**Karl Kaiser CV**

Department of Marine Sciences ● Texas A&M University Galveston Campus ● Galveston, TX 77553
kaiserk@tamug.edu ● 409-740-4879 (o)
Website: https://sites.google.com/view/kaiserlab, h-index: 23, citations: 2684 (as of November 2017)

## ***Education***

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|---|---|
| Ph.D.: December 2009 | Marine Science, University of South Carolina. |
| M.S/B.S.: May 1997 | Johannes Kepler University (Linz, Austria), Chemical Engineering |

## ***Employment History***

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|---|---|
| Fall 2012–Present | Assistant Professor, Marine Sciences, Texas A&M Galveston Campus |
| 2010-2012 | Postdoctoral Researcher, Biological Sciences, Univ. of South Carolina |
| 2004-2009 | Research Assistant, Marine Science Program, Univ. of South Carolina |
| 1999-2004 | Research Associate, Biological Sciences, Univ. of South Carolina |
| 1997-1999 | Research Associate, Marine Science Institute, Univ. of Texas at Austin |
| 1990-1991 | Chemist, OMV Austria (petrochemicals and oil refining) |

## ***Academic Appointments***

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|---|---|
| Spring 2013–Present | Graduate Faculty, Texas A&M, Department of Oceanography |
| July 2013-Present | Graduate Faculty, Texas A&M, MARB-IDP |

## ***Additional Research Experience***

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|---|---|
| 2007-2011 | Consultant – USGS: *Characterization of organic matter in groundwater.* |
| 2000 | NMR, MS and molecular characterizations of complex carbohydrates, Complex Carbohydrate Research Center, University of Georgia, Athens. |
| 1996-1997 | Application of bifunctional crosslinkers to Atomic Force Microscopy, Institute of Biophysics, Johannes Kepler University Linz, Austria. |
| 1996 | Resistivities of $ZrO_2.Y_2O_3$ ceramics. Institute of Inorganic Chemistry, Johannes Kepler University Linz, Austria. |

## ***Awarded Grants at TAMUG (2012-2017)***
***Total = $1,021,969 (my portion = $822,030)***

**2017: $20,000**
Renewal of contract from 2015 to work on amino acids as signals for homing by salmon
Source of Support: US Fish and Wildlife Service
Role: PI

**2016: $3,486**
Chemical analysis of standard humic and fulvic acids
Source of Support: International Humic Substance Society
Role: PI

**2015: $674,719**
1) Development and application of a high sensitivity, ultra-low volume method to measure biomarkers of terrigenous organic matter in the open ocean
Source of Support: NSF OCE Chemical Oceanography
Award amount: $256,841
Total Award Period Covered: 12/1/2015-12/31/2018
Role: PI
With Rainer Amon and Patrick Louchouarn as Co-PIs

2) Collaborative research: Does dissolved organic matter influence the concentrations and distributions of trace elements in the Arctic Ocean?
Source of Support: NSF Arctic Research Opportunities
Award Amount: $399,878 to Texas A&M (my portion is half of the total award)
Total Award Period Covered: 08/1/2015-7/31/2018
Role: Co-PI
Lead by Rainer Amon, and Ronald Benner as additional Co-PI

3) Dissolved free amino acids as signals for homing by salmon.
Source of Support: US Fish and Wildlife Service
Award Amount: $18,000
Role: PI

**2014: $6,500**
Montague CTE Scholarship, Texas A&M University, $6,500

**2013: $316,750**
1) Application of biomarkers to examine transformations of dissolved carbon and nitrogen reservoirs in Arctic rivers
Source of Support: NSF EAR Geobiology and Low-Temperature Geochemistry
Total Award Amount: $74,209
Total Award Period Covered: 1/12/2013-11/30/2016
Role: PI

2) Collaborative Research: Calibration and application of vascular plant and aqueous microbial biomarkers to examine transformations of dissolved organic matter.
Source of Support: NSF OCE Chemical Oceanography
Award Amount: $242,541 to Texas A&M
Total Award Period Covered: 10/1/2013 – 9/30/2018
Role: PI at TAMUG
With Peter Hernes at UC Davis and Robert Spencer at FSU

***Awards and Funding before 2012***:
***Total: $53,000***

**2007-2012**
Characterization of dissolved organic matter in groundwater.
Source of support: USGS
Amount: $52,000; paid as consultant between 2007-2012.
With Ronald Benner at USC

**2008**
AGU travel award 2008
Amount: $500

**2005**
ASLO travel award 2005: $500

***Teaching Experience***

Student evaluation rating: 4.16 (average of all classes, 2012-2017)

Fall 2012–Spring 2017 Research for undergraduates (MARS 491, each semester)

| | |
|---|---|
| Fall 2017 | Organic Chemistry I (CHEM 227), class size: 45 students |
| Fall 2017 | Quantitative Analysis Lab (Chem 318), class size: 12 students |
| Fall 2017 | Quantitative Analysis (Chem 316), class size: 12 students |
| Fall 2017 | Introduction to Marine Science (MARS 101, 1 section), class size: 34 |
| Spring 2017 | Field Methods in Marine Sciences (MARS 461, chemical oceanography section), class size: 12 |
| Spring 2017 | Organic Chemistry II (CHEM 228), class size: 48 students |
| Fall 2016 | Ecosystem Functions in Marine Environments (MARB 640, 1 section), |
| Fall 2016 | Dynamics of Colloids in the Environment (OCNG 646, 1 section) |
| Fall 2016 | Organic Chemistry I (CHEM 227), class size: 59 students |
| Fall 2016 | Quantitative Analysis Lab (Chem 318), class size: 9 students |
| Fall 2016 | Quantitative Analysis (Chem 316), class size: 9 students |
| Spring 2015 | Organic Chemistry II (Chem 228), class size: 67 students |
| Fall 2015 | Ecosystem Functions in Marine Environments (MARB 640, 1 section) |
| Fall 2015 | Quantitative Analysis Lab (Chem 318), class size: 10 students |
| Fall 2015 | Quantitative Analysis (Chem 316), class size: 10 students |
| Spring 2015 | Organic Chemistry II (Chem 228), class size: 67 students |
| Fall 2014 | Quantitative Analysis Lab (Chem 318), class size: 5 students |
| Fall 2014 | Quantitative Analysis (Chem 316), class size: 5 students |
| Fall 2014 | Organic Chemistry I (Chem 227), class size: 70 students |
| Spring 2014 | Organic Chemistry II (Chem 228), class size: 59 students |
| Fall 2013 | Organic Chemistry I (Chem 227), class size: 61 students |
| Fall 2013 | Quantitative Analysis Lab (Chem 318), class size: 16 students |
| Fall 2013 | Quantitative Analysis (Chem 316), class size: 16 students |
| Summer 2013 | Problems in Marine Science (MARS 485), class size: 1 student |
| Spring 2013 | Organic Chemistry II (Chem 228), class size: 55 students |
| Fall 2012 | Organic Chemistry I (Chem 227), class size: 72 students |
| Spring 2010 | Chemical Oceanography lecture and laboratory (MSCI 312), class size: 65 students |
| 2007-2009 | Teaching Assistant, Chemical Oceanography (MSCI 312) Lab, class size: 17 students |
| Fall 2006 | Teaching Assistant, Introduction to Oceanography (MSCI 101), class size: 33 students |
| Spring1996 | Teaching Assistant, Biochemistry Laboratory Techniques, class size: 12 students |

## ***Honors and Awards***

Montague-CTE Scholar 2014-2015, Texas A&M University
Dissertations in Chemical Oceanography Symposium (sponsored by NSF) 2010.
University of South Carolina, Marine Science Program Publication Award 2009.
John F. Vernberg Publication Award 2008.
John F. Vernberg Publication Award 2006

## ***Publications***

44) **Kaiser, K**., Chuang, C.-Y., Harfmann, J., Hernes, P. An environmental metabolomics platform for gas chromatography – mass spectrometry. Limnol. Oceanogr. Methods., in preparation.

43) Sterne, A., **Kaiser, K**., Norwood, M., and P. Louchouarn (2017) Controls of organic carbon preservation in mangrove and saltmarsh-dominated coastal ecosystems, Nature Sci. Rep.., in preparation.

42) Xu, C., Zhang, S., Beaver, M., , Lin, P., , Sun, L., Doyle, J., Sylvan, J., Wozniak, A., Hatcher, P., **Kaiser, K**., Yan, G., Schwehr, K., Lin, Y., Wade, T. L., Chin, W.-C., Chiu, M.-H., Quigg, A., Santschi,

P. (2017), Bulk chemical composition of microbially-mediated exopolymeric substances (EPS) and their role in regulating Macondo oil transport in a mesocosm experiment. Front. Microbiol., in review.

41) Yan, G. and **K. Kaiser** (2017), Characterization of lignin phenols in ultra-low volumes of seawater and freshwater without pre-concentration, Ana. Chem., in review.

40) Yan, G., and **K. Kaiser** (2017) A rapid and sensitive method for the analysis of lignin phenols in environmental samples using ultra-high performance liquid chromatography-electrospray ionization-tandem mass spectrometry with multiple reaction monitoring, Anal. Chim. Acta., in revision.

39) Al Mukaimi, M. E, **Kaiser, K**., Williman, J. R., Dellapenna, T., Louchouarn, P., Santschi, P. (2017) Centennial record of anthropogenic impacts in Galveston Bay: evidence from trace metals and biomarkers, J. Env. Poll., accepted.

38) Shen, Y., Benner, R., **Kaiser, K**., Fichot, C., Whitledge, T., Babin, M. (2017) Pan-Arctic distributions of bioavailable dissolved organic matter, Geophys. Res. Lett., accepted.

37) **Kaiser, K.**, Canedo, M., McMahon, R., Amon, R. (2017) Origins and transformations of organic matter in major Arctic rivers. Nature Sci. Rep. 7, doi:10.1038/s41598-017-1272.

36) Loisel, J., Yu, Z., Beilman, D., **Kaiser, K**., Parnikoza, I. (2017). Past and present peatland development in Antarctica under warm climates. Nature Sci. Rep., 7, 12344, DOI:10.1038/s41598-017-12479-0.

35) **Kaiser, K**., Amon, R., and R. Benner (2017). The fate of terrigenous dissolved organic carbon on the Eurasian shelves and export to the North Atlantic. J. Geophys. Res.- Oceans., 10.1002/2016JC012380.

34) Fichot, C. G., Benner, R., **Kaiser, K**., Shen, Y., Amon, R., Ogawa, H., Chia-Jung Lu (2016). Predicting dissolved lignin phenol concentrations in the coastal ocean from chromophoric dissolved organic matter (CDOM) absorption coefficients, Frontiers Mar. Sci. 18, http://dx.doi.org/10.3389/fmars.2016.00007

33) Philben, M., Holmquist, J., MacDonald, G., Duan, D., **Kaiser, K**., and R. Benner (2015), Strong correlation between oxygen exposure time and the extent of organic matter decomposition in a peat core from James Bay Lowland, Global Biochem. Cycles 10.1002/2014GB004989 .

32) Chiaki M., K. **Kaiser, R**. Benner, M. G. Weinbauer (2015). Effect of P-limitation on bacterial and viral production and the utilization of dissolved nitrogen in surface waters of the Northwestern Mediterranean Sea. J. Plankton Res., 37, 16-20..

31) Philben, M., **K. Kaiser**, and R. Benner. Does oxygen exposure time control the extent of organic matter decomposition in peatlands? (2014). J. Geophys. Res. Biogeochem., 119, 897-909.

30) Philben, M., **K. Kaiser**, and R. Benner (2014). Biochemical evidence for minimal vegetation change in peatlands of the West Siberian Lowland during the Medieval Climate Anomaly and Little Ice Age. J. Geophys. Res. Biogeochem., 119, 808-825.

29) Landa, M., M.T. Cottrell, D.L. Kirchman, **K. Kaiser**, P. M. Medeiros, L. Tremblay, N. Batailler, J. Caparros, P. Catala, K. Escoubeyrou, L. Oriol, S. Blain, and I. Obernosterer (2014). Phylogenetic and structural response of heterotrophic bacteria to dissolved organic matter of different chemical composition in a continuous culture study. Environ. Microbiol., DOI: 10.1111/1462-2920.12242.

28) Y Zhang, **K Kaiser**, L Li, D Zhang, Y Ran, R Benner (2013). Sources, distributions, and early diagenesis of sedimentary organic matter in the Pearl River region of the South China Sea, Mar. Chem. 158, 39-48. http://dx.doi.org/10.1016/j.marchem.2013.11.003

27) Fichot, C.G, **Kaiser, K**., Hooker, S.B., Amon, R., Babin, M., Belanger, S. Walker, S.A, and R. Benner (2013). Pan-Arctic distributions of continental runoff in the Arctic Ocean. Nature Sci. Rep. 3:1053, 1-6. doi: 10.1038/srep01053.

26) Peter, S., Shen, Y., **Kaiser, K.**, Benner, R., and E. Kaiser (2013). Variability in the bioavailability and diagenetic state of dissolved organic matter in riparian groundwater. JGR-Biogeosciences 117. doi: 10.1029/2012JG002072.

25) Flerus, R., Koch, B. P., Lechtenfeld, O. J., McCallister, S. L., Schmitt-Kopplin, P., Benner, R., **Kaiser, K**. and G. Kattner (2012). Ageing of marine dissolved organic matter: a molecular perspective. *Biogeosciences*, 6, 1935-1955. doi: 10.5194/bg-9-1935-2012

24) Huang, Q., **Kaiser, K**., and R. Benner (2012). A simple HPLC method for the measurement of nucleobases and the RNA and DNA content of cellular material. *Limnol. Oceanogr. –Methods*, 10, 608-616. doi: 10.4319/lom.2012.10.608.

23) Thomas, L. K, Widdowson, M.A., Novak J.T., Chapelle F.H., Benner R., and **K. Kaiser** (2012). Potentially bioavailable natural organic carbon and hydrolyzable amino acids in aquifer sediments. *Groundwater Mont. Rem*., 4, 92-95, doi: 10.1111/j.1745-6592.2012.01406.x.

22) **Kaiser, K** and R. Benner (2012). Characterization of lignin by gas chromatography and mass spectrometry using a simplified CuO oxidation method. *Anal. Chem*., **84**, 459-464.

21) **Kaiser, K** and R. Benner (2012). Organic matter transformations in the upper mesopelagic zone of the North Pacific: chemical composition and linkage to microbial community structure. *J. Geophys. Res*. *– Oceans*, 117, C01023, doi: 10.1029/2011JC007141.

20) Chapelle, F. H., Bradley, P., McMahon, P. B., **Kaiser, K**., and R. Benner (2012). Dissolved oxygen as an indicator of bioavailable dissolved organic carbon in ground water, *Groundwater*, 50, 230-241.

19) Benner, R, and **K. Kaiser** (2011). Biological and photochemical transformations of amino acids and lignin phenols in riverine dissolved organic matter, *Biogeochem.,* doi: 10.1007/s10533-010-9435-4.

18) **Kaiser, K**. and R. Benner (2009). Biochemical composition and size distribution of organic matter at the Pacific and Atlantic Time-Series Stations. *Mar. Chem.,* **113**, 63-77.

17) Davis, J., **Kaiser, K**., and R. Benner (2009). Amino acid and amino sugar yields and compositions as indicators of dissolved organic matter diagenesis. *Org. Geochem*., **43**, 343-352.

16) Chapelle, F. H., Bradley, P. M., Goode, D. J., Tiedeman, C., Lacombe, P. J., **Kaiser, K**., and R. Benner (2009). Biochemical indicators for the bioavailability of natural dissolved organic carbon in ground water. *Groundwater,***47***,* 108-121.

15) **Kaiser, K.** and R. Benner (2008). Major bacterial contributions to the ocean reservoirs of detrital organic carbon and nitrogen. *Limnol. Oceanogr*. **53**, 99-112.

14) Hertkorn, N., Benner R., Frommberger M., Schmitt-Kopplin P., Witt M., **Kaiser K**., Kettrup A., and J. I. Hedges (2007). An integrated NMR and FTCIR mass spectroscopic study to characterize a new and major refractory component of (marine) natural organic matter (NOM) at the molecular level, CRAM: Carboxyl-rich alicyclic molecules. *Geochim. Cosmochim. Acta* 71, A399-A399.

13) Hertkorn, N., Benner R., Frommberger M., Schmitt-Kopplin P., Witt M., **Kaiser K**., Kettrup A., and J. I. Hedges (2006). Characterization of a major refractory component of marine dissolved organic matter. *Geochim. Cosmochim. Acta* 70, 2990-3010.

12) Maie, N., Parish, K. J., Watanabe, A., Knicker, H., Benner, R., Abe, T., **Kaiser, K**., and R. Jaffe (2006). Chemical characteristics of dissolved organic nitrogen in an oligotrophic subtropical coastal ecosystem. *Geochim. Cosmochim. Acta* 70, 4491-4506.

11) **Kaiser, K**., and R. Benner (2005). Hydrolysis-induced racemization of amino acids. *Limnol. Oceanogr.-Methods*, 3, 318-325.

10) Ebner, A., Marek, M., **Kaiser, K**., Kada, G., Hahn, C. D., Lackner, B., and H. J. Gruber (2005). Application of Biotin-4-Fluorescein in homogenous fluorescence assays for avidin, streptavidin and biotin or biotin derivatives. *In* Avidin-Biotin Technology in Life Sciences, ed. R. McMahon, Totowa (N.J.), Humana Press.

9) Benner, R., Benitez-Nelson, B., **Kaiser, K**., and R. M. W. Amon (2004). Export of young terrigenous dissolved organic carbon from rivers to the Arctic Ocean. *Geophys. Res. Lett*. **31**, doi:10.1029/2003GL019251.

8) Benner, R., and **K. Kaiser** (2003) Abundance of amino sugars and peptidoglycan in marine particulate and dissolved organic matter. *Limnol. Oceanogr.* **48** (1), 118-128.

7) Ogawa, H., Amagai, Y., Koike, I., **Kaiser, K**., and R. Benner (2001). Production of refractory dissolved organic matter by bacteria. *Science* **292**, 917-920.

6) **Kaiser, K,**. and R. Benner (2000) Determination of amino sugars in environmental samples with high salt content by high-performance anion-exchange chromatography and pulsed amperometric detection. *Anal. Chem.* **72**, 2566-2572.

5) Kada, G., **Kaiser, K**., Falk, H., and H. J. Gruber (1999). Rapid estimation of avidin and streptavidin by fluorescence quenching or flourescence polarization. *Biochim. Biophys. Acta-General Subjects* **1427**, 44-48.

4) Gruber, H.J., Kada, G., Marek, M., and **K. Kaiser** (1998). Accurate titration of avidin and streptavidin with biotin-fluorophore conjugates in complex, colored biofluids. *Biochim. Biophys. Acta -General Subjects* **1381**, 203-212.

3) Gruber, H.J., Marek, M., Schindler, H., and **K**. **Kaiser** (1997). Biotin-fluorophore conjugates with poly(ethylene glycol) spacers retain intense fluorescence after binding to avidin and streptavidin. *Bioconjug. Chem.* **8**, 552-559.

2) Marek, M, **Kaiser, K**., and H. J. Gruber (1997) Biotin-pyrene conjugates with poly(ethylene glycol) spacers are convenient fluorescent probes for avidin and streptavidin. *Bioconjug. Chem.* **8**, 560-566.

1) **Kaiser, K**., Marek, M., Haselgruebler, T., Schindler, H., and H. J. Gruber (1997). Basic studies on heterobifunctional biotin-PEG conjugates with a 3-(-4-pyridyldithio)propionyl marker on the second terminus. *Bioconjug. Chem*. **8**, 545-551.

***Research Analytical Techniques***

- Implementation of GLP and GMP practices in an environmental laboratory.

- Extensive experience with molecular-level analyses of carbohydrates (GC-MS, LC-PAD). Expertise in chiral separation of amino acids (LC, GC-IRMS). Analysis of lignin in natural organic matter and peats (GC-MS, GC-IRMS).

- Hands on experience with $^{1}H/^{13}C/^{15}N$-NMR, high-resolution mass spectroscopy (FTICR-MS), fluorescence, UV, IR, Atomic Force Microscopy (AFM), hyphenated ICP-MS applications.

- Extensive experience in chromatography methods (HPLC, HPLC-MS, GC, GC-MS, ion exchange, gelfiltration, affinity chromatography, reversed phase chromatography, PAGE, capillary electrophoresis) and electroanalytical methods (polarography, potentiometry).

- Skilled in organic synthesis (carbohydrates, peptides, bifunctional PEG crosslinkers for Avidin–Biotin assays).

- Experience in protein purification from biofluids.

- Experience in polymer technology and ceramics technology. Design of an apparatus to measure resistivities of $ZrO_2.Y_2O_3$ ceramics.

- Miscellaneous laboratory and field techniques, including organic carbon analysis (high temperature combustion), total and organic nitrogen analysis (high temperature combustion, chemiluminescence), phosphate analysis, ultrafiltration, respiration measurements, collection of marine samples, net tows, sediment coring.

***Cruise/Field Experience***

**2017: Labrador Peninsula, Canada.** June 2017
**2016: San Francisco Bay Estuary**. June 2016
**2015: San Francisco Bay Estuary**. June 2015
**2014: San Francisco Bay Estuary**. December 2014
**2008: Nansen and Admunsen Basins–Arctic Ocean**. *Kapitan Dranitsyn*. Oct. 2008. Isolation of lignin biomarkers, fluorescence measurement.
**2004: Bering Sea – Chukchi Sea.** *USCGS Healy.* July-August 2004. DOM isolation,fluorescence measurements, Sediment coring.
**2002: Bering Sea – Chukchi Sea.** *USCGS Healy.* July-August 2002. DOM isolation, Fluorescence measurements, Sediment coring.
**2000: Gulf of Mexico Transect**. *RV Longhorn*, May 2000 Cocatrie, LA. DOM isolation and tangential ultrafiltration. Respiration measurements.
**2001: BATS (Bermuda Area Time Series)**. *RV Cape Hatteras*, June 2001. DOC isolation and ultrafiltration, POC collection, ancillary measurements.
**1999: North Pacific**. *RV Kai' ma' kai O' Kanaloa*, November 1999. DOM isolation and tangential ultrafiltration.

***Recent Presentations at Professional Meetings***

**2017:**

Kaiser, K., Amon, R., and R. Benner. The fate of terrigenous dissolved organic carbon on the Eurasian shelves and export to the North Atlantic, European Geoscience Union Meeting, April 2017.

Molodtsova, T., Amon, R., Kaiser, K., Walker, S., Stedmon, C. Relationships between dissolved organic matter, hydrography, and trace elements in the Eurasian Arctic Ocean. ASLO Spring Meeting, February 2017.

Fichot, C.G., Trinh, R., Kaiser, K Smith, J., Gierach, M.M., Holt, Cash C., Impacts of a wastewater diversion event on the water quality of Santa Monica Bay, California. International Ocean Colour Science Meeting 2017, Lisbon.

**2016:**

Kaiser, K., Amon, R., and R. Benner. The fate of terrestrial dissolved organic matter in the Eurasian basin of the Arctic Ocean, AGU Ocean Sciences, Feb 2016.

(*) Canedo, M., Kaiser, K. Application of biomarkers to examine transformations of dissolved carbon and nitrogen reservoirs in Arctic rivers, AGU Ocean Sciences, Feb 2016

(*) Creeley, D, Kaiser, K. The fate of terrestrial dissolved organic matter in ocean margins investigated through coupled microbial-photochemical incubations of vascular plant leachates, AGU Ocean Sciences, Feb 2016.

**2015:**

Patrick Louchouarn, Matt Norwood, Amanda Sterne, Karl Kaiser, A. Armitage, W. Highfield, and S. Brody. Measuring the Role of Ecological Structure and Environmental Change on Organic Carbon Preservation in Coastal Wetlands from the Texas Gulf Coast. AGU-GAC Joint Assembly Meeting.

(*)Amanda Sterne[1], Karl Kaiser[1], Patrick Louchouarn[1,2], Matt Norwood. Degradation State and Sequestration Potential of Carbon in Coastal Wetlands of Texas: Mangrove Vs. Saltmarsh Ecosystems. AGU San Francisco, Fall 2015

**2014:**

Kaiser, K., Amon, R., and R. Benner. (oral). Chemical characteristics and decomposition of dissolved organic matter (DOM) in the Eurasian Basin of the Arctic Ocean, AGU Meeting, Honolulu, Feb 2014

(*)McMahon, R. and K. Kaiser (poster), Application of carbohydrates as biomarkers to study dissolved organic matter reservoirs in Arctic rivers, AGU Meeting, Honolulu, Feb 2014.

(*) Wyers, A. J.; (*) Ransom, J. L.; Kaiser, K.(poster): Linking chemical composition and molecular structure of terrigenous organic matter to optical properties, AGU Meeting, Honolulu, Feb 2014.

(*)Ransom, J. L.; (*) Wyers, A. J.; Kaiser, K.(poster): Investigating the sources and decomposition of terrigenous organic matter using biomarkers. AGU Meeting, Honolulu, Feb 2014.

Loisel, J., Yu, Z., Beilman, D., and K. Kaiser (poster), Developmental history of an intriguing peat-forming community along the West Antarctic Peninsula, AGU Meeting, San Francisco, December 2014.

Loisel, J., Yu, Z., Beilman, D., and K. Kaiser (oral), Biochemical and Geochemical Analysis of an Antarctic Peatland, GSA, Vancouver 2014.

(*)Sterne, A., Louchouarn, P., Norwood, M., and K. Kaiser (poster), Controls of Carbon Preservation in Coastal Wetlands of Texas: Mangrove vs. Saltmarsh Ecosystems, GU Meeting, San Francisco, December 2014

**2013:**

Kaiser, K., Philben, M., and R. Benner (poster). Investigating carbon dynamics in Siberian peat bogs using molecular-level analyses. AGU Meeting, San Francisco.

**2012:**

Kaiser, K., and R. Benner (invited talk). Carbohydrates, lignin and p-hydroxy-acetophenone (PON) as quantitative molecular vegetation proxies in peats. AGU Meeting, San Francisco.

**2011:**

Kaiser, K., and R. Benner (invited talk). Sources and transformations of non-living organic matter in the oceans. International Symposium on Advanced Studies on Environmental Pollution and Ecotoxicology, Ehime, Japan.

**2010:**
Kaiser, K. (invited talk). Sources and biochemical composition of detrital organic matter in the sea. DISCO symposium**,** Honolulu.

**2010:**
Kaiser, K, and R. Benner (poster). Major contribution of carbohydrates and amino acids to reactive organic matter in the upper mesopelagic zone of the subtropical North Pacific gyre. Ocean Sciences Meeting , Portland.

**2009:**
Kaiser, K, and R. Benner (poster). Investigating the sources and transformations of detrital marine organic matter using bacterial biomarkers. Chemical Oceanography in a Changing World**,** Savannah.

**2008:**
Kaiser, K, and R. Benner (talk)**.** Major bacterial contribution to the ocean reservoirs of detrital organic carbon and nitrogen. Ocean Sciences Meeting**,** Orlando, FL.

**2007:**
Kaiser, K, and R. Benner (talk). The chemical composition of semilabile organic matter in the open ocean. American Society of Limnology and Oceanography Santa Fe, NM.

**2006:**
Kaiser, K, and R. Benner (poster). Comparison of the molecular composition of marine organic matter from the Sargasso Sea and North Pacific. Ocean Sciences Meeting Honolulu.

**2005:**

Kaiser, K, and R. Benner (invited talk)**.** Bacterial contribution to marine organic matter. American Society of Limnology and Oceanography, Santiago de Compostela, Spain.

(*) graduate/undergraduate student

***Graduate Students and Postdoctoral Advisees:***
Postdoctoral Associate: Ge Yan 2015 – present
PhD*:* Amanda Sterne 2016 – present
MS: Maria Canedo 2013 – 2016
Danielle Creeley 2013 – 2017

***Additional Graduate Students Mentoring:***
PhD: David Minkoff (Boston University, main advisor: Jelle Atema) 2015 – present
MS: Markus Welker (Dartmouth College, advisor: Ann Kapucinski) 2012-2015

***Thesis/dissertation committee***: serving or served as a member (total = 13)

| | | | |
|---|---|---|---|
| Tatiana Molodtsova | Oceanography | PhD | |
| Anne Tamavalage | Oceanography | PhD | |
| Lauren Simonitis | MARB-IDP | PhD | |
| Jonathan Rogers | Oceanography | PhD | |
| Tommy Heathman | MARB-IDP | PhD | |
| Allison Myers-Pigg | Oceanography | PhD | graduated |
| Larissa Kitchens | MARB-IDP | PhD | graduated |
| Yuan Shen | Univ. of South Carolina/Marine Science | PhD | graduated |
| Matt Athon | Oceanography | MS | graduated |

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|---|---|---|---|
| Mohammad Almukaimi | Oceanography | PhD | graduated |
| Gerhardt Maale | MARM | MS | graduated |
| Anthony Todd | MARM | MS | graduated |
| Veronica Quesnell | MARB-IDP | PhD | graduated |

***Undergraduate Students Advised in the Laboratory (total = 19)***

Undergraduate Research Scholars with thesis: Laura Leonhard (current) - Texas Sea Grant fellowship
Jesus Duran (2017) – Texas Sea Grant fellowship
Amanda Sterne (2015)
Rachel McMahon (2014) – Texas Sea Grant fellowship

NSF REU student: Katherine Rivera Perez (2017)

Undergraduate research projects: Jesus Duran, Amanda Self, Chris Litwin, Chris Schneider, Melinda May, Jackson Wyers, Jacob Ransom, Jonathan Hoag, Isaac Johnston, Maria Canedo, John White, Shelli McGowen, Michael Gahn.

***Reviewer Activities***

*Associate Editor: Marine Chemistry*
Proceeding of the National Academy of Sciences
Nature Geoscience
Marine Chemistry
Limnology and Oceanography
Journal of Oceanography
Environmental Science and Technology
Organic Geochemistry
Deep Sea Research II
Geochimica et Cosmochimica Acta
Analytical Chemistry
NSF OCE and EAR programs
Maryland Seagrant
Wisconsin Seagrant
Texas Seagrant

***Collaborators:***

| | |
|---|---|
| Abdullah, Hussain | Texas A&M Corpus Christi |
| Aluwihare, Lihini | Scripps Institution of Oceanography |
| Amon, Rainer | Texas A&M University at Galveston (Co-PI, NSF-OCE) |
| Ardren, Bill | US Fish&Wildlife, Vermont |
| Atema, Jelle | Boston University |
| Beilman, David | University of Hawaii, Hawaii |
| Benner, Ronald | University of South Carolina (PhD advisor) |
| Fichot, Cedric | Boston University |
| Granskog, Mats | Norwegian Polar Institute |
| Hernes, Peter | University of California, Davis (Co-PI, NSF OCE) |
| Hertkorn, Norbert | GSF Research Center for Environment and Health (Germany) |
| Janout, Markus | AWI Bremerhaven |
| Kapucinski, Anne | Dartmouth College |
| Loisel, Julie | Texas A&M University |
| Louchouarn, Patrick | Texas A&M University at Galveston (Co-PI, NSF-OCE) |
| Ogawa, Hiroshi | Ocean Research Institute (University of Tokyo) |
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European Geoscience Union (EGU)