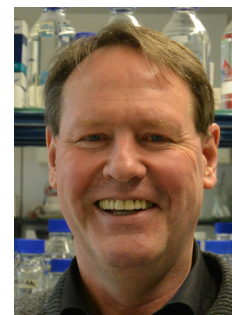


curriculum vitae, William F. Martin

Institutional address:
Institute for Molecular Evolution
Heinrich-Heine-Universität Düsseldorf
Universitätsstraße 1
D-40225 Düsseldorf
Germany
e-mail: bill@hhu.de

Home address:
Rilkestrasse 13
D-41469 Neuss
Germany
Tel. +49-211-81-13011



Date of birth : 16.02.57 in Bethesda, Maryland, USA
Familial status : Married, four children
Nationality : German
University degree : 1981–1985, Technische Universität Hannover, Germany: Biology
Diplom thesis : 1985, Institut für Botanik, TU Hannover: Plant Molecular Biology
PhD thesis : 1985–1988, Max-Planck-Institut für Züchtungsforschung, Cologne, with Heinz Saedler; degree conferred by the University of Cologne: Genetics
Postdoc : 1988–1989, Max-Planck-Institut für Züchtungsforschung, Cologne
Postdoc : 1989–1999, Institut für Genetik, Universität Braunschweig, with Rüdiger Cerff
Habilitation : 1992, TU Braunschweig, Germany, *venia legendi* for the field of Botany
Full professor offers : 1999 Universität Jena (C4) Genetics; 1999 Universität Bochum (C4) Cell Biology
Full professor : 1999–2011 for "Ecological Plant Physiology" (C4), Universität Düsseldorf
: 2011– for "Molecular Evolution" (C4), Universität Düsseldorf

Honours

2020 Elected Fellow, Leibniz Sozietät der Wissenschaften zu Berlin
2019 Elected Corresponding Foreign Member, Accademia delle Scienze di Bologna
2018 Visiting Scientist, Università Degli Studi di Padova, Italy
2018 Elected President, Society for Molecular Biology and Evolution
2013– Visiting Professor, Instituto de Tecnologia Química e Biológica, Oeiras, Portugal
2012 Elected Member of EMBO (European Molecular Biology Organisation)
2008 Elected Member of the Nordrhein-Westfälische Akademie der Wissenschaften
2006 Elected Fellow of the American Academy for Microbiology
2006-2009 Julius von Haast Fellow, New Zealand Ministry for Research, Science & Technology
2000-2007 Foreign Associate, CIAR Programme in Evolutionary Biology

Awards

2021 European Research Council Advanced Investigator Grant (3rd)
2019 ISI Highly Cited Researcher, Cross-Field
2018 Klüh Foundation Award for Science and Research
2017 Spiridion Brusina Medal, Croatian Society for Natural Sciences
2017 Distinguished Lectureship Award, Ministry of Science and Technology of Taiwan
2015 European Research Council Advanced Investigator Grant (2nd)
2011 The Mindlin Lecture Award, University of Washington, USA
2009 European Research Council Advanced Investigator Grant (1st)
1998 Miescher-Ishida Prize of the International Society of Endocytobiology
1997 Technology Transfer Prize, Industrie und Handelskammer Braunschweig
1990 Heinz-Maier-Leibnitz Prize of the Deutsche Forschungsgemeinschaft
1989 Max-Planck postdoctoral stipend

Positions of trust

2018–	German representative, COST action CA 17129 Chemobrionics
2017–	External Advisory Panel, Ganges Microbiome Initiative, India
2017–	Scientific Advisory Board, Biodiversity Research Center, Academia Sinica, Taiwan
2016–2019	Member of the Gender and Diversity Commission of the University of Düsseldorf
2017	Scientific Advisory Board of CBRC, KAUST, KSA
2016–2019	Elected member of the Senate of the University of Düsseldorf
2016–	European Science Foundation College of Expert Reviewers
2010	Science Advisory Committee, Helmholtz Alliance Planetary Evolution and Life
2007–2012	Selection Committee for the Heinz-Maier-Leibnitz Prize of the DFG
2004–2007	Elected member of the Senate of the University of Düsseldorf

Editorial service

2021–	Associate Editor, <i>Frontiers in Microbiology</i> (Evolutionary and Genomic Microbiology)
2021–	Associate Editor, <i>Frontiers in Microbiology</i> (Biology of Archaea)
2009–2018	Editor-in-Chief, <i>Genome Biology and Evolution</i>
2004–2007	Editor-in-Chief, <i>Molecular Biology and Evolution</i>
2015–2018	Editorial Board Member, <i>Microbial Genomics</i>
2008–2011	Editorial Board Member, <i>Marine Genomics</i>
2015–2019	Editorial Board Member, <i>Scientific Reports</i>
2014–2016	Editorial Board Member, <i>Life</i>
2012–	Scientific Advisory Committee, <i>Marine Genomics</i>
2007–	Editorial Board Member, <i>Biology Direct</i>
2001–	Faculty 1000 Member for Plant Genomes and Evolution
2012–2013	Editorial Board Member, <i>Central European Journal of Biology</i>
2005–2014	Editorial Board Member, <i>Environmental Microbiology</i>
2005–2012	Editorial Advisory Board, <i>BioEssays</i>
2003–2008	Editorial Board Member, <i>Plant Biology</i>
1999–2004	Editorial Board Member, <i>European Journal of Phycology</i>
1998–2008	Editorial Board Member, <i>Molecular Biology and Evolution</i>
1995–2008	Editorial Board Member, <i>Gene</i>

Other affiliations

Instituto de Tecnologia Química e Biológica
Universidade Nova de Lisboa
2780-157 Oeiras
Portugal

Current research funding	Period	Sum (as PI)
ERC Advanced Grant Ecology of Metabolic Origins	2021–2026	€ 2,490,000
Moore-Simons Initiative on the Origin of Eukaryotic Cells (with H. Imachi, M. Nobu, Y. Kamagata, R. Robinson)	2020–2023	€ 640,000
German-Israeli Project Cooperation (with I. Misrahi, Beer Sheva)	2020–2024	€ 420,000
Volkswagen Foundation, Forming catalysts: A basic principle of deep chemistry, life chemistry and life (with H. Tüysüz, J. Moran)	2019–2024	€ 487,000
Volkswagen Foundation, A unified model of recombination in life	2016–2021	€ 500,000
Deutsche Forschungsgemeinschaft (with H. Tüysüz, MPI Mülheim)	2018–2020	€ 164,000

Prior research funding

European Research Council Advanced Grant "eMicrobevol"	2015–2020
German Israeli Foundation grant (with E. Hazkani-Covo)	2016–2018
European Research Council Advanced Grant "Networkorigins"	2009–2014
German Research Foundation (DFG)	
Collaborative Research Centre CRC-Tr1 "Endosymbiosis"	
· Project A3: Comparative genome analysis	2010–2012
· Project A3: Comparative genome analysis	2007–2009
· Project A3: Comparative genome analysis	2004–2006
· Project A3: Comparative genome analysis	2001–2003
· Project C3: The mitochondrion of <i>Euglena</i>	2010–2012
· Project C3: The mitochondrion of <i>Euglena</i>	2007–2009
· Project C3: The mitochondrion of <i>Euglena</i>	2004–2006
· Project C3: The mitochondrion of <i>Euglena</i>	2001–2003
· Project A10: Plant genome analysis	2010–2012
· Project A10: Plant genome analysis	2007–2009
DFG Priority Programme grants:	
· Ma1426/13-3 SPP1127 Domestication and evolution of einkorn	2006–2007
· Ma1426/13-2 SPP1127 Domestication and evolution of einkorn	2004–2005
· Ma1426/13-1 SPP1127 Domestication and evolution of einkorn	2002–2003
· Ma1426/1-3 SPP285 Plant molecular evolution	1996–1997
· Ma1426/1-2 SPP285 Plant molecular evolution	1994–1995
· Ma1426/1-1 SPP285 Plant molecular evolution	1992–1993
DFG Individual grants:	
· Ma1426/19-1 Molecular mechanisms of <i>Trichomonas</i> infection	2013–2015
· Ma1426/9-1 Evolution of photosynthetic eukaryotes	1998–1999
· Ma1426/4-2 Plant tryptophan biosynthesis	1996–1997
· Ma1426/4-1 Plant tryptophan biosynthesis	1994–1995
· Ma1426/3-3 Evolution of plant sugar phosphate metabolism	1998–1999
· Ma1426/3-2 Evolution of plant sugar phosphate metabolism	1996–1997
· Ma1426/3-1 Evolution of plant sugar phosphate metabolism	1994–1995
BMBF:	
· Classification & Evolution in Biology, Linguistics & Science History	2008–2011
Funded industry cooperations	
· Bayer Crop Science, Monheim (1996–2007)	
· BASF Plant Science, Ludwigshafen (1999–2003)	
· Sanford Scientific, USA (1997)	

Memberships

American Academy for Microbiology, German Botanical Society, Society for Molecular Biology and Evolution, Society for the Study of Evolution, Deutscher Hochschulverband, Verein Deutscher Biologen, VdBiol Arbeitsgemeinschaft Evolutionsbiologie, Nordrheinwestfälische Akademie der Wissenschaften, European Molecular Biology Organization (EMBO)

Recent special lectures

Oct	2021	Morning Plenary, Wetsus Annual Meeting, Leuwarden, NL
Jan	2019	Evening Lecture, 54 th Winter Seminar, Klosters, CH
Nov	2018	Opening Lecture, 34th International Prize for Biology Symposium, A.H. Knoll, Nagoya, J
Aug	2018	Plenary Lecture, European Bioenergetics Conference, Budapest, H

- July 2018 The Nei Lecture, SMBE Annual Meeting, Yokohama, J
- July 2018 Opening Plenary, Israel Society for Microbiology, Be'er Sheva, ISR
- May 2018 Università degli Studi di Milano Bicocca, 20th Anniversary lecture series, Milano, I
- Nov. 2017 Public evening lecture, NRW Akademien der Wissenschaften, Düsseldorf, D
- Nov. 2017 Spiridon Brusina Medal Lecture, Croatian Society for Natural Sciences, Zagreb, HR
- May 2017 Linus Pauling Memorial Lecture Series, Portland, Oregon, USA
- Jul. 2016 Opening Plenary, 19th European Bioenergetics Conference, Riva del Garda, I
- Nov. 2015 Pontifical Academy of Science, The Vatican
- Oct. 2015 Inaugural Meeting of the Institute Biologie Paris Seine, F
- Nov. 2012 Royal Society, Energy transduction and genome function: An evolutionary synthesis, UK
- Nov. 2011 Annual Meeting of the Leopoldina, Halle
- Feb. 2011 The Mindlin Lecture, University of Washington, USA
- Oct. 2010 The Peter-Hemmerich-Vorlesung 2010, University of Konstanz, D
- May 2010 Opening Lecture, Cusanuswerk Symposium Evolution, Nittendorf, D
- Nov. 2009 Opening Lecture, 51st Phylogenetics Symposium, Braunschweig
- Oct. 2009 Opening Lecture, ESF Meeting "Systems Chemistry II", Balatonfüred, Hungary
- Jun. 2009 Opening Plenary, SMBE Annual Meeting, Cedar Rapids, Iowa
- Jan. 2009 The 2009 Howard Dalton Lecture, University of Warwick, UK
- Jan. 2009 The 2009 G.E. Fogg Lecture, Queen Mary University of London, UK
- Feb. 2009 Opening Lecture, BioEd Darwin 200 Symposium, Christchurch, NZ
- Mar. 2006 Evening Plenary, VAAM German Microbiological Society Annual Meeting, Jena
- Dec. 2004 International Prize for Biology Symposium, for Tom Cavalier-Smith, Tokyo, JPN
- Oct. 2003 The Kenneth Sporne Lecture on Plant Evolution, University of Cambridge, UK

Total citations: 40300 (Google Scholar) 25300 (ISI)

H-index: 97 (Google Scholar) 80 (ISI)

ResearcherID: O-5446-2015

OrcidID: 0000-0003-1478-6449

Public citation metrics: <http://scholar.google.de/citations?hl=en&user=ms16utkAAAAJ>

ISI Highly Cited (Cross-Field): <https://publons.com/researcher/3165800/william-f-martin/>

Books (authored)

1. William F. Martin, Aloysius G. M. Tielens, Marek Mentel (2020) *Mitochondria and Anaerobic Energy Metabolism in Eukaryotes*. De Gruyter, Berlin. ISBN 978-3-11-066677-9. 252 pages.

Original Publications (peer reviewed)

2021

278. Hedlund BP, Zhang C, Wang F, Rinke C, Martin W: Ecology, metabolism and evolution of Archaea — Perspectives from Proceedings of the International Workshop on Geo-Omics of Archaea
Frontiers Microbiol. in press. DOI: 10.3389/fmicb.2021.827229
277. Pereira DPH, Leethaus J, Beyazay T, Vieira AdN, Kleineremanns K, Tüysüz H, Martin WF, Preiner M: Role of geochemical protoenzymes (geozymes) in primordial metabolism: Specific abiotic hydride transfer by metals to the biological redox cofactor NAD⁺.
FEBS J. <https://doi.org/10.1111/febs.16329> (2021) *in press*.

276. Wimmer JLE, Xavier JC, Vieira AdN, Pereira DPH, Leidner J, Sousa FL, Kleinermanns K, Preiner M, Martin WF: Energy at origins: Favourable thermodynamics of biosynthetic reactions in the last universal common ancestor (LUCA). *Frontiers Microbiol.* 12:793664 doi: 10.3389/fmicb.2021.793664 (2021).
275. Tria FDK, Martin WF: Gene duplications are at least 50 times less frequent than gene transfers in prokaryotic genomes. *Genome Biol. Evol.* 13:evab224.doi: 10.1093/gbe/evab224s. (2021).
274. Wimmer JLE, Kleinermanns K, Martin WF: Pyrophosphate and irreversibility in evolution, or why PP_i is not an energy currency and why nature chose triphosphates. *Frontiers Microbiol.* 12:759359 doi:10.3389/fmicb.2021.759359. (2021)
273. Subedi BP, Martin WF, Carbone V, Duin EC, Cronin B, Sauter J, Schofield JR, Sutherland-Smith AJ, Ronimus RS. Archaeal pseudomurein and bacterial murein cell wall biosynthesis share a common evolutionary ancestry. *FEMS Microbes.* 2:xtab012. <https://doi.org/10.1093/femsmc/xtab012> (2021).
272. Skejo J, Garg SG, Gould SB, Hendriksen M, Tria FDK, Bremer N, Franjević D, Blackstone NW, Martin WF: Evidence for a syncytial origin of eukaryotes from ancestral state reconstruction. *Genome Biol. Evol.* 13:evab096 (2021).
271. Martin WF, Nagies FSP, Vieira AdN: To what inanimate matter are we most closely related and does the origin of life harbour meaning? *Philosophies.* 6:33 (2021).
270. Tria FDK, Brueckner J, Skejo J, Xavier JC, Kapust N, Knopp M, Wimmer JE, Nagies FSP, Zimorski V, Gould SB, Garg SG, Martin WF: Gene duplications trace mitochondria to the onset of eukaryote complexity. *Genome Biol. Evol.* 13:evab055 (2021).
269. Wimmer JLE, Vieira AdN, Xavier JC, Kleinermanns K, Martin WF, Preiner M: The autotrophic core: An ancient network of 404 reactions converts H_2 , CO_2 , and NH_3 into amino acids, bases, and cofactors. *Microorganisms* 9:458 (2021).
268. Xavier JC, Gerhards RE, Wimmer JLE, Brueckner J, Tria FDK, Martin WF: The metabolic network of the last bacterial common ancestor. *Commun. Biol.* 4:413 (2021)
267. Garg SG, Kapust N, Lin W, Knopp M, Tria FDK, Nelson-Sathi S, Gould SB, Fan L, Zhu R, Zhang C, Martin WF: Anomalous phylogenetic behavior of ribosomal proteins in metagenome assembled asgard archaea. *Genome Biol. Evol.* 13:1–12 doi.org/10.1093/gbe/evaa238 (2021).
266. Kowallik KV, Martin WF: The origin of symbiogenesis: An annotated English translation of Mereschkowky's 1910 paper on the theory of two plasma lineages. *Biosystems* 199:104281 (2021).
- 2020**
265. Vieira AdN, Kleinermanns K, Martin WF, Preiner M: The ambivalent role of water at the origins of life. *FEBS Lett.* 594:2717–2733 (2020).
264. Fan L, Wu D, Goremykin V, Xiao J, Xu Y, Garg S, Zhang C, Martin WF, Zhu R: Phylogenetic analyses with systematic taxon sampling show that mitochondria branch within Alphaproteobacteria. *Nature Ecol. Evol.* 4:1213–1219 (2020).
263. Cunnane SC, Trushina E, Morland C, Prigione A, Casadesus G, Andrews ZB, Beal F, Bergersen LH, Brinton RD, de la Monte S, Eckert A, Harvey JZ, Jeggo R, Jhamandas JH, Kann O, Mannoury la Cour C, Martin WF, Mithieux G, Moreira PI, Murphy MP, Nave KA, Nuriel T, Oliet S, Saudou F, Mattson MP, Swerdlow RH, Millan MJ: Brain energy rescue: an emerging therapeutic concept for neurodegenerative disorders of ageing *Nature Rev. Drug Discovery.* 19:609–633 (2020).
262. Martin WF: Older than genes: The acetyl-CoA pathway and origins. *Frontiers Microbiol.* 11:817 (2020).
261. Brueckner J, Martin WF: Bacterial genes outnumber archaeal genes in eukaryotic genomes.

Genome Biol. Evol. 12:282–292 (2020).

260. Xavier JC, Hordijk W, Kauffman S, Steel M, Martin WF: Autocatalytic chemical networks at the origin of metabolism. *Proc. Roy. Soc. Lond. B.* 287:20192377 (2020).
259. Orsi WD, Schink B, Buckel W, Martin WF: Physiological limits to life in anoxic subseafloor sediment. *FEMS Microbiol. Rev.* 44:219–231 (2020)
258. Preiner M, Igarashi K, Muchowska KB, Yu M, Varma SJ, Kleinermanns K, Nobu MK, Kamagata Y, Tüysüz H, Moran J, Martin WF: A hydrogen-dependent geochemical analogue of primordial carbon and energy metabolism. *Nature Ecol. Evol.* 4:534–542 (2020)
257. Nagies FSP, Brueckner J, Tria FDK, Martin WF: A spectrum of verticality across genes. *PLoS Genetics.* 16:e1009200 (2020)

2019

256. Preiner M, Xavier JC, Vieira AN, Kleinermanns K, Allen JF, Martin WF: Catalysts, autocatalysis and the origin of metabolism. *J. Roy. Soc. Interface Focus.* 9:20190072 (2019).
255. Gould SB, Garg SG, Handrich M, Nelson-Sathi S, Gruenheit N, Tielens AGM, Martin WF: Adaptation to life on land at high oxygen via transition from ferredoxin- to NADH-dependent redox balance. *Proc. Roy. Soc. Lond. B.* 286: 20191491 (2019)
254. Allen JF, Thake B, Martin WF: Nitrogenase inhibition limited oxygenation of Earth's Proterozoic atmosphere. *Trends Plant Sci.* 24:1022–1031 (2019).
253. Wein T, Picazo DR, Blow F, Woehle C, Jami E, Reusch TBH, Martin WF, Dagan T: Currency, exchange, and inheritance in the evolution of symbiosis. *Trends Microbiol.* 10:836–849 (2019).
252. Martin WF: Carbon–metal bonds, rare and primordial in metabolism. *Trends Biochem. Sci.* 44:807–818 (2019).
251. Brunk CF, Martin WF: Archaeal histone contributions to the origin of eukaryotes. *Trends Microbiol.* 27:703–714 (2019).
250. Zimorski V, Mentel M, Tielens AGM, Martin WF: Energy metabolism in anaerobic eukaryotes and Earth's late oxygenation. *Free Radicals Biol. Med.* 140:279–294 (2019).
249. Xiao J, Fan L, Wu D, Xu Y, Lai D, Martin WF, Zhu R, Zhang C: Archaea, the tree of life, and cellular evolution in eukaryotes. *Sci. China Earth Sci.* 62:489–506 (2019).
248. Degli Esposti M, Mentel M, Martin WF, Sousa FL: Oxygen reductases in alphaproteobacterial genomes: Physiological evolution from low to high oxygen environments. *Frontiers Microbiol.* 10:499 (2019).
247. Sudianto E, Wu C-S, Leonhard L, Martin WF, Chaw S-M: Enlarged and high repetitive plastome of *Lagarostrobos* and plastid phylogenomics of Podocarpaceae. *Mol. Phylog. Evol.* 133:24–32 (2019).
246. Martin WF: Metabolism as we might find it in space. *Astrobiologia, bollettino ufficiale della Società Italiana di Astrobiologia.* December issue, No. 4, 9–15 (2019).

2018

245. Preiner M, Xavier JC, Sousa FL, Zimorski V, Neubeck A, Lang SQ, Greenwell HC, Kleinermanns K, Tüysüz H, McCollom TM, Holm NG, Martin WF: Serpentinization: Connecting geochemistry, ancient metabolism and industrial hydrogenation. *Life* 8:41 (2018).
244. Barth C, Weiss MC, Roettger M, Martin WF, Uden G: Origin and phylogenetic relationships of [4Fe-4S]-containing O₂-sensors of bacteria.

- Environm. Microbiol.* 20:4567–4586 (2018).
243. Xavier JC, Preiner M, Martin WF: Something special about CO-dependent CO₂ fixation. *FEBS J.* 285:4181–4195 (2018).
242. Bexkens ML, Zimorski V, Sarink MJ, Wienk H, Brouwers JF, De Jonckheere JF, Martin WF, Opperdoes FR, van Hellemond JJ, Tielens AGM: Lipids are the preferred growth substrate of the protist *Naegleria gruberi*, relative of a human brain-eating pathogen. *Cell Reports* 25:537–543 (2018).
241. Gerlitz M, Knopp M, Kapust N, Xavier JC, Martin WF: Elusive data underlying debate at the prokaryote eukaryote divide. *Biol. Direct* 13:21 (2018).
240. Garg SG, Martin WF: Asking endosymbionts to do an enzyme's job. *Proc. Natl. Acad. Sci. USA.* 10.1073/pnas.1804397115 (2018).
239. Kapust N, Nelson-Sathi S, Schönfeld B, Hazkani-Covo E, Bryant D, Lockhart PJ, Roettger M, Xavier JC, Martin WF: Failure to recover major events of gene flux in real biological data due to method misapplication. *Genome Biol. Evol.* 10:1198–1209 (2018).
238. Weiss MC, Preiner M, Xavier JC, Zimorski V, Martin WF: The last universal common ancestor between ancient Earth chemistry and the onset of genetics. *PLoS Genetics* 14: e1007518 (2018).
237. Martin WF: Eukaryote lateral gene transfer is Lamarckian. *Nature Ecol. Evol.* doi:10.1038/s41559-018-0521-7 (2018).
236. Martin WF, Bryant DA, Beatty JT: A physiological perspective on the origin and evolution of photosynthesis. *FEMS Microbiol. Rev.* 42:205–231 (2018).
235. Sousa FL, Preiner M, Martin WF: Native metals, electron bifurcation and CO₂ reduction in early biochemical evolution. *Curr. Opin. Microbiol.* 43:77–83 (2018).
234. Portuguese S, Martin WF, Hazkani-Covo E: Mosaic mitochondrial-plastid insertions into the nuclear genome show evidence of both non-homologous end joining and homologous recombination. *BMC Evol. Biol.* 18:162 (2018).
- 2017**
233. Martin WF: Too much eukaryote LGT. *BioEssays* 39:1700115 (2017).
232. Rauch C, Jahns P, Tielens AGM, Gould SB, Martin WF: On being the right size as an animal with plastids. *Frontiers Plant Sci.* 8:1402 (2017).
231. Martin WF, Tielens AGM, Mentel M, Garg SG, Gould SB: The physiology of phagocytosis in the context of mitochondrial origin. *Microbiol. Mol. Biol. Rev.* 81:e00008-17 (2017).
230. Hazkani-Covo E, Martin WF: Quantifying the number of independent organelle DNA insertions in genome evolution and human health. *Genome Biol. Evol.* 9:1190–1203 (2017).
229. Martin WF: Going back in genes. *The Biologist.* 64:20–23 (2017).
228. Martin WF, Zimorski V, Weiss MC: Wo lebten die ersten Zellen — und wovon? *Biologie in unserer Zeit.* 47:186–192 (2017).
227. Martin WF, Cerff R: Physiology, phylogeny, early evolution, and GAPDH. *Protoplasma.* 254:1823–1834 (2017).
226. Martin WF: Physiology, anaerobes, and the origin of mitosing cells 50 years on. *J. Theor. Biol.* 434:2–10 doi: 10.1016/j.jtbi.2017.01.004 (2017).

225. Martin WF, Roettger M, Ku C, Garg SG, Nelson-Sathi S, Landan G: Late mitochondrial origin is an artefact. *Genome Biol. Evol.* 9:373–379 (2017).
224. Martin WF: Symbiogenesis, gradualism and mitochondrial energy in eukaryote evolution. *Period. Biol.* 119:141–158 (2017).

2016

223. Weiss MC, Neukirchen S, Roettger M, Mrnjavac N, Nelson-Sathi S, Martin WF, Sousa FL: New views on Luca. *Nature Microbiology* 16230 (2016).
222. Ku C, Martin WF: A natural barrier to lateral gene transfer from prokaryotes to eukaryotes revealed from genomes: The 70% rule. *BMC Biology.* 14:89 (2016).
221. Weiss MC, Sousa FL, Mrnjavac N, Neukirchen S, Roettger M, Nelson-Sathi S, Martin WF: The physiology and habitat of the last universal common ancestor. *Nature Microbiology* 1:16116 (2016). (Covered by 93 news outlets, Altmetric score >1030)
220. Garg SG, Martin WF: Mitochondria, the cell cycle and the origin of sex via a syncytial eukaryote common ancestor. *Genome Biol. Evol.* 8:1950–1970 (2016).
219. Chen X, Schreiber K, Appel J, Makowka A, Faehrich B, Roettger M, Hajirezaei MR, Sönnichsen F, Schönheit P, Martin WF, Gutekunst K: The Entner-Doudoroff pathway is an overlooked glycolytic route in cyanobacteria and plants. *Proc. Natl. Acad. Sci. USA* 113:5441–5446 (2016).
218. Horneck G, Walter N, Westall F, Grenfell JL, Martin WF, Gomez F, Leuko S, Lee N, Onofri S, Tsiganis K, Saladino R, Pilat-Lohinger E, Palomba E, Harrison J, Rull F, Muller C, Strazzulla G, Brucato JR, Rettberg P, Capria MT: AstRoMap — European astrobiology roadmap. *Astrobiology* 16:201–243 (2016).
217. Gould SB, Garg SG, Martin WF: Bacterial vesicle secretion and the evolutionary origin of the eukaryotic endomembrane system. *Trends Microbiol.* 24:525–534 (2016).
216. Sousa FL, Nelson-Sathi S, Martin WF: One step beyond a ribosome: the ancient anaerobic core. *BBA Bioenergetics.* 1857:1027–1038 (2016).
215. Sousa FL, Neukirchen S, Allen JF, Lane N, Martin WF: Lokiarchaeon is hydrogen dependent. *Nature Microbiology.* 16034 (2016).
214. Lane N, Martin WF: Mitochondria, complexity and evolutionary deficit spending. *Proc. Natl. Acad. Sci. USA* 113:E666 (2016).
213. Martin WF, Sousa FL: Early microbial evolution: the age of anaerobes. *Cold Spring Harbor Persp. Biol.* 8:a018127 (2016).
212. Schönheit P, Buckel W, Martin WF: On the origin of heterotrophy. *Trends Microbiol.* 24:12–25 (2016).
211. Martin WF: Physiology, phylogeny, and the energetic roots of life. *Period. Biol.* 118:343–352 (2016).

2015

210. Lane N, Martin WF. Eukaryotes really are special, and mitochondria are why. *Proc. Natl. Acad. Sci. USA* 112:E4823 (2015).
209. Garg S, Stöltzing J, Zimorski V, Rada P, Tachezy J, Martin WF, Gould SB. Conservation of transit peptide-independent protein import into mitochondria and hydrogensomal matrix. *Genome Biol. Evol.* 7:2716–2726 (2015).
208. Carbone V, Schofield LR, Zhang Y, Sang C, Dey D, Hannus IM, Martin WF, Sutherland-Smith AJ, Ronimus RS. Structure and evolution of the archaeal lipid synthesis enzyme *sn*-glycerol-1-phosphate dehydrogenase. *J. Biol. Chem.* 290:21690–21704 (2015).

207. Ku C, Nelson-Sathi S, Roettger M, Sousa FL, Lockhart PJ, Bryant D, Hazkani-Covo E, McInerney JO, Landan G, Martin WF: Endosymbiotic origin and differential loss of eukaryotic genes.
Nature 524:427–432 (2015).
206. Martin WF, Garg S, Zimorski V: Endosymbiotic theories for eukaryote origin.
Phil Trans Roy Soc Lond B 370: 20140330 (2015).
205. Rajević N, Kovačević G, Kalafatić M, Gould SB, Martin WF, Franjević D. Algal endosymbionts in European *Hydra* strains reflect multiple origins of the zoochlorella symbiosis.
Mol. Phylog. Evol. 93:55–62 (2015)
204. Gould SB, Maier UG, Martin WF: Protein import and the origin of red complex plastids.
Curr. Biol. 25:R515–R521 (2015).
203. Ku C, Nelson-Sathi S, Roettger M, Garg S, Hazkani-Covo E, Martin WF: Endosymbiotic gene transfer from prokaryotic pangenomes: inherited chimerism in eukaryotes.
Proc. Natl. Acad. Sci. USA 112:10139–10146 (2015).
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Books (edited):

2. Fangerau H, Geisler H, Halling T, Martin W (eds) *Classification and Evolution in Biology, Linguistics and the History of Science. Concepts – Methods – Visualization*. 198 pp. Steiner, Verlag, Stuttgart (2013).
1. Martin W, Müller M (eds) *Origin of Mitochondria and Hydrogenosomes*. 316 pp. Springer Verlag, Heidelberg (2007).

Book reviews:

3. Big questions and skepsis. Review of *In Search of Cell History* by Franklin M. Harold. University of Chicago Press, Chicago, 2014. *BioEssays* 37:349–351 2015.

2. *The Principles of Life* by Tibor Gánti. Oxford University Press. Oxford, UK. *Trends Ecol. Evol.* 2004.
1. *Lateral DNA Transfer: Mechanisms and Consequences* (2002) by Frederic Bushman. Cold Spring Harbor Laboratory Press. Cold Spring Harbor, New York. *BioEssays* 24:482 (2002)

Patents:

2. TER gene of *Euglena gracilis*. European Patent 03022783.9
1. Pyruvate:NADP⁺ oxidoreductase and uses thereof. European Patent 00117730.2

Referee service (research funding)

European Union FP7 (EU), European Research Council (EU), National Science Foundation (USA), Deutsche Forschungsgemeinschaft (D), US Department of Energy (USA), Science Foundation Ireland (IRL), Royal Society Wolfson Research Awards (UK), Wellcome Trust (UK), Wellcome Trust DBT Alliance (India), NASA (USA), German-Israeli Foundation (ISR), United States - Israel Binational Science Foundation (USA-ISR), Marsden Fund (NZ), John Templeton Foundation (USA), Natural Sciences and Engineering Research Council of Canada (CAN), Biotechnology and Biological Sciences Research Council (UK), Leverhulme Trust (UK), Bundesministerium für Bildung und Forschung (D), Minerva Stiftung (D-ISR), Schweizerischer Nationalfonds (CH), Netherlands Organization for Scientific Research (NL), Fonds zur Förderung der wissenschaftlichen Forschung (A), Agence Nationale de la Recherche (F), Hungarian National Research Fund (HU), Alexander von Humboldt Foundation (D), International Human Frontier Science Program (J), United States - Israel Binational Agricultural Research and Development Fund (USA-ISR), Independent Research Fund Denmark (DK), Volkswagen-Stiftung (D), India Alliance (UK-IN), European Commission Fellowships Programme (EU), EMBO Short Term Fellowships (EU), Deutscher Akademischer Austauschdienst (D), Istituto Pasteur-Fondazione Cenci Bolognetti (I), Binational Science Foundation (USA-ISR), International Science Foundation (USA), National Science Center (PL), University of Antwerp Research Council (B), Katholieke Universiteit Leuven (B), Grant Agency of the Czech Republic (CZ), Soros Foundation (USA), Shota Rustaveli National Science Foundation (Republic of Georgia), Fonds voor Wetenschappelijk Onderzoek - Vlaanderen (B), Thüringer Ministerium für Wissenschaft (D), Thomas F. and Kate Miller Jeffress Memorial Trust (USA), David and Lucile Packard Foundation (USA), The W. M. Keck Foundation (USA), Carl-Zeiss-Stiftung (D), The John Simon Guggenheim Memorial Foundation (USA)

Referee service (journals)

Acta Biotheoretica, Advances in Ecology, Algal Research, American Journal of Botany, American Naturalist, Angewandte Chemie, Annals of the New York Academy of Science, Antonie van Leeuwenhoek, Applied Microbiology and Biotechnology, Archaea, Astrobiology, Biochimica et Biophysica Acta Bioenergetics, Biochimie, BioEssays, Biogeosciences, Bioinformatics, Biologia, Biological Chemistry, Biological Reviews, Biology Direct, Biophysical Journal, BioScience, BioSystems, BMC Bioinformatics, BMC Evolutionary Biology, BMC Genomics, Botanica Acta, Cell, Cell Systems, Cellulose, Central European Journal of Biology, Comparative Biochemistry and Physiology C, Current Biology, DNA Research, Earth and Planetary Science Letters, Elements, eLife, EMBO Journal, EMBO Reports, Environmental Microbiology, Eukaryotic Cell, European Journal of Biochemistry, Evolution, Experimental Parasitology, Frontiers in Zoology, Frontiers in Microbiology, Functional and Integrative Genomics, FEBS Journal, FEBS Letters, FEMS Microbiology Letters, FEMS Microbiological Reviews, Gene, Genome Biology, Genome Biology and Evolution, Genome Research, Geomicrobiology Journal, Heredity, International Journal of Parasitology, International Journal of Molecular Sciences, International Journal of Systematic and Evolutionary Microbiology, ISME Journal, Journal of Bacteriology, Journal of

Basic Microbiology, Journal of Biology, Journal of Eukaryotic Microbiology, Journal of Experimental Zoology, Journal of Cell Biology, Journal of Cell Science, Journal of Heredity, Journal of Molecular Biology, Journal of Molecular Evolution, Journal of Phycology, Journal of Proteome Research, Journal of Systems Chemistry, Journal of Theoretical Biology, Marine Biology, Marine Biotechnology, Marine Ecology, mBio, Metabolites, Microbiology (UK), Microbiology and Molecular Biology Reviews, Mitochondrion, Mobile Genetic Elements, Molecular and Cellular Biology, Molecular and Developmental Evolution, Molecular and General Genetics, Molecular Biology and Evolution, Molecular Microbiology, Molecular Phylogenetics and Evolution, Molecular Plant, Nature, Nature Communications, Nature Ecology and Evolution, Nature Genetics, Nature Microbiology, Nature Plants, Nature Reviews Chemistry, Nature Reviews Genetics, Nature Reviews Microbiology, Naturwissenschaften, Nucleic Acids Research, New Phytologist, Origin of Life and Evolution of the Biosphere, Periodicum Biologorum, Philosophical Transactions of the Royal Society of London: Biological Sciences, Photosynthesis Research, Physical Biology, Physiologia Plantarum, Phytochemistry, Plant Cell, Plant Molecular Biology, Plant Physiology, Plant Systematics and Evolution, Precambrian Research, Proceedings of the Royal Society: Series B, Proceedings of the Royal Society Biology Letters, Proceedings of the National Academy of Sciences USA, Protoplasma, PLoS Biology, PLoS Genetics, RNA Biology, Royal Society Interface Focus, Science, Science Advances, Scientific Reports, Systematic Biology, The ISME Journal, Theoretical and Applied Genetics, Trends in Biochemical Sciences, Trends in Ecology and Evolution, Trends in Genetics, Trends in Molecular Medicine, Trends in Parasitology, Trends in Plant Science, Zoology

Invited lectures, 2004–present

- 11.21 Bürger-Universität. Haus der Universität, Düsseldorf
- 11.21 Life in the Universe 2, South Africa and Stanford (online)
- 11.21 Cyano 2021, German cyanobacteria community annual meeting (online)
- 10.21 Moore Simons Foundation Eukaryotes Initiative (online)
- 10.21 International Society for the Study of the Origin of Life, ISSOL 2021 (online)
- 10.21 Plenary, Wetsus Annual Meeting, Leuwarden, NL
- 00.21 Annual Meeting of the Leucorea, Wittenberg, D
- 07.21 FEBS Meeting, Lubiana, SLO (online)
- 05.21 Smith College, MA, Institute Lecture Series, USA (online)
- 12.20 University of Houston, Departmental Lecture Series, USA (online)
- 07.20 10th Anniversary SusTech Symposium, Shenzhen, PRC (online)
- 01.20 Rajiv Ghandi Center for Biotechnology, Thiruvananthapuram, India
- 12.19 Leibniz Sozietät, Berlin, D
- 12.19 Richard von Weizsäcker Gymnasium, Ratingen, D
- 11.19 Symposium, Science of Early Life, Kloster Seeon, D
- 11.19 Undergraduate Programme, Microbiology, ETH Zürich, CH
- 11.19 The Origin of Eukaryotes, Aguron Institute, Pasadena, USA
- 10.19 Department of Genetics, Ecology and Evolution, University College London, UK
- 10.19 Center of Excellence Resolv Annual Meeting, Dortmund, D
- 09.19 Ursprung des Lebens, Blue Square, Ruhr University, Bochum, D
- 09.19 Ursprung des Lebens, Nacht der Universität, HHU Düsseldorf, D
- 05.19 Microbiology Seminar Series, ETH Zürich, Zürich, CH
- 05.19 What is Excellence? History of Science Roundtable Series, HHU Düsseldorf, D
- 05.19 Complexity Research Initiative, University of Frankfurt, D
- 03.19 Strasbourg Microbiology Seminar, University of Strasbourg, Strasbourg, F
- 03.19 Origin of Photosynthesis, University of Bologna PhD programme series, Bologna, I
- 03.19 Origin of Eukaryotes, University of Bologna PhD programme series, Bologna, I
- 03.19 Origin of Life, University of Bologna PhD programme series, Bologna, I
- 03.19 30 years Hydrothermal Vents and Origin of Life, Granada, E
- 02.19 Molecular Evolution for High School Teachers (MINT), Düsseldorf, D
- 02.19 Molecular Evolution for High School Students and Teachers, Napier, NZ
- 02.19 Annual New Zealand Phylogeny Meeting, Deco 2019, Napier, NZ
- 01.19 54th Winter Seminar, Klosters, CH
- 12.18 Unité INSERM 1035, Université de Bordeaux, F

11.18 Plenary Lecture, Hadean Bioscience, Tokyo, J
 11.18 Opening lecture, 34th International Prize for Biology Symposium (for A.H. Knoll), Nagoya, J
 11.18 An evening for the Charity Initiative Achse (research on rare diseases), Berlin, D
 11.18 Geo Omics of Archaea, Southern University of Science and Technology, Shenzhen, PRC
 10.18 Interdisciplinary International Student Meeting on Origin of Life, Düsseldorf, D
 10.18 NRW Akademie der Wissenschaften und der Künste, Düsseldorf, D
 09.18 Deutsche Sammlung für Mikroorganismen und Zellkulturen, Braunschweig, D
 09.18 Otto Hahn Gymnasium, Bergisch Gladbach, D
 08.18 Plenary Lecture, European Bioenergetics Conference, Budapest, H
 07.18 The Nei Lecture, SBE Annual Meeting, Yokohama, J
 07.18 Opening Plenary, Israel Society for Microbiology, Be'er Sheva, ISR
 06.18 Università Degli Studi di Padova, Visiting Scientist PhD Lecture Series, Padua, I
 06.18 Metaorganisms, Fondazione Golinelli, Bologna, I
 06.18 Università Degli Studi di Padova, Visiting Scientist PhD Lecture Series, Padua, I
 06.18 Università Degli Studi di Padova, Biological Lecture Series, Padua, I
 06.18 Università Degli Studi di Padova, Visiting Scientist PhD Lecture Series, Padua, I
 05.18 Acceptance Speech, Klüh Prize Ceremony
 05.18 Università degli Studi di Milano Bicocca, 20th Anniversary lecture series, Milano, I
 04.18 CRC Metaorganisms, University of Kiel, D
 04.18 Gerhard C. Stark Foundation Annual Fellows Meeting, Düsseldorf, D
 04.18 Department of Geology, University of Stockholm, S
 04.18 Department of Chemistry, University of Strasbourg, F
 04.18 Department of Genetics, University of Florida, Gainesville, USA
 04.18 Dean's Interdisciplinary Seminar Series, University of Florida, Gainesville, USA
 03.18 German Chlamydia Workshop, Kaiserswerth, D
 03.18 Westfälische Volkssternwarte (Planetarium), Recklinghausen, D
 03.18 Bioenergetics and Neurodegenerative Disease (ANMI), Paris, F
 02.18 Department of Plant Biology, Purdue University, USA
 02.18 Department of Biochemistry, Purdue University, USA
 01.18 New Year's address for Geosciences, University of Münster, D
 01.18 Gymnasium Norf, Neuss, D
 12.17 Biodiversity Research Center, Academia Sinica, Taipei, TW
 11.17 Spemann Graduate School, University of Freiburg, D
 11.17 NRW Akademie der Wissenschaften, Düsseldorf, D
 11.17 Gymnasium Norf, Neuss, D
 11.17 Medical Research Council Mitochondrial Biology Unit, Cambridge, UK
 11.17 University of Vienna, Continuum Symposium, Vienna, A
 11.17 Spiridon Brusina Lecture, Croatian Society for Natural Sciences, Zagreb, HR
 09.17 University of Oslo, Origin of Life Symposium, Oslo, NOR
 08.17 Plenary, International Conference on Protistology, Prague, CZ
 07.17 Plenary, International Symposium on Applied Bioinorganic Chemistry, Toulouse, F
 06.17 Center for Integrative Genomics, Lausanne, CH
 05.17 Computational Biology Research Center, KAUST, KSA
 05.17 Natural History Museum, Vienna, A
 05.17 Department of Microbiology, University of Vienna, A
 05.17 Linus Pauling Memorial Lecture Series, Portland, OR, USA
 05.17 Department of Microbiology, Portland State University, Portland, OR, USA
 05.17 Department of Microbiology, University of British Columbia, Vancouver, CAN
 04.17 Department of Biochemistry, University of Toronto, CAN
 03.17 Genome Evolution Mishima, National Institute of Genetics, Mishima, Japan
 03.17 National Cheng Kung University, Tainan, TW
 03.17 National Chung Hsing University, Taichung, TW
 03.17 Distinguished Lecture, Academia Sinica, Taipei, TW
 02.17 Institutional Seminar, Center for Genomic Sciences, UNAM Cuernavaca, Mex
 02.17 Frontiers in Genomics Programme, UNAM Cuernavaca, Mex
 02.17 Biannual retreat, Department of Biology, Università Degli Studi di Padova, I
 02.17 Darwin Day 2017, Museo di Storia Naturale di Milano, Milano, I
 02.17 Forschung im Fokus, Haus der Universität, Düsseldorf, D
 01.17 Henkelsaal, Düsseldorf, D
 01.17 Origin of Life Symposium, University of Newcastle, UK
 01.17 Institute for Advanced Studies, University of Durham, UK
 12.16 Department of Geosciences, University of Heidelberg, D
 12.16 Department of Microbiology, University of Dresden, D

11.16 Haus der Wissenschaft, Braunschweig, D
11.16 Annual Meeting of the Biochemical Society of Mexico, Aguascalientes, Mex
09.16 Royal Society workshop, Evolution of the Biological Pump, Kavli House, UK
07.16 Opening Plenary, 19th European Bioenergetics Conference, Riva del Garda, I
05.16 The Beilstein Symposium on Origin of Life, Cheiemsee, D
05.16 ITQB Oeiras, POR
04.16 The Rotary Club Düsseldorf, D
02.16 Weizmann Institute, Rehovot, ISR
01.16 New Year's Reception of the Rektorin, D
11.15 The Laboratory for Molecular Biology, Cambridge, UK
11.15 Pontifical Academy of Sciences, The Vatican
10.15 University of Münster, D
10.15 Inaugural Meeting of the Institute Biologie Paris Seine, F
09.15 Max-Planck-Institute for Cell Biology, Dresden, D
09.15 Biannual Meeting of the German Botanical Society (Plenary), Freising, D
09.15 Ökumenisches Bildungswerk, Hochdahl, D
08.15 Annual Meeting of the Italian Society for the Study of Evolution, Bologna, I
08.15 Society for the Study of Prokaryotic Photosynthesis (Opening Plenary), Tübingen D
06.15 Volcani Research Center, Tel Aviv, ISR
06.15 Biological Research Center, Szeged, H
05.15 Annual Meeting of the Belgian Biochemical Society, Louvain, B
03.15 Annual Meeting of the Society for General Microbiology (SGM), Birmingham, UK
03.15 Annual Meeting of the German Society for Microbiology (VAAM), D
01.15 GeoMar, University of Kiel, D
11.14 Université Paris 6, F
11.14 Symbiomics Conference, Mallorca, E
11.14 University of Edinburgh, UK
11.14 University of Zagreb, HR
10.14 Public lecture, "Leben" Naturwissenschaftliches Kolloquium, Gymnasium Norf, D
10.14 National Academy of Science Sackler Symposium on Endosymbiosis, Irvine, USA
09.14 HDBMB Croatian Society for Molecular Biology Conference, Zadar, HR
09.14 University of Luxembourg, LU
09.14 ITQB Molecular Biology PhD student retreat, Areia Branca, POR
09.14 The Genome: Structure, Expression, Evolution, Stazione Anton Dohrn, Naples, I
07.14 European Bioenergetics Conference, Lisbon, POR
06.14 Euroscience Open Forum, "What is Life?", Copenhagen, DK
06.14 Annual Student's Symposium, Gatersleben, D
04.14 SMBE Satellite Meeting on Evolutionary Networks, Kiel, D
04.14 Annual Meeting of the British Society for Protist Biology, Lancaster, UK
03.14 Public lecture, "Ursprung des Lebens", Universität in der Stadt series, Düsseldorf, D
02.14 Darwin Day Lecture, University of Oslo, NOR
02.14 Annual PhD Graduation Ceremony Special Lecture, University of Düsseldorf, D
01.14 Gulbenkian Institute, History of Biology Lecture Series, Oeiras, POR
12.13 Evolutionary Biology Lecture Series, University of Mainz, D
11.13 Kyoto Prize Symposium for Masatoshi Nei, National Institute of Genetics, Mishima, J
11.13 Early Earth Series, Earth Science Department, ETH Zürich, CH
10.13 EMBO Member's Meeting, Heidelberg, D
08.13 The EMBO Lecture, 12th Int. Conf. on Endocytobiology and Symbiosis, Halifax, CA
07.13 SMBE Annual Meeting, Symposium Major Gene Flows in Early Evolution, Chicago, USA
06.13 Spemann Graduate School of Biology and Medicine, University of Freiburg, D
05.13 Gulbenkian Institute, Oeiras, POR
05.13 Instituto de Tecnologia Química e Biológica, Lisbon, POR
05.13 PhD Graduate Programme, Gulbenkian Institute, Oeiras, POR
05.13 Institute Seminar Series, Gulbenkian Institute, Oeiras, POR
03.13 Annual Meeting of the German Society of Cell Biologists, Heidelberg, D
02.13 Planetarium Bochum, D
02.13 American Academy for the Advancement of Science Annual Meeting, Boston, USA
01.13 Ecology and Evolution Seminar Series, Princeton, USA
01.13 Institute for Theoretical Studies, Origin of Life Symposium, Princeton, USA
12.12 Faculty of Medicine, University of Marseille, F
11.12 Royal Society Kavli Centre, "Bioenergetics and the major evolutionary transitions" UK
11.12 Royal Society, "Energy transduction and genome function: an evolutionary synthesis" UK
10.12 Agouron Institute, "The comings and goings of early animal life" Washington DC, USA

09.12 Annual Meeting of the German Society for Gerontology, Bonn, D
09.12 Natural History Museum and Planetarium, Münster, D
08.12 Gordon Conference on Microbial C1 Metabolism, Maine, USA
07.12 Annual Meeting of the Society for Experimental Biology, Salzburg, A
06.12 Annual Meeting of the Società Botanica Italiana, Padova, I
05.12 University of Frankfurt am Main, D
05.12 EMBO Workshop Genome Evolution, Venice, I
04.12 NASA-NSF Workshop "Alternative Chemistries" Washington DC, USA
03.12 Florida State University, USA
02.12 Evolutionary Cell Biology, National Center for Biological Science, Bangalore, India
02.12 MSc Seminar series, University of Gießen, D
11.11 University of Strasbourg, Symposium "Proteins in Evolution", Strasbourg, F
11.11 University College London, Symposium "Origin of life", London, UK
10.11 Pufendorf Symposium "Enigmas in the early evolution of life", Lund, S
09.11 Molecular Evolution in the Genomic Era, University III, Rome, I
09.11 Public lecture "Was ist Leben?" Evangelische Stadtakademie, Düsseldorf, D
09.11 SFB-Symposium Endosymbiosis, Düsseldorf, D
09.11 Leopoldina Symposium "Was ist Leben?" Halle, D
09.11 University of Marburg, D
07.11 Genome Biology and Evolution Summer School, Gulbenkian Institute, Oeiras, POR
07.11 Darwin Symposium, European Society for Evolutionary Biology, Seia, POR
07.11 SMBE Microbial Genome Evolution session, Kyoto, JPN
07.11 SMBE History of Molecular Biology and Evolution session, Kyoto, JPN
07.11 The Evening Lecture, 11th European Workshop of Astrobiology, Cologne
05.11 International Conference on Plant Mitochondrial Biology, Hohenroda, D
04.11 CNRS 7138 Systematics, Adaptation and Evolution, Paris, F
04.11 University of Vienna, A
03.11 Nordrhein-Westfälische Akademie der Wissenschaften, D
02.11 University of Barcelona, E
02.11 Earth Science Department, University of Washington, USA
02.11 The Mindlin Lecture, University of Washington, USA
01.11 University of Exeter, UK
12.10 Biocomplexity XI: The Evolution of Cooperation, Indiana University, USA
11.10 University of Nijmegen, NL
10.10 The Peter-Hemmerich-Vorlesung 2010, University of Konstanz, D
09.10 Energy and Entropy Symposium, Deutsche Luft- und Raumfahrt, Berlin, D
09.10 Opening Plenary, Extremophiles 2010, The Azores, POR
07.10 SMBE Tree of Life session, Lyon, F
06.10 COST Endosymbiosis Meeting, Bad Bevensen, D
06.10 Microbial Evolution Programme, University of Newcastle-Upon-Tyne, UK
06.10 Ecology and Evolution Programme, University College London, UK
05.10 Origin of Life (with Karl Stetter), Alfred Krupp Academy, Greifswald, D
05.10 Evolution, Cusanuswerk, Nittendorf, D
05.10 Department of Geological Sciences, Stockholm University, S
05.10 New Frontiers in Microbial Genome Research, Bielefeld, D
04.10 University of Bonn, D
04.10 University of Giessen, D
03.10 Sternwarte Neanderhöhe, Neanderthal, D
03.10 BMBF Classification and Evolution, Bonn, D
02.10 University of Utrecht, NL
01.10 Instituto de Tecnologia Química e Biológica, Oeiras, POR
12.09 Department of Chemistry, University of Jena, D
12.09 Darwin Series, Botanical Garden Düsseldorf, D
12.09 Academia Sinica, National Academy of Science of Taiwan
11.09 Frontiers of Plant Science, Tai-Cheng University, Taiwan
11.09 Opening Lecture, 51st Phylogenetics Symposium, Braunschweig, D
11.09 Annual Meeting of the Swiss National Academy of Science, Lucerne, CH
11.09 Virginia Tech University, USA
10.09 Opening Lecture, ESF Meeting "Systems Chemistry II", Balatonfüred, H
10.09 Dominikanerkonvent Düsseldorf, D
10.09 Volkshochschule Kreefeld, D
09.09 Willi Hennig Symposium, Hohenheim, D
09.09 Leopoldina-Symposium on Organelle Genetics, Berlin, D

09.09 Botaniker-Tagung, Leipzig, D
08.09 BMBF annual retreat, Bergisch-Gladbach, D
07.09 Perspectives on the Tree of Life, Dalhousie University, CAN
07.09 University of Heidelberg, D
06.09 Darwin Series, University of Osnabrück, D
06.09 Darwin Series, Museum König, Bonn, D
06.09 Technical University of Recklinghausen, D
06.09 Opening Plenary Lecture, SMBE 09, Iowa, D
05.09 Rüdiger Cerff's Retirement Symposium, University of Braunschweig, D
05.09 University of Essen, D
05.09 UNESCO Darwin 2000 Symposium, Venice, I
03.09 Heinrich Heine Institut, Düsseldorf "Universität in der Stadt", D
02.09 Opening Lecture, BioEd Darwin 2000 Symposium, Christchurch, NZ
01.09 Howard Dalton Lecture, University of Warwick, UK
01.09 G.E. Fogg Lecture, Queen Mary University of London, UK
01.09 Dönberger Vortragsreihe, Ev. Gemeinde, Wuppertal, D
12.08 Annual Lecture of the Systematics Association, London, UK
11.08 University of Pittsburgh, USA
11.08 Philosophical Society of America Tree of Life Workshop, Pittsburgh, USA
10.08 UCLA Molecular Biology and Human Genetics, Los Angeles, USA
10.08 CalTech Geological and Planetary Sciences, Pasadena, USA
10.08 NASA Jet Propulsion Laboratory, Pasadena, USA
09.08 Faculty of Natural Sciences, Comenius University, Bratislava, SLO
07.08 De Bary Lecture on Symbiosis, University of Vienna, A
07.08 Department of Marine Biology, University of Vienna, A
05.08 Introductory Lecture in the Evolution Series, University of Halle, D
03.08 Royal Society of New Zealand, Palmerston North, NZ
02.08 Katzir Workshop, The Unbearable Complexity of Life, Tel Aviv, ISR
11.07 Royal Society Discussion Meeting, Evolution of Photosynthesis, London, UK
10.07 University of Tübingen, D
09.07 Endocytobiology X, Gmunden, A
07.07 CNRS Marseille, F
07.07 CIAR Evolutionary Biology Programme, Halifax, CAN
06.07 SMBE Annual Meeting, Halifax, CAN
06.07 German-Japanese Cyanobacteria Workshop, St. Goar, D
05.07 Das Leben und sein Ursprung, ein Abend der Begegnung mit Kardinal Meissner, D
05.07 EMBL, Heidelberg, Evolution in Schools, D
05.07 Université Claude Bernard, Lyon, F
04.07 Stazione Zoologica Anton Dorne, Naples, I
03.07 Bayer Crop Science, Frankfurt am Main, D
03.07 Naturwissenschaftliche Gesellschaft, Essen, D
03.07 Massey University, Palmerston North, NZ
02.07 Annual Invitational NZ Phylogenetics Conference, Mt. Ruapeho, NZ
02.07 Otago University, Dunedin, NZ
02.07 University of Canterbury, Christchurch, NZ
01.07 University of Frankfurt am Main, D
12.06 Bayer Crop Science Early Discovery Symposium, Monheim, D
12.06 University of Bremen, D
12.06 University of Münster, D
10.06 Plant Genomics European Meeting, Venice, I
09.06 Annual Meeting of the German Plant Genetics Society, Kiel, D
06.06 University of Bayreuth, D
06.06 International Symposium on Microbial Sulfer Metabolism, Münster, D
06.06 Annual Meeting of the Italian Botanical Society, Alessandria, I
05.06 From vent chemistry to biochemistry, Santa Fe Institute, New Mexico, USA
04.06 Leopoldina Symposium, Microbial Life Strategies in the Environment, Bremen, D
04.06 Society for General Microbiology, Warwick, UK
03.06 Plenary Lecture, German Microbiological Society (VAAM) Jena, D
03.06 Queen Mary University of London, UK
03.06 Verein deutscher Biologen, Düsseldorf, D
01.06 University of Florida at Gainesville, USA
01.06 Evangelische Akademie, Arnoldshain, D
01.06 Biocomplexity: Primary Producers of the Sea, Rutgers University, USA

11.05 University of Essen, D
 11.05 University of Utrecht, NL
 10.05 100 Years of Endosymbiosis, Hamburg, D
 09.05 University of Göteborg, S
 07.05 International Botanical Congress, Vienna, A
 06.05 Archaea 2005, Munich, D
 06.05 SMBE Annual Meeting, Auckland, NZ
 06.05 American Society for Microbiology General Meeting, Atlanta, USA
 03.05 FEBS Workshop origins of chloroplasts and mitochondria, Widbad Kreuth, D
 01.05 University of Bremen, D
 12.04 International Prize for Biology Symposium for Tom Cavalier-Smith, Tokyo, JPN
 11.04 University of Regensburg, D
 10.04 Michigan State DOE Plant Science Annual Retreat, Michigan, USA
 10.04 Society of German Biologists (vdbiol), Bonn, D
 10.04 German Botanical Society, Braunschweig, D
 10.04 RECOMB Annual Bioinformatics Meeting, I
 09.04 Origin of Life, Les Treilles, F
 07.04 PCA Bioinformatics, Stockholm, S
 07.04 Kosef Korean-German Cooperation Meeting, Berlin, D
 05.04 CIAR-NASA Gene Transfer and Eukaryote Origins, Vancouver, CDN
 04.04 University of Bern, CH
 04.04 BASF Plant Science, Ludwigshafen, D
 03.04 University of Amsterdam, NL
 03.04 Plant Molecular Biology, Dabringhausen, D
 01.04 Stazione Anton Dorne, Napoli, I
 1998–2003 79 additional national and international talks

PhD Students graduated and current

1. Gilbert Meyer-Gauen	1990–1994	Evolution of glyceraldehyde-3-phosphate dehydrogenase genes
2. Uta-Regina Böhle	1992–1996	Evolution of insular woodiness in the genus <i>Echium</i>
3. Katrin Henze	1993–1997	Origin and evolution of higher plant Calvin cycle genes
4. Jörg Bohlmann	1993–1997	Higher plant anthranilate synthase enzymes and genes
5. Dorothea Tholl	1994–1998	Bacterial homospermidine synthase enzyme and gene
6. Michael Donath	1994–1998	Intron dependent gene expression in plants
7. Vadim Goremykin	1994–1998	Chloroplast DNA phylogeny and evolution
8. Ulrich Nowitzki	1996–2000	Origin and evolution of plant sugar phosphate metabolism
9. Jens Pahnke	1996–2002	Molecular approaches to fern phylogeny
10. Sabine Hansmann	1997–2001	Chloroplast DNA evolution and molecular phylogenetic signal
11. Andrea Hansen	1998–2002	Amino acid biosynthesis pathway evolution
12. Carmen Rotte	1999–2003	Evolution of <i>Euglena</i> pyruvate:ferredoxin oxidoreductase
13. Sandra Trenkamp	2000–2004	Higher plant very long chain fatty acid elongases
14. Meike Hoffmeister	2000–2004	Anaerobic energy metabolism in <i>Euglena</i> mitochondria
15. Ursula Theissen	2002–2006	Sulfide:quinone oxidoreductase in <i>Arenicola</i> mitochondria
16. Christian Winkler	2002–2006	Higher plant ATP-dependent phosphofructokinase
17. Simone Pütz	2003–2007	Evolutionary proteomics of <i>Trichomonas</i> hydrogenosomes
18. Benjamin Kilian	2003–2007	Evolution and domestication of Middle East diploid wheats
19. Gabriel Gelius-Dietrich	2003–2008	Biochemistry and evolution of chytrid hydrogenosomes
20. Sara Tucci	2004–2008	Wax ester fermentation in <i>Euglena</i> mitochondria
21. Silke Rosnowsky	2004–2008	Transformation of <i>Trichomonas vaginalis</i>
22. Nahal Ahamdinedjad	2005–2009	Evolutionary bioinformatics of mitochondrial genomes
23. Britta Delvos	2005–2009	Oomycete cell wall biosynthesis
24. Oliver Deusch	2005–2009	Genome evolution and the cyanobacterial origin of plastids
25. Assa Yeroslaviz	2005–2009	Gene expression in response to environmental stress
26. Nicole Grünheit	2006–2010	Evolutionary dynamics of eukaryotic organellar genes
27. Christian Esser	2006–2010	Evolutionary origins of eukaryotic nuclear genes
28. Verena Zimorski	2006–2010	Mechanisms of protein targeting to <i>Trichomonas</i> hydrogenosomes

29. Xavier Peirera-Bras 2007–2012 Biochemical compartmentation in *Trichomonas* hydrogenosomes
30. Mayo Röttger 2007–2013 Cyanobacterial genome evolution in Section V and plastid origins
31. Shijulal Nelson-Sathi 2008–2013 Networks of language evolution and gene transfer in Haloarchaea
32. Peter Major 2008–2013 Signals of protein targeting to *Trichomonas* hydrogenosomes
33. Houda El-Haddad 2010–2013 Cytoskeletal evolution in *Tetrahymena thermophila*
34. David Bogumil 2010–2013 Chaperone-dependent protein evolution networks
35. Gary Kusdian 2010–2014 The amoeboid transition in *Trichomonas vaginalis*
36. Christian Wöhle 2010–2014 Evolutionary origins of *Chromera velia* nuclear genes
37. Kathrin Hoffmann 2009–2014 Aminotermini of *Trichomonas* hydrogenosomal proteins
38. Thorsten Thiergart 2010–2015 Genome evolution networks linking prokaryotes and eukaryotes
39. Ovidiu Popa 2009–2015 Directed networks of lateral gene transfer
40. Jan de Vries 2013–2016 Molecular basis of plastid longevity in *Elysia*
41. Chuan Ku 2013–2016 Endosymbiosis and the origin of eukaryotic genes
42. Harald Preisner 2013–2017 Cytoskeleton and amoeboid transformation of *Trichomonas*
43. Cessa Rauch 2013–2017 Ecology and evolution of *Elysia*
44. Sriram Garg 2013–2017 The evolution of eukaryotic cell biology
45. Nabor Chavez 2012–2018 Networks and methanogen evolution
46. Martina Preiner 2017–2020 Native metals in early evolution
47. Madeline Weiß 2015–2020 The habitat and physiology of LUCA
48. Sinje Neukirchen 2015– Evolution of prokaryotic sulfur reduction
49. Michael Knopp 2016– Evolution of primary metabolism
50. Nils Kapust 2017– Domain fusions in the realm of protein clusters
51. Bing Song 2018– Evolutionary bioinformatics
52. Julia Brückner 2018–2021 The mitochondrial origin of eukaryotic genes
53. Jessica Wimmer 2019– The energetics and metabolism of LUCA
54. Falk Nagies 2019– Eukaryote genome evolution
55. Andrey Vieira 2019– Primordial CO₂ fixation
56. Delfina Pereira 2020– Catalysis of primordial redox reactions
57. Nico Bremer 2021– Ancestral state reconstruction of the first eukaryotes
58. Max Brabender 2021– Catalysts of primordial N incorporation
59. Luca Modjweski 2021– Prokaryotic cofactors
60. Katharina Trost 2021– Mitochondrial evolution