

Personal data: 51 years (born 16-06-1964), Danish citizen, married, 2 daughters, 1 son
Work address: Marine Biological Section (MARS), Department of Biology, University of Copenhagen
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Education:

Year/date	Age	Degree
1992/ Dec 14	28	PhD (Microbiology), Univ. of Aarhus (mentors Bo Barker Jørgensen & Niels Peter Revsbech)
1988/ Nov 15	24	MSc (Biology), Univ. of Aarhus, Denmark (mentor Bo Barker Jørgensen)

Positions held (present positions in bold type):

Year	Age	Position
2011-2015	47	Visiting Professor, <i>Singapore Center for Environmental Life Sciences Engineering</i> , School of Biological Sciences, Nanyang Technological University (NTU), Singapore.
2010-present	46	Adjunct Professor in Microbial Ecology , <i>Plant Functional Biology and Climate Change Cluster</i> , Dept. of Environmental Sciences, University of Technology Sydney (UTS), Australia.
2006-2015		Deputy Head of Department (Research), Dept. of Biology, Univ. of Copenhagen.
Summer 2004		Visiting professor at the <i>Thermal Biology Institute</i> , Montana State Univ., Bozeman, USA.
2003-present	39	Professor in Aquatic Microbial Ecology , <i>Marine Biological Section</i> , Department of Biology, University of Copenhagen.
1998-2003	34	<i>Ole-Rømer-Fellow</i> at the Marine Biological Laboratory, Dept. of Biology, Univ. Copenhagen (A prestigious Danish Research Council research fellowship at the level of full professor).
1995-1998	31	Head of the <i>Microsensor Research Group</i> (equivalent to a German full professorship of category C3) at the Max-Planck-Institute for Marine Microbiology, Bremen, Germany.
1992-1995	28	Senior scientist and founder of the <i>Microsensor Research Group</i> at the Max-Planck-Institute for Marine Microbiology, Bremen, Germany.

Current research group: 3 post-doctoral scientists, 5 Ph.D. students (1 at UTS), 7 M.Sc. students, 1 technician. 2-3 international short-term visitors and exchange students each year.

Research interests: Ecology, biogeochemistry and photobiology of surface-associated microbial communities and symbioses; Development and application of microsensor and imaging techniques in microbial ecology and biogeochemistry; Microenvironmental controls of photosynthetic and respiratory processes; Biophotonics.

Research output: see also www.mbl.ku.dk/mkuhl/pages/publications.html & www.researcherid.com/rid/A-1977-2009 & <http://scholar.google.dk/citations?user=Nfg82gMAAAAJ&hl=da> & https://www.researchgate.net/profile/Michael_Kuehl2

A total of 232 publications (published or in press) from 1992-present, consisting of 212 papers in peer-reviewed journals, proceedings and books, 9 proceedings papers and reports, 1 edited book, and 10 popular science papers.

	<i>Web-of-Science</i>	<i>ResearcherID</i>	<i>Google Scholar</i>		<i>ResearchGate</i>
Citations	>6800	>7000	>10000		>8600
<i>H-index</i>	50	50	59	RG score	45.16
<i>m-index</i>	2.1	2.1	2.6	Impact points	825

15 publications in WoS with >100 citations; Lifetime average of >35 citations per article and >280 citations per year

Teaching:

- 1998-present: Undergraduate and graduate courses in marine biology, experimental ecology, plant ecophysiology, microbiology and microbial ecology at the University of Copenhagen.
- 2000-present: Organization & teaching of a biannual Ph.D. course on *Microsensor Techniques in Environmental Sciences* (most recent course: <http://www.mbl.ku.dk/mkuhl/microsensor2014/index.html>, next course in 2016).
- 2005-present: Organization & teaching of an annual international Ph.D. course: *Advanced Biofilm Course*
- Invited lecturer at Montana State Univ., Bozeman, USA (1999, 2004, 2006); Ph.D. course on *Medical Biofilm Techniques* (Technical Univ. of Denmark 2002, 2007-2009, 2011, 2012); the *European Science Foundation* summer school on *Nitrogen fixation in extreme environments* (Svalbard 2002); the *Advanced Environmental Microbiology* course (TU Delft 2004); *Summer Course on Environmental Life Sciences Engineering* (NTU 2012).

Funding: Since 1992, Michael Kühl has attracted external research funding for 4 EU projects, and for larger research projects funded by Danish (*FNU, FTP, Carlsberg* foundation, *Villum* foundation, *HTF*), Scandinavian (*NORFA/NordForsk*), American (*NSF, NASA*), Australian (*ARC*) and German (*DFG, BMBF, MPG*) funding agencies. Additional funding has been secured for advanced equipment, research logistics and PhD stipends. The total amount of funding for projects he has been involved in as PI or Co-PI, amounts to >130 million Danish Kr.

Prestigious personal awards:

Ole-Rømer Fellowship (1998, 7.5 mill DKr);
Sapere-Aude Advanced grant (2013, 11.2 mill DKr), both from the *Danish Council for Independent Research*.
Fellow of the Royal Danish Academy of Sciences and Letters (2006-)

Administration and research guidance:

- Founding scientist (1992-1995) and head of the *Microsensor Research Group* (1995-1998) at the MPI, responsible for the administration, supervision and coordination of a group of 25-30 scientists, technicians and students.
- **Supervision** of 15 postdocs, 6 PhD (+2 external PhD), 16 MSc, and 20 BSc students who have graduated.
1 PhD award for best thesis at Dept. Biology 2013, and **1 Faculty of Science award for best PhD thesis 2014**.
 Co-supervision of 2 Australian PhD students (1 listed among the 6 best theses in 2007, **1 awarded for best PhD thesis at UTS in 2009**).
- Member of the steering committee in 4 EU projects; Planning, coordination & participation in >30 field expeditions to Israel, USA, Mexico, Australia, several European countries and Greenland.
- Scientific **cruise leader on the Danish Galathea 3 expedition** (Leg: Ghana-South Africa, October 2006).
- Member of the advisory board of *Nordwest-Verbund Meeresforschung* an advisory group for the largest marine research institutes in northwestern Germany (incl. the *Max-Planck-Institut for Marine Microbiology*, the *Alfred-Wegener Institute for Polar Research*, and several large university centres og research institutes)
- Completed an extensive faculty training program in university management and leadership 2007/2008.
- **Deputy Head of Department (research)**, Department of Biology, Univ. Copenhagen (2006-2008; 2009-2015)
 Member of the Research Committee of the Faculty of Science, Univ. Copenhagen (2006-2008; 2009-2015).

International scientific network:

- A large international and interdisciplinary network of collaboration with colleagues in EU countries, Australia, Brazil, Greenland, Israel, New Zealand, Russia, Singapore, Swiss and USA.
- Currently **collaborator** (CI or Co-PI) on **2 Portuguese funded projects**, **2 French funded projects**, and **1 Australian funded project**.
- Coordinator of a **bilateral network activity** grant (2010) for developing scientific cooperation with Brazil (Univ. Federal Rio de Janeiro) on *Environmental studies of Brazilian wetlands in relation to climate change*.

Other science-related activities:

- Member of **Faculty of 1000/Biology**, and the technical expert group of **International Census of Marine Microbes**
- **30+ invited lectures** including: Opening keynote speaker at *Europt(r)ode XIII* (Graz, March 2016); Invited speaker 17th International Congress on Photosynthesis Research (Maastricht, August 2016); Invited speaker & chairman at *DMS Symposium 2014* (Copenhagen, November 2014); *Eurobiofilms 2013* (Gent, September 2013); *ISME 14* congress (Copenhagen, August 2012); *Dutch Microbiological Society Meeting* (Papendal, April 2012); *Eurobiofilms 2011* (Copenhagen, July 2011); Invited speaker at the *5th meeting of the European Working Group for Legionella Infections* (Copenhagen, September 2010); Invited speaker & chairman at *ISME 13* congress (Seattle, August 2010); Chairman & keynote speaker at the *10th Symposium on Aquatic Microbial Ecology* (Faro, 2007); Chairman & invited speaker at the *American Society of Microbiology, 4th ASM Conference on Biofilms* (Quebec, 2007).
- Organizer of mini-symposium on *Biofilm Ecology*, Helsingør 11/9 2003; *Advanced Biofilm Course*, UFZ Magdeburg 2005, 2010, 2014; TU Delft 2006, 2011, 2015; TU München 2007; MARS/UC 2008, 2013; KIT Karlsruhe 2012, 2016.
- **Member of organizing/program committee** of *Eurobiofilms 2011*, & *ISME 14*, Copenhagen 2012.
- **Assoc. Editor/Editorial board member** of *Marine Biology* (-2015); *Aquatic Biology* (-2015); *Geobiology* (-2008); *Environmental Microbiology*; *Frontiers in Marine Science – Coral Reef Research*;
- Reviewer for leading microbiology, aquatic ecology, and interdisciplinary journals, and for science councils in Ireland, Israel, UK, Hong Kong and USA.

Track record of some supervised students and postdocs:

Danish Research Council for Independent Research: Eliteforsk travel grant, PhD student Erik Trampe (2014); *Sapere-Aude starting grant*, postdoc Lars Behrendt (2013/14); *Steno-stipend*, postdoc Roland Thar (2001).
Carlsberg Foundation Distinguished postdoctoral fellow, postdoc Daniel Wangpraseurt (2015)
Industry: Mikkel Benthien (MSc 2002), area director *Rambøll Group*; Roland Thar (PhD 2001, postdoc 2001-6), CEO *Pyroscience GmbH*; Gerhard Holst (postdoc 1994-98), research director *PCO GmbH*; Karin Ulstrup (PhD 2007, postdoc 2008-9), senior consultant *DHI Group*; Lars F. Rickelt (PhD 2015), CEO *Sensor Aps*.
Academia: Dirk De Beer (postdoc 1995-98), group leader MPI Marine Microbiology; Ulrike Berninger (postdoc 1992-97), professor and dean Univ. Innsbruck; Ferran Garcia-Pichel (postdoc 1993-1998), professor and dean Arizona State Univ.; Ulf Karsten (postdoc 1993-95), professor Univ. Rostock; Ingo Klimant (postdoc 1994-95), professor TU Graz;

Publications (1992-present):

Published and *In Press*/Online peer reviewed publications appear in blue.

Popular Science publications are marked with (*). ISI Journal Impact factors 2014 are given in brackets

2016 (12 published or in press/online + 8 submitted/under revision)

Brodersen, K. E., Koren, K., Lichtenberg, M., and **Kühl, M.** (2016) pH and O₂ microdynamics in the rhizosphere of *Zostera marina* L. determined via optical nanoparticle-based sensors: Effects of temperature elevation and light-dark transitions. *Plant Cell & Environment* [IF 6.960]

Cartaxana, P., Ribeiro, L., Gössling, J., Cruz, S., and **Kühl, M.** (2016) Light and O₂ microenvironments in two contrasting diatom-dominated coastal sediments. (IN PRESS), *Marine Ecology Progress Series* [IF 2.619]

Cartaxana, P., Cruz, S., Gameiro, C., and **Kühl, M.** Regulation of intertidal microphytobenthos photosynthesis over a diel emersion period is strongly affected by diatom migration patterns. (SUBMITTED), *Frontiers in Microbiology*

Chan, N. C. S., Wangpraseurt, D., **Kühl, M.**, and Connolly, S. (2016) Flow and coral morphology control coral surface pH: Implications for the effects of ocean acidification. *Frontiers in Marine Science* 3:10 [IF pending]

Goessling, J. W., Cartaxana, P., and **Kühl, M.** (2016) Photo-protection in the centric diatom *Coscinodiscus granii* is not controlled by chloroplast high-light avoidance movement. *Frontiers in Marine Science* 2:115. doi: 10.3389/fmars.2015.00115 [IF pending]

Hansen, P. J., Ojamae, K., Berge, T., Trampe, E., Nielsen, L. T., Lips, I., and **Kühl, M.** Photoregulation in a kleptochloroplastidic dinoflagellate, *Dinophysis acuta* (SUBMITTED), *Frontiers of Microbiology*

Klotz, M. G., Bryant, D. A., Fredrickson, J. K., Inskeep, W. P., and **Kühl, M.** (eds.) (2016) Systems biology and ecology of microbial mat communities. Frontiers Research Topic Ebook. ISBN: 978-2-88919-793-4. Frontiers Media SA, Lausanne, 262 pp.

Klotz, M. G., Bryant, D. A., Fredrickson, J. K., Inskeep, W. P., and **Kühl, M.** (2016) Editorial: Systems biology and ecology of microbial mat communities. *Frontiers in Microbiology* 7:115 [IF 3.989]

Kolpen, M., Mousavi, N., Sams, T., Bjarnsholt, T., Ciofu, O., Moser, C., **Kühl, M.**, Høiby, N., and Jensen, P. Ø. (2016) Reinforcement of the bactericidal effect of ciprofloxacin on *Pseudomonas aeruginosa* biofilm by hyperbaric oxygen treatment *International Journal of Antimicrobial Agents* 47: 163–167 [IF 4.296]

Koren, K., Jakobsen, S. L., and **Kühl, M.** *In-vivo* imaging of O₂ dynamics on coral surfaces spray-painted with sensor nanoparticles (SUBMITTED), *Sensors and Actuators B*

Koren, K., Jensen, P. Ø., and **Kühl, M.** A rechargeable optical hydrogen peroxide sensor for H₂O₂ concentration profiling and quantitative biomedical analysis (SUBMITTED), *Analyst*

Koren, K., **Kühl, M.** Chemical imaging in the classroom using optical sensors. (SUBMITTED), *Journal of Chemical Education*

Lichtenberg, M., Larkum, A. W. D., and **Kühl, M.** (2016) Photosynthetic acclimation of *Symbiodinium in hospite* depends on vertical position in the tissue of the scleractinian coral *Montastrea curta*. *Frontiers in Microbiology* 7: 230. doi: 10.3389/fmicb.2016.00230 [IF 3.989]

Lyndby, N. H., **Kühl, M.**, and Wangpraseurt, D. (2016) Heat generation and light scattering of green fluorescent protein-like pigments in coral tissue. *Scientific Reports* [IF 5.578] (ACCEPTED)

Mosshammer, M., Strobl, M., **Kühl, M.**, Klimant, I., Borisov, S., and Koren, K. (2016) Design and application of an optical sensor for simultaneous imaging of pH and O₂ with low cross-talk. *ACS Sensors* [IF pending]

Revsbech, N. P., Trampe, E., Lichtenberg, E., Ward, D. M., and **Kühl, M.** *In situ* hydrogen dynamics in a hot spring microbial mat during a diel cycle. (SUBMITTED), *Applied and Environmental Microbiology*

Rickelt, L. F., Lichtenberg, M., Trampe, E., and **Kühl, M.** (2016) Fiber-optic probes for small scale measurements of scalar irradiance. *Photochemistry and Photobiology* 92: 331–342. [IF 2.266]

Trampe E., Larsen, J.E.N., Glaring, M. A., Stougaard, P and **Kühl, M.** (2016) *In situ* dynamics of O₂, pH, light and photosynthesis in ikaite tufa columns (Ikka Fjord, Greenland). *Frontiers in Microbiology* [IF 3.989]

Wangpraseurt, D., Jacques, S. L., Petrieb, T., and **Kühl, M.** Monte Carlo simulation of coral tissue light scattering and implications for the ecophysiology of coral microalgae (SUBMITTED), *Frontiers in Plant Science*

Wangpraseurt, D., Pernice, M., Guagliardo, P., Kilburn, M. R., Clode, P. L., Polerecky, L., and **Kühl, M.** (2016) Light microenvironment and single-cell gradients of carbon fixation in tissues of symbiont-bearing corals. *ISME Journal* 10: 788–792; doi:10.1038/ismej.2015.133 [IF 9.302]

2015 (15)

Becraft, E. D., Wood, J. M., Rusch, D. B., **Kühl, M.**, Jensen, S. I., Bryant, D. A., Roberts, D. W., Cohan, F. M., and Ward, D. M. (2015). The molecular dimension of microbial species: 1. Ecological distinctions among, and homogeneity within, putative ecotypes of *Synechococcus* inhabiting the cyanobacterial mat of Mushroom Spring, Yellowstone National Park. *Frontiers in Microbiology* 6: 590 [IF 3.989]

Behrendt, L., Brejnrod, A., Schliep, M., Sørensen, S. J., Larkum, A. W. D., and **Kühl, M.** (2015) Chlorophyll *f*-driven photosynthesis in a cavernous cyanobacterium *ISME Journal* 9: 2108–2111 [IF 9.302]

Brodersen, K. E., Nielsen, D. A., Ralph, P. J., and **Kühl, M.** (2015) Oxic microshield and local pH enhancement protects *Zostera muelleri* from sediment derived hydrogen sulphide. *New Phytologist* 205: 1264–1276. doi:10.1111/nph.13124 [IF 7.672]

Brodersen, K. E., Lichtenberg, M., Paz, L.-C., and **Kühl, M.** (2015) Epiphyte-cover on seagrass (*Zostera marina* L.) leaves impedes plant performance and radial O₂ loss from the below-ground tissue *Frontiers in Marine Science* 2: 58 [IF pending]

Każmierczak, J., Fenchel, T., **Kühl, M.**, Kempe, S., Kremer, B., Łącka, B., and Małkowski, K. (2015) CaCO₃ precipitation in multilayered cyanobacterial mats: clues to explain the alternation of micrite and sparite layers in calcareous stromatolites. *Life* 5: 744-769 [IF pending]

Kim, Y.-M., Nowack, S., Olsen, M., Becraft, E., Wood, J. M., Thiel, V., Klapper, I., **Kühl, M.**, Bryant, D. A., Fredrickson, J. K., Ward, D. M., and Metz, T. O. (2015) Diel metabolomics analysis of a hot spring chlorophototrophic microbial mat leads to new hypotheses of community member metabolisms. *Frontiers of Microbiology* 6: 209 [IF 3.989]

Kolpen, M., Kragh, K. N., Bjarsholt, T., Hansen, C. R., Dalbøge, C. S., Hansen, N., **Kühl, M.**, Højby, N., and Jensen, P. Ø. (2015) Denitrification by cystic fibrosis pathogens - *Stenotrophomonas maltophilia* is dormant in sputum. *International Journal of Medical Microbiology* 305: 1-10. [IF 3.614]

Koren, K., and **Kühl, M.** (2015) A simple laminated paper-based sensor for temperature sensing and imaging. *Sensors and Actuators B* 210: 124-128 [IF 4.097]

Koren, K., Brodersen, K. E., Jakobsen, S. L., and **Kühl, M.** (2015) Optical sensor nanoparticles in artificial sediments – a new tool to visualize O₂ dynamics around the rhizome and roots of seagrasses. *Environmental Science and Technology* 49: 2286–2292 [IF 5.330]

Lichtenberg, M., and **Kühl, M.** (2015) Pronounced gradients of light, photosynthesis and O₂ consumption in the tissue of the brown alga *Fucus serratus*. *New Phytologist* 207: 559-569 [IF 7.672]

Nielsen, D. A., Pernice, M., Schliep, M., **Kühl, M.**, Wangpraseurt, D., Jeffries, T., Sablok, G., Ralph, P. J., and Larkum, A. W. D. (2015) Microenvironment and phylogenetic diversity of *Prochloron* inhabiting the surface of crustose didemnid ascidians. *Environmental Microbiology* [IF 6.201]

Nielsen, M., Revsbech, N. P., and **Kühl, M.** (2015) Microsensor measurements of hydrogen gas dynamics in cyanobacterial microbial mats (2015) *Frontiers in Microbiology* 6:726 [IF 3.989]

Rickelt, L. F., Ottosen, L. D., and **Kühl, M.** (2015) Etching of multimode optical glass fibers: A new method for shaping the measuring tip and immobilization of indicator dyes in recessed fiber-optic microprobes. *Sensors and Actuators B* 211:462-468 [IF 4.097]

Rickelt, L. F., Lichtenberg, M., Trampe, E. C. L., **Kühl, M.** (2016) Fiber-optic probes for small scale measurements of scalar irradiance. *Photochemistry & Photobiology* (IN PRESS) [IF 2.266]

Trampe, E., Hansen, P. J., and **Kühl, M.** (2015) A comparison of photosynthesis measurements by O₂ evolution, ¹⁴C assimilation and variable chlorophyll fluorescence during light acclimatization of the diatom *Coscinodiscus granii*. *Algae* 30: 103-119 [IF pending]

2014 (18)

Al-Najjar, M. A. A., Ramette, A., **Kühl, M.**, Hamza, W., Klatt, J. M., de Beer, D., and Polerecky, L. (2014) Spatial patterns and links between structure and function in photosynthetic cyanobacterial mats. *Frontiers in Microbiology* 5: 406 [IF 3.989]

Behrendt, L., Nielsen, J. L., Sørensen, S. J., Larkum, A. W. D., Winther, J. R., and **Kühl, M.** (2014) Rapid TaqMan-based quantification of chlorophyll *d*-containing cyanobacteria in the genus *Acaryochloris*. *Applied and Environmental Microbiology* 80: 3244-3249 [IF 3.668].

Brodersen, K. E., Lichtenberg, M., Ralph, P. J., **Kühl, M.**, and Wangpraseurt, D. (2014) Radiative energy budget reveals high photosynthetic efficiency in symbiont-bearing corals. *Journal of the Royal Society Interface* 11(9): 20130997 doi: 10.1098/rsif.2013.0997 [IF 3.917]

Brodersen, K. E., Nielsen, D. A., Ralph, P. J., and **Kühl, M.** (2014) A split flow-chamber with artificial sediment to examine the below-ground microenvironment of aquatic macrophytes. *Marine Biology* 161: 2921-2930 [IF 2.391]

Kolpen, M., **Kühl, M.**, Bjarsholt, T., Moser, C. Hansen, C. R., Liengaard, L., Kharazmi, A., Pressler, T., Højby, N., and Jensen, P. Ø. (2014) Nitrous oxide production in sputum from cystic fibrosis patients with chronic *Pseudomonas aeruginosa* lung infection. *PLoS ONE* 9(1): e84353. doi:10.1371/journal.pone.0084353 [IF 3.234]

Kolpen, M., Bjarsholt, T., Moser, C. Hansen, C. R., Rickelt, L. F., **Kühl, M.**, Hempel, C., Pressler, T., Højby, N., and Jensen, P. Ø. (2014) Nitric oxide production by polymorphonuclear leukocytes in infected cystic fibrosis sputum consumes oxygen. *Clinical and Experimental Immunology* 177: 310–319 [IF 3.037]

Kragh, K. N., Alhede, M., Jensen, P. Ø., Moser, C., Jacobsen, C. S., Seier, S., Eickhardt, S., Trøstrup, H., Christoffersen, L., Hougen, H.-P., Rickelt, L. F., **Kühl, M.**, Højby, N., and Bjarsholt, T. (2014) Polymorphonuclear leukocytes restrict the growth of *Pseudomonas aeruginosa* in lungs of cystic fibrosis patients. *Infection and Immunity* 82: 4477-4486 [IF 3.731]

Li, R., Pedersen, K. S., Liu, Y., Pedersen, H. S., Lægdsmand, M., Rickelt, L. F., **Kühl, M.**, and Callesen, H. (2014) Effect of red light on development and quality of mammalian embryos. *Journal of Assisted Reproduction and Genetics* 31: 795-801 [IF 1.718] COVER STORY

Liengaard, L., Figueiredo, V., Markfoged, R., Revsbech, N. P., Nielsen, L. P., Prast, A. H., and **Kühl, M.** (2014) Hot moments in tropical wetland soil: Production, consumption and emission of N₂O in soil cores from the Pantanal and the Amazon. *Soil Biology and Biochemistry* 75: 26-36 [IF 3.932]

Line, L., Alhede, M., Kolpen, M., **Kühl, M.**, Ciofu, O., Bjarsholt, T., Moser, C., Toyofuku, M., Nomura, N., Højby, N., and Jensen, P. Ø. (2014) Physiological levels of nitrate support anoxic growth by denitrification of *Pseudomonas aeruginosa* at growth rates reported in cystic fibrosis lungs and sputum. *Frontiers in Microbiology* 5: 554. doi: 10.3389/fmicb.2014.00554 [IF 3.989]

Petrou, K., Trimborn, S., **Kühl, M.**, and Ralph, P. J. (2014) Desiccation stress in two intertidal beachrock biofilms. *Marine Biology* 161: 1765-1773 [IF 2.391]

Schrameyer, V., Wangpraseurt, D., Hill, R., **Kühl, M.**, Larkum, A. W. D., and Ralph, P. J. (2014) Light respiratory processes and gross photosynthesis in two scleractinian corals. *PLoS ONE* 9(10): e110814. doi:10.1371/journal.pone.0110814 [IF 3.234]

Sinutok, S., Hill, R., **Kühl, M.**, Doblin, M. A., and Ralph, P. J. (2014) Ocean acidification and warming alter photosynthesis and calcification of the symbiont-bearing foraminifera *Marginopora vertebralis* *Marine Biology* 161: 2143-2154 [IF 2.391]

Szabó, M., Wangpraseurt, D., Tamburic, B., Larkum, A. W. D., Sugget, D., **Kühl, M.**, and Ralph, P. J. (2014) Effective light absorption and absolute electron transport rates in the coral *Pocillopora damicornis*. *Plant Physiology and Biochemistry* 83: 159-167 [IF 2.756]

Wangpraseurt, D., Larkum, A. W. D., Franklin, J., Szabo, M., Ralph, P. J., and **Kühl, M.** (2014) Lateral light transfer ensures efficient resource distribution in symbiont-bearing corals. *Journal of Experimental Biology* 217: 489-498. doi: 10.1242/jeb.091116 [IF 2.897] COVER STORY

Wangpraseurt, D., Polerecky, L., Larkum, A. W. D., Ralph, P. J., Nielsen, D. A., Pernice, M., and **Kühl, M.** (2014) The *in situ* light microenvironment of corals. *Limnology and Oceanography* 59: 917-926 [IF 3.794]

Wangpraseurt, D., Tamburic, B., Szabó, M., Suggett, D., Ralph, P. J., and **Kühl, M.** Spectral effects on *Symbiodinium* photobiology studied with a programmable light engine *PLoS ONE* 9: e112809. doi:10.1371/journal.pone.0112809 [IF 3.234]

Wangpraseurt, D., and **Kühl, M.** (2014) Direct and diffuse light propagation through coral tissue. *Proc. SPIE 8941*, Optical Interactions with Tissue and Cells XXV; Terahertz for Biomedical Applications, 894117 (February 26, 2014); doi:10.1117/12.2038339

2013 (8)

Behrendt, L., Staal, M., Cristescu, S. M., Harren, F. J. M., Schliep, M., Larkum, A. W. D., and **Kühl, M.** (2013) Reactive oxygen production induced by visible and near-infrared radiation in chlorophyll *d* containing cyanobacteria [v2; ref status: indexed, http://f1000r.es/z7]. *F1000 Research* 2:44 (doi: 10.12688/f1000research.2-44.v2) [IF pending]

Bjarnsholt, T., Alhede, M., Alhede, M., Eickhardt-Sørensen, S. R., Moser, C., **Kühl, M.**, Jensen, P. Ø., and Høiby, N. (2013) The *in vivo* biofilm. *Trends in Microbiology* 21: 466-474 [IF 9.186] COVER STORY

Elberling, B., **Kühl, M.**, Glud, R. N., Jørgensen, C. J., Askaer, L., Rickelt, L. F., Joensen, H. P., Larsen, M., and Liengaard, L. (2013) Methods to assess high-resolution subsurface gas concentrations and gas fluxes in wetland ecosystems. In: R.D. DeLaune, K.R. Reddy, C.J. Richardson, and J.P. Megonigal (Eds.), *Methods in Biogeochemistry of Wetlands*. Soil Science Society of America Inc., Madison, pp. 949-966.

Jakobsen, T. H., Hansen, M. A., Jensen, P. Ø., Hansen, L., Riber, L., Cockburn, A., Kolpen, M., Hansen, C. R., Eickhardt, S., Hansen, M., Kerpedjiev, P., Alhede, M., Qvortrup, K., Burmølle, M., Moser, C., **Kühl, M.**, Ciofu, O., Givskov, M., Sørensen, S. J., Høiby, N., and Bjarnsholt, T. (2013) Complete genome sequence of the cystic fibrosis pathogen *Achromobacter xylosoxidans* NH44784-1996 complies with important pathogenic phenotypes. *PLoS ONE* 8(7): e68484 [IF 3.234]

Klatt, C. G., Liu, Z., Ludwig, M., **Kühl, M.**, Jensen, S. I., Bryant, D. A., and Ward, D. M. (2013) Temporal metatranscriptomic patterning in phototrophic chloroflexi inhabiting a microbial mat in a geothermal spring. *ISME Journal* 7: 1775-1789 [IF 9.302]

Li, Y., Larkum, A. W. D., Schliep, M., **Kühl, M.**, Neilan, B., and Chen, M. (2013) Newly isolated Chl *d*-containing cyanobacteria. In Kuang, T., Lu, C., & Zhang, L. [Eds.] *Photosynthesis Research for Food, Fuel and the Future: Proceedings of the 15th International Congress on Photosynthesis*. August 22-23, Beijing, China. Zhejiang University Press, Springer-Verlag GmbH (ISBN: 978-3-642-32033-0), pp. 686-90.

Liengaard, L., Nielsen L. P., Revsbech, N. P., Elberling, B., Priemé, A., Prast, A. E., and **Kühl, M.** (2013) Extreme emission of N₂O from tropical wetland soil (Pantanal, South America). *Frontiers in Microbiology* 3:433. (doi: 10.3389/fmicb.2012.00433) [IF 3.989]

Rickelt, L. F., Askaer, L., Walpersdorf, E., Elberling, B., Glud, R. N., and **Kühl, M.** (2013) An optode sensor array for long term *in situ* measurements of O₂ in soil and sediment. (2013) *Journal of Environmental Quality* 42: 1267-1273 [IF 2.345]

2012 (14)

Al-Najjar, M. A. A., de Beer, D., **Kühl, M.**, and Polerecky, L. (2012) Light utilization efficiency in photosynthetic microbial mats. *Environmental Microbiology* 14: 982-992 [IF 6.201]

Behrendt, L., Larkum, A. W. D., Trampe, E., Norman, A., Sørensen, S. J., and **Kühl, M.** (2012) Microbial diversity of biofilm communities in microniches associated with the didemnid ascidian *Lissoclinum patella*. *ISME Journal* 6: 1222-1237 [IF 9.302]

Behrendt, L., Schrameyer, V., Qvortrup, K., Lundin, L., Sørensen, S. J., Larkum, A. W. D., and **Kühl, M.** (2012) Biofilm growth and near infrared radiation-driven photosynthesis of the chlorophyll *d*-containing cyanobacterium *Acaryochloris marina*. *Applied and Environmental Microbiology* 78: 3896-3904 [IF 3.668] COVER STORY

Fabricius-Dyg, J., Mistlberger, G., Staal, M., Borisov, S., Klimant, I., and **Kühl, M.** (2012) Imaging of surface O₂ dynamics in corals with magnetic micro optode particles. *Marine Biology* 159: 1621-1631 [IF 2.391]

Huusgaard, R. S., Vismann, B., **Kühl, M.**, Macnaughton, M., Colmander, V., Rouse, G., Glover, A. G., Dahlgren T., and Worsaae, K. (2012) The potent respiratory system of *Osedax mucofloris* (Siboglinidae, Annelida) - a prerequisite for the origin of bone-eating *Osedax*? *PLoS ONE* 7(4): e35975. doi:10.1371/journal.pone.0035975 [IF 3.234]

Jimenez, I. M., Larkum, A. W. D., Ralph, P. J., and **Kühl, M.** (2012) Thermal effects of tissue optics in symbiont-bearing reef building corals. *Limnology and Oceanography* 57: 1816-1825 [IF 3.794]

Jimenez, I. M., Larkum, A. W. D., Ralph, P. J., and **Kühl, M.** (2012) *In situ* thermal dynamics of shallow water corals is affected by tidal patterns and irradiance. *Marine Biology* 159:1773-1782 [IF 2.391]

Jokic, T., Borisov, S. M., Saf, R., Nielsen, D., **Kühl, M.**, and Klimant, I. (2012) Near-infrared fluorescent pH indicators and sensors based on BF₂-chelated tetraarylazadiopyromethene dyes. *Analytical Chemistry* 84: 6723–6730 [IF 5.636]

Kühl, M., Behrendt, L., Trampe, E., Qvortrup, K., Borisov S. M., Klimant, I., Schreiber, U., and Larkum, A. W. D. (2012) Microenvironmental ecology of the chlorophyll *b*-containing symbiotic cyanobacterium *Prochloron* in the didemnid ascidian *Lissoclinum patella*. *Frontiers in Microbiology* 3:402. (doi: 10.3389/fmicb.2012.00402) [IF 3.989]

Larkum, A. W. D., Salih, A., Trampe, E., and **Kühl, M.** (2012) A novel epiphytic chlorophyll *d*-containing cyanobacterium isolated from mangrove-associated red algae. *Journal of Phycology* 48: 1320–1327 [IF 2.844]

Liu, Z., Klatt, C. G., Ludwig, M., Rusch, D. B., Jensen, S. I., **Kühl, M.**, Ward, D. M., and Bryant, D. A. (2012) *Candidatus* Thermochlorobacter aerophilum: an aerobic chlorophototrophic member of the phylum Chlorobi. *ISME Journal* 6: 1869–1882 [IF 9.302]

Prest, E. I., Staal, M., **Kühl, M.**, van Loosdrecht, M. C. M., and Vrouwenvelder, J. S. (2012) Quantitative measurement and visualization of biofilm O₂ consumption rates in membrane reactor systems. *Journal of Membrane Science* 392–393: 66–75 [IF 5.056]

Sinutok, S., Hill, R., Doblin, M. A., **Kühl, M.**, and Ralph, P. J. (2012) Microenvironmental changes support evidence of photosynthesis and calcification inhibition in *Halimeda* under ocean acidification and warming. *Coral Reefs* 31:1201–1213 [IF 3.324]

Wangpraseurt, D., Larkum, A. W. D., Ralph, P. J., and **Kühl, M.** (2012) Light gradients and optical microniches in coral tissues. *Frontiers in Microbiology* 3: 316 (doi: 10.3389/fmicb.2012.00316) [IF 3.989]

2011 (16)

Becraft, E., Cohan, F., **Kühl, M.**, Jensen S. I., and Ward, D. M. (2011) Fine-scale distribution patterns of *Synechococcus* ecological diversity in the microbial mat of Mushroom Spring, Yellowstone National Park. *Applied and Environmental Microbiology* 77: 7689–7697. [IF 3.668]

Behrendt, L., Larkum, A. W. D., Norman, A., Qvortrup, K., Chen, M., Ralph, P. J., Sørensen, S. J., Trampe, T., and **Kühl, M.** (2011) Endolithic chlorophyll *d*-containing phototrophs. *ISME Journal* 5: 1072–1076 [IF 9.302]

Cooper, T. F., Ulstrup, K. E., Dandan, S. S., Heyward, A., **Kühl, M.**, Muirhead, A., O'Leary, R., Ziersen, B and van Oppen, M. J. H. (2011). Niche specialisation of reef-building corals in the mesophotic zone: metabolic trade-offs between divergent *Symbiodinium* types. *Proceedings of the Royal Society. London B* 278: 1840–1850 [IF 5.051]

Elberling, B., Askaer L, Jørgensen, C. J., Joensen, H. P., **Kühl, M.**, Glud, R. N., and Lauritsen, F. R. (2011) Linking soil O₂, CO₂ and CH₄ concentrations in a wetland soil: implications for CO₂ and CH₄ fluxes. *Environmental Science & Technology* 45: 3393–3399 [IF 5.330]

Hansen, M. O., Buchardt, B., **Kühl, M.**, and Elberling, B. (2011) The fate of the submarine ikaite tufa columns in southwest Greenland under changing climate conditions. *Journal of Sedimentary Research* 81: 553–561 [IF 1.943]

Jensen, S. I., Steunou, A.-S., Bhaya, D., **Kühl, M.**, and Grossman, A. R (2011). *In situ* dynamics of O₂, pH and cyanobacterial transcripts associated with CCM, photosynthesis and detoxification of ROS. *ISME Journal* 5: 317–328. [IF 9.302]

Jimenez, I. M., **Kühl, M.**, Larkum, A. W. D., and Ralph, P. J. (2011) Effects of flow and colony morphology on the thermal boundary layer of corals. *Journal of the Royal Society Interface* 8: 1785–1795. [IF 3.917]

Kaniewska, P., Magnusson, S. H., Anthony, K. R. N., Reef, R., **Kühl, M.**, and Hoegh-Guldberg, O. (2011) The importance of macro versus micro structure in modulating irradiance inside coral colonies. *Journal of Phycology* 47: 846–860 [IF 2.844]

Klatt, C. G., Wood, J. M., Rusch, D. B., Bateson, M. M., Heidelberg, J. F., Grossman, A. R., Bhaya, D., Cohan, F. M., **Kühl, M.**, Bryant, D. A., and Ward, D. M. (2011) Community ecology of hot spring cyanobacterial mats: predominant populations and their functional potential. *ISME Journal* 5:1262–1278 [IF 9.302]

Kolpen, M., **Kühl, M.**, Bjarnsholt, T., Moser, C., Hansen, C. R., Liengaard, L., Pressler, T., Høiby, N., and Jensen, P. Ø. (2011) N₂O production in sputum from chronically infected cystic fibrosis patients. *Pediatric Pulmonology* Supplement: 34: 316. [IF 2.297]

Kühl, M. (2011) New insights into Mediterranean cold seep ecosystems - Editorial Comment on the feature article by Ritt et al. *Marine Biology* 158: 1185 [IF 2.391]

Larkum, A. W. D., Salih, A., and **Kühl, M.** (2011) Rapid mass movement of chloroplasts during segment formation of the calcifying siphoncean green alga, *Halimeda macroloba*. *PLoS ONE* 6(7): e20841. doi:10.1371/journal.pone.0020841 [IF 3.234]

Staal, M., Borisov, S., Rickelt, L. F., Klimant, I., and **Kühl, M.** (2011) Ultrabright planar optodes for luminescence life-time based microscopic imaging of O₂ dynamics in biofilms. *Journal of Microbiological Methods* 85: 67–74 [IF 2.026]

Staal, M., Prest, E., Vrouwenvelder, H., Rickelt, L. F., and **Kühl, M.** (2011) A simple optode based imaging technique to measure O₂ distribution and dynamics in tap water biofilms. *Water Research* 45: 5027–5037 [IF 5.528]

Trampe, E., Kolbowski, J., Schreiber, U., and **Kühl, M.** (2011) Rapid assessment of different oxygenic phototrophs and single cell photosynthesis with multicolour variable chlorophyll fluorescence imaging. *Marine Biology* 158:1667–1675 [IF 2.391]

Ulstrup, K. E., **Kühl, M.**, van Oppen, M. J. H., Cooper, T. F., and Ralph, P. J. (2011) Variation in photosynthesis and respiration in geographically distinct populations of two reef-building coral species. *Aquatic Biology* 12:241–248 [IF 1.258]

2010 (5)

Al-Najjar, M., de Beer, D., Jørgensen, B. B., **Kühl, M.**, and Polerecky, L. (2010) Conversion and conservation of light energy in a photosynthetic microbial mat ecosystem. *ISME Journal* 4: 440–449. [IF 9.302]

Andersen, S. B., Vestergaard, M. L., Ainsworth, T. D., Hoegh-Guldberg, O. and **Kühl, M.** (2010) Acute tissue death (white syndrome) affects the microenvironment of tabular *Acropora* corals. *Aquatic Biology* 10: 99–104 [IF 1.258]

Askaer, L., Elberling, B., Glud, R. N., **Kühl, M.**, Lauritsen, F. R., and Joensen, H. P. (2010) Soil heterogeneity effects on O₂ distribution and CH₄ emissions from wetlands: *In situ* and mesocosm studies with planar O₂ optodes and membrane inlet mass spectrometry. *Soil Biology and Biochemistry* 42:2254-2265 [IF 3.932]

Kolpen, M., Bjarnsholt, T., Moser, C., Hansen, C. R., **Kühl, M.**, Højby, N., and Jensen, P. Ø. (2010) Nitric oxide production by polymorphonuclear leukocytes in sputum from cystic fibrosis patients with chronic lung infection. *Journal of Cystic Fibrosis* 9, Supplement 1: S49. [IF 3.820]

Spilling, K., Greve, T. M., Titelman, J., and **Kühl, M.** (2010) Microsensor measurements of the external and internal microenvironment of *Fucus vesiculosus* (Phaeophyceae) *Journal of Phycology* 46: 1350-1355 [IF 2.844]

2009 (3)

Cooper, T. F., Ulstrup, K. E., Dandan, S. S., Roger, L., van Oppen, M. J. H., Heyward, A. and **Kühl, M.** (2009) Characterising the physiological patterns of photoacclimation of deep water reef building corals at Scott Reef, Western Australia. Preliminary report on photobiology. Report to the Browse Joint Venture Partners. Australian Institute of Marine Science, Perth Western Australia, 30 pp.

Cooper, T. F., Dandan, S. S., Heyward, A., **Kühl, M.**, McKinney, D. W., O'Leary R., Ulstrup, K. E., van Oppen, M. J. H., and Ziersen B. (2009) Characterising the genetic connectivity and photobiology of deep water reef building corals at Scott Reef, Western Australia. Report to the Browse Joint Venture Partners. Australian Institute of Marine Science, Perth Western Australia, 78 pp.

Glud, R. N., Woelfel, J., Karsten, U., **Kühl, M.** and Rysgaard, S. (2009) Benthic microalgal production in the Arctic: Status of the current database. *Botanica Marina* 52: 559-571. [IF 1.402]

2008 (7)

D'Imperio, S., Lehr, C. R., Oduro, H., Druschel, G., **Kühl, M.** and McDermott, T. R. (2008) The relative importance of H₂ and H₂S as energy sources for primary production in geothermal springs. *Applied and Environmental Microbiology* 74: 5802-5808. [IF 3.668]

Jimenez, I. M., **Kühl, M.**, Larkum, A. W. D., and Ralph, P. (2008) Heat budget and thermal microenvironment of shallow-water corals: Do massive corals get warmer than branching corals? *Limnology and Oceanography* 53: 1548-1561. [IF 3.794]

Kühl, M., Holst, G., Larkum, A. W. D., and Ralph, P. J. (2008) Imaging of oxygen dynamics within the endolithic algal community of the massive coral *Porites lobata* (Dana). *Journal of Phycology* 44: 541-550. [IF 2.844]

Kühl, M., and Polerecky, L. (2008) Functional and structural imaging of aquatic phototrophic microbial communities and symbioses. *Aquatic Microbial Ecology* 53: 99-118. [IF 1.967]

(*) **Kühl, M.** (2008) Togtben 6. Fra Accra til Cape Town 3.-18. oktober 2006 (Danish) In: Galathea 3, 2006-2007. Dansk Ekspeditionsfond, Thanning & Appel, pp. 61-68.

Steunou, A.-S., Jensen, S. I., Brecht, E., Becraft, E. D., Bateson, M. M., Kilian, O., Bhaya, D., Ward, D. M., Peters, J. W., Grossman, A. R., and **Kühl, M.** (2008) Regulation of nif gene expression and the energetics of N₂ fixation over the diel cycle in a hot spring microbial mat. *ISME Journal* 2: 364-378. [IF 9.302]

Ward, D. M., Cohan, F. M., Bhaya, D., Grossman, A., **Kühl, M.**, and Heidelberg, J. (2008) Genomics, environmental genomics and the issue of microbial species. *Heredity* 100: 207-219. [IF 3.805]

2007 (12)

Boström, K.H., Riemann, L., **Kühl, M.**, and Hagström, Å. (2007) Isolation and gene quantification of heterotrophic N₂-fixing bacterioplankton in the Baltic Sea. *Environmental Microbiology* 9: 152-164. [IF 6.201]

Glud, R.N., Rysgaard, S., **Kühl, M.**, and Hansen, J. W. (2007) The sea-ice in Young Sound: Implications for C cycling. In: S. Rysgaard, R. N. Glud and P. B. Christensen (eds.), Changes in Marine Arctic Production, *Monographs on Greenland - Biosciences* 58: 62-85.

Jensen, S. I., **Kühl, M.**, and Prieme, A. Different bacterial communities in the rhizoplane and bulk sediment of the seagrass *Zostera marina*. *FEMS Microbiology Ecology* 62: 108-117 [IF 3.568]

Krause-Jensen, D., **Kühl, M.**, Christensen, P. B., and Borum, J. (2007) Benthic Primary Production. In: S. Rysgaard, R. N. Glud and P. B. Christensen (eds.), Changes in Marine Arctic Production, *Monographs on Greenland - Biosciences* 134-147.

Kühl, M., Chen, M., and Larkum, A. W. D. (2007) Biology of the Chlorophyll *d*-containing cyanobacterium *Acaryochloris marina*. In: J. Seckbach (ed.), *Extremophilic algae, cyanobacteria and non-photosynthetic protists: From prokaryotes to astrobology*. Springer Berlin, pp. 101-123.

Kühl, M., Rickelt, L. F., and Thar, R. (2007) Combined imaging of bacteria and oxygen in biofilms. *Applied and Environmental Microbiology* 73: 6289-6295. [IF 3.668]

Magnusson, S.H., Fine, M., and **Kühl, M.** (2007) Light microclimate of endolithic phototrophs in the scleractinian corals *Montipora monasteriata* and *Porites cylindrica*. *Marine Ecology Progress Series* 332: 119-12. [IF 2.619]

Ralph, P. J., Larkum, A. W. D., and **Kühl, M.** (2007) Photobiology of endolithic microorganisms in living coral skeletons: 1. Pigmentation, spectral reflectance and variable chlorophyll fluorescence analysis of endoliths in the massive corals *Cyphastrea serailia*, *Porites lutea* and *Goniastrea australensis*. *Marine Biology* 152: 395-404. [IF 2.391]

Roeselers, G., Norris, T.B., Castenholz, R.W., Rysgaard, S., Glud, R.N., **Kühl, M.**, and Muyzer, G. (2007) Diversity of phototrophic bacteria in microbial mats from Arctic hot springs (Greenland). *Environmental Microbiology* 9: 26-38. [IF 6.201]

Staal, M., Thar, R., **Kühl, M.**, van Loosdrecht, M. C. M., Wolf, G., de Brouwer, J. F. C., and Rijstenbil, J. W. (2007) Differential carbon isotope fractionation in developing natural phototrophic biofilms. *Biogeosciences* 4: 613-626. [IF 3.753]

Ulstrup, K. E., **Kühl, M.**, and Bourne, D. G. (2007) Zooxanthellae harvested by ciliates associated with brown band syndrome of corals remain photosynthetically competent. *Applied and Environmental Microbiology* 73: 1968-1975. [IF 3.668]

Ulstrup, K. E., van Oppen, M. J. H., **Kühl, M.**, and Ralph, P. J. (2007) Inter-polyp genetic and physiological characterisation of *Symbiodinium* in an *Acropora valida* colony. *Marine Biology* 153: 225-234. [IF 2.391]

2006 (5)

(*)Glud, R.N., and **Kühl, M.** (2006) Havbundens stofomsætning (Danish). In: T. Fenchel (ed.), *Havet*, a volume in K. Sand-Jensen (ed.), *Naturen i Danmark*. Gyldendal, Copenhagen, pp.371-394.

Steunou, A., Bhaya, D., Bateson, M., Melendrez, M., Ward, D.M., Brecht, E., Peters, J. W., **Kühl, M.**, and Grossman, A. (2006) *In situ* analysis of nitrogen fixation and metabolic switching in unicellular cyanobacteria inhabiting hot spring microbial mats. *Proceedings of the National Academy of Sciences USA* 103: 2398-2403. [IF 9.674]

Ulstrup, K. E., Ralph, P. J., Larkum, A. W. D., and **Kühl, M.** (2006) Intra-colonial variability in light acclimation of zooxanthellae in coral tissues of *Pocillopora damicornis*. *Marine Biology* 149: 1325-1335. [IF 2.391]

Ward, D. M., Bateson, M. M., Ferris, M. J., **Kühl, M.**, Wieland, A., Koeppel, A., and Cohan, F. M. (2006) Cyanobacterial ecotypes in the microbial mat community of Mushroom Spring (Yellowstone National Park, Wyoming) as species-like units linking microbial community composition, structure and function. *Philosophical Transactions of the Royal Society B* 361: 1997-2008. [IF 7.055] COVER STORY

Wieland, A., and **Kühl, M.** (2006) Regulation of photosynthesis and oxygen consumption in a hypersaline cyanobacterial mat (Camargue, France) by irradiance, temperature, and salinity. *FEMS Microbiology Ecology* 55: 195-210. [IF 3.568]

2005 (14):

Ferris, M. J., Sheehan, K., **Kühl, M.**, Cooksey, K., Cooksey, B., Harvey, R., and Henson, J. M. (2005) Algal species and light microenvironment in a low pH, geothermal microbial mat community. *Applied and Environmental Microbiology* 71: 7164-7171. [IF 3.668]

Jensen, S. I., **Kühl, M.**, Glud, R.N., Jørgensen, L. B., and Priemé, A. (2005) Oxidic microzones and radial oxygen loss from roots of *Zostera marina*. *Marine Ecology Progress Series* 293: 49-58. [IF 2.619]

Köhler-Rink, S., and **Kühl, M.** (2005) The chemical microenvironment of the symbiotic planktonic foraminifer *Orbulina universa*. *Marine Biology Research* 1: 68-78. [IF 1.475]

König, B., Kohl, O., Holst, G., Glud, R. N., and **Kühl, M.** (2005) Fabrication and test of sol-gel based planar oxygen optodes for use in aquatic sediments. *Marine Chemistry* 97: 262-276. [IF 2.735]

Kühl, M., Chen, M., Ralph, P. J., Schreiber, U., and Larkum, A. W. D. (2005) A niche for cyanobacteria containing chlorophyll *d*. *Nature* 433: 820. [IF 41.456]

Kühl, M. (2005a) Optical microsensors for analysis of microbial communities. *Methods in Enzymology* 397: 166-199. [IF 2.194]

(*)**Kühl, M.** (2005b) Livet i verdens mindste og ældste økosystemer (Danish). *Københavns Universitets Almanak* 2006: 138-146.

Larkum, A. W. D., and **Kühl, M.** (2005) Chlorophyll *d*: the puzzle resolved. *Trends in Plant Science* 10: 355-357. [IF 12.929]

Muyzer, G., Yildirim, E., van Dongen, U., **Kühl, M.**, and Thar, R. (2005) Identification of "Candidatus *Thioturbo danicus*", a micro-aerophilic bacterium building conspicuous veils on sulfidic sediments. *Applied and Environmental Microbiology* 71: 8929-8933. [IF 3.668]

Ralph, P. J., Larkum, A. W. D., and **Kühl, M.** (2005a) Temporal patterns in zooxanthellae expulsion during bleaching conditions. *Journal of Experimental Marine Biology and Ecology* 316: 17-28. [IF 1.866]

Ralph, P.J., Schreiber, U., Gademann, R., **Kühl, M.**, and Larkum, A.W.D. (2005b) Coral photobiology studied with a new imaging PAM fluorometer. *Journal of Phycology* 41: 335-342. [IF 2.844]

Thar, R., and **Kühl, M.** (2005) Complex pattern formation of marine gradient bacteria explained by a simple computer model. *FEMS Microbiology Letters* 246: 75-79. [IF 2.121]

van der Meer, M. T. J., Schouten, S., Bateson, M. M., Nübel, U., Wieland, A., **Kühl, M.**, de Leeuw, J. W., Sinnighe Damsté, J. S., and Ward, D. M. (2005) Diel variations in carbon metabolisms of green nonsulfur-like bacteria in alkaline silicious hot spring microbial mats from Yellowstone National Park, USA. *Applied and Environmental Microbiology* 71: 3978-3986. [IF 3.668]

Wieland, A., Zopf, J., Benthien, M., and **Kühl, M.** (2005) Biogeochemistry of an iron-rich hypersaline microbial mat (Camargue, France): Oxygen, sulfur and carbon cycling. *Microbial Ecology* 49: 34-49. [IF 2.973]

2004 (9):

Benthien, M., Wieland, A., Garcia de Oteyza, T., Grimalt, J. O., **Kühl, M.** (2004) Oil-contamination effects on a hypersaline microbial mat community (Camargue, France) as studied with microsensors and geochemical analysis. *Ophelia* 58: 135-150.

Büdel, B., Weber, B., **Kühl, M.**, Pfanz, H., Sültemeyer, D., and Wessels, D. (2004) Reshaping of sandstone surfaces by cryptoendolithic cyanobacteria: bioalkalisation causes chemical weathering in arid landscapes. *Geobiology* 2: 261-268. [IF 3.825]

Caumette, P., Cohen, Y., Grimalt, J., Herbert, R., and **Kühl, M.** (eds.) (2004) Role of microbial mats in the bioremediation of hydrocarbon polluted coastal zones. A special issue of *Ophelia*, Vol. 58(3), Ophelia publications, Helsingør, pp. 1-287.

Fourçans, A., García de Oteyza, T., Wieland, A., Solé, A., Diestra, E., van Bleijswijk, J., Grimalt, J. O., **Kühl, M.**, Esteve, I., Muyzer, G., Caumette, P., and Duran, R. (2004) Characterization of functional bacterial groups in a hypersaline microbial mat community (Salins-de-Giraud, Camargue, France). *FEMS Microbiology Ecology* 51: 55-70. [IF 3.568]

Grunwald, B., and **Kühl, M.** (2004) A system for imaging variable chlorophyll fluorescence of aquatic phototrophs. *Ophelia* 58: 79-89.

Hill, R., Schreiber, U., Gademann, R., Larkum, A.W.D., **Kühl, M.**, and Ralph, P. (2004a) Spatial heterogeneity of photosynthesis and the effect of temperature-induced bleaching conditions in three species of corals. *Marine Biology* 144: 633-640. [IF 2.391]

Hill, R., Larkum, A.W.D., Frankart, C., **Kühl, M.**, and Ralph, P.J. (2004b) Loss of functional photosystem reaction centre in zooxanthellae of corals exposed to bleaching conditions: using fluorescence rise kinetics. *Photosynthesis Research* 82: 59-72. [IF 3.502]

(*) **Kühl, M.**, Glud, R. N., Rysgaard, S., and Pedersen, H. (2004) Microbiological studies in hot springs at Daneborg and Scoresbysund. In: M. Rasch and K. Caning (eds.), *Zackenbergl Ecological Research Operations, 9th Annual Report*, 2003, Copenhagen, Danish Polar Center, Ministry of Science, Technology and Innovation, pp. 72-74..

Thar, R., and **Kühl, M.** (2004) Propagation of electromagnetic waves in mitochondria? *Journal of Theoretical Biology* 230: 261-270. [IF 2.116]

2003 (7):

Caumette, P., Bonin, P., Herbert, R., Widdel, F., Grimalt, J., Guerrero, R., Esteve, I., **Kühl, M.**, Cohen, Y., and Muyzer, G. (2003) Role of microbial mats in the biodegradation of oil and hydrocarbons on the coastal zones (MATBIOPOL) In: P. Caumette, C. Eccles, P. Garrigues, M. Krom, and P. Lebaron (eds.), *The impact of human activities on the marine environment quality and health: The EC impacts cluster*. Proceedings of the first workshop (February 2002, Pau, France). Publications de l'Université de Pau, Pau, pp. 201-223.

Ferris, M.J., **Kühl, M.**, Wieland, A., and Ward, D.M. (2003a) Light-adapted cyanobacterial ecotypes in a 68°C hot spring mat community revealed by 16S-23S rRNA intervening spacer region variation. *Applied and Environmental Microbiology* 69: 2893-2898. [IF 3.668]

Ferris, M.J., Magnuson, T.S., Fagg, J.A., Thar, R., **Kühl, M.**, Sheehan, K.B., and Henson, J.M. (2003b) Microbially mediated sulphide production in a thermal, acidic algal mat community in Yellowstone National Park. *Environmental Microbiology* 5: 954-960. [IF 6.201]

Kühl, M., Fenchel, T., and Kazmierczak, J. (2003) Growth, structure and calcification potential of an artificial cyanobacterial mat. In: Krumbein, W.E., Paterson D., and Zavarzin G. (eds.), *Fossil and recent biofilms, a natural history of life on planet Earth*. Kluwer Acad. Publ., Dordrecht pp. 77-102.

Larkum, A.W.D., Koch, E.M., and **Kühl, M.** (2003) Diffusive boundary layers and photosynthesis of the epilithic algal community of coral reefs. *Marine Biology* 142: 1073-1082. [IF 2.391]

Thar, R., and **Kühl, M.** (2003) Bacteria are not too small for spatial sensing of chemical gradients: An experimental evidence. *Proceedings of the National Academy of Sciences USA* 100: 5748-5753. [IF 9.674]

Wieland, A., **Kühl, M.**, McGowan, L., Sole, A., Diestra, E., Esteve, I., Garcia de Oteyza, T., Grimalt, J.O., Fourçans, A., Duran, R., Caumette, P., and Herbert, R.A. Microbial mats on the Orkney Islands revisited: microenvironment and microbial community composition. *Microbial Ecology* 46: 371-390. [IF 2.973]

2002 (11):

Benthien, M., Wieland, A., and **Kühl, M.** (2002) Microsensor studies of oil-contaminated microbial mats from the Camargue (France). In: P. Caumette (ed.), Proceedings of the 2nd MATBIOPOL meeting, Barcelona, 12-16 February, 2002, pp. 51-64.

Glud, R.N., **Kühl, M.**, Wenzhöfer, F., and Rysgaard, S. (2002a) Benthic diatoms of a high Arctic fjord (Young Sound, NE Greenland): importance for ecosystem primary production. *Marine Ecology Progress Series* 238: 15-29. [IF 2.619]

Glud, R.N., Rysgaard, S., and **Kühl, M.** (2002b) O₂ dynamics and photosynthesis in ice algal communities: quantification by microsensors, O₂ exchange rate, 14C-incubations and PAM-fluorometry. *Aquatic Microbial Ecology* 27: 301-311. [IF 1.967]

Kühl, M., and Larkum, A.W.D. (2002) The microenvironment and photosynthetic performance of *Prochloron* sp. in symbiosis with didemnid ascidians. In: Seckbach, J. (ed.), *Cellular origin and life in extreme habitats* Vol. 3: *Symbioses, mechanisms and model systems*. Kluwer Acad. Publ., Dordrecht, pp. 273-290.

Nübel, U., Bateson, M.M., Vandieken, V., Wieland, A., **Kühl, M.**, and Ward, D.M. (2002) Microscopic examination of distribution and phenotypic properties of uncultivated *Chloroflexus*-related bacteria in hot spring microbial mats. *Applied and Environmental Microbiology* 68: 4593-4603. [IF 3.668]

Ralph, P., Gademann, R., Larkum, A.W.D., and **Kühl, M.** (2002) Spatial heterogeneity in active fluorescence and PSII activity of coral tissues. *Marine Biology* 141: 639-646. [IF 2.391]

Roberts, R.D., **Kühl, M.**, Glud, R.N., and Rysgaard, S. (2002) Primary production of coralline red algae in a high arctic fjord. *Journal of Phycology* 38(2): 273-283. [IF 2.844]

Sass, A.M., Eschemann, A., **Kühl, M.**, Thar, R., Sass, H., and Cypionka, H. (2002). Growth and chemosensory behavior of sulfate-reducing bacteria in oxygen-sulfide gradients. *FEMS Microbiology Ecology* 40: 47-54. [IF 3.568]

Schreiber U., Gademann, R., Bird, P., Ralph, P., Larkum, A.W.D., and **Kühl, M.** (2002) Apparent light requirement for activation of photosynthesis upon rehydration of desiccated beachrock microbial mats. *Journal of Phycology* 38(1): 125-134. [IF 2.844]

Thar, R. and **Kühl, M.** (2002) Conspicuous veils formed by vibrioid bacteria on sulfidic marine sediment. *Applied and Environmental Microbiology* 68: 6310-6320. [IF 3.668]

Wieland, A., Zopfi, J., Benthien, M., and **Kühl, M.** (2002) Biogeochemistry of microbial mats in the Camargue (France). In: P. Caumette (ed.), *Proceedings of the 2nd MATBIOPOL meeting*, Barcelona, 12-16 February, 2002, pp. 21-50.

2001 (14):

De Beer, D. and **Kühl, M.** (2001). Interfacial processes and activities in biofilms and microbial mats. In: B. P. Boudreau and B. B. Jørgensen (eds.), *The Benthic Boundary Layer*. Oxford University Press, Oxford, pp.374-394.

Glud, R.N., Tengberg, A., **Kühl, M.**, Hall, P., Klimant, I., and Holst, G. (2001) An *in situ* instrument for planar O₂ optode measurements at benthic interfaces. *Limnology and Oceanography* 46: 2073-2080. [IF 3.794]

Köhler-Rink, S., and **Kühl, M.** (2001) Microsensor studies of photosynthesis and respiration in the larger foraminifera *Amphistegina lobifera* and *Amphisorus hemprichii*. *Ophelia* 55(2): 111-122.

König, B., Holst, G., Kohls, O., Richter, T., Glud, R.N., and **Kühl, M.** (2001) Imaging of oxygen distribution at benthic interfaces: a brief review. In: Aller, J.Y., Woodin, S.A., and Aller, R.C. (eds.). *Organism-Sediment Interactions*. University of South Carolina Press, Columbia, pp. 63-73.

Kühl, M. and N.P. Revsbech. (2001) Biogeochemical microsensors for boundary layer studies. In: B. P. Boudreau and B. B. Jørgensen (eds.), *The Benthic Boundary Layer*. Oxford University Press, Oxford, pp. 180-210.

Kühl, M., Glud, R.N., Borum, J., Roberts, R., and Rysgaard, S. (2001) Photosynthetic performance of surface associated algae below sea ice as measured with a pulse amplitude modulated (PAM) fluorometer and O₂ microsensors. *Marine Ecology Progress Series* 223: 1-14. [IF 2.619]

Nübel, U., Bateson, M.M., Madigan, M.T., **Kühl, M.**, and Ward, D.M. (2001) The diversity and distribution in hypersaline microbial mats of bacteria related to *Chloroflexus*. *Applied and Environmental Microbiology* 67: 4365-4371. [IF 3.668]

Rysgaard, S., **Kühl, M.**, Glud, R.N., and Hansen, J.W. (2001) Seasonality and horizontal patchiness of sea ice algae in a high-Arctic fjord (Young Sound, NE-Greenland). *Marine Ecology Progress Series* 223: 15-26. [IF 2.619]

(*) Rysgaard, S., Glud, R.N., Wenzhöfer, F., and **Kühl, M.** (2001) Benthic microalgal distribution and production. In: Caning, K. and M. Rasch (eds.) 2001. Zackenberg Ecological Research Operations, 6th Annual Report, Danish Polar Center, Ministry of Research and Information Technology. 80 pp. (available at <http://www.zackenberg.dk/ZAR2000.pdf>).

Thar, R., and **Kühl, M.** (2001) On the motility of *Marichromatium gracile* in response to light, oxygen and sulfide. *Applied and Environmental Microbiology* 67: 5410-5419. [IF 3.668]

Thar, R., **Kühl, M.** and Holst, G. (2001) A fiber-optic fluorometer for microscale mapping of photosynthetic pigments in microbial communities. *Applied and Environmental Microbiology* 67: 2823-2828. [IF 3.668]

Wieland, A., van Dusschoten, D., Damgaard, L.R., de Beer, D., **Kühl, M.**, and Van As, H. (2001) Fine-scale measurement of diffusivity in a microbial mat with NMR imaging. *Limnology and Oceanography* 46: 248-259. [IF 3.794]

Wieland, A., and **Kühl, M.** (2001) Oxygen cycling in microbial mats from Camargue (France), Ebro Delta (Spain) and mesocosms (Eilat, Israel). In: P. Caumette (ed.), *Proceedings of the MATBIOPOL meeting*, Marseille 22-25 February, 2001, pp. 25-43.

Wieland, A., and **Kühl, M.** (2001) Oxygen and sulfide cycling in sediments from Orkney Islands. In: P. Caumette (ed.), *Proceedings of the MATBIOPOL meeting*, Marseille 22-25 February, 2001, pp. 43-62.

2000 (13):

De Beer, D., **Kühl, M.**, Stambler, N., and Vaki, L. (2000) A microsensor study of light enhanced Ca²⁺ uptake and photosynthesis in the reef-building coral *Favia* sp. *Marine Ecology Progress Series* 194: 75-85. [IF 2.619]

Epping, E.H.G., and **Kühl, M.** (2000) The responses of photosynthesis and oxygen consumption in a cyanobacterial mat. to short-term changes in temperature and irradiance. *Environmental Microbiology* 2: 465-475. [IF 6.201]

Fenchel, T., and **Kühl, M.** (2000) Artificial cyanobacterial mats: Growth, structure, and vertical zonation patterns. *Microbial Ecology* 40: 85-93. [IF 2.973]

Garcia-Pichel, F., Nübel, U., Muyzer, G., and **Kühl, M.** (2000) On cyanobacterial community diversity and its quantification. In: Bell, C., Brylinski, M., and Johnson-Green, P. (eds.), *Microbial Biosystems: New Frontiers*. Atlantic Canada Society for Microbial Ecology, Kentville, pp.617-622.

Holst, G., Klimant, I., Kohls, O., and **Kühl, M.** (2000) Optical microsensors and microprobes. In: M. Varney (ed.), *Chemical Sensors in Oceanography*. Gordon & Breach, pp. 143-188.

Köhler-Rink, S., and **Kühl, M.** (2000) Microsensor analysis of photosynthesis and respiration in larger symbiotic foraminifera: 1. The physico-chemical microenvironment of *Amphistegina lobifera*, *Amphisorus hemprichii* and *Marginopora vertebrales*. *Marine Biology* 137: 473-486. [IF 2.393]

(*) **Kühl, M.** (2000) Økologi og teknologi i mikroskala. (Danish). In: Årsberetning fra Forskerforum og de seks statslige forskningsråd 1999. Forskningstyrelsen, april 2000, pp.44-45.

Kühl, M. and Steuckart, C. (2000) Sensors for *in situ* analysis of sulfide in aquatic systems In: J. Buffle and G. Horvai (eds.), *In situ monitoring of aquatic systems*. Wiley, Chichester, pp. 121-159.

Kühl, M., and Fenchel, T. (2000) Bio-optical characteristics and the vertical distribution of photosynthetic pigments and photosynthesis in an artificial cyanobacterial mat. *Microbial Ecology* 40: 94-103. [IF 2.973]

Salih, A., Larkum, A.W.D., Cox, G., **Kühl, M.**, and Hoegh-Guldberg, O. (2000) Fluorescent pigments in corals are photoprotective. *Nature* 408: 850-853. [IF 41.456]

Thar, R., Blackburn, N., and **Kühl, M.** (2000) A new system for three-dimensional tracking of motile microorganisms. *Applied and Environmental Microbiology* 66: 2238-2242. [IF 3.668]

Wieland, A., and **Kühl, M.** (2000) Irradiance and temperature regulation of oxygenic photosynthesis and O₂ consumption in a hypersaline cyanobacterial mat (Solar Lake, Egypt). *Marine Biology* 137: 71-85. [IF 2.391]

Wieland, A., and **Kühl, M.** (2000) Short term temperature effects on oxygen and sulfide cycling in a hyper-saline cyanobacterial mat (Solar Lake, Egypt). *Marine Ecology Progress Series* 196: 87-102. [IF 2.619]

1992-1999 (50):

Amman, R. and **Kühl, M.** (1998). In situ methods for assessment of microorganisms and their activities. *Current Opinion in Microbiology* 1: 352-358. [IF 5.900]

Brune, A., and **Kühl, M.** (1996). pH profiles of the extremely alkaline hindguts of soil-feeding termites (Isoptera: Termitidae) determined with microelectrodes. *Journal of Insect Physiology* 42: 1121-1127. [IF 2.470]

(*)Dalsgaard, T., **Kühl, M.**, Jensen, K., Revsbech, N.P., and Jørgensen, B.B. (1991). Stofomsætning i biofilm målt med mikrosensorer (Danish). *Vand og Miljø* 10: 471-477.

De Beer, D., Schramm, A., Santegoeds, C.M., and **Kühl, M.** (1997). A nitrite microsensor for profiling environmental biofilms. *Applied and Environmental Microbiology* 63: 973-977. [IF 3.668]

De Beer, D., Glud, A., Epping, E., and **Kühl, M.** (1997). A fast responding CO₂ microelectrode for profiling in sediments, microbial mats and biofilms. *Limnology and Oceanography* 42: 1590-1600. [IF 3.794]

Eschemann, A., **Kühl, M.**, and Cypionka, H. (1999) Aerotaxis in *Desulfovibrio*. *Environmental Microbiology* 1: 489-495. [IF 6.201]

(*)Fenchel, T., and **Kühl, M.** (1999) Livet før det højere liv (Danish). *Naturens Verden* 10/1999: 20-35.

Fukshansky-Kazarinova, N., Fukshansky, L., **Kühl, M.**, and Jørgensen, B.B. (1998). Solution of the inverse problem of radiative transfer on the basis of measured internal fluxes. *Journal of Quantitative Spectroscopy and Radiative Transfer* 59: 77-89. [IF 2.645]

Fukshansky-Kazarinova, N., Fukshansky, L., **Kühl, M.**, and Jørgensen, B. B. (1997). General theory of three-dimensional radiance measurements with optical microprobes. *Applied Optics* 36: 6520-6528. [IF 1.784]

Fukshansky-Kazarinova, N., Fukshansky, L., **Kühl, M.**, and Jørgensen, B. B. (1996). Theory of equidistant three-dimensional radiance measurements with optical microprobes. *Applied Optics* 35: 65-73. [IF 1.784]

Garcia-Pichel, F., **Kühl, M.**, Nübel, U., and Muyzer, G. (1999). Salinity-dependent limitation of photosynthesis and oxygen exchange in microbial mats. *Journal of Phycology* 35: 227-238. [IF 2.844]

Glud, R.N., Klimant, I., Holst, G., Kohls, O., Meyer, V., **Kühl, M.**, and Gundersen, J.K. (1999) Adaptation, test and in-situ measurements with O₂ microoptodes on benthic landers. *Deep-Sea Research Part A* 46: 171-183. [IF 2.566]

Glud, R.N., **Kühl, M.**, Kohls, O., and Ramsing, N.B. (1999). Heterogeneity of oxygen production and consumption in a photosynthetic microbial mat as studied by planar optodes. *Journal of Phycology* 35: 270-279. [IF 2.844]

Holst, G., Grunwald, B., Klimant, I., and **Kühl, M.** (1999) A luminescence lifetime imaging system using imaging fibers to measure the 2D distribution of O₂ in biological samples. *SPIE Proceedings* 3860: 154-163.

Holst, G., Kohls, O., Klimant, I., König, B., Richter, T., and **Kühl, M.** (1998). A modular luminescence lifetime imaging system for mapping oxygen distribution in biological samples. *Sensors and Actuators B* 51: 163-170. [IF 4.097]

Holst, G., **Kühl, M.**, Klimant, I., Liebsch, G., and Kohls, O. (1997). Characterization and application of temperature micro-optodes for use in aquatic biology. *SPIE Proceedings* 2980: 164-171.

Holst, G., Glud, R.N., **Kühl, M.**, and Klimant, I. (1997). A microoptode array for fine scale measurements of oxygen distribution. *Sensors and Actuators B* 38-39: 122-129. [IF 4.097]

Holst, G., **Kühl, M.**, and Klimant, I. (1995). A novel measuring system for oxygen microoptodes based on a phase modulation technique. *SPIE Proceedings* 2508: 387-398.

Jeroschewski, P., Steuckart, C., and **Kühl, M.** (1996). An amperometric microsensor for the determination of H₂S in aquatic environments. *Analytical Chemistry* 68: 4351-4357. [IF 5.636]

(*)Jørgensen, B.B., and **Kühl, M.** (1999). Mikrosensoren zur Messung chemischer Parameter (German). *Biospektrum* 1/1999: 34-36.

(*)Karsten, U., and **Kühl, M.** (1996). Die Mikrogenmatte - das kleinste Ökosystem der Welt (German). *Biologie in unserer Zeit* 1/1996: 16-26.

Klimant, I., **Kühl, M.**, Glud, R.N., and Holst, G. (1997). Optical measurement of oxygen and temperature in microscale: Strategies and biological applications. *Sensors and Actuators B* 38: 29-37. [IF 4.097]

Klimant, I., Holst, G., and **Kühl, M.** (1997). A simple fiber-optic sensor to detect the penetration of microsensors into sediments and other biological materials. *Limnology and Oceanography* 42: 1638-1643. [IF 3.794]

- Klimant, I., Holst, G., and **Kühl, M.** (1995). Oxygen micro-optrodes and their application in aquatic environments. *SPIE Proceedings* 2508: 375-386.
- Klimant, I., Meyer, V., and **Kühl, M.** (1995). Fiber-optic oxygen microsensors, a new tool in aquatic biology. *Limnology and Oceanography* 40: 1159-1165. [IF 3.794]
- Kohls, O., Klimant, I., Holst, G., and **Kühl, M.** (1997). Development and comparison of pH microoptodes for use in marine systems. *SPIE Proceedings* 2978: 82-94.
- Kohls, O., Klimant, I., Holst, G., and **Kühl, M.** (1996). Thionine as an indicator for use as a hydrogen sulfide optode. *SPIE Proceed.* 2836: 311-321.
- Kühl, M.**, Steuckart, C., Eickert, G., and Jeroschewski, P. (1998). A H₂S microsensor for profiling sediments and biofilms: Application in acidic sediment. *Aquatic Microbial Ecology* 15: 201-209. [IF 1.967]
- Kühl, M.**, Lassen, C., and Revsbech, N.P. (1997). A simple light meter for measurements of PAR (400-700 nm) with fiber-optic microprobes: application for P vs. I measurements in microbenthic communities. *Aquatic Microbial Ecology* 13: 197-207. [IF 1.967]
- Kühl, M.**, Glud, R.N., Ploug, H., and Ramsing, N.B. (1996). Microenvironmental control of photosynthesis and photosynthesis-coupled respiration in an epilithic cyanobacterial biofilm. *Journal of Phycology* 32: 799-812. [IF 2.844]
- Kühl, M.**, Cohen, Y., Dalsgaard, T., Jørgensen, B.B., and Revsbech, N.P. (1995). The microenvironment and photosynthesis of zooxanthellae in scleractinian corals studied with microsensors for O₂, pH and light. *Marine Ecology Progress Series* 117: 159-172. [IF 2.619]
- Kühl, M.**, and Jørgensen, B.B. (1994). The light field of micro-benthic communities: radiance distribution and microscale optics of sandy coastal sediments. *Limnology and Oceanography* 39: 1368-1398. [IF 3.794]
- Kühl, M.**, Lassen, C., and Jørgensen, B.B. (1994a). Light penetration and light intensity in sandy sediments measured with irradiance and scalar irradiance fiber-optic microprobes. *Marine Ecology Progress Series* 105: 139-148. [IF 2.619]
- Kühl, M.**, Lassen, C., and Jørgensen, B.B. (1994b). Optical properties of microbial mats: light measurements with fiber-optic microprobes. In: L. J. Stal and P. Caumette (eds.), *Microbial Mats: Structure, Development and Environmental Significance*. Springer, Berlin, pp. 149-167.
- Kühl, M.** (1993). Photosynthesis, O₂ respiration and sulfur cycling in a cyanobacterial biofilm. In: R. Guerrero and C. Pedros-Alio (eds.), *Trends in Microbial Ecology*. Spanish Society for Microbiology, pp. 163-167.
- Kühl, M.**, and Jørgensen, B.B. (1992a). Microsensor measurements of sulfate reduction and sulfide oxidation in compact microbial communities of aerobic biofilms. *Applied and Environmental Microbiology* 58: 1164-1174. [IF 3.668]
- Kühl, M.**, and Jørgensen, B.B. (1992b). Spectral light measurements in microbenthic phototrophic communities with a fiber-optic microprobe coupled to a sensitive diode array detector. *Limnology and Oceanography* 37: 1813-1823. [IF 3.794]
- Lassen, C., Ploug, H., **Kühl, M.**, Jørgensen, B.B., and Revsbech, N.P. (1994). Oxygenic photosynthesis and light distribution in marine microbial mats. In: L. J. Stal and P. Caumette (eds.), *Microbial Mats: Structure, Development and Environmental Significance*. Springer, Berlin, pp. 305-311.
- Nübel, U., Garcia-Pichel, F., **Kühl, M.**, and Muyzer, G. (1999). Quantifying microbial diversity: Morphotypes, 16S rRNA genes, and carotenoids of oxygenic phototrophs in microbial mats. *Applied and Environmental Microbiology* 65: 422-430. [IF 3.668]
- Nübel, U., Garcia-Pichel, F., **Kühl, M.**, and Muyzer, G. (1999) Spatial scale and the diversity of benthic cyanobacteria and diatoms in a salina. *Hydrobiologia* 40: 199-206. [IF 2.275]
- Oren, A., **Kühl, M.**, and Karsten, U. (1995). An endoevaporitic microbial mat within a gypsum crust: zonation of phototrophs, photopigments, and light penetration. *Marine Ecology Progress Series* 128: 151-159. [IF 2.619]
- Ploug, H., **Kühl, M.**, Buchholz-Cleven, B., and Jørgensen, B.B. (1997). Anoxic aggregates an ephemeral phenomenon in the pelagic environment? *Aquatic Microbial Ecology* 13: 285-294. [IF 1.967]
- Pringault, O., **Kühl, M.**, and de Wit, R. (1999) A microsensor study of the interaction between purple sulfur and green sulfur bacteria in experimental benthic gradients. *Microbial Ecology* 37: 173-184. [IF 2.973]
- Pringault, O., Epping, E., Guyoneaud, R., Khalili, A., and **Kühl, M.** (1999) Dynamic of anoxygenic photosynthesis in an experimental green sulfur bacterial biofilm. *Environmental Microbiology* 1: 295-305. [IF 6.201]
- Pringault, O., **Kühl, M.**, de Wit, R., and Caumette, P. (1998) Growth of green sulfur bacteria in experimental benthic oxygen, sulfide, pH and light gradients. *Microbiology* 144: 1051-1061. [IF 2.557]
- Ramsing, N.B., **Kühl, M.**, and Jørgensen, B.B. (1993a). Identification of sulfate reducing bacteria using 16S rRNA binding oligonucleotide probes. In: R. Guerrero and C. Pedros-Alio (eds.), *Trends in Microbial Ecology*. Spanish Society for Microbiology, pp. 521-525.
- Ramsing, N.B., **Kühl, M.**, and Jørgensen, B.B. (1993b). Distribution of sulfate-reducing bacteria and O₂-H₂S in photosynthetic biofilms determined by oligonucleotide probes and microelectrodes. *Applied and Environmental Microbiology* 59: 3840-3849. [IF 3.668]
- Revsbech, N.P., Jensen, K., Dalsgaard, T., and **Kühl, M.** (1993). Nitrification and denitrification in biofilms as studied with microsensors. In: H. Ødegaard (ed.), *Nitrifying and denitrifying biofilms for wastewater treatment*. Nordic Council of Ministers, pp. 33-45.
- Rink, S., **Kühl, M.**, Beijma, J., and Spero, H. (1998). Photosynthesis and respiration in the symbiont bearing planktonic foraminifera *Orbulina universa* as studied with microsensors. *Marine Biology* 131: 583-595. [IF 2.391]

Schreiber, U., **Kühl, M.**, Klimant, I., and Reising, H. (1996). Measurement of chlorophyll fluorescence within leaves using a modified PAM fluorometer with a fiber-optic microprobe. *Photosynthesis Research* 47: 103-109. [IF 3.502]