

# Mark van der Giezen

Name Mark van der Giezen  
Date of birth 24<sup>th</sup> May 1968  
Nationality Dutch  
Marital status Married with three children  
website <http://www.vandergiezen.org/>

## Employment

Jan 19 – present Associate Professor in Evolutionary Biochemistry at Biosciences, University of Exeter, UK.  
Sep 07 – Dec 18 Senior Lecturer in Evolutionary Biochemistry at Biosciences, University of Exeter, UK.  
Nov 04 – Aug 07 Lecturer in Microbiology at the School of Biological and Chemical Sciences, Queen Mary, University of London, UK.  
Apr 02 – Oct 04 Post-doc in the group of Dr. Jorge Tovar at the School of Biological Sciences, Royal Holloway, University of London, UK.  
Oct 97 – Mar 02 EMBO Fellow in the group of Prof. Martin Embley at the Department of Zoology, The Natural History Museum, London, UK.  
Dec 92 – May 97 PhD-student in the Department of Microbiology, University of Groningen, the Netherlands, in the lab of the late Professor Rudolf Prins.

## Honours

2018 Fellow of the Royal Society of Biology (RSB).  
2018 Nominated for President for the International Society of Protistologists (ISOP).  
2018 Senior Fellow of the Higher Education Academy (now Advance HE).  
2014 Elected Fellow of the Linnean Society of London.  
2009 Visiting Scholar at the Institute for Protein Research, University of Osaka, Japan.  
2002 – present Seven publications selected by the Faculty of 1000 with an average score above 'exceptional'.  
1998 Fellow of the European Molecular Biology Organisation.

## Degrees & Qualifications

Mar 18 Senior Fellow of the Higher Education Academy of the UK (now Advance HE).  
Jan 05 – Aug 06 Certificate in Academic Practice, Queen Mary, University of London, UK.  
Dec 92 – May 97 PhD in Mathematical and Natural Sciences, University of Groningen, the Netherlands.  
Thesis: 'The evolutionary origin of fungal hydrogenosomes' in the lab of the late Professor Rudolf Prins.  
Sep 88 – Nov 92 Drs in Biology, University of Groningen, the Netherlands,  
Graduate subjects: Molecular Genetics & Immunology. Grade: 79%.  
Sep 74 – Aug 88 Primary and Secondary School, Assen, the Netherlands.

## Grant Income

### Awarded:

Aug 18	Identifying targets for control of <i>Ichthyophthirius multifiliis</i> - a major cause of disease in aquaculture. UK Aquaculture Initiative – Cross-Council Call for Collaborative Research and Innovation Proposals. Dr. Mark van der Giezen (PI, Biosciences), Dr. Irene Cano Cejas (Co-I, Centre for Environment, Fisheries & Aquaculture Science - Cefas), Dr. Nick Taylor (Co-I, Cefas), Dr. Ronny van Aerle (Co-I, Cefas). £199,787
Mar 18	Catalyzing genomics collaborations between University of South Florida and University of Exeter. Exeter USF catalytic fund. Dr. Rays Jiang (USF) and Dr. Mark van der Giezen (Biosciences). \$11,000.
Mar 17	The oral microbiome and nitric oxide bioavailability across the human lifespan. BBSRC Responsive Mode grant. Prof. Andrew Jones (PI, Sport and Health Sciences), Dr. Anni Vanhatalo (Co-I, Sport and Health Sciences), Dr. Mark van der Giezen (Co-I, Biosciences), Prof. Paul Winyard (Co-I, Medical School), Prof. David Williams (Co-I, Cardiff), Dr. Artur Ouwehand (DuPont, industrial partner). £742,000
Mar 17	Outward Mobility Academic Fellowships to visit the University of South Florida. £1,650.
Feb 17	Developing a viral vaccine delivery system and <i>in vivo</i> virus biosensor (joint Centre for Environment, Fisheries & Aquaculture Science (Cefas) and University of Exeter PhD-studentship Dr. David Stone (PI, Cefas), Dr. Tetsu Kudoh (Co-I, Exeter) and Dr. Mark van der Giezen (Co-I, Exeter). £70,000
Dec 16	Cherries: altered gut microbial profile associated with improved glucose tolerance? Cherry Marketing Institute - The Cherry Research Committee. Dr. Jo Bowtell (PI) and Dr. Sarah Jackman (both University of Exeter Sports & Health Sciences) and Dr. Mark van der Giezen (Co-I, Biosciences). \$50,000
May 16	Does the potential for AMR selection differ between common UK cattle grazing systems? NERC AMR in the Real World Pump Priming Grants. Dr. Jenni Dungait (PI, Rothamsted Research), Dr. Will Gaze (Co-I, University of Exeter Medical School) and Dr. Mark van der Giezen (Co-I, Biosciences). £199,000
May 16	Influence of the oral microbiome on cardiovascular health in older age. Wellcome Trust PhD studentship. Prof. Andrew Jones (PI, University of Exeter Sports & Health Sciences), Prof. Paul Winyard (Co-I, University of Exeter Medical School) and Dr. Mark van der Giezen (Co-I, University of Exeter, Biosciences). £70,000
Feb 16	Interaction of pore-forming toxins with cell plasma membrane: a biophysical approach. EPSRC PhD studentship. Prof. Peter Winlove and Dr. Peter Petrov (University of Exeter Physics) and Dr. Mark van der Giezen (University of Exeter, Biosciences) as joint PIs. £70,000
Oct 15	Extracting mercury from industrial waste using microalgae. BBSRC Metals in Biology BBSRC Business Interaction Vouchers. Dr. Mark van der Giezen (PI, University of Exeter, Biosciences), Dr. Mike Allen (Co-I, Plymouth Marine Laboratory) and Dr. Chris Chuck (Co-I, University of Bath). £10,000.
Jan 15	Gut health in European lobsters - the gut microbiome as a health marker in offshore sea cage culture (joint Centre for Environment, Fisheries & Aquaculture Science (Cefas) and University of Exeter PhD-studentship. Dr. David Bass (Cefas) and Dr. Mark van der Giezen (University of Exeter, Biosciences) as joint PIs and Dr. Carly Daniels (Co-I, National Lobster Hatchery). £69,999
May 14	Microbial cycling and antibiotic resistance gene flow in flooded soils (University of Exeter, Project Development Grant, Dr. Mark van der Giezen (PI, University of Exeter, Biosciences), Dr. Jennifer Dungait (Co-I, Rothamsted), Dr. Michael Lee (Co-I, University of Bristol). £8,508.
May 14	Producing an encystation-deficient <i>Entamoeba</i> (Wellcome Trust Vacation Scholarship 2010). Dr. Mark van der Giezen (PI). £2,000.
Mar 14	Microbial cycling at the farm - A systems approach to assess risks and opportunities (BBSRC SW-DTP 4-year PhD-studentship. Dr. Jennifer Dungait (Rothamsted) and Dr. Mark van der Giezen (University of Exeter, Biosciences) as joint PIs and Dr. Michael Lee (Co-I, University of Bristol) and Dr. Chris Hodgson (Co-I, Rothamsted). £70,000

- Feb 14 Exploiting ancestral gene reconstruction for synthetic biology. BBSRC SW-DTP 4-year PhD-studentship. Dr. Nicholas Harmer (PI, Biosciences) and Dr. Mark van der Giezen (Co-I, Biosciences). £70,000
- May 13 Assessing the rare biosphere of an acid mine drainage site. Systematics Association, Systematics Research Fund. Dr. Mark van der Giezen (PI, University of Exeter, Biosciences) and Dr. Chris Bryan (Co-I, Camborne School of Mines). £1,500
- Jan 13 Identifying virulence factors in two highly pathogenic aquatic *Aphanomyces* species - causative agents of crayfish plague and epizootic ulcerative syndrome (joint Centre for Environment, Fisheries & Aquaculture Science (Cefas) and University of Exeter PhD-studentship. Dr. Birgit Oidtmann (Cefas) and Dr. Mark van der Giezen (University of Exeter, Biosciences) as joint PIs and Dr. David Studholme (Co-I, University of Exeter, Biosciences). £70,000
- Dec 12 EXTRACT: Exeter Remediation of Acid mine drainage and recovery of Combustibles and metals. University of Exeter Bridging the Gap. Dr. Chris Bryan (PI, Camborne School of Mines), Dr. Clive Butler (Co-I, University of Exeter, Biosciences) and Dr. Mark van der Giezen (Co-I, University of Exeter, Biosciences). £5,548
- May 12 Charitable donation from the Johannes Veldkamp Foundation to support parasite research. Dr. Mark van der Giezen (PI, University of Exeter). €3,000.
- Jan 12 A metatranscriptomics study of a tiny ecosystem with a global reach. NERC Facility Grant. Dr. Mark van der Giezen (PI, University of Exeter), Prof. David Bignell (Co-I, Queen Mary, University of London) and Dr. Falk Warnecke (Co-I, University of Jena). £5,425.
- Nov 11 *Trichomonas vaginalis* comparative transcriptomics. University of Exeter, Biosciences, Illumina HiSeq 2000 Next Generation DNA Sequencing Pilot Project. Dr. Mark van der Giezen (PI). One lane.
- Mar 11 Critical points in cyst formation for the intestinal parasite *Entamoeba*. EPSRC Bridging the Gap interdisciplinary project. Dr. Mark van der Giezen (PI, Biosciences) and Prof. Peter Winlove (Co-I, Physics). £7,400.
- Aug 10 Project Development Grant on infectious disease. University of Exeter. Dr. Mark van der Giezen (PI). £5,000.
- May 10 Developing molecular genetics for the intestinal parasite *Entamoeba histolytica*. Wellcome Trust Vacation Scholarship. Dr. Mark van der Giezen (PI). £1,440.
- May 09 An unusual nitric oxide synthase from the human parasite *Trichomonas vaginalis*. Wellcome Trust Vacation Scholarship. Dr. Mark van der Giezen (PI). £1,440.
- Mar 09 The genome of *Proteromonas lacerate* (School of Biosciences Illumina GA2 - Next Generation DNA Sequencing Pilot Project, jointly with Dr. C. Graham Clark).
- Feb 09 Termite transcriptomics (University of Exeter, School of Biosciences BBSRC PhD-studentship)
- Mar 07 Visiting Scholar at the Institute for Protein Research, University of Osaka, Japan. Dr. Mark van der Giezen (PI). ¥ 273,917.
- May 07 A cryptic plastid in *Blastocystis hominis*? Wellcome Trust Vacation Scholarship. Dr. Mark van der Giezen (PI). £1,480.
- Feb 07 *Breviata* and the 7<sup>th</sup> eukaryotic supergroup. BBSRC CoSyst. Dr. Mark van der Giezen (PI) and Dr. Joel Dacks and Dr. Giselle Walker (University of Cambridge), both Co-Is. £8,150.
- Feb 07 A molecular ecological approach to the diversity of termite hindgut flagellates. Queen Mary PhD-studentship. Dr. Mark van der Giezen (PI). £70,000.
- Dec 06 Biochemical characterisation of ferredoxins from mitochondrial remnants. Daiwa Anglo-Japanese Foundation. Dr. Guy Hanke (PI, Institute of Protein Research in Osaka, Japan) and Dr. Mark van der Giezen (Co-I, Queen Mary University of London). £3,900.
- Jul 06 The rise and fall of the Archezoa – The conversion of a paper practical into an interactive practical. Queen Mary E-learning Fellowship. Dr. Mark van der Giezen (PI). £4,000.
- May 06 Evolutionary significance of the unusual mitochondria of *Blastocladiella*, a basal chytridiomycete fungus. Nuffield Undergraduate Research Bursary (URB/3324). Dr. Mark van der Giezen (PI). £1,520.
- Apr 06 Structure of the complex that proves a common ancestor for all mitochondria. Queen Mary PhD-studentship. Dr. Mark van der Giezen (PI). £70,000.
- Mar 06 Evolution and function of the anaerobic mitochondrion of an enigmatic human parasite, *Blastocystis hominis*. Wellcome Trust Project Grant. Dr. Mark van der Giezen (PI, Queen Mary

	University of London) and Dr. C. Graham Clark (Co-I, London School of Hygiene and Tropical Medicine). £381,717.
Mar 05	Re-assessment of the phylogeny of anaerobic microbial eukaryotes in termite hindguts and their putative amitochondriate status. Systematics Research Fund from the Linnean Society of London and the Systematics Association. Dr. Mark van der Giezen (PI). £1,160.
Mar 05	Assessing the microbial eukaryotic biodiversity using a novel methodology. Equipment grant from the University of London Central Research Fund. Dr. Mark van der Giezen (PI). £5,008.
Feb 05	A mitochondrial genome in hiding; characterisation of the only remaining hydrogenosomal genome. Royal Society Research Grant. Dr. Mark van der Giezen (PI). £15,000.
Jan 05	Mitochondrial evolution and function in the enigmatic human parasite <i>Blastocystis hominis</i> . Queen Mary PhD-studentship (for Ms. Karleigh Hamblin). Dr. Mark van der Giezen (PI). £70,000.
Jan 01	Zoology Research Fund (Natural History Museum). Dr. Mark van der Giezen (PI). £2,150.
Feb 00	The Leverhulme Research Fund. Prof. Martin Embley (PI, Natural History Museum) and Dr. Mark van der Giezen (Co-I, Natural History Museum). £69,150.
Feb 98	EMBO Fellowship from the European Molecular Biology Organisation (Heidelberg, Germany), for post-doctoral research at the Department of Zoology, Natural History Museum, London. Under supervision of Prof. Martin Embley.
May 96	Hydrogenases and their Biotechnological Applications. European COST Action 818. For a short research project at Centre for the Study of Metals in Biology and Medicine, King's College, London, UK. Supervised by Prof. Dick Cammack.
Apr 92	From the Erasmus Framework, for graduate research project at the Laboratoire de Microbiologie et Génétique Moléculaire at the Université Paul Sabatier, Toulouse, France. Under the supervision of Prof. Michel Sicard.
Apr 92	From the Dr. Hendrik Muller Vaderlandsch Fonds, additional funds for the above mentioned research project to France.

## List of Publications

*h*-index: 29 (Google Scholar), 27 (Scopus).

Number of citations: >3,800 (Google Scholar), >3,000 (Scopus).

### Published:

73. Tsaousis, A., Hamblin, K.A., Elliot, C., Gourley, C.W., Moore, A.L., and van der Giezen, M. (2018) The human gut colonizer *Blastocystis* respire using Complex II and alternative oxidase to buffer transient oxygen fluctuations in the gut. *Front Cell. Infect. Microbiol.*, 8: 371.
72. Río Bártulos, C., Rogers, M.B., Williams, T.A., Gentekaki, E., Brinkmann, H., Cerff, R., Liaud, M-F., Hehl, A.B., Yarlett, N.R., Gruber, A., Kroth, P.G., and van der Giezen, M. (2018) Mitochondrial targeting of glycolysis in a major lineage of eukaryotes. *Gen. Biol. Evol.*, 10: 2310-2325.
71. Minardi, D., Studholme, D.J., Pretto, T. van der Giezen, M. and Oidtmann, B. (2018) New genotyping method for the causative agent of crayfish plague (*Aphanomyces astaci*) based on whole genome data. *J. Invertebr. Pathol.*, 156: 6-13.
70. Vanhatalo, A., Blackwell, J.R., L'Heureux, J., Williams, D.W., Smith, A., van der Giezen, M., Winyard, P.G., Kelly, J. and Jones, A.M. (2018) Nitrate-responsive oral microbiome modulates nitric oxide homeostasis and blood pressure in humans. *Free Radic. Biol. Med.*, 124: 21-30.
69. Stensvold, C.R. and van der Giezen, M. (2018) Associations between gut microbiota and intestinal parasite colonisation. *Trends Parasitol.*, 34: 369–377.
68. Holt, C., Foster, R., Daniels, C.L., van der Giezen, M., Feist, S.W., Stentiford, G.D., and Bass, D. (2018) *Haliotricida noduliformans* infection in eggs of lobster (*Homarus gammarus*) reveals its generalist parasitic strategy in marine invertebrates. *J. Invertebr. Pathol.*, 154: 109-116.
67. Herman, E., Siegesmund, M.A., Bottery, M., van Aerle, R., Shather, M.M., Caler, E., Dacks, J.B. and M. van der Giezen (2017) Membrane trafficking modulation during *Entamoeba* encystation. *Sci. Rep.*, 7: 12854.

66. Gentekaki, E., Curtis, B., Stairs, C., Klimes, V., Elias, M., Salas, D., Herman, E., Eme, L., Arias, M.C., Hilliou, F., Klute, M., Suga, H., Malik, S.-B., Pightling, A., Kolisko, M., Rachubinski, R., Schlacht, A., Tsaousis, A., Archibald, J., Ball, S.G., Dacks, J., Clark, G., van der Giezen, M. and A.J. Roger (2017) Extreme genome diversity in the hyper-prevalent parasitic eukaryote *Blastocystis*. *PLoS Biol.*, 15(9): e2003769.
65. Vashisht, K., Verma, S., Gupta, S., Lynn, A., Dixit, R., Mishra, N., Valecha, N., Hamblin, K., Maytum, R., Pandey, K.C. and M. van der Giezen (2017) Engineering nucleotide specificity of succinyl-CoA synthetase in *Blastocystis*: The emerging role of gatekeeper residues. *Biochem.* 56:534-542.
64. Van Aerle, R. and M. van der Giezen (2017) Next-generation sequencing, bioinformatics, and infectious diseases. In: Genetics and evolution of infectious diseases, 2e. M. Tibayrenc (ed). Elsevier, Amsterdam, 405-420.
63. van der Giezen, M. (2016) Evolution: Organelles caught in the act. *Curr. Biol.*, 26, R913-R915.
62. van der Giezen, M. (2015) Nature's magic algebra; or, how one plus one still equaled one. *Bioscience* 65, 832-833.
61. Stairs, C.W., Eme, L., Brown, M.W., Mutsaers, C., Susko, E., Delleire, G., Soanes, D.M., van der Giezen, M. and A.J. Roger (2014) A mitochondrial sulfur mobilization (SUF) system in the anaerobe *Pygsuia*. *Curr. Biol.*, 24, 1176-1186.
60. Bertolinia, C., van Aerle, R., Lampis, S., Moore, K.A., Paszkiewicz, K., Butler, C.S., Vallini, G. and M. van der Giezen (2014) Draft genome sequence of *Stenotrophomonas maltophilia* SeITE02, a gammaproteobacterium isolated from selenite-contaminated mining soil. *Genome Announc.*, 2: e00331-14.
59. Terali, K., Beavil, R.L., Pickersgill, R.W. and M. van der Giezen (2013) The effect of Isd11 on the quaternary structure of Nfs1. *Biochem Biophys Res Comm.*, 440: 235-240.
58. Koumandou, V.L., Wickstead, B., Ginger, M., van der Giezen, M., Dacks, J.B. and M. C. Field (2013) Molecular palaeontology and complexity in the last eukaryotic common ancestor. *Crit. Rev. Biochem. Mol. Biol.*, 48: 373-396.
57. Read, B.A., Kegel, J., Klute, M.J., Kuo, A., Lefebvre, S.C., Maumus, F., Meyer, C., Miller, J., Monier, A., Salamov, A., Young, J., Aguilar, M., Claverie, J.M., Frickenhaus, S., Gonzalez, K., Herman, E.K., Lin, Y.C., Napier, J., Ogata, H., Sarno, A.F., Shmutz, J., Schroeder, D., de Vargas, C., Verret, F. von Dassow, P., Valentin, K., Van de Peer, Y., Wheeler, G., *Emiliana huxleyi* Annotation Consortium, Allen, A.E., Bidle, K., Borodovsky, M., Bowler, C., Brownlee, C., Mark Cock, J., Elias, M., Gladyshev, V.N., Groth, M., Guda, C., Hadaegh, A., Debora Iglesias-Rodriguez, M., Jenkins, J., Jones, B.M., Lawson, T., Leese, F., Lindquist, E., Lobanov, A., Lomsadze, A., Malik, S.B., Marsh, M.E., Mackinder, L., Mock, T., Mueller-Roeber, B., Pagarete, A., Parker, M., Probert, I., Quesneville, H., Raines, C., Rensing, S.A., Riano-Pachon, D.M., Richier, S., Rokitta, S., Shiraiwa, Y., Soanes, D.M., van der Giezen, M., Wahlund, T.M., Williams, B., Wilson, W., Wolfe, G., Wurche, L.L., Dacks, J.B., Delwiche, C.F., Dyhrman, S.T., Glokner, G., John, U., Richards, T., Worden, A.Z., Zhang, X. and I.V. Grigoriev (2013) Pan genome of the phytoplankton *Emiliana* underpins its global distribution. *Nature*, 499: 209-213.
56. Clark, C. G., van der Giezen, M., Alfellani, M. and C. R. Stensvold (2013) Recent developments in *Blastocystis* research. *Adv. Parasitol.*, 82: 1-32.
55. van der Giezen, M. (2013) Evolution: One thread to unite them all. *Curr. Biol.*, 23: R679-R681.
54. Müller, M., Mentel, M., van Hellemond, J., Henze, K., Wöhle, C., Gould, S.B., Yu, R.-Y., van der Giezen, M., Tielens, A.G.M. and W.F. Martin (2012) Biochemistry and evolution of anaerobic energy metabolism in eukaryotes. *Microbiol. Mol. Biol. Rev.*, 76: 444-495.
53. de Paula, W., Allen, J.F. and M. van der Giezen (2012) Mitochondria, hydrogenosomes and mitosomes in relation to the CoRR hypothesis for genome function and evolution. In: Organelle Genetics: Evolution of organelle genomes and gene expression. (Bullerwel, C.E., Ed.), Springer, Berlin, 105-122.
52. van der Giezen, M. and T. M. Lenton (2012) The rise of oxygen and complex life. *J. Euk. Microbiol.*, 59: 111-113.
51. Standley, D.M. and M. van der Giezen (2012) Modeling the alternative oxidase from the human pathogen *Blastocystis* using automated hybrid structural template assembly. *Res. Rep. Biochem.*, 2: 1-8.
50. Siegesmund, M.A., Hehl, A.B. and M. van der Giezen (2011) Mitosomes in trophozoites and cysts of the reptilian parasite *Entamoeba invadens*. *Eukaryot. Cell*, 10: 1582-1585.
49. Paszkiewicz, K. H. & van der Giezen, M., (2011) Omics, bioinformatics and infectious disease research. In: Genetics and evolution of infectious diseases. M. Tibayrenc (ed). Elsevier, Amsterdam, 523-539.
48. van der Giezen, M. (2011). Mitochondria and the rise of eukaryotes. *BioSci.* 61: 594-601.
47. Herman, E.K., Walker, G., van der Giezen, M., Dacks, J.B. (2011) Multivesicular bodies in the enigmatic amoeboflagellate *Breviata anathema* and the evolution of ESCRT 0. *J. Cell Sci.* 124, 613-621.
46. Griffith, G.W., Baker, S., Fliiegerova, K., Liggenstoffer, A., van der Giezen, M., Voigt, K., Beakes, G. (2010) Anaerobic fungi: *Neocallimastigomycota*. *IAM Fungus* 1: 181-185.

45. Maralikova, B., Ali, V., Nakada-Tsukui, K., Nozaki, T., van der Giezen, M., Henze, K., Tovar, J. (2010) Bacterial-type oxygen detoxification and iron-sulphur cluster assembly in amoebal relict mitochondria. *Cell. Microbiol.*, 12: 331-342.
44. van der Giezen, M. (2009) Hydrogenosomes and mitosomes: Conservation and evolution of functions. *J. Euk. Microbiol.*: 56: 221-231.
43. Stechmann, A., Tsaousis, A. D., Hamblin, K. A., van der Giezen, M., Pérez-Brocal, V. & Clark, C. G. (2009). The *Blastocystis* mitochondrion-like organelles. *In*: Clark, C. G., Adam, R. D. & Johnson, P. J. (eds.) *Anaerobic Parasitic Protozoa: Genomics and Molecular Biology*. Horizon Scientific Press Ltd., 205-219.
42. van der Giezen, M. (2009) Eukaryotic life without mitochondria? *Comp. Biochem. Phys. A Mol. Integr. Phys.*, 153A: S165-S166.
41. Standley, D.M., Kinjo, A.R., Lis, M., van der Giezen, M., Nakamura, H. (2008) Structure-based functional annotation of protein sequences guided by comparative models. *Lecture Notes Oper. Res.*: 9: 395-403.
40. Puthiyaveetil, S., Kavanagh, T.A., Cain, P., Sullivan, J.A., Newell, C.A., Gray, J.C., Robinson, C., van der Giezen, M., Rogers, M.B., Allen, J.F. (2008) The ancestral symbiont sensor kinase CSK links photosynthesis with gene expression in chloroplasts. *Proc. Natl. Acad. Sci. U.S.A.*: 105: 10061-10066.  
**Recommended by the Faculty of 1000.**
39. Hamblin, K., Standley, D.M., Rogers, M.B., Stechmann, A., Roger, A.J., Maytum, R., van der Giezen, M. (2008) Localisation and nucleotide specificity of *Blastocystis* succinyl-CoA synthetase. *Mol. Microbiol.*: 68: 1395-1405.
38. Stechmann, A., Hamblin, K., Perez-Brocal, V., Gaston, D., Richmond, G. S., van der Giezen, M., Clark, C.G., Roger, A.J. (2008) Organelles in *Blastocystis* that blur the distinction between mitochondria and hydrogenosomes. *Curr. Biol.*: 18: 580-585.
37. van Grinsven, K.W.A., Rosnowsky, S., van Weelden, S.W.H., Pütz, S., Martin, W., van der Giezen, M., van Hellemond, J.J., Tielens, A.G., and Henze, K. (2008) Acetate:succinate CoA-transferase in the hydrogenosomes of *Trichomonas vaginalis*: identification and characterization. *J. Biol. Chem.* 283: 1411-1418.
36. Tovar, J., Cox, S.S.E., and van der Giezen, M. (2007) A mitosome purification protocol based on Percoll density gradients and its use in validating the mitochondrial nature of *Entamoeba histolytica* mitochondrial Hsp70. *In*: *Protein targeting protocols, second ed.* van der Giezen, M. (Ed), Humana Press, 167-177.
35. Allen, C.A., van der Giezen, M., and Allen, J.F. (2007) Origin, function, and transmission of mitochondria. *In* *Origins of mitochondria and hydrogenosomes*. Martin, W. and Müller, M. (eds): Springer, pp. 39-56.
34. Protein targeting protocols, second edition, van der Giezen, M. (Ed.). Humana Press, Totowa, NJ, USA, 2007.
33. Cox, S.S.E., van der Giezen, M., Tarr, S.J., Crompton, M.R. and Tovar, J. (2006) Evidence from bioinformatics, expression and inhibition studies of phosphoinositide-3 kinase signalling in *Giardia intestinalis*. *BMC Microbiology* 6: 45 (E-journal).
32. Richards, T.A., and van der Giezen, M. (2006) Evolution of the Isd11/IscS complex reveals a single  $\alpha$ -proteobacterial endosymbiosis for all eukaryotes. *Mol. Biol. Evol.* 23: 1341-1344.
31. van der Giezen, M. (2006) Mitochondrial amazement. *EMBO Reports*, 7: 478.
30. Dacks, J.B., Dyal, P.L., Embley, T.M., and van der Giezen, M. (2006) Hydrogenosomal succinyl-CoA synthetase from the rumen-dwelling fungus *Neocallimastix patriciarum*; an energy-producing enzyme of mitochondrial origin. *Gene* 373: 75-82.
29. Brinkmann, H., van der Giezen, M., Zhou, Y., Poncelin de Raucourt, G., and Philippe, H. (2005) An empirical assessment of long branch attraction artifacts in deep eukaryotic phylogenomics. *Syst. Biol.* 54: 743 - 757.
28. van der Giezen, M. (2005) Endosymbiosis – past and present. *Heredity*, 95: 335-336.
27. van der Giezen, M., León-Avila, G., and Tovar, J. (2005) Characterisation of chaperonin 10 (Cpn10) from the amitochondrial human parasite *Entamoeba histolytica*. *Microbiology*. 151: 3107-3115.
26. Regoes, A., Zourmpanou, D., León-Avila, G., van der Giezen, M., Tovar, J. and Hehl, A.B. (2005) Protein import, replication and inheritance of a vestigial mitochondrion. *J. Biol. Chem.* 280: 30557-30563.
25. van der Giezen, M., and Tovar, J. (2005) Degenerate mitochondria. *EMBO Reports*. 6: 525-530.
24. van der Giezen, M., Tovar, J., and Clark, G.C. (2005) Mitochondria-derived organelles in protists and fungi. *Int. Rev. Cytol.*, 244: 175-225.
23. Chan, K.W., Slotboom, D.J., Cox, S., Embley, T.M., Fabre, O., van der Giezen, M., Harding, M., Horner, D.S., Kunji, E.R.S., León-Avila, G., and Tovar, J. (2005) A novel ADP/ATP transporter in the mitosome of the microaerophilic human parasite *Entamoeba histolytica*. *Curr. Biol.*, 15: 737-742.  
**Recommended by the Faculty of 1000.**
22. van der Giezen, M., Cox, S., and Tovar, J. (2004) The iron-sulfur cluster assembly genes IscS and IscU of *Entamoeba histolytica* were acquired by horizontal gene transfer. *BMC Evol. Biol.*, 4: 7 (E-journal).

21. Tovar, J., León-Avila, G., Sánchez, L., Sutak, R., Tachezy, J., van der Giezen, M., Hernández, M., Müller, M., and Lucocq, J.M. (2003) Mitochondrial remnant organelles of *Giardia* function in iron-sulphur cluster metabolism. *Nature*, 426: 172-176.  
**Recommended by the Faculty of 1000.**
20. van der Giezen, M. and Tovar, J. (2004) Hydrogenosomes, mitosomes and mitochondria; variations on a theme?. In: The wonderful diversity of the eukaryotic world, its origins and evolution: an overview (Horner, D.S. and Hirt, R.P., eds.), CRC Press, 283-302.
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11. van der Giezen, M., Kiel, J.A.K.W., Sjollema, K.A., and Prins, R.A. (1998) The hydrogenosomal malic enzyme from the anaerobic fungus *Neocallimastix frontalis* is targeted to mitochondria of the methylotrophic yeast *Hansenula polymorpha*. *Curr. Genet.*, 33: 131-135.
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8. van der Giezen, M., Rechinger, K.B., Svendsen, I., Durand, R., Hirt, R.P., Fèvre, M., Embley, T.M., and Prins, R.A. (1997) A mitochondrial-like targeting signal on the hydrogenosomal malic enzyme from the anaerobic fungus *Neocallimastix frontalis*: evidence for the hypothesis that hydrogenosomes are modified mitochondria. *Mol. Microbiol.*, 23: 11-21.
7. Biagini, G.A., van der Giezen, M., Hill, B., Winters, C., and Lloyd, D. (1997) Ca<sup>2+</sup> accumulation in the hydrogenosomes of *Neocallimastix frontalis* L2: A mitochondrial-like physiological role. *FEMS Microbiol. Lett.*, 149: 227-232.
6. van der Giezen, M., Sjollema, K.A., Artz, R.R.E., Alkema, W., and Prins, R.A. (1997) Hydrogenosomes in the anaerobic fungus *Neocallimastix frontalis* have a double membrane but lack an associated organelle genome. *FEBS Lett.*, 408: 147-150.
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4. van der Giezen, M., and Prins, R.A. (1997) A common evolutionary origin for mitochondria and hydrogenosomes. *Reproduct. Nutr. Developm.*, 37: 38S.
3. Brondijk, T.H.C., Durand, R., van der Giezen, M., Gottschal, J.C., Prins, R.A., and Fèvre, M. (1996) *scsB*, a cDNA encoding the hydrogenosomal protein  $\beta$ -succinyl-CoA synthetase from the anaerobic fungus *Neocallimastix frontalis*. *Mol. Gen. Genet.*, 253: 315-323.
2. van der Giezen, M., Gottschal, J.C., and Prins, R.A. (1994) The evolutionary origin of hydrogenosomes from anaerobic fungi. In: Micro-organisms in ruminant nutrition. (Prins, R.A. and Stewart, C.S., eds.) pp. 195-208. Nottingham University Press, Nottingham, UK.

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### Communications to scientific meetings/invited seminars

54. *Unusual mitochondria and (anaerobic) microbial eukaryotes*. Invited by Professor Gro Johnsen at the Centre for Organelle Research (CORE), University of Stavanger, Norway, April 16, 2018.
53. *Anaerobic mitochondria and their relevance to the origin of eukaryotes*. Invited speaker at the Templeton Foundation Workshop on Deep Evolutionary Biology, University of Manchester, 14-15<sup>th</sup> December 2017.
52. *Biochemical and evolutionary peculiarities of the hyper-prevalent parasitic eukaryote Blastocystis*. Invited by Prof. John Allen, The Department of Genetics, Evolution and Environment, University College London, October 4<sup>th</sup> 2017.
51. *Two genome projects: one because we're curious, the other because we need better diagnostics*. Invited speaker at the USF Genomics Symposium, University of South Florida, Tampa, USA, 16<sup>th</sup> May, 2017.
50. *Biochemical peculiarities of the hyper-prevalent parasitic eukaryote Blastocystis*. Invited speaker at the CGHIDR-CDDI Annual Symposium on Frontiers of Drug Discovery and Infectious Diseases, University of South Florida, Tampa, USA, 15<sup>th</sup> May, 2017.
49. *Mitochondrial glycolysis in stramenopiles*. Invited speaker at the 115<sup>th</sup> International Titisee Conference on "Evolutionary mitochondrial biology: molecular, biochemical, and metabolic diversity", Titisee, Black Forest, Germany, March 29 - April 2, 2017.
48. *Mitochondria and related organelles in microbial eukaryotes*. Invited symposium presentation at the Society for General Microbiology (SGM) Annual Meeting, Birmingham, UK, March 30 – April 2, 2015.
47. *Mitochondria but not as you know them*. Invited by Dr. Anastasios Tsaousis, School of Biosciences, University of Kent, June 16, 2014.
46. *Unusual biochemistry and cell biology of the intestinal parasite Blastocystis*. Invited by Dr. Graham Clark, London School of Hygiene and Tropical Medicine, April 18, 2013.
45. *Can unusual mitochondria of the anaerobic human parasite Blastocystis change our textbooks?* Invited by Professor John Moody, School of Biomedical and Biological Sciences, University of Plymouth, November 23, 2011.
44. *Weird mitochondria as proxies for understanding eukaryotic evolution*. Invited by Professor David Lloyd, School of Biosciences, Cardiff University, October 27, 2011.
43. *Hydrogenosomes and mitosomes as proxies for understanding eukaryotic evolution*. Invited symposium speaker at the 2<sup>nd</sup> Student-organized International Symposium of the DFG Research Training Group 1216 'Intra - and Intercellular Transport and Communication', Marburg, Germany, September 21-23, 2011.
42. *Molecular oxygen and intelligent life*. Invited speaker at the workshop: Using the diversity of Protists to educate students and the public about evolution. VI European Congress of Protistology, Berlin, Germany, July 25-29, 2011.
41. *The anaerobic human parasite Blastocystis, a non-conforming eukaryote*. Invited by Professor William Martin, Institut für Botanik III, Heinrich-Heine Universität Düsseldorf, Germany, April 13-14, 2011.
40. *The anaerobic intestinal parasite Blastocystis, another non-conforming eukaryote*. Invited by Professor Jan Tachezy at the Department of Parasitology, Charles University, Prague, Czech Republic, September 9, 2010.
39. *Adaptations to an anaerobic niche: hydrogenosomes in the Neocallimastigomycota*. Invited presentation at the 9<sup>th</sup> International Mycological Congress, Edinburgh, UK, August 1-6, 2010.
38. *Anaerobic mitochondria; from irrelevant oddities to relevant entities*. Invited presentation at the joint International Society of Protistologists/British Society for Protist Biology Meeting, University of Kent, Canterbury, UK, July 18-23, 2010.
37. *An unusual nitric oxide synthase from the human parasite Trichomonas vaginalis*. Iron-Sulfur Proteins Discussion Group Meeting; MRC National Institute for Medical Research (Mill Hill), May 6, 2010.
36. *Piecing together the Emiliana huxleyi mitochondrial proteome and its evolutionary ancestry*. Invited presentation for the Leverhulme *Emiliana huxleyi* international collaboration grant, University of Essex, Colchester, UK, September 21-22, 2009.
35. *Grafting mitochondria onto the tree of life*. Invited symposium presentation at the Society for General Microbiology (SGM) Autumn Meeting, Edinburgh, UK, September 7-10, 2009.



34. *An unusual nitric oxide synthase from the human parasite Trichomonas vaginalis*. Invited seminar for the Peninsula Oxidative Stress Research Forum (POSReF), Lavender House Hotel, Ashburton, UK, September 16, 2009.
33. *Eukaryotic life without mitochondria?* Invited symposium presentation at the Society for Experimental Biology Annual Main Meeting, Glasgow, UK. June 28- July 1, 2009.
32. *Bioinformatics reconstruction of the Emiliania huxleyi mitochondrial proteome and its evolutionary ancestry*. Presentation at the *Emiliania huxleyi* Genome Jamboree, Woods Hole, USA, June 17-19, 2009.
31. *Human parasites and their impact on understanding mitochondrial evolution*. Invited by Prof. Jan Kok at the Department of Molecular Genetics of the University of Groningen, the Netherlands, April 14, 2009.
30. *Human parasites and their impact on understanding mitochondrial evolution*. Invited by Prof. Colin Robinson at the Department of Biological Sciences of the University of Warwick, March 16, 2009.
29. *At the interface between biochemistry and evolution*. Invited by Prof. Haruki Nakamura at the Institute for Protein Research, Osaka University and the Protein Database Japan, Japan, January 22, 2009.
28. *Hydrogenosomes and mitosomes of anaerobic protists*. Invited symposium presentation at the joint 17<sup>th</sup> International Society for Evolutionary Protistology (ISEP) / 59<sup>th</sup> International Society of Protistologists (ISOP) Halifax, Canada. July 21-26 July, 2008.
27. *Mitochondria, but not as you know them; unusual anaerobic mitochondria from human parasites*. Invited by Prof. Thomas Langer at the Institute of Genetics, University of Cologne, Germany, July 12, 2007.
26. *Mitochondria, but not as you know them; unusual anaerobic mitochondria from human parasites*. Invited by Dr. Guy Hanke at the Institute for Protein Research, University of Osaka, Japan. Apr. 5, 2007.
25. *Hydrogenosomes and mitosomes; mitochondria on their way out?* Invited presentation at the 16<sup>th</sup> International Society for Evolutionary Protistology (ISEP), Wroclaw, Poland. Aug.1-5, 2006.
24. *Evolution of the Isd11/IscS complex reveals a single  $\alpha$ -proteobacterial endosymbiosis for all eukaryotes*. Iron-Sulfur Proteins Discussion Group Meeting; King's College, London, UK. Apr. 21, 2006.
23. *Mitosomes are mitochondria*. Presentation at the Max Planck Institute for Terrestrial Microbiology, Marburg, Germany, Feb. 2006.
22. *Degenerate mitochondria; convergent adaptations to an anaerobic lifestyle*. Presentation at 'Evolutionary inferences from phylogenetic trees', a workshop sponsored by the Centre for Ecology and Evolution. London, UK. Nov. 2005.
21. *Why mitochondria are never lost*. Presentation at the 'International Symposium; 100 years of the endosymbiotic theory: From prokaryotes to eukaryotic organelles'. Hamburg, Germany. 5-8 Oct. 2005.
20. *Mitochondrial energy production in anaerobic microbial eukaryotes*. Presentation at 'Energy conversion in the origins and evolution of cells'. Queen Mary, University of London, UK. 13<sup>th</sup> April 2005.
19. *Early eukaryotes and mitochondrial remnants*. Invited by Dr. Salvador Carranza; seminar for the Genetics Department, University of Barcelona, Spain. June 2004.
18. *Degenerate mitochondria and early branching eukaryotes*. Invited by Dr. Kirill Degtyarenko; seminar for the European Bioinformatics Institute, Hinxton, UK. May 2004.
17. *Mitochondrial remnants and early eukaryotic evolution*. Invited by Prof. David Fell; talk for the Cell Systems Modelling Group, Oxford Brookes University, UK. May 2004.
16. *FeS protein assembly in early eukaryotes*. Iron-Sulfur Proteins Discussion Group Meeting; King's College, London, UK. Apr. 23, 2004.
15. *Hydrogenosomes, mitochondria and early eukaryotic evolution*. Invited by Prof. Roland Lill; seminar for the Department of Cell Biology, Philips University of Marburg and Department of Microbiology from the Max Planck Institute, Germany. Dec. 2003.
14. *Hydrogenosomes, mitochondria and early eukaryotic evolution*. Invited by Prof. John Samuelson; seminar for the Department of Molecular Cell Biology at the University of Boston, USA. Sept. 2003.
13. *Iron sulphur proteins IscU and IscS from the amitochondriate human parasite Entamoeba histolytica*. Molecular Parasitology Meeting XIV. Marine Biological Laboratory, Woods Hole, MA, USA. 14-18 Sep., 2003.
12. *Hydrogenosomes; specialised mitochondria?* Invited by Prof. Tony Trinci; seminar for the School of Biological Sciences, University of Manchester, UK. Oct. 2001.
11. *Hydrogenosomes are modified mitochondria*. EMBO Fellows Meeting, EMBO, Heidelberg, Germany. Jun. 2001.
10. *Hydrogenosomes*. Invited by Dr. Colin Stewart; seminar for the Rowett Research Insitute, Aberdeen, Scotland, UK. Feb. 2001.
9. *The anaerobic fungus Neocallimastix and its hydrogenosomes*. Invited by Dr. Gareth Griffith; seminar for the Institute of Biological Sciences, University of Wales, Aberystwyth, Wales, UK. Feb. 2000.

8. *A common evolutionary origin for mitochondria and hydrogenosomes of fungi*. SGM 140th Ordinary Meeting, Impact of molecular methods on fungal systematics, Nottingham, UK. Mar. 30 - Apr. 2, 1998.
7. *The evolutionary origin of fungal hydrogenosomes*. Microbial interactions in anaerobic ecosystems, Prof. Rudolf Prins Memorial Meeting, Haren, The Netherlands. Dec. 18, 1997.
6. *A common evolutionary origin for mitochondria and hydrogenosomes*. Evolution of the rumen ecosystem; Aberdeen, Scotland, UK. Mar. 19-20, 1997.
5. *The evolutionary origin of hydrogenosomes in anaerobic fungi*. Invited by Prof. David Lloyd; seminar for the School of Biological Sciences, University of Wales, Cardiff, Wales, UK. May, 1996.
4. *Iron-sulfur proteins in hydrogenosomes of anaerobic fungi*. Iron-Sulfur Proteins Discussion Group Meeting; King's College, London, UK. Apr. 26, 1996.
3. *The evolutionary origin of hydrogenosomes in anaerobic fungi*. The Beijerinck Centennial Meeting, The Hague, The Netherlands. Dec. 10-14, 1995.
2. *Hydrogenase from the anaerobic fungus Neocallimastix frontalis*. A workshop of the EC: COST 818 Hydrogenases and Environmental Biology, Uppsala, Sweden. Sep. 15-17, 1995.
1. *The evolutionary origin of hydrogenosomes from anaerobic fungi*. A seminar in the EU programme of co-ordination of agricultural research on anaerobic fungi and their role in the nutrition of extensively fed ruminants, Dalfts, The Netherlands. Oct. 13-15, 1993.