

Curriculum Vitae

Ian R MacDonald

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General Information

University address: Earth, Ocean & Atmospheric Science
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Florida State University
Tallahassee, Florida 32306-4320

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Professional Preparation

1990 Ph.D., Texas A&M University. Major: Oceanography.
1983 M.S., Texas A&M University. Major: Fisheries.
1977 B.A., The Friends World College. Major: Environmental Studies.

Professional Experience

2010–present Overload Adjunct Professor, Energy Systems, Econ & Sustain, Florida State University.
2009–present Professor, Earth, Ocean & Atmospheric Sci, Florida State University.

Teaching

Courses Taught

Special Topics in Biological Oceanography (OCB5930)
Studies in Oceanography (OCE4930)
Elementary Oceanography (OCE1001)
Special Topics in Chemical Oceanography (OCC5930)
Principles of Oceanography (OCE4008)

Doctoral Committee Chair

Daneshgar Asl, S., doctoral student.
Silva Aguilera, M. G., doctoral student.

Doctoral Committee Member

Chipman, L. E., graduate. (2011).
Fitzhugh, L. M., graduate. (2011).
Easton, E. E., doctoral candidate.
Brignole, P., doctoral student.
Wells, W. B., doctoral student.

Master's Committee Chair

Desanti, B. A., student.
Johansen, C., student.

Master's Committee Member

Rohal, M. L., graduate. (2012).
Cheng, C. H., student.
Labelle, B. J., student.
Long, D. J., student.

Research and Original Creative Work

Publications

Invited Journal Articles

Sassen, R., Brooks, J. M., MacDonald, I. R., Kennicutt II, M. C., Guinasso, N. L., Jr., & Requejo, A. G. (1993). Association of oil seeps and chemosynthetic communities with oil discoveries, upper continental slope, Gulf of Mexico. *Trans. Gulf Coast Association of Geological Societies*, 43, 349-355.

Refereed Journal Articles

- Joye, S. B., MacDonald, I. R., Leifer, I., & Asper, V. (2011). Magnitude and oxidation potential of hydrocarbon gases released from the BP oil well blowout. *Nature Geosci, advance online publi*, 10.1038/ngeo1067. Retrieved from <http://dx.doi.org/10.1038/ngeo1067>
- Bruning, M., Sahling, H., MacDonald, I. R., Ding, F., & Bohrmann, G. (2010). Origin, distribution, and alteration of asphalts at Chapopote Knoll, Southern Gulf of Mexico. *Marine and Petroleum Geology*, 27(5), 1093-1106. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=WOS:000278262400006>
- Garcia-Pineda, O., MacDonald, I., Zimmer, B., Shedd, B., & Roberts, H. (2010). Remote-sensing evaluation of geophysical anomaly sites in the outer continental slope, northern Gulf of Mexico. *Deep-Sea Research Part Ii-Topical Studies in Oceanography*, 57(21-23), 1859-1869. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=WOS:000285323200003>
- Lessard-Pilon, S., Porter, M. D., Cordes, E. E., MacDonald, I., & Fisher, C. R. (2010). Community composition and temporal change at deep Gulf of Mexico cold seeps. *Deep-Sea Research Part Ii-Topical Studies in Oceanography*, 57(21-23), 1891-1903. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=WOS:000285323200006>
- MacDonald, I. R., Bluhm, B. A., Iken, K., Gagaev, S., & Strong, S. (2010). Benthic macrofauna and megafauna assemblages in the Arctic deep-sea Canada Basin. *Deep Sea Research Part II: Topical Studies in Oceanography*, 57(1-2), 136-152. Retrieved from <http://www.sciencedirect.com/science/article/B6VGC-4X0F3RR-1/2/e60632176224488d6b8ce076455785c1>
- Garcia-Pineda, O., Zimmer, B., Howard, M., Pichel, W., Li, X., & MacDonald, I. R. (2009). Using SAR images to delineate ocean oil slicks with a texture classifying neural network algorithm (TCNNA). *Canadian Journal of Remote Sensing*, 35(5), 411-421.

- Joye, S. B., Samarkin, V. A., Orcutt, B. N., MacDonald, I. R., Hinrichs, K. U., Elvert, M., Teske, A. P., Lloyd, K. G., Lever, M. A., Montoya, J. P., & Meile, C. D. (2009). Metabolic variability in seafloor brines revealed by carbon and sulphur dynamics. *Nature Geoscience*, 2(5), 349-354. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=WOS:000266542900016>
- MacDonald, I. R., & Peccini, M. B. (2009). Distinct activity phases during the recent geologic history of a Gulf of Mexico mud volcano. *Marine and Petroleum Geology*, 26(9), 1824-1830. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=WOS:000272120500013>
- Naehr, T. H., Birgel, D., Bohrmann, G., MacDonald, I. R., & Kasten, S. (2009). Biogeochemical controls on authigenic carbonate formation at the Chapopote "asphalt volcano", Bay of Campeche. *Chemical Geology*, 266(3-4), 399-411. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=WOS:000270346400024>
- Peccini, M. B., & MacDonald, I. R. (2008). Correspondence of sea fan orientations with measured currents on hard bottom habitats of the Mississippi/Alabama continental shelf. *Continental Shelf Research*, 28(2), 302-308. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=WOS:000253281900007>
- Urcuyo, I. A., Bergquist, D. C., MacDonald, I. R., VanHorn, M., & Fisher, C. R. (2007). Growth and longevity of the tubeworm *Ridgeia piscesae* in the variable diffuse flow habitats of the Juan de Fuca Ridge. *Marine Ecology Progress Series*, 344, 143-157.
- Vardaro, M. F., MacDonald, I. R., Bender, L. C., & Guinasso, N. L. (2006). Dynamic processes observed at a gas hydrate outcropping on the continental slope of the Gulf of Mexico. *Geo-Marine Letters*, 26(1), 6-15. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=000235546600002>
- Bluhm, B., MacDonald, I., Debenham, C., & Iken, K. (2005). Macro- and megabenthic communities in the high Arctic Canada Basin : initial findings. *Polar Biology*, 28, 218-231.

- Hovland, M., MacDonald, I. R., Rueslåtten, H., Johnsen, H. K., Mortera, C., & Naehr, T. H. (2005). Chapopote asphalt-volcano may have been generated by supercritical water. *EOS*, 86(42), 397, 402.
- Joye, S. B., MacDonald, I. R., Montoya, J. P., & Peccini, M. (2005). Geophysical and geochemical signatures of Gulf of Mexico seafloor brines. *Biogeosciences*, 2(3), 295-309. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=WOS:000236195300005>
- MacDonald, I. R., Bender, L. C., Vardaro, M., Bernard, B., & Brooks, J. R. (2005). Thermal and Visual Time-Series at a Seafloor Gas Hydrate Deposit on the Gulf of Mexico Slope. *Earth and Planetary Science Letters*, 233, 45-59.
- MacDonald, I. R., Bohrmann, G., Escobar, E., Abegg, F., Blanchon, P., Blinova, V., Brückmann, W., Drews, M., Eisenhauer, A., Han, X., Heeschen, K., Meier, F., Mortera, C., Naehr, T., Orcutt, B., Bernard, B., Brooks, J., & de Faragó, M. (2004). Asphalt volcanism and chemosynthetic life, Campeche Knolls, Gulf of Mexico. *Science*, 304, 999-1002.
- Orcutt, B. N., Boetius, A., Lugo, S. K., MacDonald, I. R., Samarkin, V. A., & Joye, S. B. (2004). Life at the edge of methane ice: microbial cycling of carbon and sulfur in Gulf of Mexico gas hydrates. *Chemical Geology*, 205(3-4), 239-251. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=000221384300004>
- Arena, R., & MacDonald, I. R. (2003). Deepsea Camera system. *Journal of Sea Technology*, 34, 100-109.
- De Beukelaer, S. M., MacDonald, I. R., Guinasso, N. L., & Murray, J. A. (2003). Distinct side-scan sonar, RADARSAT SAR, and acoustic profiler signatures of gas and oil seeps on the Gulf of Mexico slope. *Geo-Marine Letters*, 23(3-4), 177-186. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=000187342400006>
- Leifer, I., & MacDonald, I. R. (2003). Dynamics of the gas flux from shallow gas hydrate deposits: interaction between oily hydrate bubbles and the oceanic environment. *Earth and Planetary Science Letters*, 21(3-4), 411-421.
- MacDonald, I. R., Sager, W. W., & Peccini, M. B. (2003). Association of Gas Hydrate and Chemosynthetic Fauna in Mounded Bathymetry at Mid-Slope Hydrocarbon Seeps: Northern Gulf of Mexico. *Marine Geology*, 198, 133-158.

- Mills, H. J., Hodges, C., Wilson, K., MacDonald, I. R., & Sobecky, P. A. (2003). Microbial diversity in sediments associated with surface-breaching gas hydrate mounds in the Gulf of Mexico. *Fems Microbiology Ecology*, 46(1), 39-52. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=000185794000005>
- Nikolaus, R., Ammerman, J. W., & MacDonald, I. R. (2003). Distinct pigmentation and trophic modes in *Beggiatoa* from hydrocarbon seeps in the Gulf of Mexico. *Aquatic Microbial Ecology*, 32, 85-93.
- MacDonald, I. R., Leifer, I., Sassen, R., Stine, P., Mitchell, R., & Guinasso, N. (2002). Transfer of hydrocarbons from natural seeps to the water column and atmosphere. *Geofluids*, 2(2), 95-107. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=000180445900003>
- MacDonald, I. R., Tunnicliffe, V., & Southward, E. C. D. B. M. (2002). Sperm Transfer in the Vestimentiferan *Ridgeia piscesae* Jones: An event observed at Endeavour Segment, Juan de Fuca Ridge. *Cahiers de Biologie Marine*, 43((3-4)), 395-398.
- Martell, K. A., Tunnicliffe, V., & MacDonald, I. R. (2002). Biological features of a buccinid whelk (Gastropoda, Neogastropoda) at the Endeavour Ventfields of Juan de Fuca Ridge, northeast Pacific. *J. Mollus. Stud.*, 68, 45-53.
- Fisher, C. R., MacDonald, I. R., Sassen, R., Young, C. M., Macko, S. A., Hourdez, S., Carney, R. S., Joye, S., & McMullin, E. (2000). Methane ice worms: *Hesiocaeca methanicola* colonizing fossil fuel reserves. *Naturwissenschaften*, 87(4), 184-187.
- MacDonald, I. R., Buthman, D., Sager, W. W., Peccini, M. B., & Guinasso, N. L., Jr. (2000). Pulsed oil discharge from a mud volcano. *Geology*, 28(10), 907-910.
- Guinasso, N. L., MacDonald, I. R., Peccini, M., & Lee, L. L. (1999). Near-bottom physical oceanographic measurements near oil-seep sites on the Gulf of Mexico slope and their relationship to hydrate stability. *EOS Supplement*, 80(49), OS242.
- Sager, W. W., Lee, C. S., Macdonald, I. R., & Schroeder, W. W. (1999). High-frequency near-bottom acoustic reflection signatures of hydrocarbon seeps on the northern Gulf of Mexico continental slope. *Geo Marine Letters*, 18(4), 267-276.
- MacDonald, I. R. (1998). Habitat formation at Gulf of Mexico hydrocarbon seeps. *Cahiers de Biologie Marine*, 39(3-4), 337-340.
- Sassen, R., MacDonald, I. R., Guinasso, N. L., Joye, S., Requejo, A. G., Sweet, S. T., Alcalá-Herrera, J., DeFreitas, D., & Schink, D. R. (1998). Bacterial methane oxidation in

- sea-floor gas hydrate: Significance to life in extreme environments. *Geology*, 26(9), 851-854. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=000075740300021>
- MacDonald, I. R., & Juniper, S. K. (1997). Sipping from the fire-hose: How to tame the data-flow from submersible operations. *Marine Technology Society*, 31(3), 61-67.
- MacDonald, I. R., Reilly II, J. F., Chu, J., & Olivier, D. (1997). NR-1: Deep-ocean introduction of new laser line scanner. *Sea Technology*, 38(2), 59-64.
- Sassen, R., & MacDonald, I. R. (1997). Hydrocarbons of experimental and natural gas hydrates, Gulf of Mexico continental slope. *Org. Geochem*, 26, 289-293.
- Babb, I. G., Auster, P. J., Belt, W., Olivier, D., Langton, R. W., MacDonald, I. R., Popenoe, P., & Steneck, R. S. (1994). Dual use of a nuclear-powered research submarine: the U.S. Navy's NR-1. *Marine Technology Society*, 27(4), 25-28.
- Brooks, J. M., Anderson, A. L., Sassen, R., Macdonald, I. R., Kennicutt, C., & Guinasso, N. L. (1994). Hydrate Occurrences in Shallow Subsurface Cores from Continental-Slope Sediments. *International Conference on Natural Gas Hydrates*, 715, 381-391. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=A1994BA53C00032>
- Macdonald, I. R., Guinasso, N. L., Sassen, R., Brooks, J. M., Lee, L., & Scott, K. T. (1994). Gas Hydrate That Breaches the Sea-Floor on the Continental-Slope of the Gulf-of-Mexico. *Geology*, 22(8), 699-702. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=A1994PA13600007>
- Sassen, R., Macdonald, I. R., Requejo, A. G., Guinasso, N. L., Kennicutt, M. C., Sweet, S. T., & Brooks, J. M. (1994). Organic Geochemistry of Sediments from Chemosynthetic Communities, Gulf-of-Mexico Slope. *Geo-Marine Letters*, 14(2-3), 110-119. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=A1994PZ71200007>
- Sassen, R., & MacDonald, I. R. (1994). Evidence of structure H hydrate, Gulf of Mexico continental slope. *Organic Geochemistry*, 22(6), 1029-1032.

- MacDonald, I. R., Guinasso, N. L., Ackleson, S. G., Amos, J. F., Duckworth, R., Sassen, R., & Brooks, J. M. (1993). Natural Oil-Slicks in the Gulf-of-Mexico Visible from Space. *Journal of Geophysical Research-Oceans*, 98(C9), 16351-16364. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=A1993LX76400005>
- Rogne, T., MacDonald, I., Smith, A., Kennicutt II, M. C., & Giammona, C. (1993). Multispectral remote sensing data and sea truth data from the Tenyo Maru oil spill. *Photogrammetric Engineering & Remote Sensing*, 59(3), 391-397.
- Kennicutt, M. C., Burke, R. A., MacDonald, I. R., Brooks, J. M., Denoux, G. J., & Macko, S. A. (1992). Stable isotope partitioning in seep and vent organisms: chemical and ecological significance. *Chemical Geology (Isotope Geology Section)*, 101, 293-310.
- MacDonald, I. R. (1992). Sea-floor brine pools affect behavior, mortality, and preservation of fishes in the Gulf of Mexico: Lagerstätten in the making? *Palaios*, 7, 383-387.
- Callender, W. R., Staff, G. M., Powell, E. N., & MacDonald, I. R. (1990). Gulf of Mexico hydrocarbon seep communities: V. Biofacies and shell orientation of autochthonous shell beds below storm wave base. *Palaios*, 5, 2-14.
- Macdonald, I. R., Guinasso, N. L., Reilly, J. F., Brooks, J. M., Callender, W. R., & Gabrielle, S. G. (1990). Gulf-of-Mexico Hydrocarbon Seep Communities .6. Patterns in Community Structure and Habitat. *Geo-Marine Letters*, 10(4), 244-252. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=A1990EQ10800008>
- MacDonald, I. R., Callender, W. R., Burke, R. A., Jr., & McDonald, S. J. (1990). Fine scale distribution of methanotrophic mussels at a Louisiana Slope cold seep. *Progress in Oceanography*, 25, 15-24.
- MacDonald, I. R., Guinasso, N. L., Jr., Reilly, J. F., Brooks, J. M., Callender, W. R., & Gabrielle, S. G. (1990). Gulf of Mexico hydrocarbon seep communities: VI. Patterns of community structure and habitat. *Geo-Marine Letters*, 10, 244-252.
- MacDonald, I. R., Reilly, J. F., II, Guinasso, N. L., Jr., Brooks, J. M., Carney, R. S., Bryant, W. A., & Bright, T. J. (1990). Chemosynthetic mussels at a brine-filled pockmark in the northern Gulf of Mexico. *Science*, 248, 1096-1099.
- MacDonald, I. R., Boland, G. S., Baker, J. S., Brooks, J. M., Kennicutt II, M. C., & Bidigare, R. R. (1989). Gulf of Mexico chemosynthetic communities II: spatial distribution of seep organisms and hydrocarbons at Bush Hill. *Marine Biology*, 101, 235-247.

Edited Books

MacDonald, I. R. (Ed.). (2002). *Stability and Change in Gulf of Mexico Chemosynthetic Communities: Final Report*. New Orleans, LA: U.S. Dept. Interior, Minerals Management Service, Gulf of Mexico OCS Region, Contract 14-35-001-31813.

MacDonald, I. R. (Ed.). (1998). *Stability and Change in Gulf of Mexico Chemosynthetic Communities Interim Report*. New Orleans, LA: U.S. Dept. Interior, Minerals Management Service.

Refereed Book Chapters

MacDonald, I. R., Reilly, J. F., Jr., Best, S. E., Venkataramaiah, R., Sassen, R., Amos, J., & Guinasso, N. L., Jr. (1996). A remote-sensing inventory of active oil seeps and chemosynthetic communities in the northern Gulf of Mexico. In Schumacher, D., & Abrams, M.A. (Eds.), *Hydrocarbon migration and its near-surface expression* (pp. 27-37). American Association of Petroleum Geologists.

Reilly, J. F., MacDonald, I. R., Biegert, E. K., & Brooks, J. M. (1996). Geologic controls on the distribution of chemosynthetic communities in the Gulf of Mexico. In Schumacher, D., & Abrams, M.A. (Eds.), *Hydrocarbon migration and its near-surface expression* (pp. 38-61). Tulsa, OK: Amer. Assoc. Petrol. Geol.

Refereed Proceedings

MacDonald, I., & Leifer, I. (2002). Constraining rates of carbon flux from natural seeps on the northern Gulf of Mexico Slope. In *VII International Conference on Gas in Marine Sediments and Natural Marine Hydrocarbon Seepage in the World Oceans with Application to the Caspian Sea* (pp. 119). Baku, Azerbaijan: NATO and Shallow Gas Group.

Escorcia, S. P., MacDonald, I. R., & Joye, S. B. (1999). Spatial and inter-annual variation of sulfide fluxes in chemosynthetic communities in the Gulf of Mexico. In *Ocean Science Meeting* (pp. 63). Santa Fe, NM: American Society of Limnologists and Oceanographers.

Mitchell, R., MacDonald, I. R., & Kvenvolden, K. K. (1999). Estimates of total hydrocarbon seepage in to the Gulf of Mexico based on satellite remote sensing images. In *Ocean Sciences Meeting*. San Antonio, TX: American Geophysical Union.

Fisher, C. R., MacDonald, I. R., Joye, S., & Sassen, R. (1998). The lair of the ice worm: A clathrate dwelling polychaete from the Gulf of Mexico (poster). In *1998 Ocean Sciences Meeting* (pp. OS3). San Diego, CA: Amer. Geophys. Union.

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- Sager, W. W., & MacDonald, I. R. (1998). Shallow and deep acoustic mapping of hydrocarbon seep sites, northern Gulf of Mexico. In *American Geophysical Union Fall Meeting*. San Francisco.
- Sager, W. W., MacDonald, I. R., Bryant, W. R., Carlson, R. L., & Prior, D. B. (1998). TAMU2 digital side-scan sonar survey of Louisiana Slope areas containing active oil seeps and halokinetic sediment modification. In *Offshore Technology Conference* (pp. OTC Paper 8595). Houston, TX: Offshore Technology Conference.
- MacDonald, I. R. (1997). Two possible mechanisms for biologically significant temperature fluctuation in hydrothermal vent habitats (abstract). In *Aquatic Sciences Meet* (pp. 228). Sante Fe, NM: Amer. Soc. Limnol. Oceangr.
- Sassen, R., & MacDonald, I. R. (1997). Thermogenic gas hydrates, Gulf of Mexico Continental Slope. In *213th ACS National Meeting* (pp. 472-474). San Fransisco, CA.
- Tusting, R. F., Tietze, R. C., Reisenbichler, K. R., Lee, D. S., MacDonald, I. R., & Fisher, C. R. (1996). Development of special-purpose benthic, geo-chemical and biological samplers at Harbor Branch Oceanographic Institution. In *Oceans '96* (pp. 1019-1025). Ft. Lauderdale, FL.
- MacDonald, I. R., Reilly, J. F., Jr., Chu, J. S., Olivier, D., & Blincow, M. (1995). Deep-Ocean Use of the SM2000 Laser Line Scanner on Submarine NR-1 Demonstrates System Potential for Industry and Basic Science. In *Oceans '95*. San Diego, CA.
- Guinasso, N. L., Jr., MacDonald, I. R., Ackleson, S. G., Amos, J. F., Duckworth, R., Sassen, R., Brooks, J. M., Giammona, C. P., & Engelhart, F. R. (1993). Remote sensing estimates for rates of natural oil seepage in the Gulf of Mexico. In *International Symposium "Operationalization of Remote Sensing"* (pp. 1-12). Enschede, The Netherlands.
- Lee, C. S., Sager, W. W., MacDonald, I. R., & Reilly, J. F. (1993). Active mud vents on a hydrocarbon seep mound, continental slope, Gulf of Mexico (poster). In *Fall Meeting American Geophysical Union, 5-10 December 1993* (pp. paper number O12D-6). San Francisco, Ca.: Proceedings.
- MacDonald, I. R., Wiesenburg, D. A., Guinasso, N. L., Jr., & Schroeder, W. W. (1992). Warm brine in the Gulf of Mexico: A CTD profile of Brine Pool NR-1. In *AGU/ASLO Ocean Sciences Meeting*. New Orleans, LA.

Nonrefereed Journal Articles

MacDonald, I. R., Sager, W. W., Guinasso, N. L., & Powell, E. (1999). Evidence of long-term fluctuation in fluid expulsion at hydrocarbon seeps. *EOS Supplement*, 80(49), OS242.

Juniper, K., Fisher, C., Galley, A., McCarthur, A., MacDonald, I., Santaguida, F., Sarrazin, J., Scott, K. T., Tunnicliffe, V., Urcuyo, I., & Williams, T. (1994). A biological Observatory at Endeavour Segment, Juan de Fuca Ridge. *Inter Ridge News*, 3(2), 23-25.

Sassen, R., Brooks, J. M., Kennicutt, M. C., Macdonald, I. R., & Guinasso, N. L. (1993). How Oil Seeps, Discoveries Relate in Deep-Water Gulf of Mexico. *Oil & Gas Journal*, 91(16), 64-69. Retrieved from <http://apps.isiknowledge.com/InboundService.do?Func=Frame&product=WOS&action=retrieve&SrcApp=EndNote&Init=Yes&SrcAuth=ResearchSoft&mode=FullRecord&UT=A1993KY14500011>

Brooks, J. M., Wiesenburg, D. A., Roberts, H., Carney, R. S., MacDonald, I. R., Fisher, C. R., Guinasso, N. L., Jr., Sager, W. W., McDonald, S. J., Burke, R., Jr., Ahron, P., & Bright, T. J. (1990). Salt, seeps and symbiosis in the Gulf of Mexico. *Eos*, 71, 1772-1773.

Nonrefereed Reports

Dokken, Q. R., MacDonald, I. R., Tunnell, J. W., Beaver, C. R., Boland, G. S., & Hagman, D. K. (1998). *Long-term monitoring of the East and West Flower Garden Banks 1996-1997*. New Orleans: Dept. of Interior, Minerals Management Service, Gulf of Mexico OCS Region.

Dokken, Q. R., MacDonald, I. R., Tunnell, J. W., Beaver, C. R., Boland, G. S., & Hagman, D. K. (1998). *Long-term monitoring of the East and West Flower Garden Banks 1996-1997*. New Orleans: Dept. of Interior, Minerals Management Service, Gulf of Mexico OCS Region.

MacDonald, Ian R. (ed.). (1992). *Chemosynthetic Ecosystems Study: Literature review and data synthesis, Vol II Technical summary*. U.S. Department of Interior, Minerals Management Service, Gulf of Mexico OCS Regional Office.

Presentations

Refereed Papers at Conferences

MacDonald, I. R., & Lessard-Pilon, S. (presented 2009). *Quantitative Image Analyses of Cold Seep and Hard Ground Communities on the Lower Louisiana Slope*. Paper presented at MMS Information Transfer Meeting, Minerals Management Service, New Orleans, LA. (National)

MacDonald, I. R., Roberts, H., Shedd, W., Hunt, J., & Bernard, B. (presented 2006). *Exploring Lower Slope Chemosynthetic Communities in the Gulf of Mexico: A Nested Survey Approach*. Paper presented at AGU Fall Meeting, OS34A-07, San Francisco. (International)

MacDonald, I. R., Bluhm, B., Iken, K., & Robinson, S. (presented 2005). *Benthic community composition and seabed characteristics of a Chukchi Sea pockmark*. Paper presented at AGU Fall Meeting, OS51B, San Francisco, CA. (International)

Contracts and Grants

Contracts and Grants Funded

MacDonald, Ian R (PI), Bourassa, M. A., Morey, S. L., Dukhovskoy, D. S., & Garcia-Pineda, O. G. (Aug 2012–Aug 2016). *Remote Sensing Assessment of Surface Oil Transport and r*. Funded by Bureau of Ocean Energy Management. (M12PC00003). Total award \$800,000.

MacDonald, Ian R (PI), & Garcia-Pineda, O. G. (Jan 2012–Dec 2012). *Bahamas SAR Oil Slick Study*. Funded by Statoil. (4502391521). Total award \$30,000.

Chanton, Jeffrey P (PI), & MacDonald, I. R. (Sep 2011–Dec 2013). *Scope of Work for University of Mississippi GRI. Ecosys*. Funded by University of Mississippi. (SA 12-04/GoMRI-001). Total award \$608,642.

MacDonald, Ian R (PI), & Garcia-Pineda, O. G. (Sep 2011–Aug 2012). *Implementation and Enhancement of Neural-Net Based Oil S*. Funded by National Oceanic and Atmospher. (DG133E11SE2357). Total award \$44,556.

MacDonald, Ian R (PI). (Jun 2011–May 2014). *Characterization of CH₄ Emissions from High Latitude*. Funded by University of Alaska Fairbanks. (UAF 12-0034). Total award \$60,000.

- MacDonald, Ian R (PI). (May 2011–Dec 2012). *Seeps Database Access And Support*. Funded by SkyTruth Inc. (NONE). Total award \$19,999.
- MacDonald, Ian R (PI). (Dec 2010–Nov 2011). *Support For Nrda Photo Survey Of BP Well Area*. Funded by Statoil. (NONE). Total award \$40,000.
- MacDonald, Ian R (PI). (Oct 2010–Dec 2010). *Support for NRDA Photo Survey of BP Well Area*. Funded by TDI-Brooks International Inc. Total award \$19,000.
- MacDonald, Ian R (PI). (Aug 2010–Aug 2012). *Coast Watch: Remote Sensing and Verification Sampling*. Funded by University of South Florida. (4710-1101-00-L). Total award \$258,157.
- MacDonald, Ian R (PI), & Garcia-Pineda, O. G. (Jul 2010–Aug 2011). *Development of Experimentally Operational Neural-Net Bas*. Funded by National Oceanic and Atmospher. Total award \$53,496.
- MacDonald, Ian R (PI). (Jun 2010–Sep 2013). *Abundance, Identity and Activity of Microorganisms Assoc*. Funded by University of Georgia Athens. (RR100-521/4785126). Total award \$100,887.
- MacDonald, Ian R (PI). (Sep 2009–Jul 2010). *Prototype Interactive Neural-Net Based Oil Spill Detecti*. Funded by National Oceanic and Atmospher. Total award \$18,798.
- MacDonald, Ian R (PI). (Aug 2009–Aug 2013). *MO: Collaborative Research: A Microbial Observatory*. Funded by National Science Foundation. Total award \$149,996.
- MacDonald, Ian R (PI). (Aug 2009–Apr 2013). *Deepwater Program: Exploration and Research of the Nort*. Funded by TDI-Brooks International Inc. (None). Total award \$200,346.
- MacDonald, Ian R (PI). (Jun 2009–Jun 2011). *Remote Sensing and Sea-Truth Measurements of Methane Flu*. Funded by Texas A&M University. (09-024). Total award \$138,593.