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Education:

BS Chemistry – University of California, Santa Cruz (2000)

Employment History:

Lab Technician – SETI Institute (November 2002 – present)

Legal Assistant – San Jose Police Officers’ Association (March 1999 – November 2002)

Summary of Relevant Experience

- Responsible for the operation and maintenance of a ThermoFinnigan Delta Plus continuous flow isotope ratio mass spectrometer (CF-IRMS) couple to Gas Chromatograph and Elemental Analyzer peripherals.
- Maintain and operate a Nuclide dual inlet isotope ratio mass spectrometer (IRMS).
- Skilled with vacuum line purification of CO₂ gas for IRMS analysis.
- Operation and maintenance of a high performance liquid chromatograph (HPLC).
- Operation and maintenance of several types of gas chromatograph systems (GC) including GC-FID, GC-FPD, GC-RGA and GC-MS.
- Operation and maintenance of a Dionex IC 2000 ion chromatograph (IC).
- Experience with experimental radionuclide techniques including NRC compliance, sample handling and analysis.
- Use and familiarity with basic wet chemistry techniques such as distillation, recrystallization, thin layer chromatography.
- General lab management duties in support of 4 laboratories including proper hazardous waste disposal and storage techniques, health and safety compliance, procurement, and personnel management.
- Experience with liquid chromatography-mass spectrometry (LC-MS).

Selected Relevant Publications

L.L. Jahnke, V. J. Orphan, T. Embaye, K. A. Turk, **M.D. Kubo**, R. E. Summons, D. J. DesMarais (2008) Lipid biomarker and phylogenetic analyses to reveal archaeal biodiversity and distribution in hypersaline microbial mat and underlying sediment. *Geobiology* **6**, 394-410

M.B. Vogel, D.J. Des Marais, L.L. Jahnke, K.A. Turk, **M.D. Kubo** (2006) Organic geochemistry of endoevaporitic environments: Microbial diversity and lipid biomarkers

from gypsum deposits at the E.S.S.A Salt Works, Guerrero Negro, Baja, Mexico, Eos. Trans. AGU, 87(52), Fall Meeting. Suppl., Abstract B11D-07.

M. Fuchs, **M.D. Kubo**, T. Hoehler (2005) Minimum Energy Requirements of Methanogenic Microbes, Biennial Meeting of the NASA Astrobiology Institute, Boulder, CO, USA.

L.L. Jahnke, V.O. Orphan, T. Embaye, K.A. Turk, **M.D. Kubo**, R. Summons (2005) Lipid Biomarkers for a Hypersaline Microbial Mat Community, Biennial Meeting of the NASA Astrobiology Institute, Boulder, CO, USA.

L. L. Jahnke, V.O. Orphan, T. Embaye, K.A. Turk, **M.D. Kubo**, R. Summons (2004) Linking Archaeal Molecular Diversity and Lipid Biomarker Composition in a Hypersaline Microbial Mat Community, Astrobiology Science Conference, Moffett Field, CA, USA.

V. O. Orphan, L.L. Jahnke, T. Embaye, K.A. Turk, **M.D. Kubo**, B. M. Bebout, M.E. Hogan, D.J. Des Marais (2004) Diversity and dynamics of methanogenic Archaea within benthic cyanobacterial mats, Astrobiology Science Conference, Moffett Field, CA, USA.

V. J. Orphan, L.L. Jahnke, T. Embaye, K.A. Turk, **M.D. Kubo**, R. Summons (2003) Lipid Biomarkers and their Carbon Isotopic Signatures for a Hypersaline Microbial Mat Community, GSA Annual Meeting, Seattle, WA, USA.