

Curriculum Vitae of Michael Gonsior

Chesapeake Biological Laboratory (CBL)

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Citizenship: Germany

Permanent Resident: USA

Professional preparation

Ph.D. May 2008. Aquatic Biogeochemistry. Otago University, Dunedin, New Zealand.

Advisor: Prof. Barrie M. Peake

MS (Dipl.-Ing.) February 2004. Environmental Protection Engineering and Urban Planning.

Technical University Dresden, Germany. **Advisor: Prof. Franz Makeschin**

MS (Dipl.-Chem.) October 1999. Environmental Chemistry. Friedrich Schiller University Jena, Germany. **Advisor: Prof. Juergen Einax**

Undergraduate Studies December 1995. Pure and Applied Chemistry. Rheinisch Westfaelisch Technische Hochschule (RWTH), Aachen, Germany.

Professional appointments

07/2018– Present *Associate Professor (tenured)*, Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science, Solomons, MD, USA

08/2021 – 08/2022 *Sabbatical* at University of Montana, Geosciences and Chemistry Departments, Missoula, Montana

03/2012 – 06/2018 *Assistant Professor (tenure track)*, Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science, Solomons, MD, USA

03/2011 – 02/2012 *Post-doctoral Scholar*. Linköping University, Unit of Water and Environmental Studies, Linköping, Sweden. **Advisor: David Bastviken**

07/2010 – 02/2011 *Scientific Consulting* for the ultrahigh resolution mass spectrometry and high field nuclear magnetic resonance spectroscopy facility located at the Helmholtz Zentrum in Munich, Germany.

01/2010 – 07/2010 *Field Coordinator*. Coordination of large scale irrigation schemes and environmental support in East Africa.

01/2008 – 12/2009 *Post-doctoral Scholar*. Urban Water Research Center. Department of Civil and Environmental Engineering. University of California, Irvine. **Advisor: William J. Cooper**

Teaching and outreach experience

03/2012 – Present MEES graduate faculty member

2022 MEES 640 Foundation course “*Interconnected Earth Systems: Land, Ocean, and Estuary*” 600 level course

2020 MEES 640 Foundation course “*Interconnected Earth Systems: Land, Ocean, and Estuary*” 600 level course

- 2019 MEES 640 Foundation course “*Interconnected Earth Systems: Land, Ocean, and Estuary*” 600 level course
- 2018 MEES 640 Foundation course “*Interconnected Earth Systems: Land, Ocean, and Estuary*” 600 level course
- 2016 MEES 640 Foundation course “*Interconnected Earth Systems: Land, Ocean, and Estuary*” 600 level course
- 2016 MEE 708Q “*Analytical Techniques in Environmental Chemistry*” 700 level course
- 2014 MEES 698C “*Chemical Oceanography*” 600 level course
- 2013 MEES608W seminar “*Environmental forensics*”, 600 level course
- 09/2011 – 12/2011 Guest lectures and supervision of a Bachelor thesis at Linköping University
- 01/2010 – 07/2010 Field Coordinator. Training and technology transfer in irrigation, environmental awareness, water and agriculture to the rural communities of Kenya and Tanzania.
- 2008 – 2009 Guest Lecturer (post-graduate course) in environmental/analytical Chemistry
- 05/2006 – 2008 Core-member of the New Zealand Youth Steering Committee (YSCNZ) for the International Polar Year (IPY): Design and organization of the nationwide outreach programme “Polar Contests” for secondary high schools.
- 06/2004 – 07/2007 Lab demonstrator in 100 level chemistry, 200 level environmental chemistry and 300 level aquatic chemistry at Otago University, Dunedin, New Zealand.

Publications (peer-reviewed)

(note: *Undergraduate Student, **MS Student, ***PhD Student, **** Post-Doc, ^{vs}Visiting Scientist)

- 2022 Chen, Q., C. Lønborg, F. Chen, **M. Gonsior**, Y. Li, R. Cai, C. He, J. Chen, Y. Wang, Q. Shi, N. Jiao and Q. Zheng "Increased microbial and substrate complexity result in higher molecular diversity of the dissolved organic matter pool." *Limnology and Oceanography*. Hinman, N. W., M. A. Mave, L. C. Powers****, P. Schmitt-Kopplin, N. A. Cabrol and **M. Gonsior** (2022). "Controls on Reactive Oxygen Species Cycles in Yellowstone Hot Springs: Implications for Biosignature Preservation on Mars." *Frontiers in Astronomy and Space Sciences* **9**. Xiao^{vs}, X., L. C. Powers****, J. Liu, **M. Gonsior**, R. Zhang, L. Zhang, H. L. MacIntyre, X. Chen, C. Hu, J. Batt, Q. Shi, D. Xu, Y. Zhang and N. Jiao (2022). "Biodegradation of Terrigenous Organic Matter in a Stratified Large-Volume Water Column: Implications of the Removal of Terrigenous Organic Matter in the Coastal Ocean." *Environmental Science & Technology* **56**(8): 5234-5246. Menendez, A., M. Tzortziou, P. Neale, P. Megonigal, L. Powers****, P. Schmitt-Kopplin and **M. Gonsior** (2022). "Strong Dynamics in Tidal Marsh DOC Export in Response to Natural Cycles and Episodic Events From Continuous Monitoring." *Journal of Geophysical Research: Biogeosciences* **127**(7): e2022JG006863. Jiang, H., Q. Lv, J. Yang, B. Wang, H. Dong, **M. Gonsior** and P. Schmitt-Kopplin (2022). "Molecular composition of dissolved organic matter in saline lakes of the Qing-Tibetan Plateau." *Organic Geochemistry* **167**: 104400. **Gonsior, M.**, L. Powers****, M. Lahm** and S. L. McCallister (2022). "New Perspectives on the Marine Carbon Cycle—The Marine Dissolved Organic Matter Reactivity Continuum." *Environmental Science & Technology* **56**(9): 5371-5380.

- Chen, X., W. Wei, X. Xiao, D. Wallace, C. Hu, L. Zhang, J. Batt, J. Liu, **M. Gonsior**, Y. Zhang, J. LaRoche, P. Hill, D. Xu, J. Wang, N. Jiao and R. Zhang (2022). "Heterogeneous viral contribution to dissolved organic matter processing in a long-term macrocosm experiment." *Environment International* 158: 106950.
- Gray, M. W., S. T. Alexander, B. F. Beal, T. Bliss, C. A. Burge, J. A. Cram, M. D. Luca, J. Dumhart, P. M. Glibert, **M. Gonsior**, A. Heyes, K. B. Huebert, V. Lyubchich, K. McFarland, M. Parker, L. V. Plough, E. J. Schott, L. A. Wainger, G. H. Wikfors and A. E. Wilbur (2022). "Hatchery crashes among shellfish research hatcheries along the Atlantic coast of the United States: A case study of production analysis at Horn Point Laboratory." *Aquaculture* 546: 737259.
- Fischer S., **M. Gonsior**, Jon Chorover, L. Powers****, A. Hamilton, M. Ramirez and A. Torrents (2022). "Biosolids leachate variability, stabilization surrogates, and optical metric selection." *Environmental Science Water Research & Technology*.
- 2021 Armstrong, A. W.***, L. Powers**** and **M. Gonsior** (2021). "Reproducible determination of dissolved organic matter photosensitivity." *Biogeosciences* 18(11): 3367-3390.
- Chen, Q., F. Chen, **M. Gonsior**, Y. Li, Y. Wang, C. He, R. Cai, J. Xu, Y. Wang, D. Xu, J. Sun, T. Zhang, Q. Shi, N. Jiao and Q. Zheng (2021). "Correspondence between DOM molecules and microbial community in a subtropical coastal estuary on a spatiotemporal scale." *Environment International* 154: 106558.
- Conway, A. J., **M. Gonsior**, C. Clark, A. Heyes and C. L. Mitchelmore (2021). "Acute toxicity of the UV filter oxybenzone to the coral *Galaxea fascicularis*." *Science of The Total Environment* 796: 148666.
- Martin, K. R.***, N. M. Robey, S. Ma, L. C. Powers****, A. Heyes, P. Schmitt-Kopplin, W. J. Cooper, T. G. Townsend and **M. Gonsior** (2021). "Characterization of landfill leachate molecular composition using ultrahigh resolution mass spectrometry." *Environmental Science: Water Research & Technology* 7(7): 1250-1266.
- Postigo, C., A. Andersson, M. Harir, D. Bastviken, **M. Gonsior**, P. Schmitt-Kopplin, P. Gago-Ferrero, L. Ahrens, L. Ahrens and K. Wiberg (2021). "Unraveling the chemodiversity of halogenated disinfection by-products formed during drinking water treatment using target and non-target screening tools." *Journal of Hazardous Materials* 401: 123681.
- Powers, L. C.****, L. Lapham, S. Y. Malkin, A. Heyes, P. Schmitt-Kopplin and **M. Gonsior** (2021). "Molecular and optical characterization reveals the preservation and sulfurization of chemically diverse porewater dissolved organic matter in oligohaline and brackish Chesapeake Bay sediments." *Organic Geochemistry*: 104324.
- Schafer, T.^{VS}, L. Powers****, **M. Gonsior**, K. R. Reddy and T. Z. Osborne (2021). "Contrasting responses of DOM leachates to photodegradation observed in plant species collected along an estuarine salinity gradient." *Biogeochemistry* 152(2): 291-307.
- Seopela, M. P.^{VS}, L. C. Powers****, C. Clark, A. Heyes and **M. Gonsior** (2021). "Combined fluorescent measurements, parallel factor analysis and GC-mass spectrometry in evaluating the photodegradation of PAHS in freshwater systems." *Chemosphere* 269: 129386.
- Andersson, A., **M. Gonsior**, M. Harir, N. Hertkorn, P. Schmitt-Kopplin, L. Powers****, H. Kylin, D. Hellström, K. Nilsson, Ä. Pettersson, H. Stavklint and D. Bastviken (2021). "Molecular changes among non-volatile disinfection by-products between drinking water treatment and consumer taps." *Environmental Science: Water Research & Technology* 7(12): 2335-2345.

- 2020 Andersson, A.; Lavonen, E.; Harir, M.; **Gonsior, M.**; Hertkorn, N.; Schmitt-Kopplin, P.; Kylin, H.; Bastviken, D., Selective removal of natural organic matter during drinking water production changes the composition of disinfection by-products. *Environmental Science: Water Research & Technology* 2020, 6, (3), 779-794.
- Powers, L. C. ****; Conway, A.; Mitchelmore, C. L.; Fleischacker, S. J.; Harir, M.; Westerman, D. C.; Croué, J. P.; Schmitt-Kopplin, P.; Richardson, S. D.; **Gonsior, M.**, Tracking the formation of new brominated disinfection by-products during the seawater desalination process. *Environmental Science: Water Research & Technology* 2020.
- Mueller, C.; Kremb, S.; **Gonsior, M.**; Brack-Werner, R.; Voolstra, C. R.; Schmitt-Kopplin, P., Advanced identification of global bioactivity hotspots via screening of the metabolic fingerprint of entire ecosystems. *Scientific Reports* 2020, 10, (1), 1319.
- Bianca, M. R.; Baluha, D. R.; **Gonsior, M.**; Schmitt-Kopplin, P.; Del Vecchio, R.; Blough, N. V., Contribution of ketone/aldehyde-containing compounds to the composition and optical properties of Suwannee River fulvic acid revealed by ultrahigh resolution mass spectrometry and deuterium labeling. *Analytical and Bioanalytical Chemistry* 2020, 412, (6), 1441-1451.
- Ali, P.; Shah, A. A.; Hasan, F.; Hertkorn, N.; **Gonsior, M.**; Sajjad, W.; Chen, F., A Glacier Bacterium Produces High Yield of Cryoprotective Exopolysaccharide. *Frontiers in Microbiology* 2020, 10, (3096).
- Valle, J.; Harir, M.; **Gonsior, M.**; Enrich-Prast, A.; Schmitt-Kopplin, P.; Bastviken, D.; Hertkorn, N., Molecular differences between water column and sediment pore water SPE-DOM in ten Swedish boreal lakes. *Water Research* 2020, 170, 115320.
- Postigo, C.; Andersson, A.; Harir, M.; Bastviken, D.; **Gonsior, M.**; Schmitt-Kopplin, P.; Gago-Ferrero, P.; Ahrens, L.; Ahrens, L.; Wiberg, K., Unraveling the chemodiversity of halogenated disinfection by-products formed during drinking water treatment using target and non-target screening tools. *J Hazard Mater* 2021, 401, 123681.
- Powers, L. C. ****; Del Vecchio, R.; Blough, N. V.; McDonald, N.; Schmitt-Kopplin, P.; **Gonsior, M.**, Optical Properties and Photochemical Transformation of the Dissolved Organic Matter Released by Sargassum. *Frontiers in Marine Science* 2020, 7, (954).
- Xiang, Y. ^{vs}; **Gonsior, M.**; Schmitt-Kopplin, P.; Shang, C., Influence of the UV/H₂O₂ Advanced Oxidation Process on Dissolved Organic Matter and the Connection between Elemental Composition and Disinfection Byproduct Formation. *Environ. Sci. Technol.* 2020, 54, (23), 14964-14973.
- Lapham, L. L.; Dallimore, S. R.; Magen, C.; Henderson, L. C.; Powers, L. C. ****; **Gonsior, M.**; Clark, B.; Côté, M.; Fraser, P.; Orcutt, B. N., Microbial Greenhouse Gas Dynamics Associated With Warming Coastal Permafrost, Western Canadian Arctic. *Frontiers in Earth Science* 2020, 8, (576).
- Seopela, M. P. ^{vs}; Powers, L. C. ****; Clark, C.; Heyes, A.; **Gonsior, M.**, Combined fluorescent measurements, parallel factor analysis and GC-mass spectrometry in evaluating the photodegradation of PAHS in freshwater systems. *Chemosphere* 2021, 269, 129386.
- Postigo, C.; Andersson, A.; Harir, M.; Bastviken, D.; **Gonsior, M.**; Schmitt-Kopplin, P.; Gago-Ferrero, P.; Ahrens, L.; Ahrens, L.; Wiberg, K., Unraveling the chemodiversity of halogenated disinfection by-products formed during drinking water treatment using target and non-target screening tools. *J Hazard Mater* 2021, 401, 123681.

- 2019 Luek, J. L. ***; Harir, M.; Schmitt-Kopplin, P.; Mouser, P. J.; **Gonsior, M.**, Organic sulfur fingerprint indicates continued injection fluid signature 10 months after hydraulic fracturing. *Environmental Science: Processes & Impacts* 2019, 21, (2), 206-213. UMCES contribution number: 5531.
- Andersson, A.; Harir, M.; **Gonsior, M.**; Hertkorn, N.; Schmitt-Kopplin, P.; Kylin, H.; Karlsson, S.; Ashiq, M. J.; Lavonen, E.; Nilsson, K.; Pettersson, Å.; Stavklint, H.; Bastviken, D., Waterworks-specific composition of drinking water disinfection by-products. *Environmental Science: Water Research & Technology* 2019, 5, (5), 861-872. UMCES contribution number: 5618
- Zhao, Z.; **Gonsior, M.**; Schmitt-Kopplin, P.; Zhan, Y.; Zhang, R.; Jiao, N.; Chen, F., Microbial transformation of virus-induced dissolved organic matter from picocyanobacteria: coupling of bacterial diversity and DOM chemodiversity. *The ISME Journal* 2019. UMCES contribution number: 5640
- Powers, L. ****; **Gonsior, M.**, Non-targeted screening of disinfection by-products in desalination plants using mass spectrometry: A review. *Current Opinion in Environmental Science & Health* 2019, 7, 52-60. UMCES contribution number: 5543.
- Gonsior, M.**; Powers, L. C. ****; Williams, E.; Place, A.; Chen, F.; Ruf, A.; Hertkorn, N.; Schmitt-Kopplin, P., The chemodiversity of algal dissolved organic matter from lysed *Microcystis aeruginosa* cells and its ability to form disinfection by-products during chlorination. *Water Research* 2019, 155, 300-309. UMCES contribution number: 5562
- Hemmler, D.^{vs}; **Gonsior, M.**; Powers, L. C. ****; Marshall, J. W.; Rychlik, M.; Taylor, A. J.; Schmitt-Kopplin, P., Simulated Sunlight Selectively Modifies Maillard Reaction Products in a Wide Array of Chemical Reactions. *Chemistry – A European Journal* 2019, 25, (57), 13208-13217. UMCES contribution number: no number
- Mitchellmore, C. L.; He, K.; **Gonsior, M.**; Hain, E.; Heyes, A.; Clark, C.; Younger, R.; Schmitt-Kopplin, P.; Feerick, A.; Conway, A.; Blaney, L., Occurrence and distribution of UV-filters and other anthropogenic contaminants in coastal surface water, sediment, and coral tissue from Hawaii. *Sci Total Environ* 2019, 670, 398-410. UMCES contribution number: 5560
- Powers, L. C. ****; Hertkorn, N.; McDonald, N.; Schmitt-Kopplin, P.; Del Vecchio, R.; Blough, N. V.; **Gonsior, M.**, Sargassum sp. Act as a Large Regional Source of Marine Dissolved Organic Carbon and Polyphenols. *Global Biogeochemical Cycles* 2019, 33, (11), 1423-1439. UMCES contribution number: 5718
- Ziegler, G.; **Gonsior, M.**; Fisher, D. J.; Schmitt-Kopplin, P.; Tamburri, M. N., Formation of Brominated Organic Compounds and Molecular Transformations in Dissolved Organic Matter (DOM) after Ballast Water Treatment with Sodium Dichloroisocyanurate Dihydrate (DICD). *Environ. Sci. Technol.* 2019, 53, (14), 8006-8016. UMCES contribution number: No number
- Cai, R.; Zhou, W.; He, C.; Tang, K.; Guo, W.; Shi, Q.; **Gonsior, M.**; Jiao, N., Microbial Processing of Sediment-Derived Dissolved Organic Matter: Implications for Its Subsequent Biogeochemical Cycling in Overlying Seawater. *Journal of Geophysical Research: Biogeosciences* 2019, 124, (11), 3479-3490. UMCES contribution number: no number.
- 2018 J. Valle, **M. Gonsior**, M. Harir, A. Enrich-Prast, P. Schmitt-Kopplin, D. Bastviken, R. Conrad, N. Hertkorn, Extensive processing of sediment pore water dissolved organic matter during anoxic incubation as observed by high-field mass spectrometry (FTICR-MS), *Water Research*, 129 (2018) 252-263. UMCES contribution number: 5451.

- Aiona, P. K.; Luek, J. L.***; Timko, S. A. ^{vs}; Powers, L. C.****; **Gonsior, M.**; Nizkorodov, S. A., Effect of Photolysis on Absorption and Fluorescence Spectra of Light-Absorbing Secondary Organic Aerosols. *ACS Earth and Space Chemistry* 2018, 2, (3), 235-245. UMCES contribution number: 5462.
- Luek, J. L.***; Harir, M.; Schmitt-Kopplin, P.; Mouser, P. J.; **Gonsior, M.**, Temporal dynamics of halogenated organic compounds in Marcellus Shale flowback. *Water Research* 2018, 136, 200-206. UMCES contribution number: 5475
- Powers, L. C. ****; Luek, J. L.***; Schmitt-Kopplin, P.; Campbell, B. J.; Magen, C.; Cooper, L. W.; **Gonsior, M.**, Seasonal changes in dissolved organic matter composition in Delaware Bay, USA in March and August 2014. *Org Geochem* 2018, 122, 87-97. UMCES contribution number: 5509.
- Gonsior, M.**; Hertkorn, N.; Hinman, N.; Dvorski, S. E. M.; Harir, M.; Cooper, W. J.; Schmitt-Kopplin, P., Yellowstone Hot Springs are Organic Chemodiversity Hot Spots. *Scientific Reports* 2018, 8, (1), 14155. UMCES contribution number: 5518.
- Murphy, K.; Timko, S. A. ^{vs}; **Gonsior, M.**; Powers, L. ****; Wunsch, U.; Stedmon, C. A., Photochemistry illuminates ubiquitous organic matter fluorescence spectra. *Environ. Sci. Technol.* 2018. UMCES contribution number: 5521.
- 2017 J. Valle, **M. Gonsior**, M. Harir, A. Enrich-Prast, P. Schmitt-Kopplin, D. Bastviken, R. Conrad, N. Hertkorn, Extensive processing of sediment pore water dissolved organic matter during anoxic incubation as observed by high-field mass spectrometry (FTICR-MS), *Water Research*, (2017)
- Luek, J. L.***; Thompson, K. E.*; Larsen, R. K.; Heyes, A.; **Gonsior, M.** Sulfate Reduction in Sediments Produces High Levels of Chromophoric Dissolved Organic Matter. *Scientific Reports* 2017, 7 (1), 8829. UMCES contribution number: 5394.
- Bischoff, A.; Barrat, J.-A.; Bauer, K.; Burkhardt, C.; Busemann, H.; Ebert, S.; **Gonsior, M.**; Hakenmüller, J.; Haloda, J.; Harries, D.; Heinlein, D.; Hiesinger, H.; Hochleitner, R.; Hoffmann, V.; Kaliwoda, M.; Laubenstein, M.; Maden, C.; Meier, M. M. M.; Morlok, A.; Pack, A.; Ruf, A.; Schmitt-Kopplin, P.; Schönbacher, M.; Steele, R. C. J.; Spurný, P.; Wimmer, K. The Stubenberg meteorite—An LL6 chondrite fragmental breccia recovered soon after precise prediction of the strewn field. *Meteoritics & Planetary Science* 2017. UMCES contribution number: 5322.
- Luek, J. L.***; **Gonsior, M.** Organic compounds in hydraulic fracturing fluids and wastewaters: A review. *Water Research* 2017, 123, 536-548. UMCES contribution number: 5381.
- Mangalgi, K. P. ^{vs}; Timko, S. A. ^{vs}; **Gonsior, M.**; Blaney, L. PARAFAC Modeling of Irradiation- and Oxidation-Induced Changes in Fluorescent Dissolved Organic Matter Extracted from Poultry Litter. *Environ. Sci. Technol.* 2017, 51 (14), 8036-8047. UMCES contribution number: 5375.
- Gonsior, M.**, J. Luek** P. Schmitt-Kopplin, J. M. Grebmeier, and L. W. Cooper, Optical Properties and Molecular Diversity of Dissolved Organic Matter in the Bering Strait and Chukchi Sea, *Deep Sea Research Part II: Topical Studies in Oceanography* (2017). UMCES contribution number: 5295.
- Coelho, C.; Parot, J.; **Gonsior, M.**; Nikolantonaki, M.; Schmitt-Kopplin, P.; Parlanti, E.; Gougeon, R. D. Asymmetrical flow field-flow fractionation of white wine chromophoric colloidal matter. *Analytical and Bioanalytical Chemistry* 2017, 1-10. UMCES contribution number: 5425.
- Luek, J. L.***; Schmitt-Kopplin, P.; Mouser, P. J.; Petty, W. T.; Richardson, S. D.; **Gonsior, M.** Halogenated Organic Compounds Identified in Hydraulic Fracturing Wastewaters Using Ultrahigh Resolution Mass Spectrometry. *Environ. Sci. Technol.* 2017. UMCES contribution number: 5347.

- Ruf, A.; Kanawati, B.; Hertkorn, N.; Yin, Q.-Z.; Moritz, F.; Harir, M.; Lucio, M.; Michalke, B.; Wimpenny, J.; Shilobreeva, S.; Bronsky, B.; Saraykin, V.; Gabelica, Z.; Gougeon, R. D.; Quirico, E.; Ralew, S.; Jakubowski, T.; Haack, H.; **Gonsior, M.**; Jenniskens, P.; Hinman, N. W.; Schmitt-Kopplin, P. Previously unknown class of metalorganic compounds revealed in meteorites. *Proceedings of the National Academy of Sciences* **2017**, 114 (11), 2819-2824. UMCES contribution number: 5426.
- Roullier-Gall, C.; Hemmler, D.; **Gonsior, M.**; Li, Y.; Nikolantonaki, M.; Aron, A.; Coelho, C.; Gougeon, R. D.; Schmitt-Kopplin, P. Sulfites and the wine metabolome. *Food Chem.* **2017**, 237, 106-113. UMCES contribution number: 5356.
- Zhao, Z.; **Gonsior, M.**; Luek, J. L.^{***}; Timko, S. ^{VS}; Ianiri, H.*; Hertkorn, N.; Schmitt-Kopplin, P.; Fang, X.; Zeng, Q.; Jiao, N.; Chen, F. Picocyanobacteria and deep-ocean fluorescent dissolved organic matter share similar optical properties. *Nature Communications* **2017**, 8, 15284. UMCES contribution number: 5314.
- 2016 Dvorski, S. E. M.; **Gonsior, M.**; Hertkorn, N.; Uhl, J.; Müller, H.; Griebler, C.; Schmitt-Kopplin, P., Geochemistry of Dissolved Organic Matter in a Spatially Highly Resolved Groundwater Petroleum Hydrocarbon Plume Cross-Section. *Environ. Sci. Technol.* **2016**, 50, (11), 5536-5546.
- Gonsior, M.**, J. Valle, P. Schmitt-Kopplin, N. Hertkorn, D. Bastviken, J. Luek, M. Harir, W. Bastos, and A. Enrich-Prast, Chemodiversity of dissolved organic matter in the Amazon Basin, *Biogeosciences*, 13(14), 4279-4290 (2016).
- Li, Y., M. Harir, M. Lucio, M. Gonsior, B. P. Koch, P. Schmitt-Kopplin, and N. Hertkorn, Comprehensive structure-selective characterization of dissolved organic matter by reducing molecular complexity and increasing analytical dimensions, *Water Research*, 106, 477-487 (2016).
- 2015 Yamashita, Y.; McCallister, S. L.; Koch, B. P.; **Gonsior, M.**; Jaffé, R. Dynamics of dissolved organic matter in fjord ecosystems: Contributions of terrestrial dissolved organic matter in the deep layer. *Estuarine, Coastal and Shelf Science* 2015, 159, 37-49. doi: 10.1016/j.ecss.2015.03.024. UMCES contribution number: 5014.
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- Timko, S. A.; Gonsior, M.; Cooper, W. J. Influence of pH on fluorescent dissolved organic matter photo-degradation. *Water Research* 2015, 85, 266-274. doi: 10.1016/j.watres.2015.08.047. UMCES contribution number: 5084.

- 2014 **Gonsior, M.**, Schmitt-Kopplin, P.; Stavklint, H.; Richardson S.; Hertkorn, N.; and D. Bastviken. Dissolved Organic Matter Changes along Treatments of a Drinking Water Plant in Sweden and the Formation of Previously Unknown DBPs. *Environ. Sci. Technol.* 2014, (under review).
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- Cottrell, B. A.; **Gonsior, M.**; Timko, S. A.; Simpson, A. J.; Cooper, W. J., Photochemistry of marine and fresh waters: A role for copper-dissolved organic matter ligands. *Marine Chemistry*, 162,77-88.
- 2013 Tseng, L. Y.; Gonsior, M.; Schmitt-Kopplin, P.; Cooper, W. J.; Pitt, P.; Rosso, D., Molecular Characteristics and Differences of Effluent Organic Matter from Parallel Activated Sludge and Integrated Fixed-Film Activated Sludge (IFAS) Processes. *Environ. Sci. Technol.* 2013, 47 (18), 10277-10284. doi: 10.1021/es4002482. UMCES contribution number: 4794.
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- Lavonen, E. E.; **Gonsior, M.**; Tranvik, L. J.; Schmitt-Kopplin, P.; Köhler, S. J., Selective Chlorination of Natural Organic Matter: Identification of Previously Unknown Disinfection By-products. *Environ.Sci. Technol.* 2013, 47 (5), 2264-2271. doi: 10.1021/es304669p
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- 2012 Shakeri Yekta, S.; **Gonsior, M.**; Schmitt-Kopplin, P.; Svensson, B. H. Characterization of Dissolved Organic Matter in Full Scale Continuous Stirred Tank Biogas Reactors Using Ultrahigh Resolution Mass Spectrometry: A Qualitative Overview. *Environ. Sci. Technol.* 2012, 46 (22), 12711-12719.
- Ayatollahi, S.; Kalnina, D.; Song, W.; Cottrell, B. A.; Gonsior, M.; Cooper, W. J., 2012 Recent advances in structure and reactivity of dissolved organic matter: radiation chemistry of non-isolated natural organic matter and selected model compounds. *Water Science & Technology* 66, (9), 1941-1949.
- 2011 **Gonsior, M.**; M. Zwartjes; W. J. Cooper; W. Song; K. P. Ishida; L. Y. Tseng; M. K. Jeung; D. Rosso; N. Hertkorn and P. Schmitt-Kopplin. Characterization of Effluent Organic Matter identified by ultrahigh resolution Mass Spectrometry. *Water Research.* 2011,45, 2943-2953.
- Gonsior, M.; B. M. Peake; W. T. Cooper; D. Podgorski; J. D'Andrilli; T. Dittmar and W. J. Cooper. 2011 Characterization of dissolved organic matter across the Subtropical Convergence off the South Island, New Zealand. *Marine Chemistry* 122, 99-110.
- 2010 Bones, D. L., D. K. Henriksen, S. A. Mang, **M. Gonsior**, A. P. Bateman, T. B. Nguyen, W.J. Cooper, and S. A. Nizkorodov. Appearance of strong absorbers and

- fluorophores in limonene-O₃ secondary organic aerosol due to NH₄⁺ -mediated chemical aging over long time scales, *Journal of Geophysical Research*. 2010, 115.
- Kowalczuk, Piotr; W. J. Cooper; M. J. Durako; A. E. Kahn; **M. Gonsior** and H. Young. Characterization of dissolved organic matter fluorescence in the South Atlantic Bight with use of PARAFAC model: Relationships between fluorescence and its components, absorption coefficients and organic carbon concentrations. *Marine Chemistry*. 2010, 118, 22-36.
- 2009 Kowalczuk, Piotr; M. J. Durako; H. Young; A. E. Kahn; W. J. Cooper and **M. Gonsior**. Characterization of dissolved organic matter fluorescence in the South Atlantic Bight with use of PARAFAC model: Interannual variability. *Marine Chemistry*. 2009, 113, 182-196.
- Gonsior, M.**; Barrie M. Peake; William T. Cooper; David Podgorski; Juliana D'Andrilli and William J. Cooper. Photochemically Induced Changes in Dissolved Organic Matter Identified by Ultrahigh Resolution Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. *Environmental Science & Technology*. 2009, 43(3), 698-703.
- 2008 Cooper, William J.; W. Song; **M. Gonsior**; D. Kalnina; B. M. Peake and S. P. Mezyk. Recent advances in structure and reactivity of dissolved organic matter in natural waters. *Water, Science and Technology: Water Supply*, 2008, 8 (6), 615-623.
- Gonsior, M.**; Peake, B. M.; Jaffe, R.; Cooper, W. J.; Kahn, A.; Young, H. and Kowalczuk, P. Spectral characterization of chromophoric dissolved organic matter (CDOM) in a fjord (Doubtful Sound, New Zealand). *Aqua. Sci.* 2008, 70 (4), 397–409.

Book Chapter

- 2019 Gonsior, M., Chapter 13 - FT-ICR MS and Orbitrap mass spectrometry approaches in environmental chemistry. In *Fundamentals and Applications of Fourier Transform Mass Spectrometry*, Kanawati, B.; Schmitt-Kopplin, P., Eds. Elsevier: 2019; pp 407-423.

Attended Scientific Conferences

- ASLO Aquatic Sciences Meeting in San Diego, USA, 2020
- SETAC Meeting, Sacramento, USA, 2019
- ASLO Aquatic Sciences Meeting in San Juan, Puerto Rico, 2019 (session co-chair)
- XMAS III, Marine Science Symposium, Xiamen University, Xiamen, China, 2019
- AGU Fall Meeting, Washington D.C., USA, 2018
- SETAC Meeting, Toronto, Canada, 2018
- ACS Annual Meeting, New Orleans, USA, 2018
- Gordon Research Conference Drinking Water Disinfection By-Products, USA, 2017
- ASLO, Aquatic Sciences Meeting, Hawaii, USA, 2017
- XMAS III, Marine Science Symposium, Xiamen University, Xiamen, China, 2017
- ACS General Meeting, Philadelphia, USA 2016
- Fluorofest, Horiba Conference, Beijing, China, 2016
- ASLO, Aquatic Sciences Meeting, New Orleans, 2016
- IWA, 2015 Specialty conference NOM 6
- ASLO, Aquatic Sciences Meeting, Granada, Spain, 2015
- ASLO, Ocean Sciences Meeting, Hawaii, 2014
- WEFTEC, Chicago 2013
- ASLO, Aquatic Sciences Meeting, New Orleans, 2013
- Gordon Conference, Organic Geochemistry, Holderness 2012.
- IWA, 2011 Specialty conference NOM 5
- ASLO, Orlando, 2008

ASLO, Santa Fe, 2007,
PacifiChem, Hawaii, 2005

Invited Seminars and Presentations

I. Invited conference presentations

- 2018 Invited talk at ACS annual meeting in New Orleans.” Chemodiversity of Dissolved Organic Matter in Anaerobic Sediments”.
- 2017 **Gonsior M.** “What are high molecular weight Disinfection By-products? New insights from non-targeted ultrahigh resolution mass spectrometry”. Gordon Research Conference Drinking Water Disinfection By-Products. July 30 - August 4, 2017.
Gonsior M., Zhao Zhao, N. Hertkorn, P. Schmitt-Kopplin, Nianzhi Jiao, Feng Chen, Leanne Powers. “In situ Sources of Marine Chromophoric Dissolved Organic Matter”. ASLO Ocean Sciences Meeting 2017, Honolulu, Hawaii.
Gonsior M., Zhao Zhao, N. Hertkorn, P. Schmitt-Kopplin, Xiating Fang, Qinglu Zeng, Nianzhi Jiao, Feng Chen. “Picocyanobacteria and Deep-Ocean Fluorescent Dissolved Organic Matter share Similar Optical Properties”. XMAS-III, the 3rd Xiamen Symposium on Marine Environmental Sciences, Xiamen, China.
- 2016 **Gonsior M.** “Photochemistry of Marine Dissolved Organic Matter”. FluoroFest symposium organized by Horiba Jobin Yvon, Peking University, Beijing.
- 2015 William J. Cooper and **M. Gonsior**. Keynote: “A Retrospective of Natural Organic Matter Research for Water Applications”. IWA NOM6 specialty conference, Malmo, Sweden.

II. Invited Department Seminars

- 2022 Invited distinguished seminar, University of Montana, Flathead Biological Station.
- 2022 Invited distinguished seminar, University of Montana, Geosciences Department.
- 2021 Invited distinguished seminar, University of Montana, Chemistry Department.
- 2020 Invited online seminar at IMET.
- 2019 Invited distinguished seminar at Syracuse University in April 2019.
- 2018 Invited seminar at South Carolina University, Columbia.
- 2017 Invited Seminar at Johns Hopkins University, “The Complex World of Dissolved Organic Matter in Natural and Engineered Systems”.
UMCES Chesapeake Biological Laboratory, “Dissolved Organic Matter Characterization in Natural and Engineered Systems”.
UMCES Institute of Marine and Environmental Technology, “Dissolved Organics Matter – DOM Characterization in Natural and Engineered Systems”
UMCES Appalachian Laboratory, “Dissolved Organics Matter – DOM Characterization in Natural and Engineered Systems”.
UMCES Horn Point Laboratory, “Dissolved Organics Matter – DOM Characterization in Natural and Engineered Systems”.
- 2015 Seminar at FIU, Florida, “Ultrahigh Resolution Mass Spectrometry (FT-MS) - Excitation Emission Matrix fluorescence (EEM). What do we know about the molecular composition of marine CDOM?”
Seminar at Xiamen University, China. “Ultrahigh Resolution Mass Spectrometry (FT-MS) and Excitation Emission Matrix fluorescence (EEM) of Natural Organic Matter.”
- 2014 Seminar at University of Barcelona, Spain. “New Insights into the Molecular Nature of Dissolved Organic Matter”.
Seminar at University of Burgundy, France, “Ultrahigh Resolution Mass Spectrometry (FT-MS) - Excitation Emission Matrix fluorescence (EEM) – What do we know about the molecular composition of CDOM”

- Seminar at Florida State University (FSU), “New Insights into the Molecular Nature of Dissolved Organic Matter”.
- 2013 Seminar at Chemistry Department in College Park (UMCP), “Non-target ultrahigh resolution mass spectrometry - advancements and limitations”
Seminar at IMET, UMCES, “Ultrahigh Resolution Mass Spectrometry: Tracing Organic Matter in Aquatic Systems”.
Seminar at AL, UMCES, “Ultrahigh Resolution Mass Spectrometry: Tracing Organic Matter in Aquatic Systems”.
Seminar at Smithsonian Environmental Research Center (SERC), “Ultrahigh Resolution Mass Spectrometry: Tracing Organic Matter in Aquatic Systems”.
- 2012 Seminar at Horn Point Laboratory, UMCES, “Ultrahigh Resolution Analytical Techniques: A non-target approach of analyzing complex natural organic matter”.
- 2011 Mid-term seminar, Linköping University, Sweden, “The Molecular Complexity of Natural Organic Matter”.
Uppsala University, Sweden, “The Molecular Complexity of Natural Organic Matter”.
- 2009 Seminar at Virginia Commonwealth University (VCU), “Molecular Fingerprinting of Dissolved Organic Matter”.
Seminar at Bermuda Institute of Ocean Sciences, “Molecular Fingerprinting of Dissolved Organic Matter.”
Seminar at Helmholtz Center for Environmental Health, Munich, Germany. “Mass Spectrometry goes Global”.
Seminar at University of California Irvine, Earth System Science, “Molecular Fingerprinting of Dissolved Organic Matter”.

Symposia Organized/Chaired at Professional Meetings

- 2019 Session Co-chair at ASLO Aquatic Sciences Meeting in San Juan, Puerto Rico.
- 2018 Session Chair at 13th European Fourier Transform Mass Spectrometry Workshop, Freising, Germany. Session: “Environmental Applications”.
Session Chair at ASLO Summer Meeting in Victoria, BC. Session: Recent Advances in Aquatic Photochemistry.
Session Chair at XMAS IV, Xiamen, China. Session: “M4-DOM and microbial Diversity”.
- 2016 Symposium “Disinfection By-Products: What have we learned about Dissolved Organic Matter Precursors?”. 252nd American Chemical Society National Meeting & Exposition in Philadelphia, August 21-25, 2016.
- 2015 NSF funded workshop “Workshop: Natural Organic Matter and its Impact on Drinking Water” within the IWA NOM 6 specialty conference, Malmo, Sweden.
- 2011 Committee member of the IWA meeting: "Natural Organic Matter Research - From Source to Tap and Beyond" in Irvine, California, USA 27-29 July 2011.

Active Memberships in Professional Societies and Journal Editor

Active Memberships in Professional Societies

American Society of Limnology and Oceanography (L&O)
American Chemical Society (ACS)
American Geophysical Union (AGU)

Journal Editor

2021-present: Associate Editor for Frontiers in Marine Science

Graduate and Postdoctoral Advisors and Advisees

(i) Graduate Advisor: Barrie M. Peake, Otago University, New Zealand

(ii) Postdoctoral Sponsor: William J. Cooper, University of California, Irvine, USA and David Bastviken, Linköping University, Sweden

(iii) Graduate Students Supervised:

Jenna Luek, PhD (graduated 2017); Alec Armstrong, PhD (graduated 2022), Katie Martin, PhD (graduated 2021), Alterra Sanchez, PhD (graduated 2021), Madeline Lahm MS (graduated 2022), Alexandra Gibbs (graduating in 2022).

(iiii) Graduate Student Committee Member:

Ernest Williams (PhD MEES, advisor: Al Place), Graduated in 2022

Kelly Hondula (PhD MEES, advisor: Margaret Palmer), Graduated in 2021

Ana Sosa (PhD MEES, advisor: Feng Chen). Graduated in 2021

Annaleise Conway (MS MEES, advisor: Carys Mitchelmore). Graduated in 2021

Hadley McIntosh (PhD MEES, advisor: Laura Lapham). Graduated in 2020

Anna Andersson (PhD Linköping University, Sweden, advisor David Bastviken). Graduated in 2020.

Marla Bianca (PhD UMCP, advisor Neil Blough). Graduated in 2020

Sarah Fischer (PhD UMCP, advisor Alba torrents). Graduated in 2019

Gregory Ziegler (PhD MEES, advisor: Mario Tamburi), Graduated in 2019

Sabine Dvorski, (PhD Technical University Munich, advisor: Philippe Schmitt-Kopplin). Graduated in 2017

Kiranmayi Mangalgi (PhD UMBC, advisor: Lee Blaney). Graduated in 2017.

Lauren Gelesh (MS MEES, advisor: Laura Lapham). Graduated in 2015

Daniel Baluha (PhD, UMCP, advisor: Neil Blough). Graduated in 2014.

Awards and Funded Projects

2022 Bioaccumulation and chronic toxicity of the UV filter avobenzone to the coral *Acropora cervicornis*, DSM, \$348,923 (Co-PI), 2022-2023

2021 Benedict Water Quality Study: Concept study to evaluate wastewater tracers on assessing the impact of septic effluent in Benedict, Charles County, MD. \$22,739 (PI), 2021

Proof of Concept and Design Study to Evaluate Use of Wastewater Tracers in Anne Arundel County Tidal Water. Anne Arundel County. \$59,746. (Co-PI)

2019 “The fate of lysis products of picocyanobacteria contributes to marine humic-like chromophoric DOM”. **National Science Foundation**, Chemical Oceanography. 2/1/2019-1/31/2022. \$612,844 (PI).

“Collaborative Research: Hydrologic Connectivity and Water Storage as Drivers of Carbon Export and Emissions from Wetland-Dominated Catchments”. **National Science Foundation**, Eco Systems, 06/1/2019-5/31/2022 Sub-award: \$ 79,934.00.

“A Global Defense for Underwater Wildlife: Creating Habitats that Protect Against Ocean Acidification”. **Bailey Wildlife Foundation**. 1/1/2019-12/31/2020.

“Determining the Concentrations of UV Filters in Coastal Waters in the Florida Keys, USA”. **Personal Care Product Council (PCPC)**. \$164,769. 08/19/2019-06/30/2020. (Co-PI).

“Designing and validating a standard toxicity test to assess the acute and chronic toxicity of the UV filter octocrylene to *Acropora cervicornis*”. **Personal Care Product Council PCPC**. \$346,670. 09/01/2019-04/30/2020. (Co-PI)

- “Acute Toxicity of Oxybenzone to the hard coral *Galaxea fascicularis*”. **Johnson&Johnson**. \$102,670. 06/21-2019-05/31/2020. (Co-PI)
- 2018** Excellence in Review Award 2018 from the ACS journal Environmental Science and Technology
- 2017** Honorable Mentioning to the Masao Horiba Awards, Kyoto, Japan.
Acquisition of a Coupled BioInert LC/Triple-Quad ICP-MS System for Critical Equipment Upgrades, Innovative Marine Biochemical Research, and Graduate Training”. **National Science Foundation** DBI – Biological Field Stations & Marine Labs. 06/01/2017-05/31/2018. \$386,999. (Co-PI)
“Determining Concentrations of Oxybenzone (BP-3) in Coastal Waters, Sediment and Coral Tissue in Hawaii”. **Personal Care Product Council** (PCPC). August 1st 2017 – December 31st 2017. \$123,586. (Co-PI).
- 2016** **Maryland Sea Grant**, USA, “Tracking Septic System Performance by Using Innovative Mass Spectrometric Approaches and Traditional Nutrient Measurements.” (\$139,978) (2016-2017)
“Collaborative Research: Ultrahigh-Resolution Analyses of Organic Constituents in Shale Well Fluids and their Environmental Persistence”, **National Science Foundation**, USA, environmental engineering (CBET) (\$232,967) (2016-2019, PI)
- 2015** “Collaborative Research: Phlorotannins: An important Source of Marine Chromophoric Dissolved Organic Matter?”, **National Science Foundation**, USA: chemical oceanography (OCE) (\$365,540) (2015-2018, PI)
American Chemical Society (ACS), doctoral new investigator grant “Hydrosulfurization of Dissolved Organic Matter in Sediments: Linking Sulfate Reduction and Dissolved Organic Sulfur Formation.” (\$110,000) (2015-2017)
National Science Foundation, environmental engineering funded workshop: “Workshop: Natural Organic Matter and its Impact on Drinking Water.” \$48,060.
- 2014** Linköping University, Sweden **FORMAS** Grant “Drinking Water Disinfection By-Products: Revealing the Diversity and Assessing How to Reduce Human Exposure.” (\$22,680) (2014-2017, external senior personnel)
- 2007** Otago University publication bursary
- 2007** Chemistry Department, Otago University Scholarship
- 2004** Otago University PhD Scholarship

Names of References

Prof. William J. Cooper (Post-Doc Advisor)	wcooper@uci.edu
Dr. David Bastviken (Post-Doc Advisor)	david.bastviken@liu.se
Dr. Philippe Schmitt-Kopplin (collaborator)	schmitt-kopplin@helmholtz-muenchen.de
Dr. Norbert Hertkorn (collaborator)	hertkorn@helmholtz-muenchen.de
Laura Lapham (Colleague at my current position)	lapham@umces.edu