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

2019-pr. Emeritus Professor

2009-19 George Barley Chair, 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.

Publications:

2021

1. Du Y., Roebuck J.A., Liu D., Zhang Q., Chen F., Chen Y., Shi B., Zeng Q., Xiao K., He H., Liu Z., Zhang Y., **Jaffé R.** (2021). Direct versus Indirect Effects of Human Activities on Dissolved Organic Matter in Highly Impacted Lakes. *Science of the Total Environment* 752; DOI.org/10.1016/j.scitotenv.2020.141839.

2020

2. Regier, P., Larsen L., Cawley K., and **Jaffé R.,** (2020). Linking hydrology and dissolved organic matter characteristics in a subtropical wetland: a long-term study of the Florida Everglades. *Global Biogeochemical Cycles.* DOI: 10.1029/2020GB006648.
3. Leyva D., **Jaffé R.,** and Fernandez-Lima F. (2020). Structural Characterization of Dissolved Organic Matter at the Chemical Formula Level Using TIMS-FT-ICR MS/MS, *Analytical Chemistry* 2020 *92* (17), 11960-11966; DOI: 10.1021/acs.analchem.0c02347
4. He D., Rivera-Monroy V., **Jaffé R.,** and Zhao X. (2020). Mangrove leaf species-specific isotopic signatures along a salinity and phosphorus soil fertility gradients in a subtropical estuary. *Est. Coast. Shelf Sci.,* doi.org/10.1016/j.ecss.2020.106768
5. He D., Ladd S.N., Saunders C.J., Mead R.N., and **Jaffé R**., (2020). Distribution of *n*-alkanes and their δ^2H and δ^{13}C values in typical plants along a terrestrial-coastal-oceanic gradient: implications for paleo-reconstruction. *Geochmim. Cosmochim. Acta*, 281, 31–52.
6. Jones M.W., Coppola A.I., Santín C., Dittmar T., **Jaffé R.,** Doerr S.H. and Quine T.A. (2020), Fires prime terrestrial organic carbon for riverine export to the global oceans. *Nature Communications,* doi.org/10.1038/s41467-020-16576-z

2019

7. Roebuck Jr. J.A., Seidel M., Dittmar T., and **Jaffé R.** (2019). Controls of land use and the River Continuum Concept on dissolved organic matter composition in an anthropogenically disturbed subtropical watershed. *Environ. Sci. Technol.* doi: 10.1021/acs.est.9b04605.
8. Simoneit B.R.T., Oros D., **Jaffé R.**, Didyk-Pena A., Areche C., Sepulveda B., Didyk B.M. (2019). Mulinane and azorellane biomarkers from Apiaceae (Umbelliferae) species of the Andes, *Molecules* **2019**, *24*(4), 684; doi.org/10.3390/molecules24040684
9. Leyva D., Tose L.V., Porter J., Wolff J., **Jaffé R.,** and Fernandez-Lima F. (2019). Understanding the structural complexity of dissolved organic matter: Isomeric diversity. *Faraday Discussions.* DOI: 10.1039/C8FD00221E
10. Troxler, T., G. Starr, J.N. Boyer, J.D. Fuentes, **R. Jaffé**, S.L. Malone, J.G. Barr, S.E. Davis, L. Collado-Vides, J.L. Breithaupt, A.K. Saha, R.M. Chambers, C.J. Madden, J.M. Smoak, J.W. Fourqurean, G. Koch, J. Kominoski, L.J. Scinto, S. Oberbauer, V.H. Rivera-Monroy, E. Castañeda-Moya, N.O. Schulte, S.P. Charles, J.H. Richards, D.T. Rudnick and K.R.T. Whelan. (2019). Chapter 6: Carbon Cycles in the Florida Coastal Everglades Social-Ecological System across Scales, in Childers, D.L., E.E. Gaiser and L.A. Ogden (eds.) The Coastal Everglades: The Dynamics of Social-Ecological Transformation in the South Florida Landscape. Oxford University Press.
11. Kominoski, J., J.S. Rehage, W.T. Anderson, R. Boucek, H.O. Briceno, M.R. Bush, T.W. Dreschel, M.R. Heithaus, **R. Jaffé,** L. Larsen, P. Matich, C. McVoy, A.E. Rosenblatt and T. Troxler (2019). Chapter 4: Ecosytem Fragmentation and Connectivity - Legacies and Future Implications of a Restored Everglades, in Childers, D.L., E.E. Gaiser and L.A. Ogden(eds.) The Coastal Everglades: The Dynamics of Social-Ecological Transformation in the South Florida Landscape. Oxford University Press.

2018

12. 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.
13. 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.
14. 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.
15. 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.

16. 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.
17. 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).
18. 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.
19. Wagner S., **Jaffé R.**, Stubbins A. (2018). Dissolved black carbon in aquatic ecosystems: A review. *Limnology & Oceanography Methods.* DOI: 10.1002/lol2.10076.
20. 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

21. 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.
22. He D., Ladd N., Sachs J.P. and **Jaffé R.** (2017). Inverse relationships between salinity and $^{2}H/^{1}H$ fractionation in leaf wax *n*-alkanes from Florida mangroves. *Org. Geochem.* 110, 1-12. DOI:10.1016/j.org.geochem.2017.04.007.
23. 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.
24. 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).
25. 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.
26. 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
27. 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.

28. 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

29. 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.
30. He D., Anderson W., and **Jaffé R.** (2016). Compound specific δD and $\delta^{13}C$ analyses as a tool for the assessment of hydrological change in a subtropical wetland. *Aquatic Science.* doi: 10.1007/s00027-016-0473-4.
31. 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.
32. 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.
33. 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.
34. Chen M., and **Jaffé R**. (206). 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.
35. 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.
36. 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.

2015

37. 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.

38. 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.
39. 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.
40. 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.
41. 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.
42. 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.
43. Wagner S. and **Jaffé R.** (2015). Effects of photodegradation on molecular size distribution and quality of dissolved black carbon. *Organic Geochemistry*. 86:1-4.
44. 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.
45. 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.
46. 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.
47. 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.
48. 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.
49. 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
50. 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.

51. 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
52. 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.
53. 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.
54. He D., Simoneit B.R.T., Xu Y., and **Jaffé R.** (2015). Occurrence of unsaturated C_{25} highly branched isoprenoids (HBIs) in the freshwater wetland of the Florida Everglades. *Organic Geochemistry* doi.org/10.1016/j.orggeochem.2016.01.006.

2014

55. 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.
56. 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.
57. 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.
58. 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.
59. 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.
60. Ding Y., Cawley K., Nunes C., and **Jaffé R.** (2014). Environmental dynamics of dissolved black carbon in wetlands. *Biogeochemistry* 119:259-273.
61. 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.
62. **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.
63. 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.

64. He D., Simoneit B.R.T., Jara B., and **Jaffé R.** (2014). Occurrence and distribution of a series of mono methylalkaCanes in the freshwater wetland ecosystem of the Florida Everglades. *Chemosphere* 119:258-266.
65. 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.
66. 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.
67. 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

68. 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.
69. Chen M., Maie N., Parish K., and **Jaffé R.** (2013). Spatial and temporal variability of dissolved organic matter quantity and composition in an oilgotrophic subtropical coastal wetland. *Biogeochemistry.* 115:167-183.
70. 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.
71. 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.
72. **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.
73. 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.
74. 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.
75. 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.
76. 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

77. 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.
78. 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**.**
79. 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.
80. 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.
81. 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.
82. **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**.**
83. 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.
84. 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.
85. 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.

2011

86. Rivera-Monroy V. et al. (2011). The role of the Everglades Mangrove Ecotone Region (EMER) in regulating nutrient cycling and wetland productivity in South Florida. *Critical Reviews in Environmental Science and Technology*. 41(S1):633.
87. Shank G.C., Evans A., **Jaffé R**., and Yamashita Y. (2011). Solar radiation-enhanced dissolution of particulate organic matter from shallow estuarine sediments. *Limnology & Oceanography.* 56:577-588.
88. Yamashita Y., Planton A., Mahaffey C., and **Jaffé R.** (2011). Assessing the spatial and temporal variability of dissolved organic matter in Liverpool Bay using excitation emission matrix fluorescence and parallel factor analysis. *Ocean Dynamics*. 61:569-579.

89. Pisani O., Yamashita Y., and **Jaffé R.** (2011). Photo-dissolution of flocculent, detrital material in aquatic environments: Contributions to the dissolved organic matter pool. *Water Research* 45:3836-3844.
90. Yamashita Y., Kloeppel B.D., Knoepp J., Zausen G., and **Jaffé R.** (2011). Long term effects of watershed disturbance and forest management on dissolved organic matter characteristics in headwater streams. *Ecosystems.* 14: 1110-1122.

2010

91. Yamashita Y., Maie N., Briceño H., and **Jaffé R.** (2010). Application of excitation emission matrices in combination with parallel factor analysis for the characterization of dissolved organic matter in tropical river systems. *JGR Biogeosciences* Vol. 115; *doi:10.1029/2009JG000987*, 2010.
92. Williams, C.J., Yamashita, Y., Wilson, H.F., **Jaffé, R**., and Xenopoulos, M.A. (2010). Unraveling the role of land use and microbial activity in shaping chromophoric dissolved organic matter characteristics in stream ecosystems. *Limnology and Oceanography* 55:1159-1171.
93. Feng X., Xu Y., **Jaffé R**., Schlesinger W.H., and Simpson M.J. (2010). Turnover rates of hydrolysable aliphatic lipids in Duke Forest soils determined by compound-specific 13C isotopic analysis. *Organic Geochemistry* 41:573-579.
94. Yamashita Y., Cory R.M., Nishioka J., Kuma K., Tanoue E. and **Jaffé R**. (2010). Fluorescence characteristics of dissolved organic matter in the deep waters of the Okhotsk Sea and the northwestern North Pacific Ocean. *Deep Sea Research* 57:1478-1485.
95. Chen M., Price R.M., Yamashita Y., and **Jaffé R.** (2010). Comparative study of dissolved organic matter from groundwater and surface water in the Florida coastal Everglades using multi-dimensional spectrofluorometry combined with multivariate statistics. *Applied Geochemistry* 25:872-880.
96. Duque-Botero F., Maurrasse F.J.M-R, Hickey-Vargas, Melinte M., **Jaffé R.,** and Lopez-Oliva J.G. (2009). Microspheroids accumulation and geochemistry of an anoxic basin of the Cenomanian/Turonian: The record of the Indidura Formation, NE Mexico. SEPM Special Publication No. 93, Volume in Honor of Garry D. Jones, p. 171–186. Publishing House Tulsa Oklahoma. ISBN 978-1-56576-137-7
97. Yamashita Y., Scinto L., Maie N., and **Jaffé R.** (2010). Dissolved organic matter characteristics across a subtropical wetland's landscape: Application of optical properties in the assessment of environmental dynamics. *Ecosystems.* 13:1006-1019.
98. Xu Y. and **Jaffé R.** (2010). Occurrence, distribution and origin of C30 cyclobotryococcenes in a subtropical wetland/estuarine ecosystem. *Chemosphere*. 81:918-924.

2009

99. Simoneit B.R.T., Xu Y., Neto R.R., Cloutier J. and **Jaffé R**. (2009). Photochemical alteration of 3-oxy-triterpenoids: Implications for the origin of des-A-triterpenoids in aquatic sediments and soils. *Chemosphere* 74:543-550.
100. Xu Y. and **Jaffé R.** (2009). Geochemical record of anthropogenic impacts on Lake Valencia, Venezuela. *Applied Geochemistry* 24:411-418.

101. Dittmar T., Koch B. and **Jaffé R**. (2009). Tools for studying biogeochemical connectivity among tropical coastal ecosystems. In: Ecological Connectivity among Tropical Coastal Ecosystems. Editor: Ivan Nagelkerken. Springer Verlag ISBN 978-90-481-2405-3; *DOI 10.1007/978-90-481-2406-0_12_, pages 425-455.*

102. Santin C., Yamashita Y., **Jaffé R.,** Otero X.L., Macias F. and Alvarez M.A. (2009). Characterizing humic substances from estuarine soils and sediments using excitation-emission matrix fluorescence and parallel factor analysis. *Biogeochemistry* 96:131-147.

103. Balcarczyk K., Jones Jr. J.B., **Jaffé R.** and Maie N. (2009). Dissolved organic matter bioavailability and composition in streams draining catchments with discontinuous permafrost. *Biogeochemistry*. 94:255-270.

104. Pisapia D., Mora A., Farina O., Lasso C., **Jaffé R.**, and Briceño H. (2009). Geoquímica de los ecosistemas acuáticos de la cuenca alta del río Cuyuní, Estado Bolívar, Venezuela: RAP Alto Cuyuní 2008. RAP Bulletin of Biological Assessment 55:60-73.

105. Williams. C.J., **Jaffé R.,** Anderson W.T., and Jochem F.J. (2009). Importance of seagrass to heterotrophic bacteria in a subtropical estuary (Florida Bay). *Estuarine Coastal Shelf Sci.* 85:507-514.

2008

106. Tzortziou M., Neale P.J., Osburn C.L., Megonigal P.J., **Jaffé R**. and Maie N. (2008). Tidal marshes as a source of colored dissolved organic matter in the Chesapeake Bay. *Limnology & Oceanography* 53: 148-159.

107. Maie N., Pisani O. and **Jaffé R.** (2008). Mangrove tannins in aquatic ecosystems: their fate and possible role in dissolved organic nitrogen cycling. *Limnology & Oceanography* 53: 160-171.

108. Gonsior M., Peake B.M., Cooper W.J., **Jaffé R.,** Young H., Kahn A.E. and Kowalczuk P. (2008). Spectral characterization of chromophobic dissolved organic matter (CDOM) in a fjord (Doubtful Sound, New Zealand). *Aquatic Sciences*. DOI 10.1007/s00027-008-8067-4.

109. Yamashita Y., **Jaffé R.,** Maie N., and Tanoue E. (2008). Assessment of the dynamics of fluorescent dissolved organic matter in coastal environments by EEM-PARAFAC. *Limnology and Oceanography* 53: 1900-1908.

110. Briceño H., Mora A. and **Jaffé R.** (2008). Limnologia. In: RAP 49: Evaluacion Rapida de la Biodiversidad de los Ecosistemas Acuaticos de la Cuenca Alta del Rio Paragua, Estado Bolivar, Venezuela, J.C. Senaris, C.A. Lasso and A.L. Flores (Editors). Conservation International, Arlington, Virginia, pp. 80-96.

111. Xu Y., **Jaffé R.** and Simoneit B.R.T. (2008). Oxygenated *spiro*-arborenes in sediments of a tropical, hypereutrophic, freshwater lake. *Organic Geochemistry* 39:1400-1404.

112. Yamashita Y. and **Jaffé R.** (2008). Characterizing the Interactions between Trace Metals and Dissolved Organic Matter Using Excitation-Emission Matrix and Parallel Factor Analysis. *Environ. Sci. & Technol.* 42:7374-7379.

113. **Jaffé R**., McKnight D., Maie N., Cory R., McDowell W.H., Campbell J.L (2008). Spatial and temporal variations in DOM composition in ecosystems: The importance of long-term monitoring of optical properties. *Journal of Geophysical Research - Biogeosciences. doi:10.1029/2008JG000683.*

2007

114. Maie N., Scully N.M., Pisani O. and **Jaffé R.** (2007). Composition of a protein-like fluorophore of dissolved organic matter in coastal wetland and estuarine ecosystems. *Water Research* 41: 563-570.

115. Xu Y., C. Holmes and **R. Jaffé** (2007). A lipid biomarker record of environmental change in Florida Bay over the past 150 years. *Estuarine,ding Coastal & Shelf Sci.* 73: 201-210.

116. Xu Y., Simoneit B.R.T. and **Jaffé R.** (2007). Occurrence of long-cain mid-chain alkenols, diols, keto-ols and alkanols in a sediment core from a hypereuthophic, tropical, freshwater lake. *Organic Geochemistry* 38:870-883.

117. Xu Y. and **Jaffé R.** (2007). Lipid biomarkers in suspended particulates from a subtropical estuary: Assessment of seasonal changes in sources and transport of organic matter. *Marine Environmental Research* 64:666-678.

118. Fernandez A., Singh A., and **Jaffé R.** (2007). A literature review of trace metals and organic compounds of anthropogenic origin in the Wider Caribbean region. *Mar. Poll. Bull.* 54:1681-1691.

119. Gao M., Simoneit B.R.T. and **Jaffé R**. (2007). Occurrence and distribution of botryococcanes in the Florida Everglades. *Chemosphere* 70:224-236.

120. Xu Y. and **Jaffé R.** (2007). Biomarker-based paleo-record of environmental change for a eutrophic, tropical freshwater lake, Lake Valencia, Venezuela. *Journal of Paleolimnology* 40: 179-194**.**

2006

121. Neto R., Mead R.N., Louda W. and **Jaffé R.** (2006). Organic biogeochemistry of detrital flocculent material (floc) in a subtropical, coastal wetland. *Biogeochemistry* 77: 283-304.

122. Yanes C., Alvarez H. and **Jaffé R.** (2006). Preliminary observations on the geochemistry of a tropical lake (Lake Leopoldo) developed on a pseudo-karst topography within the Roraima Group, Guayana Shield, Venezuela. *Applied Geochemistry* 21: 870-886.

123. Maie N., **Jaffé R.**, Miyoshi T. and Childers D. (2006). Quantitative and qualitative aspects of dissolved organic carbon leached from plants in an oligotrophic wetland. *Biogeochemistry* 78: 285-314.

124. Xu Y., Wachnicka A., Gaiser E.E. and **Jaffé R.** (2006). Occurrence of C_{25} highly branched isoprenoids in Florida Bay: Paleoenvironmental indicators of diatom-derived organic matter inputs. *Organic Geochemistry* 37:847-859.

125. **Jaffé R.,** Rushdi A.I., Medeiros P.M. and Simoneit B.R.T. (2006). Natural product biomarkers as indicators of sources and transport of sedimentary lipids in a subtropical river. *Chemosphere* 64: 1870-1884.

126. Saunders C., Gao M., Lynch J., **Jaffé R.** & Childers D. (2006). Using soil profiles of seeds and molecular markers as proxies for sawgrass and wet prairie slough vegetation in Shark Slough, Everglades National Park. *Hydrobiologia* 569: 475-492.

127. Xu Y. Mead R.N. and **Jaffé R.** (2006). A molecular marker-based assessment of sedimentary organic matter sources and distributions in Florida Bay. *Hydrobiologia* 569: 179-192.

128. Hajje N. and **Jaffé R.** (2006). Lipids associated with peat humic fractions from Everglades National Park (USA). *Hydrobiologia*. 569: 99-112.

129. Maie N., Boyer J.N. Yang C. and **Jaffé R.** (2006). Spatial, geomorphological and seasonal variability of CDOM in estuaries of the Florida Coastal Everglades. *Hydrobiologia* 569: 135-150.

130. Jones V., Parish K., Thompson A., Wolff G.A., Maie N and **Jaffé R.** (2006). Molecular characterization of proteinaceous material in the Florida coastal Everglades. *Hydrobiologia* 569: 129-133.

131. Maie N., Parish K., Watanabe A., Knicker H., Benner R., Abe T., Kaiser K. and **Jaffé R.** (2006). Chemical characteristics of dissolved organic nitrogen in an oligotrophic subtropical coastal ecosystem. *Geochimica et Cosmochimica Acta* 70: 4491-4506.

2005

132. Mead R.N., Xu Y., Chong J. and **Jaffé R.** (2005). Sedimentary organic matter source assessment in a sub-tropical wetland and estuarine environment using the molecular distribution and carbon isotopic composition of n-alkanes. *Organic Geochemistry* 36: 363-370.

133. Maie, N., C.-Y. Yang, T. Miyoshi, K. Parish, and R. Jaffé (2005). Chemical characteristics of dissolved organic matter in an oligotrophic subtropical wetland/estuarine ecosystem. *Limnology & Oceanography* 50(1): 23-35.

134. Jones V., Collins M.J., Penkman K.E.H., **Jaffé R.** and Wolff G.A. (2005). An assessment of the microbial contribution to aquatic dissolved organic nitrogen using amino acid enantiomeric ratios. *Organic Geochemistry* 36**:** 1099-1107.

2004

135. **Jaffé R.**, Boyer J.N., Lu X., Maie N., Yang C., Scully N. and Mock S. (2004) Sources characterization of dissolved organic matter in a mangrove-dominated estuary by fluorescence analysis. *Marine Chemistry* 84: 195-210.

136. Jones V., Ruddell C.J., Wainwright G., Rees H.H., **Jaffé R.**, Wolff G.A. (2004) Application of one-dimensional and two-dimensional gel electrophoresis on aquatic samples: A tool for the characterization of dissolved organic nitrogen. *Marine Chemistry* 85: 63-73.

137. Riviera-Monroy V., et al. (2004). The need to develop long term ecological research in the Caribbean region: A biogeochemical research agenda for sustainable coastal managements plans. *Biosciences* 54(9):843-856.

138. Scully N.M., Maie N., Dailey S., Boyer J.N., Jones R.D. and **Jaffé R.** (2004). Photochemical and microbial transformation of plant derived dissolved organic matter in the Florida Everglades. *Limnology & Oceanography* 49(5):1667-1678.

2003

139. **Jaffé R.**, Gardinali P.R., Cai Y., Sudbury A., Fernandez A., and Hay B. (2003) Organic compounds and trace metals of anthropogenic origin in sediments from Montego Bay, Jamaica: Assessment of sources and distribution pathways. *Environmental Pollution*, 123: 291-299.
140. Lu X.Q., Maie N., Hanna J.V., Childers D. and **R. Jaffé** (2003) Molecular characterization of dissolved organic matter in freshwater wetlands of the Florida Everglades. *Water Research,* 37**:** 2599-2606.

2002

141. Lang Q., Zhang Q. and **Jaffé R.** (2002) A temporal variability study of airborne organic compounds in the Miami area, USA: Suspended particles and wet/dry deposition. *Chemosphere,* 47**:** 427-441.

2001

142. Lu X. and **Jaffé R.** (2001) Interaction between Hg(II) and natural dissolved organic matter: A fluorescence spectroscopy based study. *Water Research*, **35**, 1793-1803.
143. Hernandez M.E., Mead R., Peralba M.C. and **Jaffé R.** (2001) Origin and transport of n-alkane-2-ones in a sub-tropical estuary: Potential biomarkers for seagrass-derived organic matter. *Organic Geochemistry*, 32: 21-32.
144. **Jaffé R.**, Hernandez M.E., Mead R., Peralba M.C. and DiGuida O.A. (2001) Origin and transport of sedimentary organic matter in two sub-tropical estuaries: A comparative, biomarker-based study. *Organic Geochemistry*, **32**, 507-526.

2000

145. **Jaffé R.**, Diaz D., Furton K.G. and Lafarge E. (2000) High temperature supercritical carbon dioxide extractions of geological samples: Trapped vs. pyrolytic hydrocarbons. *Applied Geochemistry*, 15: 79-89.
146. Simoneit B.R.T., Rogge W., Lang Q. and **Jaffé R**. (2000) Molecular characterization of woodsmoke from campfire burning of pine wood (Pinus elliottii). *Chemosphere: Global Change Science,* 2: 107-122.
147. Shen L. and **Jaffé R.** (2000) Interactions between dissolved petroleum hydrocarbons and pure and humic acid coated mineral surfaces in artificial seawater. *Marine Environmental Research* 49: 217-231.
148. Cai Y., Monsalud S., **Jaffé R.** and Jones R.D. (2000) Gas chromatographic determination of organomercury following aqueous derivatization with $NaBEt_4$ and $NaBPh_4$: A comparative study of GC/AFS, GC/AES and GC/MS. *Journal of Chromatography*, 876: 147-155.

1999

149. Cai Y., **Jaffé R.** and Jones 0R. (1999) Interaction between dissolved organic carbon and mercury species in surface waters of the Florida Everglades. *Applied Geochemistry,* 14: 395-407.

150. Furton K.G., Chen L., and **Jaffé R.** (1999) Relative recoveries of hydrocarbons from geological samples using high temperature supercritical fluid extractions: Contributions from thermal desorption. *Journal of High Resolution Chromatography*, 22: 623-627.

1998

151. Alvarado J. and **Jaffé R.** (1998) Tube in flame atomization: A way of enhancing detection limits in flame atomic absorption spectrometry. *Journal of Analytical Atomic Spectrometry,* 13: 37-40.

152. Cai Y., Monsalud S., Furton K.G., **Jaffé R.** and Jones R. (1998) Determination of methylmercury in fish and aqueous samples using solid-phase microextraction followed by gas chromatography-atomic fluorescence spectrometry. *Applied Organometallic Chemistry,* 12: 565-569.

153. **Jaffé R.**, Leal I., Alvarado J., Gardinali P.R. and Sericano J. (1998) Baseline study on the levels of organic pollutants and heavy metals in bivalves of Morrocoy National Park, Venezuela. *Marine Pollution Bulletin*, 36: 925-929.

154. Alvarado J. and **Jaffé R.** (1998) Determination of lead by atomic absorption spectrometry using tube in flame atomization and solid sampling. *Journal of Analytical Atomic Spectrometry,* 13: 1297-1300.

1997

155. **Jaffé R**., Diaz D., Hajje N., Chen L., Eckardt C. and Furton K.G. (1997) Hydrocarbon speciation in ancient sediments studied by stepwise supercritical carbon dioxide extraction. *Organic Geochemistry* 26: 59-65.

156. **Jaffé R**., Cai Y., West-Thomas J., Morales M.B. and Jones R.D. (1997) On the occurrence of methyl mercury in Lake Valencia, Venezuela. *Bulletin of Environmental Contamination and Toxicology* 59: 99-105.

157. Cai Y., Tang G., **Jaffé R.** and Jones R.D. (1997) Evaluation of some isolation methods for organomercury determination in soil and fish samples by capillary gas chromatography - atomic fluorescence spectrometry. *International Journal of Environmental Analytical Chemistry,* 68: 331-345.

158. Ferreira O.G., Fuentes H.R., **Jaffé R.** and Furton K.G. (1997) Supercritical fluid extraction of PAHs from aquifer materials. *Hazardous and Industrial Wastes* 29: 273-281.

159. **Jaffé R**., Gong Y. and Furton K.G. (1997) Temperature effects on supercritical carbon dioxide extractions of hydrocarbons from geological samples. *Journal of High Resolution Chromatography,* 20: 586-590.

160. Lang Q., **Jaffé R.**, Rogge W. and Zhang Q. (1997) Analysis and evaluation of atmospheric organic pollution. III. Monitoring and analyses of atmospheric organic pollution in the Miami area, USA. *Rock and Mineral Analysis*, 16(2): 118-127 (in Chinese).

1996

161. Fuentes H. R., **Jaffé R.**, Tsihrintzis V. A. and Boje D. (1996) Experimental simulation of weathering and dispersion of a crude oil in coastal waters. *Journal of Marine Environmental Engineering* 3: 15-30.
162. **Jaffé R.**, Elismé T. and Cabrera A.C. (1996) Organic geochemistry of seasonally flooded rainforest soils: Molecular composition and early diagenesis of lipid components. *Organic Geochemistry* 25: 9-17.
163. Cai Y., **Jaffé R.** , Alli A. and Jones R. (1996) Determination of organic mercury compounds in natural waters by solid phase extraction and capillary gas chromatography with atomic fluorescence detection. *Analytica Chimica Acta* 334: 251-259.
164. **Jaffé R**., Cabrera A., Hajje N. and Carvajal-Chitty H. (1996) Organic biogeochemistry of a hypereutrophic tropical freshwater lake - Part 1: Particle associated and dissolved lipids. *Organic Geochemistry* 25: 227-240.
165. Cai Y., **Jaffé R**. and Jones R. (1996) On the occurrence of ethylmercury in the Florida Everglades. *Environmental Science and Technology* 31: 302-305.

1995

166. **Jaffé R.** and Hausmann K. (1995) Origin and fate of arborinone in sediments of a highly productive lake. *Organic Geochemistry* 22: 231-235.
167. **Jaffé R.**, Espiño R., Benitez F. and Gardinali P. R. (1995) Pollution Chronology of Lake Valencia, Venezuela. *Bulletin of Environmental Contamination and Toxicology* 54: 930-936.
168. Furton K. G., Chen L. and **Jaffé R**. (1995) Rapid determination of uranium on solid matrices by synergistic in-situ chelation supercritical fluid extraction and UV absorption spectroscopy. *Analytica Chimica Acta* 304: 203-208.
169. Jones R. D., Jacobson M. E., **Jaffé R.**, West-Thomas J., Arfson C. and Alli A. (1995) Method development and sample processing of water, soil and tissue for the analysis of total and organic mercury by cold vapor atomic fluorescence spectrometry. *Water, Air and Soil Pollution* 80: 1285-1294.
170. **Jaffé R.** and Elismé T. (1995) Molecular evidence for anaerobic micro-environments in rain forest soils, *Organic Geochemistry: Developments & Applications in Energy, Climate, Environment and Human History,* Grimalt & Dorronsoro Eds., Itxaso Estrones, San Sebastian, 1995, pp. 690.
171. **Jaffé R.**, Chen L., Huang C.W., Hajje N., Furton K.G. and Sicre M.A (1995) An investigation on hydrocarbon speciation in ancient sediments by stepwise supercritical carbon dioxide extraction at various temperatures: Preliminary results, *Organic Geochemistry: Developments & Applications in Energy, Climate, Environment and Human History,* Grimalt & Dorronsoro Eds., Itxaso Estrones, San Sebastian, 1995, pp. 796.
172. Harradine P.J., Peakman T.M., Eckardt C.B., **Jaffé R.** and Maxwell J.R. (1995) Pyrophaeophorbide a esterified to a C_{32} Hopanol: A novel Cyanobacterial marker, Harradine P. et al., *Organic Geochemistry: Developments & Applications in Energy, Climate, Environment and Human History,* Grimalt & Dorronsoro Eds., Itxaso Estrones, San Sebastian, 1995, pp. 921.

173. Brown, J.W., Fuentes, H.R., **Jaffé, R.** and Tsihrintzis, V.A. (1995). Physical and Chemical Fate and Weathering of Fuels, p. 50-59, Eds. M. Harwell and J. Ault. In: Comparative Ecological Risk Assessment. Volume I., University of Miami Rosenstiel School of Marine and Atmospheric Science Technical Memorandum, Miami, FL, U.S.A.
174. Brown, J.W., Fuentes, H.R., **Jaffé, R.** and Tsihrintzis, V.A. (1995). Comparative Evaluation of Physical and Chemical Fate Processes of Orimulsion and Fuel Oil #6 in the Tampa Bay Marine Environment, 132 pp., Eds. M. Harwell and J. Ault In: Technical Support Document for The Comparative Ecological Risk Assessment Project, University of Miami Rosenstiel School of Marine and Atmospheric Science Technical Memorandum, Miami, FL, U.S.A.
175. **Jaffé R.**, Wolff G., Cabrera A. and Carvajal-Chitty (1995) Biogeochemistry of lipids in rivers from the Orinoco Basin. *Geochimica et Cosmochimica Acta* 59: 4507-4522.
176. **Jaffé R.**, Leal I., Alvarado J., Gardinali P. and Sericano J. (1995) Pollution effects of the Tuy River on the central Venezuelan coast: Anthropogenic organic compounds and heavy metals in *Tivela macroidea*. *Marine Pollution Bulletin* 30: 820-825.

1994

177. Furton K. G., Huang C. W., **Jaffé R.** and Sicre M. A. (1994) High temperature supercritical fluid extraction of hydrocarbons from geological samples and comparison to soxhlet extraction. *Journal of High Resolution Chromatography* 17: 1-3.
178. Alli A., **Jaffé R.** and Jones R. (1994) Analysis of organomercurials in sediments by capillary column gas chromatography with atomic fluorescence detection. *Journal of High Resolution Chromatography* 17: 745-748.

1993

179. Jaffé K. et al. (1993) Chemical ecology of the palm weevil *Rhynchophorus palmarum* (L.) (Coleoptera: Curculionidae): Attraction to host plants and to a male-produced aggregation pheromone. *Journal of Chemical Ecology* 19 (8): 1703-1720.
180. **Jaffé R.**, Cabrera A., Hausmann K. and Carvajal H. (1993) On the origin and fate of n-alkane-2-ones in freshwater environments. *Organic Geochemistry: Applications in Energy and the Natural Environment,* pp. 356-359.
181. **Jaffé R**., Benitez F. and Bojus S. (1993) Assessment of eutrophication chronology via sediment core analyses: Case of Lake Valencia, Venezuela. *Fresenius Environmental Bulletin* 2 (10): 602-607.
182. **Jaffé R.** and M. Gallardo (1993) Application of carboxylic acids biomarkers as indicators of biodegradation and migration of crude oils from the Maracaibo Basin, Venezuela. *Organic Geochemistry* 20: 973-984.
183. **Jaffé R.**, Carero H., Cabrera A and Alvarado J. (1993) Organic compounds and heavy metals in the atmosphere of the city of Caracas, Venezuela - 1: Atmospheric particles. *Air, Water & Soil Pollution* 71: 293-313.
184. **Jaffé R.**, Cabrera A., Carero H and Alvarado J. (1993) Organic compounds and heavy metals in the atmosphere of the city of Caracas, Venezuela - 2: Atmospheric deposition. *Air, Water & Soil Pollution* 71: 315-329.

1992

185. **R. Jaffé**, C.A. Fernandez and J. Alvarado (1992) Analyses of heavy metals in octocorals by microwave acid digestion and electrothermal atomic absorption spectrometry, *Talanta* 39: 113-117.
186. **R. Jaffé**, P. Gardinali and G. Wolff (1992) Evolution of carboxylic acids and alkanes in rocks from the Maracaibo Basin, Venezuela. *Organic Geochemistry* 18:195-201.
187. Eckardt C., Pearce G., Keely B., Kowalewska G., **Jaffé R.** and Maxwell J. (1992) A widespread chlorophyll transformation pathway in the aquatic environment, Advances in Organic Geochemistry 1991, *Organic Geochemistry* 19: 217-227.

1984-1991

188. **R. Jaffé** (1991) Fate of hydrophobic organic pollutants in the aquatic environment: A review. *Environmental Pollution* 69: 237-257.
189. **R. Jaffé** and G. A. Wolff (1991) A preliminary investigation of dissolved and particle associated lipids in a "blackwater" river, Venezuela. *Organic Geochemistry: Applications in Energy and the Natural Environment,* D. Manning (Editor), Manchester University Press, pp.518.
190. **R. Jaffé** and P. Gardinali (1990) Generation and maturation of carboxylic acids in ancient sediments from the Maracaibo Basin, Venezuela. *Organic Geochemistry* 16: 211-218.
191. **R. Jaffé**, P. Albrecht and J. Oudin (1988) Carboxylic acids as indicators of oil migration - I: Occurrence and geochemical significance of C-22 diastereomers of the (17ß,21ß)C-30 hopanoic acid in geological samples. *Organic Geochemistry* 13: 483-488.
192. **R. Jaffé**, P. Albrecht and J. Oudin (1988) Carboxylic acids as indicators of oil migration - II: Case of the Mahakam Delta, Indonesia. *Geochimica et Cosmochimica Acta* 52: 2599-2607.
193. **R. Jaffé** and R. Hites (1986) Anthropogenic polyhalogenated organic compounds in non migratory fish from the Niagara River area and tributaries to Lake Ontario. *Journal of Great Lakes Research* 12**:** 63-71.
194. **R. Jaffé** and R. Hites (1986) Fate of hazardous waste derived organic compounds in Lake Ontario. *Environmental Science and Technology* 20: 167-174.
195. **R. Jaffé** and R. Hites (1985) Identification of new fluorinated biphenyls in the Niagara River - Lake Ontario area. *Environmental Science and Technology* 19: 736-740.
196. **R. Jaffé**, B. Eitzer, E. Stemmler and R. Hites (1985) Anthropogenic organic compounds in sedentary fish from Lakes Superior and Huron tributaries. *Journal of Great Lakes Research* 11: 156-162.
197. **R. Jaffé** and R. Hites (1984) Environmental impact of two, adjacent, hazardous waste disposal sites on the Niagara River watershed. *Journal of Great Lakes Research* 10: 440-448.

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 Manage-ment 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**. Crowl (PI), Chen, Jaffé, Kramer and Price. $5,000,000 (2016-2021).

Principal collaborators (last 5 years; excluding FIU and LTER**):**

International:

N. Maie: Kitasato University – **Japan**
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B. Koch: Alfred Wegener Institute for Polar Research – **Germany**
P. Wolski: University of Botswana - **Botswana**
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National:

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B. Simoneit: Oregon State University
W.J. Cooper: University of California – Irvine
R. Spencer: Florida State University
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N. Mladenov: San Diego State University
J. Jones: University of Alaska – Fairbanks
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Advisors:

- **Ph.D.:** Dr. Ronald Hites; Department of Chemistry & School of Public and Environmental Affairs - Indiana University, Bloomington, Indiana, USA.
- **Post Doctoral** position (CNRS) : Dr. Pierre Albrecht - Organic Geochemistry Unit, Department of Chemistry, Université Louis Pasteur, Strasbourg, France.

Awards/Fellowships:

- 1981-1985 Full graduate scholarship CONICIT (Venezuelan Government)

- 1985-1986 CNRS Post-Doctoral fellowship (Strasbourg – France)
- Summer 1987 Visiting Scientist, WHOI
- 2006 Florida International University Excellence in Research Award
- 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 Distinguished Professor. 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)
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- Citizenship: United States of America
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