

## Bibliography of Prof. Dr. Falk Harnisch

Journal articles 158 (3 submitted)

... thereof as first author: 22

... thereof as author of correspondence: 83

**Books** 2 (1 edited book and 1 authored book)

**Book Chapters** 12

**Articles in German** 25

**Patents** 5 (open to public)

**Presentations** > 80

**Poster** > 130 (not listed)

**h-index** 48 (Scopus, Author ID: 9275810900)

<b>Number of papers</b>	<b>Journal</b>
15	<i>ChemSusChem</i>
10	<i>ChemElectroChem</i>
10	<i>Bioelectrochemistry</i>
9	<i>Energy &amp; Environmental Science</i>
8	<i>Electrochemistry Communications</i>
8	<i>RSC Advances</i>
6	<i>Bioresource Technology</i>
6	<i>Frontiers in Microbiology</i>
5	<i>Electrochimica Acta</i>
4	<i>Frontiers in Energy Research</i>
4	<i>Applied Catalysis B – Environmental</i>
4	<i>Environmental Science &amp; Technology</i>
4	<i>Microbial Biotechnology</i>
3	<i>Joule</i>
3	<i>Angewandte Chemie International Edition</i>
3	<i>Biosensors &amp; Bioelectronics</i>
3	<i>Journal of Power Sources</i>
3	<i>Water Research</i>
2	<i>Environmental Science &amp; Ecotechnology</i>
2	<i>Green Chemistry</i>
2	<i>Journal of Environ. Chemical Engineering</i>
2	<i>Chemical Engineering &amp; Technology</i>
2	<i>PLOS One</i>
2	<i>Engineering in Life Sciences</i>
2	<i>ChemText</i>
1	<i>Chemical Society Reviews</i>
1	<i>FEMS Microbiology Reviews</i>
1	<i>Chemical Engineering Journal</i>
1	<i>Science of the Total Environment</i>
1	<i>Current Opinion in Biotechnology</i>
1	<i>Chemosphere</i>
1	<i>Journal of Membrane Science</i>
1	<i>Fuel</i>
1	<i>npj Biofilms and Microbiomes</i>
1	<i>Sensors &amp; Actuators B: Chemical</i>
1	<i>The Chemical Record</i>
1	<i>Current Opinion in Electrochemistry</i>
1	<i>Biotechnology for Biofuels</i>
1	<i>Frontiers in Bioengineering and Biotechnology</i>
1	<i>Journal of Molecular Biology</i>
1	<i>Biotechnology and Bioengineering</i>
1	<i>Biofuels</i>
1	<i>Microorganisms</i>
1	<i>Applied and Environmental Microbiology</i>
1	<i>Chemistry – An Asian Journal</i>
1	<i>Biotechnology Journal</i>
1	<i>Journal of the Electrochemical Society</i>
1	<i>Biomass &amp; Bioenergy</i>
1	<i>Planta</i>
1	<i>Systematic and Applied Microbiology</i>
1	<i>Plasma Processes and Polymers</i>
1	<i>Cytometry – Part A</i>

1	<i>ChemPhysChem</i>
1	<i>Letters in Applied Microbiology</i>
1	<i>Journal of Nanoparticle Research</i>
1	<i>ChemistrySelect</i>
1	<i>Current Microbiology</i>
1	<i>Journal of Visualized Experiments</i>
1	<i>Journal of Water, Sanitation and Hygiene for Development</i>
1	<i>Frontiers in Chemical Engineering</i>
1	<i>Next Sustainability</i>

## Editorial work on Journals

- 1. Special Issue *Emerging Biotechnologies Viewed by Emerging Bioengineers***  
*Engineering in Life Science*, January 2017, Volume 17, Issue 1, Pages 4-92  
 Editors: **Falk Harnisch** & Jochen Schmid
- 2. Thematic Issue *Microbial Electrochemical technologies come of age***  
*Microbial Biotechnology*, January 2018, Volume 11, Issue 1, Pages 1–140  
 Editors: Federico Aulenta, **Falk Harnisch**, Sebastià Puig

## Books

### 1. Bioelectrosynthesis

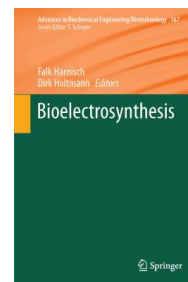
Editors: **Falk Harnisch** & Dirk Holtmann

*Advances in Biochemical Engineering/Biotechnology* 167

Series Editors: Scheper, Th., Belkin, S., Bley, Th., Bohlmann, J., Gu, M.B., Hu, W.-S., Mattiasson, B., Nielsen, J., Seitz, H., Ulber, R., Zeng, A.-P., Zhong, J.-J., Zhou, W. 420 pages, ISBN 978-3-030-03298-2

Publisher: Springer Nature, Cham

see also book chapters: 8 to 11

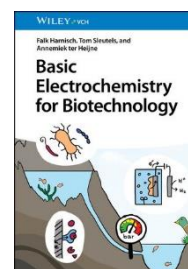


### 2. Basic Electrochemistry for Biotechnology

**Falk Harnisch**, Tom Sleutels, Annemiek ter Heijne

223 pages, ISBN: 978-3-527-34808-4

Publisher: Wiley-VCH



## List of Scientific Publications

### Journal Publications (*peer review*)

(\*denominates author(s) of correspondence, + denominates authors that contributed equally)

1. F. Scholz\*, D. Hellberg, **F. Harnisch**, A. Hummel, U. Hasse  
 „Detection of the adhesion events of dispersed single montmorillonite particles at a static mercury drop electrode”  
*Electrochemistry Communications* 6 (2004) 929-933
2. J. Niessen, U. Schröder\*, **F. Harnisch** and F. Scholz  
 „Gaining electricity from *in situ* oxidation of hydrogen produced by fermentative cellulose degradation”  
*Letters in Applied Microbiology* 41 (2005) 286-290
3. F. Zhao, **F. Harnisch**, U. Schröder\*, F. Scholz, P. Bogdanoff, I. Herrmann;  
 „Application of pyrolysed iron(II) phthalocyanine and CoTMPP based oxygen reduction catalysts as cathode materials in microbial fuel cells”;  
*Electrochemistry Communications* 7 (2005) 1405-1410
4. U. Schröder\*, M. Rosenbaum, J. Niessen, **F. Harnisch** and F. Scholz  
 “Biological Fuel Cells exploiting the *in situ* oxidation of hydrogen synthesized via heterotrophic, photoheterotrophic and photosynthetic microbiological activity”  
*Reprints of Symposia – American Chemical Society, Division of Fuel Chemistry* 50 (2005) 713-714
5. J. Niessen, **F. Harnisch**, M. Rosenbaum, U. Schröder\*, F. Scholz  
 “Heat treated soil as convenient and versatile source of bacterial communities for microbial electricity generation”  
*Electrochemistry Communications* 8 (2006) 869-873
6. F. Zhao, **F. Harnisch**, U. Schröder\*, F. Scholz, P. Bogdanoff, I. Herrmann  
 “Challenges and Constraints of Using Oxygen Cathodes in Microbial Fuel Cells”  
*Environmental Science & Technology* 40 (2006) 5193-5199
7. L. Wang, R. Halitschke, J.-H. Kang, A. Berg, **F. Harnisch** and I. T. Baldwin\*  
 “Independently silencing two members of JAR family impairs levels of trypsin proteinase inhibitors but not nicotine”  
*Planta* 226 (2007) 159-167
8. V. S. Burakov, A. V. Butsen, V. Brüser, **F. Harnisch**, P. Y. Misakov, E. A. Nevar, M. Rosenbaum, N. A. Savastenko\*, N. V. Tarasenko  
 „Synthesis of Tungsten Carbide Nanopowder via Submerged Discharge Method”  
*Journal of Nanoparticle Research* 10 (2008) 881-886
9. **F. Harnisch**, U. Schröder\*, F. Scholz  
 „Suitability of Ion Exchange and Bipolar Membranes as Separators for Biological Fuel Cells”  
*Environmental Science & Technology* 42 (2008) 1740-1746

10. K. Fricke, **F. Harnisch**, U. Schröder\*  
“On the Use of Cyclic Voltammetry for the Characterization of Anodic Electron Transfer in Biofilm Based Microbial Fuel Cells”  
*Energy & Environmental Science* 1 (2008),144-147
11. V. Agmo Hernandez, J. Niessen, **F. Harnisch**, S. Block, A. Greinacher, H. K. Kroemer, C. A. Helm, F. Scholz\*  
“The adhesion and spreading of thrombocyte vesicles on electrode surfaces”  
*Bioelectrochemistry* 74 (2008) 210-216
12. Y. Liu, **F. Harnisch**, K. Fricke, R. Sietmann, U. Schröder\*  
“Improvement of the Anodic Bioelectrocatalytic Activity of Mixed Culture Biofilms by a simple Consecutive Electrochemical Selection Procedure”  
*Biosensors & Bioelectronics* 24 (2008) 1012-1017
13. **F. Harnisch**, U. Schröder\*, M. Quaas, F. Scholz  
“Electrocatalysis and Corrosion of Tungsten Carbide in pH neutral Electrolytes”  
*Applied Catalysis B - Environmental* 87 (2009) 63-69
14. **F. Harnisch**, N. Savastenko\*, F. Zhao, H. Steffen, V. Brüser, U. Schröder  
„Comparative study on the performance of pyrolyzed and plasma - treated iron(II) phthalocyanine - based catalysts for oxygen reduction in pH neutral electrolyte solutions”  
*Journal of Power Sources* 193 (2009) 86-92
15. **F. Harnisch**, G. Sievers, U. Schröder\*  
“Tungsten Carbide as electrocatalyst for the hydrogen evolution reaction in pH neutral electrolyte solutions”  
*Applied Catalysis B – Environmental* 89 (2009) 455-458
16. **F. Harnisch**, R. Warmbier, R. Schneider, U. Schröder\*  
“Modeling the ion transfer and membrane polarisation of ion exchange membranes in bioelectrochemical systems”  
*Bioelectrochemistry* 75 (2009) 136-141
17. **F. Harnisch\***, U. Schröder  
“Selectivity versus mobility: Separation of anode and cathode in microbial bioelectrochemical systems” (*Minireview*)  
*ChemSusChem* 2 (2009) 921-926
18. **F. Harnisch**, S. Wirth, U. Schröder\*  
“Effects of substrate and metabolite crossover on the cathodic oxygen reduction reaction in microbial fuel cells: Platinum vs. iron(II) phthalocyanine based electrodes”  
*Electrochemistry Communications* 11 (2009) 2253-2256
19. Y. Liu\*, **F. Harnisch**, U. Schröder, K. Fricke, V. Climent, J. M. Feliu  
“The study of electrochemically active mixed culture microbial biofilms on different carbon-based anode materials”  
*Biosensors & Bioelectronics* 25 (2010) 2167-2171
20. S. A. Patil, **F. Harnisch**, U. Schröder\*  
“Toxicity response of electroactive microbial biofilms - a decisive feature for potential biosensor and power source applications” (*Special Issue: Electrochemistry*)  
*ChemPhysChem* 11 (2010) 2834–2837

21. S. A. Patil, **F. Harnisch**, B. Kapadnis, U. Schröder\*  
“Electroactive mixed culture biofilms in microbial bioelectrochemical systems: The role of temperature for biofilm formation and performance”  
*Biosensors & Bioelectronics* 26 (2010) 803-808
22. **F. Harnisch**, U. Schröder\*  
“Keeping intermediates on the track: Towards tailored metabolons for bioelectrocatalysis” (*Priority paper evaluation*)  
*Biofuels* 1 (2010) 677-680
23. **F. Harnisch\***, U. Schröder\*  
“From MFC to MXC: Chemical and biological cathodes and their potential for microbial bioelectrochemical systems” (*Critical Review*)  
*Chemical Society Reviews* 39 (2010) 4433-4448
24. M. Möller<sup>†</sup>, P. Nilges<sup>†</sup>, **F. Harnisch**, U. Schröder\*  
“Subcritical water as reaction environment: Fundamentals of hydrothermal biomass transformation” (*Review*)  
*ChemSusChem* 4 (2011) 566-579
25. D. Millo\*, **F. Harnisch\***, S.A. Patil, H. K. Ly, U. Schröder, P. Hildebrandt  
“*In situ* Spectroelectrochemical Investigation of electrocatalytic microbial biofilms by surface-enhanced resonance raman spectroscopy”  
*Angewandte Chemie International Edition* 50 (2011) 2625-2627  
*Angewandte Chemie* 123 (2011) 2673 –2675
26. S. Chen, H. Hou, **F. Harnisch**, S. A. Patil, A. A. Carmona-Martinez, S. Agarwal, Y. Zhang, S. Sinha-Ray, A. L. Yarin\*, A. Greiner\*, U. Schröder\*  
“Electrospun and solution blown three-dimensional carbon fiber nonwovens for application as electrodes in microbial fuel cells”  
*Energy & Environmental Science* 4 (2011) 1417-1421
27. **F. Harnisch\***, C. Koch, S. A. Patil, T. Hübschmann, S. Müller, U. Schröder  
“Revealing the electrochemically driven selection in natural community derived microbial biofilms using flow–cytometry”  
*Energy & Environmental Science* 4 (2011) 1265-1267
28. A. A. Carmona-Martinez, **F. Harnisch\***, L. A. Fitzgerald, J. C. Biffinger, B. R. Ringeisen, U. Schröder  
“Cyclic voltammetric analysis of the electron transfer of *Shewanella oneidensis* MR-1 and nanofilament and cytochrome knock-out mutants”  
*Bioelectrochemistry* 81 (2011) 74–80
29. S. Wirth, **F. Harnisch\*\***, A. Quade, M. Brüser, V. Brüser, U. Schröder, N. A. Savastenko\*\*  
“Enhanced activity of non-noble metal electrocatalysts for the oxygen reduction reaction using low temperature plasma treatment”  
*Plasma Processes and Polymers* 8 (2011) 914–922
30. S. A. Patil, **F. Harnisch\***, C. Koch, T. Hübschmann, I. Fetzer, A. A. Carmona-Martinez, S. Müller\*, U. Schröder  
“Electroactive mixed culture derived biofilms in microbial bioelectrochemical systems: the role of pH on biofilm formation, performance and composition”  
*Bioresource Technology* 102 (2011) 9683–9690

31. P. Nilges, T. R. dos Santos, **F. Harnisch**, U. Schröder  
“Electrochemistry for biofuel generation: Electrochemical conversion of levulinic acid to octane”  
*Energy & Environmental Science* 5 (2012) 5231-5235
32. **F. Harnisch\***, S. Freguia  
“A basic tutorial on cyclic voltammetry for the investigation of electroactive microbial biofilms”  
*Chemistry – An Asian Journal* 7 (2012) 466–475
33. M. Möller, **F. Harnisch**, U. Schröder\*  
“Microwave-assisted hydrothermal degradation of fructose and glucose in subcritical water”  
*Biomass & Bioenergy* 39 (2012) 389–398
34. B. Viridis\*+, **F. Harnisch\*\***, D. J. Batstone, K. Rabaey, B. C. Donose  
“Non-invasive characterization of electrochemically active microbial biofilms using confocal raman microscopy”  
*Energy & Environmental Science* 5 (2012) 5231-5235
35. **F. Harnisch\***, K. Rabaey\*  
“The diversity of techniques to study electrochemically active biofilms highlights the need for standardization” (*Special Issue: Microbial Bioelectrochemical Systems*)  
*ChemSusChem* 5 (2012) 7017-7024
36. S. Freguia, B. Viridis, **F. Harnisch**, J. Keller\*  
“Bioelectrochemical systems: microbial versus enzymatic catalysis”  
*Electrochimica Acta*, 82 (2012) 165-174
37. S. Wirth, **F. Harnisch**, M. Weinmann, U. Schröder\*  
“Comparative study of IVB-VIB transition metal compound electrocatalysts for the hydrogen evolution reaction”  
*Applied Catalysis B - Environmental* 126 (2012) 225– 230
38. B. C. Donose\*, **F. Harnisch\***, E. Taran  
“Electrochemically produced hydrogen bubble probes for gas evolution kinetics and force spectroscopy”  
*Electrochemistry Communications* 24 (2012) 21-24
39. A. A. Carmona-Martinez, **F. Harnisch\***, U. Kuhlicke, T.R. Neu, U. Schröder  
“Electron transfer and biofilm formation of *Shewanella putrefaciens* as function of anode potential”  
*Bioelectrochemistry* 93 (2013) 23-29
40. S. Chen, G. He, Q. Liu, **F. Harnisch**, Y. Zhou, Y. Chen, M. Hanif, S. Wang, X. Peng, H. Hou\*, U. Schröder\*  
“Layered corrugated electrode macrostructures boost microbial bioelectrocatalysis”  
*Energy & Environmental Science* 5 (2012) 9769–9772
41. **F. Harnisch\***, C. Gimkiewicz, B. Bogunovic, R. Kreuzig\*, U. Schröder  
“On the removal of sulfonamides using microbial bioelectrochemical systems”  
*Electrochemistry Communications* 26 (2013) 77–80

42. H. K. Ly, **F. Harnisch**, S. F. Hong, U. Schröder, P. Hildebrandt, D. Millo\*  
“Unraveling the interfacial electron transfer dynamics of electroactive microbial biofilms by surface-enhanced Raman spectroscopy”  
*ChemSusChem* 6 (2013) 487-492
43. **F. Harnisch**\*\*+, I. Blei+, T. R. dos Santos, M. Möller, P. Nilges, P. Eilts, U. Schröder  
“From the test-tube to the test-engine: Assessing the suitability of prospective liquid biofuel compounds”  
*RSC Advances* 3 (2013) 9594-9605
44. P. G. Dennis, **F. Harnisch**, Y. K. Yeoh, G. W. Tyson, K. Rabaey\*  
“Dynamics of cathode-associated microbial communities and metabolite profiles in a glycerol-fed bioelectrochemical system”  
*Applied and Environmental Microbiology* 79 (2013) 4008-4014
45. M. Möller, **F. Harnisch**, U. Schröder\*  
“Hydrothermal liquefaction of cellulose in subcritical water - the role of crystallinity on the cellulose reactivity”  
*RSC Advances* 3 (2013) 11035-11044
46. C. Gimkiewicz, **F. Harnisch**\*  
“Waste water derived electroactive microbial biofilms: Growth, maintenance and basic characterization”  
*Journal of Visualized Experiments* 82 (2013) e50800 (15 pages)
47. C. Koch, S. Müller, H. Harms, **F. Harnisch**\*  
“Microbiomes in bioenergy production: From analysis to management”  
*Current Opinion in Biotechnology* 27 (2014) 65-72
48. J. Bosch\*, K.-Y. Lee, S.-F. Hong, **F. Harnisch**, U. Schröder, R. U. Meckenstock\*  
“Metabolic efficiency of *Geobacter sulfurreducens* growing on anodes with different redox potentials”  
*Current Microbiology* 68 (2014) 763 - 768
49. R. K. Brown, **F. Harnisch**, S. Wirth, H. Wahlandt, T. Dockhorn, N. Dichtl, U. Schröder\*  
“Evaluating the effects of scaling up on the performance of bioelectrochemical systems using a technical scale microbial electrolysis cell”  
*Bioresource Technology* 163 (2014) 206–213
50. C. Koch, **F. Harnisch**\*, U. Schröder, S. Müller  
“Cytometric fingerprints: evaluation of new tools for analyzing microbial community dynamics”  
*Frontiers in Microbiology* 5 (2014) 273 (12 pages)
51. T. Maskow\*, F. M. Morais, L. F.M. Rosa, Y. Qian, **F. Harnisch**  
“Insufficient oxygen diffusion leads to distortions of microbial growth parameters assessed by isothermal microcalorimetry”  
*RSC Advances* 4 (2014) 32730-32737
52. C. Koch, D. Popiel, **F. Harnisch**\*  
“Functional redundancy of microbial anodes fed by domestic wastewater”  
*ChemElectroChem* 1 (2014) 1923–1931

53. N. Pous, C. Koch, J. Colprim, S. Puig, **F. Harnisch\***  
“Extracellular electron transfer of biocathodes: Revealing the potentials for nitrate and nitrite reduction of denitrifying microbiomes dominated by *Thiobacillus sp.*”  
*Electrochemistry Communications* 49 (2014) 93-97
54. **F. Harnisch\***, L. F. M. Rosa, F. Kracke, B. Viridis, J. O. Krömer  
“Electrifying white biotechnology: Engineering and economic potential of electricity driven bio-production”  
*ChemSusChem* 8 (2015) 758–766  
(Featured on Cover and with Author profile)
55. C. Grobber, B. Viridis, A. Nouvens, **F. Harnisch**, K. Rabaey, P. Bond\*  
“Use of SWATH mass spectrometry for quantitative proteomic investigation of *Shewanella oneidensis* MR-1 biofilms grown on graphite cloth electrodes”  
*Systematic and Applied Microbiology* 38 (2015) 135-139
56. M. Wei, **F. Harnisch**, C. Vogt\*, A. Ahlheim, T. R. Neu, H. H. Richnow  
“Harvesting electricity from benzene and ammonium contaminated groundwater using a microbial fuel cell with an aerated cathode”  
*RSC Advances* 5 (2015) 5321-5330
57. U. Schröder\*, **F. Harnisch**, L. T. Angenent  
“Microbial Electrochemistry and Technology: Terminology and Classification”  
*Energy & Environmental Science* 8 (2015) 513-519
58. T. R. dos Santos, **F. Harnisch**, P. Nilges, U. Schröder\*  
“Electrochemistry for biofuel generation: Transformation of fatty acids and triglycerides to "diesel -like" olefin/ ether mixture and olefins”  
*ChemSusChem* 8 (2015) 886-893
59. T. R. dos Santos, P. Nilges, W. Sauter, **F. Harnisch**, U. Schröder\*  
„Electrochemistry for generation of renewable chemicals: Electrochemical conversion of levulinic acid”  
*RSC Advances* 5 (2015) 26634-26643
60. C. Koch, A. Kuchenbuch, J. Kretzschmar, H. Wedwitschka, J. Liebetrau, S. Müller, **F. Harnisch\***  
„Coupling electric energy and biogas production in anaerobic digesters - impacts on the microbiome”  
*RSC Advances* 5 (2015) 31329-31340
61. B. Korth, L. F. M. Rosa, **F. Harnisch\***, C. Picioreanu  
„A framework for modeling electroactive microbial biofilms performing direct electron transfer”  
*Bioelectrochemistry* 106 (2015) 194-206
62. M. Wei, J. Rakoczy, C. Vogt\*, **F. Harnisch**, R. Schumann, H. H. Richnow  
„Enhancement and monitoring of pollutant removal in a constructed wetland by microbial electrochemical technology”  
*Bioresource Technology* 196 (2015) 490-499
63. N. Pous, C. Koch, A. Vilà-Rovira, M.D. Balaguer, J. Colprim, J. Mühlenberg, S. Müller, **F. Harnisch**, S. Puig\*  
„Monitoring and engineering reactor microbiomes of denitrifying bioelectrochemical systems”  
*RSC Advances* 5 (2015) 68326-68333



64. R. K. Brown, **F. Harnisch**, T. Dockhorn, U. Schröder\*  
„Examining sludge production in bioelectrochemical systems treating domestic wastewater”  
*Bioresource Technology* 198 (2015) 913-917
65. G. Schkolnik\*, M. Schmidt, Marco G. Mazza, **F. Harnisch**, N. Musat  
„In situ Analysis of a Silver Nanoparticle-Precipitating *Shewanella* Biofilm by Surface Enhanced Confocal Raman Microscopy”  
*PLOS One* 10 (2015) e0145871
66. C. Stang, **F. Harnisch**\*  
„The dilemma of supporting electrolytes for electroorganic synthesis in aqueous solutions: A case study on Kolbe-electrolysis”  
*ChemSusChem* 9 (2016) 50-60  
(Featured on Back Cover)
67. J. Kretzschmar, L. F. M. Rosa, J. Zosel, M. Mertig, J. Liebtrau, **F. Harnisch**\*  
„A microbial biosensor platform for in-line quantification of acetate in anaerobic digestion: potential and challenges”  
*Chemical Engineering & Technology* 39 (2016) 637-642
68. C. Koch\*, **F. Harnisch**\*  
„Is there a specific ecological niche for electroactive microorganisms?”  
*ChemElectroChem* 3 (2016) 1282-1295
69. C. Gimkiewicz, S. Hunger, **F. Harnisch**\*  
„Evaluating the feasibility of microbial electrosynthesis based on *Gluconobacter oxydans*”  
*ChemElectroChem* 3 (2016) 1337-1346
70. L. F. M. Rosa, S. Hunger, C. Gimkiewicz, A. Zehnsdorf, **F. Harnisch**\*  
„Paving the way for Bioelectrotechnology: Integrating Electrochemistry into Bioreactors”  
*Engineering in Life Sciences* 17 (2017) 77-85
71. B. Korth, T. Maskow, C. Picioreanu, **F. Harnisch**\*  
„The microbial electrochemical Peltier heat: An energetic burden and engineering chance for primary microbial electrochemical technologies”  
*Energy & Environmental Science* 9 (2016) 2539-2544  
(Featured on Cover)
72. C. Koch\*, **F. Harnisch**\*  
„What is the essence of microbial electroactivity?”  
*Frontiers in Microbiology* 7 (2016) 1890  
doi: 10.3389/fmicb.2016.01890.
73. J. Kretzschmar, C. Koch, M. Mertig, J. Liebtrau, **F. Harnisch**\*  
„Electroactive biofilms as sensor for volatile fatty acids: crosssensitivity, response dynamics, latency and stability”  
*Sensors & Actuators B - Chemical* 241 (2017) 466-472
74. C. Gimkiewicz, R. Hegner, M. F. Gutensohn, C. Koch, **F. Harnisch**\*  
„Study of electrochemical CO<sub>2</sub> reduction for future use in secondary microbial electrochemical technologies”  
*ChemSusChem* 10 (2017) 958-967
75. J. Kretzschmar, S. Riedl, R. K. Brown, U. Schröder, **F. Harnisch**\*  
„eLatrine: Lessons learned from the development of a low-tech MFC based on cardboard electrodes for the treatment of human feces”  
*Journal of The Electrochemical Society* 164 (2017) H3065-H3072

76. **F. Harnisch\***, J. Schmid\*  
„From emergence to consolidation or peaks: Riding the waves of bioengineering”  
*Engineering in Life Sciences* 17 (2017) 4-5 (Editorial)  
(Special Issue Cover Illustration)
77. R. Hegner, C. Koch\*, V. Riechert, **F. Harnisch\***  
„Microbiome-based carboxylic acids production: from serum bottles to bioreactors”  
*RSC Advances* 7 (2017) 1562-1537
78. R. K. Brown, U. C. Schmidt, **F. Harnisch**, U. Schröder\*  
„Combining hydrogen evolution and corrosion data - A case study on the economic viability of selected metal cathodes in microbial electrolysis cells”  
*Journal of Power Sources* 356 (2017) 473-483
79. C. Urban, **F. Harnisch\***  
„Deterioration of aqueous n-octanoate electrolysis due to electrolytic conductivity collapse caused by formation of n-octanoic acid/ n-octanoate agglomerates”  
*ChemElectroChem* 4 (2017) 1378–1389
80. L. F. M. Rosa, C. Koch, B. Korth, **F. Harnisch\***  
„Electron harvest and treatment of amendment free municipal wastewater using microbial anodes: A case study”  
*Journal of Power Sources* 356 (2017) 319-323
81. C. Koch\*, A. Kuchenbuch, F. Kracke, P. V. Bernhardt, J. Krömer, **F. Harnisch\***  
„Predicting and experimental evaluating bio-electrochemical synthesis—A case study with *Clostridium kluyveri*”  
*Bioelectrochemistry* 118 (2017) 114-122
82. B. Korth, T. Maskow, S. Günther, **F. Harnisch\***  
„Estimating the energy content of wastewater using combustion calorimetry and different drying processes”  
*Frontiers in Energy Research* 5 (2017) 23 (8 pages)
83. C. Urban, J. Xu, H. Sträuber, T. R. dos Santos Dantas, J. Mühlenberg, C. Härtig, L. T. Angenent, **F. Harnisch\***  
„Production of drop-in fuels from biomass at high selectivity by combined microbial and electrochemical conversion”  
*Energy & Environmental Science* 10 (2017) 2231-2244
84. U. Schröder\*, **F. Harnisch**  
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In: Krahl, J., Munack, A., Bünger, J., Eilts, P. (Hrsg.), *Kraftstoffe für die Mobilität von Morgen : 1. Tagung der Fuels Joint Research Group am 24. und 25. September 2014 in Braunschweig*, Fuels Joint Research Group - Interdisziplinäre Kraftstoffforschung für die Mobilität der Zukunft 10; Cuvillier, Göttingen, S. 25 – 26
- 8. Bioreactors go electro – Bioreaktoren für Bioelektrotechnologie aufrüsten**  
**C. Gimkiewicz, S. Hunger, L. F. M. Rosa, A. Zehnsdorf & F. Harnisch**  
*Biospektrum* 21 (2015) 543–544
- 9. Wie Mikroorganismen und Elektroden interagieren**  
**F. Harnisch, M. A. Rosenbaum, A. Greiner, U. Schröder**  
*Nachrichten aus der Chemie* 64 (2016) 232–237
- 10. Das neue Wissenschaftszeitvertragsgesetz: Intention und Status quo!?**  
**J. Schmid, F. Harnisch**  
*Biospektrum* 23 (2017) 119
- 11. Bioelektrokalorimetrie – der mikrobielle elektrochemische Peltier-Effekt**  
**B. Korth, T. Maskow, F. Harnisch**  
*Biospektrum* 23 (2017) 220-222

- 12. Erneuerbare Kraftstoffe für Mobilität und Industrie**  
F. Müller-Langer, R.-U. Dietrich, R. van de Krol, K. Arnold, **F. Harnisch**  
In: Szczepanski, P., Wunschick, F., Martin, N. (Hrsg.)  
*Forschung für die Energiewende : die Gestaltung des Energiesystems. Beiträge zur Jahrestagung 2016 des Forschungsverbunds Erneuerbare Energien, 2. und 3. November 2016, Umweltforum Berlin. ForschungsVerbund Erneuerbare Energien (FVEE), Berlin, S. 110 – 116*
- 13. Mit Strom von Zucker zum Abfall und zurück. Biobrennstoffzellen bis Bioelektrosynthese**  
**F. Harnisch, C. Koch**  
In: Koesling, V., Spierling, R. (Hrsg.)  
Alles Zucker! Nahrung - Werkstoff – Energie, bebra Verlag, 2017, Berlin, S. 215 – 225
- 14. Bakterien mit Strom füttern - Reaktoren für die Elektrobiotechnologie fit machen**  
B. Strehlitz, S. Hunger, A. Kuchenbuch, L. F. M. Rosa, **F. Harnisch**  
*GIT Labor-Fachzeitschrift* 62 (2018) 32 – 34
- 15. Power-to-X: Technologien für Übermorgen?!**  
S. Schwarz, U. Zuberbühler, M. Schmidt, J. Kretzschmar, A. Friedrich, B. Schröer, C. Hebling, S. Calnan, R. Peters, R. Dittmeyer, **F. Harnisch**, T. Nagel, T.  
In: Baur, F., Fishedick, M., (Hrsg.)  
*Forschung für die Energiewende : die Gestaltung des Energiesystems; Jahrestagung 2017 des Forschungsverbunds Erneuerbare Energien, 8. und 9. November 2017, Umweltforum Berlin ; Themen / ForschungsVerbund Erneuerbare Energien 2017 ForschungsVerbund Erneuerbare Energien (FVEE), Berlin, S. 49 – 52*
- 16. Revisionsbedürftig? Rechte und Pflichten akademischer Nachwuchsführungskräfte**  
**Harnisch, F.**, Blombach, B., Buyel, J., Centler, F., Classen, T., Ebert, B.E., Eyer, C., Dohnt, K., Grünberger, A., Jandt, U., Jung, S., Kara, S., Regestein, L., Schmid, J., Tischler, D., Wierckx, N.  
*Forschung & Lehre* 25 (2018) 788 – 789
- 17. Bakterien mit Strom füttern - Reaktoren für die Elektrobiotechnologie**  
B. Strehlitz, S. Hunger, A. Kuchenbuch, L. F. M. Rosa, **F. Harnisch**  
*ChemieXtra* 8 (2018) 19-21
- 18. Mr. Elektron erobert die Biosynthese**  
**F. Harnisch, A. Kuchenbuch**  
*Biospektrum* 25 (2019) 232-233
- 19. Trendbericht Biochemie Teil 5: Biochemie unter Strom**  
**F. Harnisch**  
*Nachrichten aus der Chemie* 67 (2019) 64-66
- 20. Die Bioelektrosynthese als essentieller Baustein der Bioökonomie**  
D. Holtmann, **F. Harnisch**  
*DECHEMA Positionspapier, (2019) DECHEMA, Frankfurt/Main, 19 S.*

- 21. Rechte und Pflichten von akademischen Nachwuchsführungskräften.**  
**F. Harnisch**, J. Bahnemann, J. Buyel, F. Centler, T. Classen, K. Dohnt, B. E. Ebert, K. Eyer, A. Grünberger, U. Jandt, S. Jung, S. Kara, F. Krujatz, H. Link, L. Regestein, J. Schmid, D. Tischler  
*Stellungnahme des Zukunftsforums Biotechnologie der DECHEMA e.V.*, (2019)  
DECHEMA, Frankfurt/Main, 15 S.
- 22. Synthetische Kraftstoffe – Technologien, Prozessketten, Kohlenstoffquellen und Produkte**  
J. Sauer, T. Kolb, P. Pfeiffer, F. Müller-Langer, M. Klemm, S. Jürgens, R. Peters, J. Hadrich, A. Schaadt, **F. Harnisch**, U. Zuberbühler  
In: Szczepanski, P., Wunschick, F., (Hrsg.)  
*Forschung für den European Green Deal. Beiträge zur FVEE-Jahrestagung 2020 des Forschungsverbunds Erneuerbare Energien 02. bis 04. November 2020, Online-Veranstaltung.*
- 23. Chemikalien aus nichts als CO<sub>2</sub> und elektrischer Energie? Mit Elektrobiotechnologie!**  
**F. Harnisch**  
*BIO Deutschland Jahrbuch 2021/2022*, 54-55
- 24. Kapitel 3 Umweltbiotechnologie**  
D. Tischler, R. Wei, **F. Harnisch**  
*Biotechnologie 2040 - Blick in die Zukunft einer Schlüsseltechnologie*, (2022)  
DECHEMA, Frankfurt/Main, S. 53 - 65
- 25. Kapitel 5 Elektrobiotechnologie**  
**F. Harnisch**, K. Dohnt  
*Biotechnologie 2040 - Blick in die Zukunft einer Schlüsseltechnologie*, (2022)  
DECHEMA, Frankfurt/Main, S. 75 - 81

**Patents and patent applications (open to the public)**

1. **F. Harnisch**, U. Schröder, M. Bröring (2014), Redox electrolyte with redox active substance for redox-flow batteries [Redoxelektrolyt mit redoxaktiver Substanz für Redox-Flow-Batterien], German Patent Application DE 10 2012 015176 A1
2. **F. Harnisch**, S. Hunger, A. Zehnsdorf, D. Beyer, L. F. M. Rosa (2015), Upgrade set for bioreactors for carrying out microbial bioelektrosyntheses [Aufrüstset für Bioreaktoren zur Durchführung der mikrobiellen Bioelektrosynthese]; EP3077495B1, US10767150B2
3. T. Rohwerder, **F. Harnisch**, M. T. Weichler, L. F. M. Rosa, C. Gimkiewicz (2015), Process for producing organic compounds [Verfahren zur Herstellung organischer Verbindungen], German Patent DE102014212069B4
4. **F. Harnisch**, L. F. M. Rosa, H. Sträuber, S. Kleinsteuber, M. Dittrich-Zechendorf, T. R. dos Santos, U. Schröder (2016) Process for producing organic compounds [Verfahren zur Herstellung von organischen Verbindungen], German Patent Application DE 10 2014 214 582 A1; International application WO 2016012279A1; PCT/EP2015/065877
5. S. Hunger, **F. Harnisch**, C. Gimkiewicz, V. Jegorow, L. F. M. Rosa, B. Strehlitz (2019) Electric bioreactor and parts thereof for sterile microbial electrosyntheses for multiple and single use, WO2019141365A1

## Presentations

### 2023 (6)

#### **Grüne Chemikalien – Nylon aus Lignin?!**

**F. Harnisch**

Leipzig, Germany, Jahresempfang des Helmholtz-Zentrums für Umweltforschung - UFZ

#### **Electro|Bio|Catalysis - Integrating into the bioeconomy by going hybrid?**

**D. Pant & F. Harnisch**

Wageningen, The Netherlands, EU-ISMET 6, International Society for Microbial Electrochemistry and Technology, 6th European Meeting (Vision session)

#### **Empowering of microorganisms using electric current**

**F. Harnisch**

Leipzig, Germany, Workshop „Sustainable Chemistry“ Forschungs- und Transferzentrum für bioaktive Materie b-ACTmatter

#### **From Mr. Potter to microbial electrochemical technologies and electrobiorefineries**

**F. Harnisch**

II SEMANA LATINO-AMERICANA DE BIOELETROQUÍMICA, online (invited)

#### **E Electrobiorefineries that create organic acids from CO<sub>2</sub> and electric energy**

**F. Harnisch** & P. Izadi

VIVALDI workshop: Turning CO<sub>2</sub> into long chain organic acids using biological systems  
Brussels, Belgium (invited)

#### **Electrification of Biotechnology for Electrobiorefineries**

**F. Harnisch**

BioZ Biobasierte Innovationen aus Zeitz und Mitteldeutschland  
Zeitz, Germany, online (invited)

### 2022 (2) - due to SARS-CoV-2 pandemic conferences were only online

#### **Electrochemical feeding of microorganisms: From CO<sub>2</sub> and electrons to materials**

**F. Harnisch**

Vienna, Austria, European Federation of Biotechnology Spring meeting (invited)

#### **Es braucht nicht mehr als CO<sub>2</sub> und Elektronen: Elektrochemisch-mikrobielle Synthese**

**F. Harnisch**

Frankfurt, Germany Frühjahrstagung der Biotechnologen (invited)

### 2021 (3) - due to SARS-CoV-2 pandemic conferences except one were only online

#### **Levelling the expectations on gathering knowledge when microbiology meets electrochemical methods**

**F. Harnisch**



Aarhus, Denmark, Electromicrobiology 2021(in person), closing keynote (invited)

**Creating efficient chemicals from CO<sub>2</sub> by coupling electrochemical and microbial catalysis**

**F. Harnisch**

Berlin, Germany, Helmholtz Workshop: CO<sub>2</sub> Electroconversion (invited)

**Coupling electrochemical and microbial catalysis: Examples on the production of fuels and polymer bricks**

**F. Harnisch**

Barcelona, Spain, BIOCON-CO<sub>2</sub> Workshop: Biocatalysis & Bioelectrofermentation (invited)

**2020 (3)** - due to SARS-CoV-2 pandemic all conferences only online

**Flexibilisierung mit Elektronen: Auf dem Weg zu Elektrobioraffinerien?!**

**F. Harnisch**

Leipzig, Germany, Workshop Flexible Bioenergie – Markt der Möglichkeiten. Konzepte und Optionen für Speicher, Back-up und Peak-Nachfrage (invited)

**Valorization of agricultural waste streams for the production of fuels and chemicals by microbial and electrochemical conversions**

**F. Harnisch**, S. Kleinsteuber

Berlin/ Tel Aviv, Germany/ Israel, Agricultural Innovation and Adaptation to Climate Change Germany & Israel Helmholtz Association of German Research Centres and Volcani Center - Agricultural Research Organization (ARO) (invited)

**Fuel and polymer bricks from combined microbial and electrochemical catalysis**

**F. Harnisch**

Wageningen, The Netherlands, Environmental Technology for Impact 2020 (invited)

**2019 (3)**

**Electrobiorefineries: Merging electroorganic with microbial synthesis for production of chemicals**

**F. Harnisch**

Okinawa, Japan, ISMET7

**A potpourri on electrochemistry, microbiology and their interfacing**

**F. Harnisch**

Wageningen, The Netherlands, Interactive Seminar at Department of Environmental Technology, Wageningen University & Research

**Mikroorganismen mit Elektronen füttern: Elektrobiotechnologie als Herausforderung an die Bioverfahrenstechnik**

**F. Harnisch**

Frankfurt, Deutschland, Frühjahrstagung der Biotechnologen  
(eingeladener Vortrag im Rahmen Präsentationen der Kandidaten für den  
Hochschullehrer-Nachwuchspreis der DECHEMA für Biotechnologie)

## 2018 (4)

### **Microbial electrosynthesis of chiral alcohols by recombinant *Escherichia coli* whole-cell biocatalysts**

J. Mayr, L. F.M. Rosa, J.-H. Grosch, **F. Harnisch**, A.C. Spieß  
Newcastle, U.K., EU-ISMET 4, International Society for Microbial Electrochemistry and  
Technology, 4th European Meeting (ad hoc substitution)

### **Nomenclature discussion**

S. Glaven (chair), K. Rabaey, U. Schröder, L. T. Angenent, **F. Harnisch**  
Newcastle, U.K., EU-ISMET 4, International Society for Microbial Electrochemistry and  
Technology, 4th European Meeting

### **Electrodes as habitats for microorganisms: From fundamentals to applications**

#### **F. Harnisch**

Bremen, Germany, Bremen University, Graduate School MIMENIMA, invited

### **Electrobiorefineries: Joining microbial and electrochemical synthesis**

#### **F. Harnisch**

Düsseldorf, Germany, CLIB-2018 Conference, invited

## 2017 (6)

### ***Die Liaison von Mikrobiologie und Elektrochemie: Von mikrobiellen Brennstoffzellen zu Elektrobioraffinerien***

#### **F. Harnisch**

Cottbus, Germany, Umwelt- und Verfahrenstechnisches Kolloquium, invited

### ***Electrobiorefineries: Joining the forces of microbiology and electrochemistry for the production of chemicals and fuels***

#### **F. Harnisch**

Lisbon, Portugal, 6<sup>th</sup> International Meeting of the International Society for Microbial  
Electrochemistry and Technology (ISMET 6), invited

### **The concept of electrobiorefineries and the example of production of drop-in fuel**

#### **F. Harnisch**

Leipzig, Germany, Forschungstag des Departments Umweltmikrobiologie

### **Betrachtungen zu Referenzelektroden**

#### **F. Harnisch**

Leipzig, Germany, Fachkolloquium der Deutschen Bundesstiftung Umwelt  
„Elektrochemische Energiespeicher“

**Elektrosynthese und Biosynthese verknüpfen: Das Beste aus zwei Welten?!**

**F. Harnisch**

Frankfurt, Germany, Sitzung des Arbeitsausschusses des VDI-GVC „Elektrochemische Prozesse“

**Microorganisms facing electrodes for synthesis of chemicals**

**F. Harnisch**

Dresden, Germany, 3. Workshop des Mitteldeutschen Zentrum für Biokatalyse(MiKat)

**2016 (5)**

**Microbial electrochemical technologies as platform for cleaning water and generating electricity**

**F. Harnisch**

Xiamen, China, Beijing Symposium 2016 on Environmental Processes and Risks of Chemical Contaminants

**Chemicals and fuels from electricity: Microbial electrochemical technologies**

**F. Harnisch**

Berlin, Germany, Helmholtz Horizons

**Mikrobielle Elektrochemische Technologien 2012 bis 2016 und darüber hinaus**

**F. Harnisch**

Heilbad Heiligenstadt, Germany, 18. Heiligenstädter Kolloquium

**Merging electrochemistry and biotechnology - an alluring challenge for bioprocess engineering**

**F. Harnisch**

Hamburg, Germany, TU Hamburg-Harburg, Verfahrenstechnisches Kolloquium

**Microbial Electrochemistry & Technology: From micro to macro, from concepts to systems**

**F. Harnisch**

Dresden, Germany, TU Dresden, Faculty of Mechanical Engineering, NANOSeminar

**2015 (12)**

**Teaming up for biotechnology: Electrochemistry, microbiology and partners?!**

**F. Harnisch**

Leipzig, Germany, Workshop of MiKat - Centre for Biocatalysis, Biotechnologie der stofflichen und energetischen Nutzung von Biomasse

**ElectroBioTechnology: Tools and pathways for conversions between electricity and chemical energy carriers?!**

**F. Harnisch**

Leipzig, Germany, DBFZ-Vortragsreihe “Bioökonomie. Die Zukunft in unseren Händen?”

**Tainted love: Integrating electroorganic reactions with microbial transformations****F. Harnisch**

Tempe (AZ), U.S.A., ISMET 2015 - fifth international meeting on microbial electrochemistry and technologies

**Von der Laborbank in die Praxis: Potential und Hürden der mikrobiellen Elektrosynthese****F. Harnisch**

Köthen, Germany, 7. Köthener Biotechnologie-Kolloquium

**Interfacing microbial and electrochemical syntheses: Love at the second sight?!****F. Harnisch**

Dresden, Germany, GDCh - Wissenschaftsforum Chemie 2015

**Strom aus Abwasser: Mikrobielle Brennstoffzellen in Kläranlagen auf dem Weg in die Anwendung****F. Harnisch**

Leipzig, Germany, Energiecluster trifft Wissenschaft 2015

**Heisenberg als Drogenboss – Die Chemie bei Breaking Bad und anderen Filmen****F. Harnisch**Greifswald, Germany, „Bier-Bratwurst-Biochemie“ (invited)**Microbial Electrochemistry: From molecular and microbiological fundamentals to applications****F. Harnisch**Greifswald, Germany, GDCh-Kolloquium (invited)**Joining the forces of electrochemistry and microbiology for the synthesis of fuels and commodities****F. Harnisch**Girona, Spain, Seminar of LEQUIA (Group of Sebastia Puig; invited)**Electrocommodities & Electrofuels: technology challenges and economic considerations of (microbial) electrochemical synthesis of fine chemicals and fuels****F. Harnisch**, T. R. dos Santos, L. F. M. Rosa, U. Schröder

Leipzig, Germany, 2nd UFZ Energy Days

**Heisenberg als Drogenboss – Die Chemie bei Breaking Bad und anderen Filmen****F. Harnisch**Jena, Germany, Symposium des Jungchemikerforums Jena (invited)**Praxisbeispiele biotechnologischer Methoden der Energiespeicherung****F. Harnisch**Leipzig, Germany, 5. VDI/UFZ Innovationsforum Umwelttechnik, Terratec/ enertec 2015 (invited)

**2014 (7)****Mikrobielle Bioelektrotechnologie: Auf dem Weg von Konzepten zu Systemen?!****F. Harnisch**Frankfurt, Germany, 3<sup>rd</sup> Foundation anniversary (“Stiftungstag”) of the DECHEMA Research Institute (invited)**Application Driven Fundamental Research on Microbial Electrochemical Technologies: From Components to System**U. Schröder & **F. Harnisch**Cancun, Mexico, 2014 ECS and SMEQ Joint International Meeting; Z2-Energy Water Nexus (invited)**Microbial Bioelectrotechnology – Future perspectives**Panel discussion: U. Schröder (TU Braunschweig). J. Kintrup (Bayer Material Science), **F. Harnisch**; Moderation: K.-M. Mangold (DECHEMA)

Mainz, Germany, Electrochemistry 2014: Basic Science and Key Technology for Future Applications

**Heisenberg als Drogenboss – Die Chemie bei Breaking Bad und anderen Filmen****F. Harnisch**Münster, Germany, Sommerfest des Jungchemikerforums (invited)Leipzig, Germany, Lange Nacht der Wissenschaften (invited)**Mikrobielle Bioelektrotechnologie – Eine zukünftige Plattformtechnologie?!****F. Harnisch**

Frankfurt, Germany, DECHEMA-Zukunftsforum („Future panel“) candidature

**Microbial Bioelectrosynthesis: A future branch of White Biotechnology?!****F. Harnisch**Rostock, Germany, DECHEMA-Kolloquium “Electrosynthesis” (invited)**2013 (9)****Direct and indirect coupling of microbiology & electrochemistry: BES, B&ES, E&BS and beyond****F. Harnisch\***, L. F. M. Rosa

Frankfurt, Germany, DECHEMA-Symposium: New Bioproduction Systems: Electrically and Light-Driven Biosyntheses

**Breaking the Wall of Bio|Electro|Chemical Engineering****F. Harnisch**Berlin, Falling Walls lab (invited, ET Kearney scholar)**Withdrawing and feeding electrons to microbes – the “electrification of biotechnology”****Falk Harnisch**

Dresden, Germany, Colloquium of the Bioengineering group at the TU Dresden  
([invited](#))

**Electrically wired bacteria: From insights into microbial extracellular electron transfer to microbial electrochemical technologies**

**F. Harnisch**

Bielefeld, Germany, Colloquium of the Center for Biotechnology ([invited](#))

**Direct and indirect coupling of microbiology & electrochemistry: BES, B&ES, E&BS and beyond**

**F. Harnisch\*** & L. F. M. Rosa

Cairns, Australia, mfc4, ([invited](#))

**Mapping Bacteria in Australia: Electricity generation from Wastewater using Microbial Fuel Cells**

**F. Harnisch**

Berlin, Germany, 9th Asia-Pacific Weeks Berlin ([invited](#))

**Microbial extracellular electron transfer: From molecules via cells and biofilms to application**

**F. Harnisch**

Leipzig, Germany, Colloquium of the Institute of Biochemistry ([invited](#))

**Electrifying white biotechnology: Microbial bioelectrocatalysis & electrochemically steered fermentation**

**F. Harnisch**

Bremen, Germany, VAAM, Special Group: Biotransformation ([invited](#))

**Elektrisierende Weisse Biotechnologie: Mikrobielle Bioelektrokatalyse & Elektrochemische Fermentationssteuerung**

**F. Harnisch**

Frankfurt, Germany, DECHEMA Frühjahrssymposium der Biotechnologen

## **2012 (3)**

**Characterizing and Engineering of Cells, Biofilms and Reactors: On the input and output standardization in microbial Bioelectrochemistry**

**F. Harnisch**

Ghent, Belgium, 1<sup>st</sup> EU-ISMET conference ([invited](#))

**Electrochemistry for Sustainability: Batteries, Biofuels and Bacteria**

**F. Harnisch**

Ithaca (NY), U.S.A., Cornell University, Department of Biological and Environmental Engineering (Prof. L.T. Angenent)

**Electrifying Biotechnology: Enzymes vs. Microorganisms**

**F. Harnisch**

Waterville valley (NH), U.S.A., GRC Enzymes, Coenzymes & Metabolic pathways  
(invited)

## 2011 (5)

**Electroactive microbial biofilms: Fundamental research for future sustainable technologies**

**F. Harnisch**

Leipzig, Germany, Helmholtz-Centre for Environmental Research – UFZ, Department for Environmental Microbiology

**Multi-option-systems: How to select a BES cathode?!**

**F. Harnisch\***, U. Schröder

Leeuwarden, The Netherlands, 3rd International Microbial Fuel Cell Conference

**Electrochemical active microbial biofilms: A call for multidisciplinary**

**F. Harnisch**

Brisbane, Australia, AWMC Institute seminar, The University of Queensland

**(Spectro)Electrochemistry of electroactive microbial biofilms**

**F. Harnisch**

Brisbane, Australia, Group seminar, Group of (Bio)Electrochemical Systems (K. Rabaey) at the AWMC at The University of Queensland

**Electroactive microbial biofilms: Fundamental research for a seminal technology**

**F. Harnisch**

Bremen, Germany, Group seminar, Group of Microbial Ecophysiology (M. W. Friedrich) at the University of Bremen

## 2010 (3)

**The cathode opportunity: Chemical and biological cathode options for microbial bioelectrochemical systems**

**F. Harnisch\***, U. Schröder

Bochum, Germany, „Electrochemistry 2010: From microscopic understanding to global impact“

**Elektroden für bioelektrochemische Systeme -Teil 2: Entwicklungen und Konzepte für Kathoden**

**F. Harnisch**

Osnabrück, Germany, DBU-Workshop “Bioelektrochemische Stromerzeugung aus Abwasser und- Abfallströmen“

**Bioelectrocatalytic biofilms in microbial bioelectrochemical systems: Electron transfer mechanisms, enrichment, environmental variables and electrode support**

**F. Harnisch**

Berlin, Germany, Group seminar, Group of biophysical chemistry (P. Hildebrandt) at the TU Berlin

## 2009 (2)

**From Microbial Fuel Cells to Microbial Electrolysers: Tungsten Carbide paves the way for non-noble metal Electrocatalysis**

**F. Harnisch**\*, U. Schröder

Frankfurt, Germany, Wissenschaftsforum Chemie 2009, „Elektrochemie und Umwelt“

**Will the charge balancing ion transfer separate microbially driven devices from application?**

**F. Harnisch**\*, U. Schröder

Gwangju, Korea, “From Waste to Energy” The 2<sup>nd</sup> Microbial Fuel Cell Conference

## 2008 (5)

**The voltammetric study of electrochemical active biofilms – prospects & limitations**

**F. Harnisch**, U. Schröder\*

Dourdan, France, From fundamentals to electrochemical power plants:  
Electrochemical Active Biofilms

**(Bio)Elektrokatalyse und Membranverhalten in mikrobiellen Brennstoffzellen**

**F. Harnisch**

Cloppenburg, Germany, Annual Meeting of Scholars of the German Federal Environmental Foundation (DBU)

**Electrocatalytic Materials for Biological Fuel Cells – Current State of Development, Challenges and Perspectives**

**F. Harnisch**, U. Schröder\*

Guildford, UK, Supergen Workshop on Biological Fuel Cells

**Electrocatalysis in Microbial Fuel Cells**

**F. Harnisch**, U. Schröder\*, F. Scholz

Tartu, Estonia, 5<sup>th</sup> Baltic Conference on Electrochemistry

**Dynamic Electrochemical Techniques for Characterization of Microbial Electron Transfer: New Insights for Microbial Fuel Cell Purposes**

**F. Harnisch**, K. Fricke, U. Schröder\*

Rostock, Germany, 10<sup>th</sup> Young Scientists Conference on Chemistry of the JCF of the GDCh (Award for **Best Oral Presentation**)

## 2007 (3)

**Elektroden als Schnittstelle zwischen Elektrochemie und Mikrobiologie**

**F. Harnisch**

Ostritz, Germany, Annual Meeting of Scholars of the German Federal Environmental Foundation (DBU)



**Ion Exchange Membranes and their Behaviour in Microbial Fuel Cells**

**F. Harnisch**, U. Schröder\*, F. Scholz

Chemnitz, Germany, 9<sup>th</sup> Young Scientists Conference on Chemistry of the JCF of the GDCh

**Mikrobielle Brennstoffzellen – Forschungsansätze und Aussichten.**

**F. Harnisch**

Stuttgart, Germany, Energie aus Abwasser (invited, Symposium of the FORUM Institute for Management)

**2006 (2)**

**Elektroden als Schnittstelle zwischen Elektrochemie und Mikrobiologie:  
Biokompatible Elektrodenmaterialien für den Einsatz in mikrobiellen  
Brennstoffzellen.**

**F. Harnisch**

Osnabrück, Germany, PhD- scholarship examination of the German Federal Environmental Foundation (DBU)

**Catalysis in Microbial Fuel Cells:**

**Challenges and Performance Bottlenecks**

**F. Harnisch**, U. Schröder\*, F. Zhao, F. Scholz

Waldheim, Germany, ELACH 7 (Biannual Meeting of the Divisions of Electroanalytical Chemistry and Applied Electrochemistry of the GDCh)