

## Bibliography of Prof. Dr. Falk Harnisch

<b>Journal articles</b>	132 (3 submitted)
... thereof as first author:	21
... thereof as author of correspondence:	71
<b>Book</b>	1 (edited)
<b>Book Chapters</b>	12
<b>Articles in German</b>	23
<b>Patents</b>	5 (open to public)
<b>Presentations</b>	> 80
<b>Poster</b>	> 100 (not listed)
<b>h-index</b>	45 (Scopus, Author ID: 9275810900)

Journal statistics: journal articles sorted 1<sup>st</sup> by number of papers and 2<sup>nd</sup> by impact factor

<b>Number of papers</b>	<b>Journal</b>	<b>Impact factor (2020)</b>
14	<i>ChemSusChem</i>	8.9
9	<i>Energy &amp; Environmental Science</i>	38.5
9	<i>Bioelectrochemistry</i>	5.4
9	<i>ChemElectroChem</i>	4.6
8	<i>Electrochemistry Communications</i>	4.7
8	<i>RSC Advances</i>	3.4
6	<i>Bioresource Technology</i>	9.6
4	<i>Applied Catalysis B – Environmental</i>	19.5
4	<i>Electrochimica Acta</i>	6.9
3	<i>Biosensors &amp; Bioelectronics</i>	10.6
3	<i>Journal of Power Sources</i>	9.1
3	<i>Environmental Science &amp; Technology</i>	9.0
3	<i>Frontiers in Microbiology</i>	5.6
3	<i>Frontiers in Energy Research</i>	4.0
2	<i>Joule</i>	41.2
2	<i>Angewandte Chemie International Edition</i>	15.4
2	<i>Water Research</i>	11.2
2	<i>Microbial Biotechnology</i>	5.8
2	<i>Chemical Engineering &amp; Technology</i>	1.7
2	<i>PLOS One</i>	3.2
2	<i>Engineering in Life Sciences</i>	2.6
2	<i>ChemText</i>	tba
1	<i>Chemical Society Reviews</i>	54.6
1	<i>Current Opinion in Biotechnology</i>	9.7
1	<i>npj Biofilms and Microbiomes</i>	7.3
1	<i>Sensors &amp; Actuators B: Chemical</i>	7.5
1	<i>The Chemical Record</i>	6.7
1	<i>Current Opinion in Electrochemistry</i>	7.3
1	<i>Biotechnology for Biofuels</i>	6.0
1	<i>Frontiers in Bioengineering and Biotechnology</i>	5.9
1	<i>Journal of Molecular Biology</i>	5.5
1	<i>Biofuels</i>	4.1
1	<i>Microorganisms</i>	4.1
1	<i>Applied and Environmental Microbiology</i>	4.8
1	<i>Chemistry – An Asian Journal</i>	4.6
1	<i>Biotechnology Journal</i>	4.7
1	<i>Journal of the Electrochemical Society</i>	4.3
1	<i>Biomass &amp; Bioenergy</i>	5.1
1	<i>Planta</i>	4.1
1	<i>Systematic and Applied Microbiology</i>	4.0
1	<i>Plasma Processes and Polymers</i>	3.8
1	<i>Cytometry – Part A</i>	3.4
1	<i>ChemPhysChem</i>	3.1
1	<i>Letters in Applied Microbiology</i>	2.8
1	<i>Journal of Nanoparticle Research</i>	2.3
1	<i>Current Microbiology</i>	2.2
1	<i>Journal of Visualized Experiments</i>	1.4
1	<i>Journal of Water, Sanitation and Hygiene for Development</i>	1.3
1	<i>Environmental Science and Ecotechnology</i>	tba
1	<i>Frontiers in Chemical Engineering</i>	tba

## 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

## Book

### 1. **Bioelectrosynthesis**

Editors: **Falk Harnisch** & Dirk Holtmann

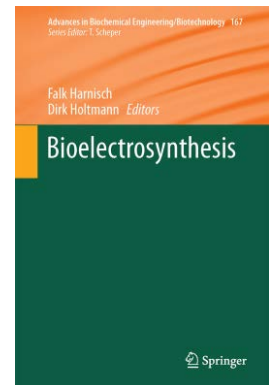
*Advances in Biochemical Engineering/Biotechnology* 167

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



## 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. Picioareanu, **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**  
„Life Electric—Nature as a blueprint for the development of Microbial Electrochemical Technologies”  
*Joule* 1 (2017) 244–252
85. C. C. Viggì, S. Simonetti, E. Palma, P. Pagliacci, C. Braguglia, S. Fazi, S. Baronti, M. A. Navarra, I. Petti, C. Koch, **F. Harnisch**, F. Aulenta\*  
„Enhancing methane production from food waste fermentate using biochar: the added value of electrochemical testing in pre-selecting the most effective type of biochar”  
*Biotechnology for Biofuels* 10 (2017) 330 (13 pages)
86. C. Grobber, B. Viridis, A. Nouwens, **F. Harnisch**, K. Rabaey, P. L. Bond\*  
„Effect of the anode potential on the physiology and proteome of *Shewanella oneidensis* MR-1”  
*Bioelectrochemistry* 119 (2018) 172–179
87. A. Vilajeliu-Pons, Christin Koch\*, M. D. Balaguer, J. Colprim, **F. Harnisch**, S. Puig  
„Microbial electricity driven anoxic ammonium removal”  
*Water Research* 130 (2018) 168-175

88. F. Aulenta\*, S. Puig, **F. Harnisch**  
„Microbial electrochemical technologies: maturing but not mature.”  
*Microbial Biotechnology* 11 (2018) 18 – 19 (Editorial)
89. C. Koch\*, B. Korth, **F. Harnisch**  
„Microbial ecology-based engineering of Microbial Electrochemical Technologies”  
*Microbial Biotechnology* 11 (2018) 22-38
90. **F. Harnisch\***, C. Urban  
„Electrobiorefineries: Unlocking the synergy of electrochemical and microbial conversions”  
*Angewandte Chemie International Edition* 57 (2018) 10016-10023  
„Elektrobioraffinerien: Synergien zwischen elektrochemischen und mikrobiologischen Stoffumwandlungen nutzbar machen”  
*Angewandte Chemie* 130 (2018) 10168-10175
91. J. Kretzschmar, P. Böhme, J. Liebtrau, M. Mertig, **F. Harnisch\***  
„Microbial electrochemical sensors for anaerobic digestion process control – performance of electroactive biofilms under real conditions.”  
*Chemical Engineering & Technology* 41 (2018) 687-695
92. J. Rodrigo Quejigo, L. F. M. Rosa, **F. Harnisch\***  
„Electrochemical characterization of bed electrodes using voltammetry of single granules”  
*Electrochemistry Communications* 90 (2018) 78-82
93. R. Hegner, L. F. M. Rosa, **F. Harnisch\***  
„Electrochemical CO<sub>2</sub> reduction to formate at indium electrodes with high efficiency and selectivity in pH neutral electrolytes”  
*Applied Catalysis B: Environmental* 238 (2018) 546-556
94. J. Rodrigo Quejigo, S. Tejedor-Sanz, A. Esteve-Nunez, **F. Harnisch\***  
„Bed electrodes in microbial electrochemistry: setup, operation and characterization”  
*ChemText* 5 (2019) 4 (15 pages)
95. L. Koók, P. Bakonyi, **F. Harnisch**, J. Kretzschmar, K.-J. Chae, G. Zhen, G. Kumar\*, T. Rózsenszki, G. Tóth, N. Nemestóthy, K. Bélafi-Bakó  
„Biofouling of membranes in microbial electrochemical technologies: Causes, characterization methods and mitigation strategies”  
*Bioresource Technology* 279 (2019) 327 - 338
96. J. C. Mayr, J.-H. Grosch, L. Hartmann, L. F. M. Rosa, A. C. Spiess\*, **F. Harnisch\***  
„Resting *Escherichia coli* as Chassis for Microbial Electrosynthesis: Production of Chiral Alcohols”  
*ChemSusChem* 12 (2019) 1631 - 1634  
(Featured on Cover and with Author profile)
97. B. Korth\*, **F. Harnisch\***  
„Spotlight on the Energy Harvest of Electroactive Microorganisms: The Impact of the Applied Anode Potential.”  
*Frontiers in Microbiology* 10 (2019) 1352
98. R. Hegner, K. Neubert, L. F. M. Rosa, **F. Harnisch\***  
„Engineering electrochemical CO<sub>2</sub> reduction to formate under bioprocess-compatible conditions to bioreactor scale.”  
*ChemElectroChem* 6 (2019) 3731-3735

99. T. Klünemann, A. Preuß, J. Adamczack, L. F. M. Rosa, **F. Harnisch**, G. Layer, W. Blankenfeldt  
„Crystal structure of dihydro-heme d1 dehydrogenase NirN from *Pseudomonas aeruginosa* reveals amino acid residues essential for catalysis.”  
*Journal of Molecular Biology* **431** (2019) 3246-3260
100. **F. Harnisch\***, U. Schröder\*  
„Tapping Renewables: A new dawn for organic electrosynthesis in aqueous reaction media.”  
*ChemElectroChem* **6** (2019) 4126–4133
101. L. Schwab, L. Rago, C. Koch **F. Harnisch\***  
„Identification of *Clostridium cochlearium* as an electroactive microorganism from the mouse gut microbiome.”  
*Bioelectrochemistry* **130** (2019) art. 107334
102. L.F.M. Rosa, S. Hunger, T. Zschernitz, B. Strehlitz, **F. Harnisch\***  
„Integrating electrochemistry into bioreactors: effect of the upgrade kit on mass transfer, mixing time and sterilizability”  
*Frontiers in Energy Research* **7** (2019) 98 (11 pages)
103. C. Koch, K. J. Huber, B. Bunk, J. Overmann, **F. Harnisch\***  
„Trophic networks improve the performance of microbial anodes treating wastewater”  
*npj Biofilms Microbiomes* **5** (2019) art. 27 (9 pages)
104. T. Hübner\*, A. Hermann, J. Kretzschmar, **F. Harnisch**  
„Suitability of fecal sludge from composting toilets as feedstock for carbonization”  
*J. of Wat., San. and Hygiene f. Developm.* **9** (2019) 616-626
105. D.Y. Alvarez Esquivel<sup>†</sup>, Y. Guo<sup>†</sup>, R.K. Brown\*, S. Müller, U. Schröder, **F. Harnisch\***  
„Investigating community dynamics and performance during microbial electrochemical degradation of whey”  
*ChemElectroChem* **7** (2020) 989-997
106. J. C. Mayr<sup>†</sup>, L. F. M. Rosa<sup>†</sup>, N. Klinger, J.-H. Grosch, **F. Harnisch\***, A. C. Spiess\*  
“Response-surface-optimized and scaled-up microbial electrosynthesis of chiral alcohols”  
*ChemSusChem* **13** (2020) 1808-1816
107. B. Korth, J. Kretzschmar, M. Bartz, A. Kuchenbuch, **F. Harnisch\***  
„Determining incremental coulombic efficiency and physiological parameters of early stage *Geobacter* spp. enrichment biofilms”  
*PLOS One* **15** (2020) e0234077
108. C. Koch\*, A. Kuchenbuch, M. Marosvölgyi, K. Weisshart, **F. Harnisch\***  
„Label-Free Four-Dimensional Visualization of Anaerobically Growing Electroactive Biofilms”  
*Cytometry* **97** (2020) 737-741
109. B. Korth, A. Kuchenbuch, **F. Harnisch\***  
„Availability of Hydrogen Shapes the Microbial Abundance in Biofilm Anodes based on *Geobacter* Enrichment”  
*ChemElectroChem* **7** (2020) 3720-3724  
(Featured on Cover and with Author profile)
110. H. M. Fruehauf, F. Enzmann, **F. Harnisch**, R. Ulber, D. Holtmann\*  
„Microbial Electrosynthesis—An Inventory on Technology Readiness Level and Performance of Different Process Variants”  
*Biotechnology Journal* **15** (2020) art 2000066 (11 pages)

111. R. Hegner, K. Neubert, C. Kroner, D. Holtmann\*, **F. Harnisch\***  
„Coupled electrochemical and microbial catalysis for the production of polymer bricks”  
*ChemSusChem* **13** (2020) 5295–5300
112. Y. Guo, L.F.M. Rosa, S. Müller, **F. Harnisch\***  
„Monitoring stratification of anode biofilms in bioelectrochemical laminar flow reactors using flow cytometry”  
*Environmental Science and Ecotechnology* **4** (2020) art. 10062
113. T. D. Askitosari, C. Berger, T. Tiso, **F. Harnisch**, L. M. Blank, M. A. Rosenbaum\*  
„Coupling an electroactive *Pseudomonas putida* KT2440 with bioelectrochemical rhamnolipid production”  
*Microorganisms* **8** (2020) art. 1959
114. N. Pous, B. Korth, M. Osset-Álvarez, M. D. Balaguer, M.D., **F. Harnisch**, S. Puig\*  
„Electrifying biotrickling filters for the treatment of aquaponics wastewater”  
*Bioresource Technology* **319** (2021), art. 124221
115. L. Rago, D. Popp, J. T. Heiker., **F. Harnisch\***  
„Electroactive microorganisms in mouse feces”  
*Electrochimica Acta* **365** (2021) art. 137326
116. A. Ceballos-Escalera, N. Pous, P. Chiluiza-Ramos, B. Korth, **F. Harnisch**, L. Bañeras, M.D. Balaguer, S. Puig\*  
„Electro-bioremediation of nitrate and arsenite polluted groundwater”  
*Water Research* **190** (2021) art. 116748
117. J. Rodrigo Quejigo\*, B. Korth\*, A. Kuchenbuch, **F. Harnisch\***  
„Redox potential heterogeneity in fixed-bed electrodes leads to microbial stratification and inhomogeneous performance”  
*ChemSusChem* **14** (2021) 1155–1165
118. F. Scarabotti, L. Rago, K. Bühler, **F. Harnisch\***  
„The electrode potential determines the yield coefficients of early-stage *Geobacter sulfurreducens* biofilm anodes”  
*Bioelectrochemistry* **140** (2021) art. 107752
119. P. H. da Rosa Braun, T. Canuto de Almeida e Silva, J. Rodrigo Quejigo, A. Kuchenbuch, K. Rezwan, **F. Harnisch\***, M. Wilhelm\*  
„Impact of surface properties of porous SiOC-based materials on the performance of *Geobacter* biofilm anodes”  
*ChemElectroChem* **8** (2021) 850-857
120. S. Dai, B. Korth\*, C. Vogt, **F. Harnisch\***  
„Microbial electrochemical oxidation of anaerobic digestion effluent from treating HTC process water”  
*Frontiers in Chemical Engineering* **3** (2021) 652445
121. J. Kretzschmar\*, **F. Harnisch\***  
„Electrochemical impedance spectroscopy on biofilm electrodes – conclusive or euphonious?”  
*Current Opinion in Electrochemistry* **29** (2021) 100757
122. M. Tucci, C. Cruz Viggi, M. Resitano, B. Matturro, S. Crognale, I. Pietrini, S. Rossetti, **F. Harnisch**, F. Aulenta\*  
„Simultaneous removal of hydrocarbons and sulfate from groundwater using a “bioelectric well””  
*Electrochimica Acta* **388** (2021) 138636

123. D. Dzofou Ngoumelah, **F. Harnisch**, J. Kretzschmar\*  
„Benefits of age-Improved resistance of mature electroactive biofilm anodes in anaerobic digestion”  
*Environmental Science & Technology* **55** (2021) 8258-8266
124. **F. Harnisch\***, B. Korth  
„First settlers persist”  
*Joule* **5** (2021) 1316–1330
125. C. Santoro<sup>\*,†</sup>, S. Babanova<sup>†</sup>, P. Cristiani<sup>†</sup>, K. Artyushkova, P. Atanassov, A. Bergel, O. Bretschger, R. K. Brown, K. Carpenter, A. Colombo, R. Cortese, B. Erable, **F. Harnisch**, M. Kodali, S. Phadke, S. Riedl, L.F.M. Rosa, U. Schröder  
„How comparable are microbial electrochemical systems around the globe? An electrochemical and microbiological cross-laboratory study”  
*ChemSusChem* **14** (2021) 2313 – 2330  
(Featured on Cover and with Author profile)
126. B. Korth\*, C. Heberer, M. Normant-Saremba, T. Maskow, **F. Harnisch**  
„Precious data from tiny samples: Revealing the correlation between energy content and the chemical oxygen demand of municipal wastewater by micro-bomb combustion calorimetry”  
*Front. Energy Res.* **9** (2021) 705800
127. K. Neubert, M. Schmidt, **F. Harnisch\***  
„Platinized titanium as alternative cost-effective anodes for the efficient Kolbe electrolysis in aqueous electrolyte solutions”  
*ChemSusChem* **14** (2021) 3097 – 3109
128. **F. Harnisch\***, M. Chavez-Morejon  
„Hydrogen from water is more than a fuel: Hydrogenations and hydrodeoxygenations for a biobased economy”  
*The Chemical Record* **21** (2021) 2277–2289
129. K. Neubert, J. Kretzschmar, T. R. dos Santos Dantas, C. Härtig, **F. Harnisch\***  
„Making sense of gas measurements: quantification of multicomponent gas mixtures in biological and chemical laboratory experiments”  
*ChemText* **7** (2021) 21
130. F. Scarabotti, K. Bühler, M. Schmidt, **F. Harnisch\***  
„Thickness and roughness of transparent gold-palladium anodes have no impact on growth kinetics and yield coefficients of early-stage *Geobacter sulfurreducens* biofilms”  
*Bioelectrochemistry* **144** (2022) art. 108043
131. S. Dai, B. Korth\*, L. Schwab, F. Aulenta, C. Vogt, **F. Harnisch\***  
„Deciphering the fate of sulfate in one- and two-chamber bioelectrochemical systems”  
*Electrochimica Acta* **408** (2022) art. 139942
132. A. Kuchenbuch, R. Frank, J. Vazquez Ramos, H.-G. Jahnke, **F. Harnisch\***  
„Electrochemical microwell plate to study electroactive microorganisms in parallel and real-time”  
*Frontiers in Bioeng. and Biotechnology* **10** (2022) art. 821734

## Book Chapters

- 1. Electrochemical losses**  
U. Schröder & **F. Harnisch**  
In: Bio-electrochemical Systems: From extracellular electron transfer to biotechnological application, Edited by: K. Rabaey, L. Angenent, U. Schröder, J. Keller, 2010, IWA Publishing, ISBN:9781843392330
- 2. Chemically catalyzed cathodes in bioelectrochemical systems**  
R. A. Rozendal, **F. Harnisch**, A. W. Jermaisse & U.Schröder  
In: Bio-electrochemical Systems: From extracellular electron transfer to biotechnological application, Edited by: K. Rabaey, L. Angenent, U. Schröder, J. Keller, 2010, IWA Publishing, ISBN:9781843392330
- 3. Microbial fuel cells and bioelectrochemical systems: industrial and environmental biotechnologies based on extracellular electron transfer**  
**F. Harnisch**, F. Aulenta & U. Schröder  
In: Comprehensive Biotechnology (2<sup>nd</sup> Edition), Vol. 6, 643-659, Editor-in-Chief: Murray Moo-Young, 2011, ELSEVIER, Amsterdam, ISBN: 978-0-08-088504-9
  - a. Microbial Electrochemical Technologies: Industrial and Environmental Biotechnologies Based on Interactions of Microorganisms with Electrodes**  
C. Koch, F. Aulenta, U. Schröder & **F. Harnisch**  
In: Reference Module in Earth Systems and Environmental Sciences, Elsevier, Amsterdam, 2016, ISBN 9780124095489, <http://dx.doi.org/10.1016/B978-0-12-409548-9.09699-8>. (thoroughly revised version)
- 4. From Microbial Bioelectrocatalysis to Microbial Bioelectrochemical Systems**  
U. Schröder & **F. Harnisch**  
In: Advances in electrochemical Science and Engineering (Ed.: L. Kibler), Vol. XIV, Electrocatalysis: Theoretical Foundations and Model Experiments, Ed: C. Alkire, D.M. Kolb, L. Kipler, J. Lipkowski, WILEY-VCH, ISBN: 978-3-527-33227-4
- 5. Bioelectrochemical Systems**  
**F. Harnisch** & K.Rabaey  
In: Materials for Low-Temperature Fuel Cells (Eds.: B. Ladewig, S. P. Jiang and Y. Yan), Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, Germany, 2014, Print ISBN: 9783527330423,
- 6. Biofilms, electroactive**  
**F. Harnisch** & U. Schröder  
In: Encyclopedia of Applied Electrochemistry (Eds.: R. F. Savinell, K. Ota, G. Kreysa) Springer, Heidelberg, 2014
- 7. ~10 key words for Bioelectrochemistry**  
RÖMPP Chemielexikon (Biotechnologie und Gentechnik), Georg Thieme Verlag, since 2013
- 8. Electrification of Biotechnology: Status quo**  
**F. Harnisch** & D. Holtmann  
In: Harnisch, F., Holtmann, D. (eds.)  
Bioelectrosynthesis, Advances in Biochemical Engineering/Biotechnology 167  
Pages 1-14  
Springer Nature, Cham, 2019

**9. Reactors for Microbial Electrobiotechnology**

T. Krieg, J. Madjarov, L. F. M. Rosa, F. Enzmann, **F. Harnisch**, D. Holtmann, K. Rabaey  
In: Harnisch, F., Holtmann, D. (eds.)  
Bioelectrosynthesis, Advances in Biochemical Engineering/Biotechnology 167  
Springer Nature, Cham, 2019, 231-271

**10. Modeling Microbial Electrosynthesis**

B. Korth & **F. Harnisch**  
In: Harnisch, F., Holtmann, D. (eds.)  
Bioelectrosynthesis, Advances in Biochemical Engineering/Biotechnology 167  
Springer Nature, Cham, 2019, 273-325

**11. Electrification of Biotechnology: Quo vadis?**

D. Holtmann & **F. Harnisch**  
In: Harnisch, F., Holtmann, D. (eds.)  
Bioelectrosynthesis, Advances in Biochemical Engineering/Biotechnology 167  
Springer Nature, Cham, 2019, 395-411

**12. Electroautotrophs: feeding microbes with current for CO<sub>2</sub> fixation**

L. Rago & **F. Harnisch**  
In: Kourist, R., Schmidt, S. (eds.)  
The Autotrophic Biorefinery - Raw Materials from Biotechnology, DeGruyter, 2021,  
277-297



## Articles in German

- 1. Mikrobielle Bioelektrochemische Systeme: Energie aus Abwasser**  
**F. Harnisch**  
*Jahrbuch der Deutschen Bundesstiftung Umwelt* 2009 (1 Seite)
- 2. Eine Technologie im Aufbruch: Mikrobielle Brennstoffzellen und ihr Weg in die Anwendung**  
U. Schröder & **F. Harnisch**  
*LaborPraxis* August 2011 20-22
- 3. Mikroben unter Strom: Von der Abwasserreinigung zur Bioelektrotechnologie**  
M. A. Rosenbaum, U. Schröder, **F. Harnisch**  
*Biologie in unserer Zeit* 43 (2013) 96-103
- 4. Die Chemie bei Breaking Bad: Ein Chemiker als Serienprotagonist**  
**F. Harnisch** & T. Salthammer  
*Chemie in unserer Zeit* 47 (2013) 214 – 221  
(Featured on Cover)  
Published in English translation in *Chemistry Views Magazine*:  
**The Chemistry of Breaking Bad**  
DOI: 10.1002/chemv.201300114/
- 5. Die Elektrobiotechnologie in Deutschland nimmt Fahrt auf**  
**F. Harnisch**, D. Holtmann, M. Agler-Rosenbaum, U. Schröder  
*BIOspektrum* 20 (2014) 93-94
- 6. Die Chemie bei Breaking Bad: Entstehung einer Publikation und ihre Resonanz**  
T. Salthammer & **F. Harnisch**  
*Chemie in unserer Zeit* 48 (2014) 242–243
- 7. „Electrofuels“ – Elektrochemie als Werkzeug für nachhaltige Kraftstoffsynthesen**  
U. Schröder, T. R. dos Santos, P. Nilges, **F. Harnisch**  
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*

**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

**2022 (3)** - due to SARS-CoV-2 pandemic conferences except one were only online

**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 Elektrobiorefinerieren***

**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. SchröderGwangju, 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. ScholzTartu, 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)