

# NASA/JSC Astrobiology Institute

## Relevant Peer-Reviewed Manuscripts, 1998-present

### 2003

- Allen, C. C., Westall, F., Longazo, T. G., Schelble, R. T., Probst, L. W., and Flood, B. E. (2003) Meridiani Planum hematite deposit and the search for life on Mars: Preservation of microfossils and associated evidence of life in terrestrial samples. *Icarus*.
- Bazylinski, D. A., Dean, A. J., Dubbels, B. L., Kimble-Long, L., & Middleton, S. L. (2003). Chemolithoautotrophy in the marine, magnetotactic bacterial strains MV-1 & MV-2.
- Brasier, M. D., Green, O. R., Lindsay, J. F., and Steele, A. (2003) Earth's oldest (~3.5 Ga) fossils and the 'Early Eden hypothesis': questioning the evidence. *Origins of Life and Evolution of the Biosphere* (in press).
- Çiftçioğlu, N., McKay, D. and Kajander, E. O. (In press 2003). Nanobacteria might be one of the potential agents in Oral Flora Triggering Peripheral Arterial Diseases. *Circulation*.
- Çiftçioğlu, N., McKay, D. S. & Kajander, E. O. (In preparation 2003). Characteristics, detection & medical importance of novel self-replicating particles, 'nanobacteria'. *Aviation Space & Environmental Medicine Journal*.
- Gibson, E. K. Jr., McKay, D. S., Thomas-Keptra, K. L., Wentworth, S. J., Westall, F., Clemett, S. J., and Romanek, C. S. (2003) Criteria for evaluating the presence of past life in rocks: Application to the Martian meteorites. *Journal of Astrobiology* (in preparation).
- Gibson, E. K. Jr., Wentworth, S. J., Thomas-Keptra, K. L., McKay, D. S., and Clemett, S. J. (2003) What the Martian meteorites have unveiled about Mars. *Scientific American* (submitted)
- Grasby, S. E., Allen, C. C., Longazo, T. G., Lisle, J. T., Griffin, D. W., Beauchamp, B. (2003) Supra-glacial sulphur springs and associated biological activity in the Canadian High Arctic – Signs of life beneath the ice. *Astrobiology* (in press).
- Guidry, S. A., and Chafetz, H. S. (2003) Siliceous shrubs in hot springs from Yellowstone National Park, Wyoming, U.S.A., submitted to *Canadian Journal of Earth Sciences*.
- Guidry, S. A. and Chafetz, H. S. (2003) Anatomy of siliceous hot springs: Examples from Yellowstone National Park, Wyoming, U.S.A. *Sedimentary Geology*.
- Guidry, S. A. and Chafetz, H. S., (2003) Depositional facies and diagenetic alteration in a relict siliceous hot spring accumulation: Examples from Yellowstone National Park, U.S.A., *Journal of Sedimentary Research*.
- Jimenez Lopez, C. and Romanek, C. S. (2003) Inorganic siderite precipitation at 25°C and 1 atm: Carbon isotope partitioning between siderite and CO<sub>2</sub>. *Geochimica et Cosmochimica Acta* (in press).
- Kajander, E. O., Çiftçioğlu, N., Aho, K. & Garcia-Cuerpo, E. (2003). Characteristics of Nanobacteria and their possible role in stone formation. *Urology Research*. *Urol Res.* 31(2): 47-54.
- Kirschvink, J. L. and Raub, T. D. (2003) A methane fuse for the Cambrian explosion: Carbon cycles and true polar wander. *Comptes Rendus* (in press).
- Lindsay, John F. and Brasier, Martin D. (2003) The evolution of the Precambrian atmosphere: isotopic evidence from the Australian continent. *Tempos and Events in the Precambrian Time* (in press). Elsevier.
- Lindsay, J. F., McKay, D. S., and Allen, C. C. (2003) Earth's earliest biosphere - a proposal to develop a collection of curated Archean Geologic Reference Materials. *Astrobiology* (accepted).
- Kirschvink, J. L. and Raub, T. D. (2003) A methane fuse for the Cambrian explosion: Carbon cycles and true polar wander. *Comptes Rendus* (in press).

- Maule, J., Fogel, M., Steele, A., and McKay, D. (2003) Antigen-Antibody Interactions in Altered Gravity: Implications for Immunosorbent Assay during Spaceflight. *J. Gravit. Physiol.* Accepted.
- Maule, J., Steele, A., Toporski, J., Fogel, M., Pierson, D., Ott, M. and McKay, D. (2003) Hopane antibodies: A novel tool for detection of past life. *Journal of Immunological Methods*. In preparation.
- Mielke, R.E., D.L. Pace, T. Porter and G. Southam (2003) A critical stage in the formation of acid mine drainage: Colonization of pyrite by *Acidithiobacillus ferrooxidans* under pH neutral conditions. *Geobiology* (accepted, in press).
- Miller-Hjelle, M.A., Hjelle, J. T., Çiftçioğlu, N. & Olavi Kajander, E. (In press 2003). Book chapter: "Nanobacteria: Methods for growth and identification of this recently discovered calciferous agent". *Rapid Analytical Microbiology: The Chemistry and Physics of Microbial Identification*. Editor, Wayne Olson, Sue Horwood Publishing Limited, Storrington, UK.
- Oliver, D. S., F. J. Brockman, R. S. Bowman, and T. L. Kieft. 2003. Microbial Reduction of Hexavalent Chromium under Vadose Zone Conditions. *Journal of Environmental Quality* **32**:317-324.
- Romanek C.S., Zhang C.L., Li Y., Horita J., Vali H., Cole D.H. & Phelps T.J. (2003). Carbon and hydrogen isotope fractionations associated with dissimilatory Fe(III)-reducing bacteria. *Chem. Geol.*, 195:5-16.
- Rutz, B. and Kieft, T. L. (2003) Phylogenetic characterization of dwarf archaea and bacteria from a semiarid soil. Submitted to *Soil Biology & Biochemistry*, submitted.
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- Sears, D. W. G., Allen, C. C., Bell, M. S., Bogard, D., Britt, D., Brownlee, D. E., Chapman, C., Clark, B. C., Dissley, R., Franzen, M. A., Goldstein, J., Nishiizumi, K., Nyquist, L., Pieters, C. M., Scheeres, D., Scott, E. R. D., and Treiman, A. (2003) The HERA near-earth asteroid sample return mission: science requirements of the sample collector. *Advances in Space Research*, in press.
- Sharp, Z.D., Papike, J.J. & Durakiewicz, T (2003 in review) The effect of thermal decarbonation on stable isotope concentrations of carbonates. *American Mineralogist*, in review.
- Sommer, A.P., McKay, D.S., Çiftçioğlu, N., Oron, U., Mester, A.R. & Kajander, E.O. (In press 2003). Nanobacteria and Stem Cells Survive better with Light. *Journal of Proteome Research*.
- Warmflash, D., Larios-Sanz, M., Willson, R.C., Fox, G.E., Allen, C.C., and McKay, D.S. (2003) Detection of biomarkers in soil and JSC Mars-1 regolith simulant by immunoassay, submitted to *Astrobiology*.
- Wentworth S. J., Thomas-Keprta K. L., and McKay D. S. (2003) Evaporites in the Nakhla and Shergotty martian meteorites: Traces of Mars History. *Astrobiology*. (in revision).
- Westall, F. and Folk, R. L. (2003) Exogenous carbonaceous microstructures in Early Archaean cherts and BIFs from the Isua greenstone belt: Implications for the search for life in ancient rocks. *Precambrian Research* (in press).

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- Bazyliński, D.A., Dean, A.J., Dubbels, B.L., Kimble-Long, L., and Middleton, S.L. (2002). Chemolithoautotrophy in the marine, magnetotactic bacterial strains MV-1 and MV-2. Submitted for publication., 2002

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