CURRICULUM VITAE

ACADEMIC HISTORY

Name: CHUANLUN L. ZHANG
Department of Marine Sciences and Savannah River Ecology Laboratory
University of Georgia
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Present rank: Associate Professor, Department of Marine Sciences, University of Georgia, Athens, GA 3060

Academic degrees:

B.S., Geology. East China Petroleum Institute, People's Republic of China, 1984.
M.S., Geology. Texas A&M University, 1989.
Ph.D., Geology. Texas A&M University, 1994.

Academic positions:

2002-present	Associate Professor, Department of Marine Sciences, University of Georgia.
2002-present	Associate Research Scientist, Savannah River Ecology Laboratory, Univ. Georgia.
1998-2002	Assistant Professor, Department of Geological Sciences, University of Missouri.
1994-1998	Postdoctoral Fellow, Oak Ridge National Laboratory, Oak Ridge, TN.

COURSES TAUGHT

Organic Geochemistry, MAR 8140, UGA (2003, 2005, 2007; 3 hours, co-taught with Dr. M.-Y. Sun; 25-40%)
Freshman Seminar "Life in extreme environments", UGA (2004, 2005, 2007; 1 hour; 100%)
Introduction to World's Oceans, MARS 1010 (2008; 3 hours; 100%)
Geomicrobiology and Microbial Biogeochemistry, Univ. Missouri (1999-2002, 3 hours, 6-8 students; 100%)
Principles of Geology, Univ. Missouri (1999-2002, 3 hours, > 300 students; 100%)
Historical Geology, Univ. Missouri (1999-2002, 3 hours, 15-20 students; 100%)

SCHOLARLY ACTIVITIES

A. Publications

A-1. Journal articles **(All gone through stringent editorial review).** Role, Impact factor (IF), and times of citation (TC) follow each paper. N/A = not available. "†" indicates paper published in a mini-special issue in *Geosciences Journal of China Universities* with the purpose of promoting geomicrobiological research in China.

63. **Zhang C.L**., Ye Q., Huang Z., Li W., Chen J., Song Z., Hedlund B. P., Zhao W., Gao L., Bagwell C., Inskeep B., Wiegel J., Romanek C.S. **2008.** Global occurrence and biogeographic patterning of putative archaeal *amoA* genes from terrestrial hot springs. *Appl. Environ. Microbiol.* 74: 6417-6426. (Role: **Leading and corresponding author,** IF **3.81**; TC: **0**).
62. Huang X., Xie S., Jiao D., Huang J., Yu J., **Zhang C.L**., Jin F., and Gu Y. **2008**. Distribution of aliphatic *des*-A-triterpenoids in the Dajiuhu peat deposit, southern China. *Org. Geochem.* 39:1765–1771.
61. Wagner I.D., Zhao W.D., **Zhang C.L**., Romanek C.S., Rohde M., and Wiegel J. **2008**. *Thermoanaerobacter uzonensis* sp. nov., an anaerobic, thermophilic bacterium isolated from a hot spring within the Uzon Caldera, Kamchatka, Far East Russia. *Int'l J. System. Evol. Microbiol.* (in press). (Role: **Contributing author, 15%**; IF **2.66**; TC: **0**).

60. Smith J. L., Campbell B. J., Hanson T. E., Zhang C. L., and Cary S. C. **2008**. *Nautilia profundicola* sp. nov., a thermophilic, sulfur-reducing epsilonproteobacterium from deep-sea hydrothermal vents. Intl' J. Syst. Evol. Microbiol. 58, 1598–1602. (Role: **Contributing author, 15%**; IF **2.66**; TC: **0**).
59. Jiang, H., Dong, H., Yu, B., Ye, Q., Ji, S., Liu, Y., Shen, J., and **Zhang C.L. 2008**. Dominance of putative marine benthic *Archaea* in Qinghai Lake, north-western China. *Environ. Microbiol.* doi:10.1111/j.1462-2920.2008.01661.x (Role: **Contributing author, 20%**; IF: **4.56**; TC: **0**).
58. Pearson A., Pi Y., Zhao W., Li W., Li Y., Inskeep W., Bonch-Osmolavskaya L., Romanek C., Li S., and **Zhang C.L**. **2008**. Factors controlling the distribution of archaeal tetraethers in terrestrial hot springs. *Appl. Environ. Microbiol.* (**Co-corresponding author**; IF: **3.81**; TC: **0)**
57. Zhao W., **Zhang C.L.**, Romanek C., Wiegel J. **2008**. Description of *Caldalkalibacillus uzonensis* sp. nov. and emended description of the genus *Caldalkalibacillus*. *Int'l. J. System. Evol. Microbiol*. 58: 1106–1108. (Role: **Contributing author, 20%**; IF **2.66**; TC: **0**).
56. **Zhang C.L.**, Huang Z., Li Y.-L., Romanek C. S., Mills G., Wiegel J., Culp R., Noakes J., and White D. C. **2007**. Lipid biomarkers and carbon-isotope signatures of bacteria in Nevada hot springs. *Geomicrobiol. J.* 24: 519-534. (Role: **Leading and corresponding author**; IF: **2.08**; TC: **0**).
55. Huang Z., Wiegel J., Zhou J., Hedlund B., **Zhang C.L. 2007**. Molecular phylogeny of uncultivated *Crenarchaeota* in hot springs of moderately elevated temperatures. *Geomicrobiol. J.* 24: 535-542. (Role: **Corresponding author**; IF: **2.08**; TC: **0**).
54. Boyd E. S., Jackson R. A., Encarnacion G., Zahn J. A., Beard T., Leavitt W.D., Pi Y., **Zhang C. L.**, Pearson A., D'Imperio S., McDermott T. R., and Geesey G. G. **2007**. Isolation, characterization, and ecology of sulfur-respiring Crenarchaea inhabiting acid-sulfate-chloride geothermal springs in Yellowstone National Park. *Appl. Environ. Microbiol.*73*:* 6669-6677. (Role: **Contributing author, 10%**; IF: **3.81**; TC: **0**).
53. Yang J., Deng B.L., Li Y.L., **Zhang C.L. 2007**. In-situ transformation of labile lead compounds to pyromorphites. *J. Land Contamination Reclamation*. 15: DOI 10.2462/09670513.859 (Role: **Contributing author, 15%**; IF: **N/A**; TC: **0**).
52. Jiang H., Dong H., Yu B., Li Y., Ji S., Liu X., and **Zhang C.L**. **2007**. Microbial response to salinity change in Lake Chaka, a hypersaline lake on the Tibetan Plateau. *Environ. Microbiol*. 9: 2603-2621. (Role: **Contributing author, 20%**; IF: **4.56**; TC: **0**).
51. Li Y.-L., Peacock A., White D.C., Geyer R., **Zhang C.L**. **2007.** Spatial patterns of bacterial signature lipid biomarkers in marine sediments of the Gulf of Mexico. *Chem. Geol.* 238: 168-179. (Role: **Corresponding author**; IF: **2.94**; TC: **0**).
50. **Zhang C.L**., Pearson A., Li Y.-L., Mills G., Wiegel J. **2006**. A thermophilic temperature optimum for crenarchaeol and its implication for archaeal evolution. *Appl. Environ. Microbiol.* 72: 4419-4422. (Role: **Leading and corresponding author**; IF: **3.81**; TC: **1**).
49. Zhao W., Wiegel J., **Zhang C.L**., Romanek C.S., Mills G., King G. **2006**. *Thermalkaliphus uzonensis* gen. nov. sp. nov, a new aerobic thermophilic carbon-monoxide-tolerant bacterium isolated from a hot spring in Uzon Caldera, Kamchatka. *Extremophiles*. 10: 337-345. (Role: **Contributing author, 15%**; IF: **2.13**; TC: **0**).
48. Williams T.J., **Zhang C.L.,** Scott J.H., and Bazylinski D.A. **2006**. Evidence for autotrophy via the reverse tricarboxylic acid cycle in the marine magnetotactic coccus strain MC-1. *Appl. Environ. Microbiol*. 72: 1322-1329. (Role: **Contributing author, 40%**; IF: **3.81**; TC: **4**).
47. Tuo J., Zhang M., Wang X., and **Zhang C.L. 2006**. Hydrogen isotopes of aliphatic and diterpenoidal hydrocarbons in coals and carbonaceous mudstones from the Liaohe Basin, China. *Org. Geochem.* 37: 165-176. (Role: **Contributing author, 50%**; IF: **2.08**; TC: **0**).
46. Yao S., Hu W., Cao J., Xue C., and **Zhang C.L. 2006**. A comparative study of artificial maturation of peat, brown coal and subbituminous coal: implications for coalification. *Intl. Coal Geol*. 66: 108-118. (Role: **Contributing author, 35%**; IF: **1.04**; TC: **0**).

45. Yan T., Ye Q., Zhou J., and **Zhang C.L. 2006**. New functional genes for methanotrophs in gas-hydrate and hydrocarbon-seep environments in the Gulf of Mexico. *FEMS Microbiol. Ecol.* 57: 251-259. (Role: **Corresponding author**; IF: **2.79**; TC: **0**).
44. Li Y.-L., Vali H., Yang J., Phelps T. J., and **Zhang C. L. 2006**. Reduction of iron oxides enhanced by a sulfate-reducing bacterium and biogenic H_2S. *Geomicrobiol. J.* 23: 103-117. (Role: **Corresponding author**; IF: **2.08**; TC: **0**).
†43. Li Y.-L., Wang R.-C., Zhou G.-T., and **Zhang C.L. 2005**. Microbial biomineralization. *Geosci. J. China Univ.* 2: 167-180. (Role: **Corresponding author**; IF: **<1.0**; TC: **0**).
†42. Ye Q., **Zhang C.L. 2005**. Microbial bioremediation of metal- and radionuclide- contaminated soils and groundwater. *Geosci. J. China Univ*. 2: 199-206. (Role: **Corresponding author**; IF: **<1.0**; TC: **0**).
†41. Huang Z., Wang Y., and **Zhang C.L. 2005**. Diversity and evolutionary implications of thermophilic and non-thermophilic Crenarchaeota. *Geosci. J. China Univ*. 2: 207-216. (Role: **Corresponding author**; IF: **<1.0**; TC: **0**).
†40. Zhao W., Romanek C.S., Mills G., Wiegel J., and **Zhang C.L. 2005**. Geochemistry and microbiology of hot springs in Kamchatka, Russia. *Geosci. J. China Univ*. 2: 217-223. (Role: **Corresponding author**; IF: **<1.0**; TC: **0**).
†39. Wang Y., Huang Z., and **Zhang C.L. 2005**. Knowing the unknown: Statistical approaches towards understanding microbial diversity. *Geosci. J. China Univ.* 2: 224-233. (Role: **Corresponding author**; IF: **<1.0**; TC: **0**).
†38. Tuo J., Chen J., Yao S., Li Y.-L., Ji J., and **Zhang C.L. 2005**. Qinghai Lake: A natural laboratory for geomicrobiological research. *Geosci. J. China Univ.* 2: 187-193. (Role: **Corresponding author**; IF: **<1.0**; TC: **0**)
37. Pancost R.D., **Zhang C.L**., Tavacoli J., Talbot H.M., Farrimond P., Schouten S., Damste J.S.S., Sassen R. **2005**. Lipid biomarkers preserved in hydrate-associated authigenic carbonate rocks of the Gulf of Mexico. *Palaeogeography, Palaeoclimatology, Palaeoecology* 227: 48-66. (Role: **Contributing author, 20%**; IF: **1.90**; TC: **4).**
36. Zhang, G., Dong, H., Xu, Z., Zhao, D., and **Zhang, C.L. 2005**. Bacterial diversity in ultra-high pressure rocks and fluids from the Chinese Continental Scientific Drilling in China. Appl. *Environ. Microbiol.* 71: 3213-3227. (Role: **Contributing author, 15%**; IF: **3.81**; TC: **4**).
35. **Zhang C.L**., Huang Z., Cantu J., Pancost R. D, Brigmon, R. L., Lyons T. W., and Sassen R. 2005. Lipid Biomarkers and Carbon-Isotope Signatures of a Microbial (*Beggiatoa)* Mat Associated with Gas Hydrates in the Gulf of Mexico. *Appl. Environ. Microbiol*. 71: 2106-2112. (Role: **Leading and corresponding author**; IF: **3.81**; TC: **7**).
34. Sassen, R., Sweet, S.T., DeFreitas, D.A., Eaker, N.L., Roberts, H.H., and **Zhang, C. 2004**. Brine vents on the Gulf of Mexico slope: hydrocarbons, carbonate-barite-uranium mineralization, red beds, and life in an extreme environment. *Gulf Coast Section Society of Economic Paleontologists and Mineralogists*, 444-463. (Role: **Contributing author**, 15%; IF: **N/A;** TC: **0**).
33. Chen J., Yao S., Ji J., **Zhang C.L.,** and Li Y. **2004**. The history and advance of microbial geochemistry. *Geological Review* 50: 620-632. (Role: **Contributing author, 35%**; IF: **1.70** [recognized in China]; TC: **0**).
32. Vali H., Weiss B., Li Y.-L., Sears S. K., Kim S. S., Kirschvink J.L., and **Zhang C.L. 2004**. Formation of tabular single domain magnetite induced by *Geobacter metallireducens* GS-15. ***PNAS*** 101: 16121–16126. (Role: **Contributing author, 25%**; IF: **10.22**; TC: **8**).
31. Ye Q., Roh Y., Carroll S.L., Blair B., Zhou J., **Zhang C.L**., and Fields M.W. **2004**. Alkaliphilic microorganisms from a boron-rich freshwater environment. *Appl. Environ. Microbiol*. 70: 5595–5602. (Role: **Corresponding author**; IF: **3.81**; TC: **9**).
30. Pearson A., Huang Z., Ingalls A. E., Romanek C.S., Wiegel J., Freeman K.H., Smittenberg R.H., and **Zhang C.L. 2004**. Non-marine crenarchaeol in Nevada hot springs. *Appl. Environ. Microbiol.* 70: 5229–5237. (Role: **Corresponding author**; IF: **3.81**; TC: **8**).

29. **Zhang C.L.**, Fouke B.W., Bonheyo G., Peacock A., White D.C., Huang Y., Romanek C.S. **2004**. Lipid biomarkers and carbon-isotopes of modern travertine deposits (Yellowstone National Park, USA): Implications for biogeochemical dynamics in hot-spring systems. *Geochim. Cosmochim. Acta.* 68: 3157–3169. (Role: **Leading and corresponding author**; IF: **3.90**; TC: **5**).
28. Li Y., Yang J., Deng B., Vali H., and **Zhang C.L**. **2004**. Dissolution of nontronite by a sulfate-reducing bacterium: Implications for biological degradation of clays. *Geochim. Cosmochim. Acta.* 68: 3251–3260. (Role: **Corresponding author**; IF: **3.90**; TC: **7**).
27. **Zhang C.L.** and Lanoil B. **2004**. Geological and biogeochemical dynamics of gas hydrate-hydrocarbon seep systems. *Chem. Geol.* 205: 187-194. (Role: **Leading and corresponding author**; IF: **2.94**; TC: **4**).
26. Formolo M., Lyons T., **Zhang C.L.,** Sassen R., Horita J., and Cole, D.R. **2004**. Stable isotope evidence of anaerobic hydrocarbon oxidation in the Gulf of Mexico cold seeps. *Chem. Geol.* 205: 253-264. (Role: **Contributing author, 20%**; IF: **2.94**; TC: **13**).
25. Sassen R., Roberts, H.H., Milkov A.V., Carney R., DeFreitas D.A., Lanoil B, and **Zhang C.L**. **2004**. Free hydrocarbon gas, gas hydrate, and authigenic carbonates in chemosynthetic communities of the northern Gulf of Mexico continental slope: Relation to microbial processes. *Chem. Geol.* 205: 195-217. (Role: **Contributing author, 15%**; IF: **2.94**; TC: **16**).
24. **Zhang C.L.**, Li Y., Ye Q., Fong J., Peacock A.D., Blunt E., Fang J., Lovley, D.R., and White D.C. **2003**. Carbon isotope signatures of fatty acids in *Geobacter metallireducens* and *Shewanella Algae*. *Chem. Geol.* 195: 17-28. (Role: **Leading and corresponding author**; IF: **2.94**; TC: **14**).
23. Lyons T.W., **Zhang C.L**., Romanek C.S. **2003**. Isotopic Records of Microbially Mediated Processes. *Chem. Geol.* 195: 1-4. (Role: **Contributing author, 25%**; IF: **2.94**; TC: **1**).
22. Romanek C.S., **Zhang C.L.**, Li Y., Horita J., Vali H., Cole D.R., Phelps T.J. **2003**. Effects of reaction pathways on fractionation of carbon and hydrogen isotopes by dissimilatory Fe(III)-reducing bacteria. *Chem. Geol.* 195: 5-16. (Role: **Contributing author, 50%**; IF: **2.94**; TC: **3**).
21**. Zhang C.L.,** Pancost R.D., Qian Y., Sassen R., Macko S.A. **2003**. Archaeal lipid biomarkers and isotopic evidence of anaerobic methane oxidation associated with gas hydrates in the Gulf of Mexico. *Org. Geochem.* 34: 827-834. (Role: **Leading and corresponding author**; IF: **2.08**; TC: **18**).
20. Powers, L.G., H.J. Mills, A.V. Palumbo, **C. Zhang**, K. Delaney, and P.A. Sobecky. **2003**. Introduction of a plasmid-encoded phoa gene for constitutive overproduction of alkaline phosphatase in three subsurface *Pseudomonas* isolates. *FEMS Microbiology Ecology* 41: 115-123. (Role: **Contributing author, 10%**; IF: **2.79**; TC: **3**).
19. Roh Y., **Zhang C.L.,** Vali H., Lauf R.J., Zhou J., and Phelps T.J. **2003**. Biogeochemical and environmental factors on iron biomineralization: Magnetite and siderite formation. *Clays and Clay Minerals* 51: 83-95. (Role: **Contributing author, 25%**; IF: **1.36**; TC: **15**).
18. **Zhang C.L**., Ye Q., Goetz D., Reysenbach A.-L., Peacock A., White D.C., Horita J., Cole D.R., Fong J., Pratt L., Fang J., Huang Y. **2002**. Carbon isotopic fractionations associated with thermophilic bacteria *Thermotoga maritima* and *Persephonella marina. Environ. Microbiol* 4: 58-64. (Role: **Leading and corresponding author**; IF: **4.56**; TC: **10**).
17. **Zhang C.L. 2002**. Stable carbon isotopes of lipid biomarkers for analysis of metabolites and metabolic fates of environmental microorganisms. *Curr. Opinion Biotechnol.* 13: 25-30. (Role: **Leading and corresponding author**; IF: **6.90**; TC: **12**).
16. **Zhang C.L.**, Li Y., Wall J.D., Larsen L., Sassen R., Huang Y., Wang Y., Peacock A., White D.C., Horita J., Cole D.R. **2002**. Lipid and carbon isotopic evidence of methane-oxidizing and sulfate-reducing bacteria in association with gas hydrates from the Gulf of Mexico. *Geology* 30: 239-242. (Role: **Leading and corresponding author**; IF: **2.98**; TC: **32**).
15. **Zhang C.L.**, Horita J., Cole D.R., Zhou, J., Lovley, D.R., and Phelps T.J. **2001**. Factors affecting oxygen isotope compositions of biogenic siderite. *Geochim. Cosmochim. Acta* 65: 2257-2271. (Role: **Leading and corresponding author**; IF: **3.90**; TC: **11**).

14. Zhou J.-Z., Liu S., Xia B.-C., **Zhang C.L**., Palumbo A.V., and Phelps T.J. **2001**. Molecular characterization of thermophilic iron-reducing enrichment cultures from deep subsurface environments. *J. Appl. Microbiol.* 90: 96-105. (Role: **Contributing author, 15%**; IF: **2.13**; TC: **6**).
13. Roh Y., **Zhang C.L.**, McMillian A.D., Lauf R.J., and Phelps T.J. **2001**. Microbial synthesis and characterization of some metal-doped magnetite. *Solid State Communications* 118: 529-534. (Role: **Contributing author, 25%**; IF: **1.49**; TC: **18**).
12. **Zhang C.L.**, Stapleton R. D., Zhou J., Palumbo A.V., and Phelps T.J. Iron reduction by psychrophilic enrichment cultures. **1999.** *FEMS Microbiol. Ecol. Lett.* 30: 367-371. (Role: **Leading author**; IF: **2.06**; TC: **7**).
11. **Zhang C.**, Vali H., Romanek C.S., Phelps T.J., and Liu V.L. **1998**. Formation of single domain magnetite by a thermophilic iron-reducing bacterium. *American Mineralogist* 83: 1409-1418. (Role: **Leading and corresponding author**; IF: **2.01**; TC: **27**).
10. **Zhang C.**, Grossman E.L., and Ammerman J.W. **1998.** Factors influencing methane distribution in Texas aquifers. *Ground Water* 36: 58-66. (Role: Leading and corresponding author; IF: **1.43**; TC: **3**).
9. **Zhang C.**, Palumbo A.V., Phelps, T.J., Beauchamp J.J., Brockman F., Murray C., Parsons B., and Swifts D. **1998**. Physical and chemical controls on microbiological variability in coastal plain subsurface sediments. *Geomicrobiol. J.* 15: 171-185. (Role: **Leading author**; IF: **2.08**; TC: **11**).
8. Liu S., Zhou J., **Zhang C.**, Cole D.R., Gajdarziska-Josifovska M., and Phelps T.J. **1997.** Novel thermophilic Fe(III)-reducing bacteria from ancient deep sedimentary basins and their evolutionary implications. ***Science*** 277: 1106-1109. (Role: **Contributing author, 33%**; IF: **30.9**; TC: **56**).
7. **Zhang C.**, Liu S., Phelps T.J., Cole D.R., Horita J., Fortier S. M., Elless M., and Valley J.W. **1997.** Physiochemical, mineralogical, and isotopic characterizations of magnetic iron oxides formed by thermophilic iron-reducing bacteria. *Geochim. Cosmochim. Acta* 61: 4621-4632. (Role: **Leading and corresponding author**; IF: **3.90**; TC: **38**).
6. **Zhang C.**, Pfiffner S.M., Scarborough S.P., Palumbo A.V., Phelps T.J., Beauchamp J.J., Lehman R.M., and Colwell F.S. **1997.** Temporal and spatial variations of microbial properties in shallow subsurface sediments. *Appl. Biochem. Biotechnol.* 63-65: 797-808. (Role: **Leading author**; IF: **0.81**; TC: **3**).
5. Chapatwala K.D., Babu G.V., Armstead E., Palumbo A.V., **Zhang C**., and Phelps T.J. **1996**. Effect of micronutrients on microbial respiration in shallow coastal subsurface and vadose zone. *Appl. Biochem. Biotechnol.* 57/58: 827-835. (Role: **Contributing author, 10%**; IF: **0.81**; TC: **2**).
4. Grossman E.L., Mii H.-S., **Zhang C.**, and Yancey T.E. **1996**. Chemical variation in Pennsylvanian brachiopod shells—Diagenetic, taxonomic, microstructural, and seasonal effect. *J. Sed. Res.* 66: 1011-1022. (Role: **Contributing author, 25%**; IF: **1.46**; TC: **24**).
3. Palumbo A.V., Scarborough S.P., **Zhang C.**, Pfiffner S.M., and Phelps T.J. **1996**. Influence of media on measurement of bacterial populations: Numbers and diversity. *Appl. Biochem. Biotechnol.* 57/58: 905-914. (Role: **Contributing author, 25%**; IF: **0.81**; TC: **8**).
2. **Zhang C.**, Liu S., Logan J., Mazumder R., and Phelps T.J. **1996**. Enhancement of Fe(III), Co(III), and Cr(VI) reduction at elevated temperatures and by a thermophilic bacterium. *Appl. Biochem. Biotechnol.* 57/58: 923-932. (Role: **Leading author**; IF: **0.81**; TC: **29**).
1. Grossman E.L., **Zhang C.**, and Yancey T.E. **1991**. Stable isotope stratigraphy of brachiopods from Pennsylvanian shales in Texas. *Geol. Soc. Am. Bull.* 103: 953-965. (Role: **Contributing author, 40%**; IF: **2.56**; TC: **41**).

A-2. Chapters in books or proceedings **(all gone through stringent editorial review; *indicating corresponding author)**

9. Li Y.-L., ***Zhang C.L.,** and Dong H. **2008**. Advances in geomicrobiological studies. Chapter for Book Series of the International Professionals for the Advancement of Chinese Earth Sciences. Vol. 3.
8. Zhang C. L., Huang X., and Xie S. **2008**. Advances in molecular ecology and lipid biogeochemistry of archaea. Book chapter for Geobiology monograph. Ed. Xie.

7. Jiao N., Zhang C. L., Chen F., Kan J., and Zhang F. **2008**. Frontiers and Technological Advances in Microbial Processes and Carbon Cycling in the Ocean.
6. *__Zhang C.L.__, Brooks S., Jardine P. M., Vali H. **2003**. Factors affecting microbial uranium reduction: Implications for bioremediation. *Proc. 2002 National Conf. Environ. Sci. Technol.* Greensboro, NC. Uzochukwu G. A., Schimmel K., Reddy G. B., Chang S. Y., and Kabadi V. (eds.), Battelle Press, Columbus, Ohio. pp. 99-109.
5. Palumbo A. V., Zhou J., **Zhang C.L.,** Stapleton R. D., Kinsall B. L., and Phelps T. M. **2002**. Biotransformations and Biodegradation in Extreme Environments. In *Industrial Microbiology, Bioremediation Technology for Health and Environmental Protection* (eds. Singh V. P. and Stapleton R. D.). Vol. 36. 636 pp. Elsevier.
4. Powers L. G., Mills H. J., Palumbo A. V., **Zhang C.L**., Sobecky P. A. **2001**. Uranium Sequestration by Microbially Induced Phosphorus Bioavailability. Sixth International In situ and On-site Bioremediation Symposium.
3. Palumbo, A. V., Zhou J-Z., Phelps T. J., Kinsall B., **Zhang C.**, Majer E. L., Peterson J. E., Griffin T., and Pfiffner S. M. **1999**. Ecology and bioremediation: a staged approach to site characterization. pp. 195-204. In G. A. Uzochukwu and G. B. Reddy. [eds.]. Proceedings of the 1998 National Conference on Environmental Remediation Science and Technology. Battelle Press, Columbus.
2. **Zhang. C**, Vali H., Liu S., Yul R., Cole D., Phelps T., Kirschvink J. L., and McKay D. **1997**. Formation of magnetite and Fe-rich carbonates by fermentative thermophilic bacteria: Implications for biogenic activities on early Mars. In *Instruments, Methods, and Missions for the Investigation of Extraterrestrial Microorganisms* (ed. R. B. Hoover), v. 3111, p. 61-68.
1. Cole D.R., Wesolowski D. J., Horita J., Riciputi L. R., **Zhang C.**, Liu S., Phelps T.J., and Valley J.W. **1997**. Iron oxides in industrial and geological systems: The good, the bad, and the beautiful. In *Proceedings of the Fifth International Symposium on Hydrothermal Reactions* (ed. D. A. Palmer and D. J. Wesolowski), p. 125-128.

A-3. Non-reviewed proceedings **(*indicating corresponding author)**

4. *__Zhang C.L.__ and Noakes J. 2007. Sea-floor Observatory in the Gulf of Mexico: Tracing the Carbon Flow in Gas-Hydrate Environments. Ocean Technology Conference, OTC 17804-pp. Houston, TX.
3.*__Zhang C.L. 2004__. Geomicrobiology of Gulf of Mexico gas hydrates: A review. Proceedings of the Petroleum Science and Technology Forum of One Hundred Overseas Scholars, 10-03. (non-peer-reviewed).
2. Zhou J., Liu S., **Zhang C.** Palumbo A.V., and Phelps T.J. **1998**. Extremophilic iron-reducing bacteria: Their implications for possible life in extraterrestrial environments. Proceedings of the 3rd Symposium of Chinese Young Scientists. Beijing, China, August 20-22, 1998.
1. Grossman E. L., **Zhang C.**, Ammerman J.W., and MacRae M. **1995**. Methane and methanotrophy in Texas aquifers. In *Proceedings of the 24th Water for Texas Conference* (ed. R. Jensen), Texas Water Resources Institute, College Station, p. 453-456. (non-peer-reviewed).

A-4. Patent

1. Lauf R.J., Phelps T.J., **Zhang C**., and Roh Y. 2002. U.S. Patent No. 6,444,453. Mixed oxide nanoparticles and method of making.

A-5. Abstracts

Zhang and group/collaborators presented approximately 135 abstracts at national and international meeting between 2002 and 2008.

A-6. Work submitted but not yet accepted **(*indicating corresponding author)**

12. Bagwell C.E., Qi Y., and **Zhang C.L**. Direct analysis of sulfate reducing bacterial communities in the environment by PCR and denaturing gradient gel electrophoresis (DGGE). J. Basic Microbiol. (revision submitted).
11. Wagner I. D., Ahmed S., Zhao W., Zhang C. L., Romanek C. S., Rohde M., Wiegel J. (2008) *Caldanaerovirga acetigena* gen. nov., sp. nov., an anaerobic xylanolytic bacterium isolated from Trego Hot Spring, Nevada, USA. Int'l J. System. Evol. Microbiol.
10. Costa, Kyle C., Jason B. Navarro, Everett L. Shock, Chuanlun Zhang, Debbie Soukup, and Brian P. Hedlund. Microbiology and Geochemistry of Great Boiling and Mud Hot Springs in the United States Great Basin. Extremophiles.
9. Liu B., Ye G., Wang F., Bell R., Short T., Noakes J., Zhang C. L. Planktonic archaeal community structure of water column in the Gulf of Mexico MC 118. Geomicrobiol. J.
8. Wang F., Zhou H., Meng J., Peng X., Jiang L., Sun P., Zhang C. L. Van Nostrand J., Deng Y., He Z., Wu L., Zhou J. Xiao X. GeoChip-based analysis of metabolic diversity of microbial communities at the Juan de Fuca Ridge hydrothermal vent. **PNAS (revision submitted)**
7. Zhao W., Rmoanek C. S., Mou X., Wiegel J., Zhang C. L. Ammonia-oxidizing archaea in Kamchatka hot springs. Environ. Microbiol. (in revision).
6. Pi Y., Ye Q., Jiang H., Pearson A., Li S., Noakes J., Culp R., Dong H., *__Zhang C.L__. 2007. Lipids and phylogenetic characterization of Archaea associated with gas hydrates in the Gulf of Mexico. Geomicrobiol. J. (in revision).
5. Song Z., Jiang H., Zhi X., Chen J., Xu L., Zhang C. L., and Li W.-J. Molecular diversity and geographic isolation of Actinobacteria in hot springs. FEMS Microbiol. Ecol.
3. Huang X., Yu J., Xie S., Jiao D., Huang J., **Zhang C.L**., Meyers P.A., Jin F., and Gu Y. Reconstruction of the postglacial an Holocene paleoclimates in southern China based on n-alkanes and pollen distribution in the Dajiuhu peat deposit. *Holocene.*
2. Boyd E.S., Pearson A., Pi Y., **Zhang C.L**., Geesey G.G. Physicochemical Influences on Glycerol Dialkyl Glycerol Tetraether Lipid Composition in the Crenarchaeote *Acidilobus sulfurireducens. Org. Geochem.*
1. Ye G., Wang S., Jiang L., Xiao X., Noakes J., Zhang C. L., Wang F. Distribution and diversity of bacteria and archaea affected by gas hydrates at MC 118 in the Gulf of Mexico. FEMS Microbiol. Ecol. (in revision)

A-7. Work in preparation **(*indicating corresponding author)**

4. Hu A., Jiao N., Zhang C. L. Ammonia oxidizing archaea in the South China Sea. Environmental Microbiol.
3. Ye Q., Jiang H., Li W., Bagwell C., Mills G., Dong H., *__Zhang C.L__. Microbial diversity and abundance of ammonium-oxidizing archaea in contaminated soils at DOE Savannah River Site (SRS), South Carolina, USA. *Environ. Microbiol.* (senior author being a Ph.D. student of Zhang)
2. Huang Z., Dodsworth J., Chen J., Jiang H., Hedlund B., Dong H., *__Zhang C.L__. Enrichment of thermophilic and alkaliphilic ammonium-oxidizing archaea from a Great Basin hot spring. *Environ. Microbiol.* (senior author being a Ph.D. student of Zhang)
1. Liu B., Huang Z., Huang X., Bagwell C., Dong H., and *__Zhang C.L__. Community structure and gene express of aerobic anoxic phototrophic bacteria from the Mississippi River. *Environ. Microbiol.*

B. Grants

B-1. Grants received **(Total projects approx. $2.3 million, Allocation to Zhang approx. total $969K). "†" indicates current/active projects.**

Year	Title	Total/Zhang	Role
2008†	*Automated biological/chemical monitoring system (ABCMS) For offshore oceanographic carbon dynamic studies (PIs: J. Noakes, S. Noakes, C. Zhang. NOAA)*	$293K/$146K	Co-PI
2007†	*Community Sequencing Program: The Yellowstone metagenomic project (PIs: Bill Inskeep and others including C. Zhang. Joint-Genome Institute, Department of Energy)*	$0/$0	co-PI
2006†	*Community structure and methane oxidation in water column above gas hydrates in the Gulf of Mexico (PIs: C. Zhang, J. Noakes, T. Short. Gulf of Mexico Gas Hydrate Consortium program, National Oceanic and Atmospheric Administration, Department of Energy, and Minerals Management Service)*	$189K/$117K	PI
2005	*Genomic and lipid-biomarker monitoring of microbial communities affecting the formation and degradation of gas hydrates in the Gulf of Mexico (PIs: C. Zhang, J. Noakes, R. Sassen. Gulf of Mexico Gas Hydrate Consortium program, National Oceanic and Atmospheric Administration, Department of Energy, and Minerals Management Service)*	$189K/$112K	PI
2004	*Microbial interactions and processes: Diversity, function, and biogeochemical consequences of chemolithoautotrophic archaea in Nevada hot springs (PIs: C. Zhang, C. Romanek, J. Wiegel. Microbial Interactions and Processes program. National Science Foundation).*	$430K/$219K	PI
2003†	*Kamchatka: A geothermal microbial observatory (PIs:Wiegel, D. Crowe, C. Romanek, F. Robb, S. Caddy, P. Schroeder, C. Zhang, A. Neal. Microbial Observatory program, National Science Foundation).*	$742K/59K	Co-PI*
2002	*AOM in the Gulf of Mexico gas hydrate systems: Implications for biogenic carbonate formation (PIs: C. Zhang, R. Sassen. National Undersea Research Program, National Oceanic and Atmospheric Administration)*	$49K/28K	PI
2002	*Bacterially mediated carbon isotope fractionation during CO_2 sequestration (PI: T. Phelps. Natural and Accelerated Bioremediation Research program, Department of Energy)*	NA/$25K	Sub-award
2001	*Biogeochemical processes and community dynamics in gas hydrate systems of the Gulf of Mexico (PIs: C. Zhang, J. Wall, T. Lyons, R. Sassen, D. White, B. Lanoil. Biocomplexity program. National Science Foundation)*	$358K/146K	PI
2001	*Carbon isotopes associated with bacterial CH_4 oxidation: Implications for carbonate buildups at hydrocarbon seeps (PI: C. Zhang. Petroleum Research Fund, American Chemical Society)*	$90K/$90K	PI
2001	*Microbial impact on gas-hydrate geochemistry*	$10K/$10K	PI

	in the Gulf of Mexico (PI: C. Zhang. Oak Ridge Associated Universities Junior Faculty Award program, Department of Energy)		
2000	*^{13}C- labeling of lipid biomarkers: Linking biogeochemical processes to microbial populations in extreme environments (PI: C. Zhang. Research Foundation, University of Missouri)*	$3.7K/$3.7K	PI
2000	*Acquisition of a multi-use stable isotope ratio mass spectrometer system (PIs: C. Kelly, K. MacLeod, T. Lyons, C. Zhang. Major Instrumentation program, National Science Foundation)*	$125K/31K	co-PI
1999	*Lipid and isotopic characterization of thermophilic sulfate reducers and methanogens (PI: C. Zhang. Research Board, University of Missouri)*	$40K/$40K	PI
1999	*Effect of bacterial sulfate reduction on biogenic magnetite dissolution and transformation (PI: C. Zhang. Starter's Grant. Petroleum Research Fund, American Chemical Society)*	$25K/$25K	PI
1999	*Microbial dynamics at the gas hydrate deposits in the Gulf of Mexico (PIs: C. Zhang, J. Wall. Research Foundation, University of Missouri)*	$26K/$26K	PI
1998	*Microbially induced phosphorus bioavailability: Effects on community ecology and uranium sequestration (PI: T. Palumbo. Natural and Accelerated Bioremediation Research program, Department of Energy)*	NA/$37K	Sub-award

*Not listed as a co-PI in the coversheet of the proposal because NSF allows only four co-PIs to be listed. However, Zhang has been considered as a co-PI in the proposal and the project.

B-2. Grant pending

Year	Title	Total/Zhang	Role
2008	*Influences of Fe/NH_4^+-bearing clay minerals on ammonia oxidation by archaea in terrestrial hot springs*	$293K/$146K	Co-PI

C. Recognition and outstanding achievements

- Distinguished off campus scholar standing on the Graduate Faculty at Miami University, 2007
- US Department of Energy R&D 100 Award 2006 (Phelps TJ, Love LJ, Zhang CL and others. For the development of NanFermentation™: A Bioprocess for Manufacturing Inorganic Nanomaterials. Selected by R&D Magazine as one of the 100 Most Technologically Significant New Products of the Year).
- Petroleum Science & Technology Forum of One Hundred Overseas Scholars, 2003.
- The Oak Ridge Associated University Junior Faculty Award, 2001.
- Invited Fellow at Institute for Rock Magnetism, University of Minnesota, 1998.
- Geological Society of America Student Research Award, 1992.

D. Area in which research is done

Geomicrobiology and microbial biogeochemistry of extreme environments (terrestrial hot springs, deep sea gas hydrates, lakes on the Tibetan Plateau, and mid-ocean ridges). The overarching goal is to understand carbon cycle and energy metabolism by extremophiles by using an integrated approach of genomics, lipid biomarkers, and carbon isotopes.

E. Supervision of students, postdocs, and visiting students/scholars

E-1. Students completed (as major advisor or co-advisor)

1. Qi Ye, MS, 2002. Department of Geology, University of Missouri. Thesis title: "*Alkaliphilus Metallideminutiens*, sp. nov., a novel alkaliphilic metal reducing bacterium from a U.S borax leachate pond in boron, California."
2. Joyce McBeth, MS, 2003. Department of Geology, University of Missouri. Thesis title: N/A. (withdrawn from committee in August 2002 due to moving to UGA)
3. Yundan Pi, MS, 2007. Department of Earth and Space Sciences, University of Science and Technology of China. Thesis title: "Lipid biomarkers of archaea from terrestrial hot springs and marine sediments." (***co-advisor***)
4. Qi Ye, Ph.D. candidate, degree completed 12/2007. Department of Marine Sciences, University of Georgia. Dissertation title: "Microbial diversity affected by metal- and radionuclide-contamination at the DOE Savannah River Site (SRS), South Carolina, USA."
5. Weidong Zhao, Ph.D. candidate, degree completed 8/2008. Department of Marine Sciences, University of Georgia. Dissertation title: "Pathways of microbial carbon-fixation in Kamchatka (Russia) hot springs." (***co-advisor***)

E-2. Students in progress (as major advisor or co-advisor)

1. Yige Zhang, M.S. candidate, degree expected 5/2009. Department of Marine Sciences, University of Georgia. Thesis title (tentative): "Lipid biomarkers and application for paleoclimate studies."

E-3. Students being co-supervised

1. Jinquan Chen, MS, Institute of Microbiology, Yunnan University, Kunming, China, August 2006-present (with Professor WenJun Li, Yunnan University).
2. Anyi Hu, Ph.D., Department of Marine Sciences, Xiamen University, Xiamen, China, August 2006-present (with Professor Nianzhi Jiao, Xiamen University).
3. Guangbin Ye, MS, The Third Institute of Oceanography, Xiamen, China, August 2006-present (with Professor Fengping Wang, Third Institute of Oceanography).
4. Huan Yang, M.S., China University of Geosciences, Wuhan, China, July 2007-present (with Professor Shucheng Xie, China University of Geosciences).

E-4. Other students (as a committee member)

1. Michael Formolo, Ph.D., University of Missouri. 2005 (withdrawn from committee in August 2002 due to moving to UGA).
2. Kelly Titkemeir, M.S., University of Missouri, 2004 (withdrawn from committee in August 2002 due to moving to UGA).
3. Xiaozhen Mo, Ph.D., University of Georgia, 2006.

4. Feizhou Chen, Ph.D., University of Georgia, degree expected December 2007.
5. Hongchen Jiang, Ph.D., Miami University, degree expected December 2007.

E-5. ***Undergraduate students supervised***

Two from Univ. Missouri (1998-2000), one from Univ. South Carolina-Columbia (2003)

E-6. Visiting students

1. Sandip Bordoloi (summer 2006, University of Alabama).
2. Hongchen Jiang (summer 2005 and fall 2006, Miami University).
3. Yundan Pi (March 2005-2006, University of Science and Technology of China).
4. Jinquan Chen (April 2007-present, Yunnan University).
5. Xianyu Huang (October 2007-April 2008, China University of Geosciences)

E-7. Postdocs supervised

1. Yi-Liang Li, 2002-2005. Ph.D. of University of Sciences and Technology of China (2001).
2. Bin Liu, August 2007-Ocotber 2008. Ph.D. of The Third Institute of Oceanography, Xiamen, China (2007).

E-8. Visiting professors hosted

1. Dr. Suping Yao (2004, Nanjing University, China).
2. Dr. Zhifang Meng (2005, Lanzhou Institute of Geology).
3. Dr. Wen-Jun Li (2006-2007; Yunnan University).
4. Dr. Fengping Wang (2006-2007; the Third Institute of Oceanography, China).
5. Dr. Yongli Wang (March-September 2007, March –May 2008; Lanzhou Institute of Geology, China).
6. Dr. Jicai Tuo (April-June 2007, March-May 2008; Lanzhou Institute of Geology, China).
7. Dr. Shuxin Zhou (March –May 2008; Lanzhou Institute of Geology, China)
8. Dr. Li Li (November 2008-March 2009; Tongji University, China)

F. Editorship, editorial board member of journals, or committee members

- Member of the Editorial Board for Applied and Environmental Microbiology (2007-present).
- Organizing committee member, Workshop on Geomicrobiology of extreme environment, China Universities of Geosciences, Beijing, China. October 9-19, 2008.
- Organizing committee member, Qingdao Ocean Sciences Summer School, Ocean University of China, Qingdao, China. July 14-20, 2008.
- Co-editor (with Hailiang Dong). Special issue on Geomicrobiological processes in extreme environments. Geomicrobiological Journal, 2006.
- Co-editor (with Jun Chen) for a special issue in Geosciences Journal of China Universities on "Geomicrobiology and Biogeochemistry: Global Perspectives and Research Opportunities in China". March, 2005. Nanjing University Press.
- Co-editor (with Brian Lanoil) for a special issue in Chemical Geology on "Geomicrobiology and Biogeochemistry of Gas Hydrates and Hydrocarbon Seeps in the World's Oceans and Seas."
- Co-editor (with John Coates) for Proceedings of Iron Cycling in the Natural Environment: Biogeochemistry, Microbial Diversity, and Bioremediation."
- Co-editor (with Timothy Lyons and Christopher Romanek) for a special issue in Chemical Geology on "Isotope Records of Microbially Mediated Processes in Natural Environments."

G. Workshops/lectures

- Geomicrobiology and genome-enabled isotope biogeochemistry. China Universities of Geosciences, Wuhan, China. June 16-19, 2008.
- Geomicrobiology and genome-enabled isotope biogeochemistry. Third Institute of Oceanography and Xiamen University, Xiamen, China. July 3-15, 2008.
- Geomicrobiology and genome-enabled isotope biogeochemistry. Tongji University, Shanghai, China. July 20-25, 2008.
- Geomicrobiology and genome-enabled isotope biogeochemistry. Third Institute of Oceanography and Xiamen University, Xiamen, China. July 7-26, 2007.
- Effective scientific writing in English. The Third Institute of Oceanography and Xiamen University, Xiamen, China. July 7-26, 2007.
- Geomicrobiology and genome-enabled isotope biogeochemistry. University of Science and Technology of China, Hefei, China. June 29 to July 3, 2007.
- Geomicrobiology and Biogeochemistry. Department of Earth Sciences. Nanjing University. Nanjing, China. June 12-18, 2004.
- Geomicrobiology and Biogeochemistry. Cruise Lecture Series on R/V Dayang Yihao. August – September, 2005.
- Environmental Microbiology for Bioremediation at the Savannah River Site. A Savannah River Site Short Course. May 2005.

H. Cruises

- Gulf of Mexico Gas Hydrates. R/V Pelican. June 9-12, 2006; November 4-11, 2007.
- East Pacific Rise Hydrothermal Vents. Chinese R/V DaYang YiHao. September-October 2005.
- Gulf of Mexico Gas Hydrates. R/V Seaward Johnson II and Johnson Sea-Link Submersible. August 2001.

I. Invited meeting presentations (*indicates international venue)

I-1. Keynote/plenary presentations

9. ***Zhang C. L. 2008**. International workshop on deep sea microbiology. November 21-25, 2008. Xiamen, China. (Plenary)

8. ***Zhang C. L. 2008**. NSF-NSFC International workshop on geomicrobiology of extreme environments. October 9-19, 2008. Beijing, China. (Plenary)

7. ***Zhang C. L. 2008**. Qingdao Ocean Sciences Summer School: International Advances in Deep-Sea Marine Geo-Bioscience Research. July 14-20, 2008, Qingdao, China. (Keynote)

6. Zhang C. L. and Huang Z. **2007**. Diversity of non-thermophilic crenarchaeota associated with gas hydrates in the Gulf of Mexico. Geological Society of Korea, International symposium on global environmental change. April 2007, Seoul, Korea. (Keynote)

5. Zhang C. L. 2007. Geomicrobiology of terrestrial hot springs. Exchange and collaboration on modern Earth sciences, IPACES 6th Annual Conference. Wuhan, China. June 2004. (Keynote)

4. Zhang C. L. **2004**. Life in extreme marine environments and subsurface biosphere. Summer Theoretical Institute: International Advanced Research in Marine Geo-Biosciences Qingdao, China. June, 2004. (Keynote)

3. Zhang C. L. **2004**. Geomicrobiology of marine deep biosphere. Submarine Hydrothermal Activities and Extreme Ecological Systems. The 23rd Xiangshan Science Conference. Nanjing, China. June, 2004. (Plenary)

2. **Zhang C. L**. **2004**. Bioremediation of groundwater and soils at DOE facilities. International Symposium on Frontiers of Earth Sciences: Earth, Environment, and Human Impacts, IPACES 4th Conference. Chengdu, China. June 2004. (Plenary)
1. **Zhang C. L. 2001**. Geomicrobiology of extreme environments. The 167th Xiangshan Scientific Conference, Beijing, China, 2001. (Plenary)

I-2. Invitations of departmental seminars (seminars presented to a particular research group in a department are marked by *)

2008 (6)
University of Oklahoma, 03/08; Montana State University, 04/08; Tongji University, 06/08; China University of Geosciences-Beijing, 07/08; Institute of Microbiology of the Chinese Academy of Sciences, 07/08; Department of Microbiology, University of Georgia, 09/08; Institute of Plant Virology and College of Food Science, Fujian Agriculture and Forestry University, Fuzhou, China, 11/08.

2007 (4)
University of South Carolina-Aiken, 09/07; Chonnam National University, Gwangju, South Korea, 04/07; University of Oregon, Dept. Geos., 02/07; EBS/OGI School of Science & Engineering, Oregon Health & Science University, 02/07.

2006 (14)
University of Georgia, Dept. Biochemistry*, 11/06 (Dr. Michael Adam's research group); Xiamen University, China, 08/06; The Third Institute of Oceanography, Xiamen, China, 08/06; Nanjing Agricultural University, Nanjing, China, 08/06; Shanghai Jiatong University, Shanghai, China, 08/06; Zhejiang University, China, 07/06; The Chinese Academy of Sciences, Beijing, China, 07/06; China University of Geosciences, Wuhan, China, 07/06; Ocean University of China, Qingdao, China, 07/06; University of Georgia, Department of Biochemistry* (Dr. Ying Xu's Computational Systems Biology Laboratory), 6/06; University of Oklahoma, 3/06; University of Maryland, 2/06; University of Montana, 02/06; University of Nevada-Las Vegas 1/06.

2005 (2)
University of South Carolina, 2/05; Dartmouth College, 1/05.

2004 (5)
University of Delaware, 3/04; Shandong University, China, 6/04; Lanzhou Institute of Geology, Lanzhou, China, 6/04; Lanzhou University, Lanzhou, China, 6/04; Tongji University, Shanghai, China, 6/04.

2003 (2)
Nanjing University, China. 9/03; RPI, Department of Earth and Environmental Sciences, NY, 11/03.
2002 (3)
Department of Environmental Sciences, University of California, Riverside, 12/02; Department of Geological Sciences, Indiana University, 2002; Savannah River Ecology Laboratory, Aiken, South Carolina, 2002; Department of Marine Sciences, University of Georgia, 2002.

1997-2001 (16)
State Key Laboratory of Organic Geochemistry, Guangzhou Institute of Geochemistry, 2001; State Key Laboratory of Marine Geology, Tongji University, 2001; Department of Geology and Geophysics, Beijing University, 2001; Department of Earth and Space Sciences, University of Science and Technology of China, 2001; Department of Biological Sciences, University of Missouri-Rolla, 2001; Department of Biochemistry, University of Missouri-Columbia, 2001; Department of Geological Sciences, Iowa State University, September 2000; Department of Geology and Environmental

Geosciences, Northern Illinois University, Feb. 2000; Department of Soil and Atmosphere Sciences, University of Missouri, Columbia, March, 2000; Department of Earth and Environmental Sciences, University of Rochester, April, 1999. Department of Geology and Geophysics (Paleontology and Biogeochemistry Group)*, Texas A&M University, March, 1999; Department of Earth and Planetary Sciences, California Institute of Technology. Pasadena, December, 1998; Savannah River Ecology Laboratory, Aiken, S.C. January, 1998; Department of Geology, University of Georgia, January, 1998; Sigma Gamma Epsilon Chapter, Department of Geology, University of Georgia, January, 1998; Department of Environmental Sciences, University of Virginia, November, 1997.

I-3. Invited presentations at special sessions of society meetings by a session coordinator or a meeting organizer.

1. **Zhang C. L**., Campbell B., Liu X., Shao Z., Wang F., Xiao X., and Dong H. **2006**. Geochemical and Microbiological Characterization of Microbial Communities Mediating Carbon Cycle in Mid-Ocean. Western Pacific Geophysics Meeting. July 24-27, 2006. Beijing, China.
2. **Zhang C. L**. **2006**. Genome-enabled Geomicrobiological and Biogeochemistry of Extreme Environments: DNA, Lipids, and Carbon Isotopes. Western Pacific Geophysics Meeting. July 24-27, 2006. Beijing, China.
3. **Zhang C. L**. and Noakes J. **2006**. Hydrates As An Energy Source: Lipid Biomarkers And Carbon-Isotope Signatures For Tracing The Carbon-and-Energy Flow In The Gulf of Mexico Gas-Hydrate Systems. Ocean Technology Conference, May 2006. Houston, TX.
4. **Zhang C. L**., Peacock A., White D. C., Li Y.-L., Romanek C. S., Wiegel J. **2005**. Lipids and Isotopic Compositions of Microbial Communities in Nevada Hot Springs. American Society for Microbiology Annual Meeting, June 2005, Atlanta.
5. **Zhang C. L**. **2004**. Genome-enabled stable isotope biogeochemistry: Promoting interdisciplinary research in microbial ecology. The 10th International Symposium on Microbial Ecology, Cancun, Mexico, August, 2004 (invited presentation at a session added during the meeting).
6. **Zhang C. L**. **2004**. Genome-enabled stable isotope biogeochemistry. American Society for Microbiology, New Orleans, May 2004.
7. **Zhang C. L**. **2003**. Lipid Biomarkers and Isotope Signatures of Gas Hydrate and Hydrocarbon Seeps in the Gulf of Mexico: A Review. Geological Society of America Annual Meeting, Nov. 2003. Seattle, WA.
8. **Zhang C. L. 2003.** Reductive Dissolution of Iron Oxides and Iron-Rich Clays Enhanced by Sulfate-Reducing Bacteria. American Geophysical Union, San Francisco, CA, 12/03.
9. **Zhang C. L.**, Romanek C. S., Pancost R. D. **2003**. Experimental isotope biogeochemistry: follow the pathways of microbial biosynthesis. Annual Meeting of the Stable Isotope Mass Spectrometry User Group. Bristol, UK, April, 2003.
10. **Zhang C. L.** 2003. Geomicrobiology of Gas Hydrates in the Gulf of Mexico. Conference on the 50th Anniversary of the Petroleum University. Beijing, China. June, 2003.
11. **Zhang C.** L. Pancost R. D., and others. **2001**. Geomicrobiology of gas hydrates in the Gulf of Mexico. American Geophysical Union, San Francisco, December, 2001.
12. **Zhang C. L**., Phelps T.J. and others. **2000**. Isotope fractionations of O, C and Fe associated with bacterial iron reduction. American Geophysical Union, San Francisco, December, 2000.
13. **Zhang C. L**., Peacock A, White DC, and others. **1999**. Carbon isotope effects associated with thermophilic chemolithoautotrophs. American Geophysical Union, San Francisco, December 1999.
14. **Zhang C.**, Phelps T. J., Zhou J., and others. **1998**. Iron Reduction and Formation of Magnetite and Siderite by Thermophilic and Psychrophilic Bacteria. American Geophysical Union, San Francisco, December, 1998.
15. **Zhang C**., Vali H., Romanek C. S., and others. **1998**. Kinetics and morphological characterization of magnetite formation by a thermophilic fermenting bacterium. American Geophysical Union, Boston, May, 1998.

16. **Zhang C**., Brooks S., Fendorf S., and others. **1998**. Microbial uranium reduction and biomineralization: implication for immobilization of toxic metals and radionuclides. The 17th Meeting of International Mineralogical Society of America, Toronto, August, 1998.

I-4. Invited presentations at project or program workshops

1. **Zhang C. L**. **2006**. Molecular phylogeny and lipid biomarkers of Archaea in terrestrial hot springs. RCN Workshop on hot springs in Yellowstone National Park. Feb 17-20, 2006. Bozeman, MT.
2. **Zhang C. L. 2005**. Genome-enabled isotope biogeochemistry for syntrophic communities. First International Symposium on Syntrophic Microbiology. Dec. 2005, UCLA.
3. **Zhang C. L.**, Culp R., Romanek C. S., and Noakes J. Functional genomics and biogeochemical processes of carbon cycling at gas-hydrates sites of the Gulf of Mexico. Gulf of Mexico Hydrates Research Consortium Annual Workshop. Feb. 2005. Oxford, MS.
4. **Zhang C. L**. **2004**. New research opportunities in marine carbon cycling: Integration between life and Earth sciences. The Chinese Oceanic Minerals and Resources Global Exploration Workshop. Beijing, China. June, 2004.
5. **Zhang C. L. 2004**. Geomicrobiology of deep biosphere. InterRidge Workshop: Opportunities and contributions of Asian countries to the InterRidge next decade initiative. 27-30 October, 2003. Beijing, China.

J. Other professional activities

J-1. Meeting session organizers/chairs

- Member of organizing committee and session chair for the 2008 Summer Institute of Deep Sea Research on geochemistry and microbiology. July 14-20, 2008. Qingdao, China.
- Co-convener (with Shucheng Xie). Special session on "Geomicrobiological processes of extreme environments". The 6th IPACES Annual Meeting. Wuhan, China, June 2007.
- Co-convener (with Ann Pearson). Special session on "Carbon cycle and carbon metabolism by microorganisms: Genomics, proteomics, and carbon isotopes". American Geophysical Union Annual Meeting, San Francisco, December 2006.
- Co-convener (with Hailiang Dong and Xiang Xiao). Special session on "Geomicrobiological processes in extreme environments". American Geophysical Union Western Pacific Geophysics Meeting, Beijing, China, July 2006.
- Co-convener (with Hailiang Dong). Special session on "Advances in Biogeosciences in Asian Countries". American Geophysical Union Annual Meeting, San Francisco, December 2005.
- Co-convener (with Andreas Teske). Symposium on "Biogeographic patterns for thermophilic microorganisms at mid-ocean ridges and terrestrial hot springs". American Society for Microbiology Annual Meeting, Atlanta, June 2005.
- Convener for American Geophysical Union Annual Meeting on "Advances in Stable Isotope Biogeochemistry: Exploring New Interfaces with Biology". San Francisco, December, 2004.
- Convener for American Society for Microbiology Annual Meeting on "Microbial Autotrophy: ecological, environmental, and evolutionary implications". New Orleans, May 2004.
- Co-convener (with Andew Neal) for Special Session on "Microbial Mineral Formation and Degradation of Minerals: A Systematic Approach." The Clay Mineral Society Annual Meeting. Athens, GA, June 2003.
- Organizer for the Gulf of Mexico gas hydrate workshop. Savannah River Ecology Laboratory. August 15, 2003.
- Organizer for Project Workshop on Biocomplexity of Gulf of Mexico Gas Hydrate Systems. Columbia, Missouri. 10-2001.

- Co-convener (with Brian Lanoil) for Special Session on "Geomicrobiology and Biogeochemistry of Gas Hydrate Systems." American Geophysical Union Fall Meeting, December 2001, San Francisco, CA
- Co-convener (with John Coates) for Special Session on "Iron Cycling in the Natural Environment: Biogeochemistry, Microbial Diversity, and Bioremediation." American Geophysical Union Fall Meeting, December, 2000, San Francisco, CA.
- Co-convener (with Timothy Lyons and Christopher Romanek) for Special Session on "Isotope Records of Microbially Mediated Processes in Natural Environments." Geological Society of America, 1999.

J-2. Other professional services

- Working Group Member for The Yellowstone Metagenome Project: Biological Metagenomics and Bio-inspired Energy and Technology Development from Extreme Microbial Habitats across the Yellowstone Geothermal Ecosystem. Bill Inskeep, Project Director, Montana State Univ. March 2007.
- Member of Review Panel for NSF MIP Program, February 2006.
- Member of Review Panel for DOE NABIR Program, April 2004.
- Member of Review Panel for NSF IGERT Program, July 2004.
- Member of Nomination Committee for Chinese Scholars (August 03-present).
- Proposal review for National Science Foundation, Petroleum Research Fund, NASA, Natural Environment Research Council of the UK, Natural Sciences and Engineering Research Council of Canada.
- Manuscript review for Geochimica et Cosmochimica Acta, Chemical Geology, American Mineralogist, Applied and Environmental Microbiology, Environmental Microbiology, Extremophiles, Applied Biochemistry and Biotechnology, FEMS Microbiology Ecology, Geomicrobiology Journal, Environmental Science and Technology, IJME, Science Bulletin of China.

K. University services

- SREL Committee Member on Graduate and Undergraduate Education (2003-present).
- Council member for graduate studies (1999-2002).
- Member of student fellowship evaluation committee (2001).
- Panel review member for the University of Missouri Prime Fund (1999-2001).
- Geology Undergraduate Scholarship Committee (2000-2001).

L. Collaborations (in the past five years)

L-1. Domestic collaborations (approx. 35)

Christopher **Bagwell** (Savannah River National Laboratory), Dennis **Bazylinski** (Univ. Nevada-Las Vegas), Eric Boyd (Montana State University), Suzanna **Brauer** (OGI), WeiJun **Cai** (UGA), Reide **Corbett** (East Carolina Univ.), Barbara **Campbell** (Univ. Delaware), Albert **Coleman** (Univ. Maryland), Doug **Crowe** (UGA), Hailiang **Dong** (Miami Univ.), Gill **Geesey** (Montana State Univ.), Miguel **Goni** (Oregon State Univ.), Brian **Hedlund** (Univ. Nevada-Las Vegas), Bill **Inskeep** (Montana State Univ.), Frank **Jenny** (UGA), Brian **Lanoil** (Univ. California-Riverside), Gary **Mills** (SREL), John **Noakes** (UGA), Ann **Pearson** (Harvard Univ.), Tommy **Phelps** (Oak Ridge National Laboratory), Nancy **Rabalais** (LUMCON), Chris **Romanek** (UGA), Frank **Robb** (Univ. Maryland), Roger **Sassen** (Texas

A&M), Paul **Schroeder** (UGA), Tim **Short** (SRI - St. Petersburg), Holly **Simon** (OGI), Rick **Socki** (NASA-Houston Johnson Space Center), Kerry **Sublette** (Univ. Tulsa), Ming-Yi **Sun** (UGA), David **White** (deceased 2006; Univ. Tennessee), Gene **Turner** (LSU), Juergen **Wiegel** (UGA), Tingfen **Yan** (Oak Ridge National Laboratory), Jizhong **Zhou** (Univ. Oklahoma)

L-2. International (approx. 26)

Canada: H. Vali (McGill); **China:** Chunfang Cai (Chinese Academy of Sciences), Yi-Liang Li (Hong Kong Univ.), Shuguang Li (Univ. Science and Technology of China), WenJun Li (Yunnan Univ.), Nianzhi Jiao (Xiamen Univ.), Jincai Tuo ((Lanzhou Institute of Geology), Fengping Wang (3rd Institute of Oceanography), Xiang Xiao (3rd Institute of Oceanography), Yu Xiaoguo (2nd Institute of Oceanography), Shucheng Xie (China Univ. Geosciences), Guifang Yang (China University of Geosciences, Beijing); Suping Yao (Nanjing Univ.), Donghui Zhou (Ocean Univ. China), Yongli Wang (Lanzhou Institute of Geology), Xiaobo Zhang (3rd Institute of Oceanography); **Germany**: Roland Geyer (UFZ Leipzig-Halle); **Japan**: Satoshi Nakagawa (Japan Agency for Marine-Earth Science and Technology); **Korea:** Yul Roh (Chonnam National Univ.); **Portugal**: Ricardo Santos (Laboratório de Analises); **Russia:** Elizaveta Bonch-Osmolovskaya (Russian Academy of Sciences); **Taiwan**: Shiu Mei Liu (Nat'l Taiwan Ocean Univ.); **Thailand**: Bundit Fungsin (Thailand Inst. Sci. Tech. Res.), Prakitsin Sihanonth (Chulalongkon Univ. Bankok); **UK**: Richard Pancost (Bristol Univ.), Helen Talbot (University of Newcastle).

PROFESSIONAL AFFILIATIONS

American Geophysical Union (1986-present)
American Society for Microbiology (1994-present)
Geological Society of America (1986-present)
International Professionals for the Advancement of Chinese Earth Sciences (1999-present)