

CURRICULUM VITAE

MINHAN DAI

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RESEARCH INTERESTS:

Carbon biogeochemistry in marginal and estuarine systems with special attention on **South China Sea and the Pearl River Estuary**

Geochemistry of radioactive elements (Plutonium and Thorium) in surface and ground water

Geochemistry of trace metals in coastal and estuarine environments

Geochemical studies of colloidal material in the transport of trace metals, organic carbon, and radionuclides in surface and ground waters

EDUCATION

B.A.: Department of Oceanography, Xiamen University, China, 1987

Ph.D.: Earth Science, Université Pierre & Marie Curie (Paris VI), France, 1995

PROFESSIONAL EXPERIENCE

Postdoctoral scholar, **Woods Hole Oceanographic Institution Doherty Foundation Postdoctoral Fellowship**, Sept 1995-Mar 1997

Postdoctoral investigator, **Woods Hole Oceanographic Institution**, Mar. 1997 – Sept. 1998

Associate Professor, **Xiamen University**, Sept. -Dec 1998

Professor, **Xiamen University**, Dec. 1998-present

Adjunct Scientist, **Woods Hole Oceanographic Institution**, June 2002-present

Director, **Marine Environmental Laboratory**, Xiamen University, Nov 2003 – Mar 2005

Associate Director, **State Key Laboratory of Marine Environmental Science (Xiamen University),**
Apr 2005-June 2006
Director, **State Key Laboratory of Marine Environmental Science (Xiamen University),**
June 2006-
Associate Dean, **College of Oceanography & Environmental Science , Dec. 1999-Mar. 2008**
Dean, **College of Oceanography & Environmental Science , Mar. 2008-**

HONORS AND PROFESSIONAL AFFILIATIONS

Woods Hole Oceanographic Institution Doherty Foundation Postdoctoral Fellowship, 1995
Outstanding Young Scientist Award, NSF-China, 1998
The 7th Fujian Provincial Young Scientist Award, Fujian Province, 2003
The 8th Chinese Young Scientist Award, 2004
The 11th Yunsheng (Fujian) Young Scientist Award, Yunsheng Foundation, 2004
Member, American Geophysical Society, Feb 1996-present
Chair, Chinese Society of Marine Chemistry, Jan 2000-present
Vice Chair, Chinese Society of Limnology and Oceanographic Chemistry, Jan 2001-present
Member, China SOLAS working group, China IGBP, 2004-present
Scientific committee member, Cross Strait Symposium Series on Oceanography, 2003-present
Scientific committee member, International Estuarine Biogeochemistry Symposium Series, 2004-present
Session Chair, “the 6th IOC/WESTPAC International Scientific Symposium, Hangzhou, China, April 19-23, 2004” Theme 1: Key Regional Scientific Issues, Session II: Upper Ocean and Lower Atmosphere Interaction
Meeting Convener, Coastal Ecosystem Responses to Changing Nutrient Inputs from Large Temperate and Sub-tropical Rivers, with Emphasis on Comparison among the Mississippi (USA), Pearl (China), Yangtze (China) and Rhône (France) Rivers”, May 29-June 1, 2005, Xiamen, China
Meeting convener, a regional workshop of GEOTRACES, August 25-27, 2005, Xiamen, China
Vice Chair, China LOICZ working group, 2005-
SSC member, International GEOTRACES, 2006-
SSC member, International SOLAS, 2008-
Chair, Organizing Committee, SOLAS Open Science Conference, March 6-9, 2007, Xiamen, China
Vice-President, Ocean Section, Asia Oceania Geosciences Society (AOGS), 2007-2008
President, Ocean Section, Asia Oceania Geosciences Society (AOGS), 2008-2009
Scholar for Science and technology innovation, ALL-CHINA Federation of Returned Overseas Chinese. 2007

EDITORIAL

Editorial Board, Chinese Journal of Oceanography and Limnology, 2002-present
Editorial Board, Acta Oceanologica Sinica, 2003-present

Editorial Board, Biogeosciences, EGU, 2007-

Guest editor, Continental Shelf Research for special issue on “Coastal Ecosystem Responses to Changing Nutrient Inputs from Large Temperate and Sub-tropical Rivers, with Emphasis on Comparison Among the Mississippi (USA), Pearl (China), Changjiang (China) and Rhône (France) Rivers”.

Guest editor, Journal of Oceanography for special issue on “Asian Geotraces”

TEACHING

English as a tool to learn environmental sciences, Spring 2002, 2003, Spring 2008

Environmental Oceanography, Spring 2002, 2003, 2004

Introductory Marine Biogeochemistry, Fall 2005, Spring 2007, Spring 2008

STUDENTS ADVISED AND POSTDOCTORAL SCHOLARS SPONSORED

Master students:

Zhanfei Liu (刘占飞), 1997-2000
Biyang He (何碧烟), 2002-2003
Xiaoling Li (李骁麟), 2000-2003
Zhongming Lu (鲁中明), 2000-2003
Tao Huang (黄韬), 2000-2003
Wei Huang (黄伟) 2000-2003
Hongmei Chen (陈洪梅) 2003-2007
Jianrong Lin (林建荣) 2003-2006
Zhimian Cao (曹志勉) 2004-2007
Baoshen Chen (陈宝山) 2004-2008
Feifei Meng (孟菲菲) 2006-2008
Yanping Xu (许艳萍) 2006-2009

Ph.D students

Weidong Zhai (翟惟东), 2000-2004
Zhongming Lu (鲁中明), 2004-2007
Weifang Chen (陈蔚芳), 2001-2007
Xianghui Guo (郭香会), 2003-2008

Postdoctoral scholars

Junfeng Wei (魏俊峰), 2001-2003
Qiming Liu (刘启明), 2003-2005
Ronggang Hu (胡荣刚), 2005-2006
Weifang Chen (陈蔚芳), 2008

EXPEDITION EXPERIENCE

Dates	R/V	Locations	Role
Aug. 2007	Dongfanghong II	South China Sea	Chief Scientist
Dec. 2006	Dongfanghong II	South China Sea	Chief Scientist
Aug. 2006	Kexue III	East China Sea	Chief Scientist
Feb. 2004	Yanping II	South China Sea	Chief Scientist
Nov 2002	Yanping II	South China Sea	Chief Scientist
May 2001	Yanping II	South China Sea	Chief Scientist
July 2000	Yanping II	South China Sea	Chief Scientist
Jul 1997	Cape Hatteras	Gulf of Maine	Post-doc scholar
March 1997	Haijian 69	Pearl River Estuary	Post-doc scholar
Jul 1997	Diane G.	Gulf of Maine	Post-doc scholar
Jul 1996	Haijian 69	Pearl River Estuary	Post-doc scholar
Oct 1995	Weather Bird	Sargasso Sea	Post-doc scholar
Aug 1995	Pr Vodjanitskiy	Black Sea	Research associate
April 1994	--	Gironde estuary	Student
Sept 1993	Dcmitriy Mendeleev	Kara Sea	Student
May 1993	Belgica	Atlantic off Spain	Student
Jul 1992	--	Venice Lagoon	Student
May 1992	--	Rhône river estuary	Student
Dec 1987	Dongfanghong I	Taiwan Strait	Student

PUBLICATIONS

Peer Reviewed Journals

1. Buesseler, K. O., D. I. Kaplan, M. Dai and S. Pike (2009). "Source-Dependent and Source-independent Controls on Plutonium Oxidation State and Colloid Associations in Groundwater." *Environmental Science & Technology* 43(5): 1322-1328.
2. Sheu, D. D., W. C. Chou, C. T. A. Chen, C. L. Wei, H. L. Hsieh, W. P. Hou and M. H. Dai (2009). "Riding over the Kuroshio from the South to the East China Sea: Mixing and transport of DIC." *Geophysical Research Letters* 36.
3. Xu, Y. P., M. H. Dai, W. D. Zhai, D. X. Yuan, J. W. Liu, Z. Y. Sun, H. Lin and J. Y. Wu (2009). "Short-term dynamics of nutrients influenced by upwelling in a small oligotrophic coastal ecosystem, Gan Bay, in the northwest Philippines." *Progress in Natural Science* 19(5): 595-601.

4. Zhu, Y., S. L. Shang, W. D. Zhai and M. H. Dai (2009). "Satellite-derived surface water pCO₂ and air-sea CO₂ fluxes in the northern South China Sea in summer." *Progress in Natural Science* 19(6): 775-779.
5. Dai*, Minhan, Zhongming Lu, Weidong Zhai, Baoshan Chen, Zhimian Cao, Kuanbo Zhou, Wei-Jun Cai, and Chen-Tung Arthur Chen, 2009 Diurnal variations of surface seawater pCO₂ in contrasting coastal environments, *Limnology & Oceanography*, 54(3), in press.
6. Weidong Zhai and Minhan Dai*, 2009 On the seasonal variation of air – sea CO₂ fluxes in the outer Changjiang (Yangtze River) Estuary, East China Sea, *Marine Chemistry*, doi:10.1016/j.marchem.2009.02.008, in press
7. Kao, S. J., M. H. Dai, K. Y. Wei, N. E. Blair, and W. B. Lyons (2008), Enhanced supply of fossil organic carbon to the Okinawa Trough since the last deglaciation, *Paleoceanography*, 23, PA2207, doi:10.1029/2007PA001440.
8. S. J. Kao, K. K. Liu, S. C. Hsu, Y. P. Chang, and M. H. Dai, 2008, North Pacific-wide spreading of isotopically heavy nitrogen during the last deglaciation: Evidence from the western Pacific, *Biogeosciences*, 5, 1641–1650
9. Dai*, M., W Zhai, W-J Cai, J. Callahan, B. Huang, S. Shang, T. Huang, X. Li, Z. Lu, W. Chen and Z. Chen, 2008 Effects of an Estuarine Plume-associated Bloom on the Carbonate System in the Lower Reaches of the Pearl River Estuary and the Coastal Zone of the Northern South China Sea, *Continental Shelf Research*, 28, 1416-1423
10. Guo, X., W. Zhai, W-J Cai and M. Dai. Seasonal variation of the inorganic carbon system in the Zhujiang (Pearl) River estuary. *Continental Shelf Research*, 28, 1424-1434
11. C. Rabouille, D.J. Conley, M.H. Dai, W.-J. Cai, C.T.A. Chen, B. Lansard, R. Green, K. Yin, P.J. Harrison, M. Dagg, B. McKee, 2008, Comparison of hypoxia among four river-dominated ocean margins: The Changjiang (Yangtze), Mississippi, Pearl, and Rhône rivers, *Continental Shelf Research*, 28, 1527-1537.
12. Cai, W.-J., X. Guo, C-T. A. Chen, M. Dai, L. Zhang, W. Zhai, S. E. Lohrenz and Y. Wang, 2008, A comparative overview of weathering intensity and HCO₃⁻ flux in the world's largest rivers with emphasis on the Changjiang, Huanghe, Pearl and Mississippi Rivers, *Continental Shelf Research*, 28, 1538-1549
13. Chen-Tung Arthur Chen, Weidong Zhai, Minhan Dai, 2008, Riverine input and air–sea CO₂ exchanges near the Changjiang (Yangtze River) Estuary: Status quo and implication on possible future changes in metabolic status, *Continental Shelf Research*, 28, 1476-1482.
14. Lu Zhongming, Minhan Dai, Xu Kunming, Chen Jinshun, Liao yinghao, 2008. A high precision, fast response, and low power consumption in situ optical fiber chemical pCO₂ sensor. *Talanta*, 76, 353-359.
15. Pinghe Cai, Weifang Chen, Minhan Dai*, Zhengwen Wan, Dongxiao Wang, Qing Li, Tiantian Tang, and Dongwei Lv, 2008, A high-resolution study of particle export in the southern South China

- Sea based on ^{234}Th : ^{238}U disequilibrium, *Journal of Geophysical Research-Ocean*, Vol. 113, C04019, doi:10.1029/2007JC004268, 2008
16. Weifang Chen, Pinghe Cai, Minhan Dai* and Junfeng Wei, 2008, $^{234}\text{Th}/^{238}\text{U}$ Disequilibrium and Particulate Organic Carbon Export in the Northern South China Sea, *Journal of Oceanography*, 64: 417-428
 17. Dai, M.H., L.F. Wang, X.H. Guo, W.D. Zhai, Q. Li, B.Y. He, and S.-J. Kao, Nitrification and inorganic nitrogen distribution in a large perturbed river/estuarine system: the Pearl River Estuary, China. *Biogeosciences*, 2008. 5: p. 1227-1244.
 18. Pinghe Cai, Minhan Dai*, Dongwei Lv, Weifang Chen, 2007, Response to "Comment on "How accurate are ^{234}Th measurements in seawater based on the MnO₂-impregnated cartridge technique?", *Geochemistry, Geophysics, Geosystems*, doi.10.1029/2007GC001837
 19. Michio Aoyama, Susan Becker, Minhan Dai, Hideshi Daimon, Louis I. Gordon, Hiromi Kasai, Roger Kerouel, Nurit Kress, Doug Masten, Akihiko Murata, Naoki Nagai, Hiroshi Ogawa, Hidekazu Ota, Hiroaki Saito, Kazuhiro Saito, Takao Shimizu, Hiroyuki Takano, Atsushi Tsuda, Katsumi Yokouchi And Agnes Youenou, 2007, Recent Comparability of Oceanographic Nutrients Data: Results Of A 2003 Inter-comparison Exercise Using Reference Materials, *Analytical Science*, 23, 1151-1154 .
 20. Weidong Zhai, Minhan Dai* and Xianghui Guo, 2007, Carbonate system and CO₂ degassing fluxes in the inner estuary of Changjiang (Yangtze) River, China, *Marine Chemistry* 107, 342 - 356
 21. Martin Hassellöv, Ken O. Buesseler, Steven M. Pike, Minhan Dai, 2007 Application of cross-flow ultrafiltration for the determination of colloidal abundances in suboxic ferrous-rich ground waters, *Science of the Total Environment* 372, 636-644
 22. Minhan Dai*, Xianghui Guo, Weidong Zhai, Liangying Yuan, Bengwang Wang, Lifang Wang, Pinghe Cai, Tiantian Tang and Wei-Jun Cai., 2006, Oxygen depletion in the upper reach of the Pearl River estuary during a very drought winter, *Marine Chemistry*, 102, 159-169.
 23. Pinghe Cai, Minhan Dai*, Weifang Chen, TianTian Tang, and Kuanbo Zhou, On the importance of the decay of ^{234}Th in determining size-fractionated C/ ^{234}Th ratio on marine particles, *Geophysical Research Letters*, 33, L23602, doi:10.1029/2006GL027792.
 24. Shuh Ji Kao, Chau-Ron Wu, Yi-Chia Hsin, and Minhan Dai, 2006, Effects of sea level change on the upstream Kuroshio Current through the Okinawa Trough, *Geophysical Research Letters*, VOL. 33, L16604, doi:10.1029/2006GL026822.
 25. Pinghe Cai, Minhan Dai*, Dongwei Lv, Weifang Chen, How accurate are the ^{234}Th measurements in seawater based on MnO₂-impregnated cartridge technique. 2006, *Geochemistry, Geophysics, Geosystems*, 7, Q03020, doi:10.1029/2005GC001104
 26. Pinghe Cai, Minhan Dai*, Dongwei Lv, Weifang Chen, 2006, An improvement in the small-volume technique for determining thorium-234 in seawater, *Marine Chemistry*, 100, 282-2888

27. Wei-Jun Cai, Minhan Dai, and Yongchen Wang , 2006, Air-sea exchange of carbon dioxide in ocean margins: A province-based synthesis, *Geophysical Research Letters*, VOL. 33, L12603, doi: 10.1029/2006GL026219.
28. Zhang, C.Y., C.Hu, S. Shang, Frank E. Müller-Karger, Yan Li, Minhan Dai, Bangqin Huang, Xiuren Ning, Huasheng Hong, 2006, Bridging between SeaWiFS and MODIS for continuity of chlorophyll-a concentration assessments off Southeastern China. *Remote Sensing of Environment*, 102 (3-4): 250-263.
29. M. Rutgers van der Loeff, M.M. Sarin , M. Baskaran, C. Benitez-Nelson, K.O. Buesseler, M. Dai., O.Gustafsson, P. Masque, P.J. Morris, K. Orlandini, A. Ro driguezy Baena, N. Savoye, S. Schmidt, R. Turnewitsch, I. Vöge, J.T. Waples, 2006, A review of present techniques and methodological advances in analyzing ²³⁴Th in aquatic systems, *Marine Chemistry*, 100, 190-212.
30. Zhai W.D., Dai* M.H., Cai W.J., Wang Y.C. Hong H.S., 2005, The partial pressure of carbon dioxide and air-sea fluxes in the northern South China Sea in spring, summer and autumn, *Marine Chemistry*,96:87-97.
31. Dai, M., K.O. Buesseler, S.M. Pike, 2005, Plutonium in the groundwater at the DOE Hanford Site, *Journal of Contamination Hydrology*,76, 167-189
32. Ma Q.J., Hu M., Zhu T., Liu L.L., Dai M.H., 2005, Seawater, atmospheric dimethylsulfide and aerosol ions in Pearl River Estuary and the adjacent northern South China Sea , *Journal of Sea Research*, 53: 131-145
33. Zhai, W., Dai*, M., Cai, W.J., Wang, Y. and Wang, Z., 2005. High partial pressure of CO₂ and its maintaining mechanism in a subtropical estuary, the Pearl River estuary, China, *Marine Chemistry*, 93: 21-32
34. Cai, W.-J. and Dai, M. 2004. Comment on "Enhanced open ocean storage of CO₂ from shelf area pumping" by Thomas et al. (Science 304). *Science*, 306, 1477C
35. Dai, MH, Weidong Zhai, Zhongming Lu, Pinghe Cai, Wei-jun Cai and Huasheng Hong, 2004. China Regional Carbon Cycling - progress and perspectives. *Advances in Earth Science* 19, 120-130 (in Chinese)
36. Wei Jun-feng, Minhan Dai, Huasheng Hong, Xiaolin Li and Weifang Chen, 2004, Overviews on the interactions between marine colloids and trace metals, *Advances in Earth Science*, 19, 26-31 (in Chinese)
37. Callahan, J., Dai, M., Chen, R.F., Li, X., Lu, Z. and Huang, W., 2004. Distribution of dissolved organic matter in the Pearl River Estuary, China. *Marine Chemistry*, 89: 211-214
38. Cai, W.-J., Dai, M., Wang, Y., Zhai, W., Huang, T., Chen, S., Zhang, F., Chen, Z. and Wang, Z., 2004. The biogeochemistry of inorganic carbon and nutrients in the Pearl River estuary and the adjacent Northern South China Sea. *Continental Shelf Research*, 24: 1301-1319.
39. Lu Zhongmin, Minhan Dai, Kunming Xu and Jinshun Chen, 2003, Development of a fiber optical chemical CO₂. *Communications of High Technology*, 13, 38-43 (in Chinese)
40. Buesseler, K.O., Hassellöv, M. and Dai, M.H., 2003. Comment on "Trace Metal Levels in

- Uncontaminated Groundwater of a Coastal Watershed: Importance of Colloidal Forms". *Environmental Science & Technology*, 37: 657-658.
41. Wang, Xuchen and Minhan Dai, 2002, The application of naturally occurring radiocarbon (^{14}C) in marine organic geochemical studies, *Advances in Earth Science*, 17, 348-354 (in Chinese).
 42. Z. Zhang, M. Dai, H. Hong, J. L. Zhou and G. Yu, 2002 Dissolved insecticides and polychlorinated biphenyls in the Pearl Estuary and South China Sea, *Journal of Environmental Monitoring*, 4, 922–928
 43. Zhang ZL, Hong HS, Zhou JL, Dai MH, Maskaouib K, Chen WQ, 2002 Contamination by organochlorine pesticides in the estuaries of southeast China, *Chemical Research In Chinese Universities*, 18: 153-160
 44. Dai, M.H., J.M. Kelley and K.O. Buesseler, 2002, Sources and migration of plutonium in groundwater at the Savannah River Site, *Environmental Science & Technology* 36, 3690 – 3699
 45. He, Biyan, Minhan Dai, Li Cao, Xu Li, Wei Huang and Xinhong Wang, 2003. The application of capillary gas chromatography in the determination of the composition of polysacchrides in marine sediments. *Oceanologica et Limnologia Sinica*, 34: 233-240 (in Chinese)
 46. Dai, M. H. and C. R. Benitez-Nelson, 2001, Colloidal Organic Carbon and ^{234}Th in the Gulf of Maine, *Marine Chemistry*, 74, 181-196.
 47. Dai, Minhan and Weidong Zhai, 2001, Development and application of in-situ monitoring technologies in the marine environment, *Journal of Xiamen University (Natural Science)* 40: 704-714. (in Chinese)
 48. Dai, M.H., K. O. Buesseler, J.M. Kelley, J.E. Andrews, S. Pike and J.F. Wacker, 2001, Size Fractionated Plutonium Isotopes in a Coastal Environment, *Journal of Environmental Radioactivity*, 53, 9-25.
 49. Dai, Minhan, Junfeng Wei, and Weidong Zhai, 2001, Progress on the carbon cycling study in the South China Sea. *Journal of Xiamen University*, 40, 545-551 (in Chinese)
 50. Dai, M.H, J. M. Martin, H.S. Hong & Z. Zhang, 2000 A preliminary study on the dissolved and colloidal organic carbon in the Pearl river estuary, *Chinese Journal of Limnology and Oceanology*, 18, 265-273.
 51. Dai, M.H., K.O. Buesseler, P. Ripple, J. Andrews, R.A. Belastock, Ö. Gustafsson and S. B. Moran, 1998. An evaluation of two cross-flow ultrafiltration membranes to isolate marine organic colloids. *Marine Chemistry* 62, 117-136.
 52. Guieu, C. , J-M Martin, S Tankéré , F Mousty., P Trinchnerini., M Bazot. and M.H. Dai, 1998. On trace metal geochemistry in the Danube River and western Black Sea. *Estuarine Coastal and Shelf Science* 47, 471-485.
 53. Martin, J.M., Dai M.H. and G. Cauwet. 1995. Significance of colloids in the biogeochemistry of organic carbon and trace metals in the Venice Lagoon (Italy). *Limnology and Oceanography* 40: 119-131.
 54. Dai, M.H., J.M. Martin and G. Cauwet 1995. The significant role of colloids on the transport and

- transformation of organic carbon and trace metals in the Rhône delta, France. *Marine Chemistry* 51:159-175.
55. Dai, M.H. and J.M. Martin 1995. First data on the trace metal level and behavior in two major Arctic river/estuarine systems (Ob & Yenisey) and in the adjacent Kara Sea. *Earth and Planetary Science Letters* 131:127-141.
 56. Hong, H., Dai M.H., Huang B., and Li W. 1994. On the uptake of phosphate by phytoplankton in Xiamen Harbour. *Oceanologia et Limnologia Sinica* 25:54-59 (in Chinese).
 57. Huang, B., Hong H. and Dai M.H. 1993. Influences of environmental factors on the uptake rate of phosphorus by phytoplankton. *Acta Oceanologica Sinica* 15: 64-67 (in Chinese).
 58. Guo, L., Dai M.H., Li W., Hong L., and Hong H. 1989. Distribution and cycling of nutrients in the Luoyuan bay, Fujian, China. *Journal of Xiamen University (Natural Science)* 28: 55-58 (in Chinese).
 59. Hong, H. and Dai M.H., 1989. Distribution and transformation of various forms of phosphorus in Xiamen Harbour and Jiulong River estuary in Spring. *Marine Environmental Science* 8: 1-8. (in Chinese).

Book and Proceeding Chapters

1. Dai, M.H., H.S. Hong, T. Zhu and S.L. Shang, 2001, Prospective on the interactions between upper ocean biogeochemistry and air-sea exchange in the South China Sea, in *South China Sea - Environment and Resource*, Jilan Su (editor), China Ocean Press, pp.48-56. (in Chinese)
2. Dai, M.H., J.M. Martin and G. Cauwet 2000. Colloidal organic carbon and trace metals. In, Venice Lagoon Ecosystem-Inputs and Interactions between Land and Sea, P. Lasserre & A. Marzollo (editors), Chapter 3, pp. 47-58, Parthenon Publishing, UK
3. da Silva, J-M. Martin, M.H. Dai & L. Xu, 1998 Exploring Data from the Pearl River Estuary with simple tools, Proceedings *Second International Conference on the Pearl River Estuary in the Surrounding Area of Macao*, GUANGZHOU and MACAO, 11-15 MAY, 1998.
4. Dai, M.H, J. M. Martin, H.S. Hong & Z. Zhang, 1998 Dissolved and colloidal organic carbon in the Pearl river estuary, Proceedings *Second International Conference on the Pearl River Estuary in the Surrounding Area of Macao*, GUANGZHOU and MACAO, 11-15 MAY, 1998.
5. Chen, Z., H. Hong, L. Xu, M.H. Dai & H. Zhang, 1998 Geochemistry of rare earth elements in Pearl river estuary, Proceedings *Second International Conference on the Pearl River Estuary in the Surrounding Area of Macao*, GUANGZHOU and MACAO, 11-15 MAY, 1998.
6. Dai, M.H., J.M. Martin and G. Cauwet 1995. Importance of colloidal material in the transport of organic carbon and trace metals in the Rhône delta (France). In, *Water Pollution Report 32*, pp 195-204, J.M. Martin & H. Barth (eds.), Commission of the European Communities.
7. Hong H., Shang S., Dai M., 1994, The biogeochemical study of C、N、P in the Taiwan Strait and its adjacent regions, In: *Global Fluxes of Carbon and its Relate Substances in the coastal Sea-Ocean-Atmosphere system*, Hokkaido University, pp.129-136.

8. Hong, H. and Dai M.H., 1994 Biogeochemical studies of biologically important elements (C, N, P) at Taiwan Strait region. In, D. Zhou, Liang, Y., and C. Zeng (eds.), *Oceanology of China Seas*, Vol 1: pp. 201-212, Kluwer Academic Publisher, Dordrecht.
9. Dai, M.H., Hong H., Chen S. 1991. Study of phosphorus in Minnan-Taiwan Fishing Ground Upwelling Ecosystem, II. Distribution of total phosphorus and particulate phosphorus and their relation to the upwelling activity. In, Hong H. et al. (eds.), *Minnan-Taiwan Bank Fishing Ground Upwelling Ecosystem Study*, Science Press, Beijing. pp189-197. (in Chinese)
10. Dai M.H., Hong H., and Chen S. 1991. Phosphorus in Minnan -Taiwan Fishing Ground Upwelling Ecosystem, III. Variation and transformation among various forms of phosphorus. In, Hong H. et al. (eds.), *Minnan-Taiwan Bank Fishing Ground Upwelling Ecosystem*, Science Press, Beijing. pp198-204. (in Chinese)
11. Chen, S. and Dai M.H., 1991. Study of phosphorus in Minnan-Taiwan Fishing Ground Upwelling Ecosystem, I. Distribution characteristics of dissolved phosphorus with relation to upwelling. In, Hong H. et al. (eds.), *Minnan-Taiwan Bank Fishing Ground Upwelling Ecosystem Study*, Science Press, Beijing. pp179-188. (in Chinese)
12. Wang, X. and M. Dai, 1986. Environmental Science, in *New Frontiers of Science*, Bao Zhengyuan (editor), Fujian People's Press, pp. 113-118.

Reports

1. Hong, H.S., Y. Zhang and M.H. Dai, Annual report for Marine Environmental Laboratory, Xiamen University, 2000
2. Hong, H.S., M.H. Dai and S.L. Shang, Annual report for Marine Environmental Laboratory, , Xiamen University, 2001
3. Hong, H.S., M.H. Dai and Y. Zhang, S.L. Shang, Annual report for Marine Environmental Laboratory, , Xiamen University, 2002
4. Hong, H.S., M.H. Dai and Y. Zhang, S.L. Shang, Annual report for Marine Environmental Laboratory, , Xiamen University, 2003
5. Dai M.H. et al., Annual report for Marine Environmental Laboratory, Xiamen University, 2004
6. Dai M.H. et al., Annual report for Marine Environmental Laboratory, Xiamen University, 2005
7. Dai M.H. et al., Annual report for Marine Environmental Laboratory, Xiamen University, 2006

SYMPOSIUM PRESENTATIONS

1. Hong H.S, Dai M.H and Chen S., Variation in phosphorus species with the growth of phytoplankton in Xiamen Harbour and Jiulong River Estuarine Waters. *International Symposium on Biogeochemical Study of Changjiang Estuary and its Adjacent Coastal Waters of the East China Sea*, March 21-25, 1988, Hangzhou, China.

2. Martin, J.M., Dai M.H., G. Gieu, W.W Huang and Y.Y. Yoon, Trace metal behaviour (Cd, Cu, Fe, Ni, Pb and Zn) in major Russian estuaries (Lena, Ob and Yenisey), *Ocean Science Meeting*, AGU, Match, 1994, California, USA (see *EOS*, 173, N°3: 73).
3. Dai, M.H., J.M. Martin and G. Cauwet, Importance of colloidal material in the transport of organic carbon and trace metals in the Rhône Delta (France), 5th *EROS-2000 (European River-Ocean System) workshop*, 28-30 Match, 1994, Hamburg, Germany.
4. Dai, M.H., J.M. Martin and G. Cauwet, Significance of colloids in the biogeochemical cycling of organic carbon and trace metals in the coastal environment, ACS meeting, Spring 1994, SAN DIEGO, USA.
5. Dai, M.H., M.H. Cotté, W. Huang, and J.M. Martin. Interchange of organic carbon and trace metals between two rias (Vigo and Arosa) and adjacent Atlantic coastal waters. 2nd EU Workshop: Exchange processes at the continent/ocean margins in the North Atlantic, Knokke, Belgium, 22-24 Feb., 1995.
6. Dai M.H, A. Kraepiel and J.M. Martin. The significance of colloids in relation to trace metals and organic carbon in estuarine environments, a review, invited for *the 4th International Symposium on Model Estuaries: Biogeochemistry of organic compounds and trace elements in macrotidal estuaries*, Nante, France, March 21-24, 1995
7. Dai M.H, and J.M. Martin, The significance of colloids in relation to trace metals and organic carbon in estuarine environments, AGU Ocean Science Meeting, Feb. 12-16, 1996, San Diego.
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36. Dai Minhan, Some thoughts on China Geotraces Program, plenary talk , “A regional workshop on GEOTRACES”, Aug 25-27, 2005, Xiamen, China
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42. Weidong Zhai, Minhan Dai, Weijun Cai, Seasonal and inter-annual variations of CO_2 Air-Sea Fluxes in the Northern South China Sea, Ocean Science Meeting, Feb 20-24, 2006, Hawaii, USA
43. Minhan Dai, Weidong Zhai, Wei-Jun Cai, On the importance of estuaries in the global carbon cycle, invited talk, 9th International Estuarine Biogeochemistry Symposium, May 7-11, 2006, Warnemünde, Germany
44. Weidong Zhai, Xianghui Guo and Minhan Dai, CO_2 partial pressure and fluxes in Changjiang River Estuary, China, poster, 9th International Estuarine Biogeochemistry Symposium, May 7-11, 2006, Warnemünde, Germany
45. Dai Minhan, Zhongming Lu, Zhai Weidong, Chen Baoshan, Zhou Kuanbo, Diurnal variation of surface seawater $p\text{CO}_2$ and its potential implication on air-sea CO_2 flux estimation, Western Pacific Geophysics Meeting, 24-27 July, 2006, Beijing, China
46. Tiantian Tang, Minhan Dai, Jianrong Lin, Xianghui Guo, On the total organic carbon in the South China Sea-enrichment in the intermediate waters, poster, Western Pacific Geophysics Meeting, 24-27 July, 2006, Beijing, China
47. Zhongming Lu, Minhan Dai, Jinshun Chen, KunmingXu, Yinhao Liao, Development and application of an in situ optical fiber chemical CO_2 sensor, poster, Western Pacific Geophysics Meeting, 24-27 July, 2006, Beijing, China
48. Baoshan Chen, Minhan Dai and Huasheng Hong, $p\text{CO}_2$ and the carbonate system in a coastal upwelling system – Taiwan Strait, poster, Western Pacific Geophysics Meeting, 24-27 July, 2006, Beijing, China
49. Weidong Zhai and Minhan Dai, On the distribution of dissolved CO_2 and O_2 in the coastal waters of East China Sea and in the Yellow Sea in Spring 2005, poster, Western Pacific Geophysics Meeting, 24-27 July, 2006, Beijing, China
50. Dai Minhan, Carbon Dynamics in the Oligotrophic South China Sea, Invited talk, International Conference on Contrasting Marine Ecosystems, Oct. 23-25, 2006, Hong Kong, China
51. Minhan Dai, Land-Ocean Interactions studies in China-A progress report of CLOICZ , IHDP China Workshop Nov.5-7, 2006, Beijing China
52. Minhan Dai, Global and Regional Riverine Organic Carbon Export and its Potential Impact on the Carbon Cycling in the Coastal Ocean, AOGS 2007 , July 30- Aug.4 2007 Bangkok ,Thailand

53. Minhan Dai, Invited talk, Dynamics of carbon fluxes in the South China Sea , Gordon Conference On Chemical Oceanography, Aug.6-10,2007, Tilton New Hampshire USA
54. Minhan Dai, Introduction to GEOTRACES and updates on China-GEOTRACES planning , China SCOR workshop , Sep. 14-16, 2007, Suzhou, China
55. Minhan Dai, Research Roundtable Session, The Third George Bush 2007 China-US Relations Conference, Oct.22-25, 2007 , Washington DC. USA
56. Minhan Dai, GEOTRACES Scientific Steering Committee (SSC) meeting,2007, , Nov.6-9,2007 Barcelona, Spain
57. Minhan Dai, Weidong Zhai, Xianghui Guo, Qian Li, Yao Zhang, Dazhi Wang, Jixin Chen, Bangqin Huang, Zhengyu Sun, Jia Zhu, Jianyu Hu, Shaoling Shang Oral ,Biogeochemical Responses to a Meso-scale Eddy and in the South China Sea in the Summer of 2007-Preliminary Results , Oral presentation , the second Seminar of CSIR-NSFC: “Asia-India “Interactions between Ocean Process and Climate Changes in Asia-Indian Ocean ”, Nov.20-22, 2007 Qingdao ,China

GRANT HISTORY

- 01/2008-12/2010 **C**oupled circulation-biogeochemistry study over the continental shelf in the Northern South China Sea during upwelling NSFC/RGC Joint Research Scheme(40731160624) principal investigator (330k).
- 01/2008-12/2011 **D**eep Research and high integration of Source/sinks of atmospheric CO₂ in the Northern South China – fluxes and modulations, NSFC key project (NSF-China #90711005), principal investigator (2.2 M).
- 01/2007-12/2011 **“111”** international collaboration program, Ministry of Education & State Bureau for Foreign Experts, principal investigator (4.5 M)
- 01/2006-12/2008 **M**arine Biogeochemistry-processes and mechanism, Group of excellence award, NSF-China, principal investigator (4.2 M).
- 01/2006-12/2008 **B**iogeochemical coupling of carbon, nitrogen and oxygen in the Pearl River estuary (NSF-China), principal investigator (520 K).
- 01/2003-12/2006 **S**ource/sinks of atmospheric CO₂ in the Northern South China – fluxes and modulations, NSFC key project (NSF-China #90211020), principal investigator (1.6 M).
- 09/2003-09/2006 **S**ources, speciation and mobility of plutonium and other transuranics in the groundwater at the Savannah River Site (US department of Energy) (Ken O. Buesseler, Minhan Dai)
- 01/2003-12/2005 **A**ir-Sea CO₂ flux and carbon biogeochemistry in the Pearl River Estuary and in the adjacent Northern South China Sea, Overseas Young Scientist Collaborative Project (NSF-China #40028007). Co-principle investigator (Wei-jun Cai and Minhan Dai) (400 K)
- 01/2002-12/2004 **I**nteractions between Air-Sea CO₂ flux and upper ocean biogeochemical processes in the South China Sea (NSF-China #40176025). principal Investigator (230 K)
- 01/2002-12/2004 **F**ine structure of *p*CO₂ in the mixed layer, China Ministry of Education# 2002B0421020, principal investigator (100 K)

10/2002-04/2005 **D**evelopment of a high precision and fast response chemical fiber CO₂ sensor, China High-tech program (Ministry of Science and Technology#2002AA635140), principal investigator (700 K).

01/2000-12/2002 **S**tructural and compositional characterization of colloidal organic matter in the Pearl River Estuary and in the adjacent Northern South China Sea (NSF-China#49976021), Co-principle investigator (Li Xu and Minhan Dai) (180 K)

09/1999-06/2003 **S**peciation, mobility and fate of actinides in the groundwater at the Hanford Site (US Department of Energy #DE-FG07-96ER14733), Co-principle investigator (K.O. Buesseler, Minhan Dai and D. Repeta)

01/1999 –12/2002 **T**ransport and transformation of organic carbon in the Pearl River Estuary and in the adjacent Northern South China Sea, Distinguished Young Scientist Award (NSF-China # 49825162), principal investigator (800 K)