

Curriculum Vitae

Dr. Rudolf Jaffé

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Education

- 1985-86** Université Louis Pasteur de Strasbourg, France. CNRS Post-Doctoral position under the direction of Dr. Pierre Albrecht in Organic Geochemistry.
- 1981-85** Indiana University, Indiana, U.S.A. Ph.D. in Environmental/Analytical Chemistry under the direction of Dr. Ronald A. Hites. Major in Analytical Chemistry, Minor in Environmental Sciences.
- 1975-80** Universidad Simón Bolívar, Caracas, Venezuela. Licenciatura en Química (five year B.S. program in Chemistry). Thesis research in inorganic chemistry.

Work Experience

- 2009-pr.** George Barley Professor, Southeast Environmental Research Center & **Professor** Department of Chemistry & Biochemistry, Florida International University. Environmental Chemistry Graduate Program Director; Affiliated faculty Marine Science Program.
- 2002-09** **Director**, Southeast Environmental Research Center & **Professor** Department of Chemistry & Biochemistry, Florida International University
- 2000-02** **Director**, Southeast Environmental Research Center & **Professor** Department of Chemistry & Biochemistry, Florida International University
- 1997-00** **Associate Director** Southeast Environmental Research Center & **Associate Professor** Department of Chemistry, Florida International University
- 1992-97** **Associate Professor**, Drinking Water Research Center & Department of Chemistry, Florida International University,
- 1986-92** **Assistant Professor**, Universidad Simón Bolívar, Caracas, Venezuela Department of Chemistry, 1986-1990; Associate (tenured) Professor 1990-1992

1980-81 Universidad Simón Bolívar, Caracas, Venezuela, Chemistry Department,
Instructor of General Chemistry and Analytical Chemistry

1978-80 Universidad Simón Bolívar, Caracas, Venezuela Chemistry Department,
Teaching Assistant of General Chemistry and Analytical Chemistry.

Proposals funded since 2000:

1. Florida Coastal Everglades LTER-1. **NSF**. Childers, Jaffé, Boyer, Trexler and Fourqurean - \$4.2 million/6yrs (2000-2006).
2. The Southern Everglades integrated monitoring and science work plan. **SFWMD**; Childers and Jaffé; \$400,378/1yr.
3. Organic contaminant residue concentrations and their potential biological effects in Everglades National Park: Initial hazard assessment. **ENP-DOI**; Rand, Gardinali, Jaffé and Cai; \$682,000/3yrs.
4. Environmental Science Research Internship Program (ESRIP) for undergraduate students at Florida International University. **NOAA** Education Partnership Program with Minority Serving Institutions: Environmental Entrepreneurship Program. Heinen and Jaffé. \$245,000/3yr.
5. The seagrass history of Florida Bay reconstructed from integrating micro-paleontological and geochemical proxies. **NSF**. Collins, Jaffé, Anderson and Fourqurean. \$135,188/1yr.
6. Biological availability of organic nitrogen in Florida Bay. **South Florida Water Management District**. Boyer and Jaffé. \$ 48,000/0.5 yr.
7. Dissolved organic nitrogen in the Florida Coastal Everglades: Molecular biogeochemistry, bioavailability and potential contribution to the microbial loop. **NOAA**, Jaffé, Boyer and Childers. \$320,000/2yr.
8. Seagrass derived dissolved organic matter in Florida Bay: Molecular biogeochemistry and microbial bioavailability. **NOAA**. Jaffé, Boyer, & Fourqurean. \$148,000/2yr.
9. Molecular characterization of dissolved organic matter (DOM) in aquatic environments: biogeochemical importance and analytical approaches for the LTER program: Workshop. **NSF** LTER Network Office; with D. McKnight. \$8,000/1yr.
10. Documenting the importance of water flow to Everglades' landscape structure and sediment transport in Everglades National Park. **ENP-DOI**. D. Childers, Jaffé and others \$140,000/1yr.
11. Florida Coastal Everglades LTER – supplement equipment grant. **NSF**. Childers, Jaffé, Boyer, Fourqurean and Trexler; \$100,000/4yr.
12. Understanding *Cladium jamaicense* dynamics over the last century in ENP using simulation modeling and paleoecological data. **ENP-DOI**. Saunders, Childers, Anderson, Lynch and Jaffé. \$107,422/3yrs.

13. Restoration ecology of the greater Everglades ecosystem. Federal Appropriations Funds – **EPA Science & Technology Program**. Scinto, Richards and Jaffé. \$194,000.
14. Characterization of dissolved organic matter in headwater streams from six different North American biomes. NSF – supplement to FCE-LTER. \$12,500.
15. Water quality and hydrology-based biogeochemical assessment of the Cuyuni River Basin, Eastern Venezuela. **Cisneros Foundation**. Jaffé and Briceño. \$150,000/3yrs.
16. Florida Coastal Everglades LTER-2. **NSF**. Gaiser, Jaffé, Price, and Heithaus - \$4.92 million/6yrs (2006-2012).
17. Origin, fate and transport of anthropogenic materials in Antigua and Barbuda: Nutrients, trace metals and trace organics. Sub-contract through University of Miami, RSMAS. Jaffé and Gardinali. \$620,000/4+ yrs (funding granted for FY 0608 \$107,000).
18. Assessment of Natural Water Resources and Watershed Conditions for Biscayne National Park. **DOI-NPS**. Jaffé and Harlem - \$84,428/1 yr (2010).
19. Dissolved Organic Matter in the Florida Coastal Everglades: Workshop. **South Florida Water Management District**. Jaffé - \$25,000/1 (2010) yr.
20. Everglades Fellowship Program at Florida International University. **DOI-NPS**. Jaffé (PI) and Boyer. - \$500,000/2 yrs (2009-2011 => non cost ext. to 2013).
21. Biomarker Analysis of Tree Island and Marsh Soils. **SFWMD**. Jaffé (PI) - \$35,000/summer 2010.
22. Collaborative Research: WSC-Category 1 - Linking freshwater inputs to ecosystem functioning and services provided by a large mangrove estuary. NSF. Sukop (PI), Jaffé and others. \$125,000 (1 yr; 2010-2011).
23. Florida Coastal Everglades LTER-3. **NSF**. Gaiser, Jaffé, Price, and Heithaus - \$5.2 million/6yrs (2012-2018).
24. WSC-Category 2 Collaborative: Robust decision-making for south Florida water resources by ecosystem service valuation, hydro-economic optimization, and conflict resolution modeling. **NSF**. Sukop (PI), Jaffé and others. \$4.9 million (5 yrs; 2013-2018).
25. Sheetflow Effects and Canal Backfilling on Sediment Source and Transport in the DECOMP Physical Model: Analysis of Molecular Organic Biomarkers. **SFWMD**. Jaffé (PI). \$600,000 (4 yrs; 2013-2017).
26. Biomarker Analysis of Cattails. **SFWMD**. Jaffé (PI). \$16,000 (1 yr; 2013).
27. Bioassays for Determining Bioavailable Dissolved Organic Nitrogen (BDON) in the Caloosahatchee River Water Column. **SFWMD**. Jaffé (PI). \$200,000 (1.2 yrs; 2014).
28. CREST – Center for Aquatic Chemistry and the Environment (CACE). **NSF**. Cowl (PI), Chen, Jaffé, Kramer and Price. \$5,000,000 (2016-2021).

Publications:

Submitted/Under review

1. He D., Rivera-Monroy V., and **Jaffé R.** (2018). Species-specific variations of leaf $\delta^{13}\text{C}$ and leaf wax *n*-alkane $\delta^{13}\text{C}$ values in three dominant mangrove species along salinity transects in a sub-tropical estuary. *J. Geophys. Res. Biogeosciences*. **Submitted.**
2. Oros D., Simoneit B.R.T., Sepulveda B., **Jaffe R.**, Didyk-Pena A., Areche C. (2018). Mulinane and azorellane biomarkers from Apiaceae (Umbelliferae) species of the Andes, *Organic Geochemistry*. **Submitted.**
3. Leyva D., Tose L.V., Porter J., Wolff J., **Jaffé R.**, and Fernandez-Lima F. (2018). Understanding the structural complexity of dissolved organic matter: Isomeric diversity. *Faraday Discussions*. **Submitted.**
4. Roebuck JA, Gonsior M, Du Y, Schmitt-Kopplin P, Enrich-Prast A, and **Jaffé R.** (2018). Biogeochemical controls on the fate and transport of dissolved black carbon in the Amazon River. *Aquat. Sci.* **Submitted.**
5. Regier P, Cawley K, Wang W, and **Jaffé R.** (2018). Linking hydrology and long-term dissolved organic matter compositional dynamics in the Florida Everglades. *J. Geophys. Res. Biogeosciences*. **Submitted.**
6. Du Y., Zhang Q., Liu D., Chen F., Chen Y., Shi B., Zeng Q., Liu Z., **Jaffé R.** (2018). Watershed controls of dissolved organic matter variation in lakes affected by intensive anthropogenic activities. *Water Research*. **Submitted.**

2018

7. Roebuck J.A., Medeiros P.M., Letourneau M.L., and **Jaffé R.** (2018). Hydrological controls on the seasonal variability of dissolved and particulate black carbon in the Altamaha River, Georgia. *J. Geophys. Res. Biogeosciences*. DOI10:1029/2018JG004406.
8. He D., Simoneit B.R.T., Cloutier J.B., **Jaffé R.** (2018). Early diagenesis of triterpenoids derived from mangroves in a subtropical estuary. *Organic Geochemistry* 125:196-211.
9. Regier P., He D., Saunders C., Jara B., Hansen C., Newman S., Coronado-Molina C., and **Jaffé R.** (2018). Sheetflow effects on sediment transport in a degraded ridge-and-slough wetland: insights using molecular markers. *J. Geophys. Res. Biogeosciences*, DOI 10:1029/2018JG004648.
10. Troxler T., Fuentes J., **Jaffé R.**, et al. (2018). Florida Coastal Everglades Long Term Ecological Research – Synthesis: Carbon Cycling and Related Cycles at a Multitude of Scales. **In press.** (Book chapter)
11. Rehage J., et al. (2018). Florida Coastal Everglades Long Term Ecological Research – Synthesis: Fragmentation, Connectivity, and Teleconnections – Legacies and Future Implications. **In press.** (Book chapter).
12. He D., Simoneit B.R.T., and **Jaffé R.** (2018). Biomarker co-occurrence of three different races of *Botryococcus braunii* (A, B and L) in a subtropical freshwater wetland. *Scientific Reports*. 8, 8626. DOI:10.1038/s41598-018-26900-9.
13. Roebuck J.A., Seidel M., Dittmar T., and **Jaffé R.** (2018). Land Use Controls on the Spatial Variability of Dissolved Black Carbon in a Subtropical Watershed. *Environ. Sci. & Technol.* doi.org/10.1021/acs.est.8b00190.
14. Tose L.V., Benigni P., Leyva D., Sundberg A., Ramírez C.E., Ridgeway M.E., Park M.A., Romão W., **Jaffé R.**, and Fernandez-Lima F. (2018). Coupling Trapped Ion Mobility Spectrometry to Mass Spectrometry: TIMS-TOF MS vs TIMS-FT-ICR MS. *Rapid Commun. Mass Spec.* 32, 1287-1295 (10.1002/rcm.8165).

15. Du Y., Ramirez C., **Jaffé R.** (2018). Fractionation of DOM by coprecipitation with Fe: effects of composition. *Environmental Processes* 5, 5-21. DOI: 10.1007/s40710-017-0281-4.
16. Wagner S., **Jaffé R.**, Stubbins A. (2018). Dissolved black carbon in aquatic ecosystems: A review. *Limnology & Oceanography Methods*. DOI: 10.1002/lol2.10076.
17. Pisani O., Gao M., Maie N., Miyoshi T., Childers D.L. and **Jaffé R.** (2018). Compositional aspects of herbaceous litter decomposition in the freshwater marshes of the Florida Everglades. *Plant & Soil*. 423, 87-98. DOI: 10.1007/s11104-017-3495-3.

2017

18. McKay G., Huang W., Romera-Castillo C., Crouch J., Rosario-Ortiz F.L. and **Jaffé R.** (2017). Assessing dissolved organic matter photo-reactivity in a subtropical wetland ecosystem: Correlations between optical properties, antioxidant capacity, and the photochemical formation of reactive intermediates. *Environ. Sci. Technol.* 51 (10), 5404–5413; (DOI: 10.1021/acs.est.6b06372).
19. He D., Ladd N., Sachs J.P. and **Jaffé R.** (2017). Inverse relationships between salinity and $^2\text{H}/^1\text{H}$ fractionation in leaf wax *n*-alkanes from Florida mangroves. *Org. Geochem.* 110, 1-12. DOI:10.1016/j.orggeochem.2017.04.007.
20. Khan A., Wagner S., **Jaffé R.**, Williams M., Armstrong R., and McKnight D. (2017). Dissolved black carbon in the global cryosphere: concentrations and chemical signatures. *Geophys. Res. Letters*. DOI: 10.1002/2017GL073485.
21. Pisani O., Boyer J.N., Podorski DC., Thomas CR., Coley T., and **Jaffé R.** (2017). Molecular composition and bioavailability of dissolved organic nitrogen in a lake flow-dominated river in south Florida, USA, *Aquatic Sciences*. 79(4), 891-908 (DOI: 10.1007/s00027-017-0540-5).
22. Roebuck JA, Podorski D., Wagner S. and **Jaffé R.** (2017). Photo-dissolution of charcoal and fire-impacted soil as a potential source of dissolved black carbon in aquatic environments. *Organic Geochemistry*. 112, 16-21.
23. Wagner S., Ding Y., and **Jaffé R.** (2017). A new perspective on the apparent solubility of dissolved black carbon. *Frontiers in Biogeochemistry*. doi: 10.3389/feart.2017.00075
24. Santos F., Wagner, S., Rothstein, D., **Jaffé, R.**, and Miesel, J. (2017). Impact of a historical fire event on pyrogenic carbon stocks and dissolved pyrogenic carbon in spodosols in Northern Michigan. *Frontiers in Biogeochemistry*, DOI: 10.3389/feart.2017.00080.
25. Shang P., Lu Y., Du Y., **Jaffé R.**, Wynn A. (2017). Climatic and Watershed Controls of Dissolved Organic Matter Variation in Streams across a Gradient of Agricultural Land Use. *Science Total Environ.*, 612C, 1442-1453.

2016

26. Kaal J., Wagner S., and **Jaffé R.** (2016). Molecular properties of ultrafiltered dissolved organic matter and dissolved black carbon in headwater streams as determined by pyrolysis-GC-MS. *Journal of Analytical and Applied Pyrolysis*, doi.org/10.1016/j.jaap.2016.02.003.

27. He D., Anderson W., and **Jaffé R.** (2016). Compound specific δD and $\delta^{13}\text{C}$ analyses as a tool for the assessment of hydrological change in a subtropical wetland. *Aquatic Science*. doi: 10.1007/s00027-016-0473-4.
28. Hertkorn N., Harir M., Cawley KM., Schmitt-Kopplin P., **Jaffé R.** (2016). Molecular characterization of dissolved organic matter from subtropical wetlands: A comparative study through the analysis of optical properties, NMR and FTICR/MS. *Biogeosciences* 13, 1-21.
29. Khan A., **Jaffé R.**, Ding Y. and McKnight D. (2016). Dissolved black carbon in Antarctic lakes: chemical signatures of past and present sources. *Geophys. Res. Letters*. DOI 10.1002/2016GL068609.
30. He D., Simoneit B.R.T., Jara B., and **Jaffé R.** (2016). Compositions and isotopic differences of *iso*- and *anteiso*-alkanes in black mangroves (*Avicennia germinans*) across salinity gradients in a subtropical estuary. *Environmental Chemistry*, 13, 623–630.
31. Chen M., and **Jaffé R.** (2016). Quantitative assessment of photo- and bio-reactivity of fluorescent dissolved organic matter from biomass and soil leachates and from surface waters in a subtropical wetland. *Biogeochemistry*, DOI 10.1007/s10533-016-0231-7.
32. Regier P., Briceño H., and **Jaffé R.** (2016). Long-term environmental drivers of DOC fluxes: linkages between management, hydrology and climate in a subtropical coastal wetland. *Estuarine, Coastal & Shelf Science*. doi: 10.1016/j.ecss.2016.09.017.
33. Regier P. and **Jaffé R.** (2016). Short-term dissolved organic carbon dynamics reflect tidal, water management and precipitation patterns in a subtropical estuary. *Frontiers in Marine Biogeochemistry*. doi: 10.3389/fmars.2016.00250.

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34. Ya C., Anderson W., **Jaffé R.** (2015). Assessing dissolved organic matter dynamics and source strengths in a subtropical estuary: Applications of stable carbon isotopes and optical properties. *Continental Shelf Research*. 92:98-107.
35. Pisani O., Scinto L.J., Munyon J.W., and **Jaffé R.** (2015). The respiration of flocculent detrital organic matter (floc) is driven by phosphorus limitation and substrate quality in a subtropical wetland. *Geoderma*. 241-242:272-278.
36. Wagner S., Dittmar T., and **Jaffé R.** (2015). Molecular characterization of dissolved black nitrogen by electrospray ionization Fourier transform ion cyclotron resonance mass spectrometry. *Organic Geochemistry* 79:21-30.
37. Ding Y., Yamashita Y., Jones J., and **Jaffé R.** (2015). Dissolved black carbon in boreal forest and glacial rivers of central Alaska: Assessment of biomass burning vs. anthropogenic sources. *Biogeochemistry* 123:15-25.
38. Yamashita Y., McCallister L.S., Koch B., Gonsior M. and **Jaffé R.** (2015). Sources and fate of dissolved organic matter in fjord ecosystems: Contributions from terrestrial particulate organic matter. *Estuarine Coastal Shelf Science*. DOI 10.1016/j.ecss.2015.03.024.
39. He D., Simoneit B.R.T., Jara B., and **Jaffé R.** (2015). Mass spectrometry based profiling of long-chain alkyl coumarates and ferulates in two species of cattail (*Typha domingensis* P., and *Typha latifolia* L.). *Phytochemistry Letters*. 13:91-98.
40. Wagner S. and **Jaffé R.** (2015). Effects of photodegradation on molecular size distribution and quality of dissolved black carbon. *Organic Geochemistry*. 86:1-4.

41. Wagner S., Cawley K.M., Rosario-Ortiz F.L., and **Jaffé R.** (2015). In-stream sources and links between particulate and dissolved black carbon following a wildfire. *Biogeochem.* 124: 145-161.
42. Tfaily MM., Corbett JE., Lin X., Chanton JP., Glaser PH., Cawley KM., **Jaffé R.**, and Cooper WT. (2015). Variations in the composition of porewater dissolved organic matter across ecological and hydrological gradients in a northern peatland. *Photochem. and Photobiol.* 91: 684-695.
43. Tzortziou M., Zeri C., Dimitriou E., Ding Y., **Jaffé R.**, Anagnostou E., Pitta E., Mentzafou A. (2015). Colored dissolved organic matter dynamics and anthropogenic influences in a major transboundary river and its *Ramsar* protected coastal wetland. *Limnology & Oceanography*, doi: 10.1002/lno.10092.
44. Wagner S., Riedel T., Niggemann J., Vahatalo A., Dittmar T., and **Jaffé R.** (2015). Linking the molecular signature of heteroatomic dissolved organic matter to watershed characteristics in World Rivers. *Environ. Sci. Technol.* 49:13798-13806. DOI: 10.1021/acs.est.5b00525.
45. Hertkorn N., Harir M., Cawley KM., Schmitt-Kopplin P., **Jaffé R.** (2015). Molecular characterization of dissolved organic matter from subtropical wetlands: A comparative study through the analysis of optical properties, NMR and FTICR/MS. *Biogeosciences Discuss.* 12, 13711-13765.
46. Pisani O., Dodds W.K., and **Jaffé R.** (2015). Characterizing organic matter inputs to sediments of small, intermittent, prairie streams: a molecular marker and stable isotope approach. *Aquatic Sci.* DOI: 10.1007/s00027-015-0435-2
47. Gaiser EE, Castañeda-Moya E., Collado-Vides L., Fourqurean J., Heithaus MR., **Jaffé R.**, Lagomasino D., Price RM., Rivera-Monroy V., Chowdhury RR. (2015). New perspectives on an iconic landscape from comparative international long-term ecological research. *Ecosphere*. DOI.org/10.1890/ES14-00388.1.
48. Romera-Castillo C. and **Jaffé R.** (2015). Free radical scavenging (antioxidant) activity of natural dissolved organic matter. *Marine Chemistry*. doi.org/10.1016/j.marchem.2015.10.008
49. Yamashita Y., Fichot C.G., Shen Y., **Jaffé R.**, and Benner R. (2015). Linkages between fluorescent dissolved organic matter and dissolved amino acids and lignin phenols in river-influenced ocean margins. *Frontiers in Marine Biogeochemistry*. doi.org/10.3389/fmars.2015.00092.
50. Wagner S., **Jaffé R.**, Cawley K., Dittmar T., and Stubbins A. (2015). Associations between the molecular and optical properties of dissolved organic matter in the Florida Everglades: a model coastal wetland system. *Frontiers in Marine Biogeochemistry*. DOI:10.3389/fchem.2015.00066.
51. He D., Simoneit B.R.T., Xu Y., and **Jaffé R.** (2015). Occurrence of unsaturated C₂₅ highly branched isoprenoids (HBIs) in the freshwater wetland of the Florida Everglades. *Organic Geochemistry* doi.org/10.1016/j.orggeochem.2016.01.006.

2014

52. Romera-Castillo C., Chen M., Yamashita Y., and **Jaffé R.** (2014). Fluorescence characteristics of size-fractionated dissolved organic matter: Implications for a molecular assembly based structure? *Water Research*. 55:40-51.
53. Timko S., Romera-Castillo C., **Jaffé R.**, and Cooper W. (2014). Photo-reactivity of natural dissolved organic matter from fresh to marine waters in the Florida Everglades, USA. *Environmental Sciences: Processes and Impacts* 16:866-878.

54. Lu Y., Bauer J.E., Canuel E.A., Chambers R.M., Yamashita Y., **Jaffé R.**, and Barrett A. (2014). Effects of Land Use on Sources and Ages of Inorganic and Organic Carbon in Temperate Headwater Streams. *Biogeochemistry* 119:275-292.
55. Ding Y., Watanabe A., and **Jaffé R.** (2014). Dissolved black nitrogen (DBN) in freshwater environments: Source and land to ocean flux assessment. *Organic Geochemistry* 68, 1-4.
56. Maie, N., S. Sekiguchi, A. Watanabe, Y. Yamashita, K. Tsutsuki, L. Melling, K. Cawley, E. Shima, **Jaffé R.** (2014). Dissolved organic matter dynamics in the oligo/meso-haline zone of wetland-influenced coastal rivers. *J. Sea Research* 91:58-69.
57. Ding Y., Cawley K., Nunes C., and **Jaffé R.** (2014). Environmental dynamics of dissolved black carbon in wetlands. *Biogeochemistry* 119:259-273.
58. Chen M., and **Jaffé R.** (2014). Photo- and bio-reactivity patterns of dissolved organic matter from biomass and soil leachates and surface waters in a subtropical wetland. *Water Research*. 61: 181-190.
59. **Jaffé R.**, Cawley K., and Yamashita Y. (2014). Applications of excitation emission matrix fluorescence with parallel factor analysis (EEM-PARAFAC) in assessing environmental dynamics of natural dissolved organic matter (DOM) in aquatic environments: A review. *Advances in the Physicochemical Characterization of Organic Matter*, ACS Series, Rosario F. - Editor. DOI:10.1021/bk-2014-1160.ch003.
60. He D., Mead R.N., Belicka L., Pisani O., and **Jaffé R.** (2014). Assessing biomass contributions to particulate organic matter in a subtropical estuary: a biomarker approach. *Organic Geochemistry* 75:129-139.
61. He D., Simoneit B.R.T., Jara B., and **Jaffé R.** (2014). Occurrence and distribution of a series of mono methylalkanes in the freshwater wetland ecosystem of the Florida Everglades. *Chemosphere* 119:258-266.
62. Cawley K., Campbell J., Zwilling M., and **Jaffé R.** (2014). Evaluation of Forest Disturbance Legacy Effects on Dissolved Organic Matter Characteristics in Streams at the Hubbard Brook Experimental Forest, New Hampshire. *Aquatic Sciences*. DOI: 10.1007/s00027-014-0358-3.
63. Watanabe A., Tsutsuki K., Inoue Y., Maie N., Melling L., and **Jaffé R.** (2014). Composition of dissolved organic nitrogen in rivers associated with wetlands. *Sci. Total Environ.* 493:220-228.
64. Saunders C., Gao M. and **Jaffé R.** (2014). Environmental assessment of vegetation and hydrological conditions in Everglades freshwater marshes using multiple geochemical proxies. *Aquatic Sciences*, 77:271-291.

2013

65. Ding Y., Yamashita Y., Dodds W.K., and **Jaffé R.** (2013). Dissolved black carbon in grassland streams: Is there an effect of recent fire history? *Chemosphere* 90:2557-2562.
66. Chen M., Maie N., Parish K., and **Jaffé R.** (2013). Spatial and temporal variability of dissolved organic matter quantity and composition in an oligotrophic subtropical coastal wetland. *Biogeochemistry*. 115:167-183.
67. Pisani O., Oros D.R., Oyo-Ita O.E., Ekpo B.O., **Jaffé R.** and Simoneit B.R.T. (2013). Natural and diagenetic products as biomarkers in surface sediments from the Cross River and estuary system, S.E. Niger Delta of Nigeria: - Application as ecosystem tracers. *Applied Geochemistry* 31:239-250.
68. Lu Y., Bauer J., Canuel E., Yamashita Y., Chambers R., and **Jaffé R.** (2013). Photochemical and Microbial Alteration of Dissolved Organic Matter in Temperate Headwater Streams Associated with Different Land Use. *JRG Biogeosciences*, 118:566-580.

69. **Jaffé R.**, Y. Ding, J. Niggemann, A. Vähätalo, Stubbins A., Spencer R., J. Campbell, and T. Dittmar (2013). Global mobilization of charcoal from soils via dissolution and subsequent riverine transport to the oceans. *Science* 340:345-347.
70. Yamashita Y., Boyer J.N., **Jaffé R.** (2013). Evaluating the distribution of terrestrial dissolved organic matter in a complex coastal ecosystem using fluorescence spectroscopy. *Cont. Shelf Res.* 66:136-144.
71. Cawley K., Yamashita Y., Maie N. **Jaffé R.** (2013). Using optical properties to quantify fringe mangrove inputs to the dissolved organic matter (DOM) pool in a subtropical estuary. *Estuaries and Coasts.* 37:399-410.
72. Pisani O., Louda W.J., and **Jaffé R.** (2013). Biomarker assessment of spatial and temporal changes in the composition of flocculent material (floc) in a subtropical wetland. *Environ. Chem.*, doi.org/10.1071/EN13062.
73. Troxler T.G., Gaiser E., Barr J., Fuentes J., **Jaffé R.**, and others. (2013). Integrated carbon budget models for the Everglades terrestrial-coastal-oceanic gradient: current status and needs for inter-site comparisons. *Oceanography*, 26(3):98-107.

2012

74. Maie N., Yamashita Y., Cory R.M., Boyer J., and **Jaffé R.** (2012). Application of excitation emission matrix fluorescence monitoring in the assessment of spatial and seasonal drivers of dissolved organic matter composition: Sources and physical disturbance controls. *Applied Geochemistry* 27:917-929.
75. Cawley K., Wolski P., Mladenov N., and **Jaffé R.** (2012). Dissolved organic matter biogeochemistry along a transect of the Okavango Delta, Botswana. *Wetlands.* 32:475-486.
76. Belicka L.L., Sokol E.R., Hoch L.M, **Jaffé R.**, and Trexler J.C. (2012). A molecular and stable isotopic approach to investigate algal and detrital energy pathways in a freshwater marsh. *Wetlands* 32:531-542.
77. Watanabe A., Moroi K., Sato H., Tsutsuki K., Maie N., Melling L., **Jaffé R.** (2012). Analysis of contributions of humic substances to the dissolved organic carbon pool in different climatic regions. *Chemosphere* 88:1265-1268.
78. Belicka L.L., Matich P., **Jaffé R.** and Heithaus M.R. (2012). Fatty acid and stable isotopic composition as indicators of maternal resource investment and feeding ecology of the bull shark, *Carcharhinus leucas*, in the Florida Coastal Everglades. *Mar. Ecol. Progress Ser.* 455:245-256.
79. **Jaffé R.**, Yamashita Y., Maie N., Cooper W. T., Dittmar T., Dodds W. K., Jones J.B., Myoshi T., Ortiz-Zayas J. R., Podorski D. C., Watanabe A. (2012). Dissolved Organic Matter in Headwater Streams: Compositional Variability Across Climatic Regions. *Geochim. et Cosmochim. Acta.* 10.1016/j.gca.2012.06.031.
80. Cawley K., Ding Y., Fourqurean J., **Jaffé R.** (2012). Characterizing the sources and fate of dissolved organic matter in Shark Bay, Australia: A preliminary study using optical properties and stable carbon isotopes. *Marine and Freshwater Research* 63:1098-1107.
81. Belicka L.L., Burkholder D., Heithaus M.R., Fourqurean J.W., **Jaffé R.** (2012). Stable isotope and fatty acid biomarkers of seagrass and epiphyte organic matter to consumers in a nearly pristine seagrass ecosystem. *Marine and Freshwater Research.* 63:1087-1107.
82. Harlem, P. W., J. N. Boyer, H. O. Briceño, J. W. Fourqurean, P. R. Gardinali, **R. Jaffé**, J. F. Meeder and M. S. Ross. 2012. Assessment of natural resource conditions in and adjacent to Biscayne National Park. *Natural Resource Report NPS/BISC/NRR—2012/598.* National Park Service, Fort Collins, Colorado.

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- 2009-2018 George Barley Endowed Chair, Florida International University
- 2014 Florida International University Eminent Scholar Award
- 2015 Florida Coastal Everglades Collaborator of the Year Award
- 2016 Florida International University Faculty Award for Excellence in Research and Creative Activity.
- 2016 Faculty Research Award, College of Arts, Sciences and Education (CASE), Florida International University.

Other Activities:

- Graduate Program Director; **Environmental Chemistry Track**, Ph.D. Program Department of Chemistry and Biochemistry, Florida International University (2010-2018)
- Editorial Board, **Environmental Processes** (2013-present)
- Associate Editor, **Applied Geochemistry** (1997- 2011)
- Associate Visiting Editor, **Journal of Geophysical Research – Biogeosciences** (2008-2009)
- Member of the Board – Association of Marine Laboratories of the Caribbean – AMLC (2000-2009).
- Organic Matter Dynamics Working Group lead and Co-PI, FCE-LTER (2000–2018)
- Co-lead CREST (2016-2018)

Personal Information:

- Citizenship: United States of America
- Born: Caracas, Venezuela; Nov. 10/1956
- Marital status: Married; two sons.
- Ethnic background: Hispanic
- Languages: Fluent in English, Spanish and German

