnean Society, London
- 2011-2015 Associate Editor, Ecology and Evolution
- 2011-2014 Associate Editor, Frontiers in Microbiology
- 2010-2013 Associate Editor, BMC Evolutionary Biology

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- 2009-2012 Chair of SynTax and administrator for UK Grant Review Panel
Joint research initiative funding systematics and taxonomy, supported by the BBSRC, NERC, DEFRA, Linnean Society and Systematics Association, awarding £300,000 annually
- 2008-11 Chair of The Linnean Society / Systematics Association Systematic Research Fund
Awarding £30,000 annually
- 2008-11 Elected as council member to the Society for General Microbiology
- 2007-11 Elected as council member of the Systematics Association and trustee of the associated Charitable Association
In 2009 I became the Grants and Awards Officer – my administrative work for the BBSRC and NERC raises a £2,500 annual administration fee for the Systematics Association's charitable trust
- 2005- Peer reviewer for: BBSRC, NERC, NSF, NSERC, ANR, ERC, NASA postdoctoral program, Trends in Genetics, Environmental Microbiology, Journal of Eukaryotic Microbiology, ISME Journal, Molecular Ecology, BMC Evolutionary Biology, BMC Genomics, Aquatic Biology, Molecular Biology and Evolution, Eukaryotic Cell, PLoS Genetics, Heredity, PNAS, Current Biology, Nature Microbiology, and Nature

Memberships of Professional Bodies

- 2012 Fellow of the Linnean Society
2012 Member of the British Mycology Society
2008 Member of Society of General Microbiology
2009 Member of the Systematics Association

Invited Presentations

> 50, selection highlighted here:

- Aug. 2018 Hutner Award Lecture, International Society of Protistology, UBC, Vancouver, Canada
- Nov. 2017 2017 Sir Julian Huxley Lecturer, The Systematics Association, The Linnean Society, London
- March 2017 Joint Genome Institute, Users Meeting, California, USA
- March 2017 Departmental Lecture, Plant & Microbial Biology, University of California Berkeley, California, USA
- June 2016 Gordon Research Seminar, Marine Microbes, Girona, Spain
- June 2016 Gordon Research Conference, Cellular & Molecular Fungal Biology, New Hampshire, USA
- Dec. 2015 Public Bioscience Lecture, University of York, UK
- Nov. 2014 Current Trends in Biomedicine Workshop: Comparative and Functional Genomics of fungal pathogens, Baeza, Spain
- Oct. 2013 European Molecular Biology Organization (EMBO), Bangalore ambassadorial trip
- Oct. 2013 EMBO meeting of Comparative Genomics, San Feliu de Guixols (Costa Brava), Spain
- Sep. 2013 Berkeley Lecture, British Society of Mycology, Cardiff, Wales, UK

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July 2013	International Congress of Protistology, Vancouver, British Columbia, Canada
May 2013	Society of Molecular Biology and Evolution, University of California Davis, USA
May 2013	Canadian Institute for Advances Research meeting, Whistler, Canada
Dec. 2012	Departmental Seminar, Biochemistry, University of Cambridge
July 2012	American Mycology Society Annual Meeting, Yale, Connecticut, USA
June 2012	American Society of Microbiology, 112 th General Meeting, San Francisco, USA
May 2012	Canadian Institute for Advances Research meeting, Quebec, Canada
Feb. 2012	Departmental Seminar Genetics, Ecology and Evolution, University College London
Feb. 2012	Plenary Talk, Status workshop, Robert Koch Institute, Berlin
Oct. 2011	EMBO meeting of Comparative Genomics, San Feliu de Guixols (Costa Brava), Spain
July 2010	Gordon Conference, Marine Microbes, New Hampshire, USA
Feb. 2010	American Society of Limnology and Oceanography: Ocean Sciences Meeting, Portland, Oregon, USA
July 2009	Presidents' Medal Lecture, Society of Experimental Biology, Glasgow, UK
March 2009	Plenary talk, 25th Fungal Genetics Conference, Asilomar, USA

Meetings Organized

2023	<i>Chair/Organizer:</i> EMBO/EMBL Symposia, The Mechanics of Endosymbiosis, Heidelberg, Germany
Nov. 2018	<i>Chair/Organizer:</i> <i>Single Cell Ecology</i> . Royal Society Hooke Symposium, London/Buckinghamshire, UK
Feb. 2018	<i>Chair/Organizer:</i> <i>Using genomic comparisons to understand cellular complexity in our ancestors</i> , Royal Society International Scientific Seminar, Buckinghamshire, UK.
Sep. 2016	<i>Session Chair/Organizer:</i> <i>Fungal genome biology and evolution</i> , British Mycology Society. Exeter, UK
2014-2018	<i>Organizing committee:</i> EMBO meeting of Comparative Genomics, San Feliu de Guixols (Costa Brava), Spain
Sept. 2011	<i>Chair/Organizer:</i> <i>Horizontal gene flow & evolution</i> , Society of General Microbiology, York, UK
March 2010	<i>Chair/Organizer:</i> <i>Microbiology of Oceans</i> , Society of General Microbiology, Edinburgh, UK
Dec. 2009	<i>Chair/Organizer:</i> <i>Young Systematists' Forum</i> , Systematics Association, Natural History Museum, London, UK
Sept. 2009	<i>Chair/Organizer:</i> <i>Darwin's tree of life</i> , Society of General Microbiology, Edinburgh, UK

Research Visits and Expeditions

October 2018	Sampling expedition to Panamanian Rain Forests.
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Project: developing and testing new tools for disease assessment in captured and wild endangered frog populations (Funded by Royal Society / GCRF challenge grant)

- April 2015-19 Sampling expedition to Curaçao, Dutch Antilles
Project: Sampling diseased soft corals (Funded by CIFAR program grant and NERC OMICS grant)
- Sept. 2011 Research visit to Dr A. Worden, Monterey Bay Aquarium Research Institute, USA
Project: Molecular Adaptations in Deep Sea Fungi
Expedition: deep-sea sampling using remote operated vehicles (Funded by a Royal Society Small Grant).
- Sept.-Oct. 2009 Research visit to Dr F. Not, Station Biologique de Roscoff, France
Project: novel algae in European oceans (Funded by the British Council).
- July-Aug. 2006 Sample collection expedition to Peruvian: deserts, mountains and rainforest

Special Editorial Roles

- Richards, T. A.**, Massana, R. Hall, N., *Single Cell Ecology, Special Issue, Phil. Trans. Roy. Soc. B.* 2019
- Wideman, J. G., **Richards, T. A.**, *Current Opinion in Genetics & Development: Evolutionary Genetics.* 2019; Vol. 58-59

Education, media and public outreach activities (examples)

- Sep. 2020 Tadpole Doctor, Royal Society Public Engagement Fund (£6,000), working with multiple stakeholders to understand the distribution of tadpole pathogens in the UK and imported aquarium animals.
- Aug. 2015 Tadpole infection work featured with quotes across several news outlets including New York Times and the Guardian
- July 2015 Lecture to School forum 'Britain Needs Biosciences' on microbial 'eyes'
- Jan. 2013 Interview for NERC Planet Earth Pod Cast on our environmental DNA work
- May 2011 Interview for BBC Radio 4 *Material World* on our identification of novel fungi
- May 2011 Interview for BBC Science news webpage on our identification of novel fungi
- May 2011 Interview for National Public Radio USA on our identification of novel fungi
- May 2011 Interview for Nature Pod Cast on our identification of novel fungi
- Sept. 2009 Feature on Horizontal Gene Transfer in plants for education outreach journal *Scope*
- 2009 I took part in the British Council's *Science for Schools Initiative* in Brittany, France
- Annually Our laboratory regularly hosts school-age and undergraduate work experience students
- July 2008 Presentation to Sir David Attenborough part of University of Exeter Honorary Graduands' reception on the tree of life

Teaching and Project Supervision

- 2006- Supervision of fifteen Postdoctoral Fellows/Scientists
- 2005- Supervision to completion of nine PhD students

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2013-2020	Visiting Lecturer, University College London
2005-10	Supervision of ten M.Sc./M.Res. projects (four to distinction, one to merit)
2005-19	I teach a range of lectures across the University of Oxford undergraduate syllabus on evolution and ecology, genomics and eukaryotic microbiology
2003-06	University of Oxford M.Sc. Integrative Bioscience (Molecular Biology Course Co-director)

Stewardship

External Examination. PhD dissertations examined at the Universities of: Exeter UK, Sheffield UK, University College London UK, Maynooth Ireland, Uppsala Sweden, Barcelona Spain (x 3), Dalhousie Canada, and Oslo Norway.

Institutional Responsibility.

At Exeter, I have acted as departmental academic lead for evolutionary biology, line managing nine academic staff including “tenure” progression and promotion. I was the lead organiser for Exeter Campus’ Bioscience UK Universities Research Excellence Framework (REF) UoA5 submission and undertake several Director of Research roles. I have a formal mentorship for seven junior faculty members. I have sat on the Departmental Research Committee and the Living Systems Institute management committee.

At Oxford, I have taken charge of the Zoology Departments representation on the University wide NERC DTP management committee to cover for Covid-19 long term sick leave. I have taken on the joint role of managing the new 4th year biology program.

Mentorship. I have mentored numerous individuals to award of independent research fellowships (for example three Royal Society University Research fellowships and one CNRS fellowship position).

Grants Awarded

Grant type	Title (further information [PI – funding])	End date
Wellcome Trust Sanger Institute, Moore Foundation, Aquatic Systems Symbiosis Genome Sequencing Initiative	Ciliate and symbiont genome sequencing initiative Large-scale genome sequencing initiative to sequence ciliate protist genomes and their endosymbionts (<i>project partner lab, no direct funding</i>)	Aug. 2023
DOE JGI, CSP Functional Genomics.	Development of a competitive transporter phenotype barcoding (CTP-Bar) assay for testing nutrient uptake among uncultivated microbes. This project will provide proof of concept of a methodology that will allow mass comparisons of transporter uptake substrate diversity (<i>project partner lab, no direct funding</i>)	Submitted
Marie Curie Fellowship Grant, awarded to Luis Javier Galindo	FungEye: Characterization of the architecture, composition and evolution of a novel light perception organelle in an emerging model fungus (<i>PI, funding = €213,000</i>)	Aug. 2023
Moore Foundation, Aquatic Systems Initiative’s symbiosis model systems (SMS) solicitation	Develop new genetic manipulations systems in endosymbiotic algae to track interaction dynamics in host ciliates (<i>PI, funding = \$290,000</i>)	Nov. 2022

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Wellcome Trust, Discretionary Award	<p>Darwin Tree of Life Project (phase 1).</p> <p><i>Large consortium grant led by the Sanger Institute with the aim of sequencing large representation of all eukaryotic species in the UK.</i></p> <p><i>I am responsible along with the Earlham Institute for UK protist sequencing (Co/Associate-PI, funding = £480,000)</i></p>	July 2022
ERC Consolidator Grant	<p>CELL-in-CELL. Understanding host cellular systems that drive an endosymbiotic interaction.</p> <p><i>Developing systems biology approaches for understanding the cellular systems that control and allow endosymbiotic interactions (PI, funding = €2,600,000).</i></p>	June 2024
NERC & STFC 'omics workshop grant	<p>Workshop for 'omics methodology development: use of secretome enriched meta-transcriptome sequencing for understanding interactions in diseased corals</p> <p><i>Working together in an international community we will develop new methods for understanding how corals interact with their disease microbiome through the diversity of secreted proteins (PI, funding = £57,593).</i></p>	Dec. 2019
Royal Society / GCRF challenge grant	<p>Assessing protist pathogen threats to endangered ecological keystone frog species of Panama.</p> <p><i>Developing field diagnostics for tracking protists infections of frogs (PI, funding = €82,100).</i></p>	July 2019
Newton Fellowship Grant, awarded to Elisabet Alacid-Fernandez	<p>'Omics' and environmental approaches to study host-parasite interactions in dinoflagellate blooms.</p> <p><i>Using multiple 'omics tools to understand complex heterotrophic interactions in the ocean. (Supervisor of fellowship = £113,000).</i></p>	Mar. 2019
Moore Foundation, Marine Microbe initiative, program grant	<p>Transporter function and kinetics in uncultivated marine microbes.</p> <p><i>Developing protein functional analysis methods for studying nutrient transporters of uncultivated microbes (PI, Funding = \$1015,000).</i></p>	Jan. 2021
NERC grant	<p>Calibrating eDNA Tools for Biodiversity Monitoring in the Ocean.</p> <p><i>Developing eDNA techniques to understand ecosystem function and community diversity (Co-PI, Funding = £ 238,948).</i></p>	Jan.2020
Marie Curie International Training Network Grant	<p>SINGEK: Promoting SINGle cell Genomics to explore the ecology and evolution of hidden microEuKaryotes.</p>	Jan. 2020

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	<i>Developing cross European expertise to study microbial eukaryotes directly from the environment using single cell sequencing approaches (Co-PI, Funding = €546,575)</i>	
Marie Curie Fellowship Grant, awarded to Estelle Kiliias	Significant or trivial: Fungi in Polar ecosystems (F-POLE).	Sep. 2018
	<i>Using environmental 'omic'-based approaches to investigate the diversity, abundance and role of fungi in the marine environment (Supervisor of fellowship = €183,454.80)</i>	
Philip Leverhulme award	Personal Award for research development.	Nov. 2017
	<i>Develop new tools to link genomic data with phenotype analysis of individual microbes and how they interact in communities (PI, funding = £100,000)</i>	
Royal Society University Research Fellowship (Renewed with enhancement awards)	Dissecting a nascent phototrophic endosymbiotic interaction.	Dec. 2023
	<i>Using transcriptomics, proteomics and reverse genetics to investigate cellular functions tied to early interactions in Paramecium bursaria photosynthetic endosymbiosis (fellowship funding = £1,034,000)</i>	
Department of Energy (DOE) Joint Genome Institute Community Sequencing Program	CSP: Revealing the ecological function of uncultured fungal dark matter in freshwater ecosystems using single cell genomics.	Oct. 2018
	<i>Community sequencing program to conduct single cell genome sequencing of 'chytrid' fungi from natural environmental samples. (Co-PI)</i>	
EMBO Long Term Fellowship, awarded to Jeremy Wideman	Comparative genomics of diatoms and Bolidophyceae: insight into the evolution of one of Earth's most productive phototrophs.	Feb. 2017
	<i>Taking a single cell genome sequencing approach, we explored the genome diversity of marine protists and algae (supervisor of fellowship – funding = £70,000)</i>	
Department of Energy (DOE) Joint Genome Institute Technology Development Program	TDP: Life on the Darkside.	June 2017
	<i>Technology Development Program partnership to develop methods for targeted isolation and sequencing of eukaryotic single cell isolates. (Co-PI)</i>	
Leverhulme Project Grant	Ancestral gene repertoires at the dawn & diversification of the Eukaryotes.	Nov. 2017
	<i>Using ancestral gene complement reconstruction, we will identify the gene complement of the Last Eukaryotic Common Ancestor (PI, funding = £ 212,986)</i>	

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Newton Fellowship, awarded to Adam Monier	Did horizontal gene transfer ‘rewire’ ocean microbial metabolic networks?	Mar. 2016
	<i>Aim of this project is to look at the impact of gene transfer on the metabolic network encoded by microbial eukaryotes in the marine environment (supervisor of fellowship – funding = £82,875)</i>	
EMBO young investigator fellowship	Evolution of endosymbiosis.	Jan. 2016
	<i>Using transcriptomics, proteomics and reverse genetics to investigate cellular functions tied to early interactions in Paramecium bursaria photosynthetic endosymbiosis (PI funding = €70,000)</i>	
Moore Foundation, Marine Microbe initiative, program grant	Life on the dark side: complex trophic interactions of marine microbial eukaryotes.	Apr. 2016
	<i>Using meta-transcriptomics and single cell isolation and genome sequencing we will investigate the role of eukaryotic microbes in marine ecosystems (PI funding = \$422,909)</i>	
EMBO Long Term Fellowship, awarded to Aurelie Chambouvet	Emerging Protist Parasites of Frogs: Genome and cellular biology of a previously unrecognized parasitic group.	Aug. 2015
	<i>Using transcriptome and genome sequencing methods combined with cell biology with the aim of identifying host pathogen interactions (Supervisor of fellowship – funding = £50,000)</i>	
Marie Curie Fellowship, awarded to Aurelie Chambouvet	“PARAFROGS” Emerging Protist Parasites of Frogs: Global Prevalence and Host/Parasite Interaction.	Aug. 2014
	<i>Using molecular methods to identify the global prevalence and host range of this parasite group (Supervisor of fellowship – funding = € 209,033.40)</i>	
SynTax (NERC/BBSRC/DEFRA)	Global evolutionary complexity of freshwater alveolates: a new threat to frogs?	Jan. 2012
	<i>Using environmental DNA methods to explore the diversity and host specificity of novel group of alveolates that infect frogs (PI - funding = £26,500)</i>	
Royal Society Small Grant	Investigating active eukaryotic microbial communities in deep-sea environments.	Jan. 2012
	<i>In collaboration with Monterey Bay Aquarium Research Institute, USA, we have developed and are pilot testing a novel approach to sampling community RNA from deep-sea sediments for meta-transcriptome sequencing (PI – funding = £14,780)</i>	

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FP6 Biodiversa ERA-net	Biodiversity of Marine EuKaryotes (BioMarKs). <i>European collaboration using 454 diversity tag sequencing to investigate the complexity of marine protist and fungal communities (Co-I funding = €265,000)</i>	Jan. 2013
BBSRC New Investigator Grant	The diversity and phylogeny of molecular motor proteins and fungal cell evolution. <i>Integrating next generation genome sequencing technologies, we use comparative genomics to investigate major events in fungal and eukaryotic cell evolution (PI – funding = £402,281)</i>	Oct. 2012
British Academy Franco-British research alliance grant:	Tracking the diversity and abundance of phototrophic life in the oceans. <i>Collaboration with Fabrice Not to investigate the evolutionary diversity of marine algae using next generation sequencing methodology (PI – funding = £4,000 & €5,000)</i>	Dec. 2010
NERC Grant	Diversity, identity and ecological role of a novel fungal super clade. <i>Using environmental DNA we identified the phylogenetic position and cell biology of a new highly diverse microbial group branching with the fungi (PI – funding = £143,846)</i>	Nov. 2010
Small grants for short studentships	7 x Nuffield Foundation, 4 x Royal Society funded Studenthips, 3 x Systematics Research Fund, 4 x SGM Vacation Studentship Grants. <i>Used in the large part to support summer studentships (PI – funding total = ~£20,000)</i>	Ongoing since 2006
BBSRC/NERC CoSyst grant	Molecular diversity of microbial eukaryotes using a large-scale parallel tag sequencing strategy. <i>This project developed the 454-tag sequencing for investigating the diversity of microbial eukaryotes (PI – funding total = £19,608)</i>	Dec. 2010
Leverhulme Early Career Fellowship	Comparative genomics and eukaryote cell evolution. <i>(PI – funding total = £50,000)</i>	Dec.-2009

Publications

Refereed Journal Articles (*corresponding author)

- Milner, D. S., Wideman, J. G.*, Stairs, C. W., Dunn, C. D., **Richards. T. A.***, A functional bacterial-derived restriction modification system in the mitochondrion of a heterotrophic protist. *Invited resubmission. PLoS Biol.* Available at <https://www.biorxiv.org/content/10.1101/2021.02.01.429123v1.abstract>
- Jenkins, B. H.*, Maguire, F., Leonard, G., Eaton, J. D., West, S., Housden, B. E., Milner, D. S., Richards. T. A., Characterisation of the RNA-interference pathway as a tool for genetics in the nascent phototrophic

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endosymbiosis, *Paramecium bursaria*. *Invited resubmission, Invited contribution to special collection 'New Talent in Life Sciences'*. *Roy. Soc. Open Science*.

Available at <https://www.biorxiv.org/content/10.1101/2020.12.16.423098v2.full>

- Smilansky, V., Jirku, M., Milner, D. S., Ibáñez, R., Gratwicke, B., Nicholls, A., Lukeš, J., Chambouvet, A., **Richards, T. A.***, Expanded geographic and host tadpole associations of the Severe Perkinsia infection group. *Invited resubmission, Roy. Soc. Biology Letters*.
- Smilansky, V.*, Chambouvet, A., Reeves, M., **Richards, T. A.**, Milner, D. S.* , A novel duplex qPCR assay for stepwise detection of multiple Perkinsia protistan infections of amphibian tissues. *In Press, Roy. Soc. Open Science*.
- Kiliyas, E. S.*, Junges, L. Supraha, L., Leonard, G. Metfies, K., **Richards, T. A.**, Chytrid fungi distribution and co-occurrence with diatoms in the Arctic Ocean is correlated with sea ice melt. *In Press, Com. Biol*.
- Rodríguez-Martínez, R*, Leonard, G., Milner D. S., Sudek S., Conway, M., Moore, K., Hudson, T., Mahé, F., Keeling, P. J., Santoro, A. E., Worden, A. Z., **Richards, T. A.***, Controlled sampling of ribosomally active protistan diversity in sediment-surface layers identifies putative players in the marine carbon sink. *ISME J*. 2020. <https://doi.org/10.1038/s41396-019-0581-y>
- Wideman, J. G.*, Monier, A., Rodríguez-Martínez, R., Leonard, G., Cook, E., Poirier, C., Maguire, F., Milner, D., Irwin, N. A. T., Moore, K., Santoro, A. E., Keeling, P. J., Worden, A. Z., **Richards, T. A.***, Unexpected mitochondrial genome diversity revealed by targeted single-cell genomics of heterotrophic flagellated protists. 2020; **5** 154-165 *Nature Microbiology*.
- Chambouvet, A., Monier, A. Maguire, F., Itoiz, S., del Campo, J., Elies, P., Edvardsen, B., Wenche, E., Richards, T. A., Intracellular infection of diverse diatoms by an evolutionary distinct relative of the Fungi. *In Press: Curr. Biol*. 2019: **29**(23):4093-4101 doi.org/10.1016/j.cub.2019.09.074
- Wideman, J. G.*, Lax, G., Leonard, G., Milner, D. S., Rodríguez-Martínez, R., Simpson, G. B. Simpson, **Richards, T. A.**, A single-cell genome reveals diplomonad-like ancestry of kinetoplastid mitochondria gene structure. *Phil. Trans. Roy. Soc. B*. 2019; **374**(1786) doi.org/10.1098/rstb.2019.0100
- Needham, D. M., Yoshizawa, S., Hosaka, T., Poirier, C., Choi, C. J., Hehenberger, E., Irwin, N. A. T., Wilken, S., Yung, C-M., Bachy, C., Kurihara, R., Nakajima, Y., Kojima, K., Kimura-Someya, T., Leonard, G., Malmstrom, R. R., Mende, D. R., Olson, D. K., Sudo, Y., Sudek, S., **Richards, T. A.**, DeLong, E. F., Keeling, P. J., Santoro, A. E., Shirouzu, M., Iwasaki, W., Worden, A. Z., A distinct lineage of giant viruses brings a rhodopsin photosystem to unicellular marine predators. *Proc. Natl. Acad. Sci. USA*. 2019; **116**(41):20574-20583.
- Del Campo, J., Heger, T., Rodríguez-Martínez, R., Worden, A. Z., **Richards, T. A.**, Massana, R., Keeling, P. J., Assessing the diversity and distribution of apicomplexans in host and free-living environments using high-throughput amplicon data and a phylogenetically informed reference framework. *Front. Microbiol*. [doi:10.3389/fmicb.2019.02373](https://doi.org/10.3389/fmicb.2019.02373).
- Milner, D. S.*, Attah, V., Cook, E., Maguire, F., Savory, F., Morrison, M., Müller, C. A., Foster, P. G., Talbot, N. J., Leonard, G., & **Richards, T. A.***, Environment-dependent fitness gains can be driven by horizontal gene transfer of transporter-encoding genes in fungi. *Proc. Natl. Acad. Sci. USA*. 2019; **116**(12):5613-5622.
- Strasser, J. F., Hehenberger, E., del Campo, J., Okamoto, N., Kolisko, M., **Richards, T. A.**, Worden, A. Z., Santoro, A. E., & Keeling, P. J.* Phylogeny, evidence for a cryptic plastid, and distribution of *Chytriodinium* parasites (Dinophyceae) infecting copepods. *J. Euk. Micro*; 2018; <https://doi.org/10.1111/jeu.12701>
- Savory, F. R., Milner, D. S., Miles, D. C., & **Richards, T. A.***, Ancestral function and diversification of a horizontally acquired oomycete carboxylic acid transporter. *Mol. Biol. and Evol*. 2018; **msy082**.

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- Wideman, J. R.*, Balacco, D. L., Fieblinger, T., **Richards, T. A.** PDZD8 is not the 'functional ortholog' of Mmm1, it is a paralog. *F1000 Research*; 2018; **7**:1088
- Orsi, W. D., Wilken, S., del Campo, J., Heger, T., James, E., **Richards, T. A.**, Keeling, P. J., Worden, A. Z., & Santoro, A. E., Identifying protist consumers of photosynthetic picoeukaryotes in the surface ocean using stable isotope probing. *Environ. Microbiol.* 2018; **20**(2):815-827.
- Orsi, W. D.*, **Richards, T. A.**, & Francis W. R., Predicted microbial secretomes and their target substrates in marine sediment. *Nature Microbiology*, 2018; **3**(1):32.
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