

---

## Curriculum Vitae

### JI-DONG GU

School of Biological Sciences  
The University of Hong Kong  
Kadoorie Biological Sciences Building  
Pokfulam Road  
Hong Kong SAR  
P.R. China  
Office: (852) 2299 0605  
Fax: (852) 2559 9114  
e-mail: [jdgu@hku.hk](mailto:jdgu@hku.hk)  
<http://www.biosch.hku.hk/ecology/jdg.htm>

### Employment

2004– *Associate Professor*, The University of Hong Kong  
1999–2003 *Assistant Professor*, The University of Hong Kong  
1997–1999 *Senior Research Associate*, Harvard University  
1994–1997 *Research Associate*, Harvard University  
1993–1994 *Post-doctoral Fellow*, Harvard University  
1991–1993 *Post-doctoral Fellow*, University of Massachusetts - Lowell Research Foundation

### Education

1988–1991 **Ph.D.**, Virginia Tech, The United State of America  
1987–1988 **M.Sc.**, University of Alberta, Canada  
1985–1986 **International Certificate**, University of Alberta, Canada  
1979–1983 **B.Sc.**, Heilongjiang August First Land Reclamation University, P.R. China

### Awards/Honors

- Charles Rich Fellow (1991), Virginia Tech
- Guest Professor, Northeastern Forestry University, Harbin, Heilongjiang, P.R. China (1997–2000)
- Guest Professor, East China University of Science and Technology, Shanghai, P.R. China (2005– )
- Science and Technology Award for Environmental Protection, State Bureau of Environmental Protection, P.R. China (2006)
- Guest Professor, Zhejiang University, Hangzhou, Zhejiang, P.R. China (2006–2009)
- Guest Professor, Heilongjiang August First Land Reclamation University, Daqing, Heilongjiang, P.R. China (2007–2010)
- Ambassador, International Society of Microbial Ecology (2007– )
- Guest Professor, Wuhan Botanical Garden, Chinese Academy of Sciences, Wuhan, Hubei, P.R. China (2009–2014)
- Guest Professor, Hunan Agricultural University, Changsha, Hunan, P.R. China (2011–2016)
- Guest Professor, Guilin University of Technology, Guilin, Guangxi, P.R. China (2012–2017)
- Guest Professor, China University of Geoscience (Wuhan), Wuhan, Hubei, P.R. China (2016–2020)
- First Prize of 2016 Guangzhou Science and Technology Award (No. 2015B102R02), Guangzhou, P.R. China (2016)
- Council Member, International Biodeterioration & Biodegradation Society (2016– )
- International Board Member, International Society for Subsurface Microbiology (2017– )
- Distinguished Visiting Scholar, University of Macau, Macau, P.R. China (2018)

- 
- Guest Professor, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P.R. China (2019-2002)

### **Professional Societies**

- American Association for the Advancement of Science (1996– )
- American Chemical Society (1992– )
- American Society for Microbiology (1989– )
- International Biodeterioration Society (2004– )
- International Water Association (2003– )
- International Society of Microbial Ecology (2007– )

### **Advisory Board**

- American Journal of Current Microbiology (2013– )
- Handbook of Environmental Chemistry

### **Chief Editorship**

- Applied Environmental Biotechnology (2015– ) (Whioces/UDSPUB)
- Frontiers in Microbiology: Microbiotechnology, Ecotoxicology and Bioremediation (2011–2016) (Frontiers)
- International Biodeterioration & Biodegradation (2016– ) (Elsevier)

### **Associate Editorship**

- Ecotoxicology (Springer)
- Environmental Geochemistry and Health (Springer)
- Global Journal of Environmental Science and Management (2014–2016)
- International Biodeterioration & Biodegradation ( –2015)
- International Journal of Environmental Science and Technology (2012–2016)
- Journal of Environmental Engineering & Ecological Science (2012– )
- Journal of Polymers and the Environment (2016– ) (Springer)

### **Editorial Board Membership of Journals**

- Advances in Biology, Biotechnology and Genetics
- Asian Pacific Journal of Microbiology Research
- Biodegradation (2004– )
- International Journal of Environmental Science and Technology
- Journal of Polymers and the Environment (2010–2015)
- Journal of Microbiology Research
- Microbes and the Environment (2007–2010)
- The Open Proteomics Journal

### **Professional Services**

- Scientific assignment of the United Nation Development Program to Beijing University of Aeronautics and Astronautics (1996)
- Scientific assignment of the United Nation Development Program to Jinan University (Guangzhou), Northeast Forestry University (Harbin), Harbin University of Architecture and Civil Engineering, Qingdao University, and Dalian University of Science and Technology (1997)
- Scientific assignment of the United Nation Development Program to Beijing Institute of Aviation Materials (1998)

- 
- Adjunct Professor, South China Sea Institute of Oceanography, Chinese Academy of Sciences, Guangzhou, P.R. China (2000–2004)
  - Member of the International Organizing Committee, the 1<sup>st</sup> International Conference on Pollution Eco-chemistry & Ecological Processes, Shenyang, P.R. China (2002)
  - Member of the International Advisory Committee, 12<sup>th</sup> International Biodeterioration and Biodegradation Symposium, Prague, Czech Republic (2002)
  - Director of the Croucher Advanced Study Institute: Surface Adhesion and Biotechnological Applications (2003)
  - Organizer of the Croucher Advanced Study Institute Workshop on Surface Adhesion and Biotechnological Applications, Hong Kong SAR (2003)
  - Organizing Committee Member, the 6<sup>th</sup> International Conference of Laval Biology, Hong Kong University of Science and Technology, Hong Kong SAR (2004)
  - Member of the International Advisory Committee, State Key Laboratory of Marine Environmental Science at Xiamen University (2005– )
  - Guest editor, a special issue on Bacterial Biofilm in *International Biodeterioration & Biodegradation* journal (Volume 58, Issue No. 2, 2006. Pages 59–105)
  - Co-organizer, International Conference on Environmental Health and Pollution Control. October 22–25, 2006, Nanjing, P.R. China
  - Committee Member, Environmental Microbiology of Chinese Microbiology Society, P.R. China (2006–2011)
  - Consortium Member, UNESCO/Japan Fund-in-Trust for the Preservation of the World Heritage, Waseda University, Japan (2006–2011)
  - Vice Chair, Microbial Influenced Corrosion Session (TEG 187X), Corrosion/2007. March 11–15, 2007, Nashville, Tennessee, USA.
  - Moderator, Symposium IX: Bioremediation and Nucleic Acids and Enzyme Expression. The 3<sup>rd</sup> International Conference on Enzymes in the Environment: Activity, Ecology and Applications. July 15–19, 2007. Viterbo, Italy.
  - Chairperson, Symposium on Environmental, Marine, Water Microbiology. The 2<sup>nd</sup> International Conference on Environmental, Industrial and Applied Microbiology (BioMicroWorld2007), November 28–December 1, 2007. Seville, Spain.
  - International Advisory Committee Member, International Conference on Toxic Exposure Related Biomarkers, Genomes, and Health Effects, January 9–11, 2008. Nagpur, India
  - Deputy Director of the Croucher Advanced Study Institute: Innovation Technologies for Soil Remediation (2007–2008)
  - Chair, Microbial Influenced Corrosion Session (TEG 187X), Corrosion/2008. March 16–20, 2008, New Orleans, Louisiana, USA.
  - Co-organizer, the 2<sup>nd</sup> International Conference on Environmental Health and Pollution Control. October 18–22, 2008, Nanjing, P.R. China
  - Local Academic Supporting Committee Member, the 13<sup>th</sup> International Conference on Harmful Algae, November 3–7, 2008. Hong Kong SAR.
  - Advisory Board Member, Handbook of Environmental Chemistry by Springer (2008– ).
  - External Project Evaluator, European Union Research Project COST D33 Nano-scale Electrochemical and Bioprocesses (Corrosion) at Solid aqueous Interfaces of Industrial Materials. May 13–15, 2009. Cluj-Napoca, Romania.
  - Organizing Committee Member, International Conference of ISME – Asia. September 14–17, 2009. Goa, India.
  - Co-organizer, International Symposium on Marine Ecology and Ecotoxicology, Guangzhou, PR China, 18–20 January, 2010.
  - Organizing Committee Member, 13<sup>th</sup> Mainland-Taiwan Environmental Protection Conference, Chongqing, PR China, 23–25 April, 2010.

- Co-organizer, 3<sup>rd</sup> International Conference on Environmental Health and Pollution Control. October 18–22, 2010, Nanjing, P.R. China
- Co-organizer, Croucher Advanced Study Institute: Remediation of Contaminated Land – Bioavailability and Health Risk, Hong Kong, PR China, 9–13 December, 2010.
- Co-organizer, The 1<sup>st</sup> International Conference on Geomicrobial Ecotoxicology, Wuhan, PR China, May 30–June 2 2011.
- International Organizing Committee Member, the 4<sup>th</sup> International Conference on Enzymes in the Environment: Activity, Ecology & Applications. Bad Nauheim, Germany, 17–21 July, 2011.
- Guest editor, a special issue in *Ecotoxicology* journal on Sharing Knowledge on Environmental Health for Risk Mitigation (Volume 20, Issue No. 5, 2011, pages 937–1166)
- Guest editor, a special issue in *Ecotoxicology* journal (Volume 21, Issue No. 6, 2012, pages 1583–1760)
- Co-chair of the Scientific Organizing Committee, International Symposium on Recent Advances in Water Resources Management & Pollution Control, May 11–12, 2012, Galway, Ireland.
- Panel member, 24<sup>th</sup> National Science Foundation of China Review Panel, July 8-18, 2012. Beijing, PR China
- Co-organizer, 4<sup>th</sup> International Conference on Environmental Health and Pollution Control. September 24–27, 2012, Harbin-Beijing, P.R. China
- Guest editor, a special issue on A New Era for Geomicrobial Ecotoxicology in Environmental Science research *International Biodeterioration & Biodegradation* journal (Volume 76, Issue No. 1, 2013, pages 1–118.)
- Guest co-editors, a special issue on Recent Advances in Water Resource Management and Pollution Control with Special Focus on China in *Environmental Engineering and Management Journal* (Volume 12, Issue No. 5, 2013, pages 887–888)
- Scientific Advisory Committee, ICoN3, Tokyo, Japan, September 2 – 5, 2013.
- Panel member, 25<sup>th</sup> National Science Foundation of China Review Panel, July 8-18, 2013. Beijing, PR China (declined)
- Guest editor, a special issue on Assessment of Ecosystem Health and Ecotoxicology through Chemical Analysis and Modeling in *Ecotoxicology* journal (Volume 23, Issue No. 4, 2014, pages 475–756)
- Guest co-editors, a special issue on Geomicrobial Processes and Ecotoxicology in *Ecotoxicology* journal (Volume 23, Issue No. 10, 2014, pages 1823–2091)
- Scientific Advisory Committee, ICoN4, Edmonton, Alberta, Canada, June 28 –July 2 2015.
- Guest co-editors, a special issue on Microbial metabolism of toxic organic pollutants and transformation of metals/metalloids and ecotoxicity assessment in *International Journal of Molecular Sciences* (2015)
- Guest co-editors, a special issue on Coastal and Marine Pollution and Ecotoxicology in *Ecotoxicology* journal (Volume 24, Issue No. 7-8, 2015, pages 1407–1797)
- Guest co-editors, a special issue on Petroleum Microbial Biotechnology: Challenges and Prospects in Frontier in Microbiology: *Microbiotechnology, Ecotoxicology and Bioremediation* (Volume, Issue No. x, 2015)
- Panel member of Mechanism Underlying Elemental Cycling on Earth by Microorganisms in Hydrosphere (Key and nurturing projects), National Science Foundation of China Review Panel, July 25-27, 2017. Beijing, PR China
- International Organizing Committee Member, the 5<sup>th</sup> International Conference on Enzymes in the Environment: Activity, Ecology & Applications. Bangor, Wales, England, July 24–28, 2016.
- International Committee Member, International Society of Subsurface Microbiology (2016- ).
- International Organizing Committee Member, The 4<sup>th</sup> International Environmental Engineering Conference & Annual Meeting of the Korean Society of Environmental Engineers (IEEC 2017). Jeju, South Korea, November 15–17, 2017.
- Guest co-editors, a special issue on Mining site and remediation in *International Biodeterioration & Biodegradation* journal (Volume 128, 2018, pages 1–194.)

- Panel member, National Science Foundation of China Review Panel (Key and Regular projects), July 9-17, 2018. Beijing, PR China
- Committee Chairman, National Science Foundation of China Review Panel – Life Science Microbiology (Regular projects), July 13-17, 2018. Beijing, PR China
- Panel member of Mechanism Underlying Elemental Cycling on Earth by Microorganisms in Hydrosphere (Key and nurturing projects), National Science Foundation of China Review Panel, July 31-August 3, 2018. Beijing, PR China
- Guest editor, a special issue in *Ecotoxicology* journal (Volume xx, Issue No. x, 2019, pages xxxx–xxxx)
- Scientific Committee, Organizing Committee, and Program Committee, Deammonification 2019, December 11-13, 2019. Bangkok, Thailand
- Scientific Organizing Committee, the 18th International Biodeterioration & Biodegradation Symposium, September 8-10, 2020. Bozeman, Montana, USA

### Books

1. Mitchell, R., and **J.-D. Gu** (eds.) (2010) *Environmental Microbiology* (2<sup>nd</sup> ed.), Wiley-Blackwell, Hoboken, New Jersey. 363 pp.
2. **Gu, J.-D.** (2019) *Biosusceptibility of Polymers and Fiber-reinforced Composites and Testing Methods*, Springer, New York.

### Refereed Journal Papers

1. **Gu, J.-D.**, and D.F. Berry (1991) Degradation of substituted indoles by an indole-degrading methanogenic consortium. *Applied and Environmental Microbiology* **57**: 2622–2627.
2. Berry, D.F., **J.-D. Gu**, and R.B. Reneau, Jr. (1991) Biodegradation of heterocyclic aromatic based pesticides and related chemicals under anaerobic conditions. *Advances in Agronomy* **1**: 93–95.
3. **Gu, J.-D.**, and D.F. Berry (1992) Metabolism of 3-methylindole by a methanogenic consortium. *Applied and Environmental Microbiology* **58**: 2667–2669.
4. **Gu, J.-D.**, M. Gada, G. Kharas, D. Eberiel, S.P. McCarthy, and R.A. Gross (1992) Degradability of cellulose acetate (1.7 and 2.5, D.S.) and poly(lactide) in simulated composting bioreactors. *Polymeric Materials Science and Engineering* **67**: 351–352.
5. **Gu, J.-D.**, S.P. McCarthy, G.P. Smith, D. Eberiel, and R.A. Gross (1992) Degradability of cellulose acetate (1.7, D.S.) and cellophane in anaerobic reactors. *Polymeric Materials Science and Engineering* **67**: 230–231.
6. **Gu, J.-D.**, D.T. Eberiel, S.P. McCarthy, and R.A. Gross (1993) Cellulose acetate biodegradability upon exposure to simulated aerobic composting and anaerobic bioreactor environments. *Journal of Environmental Polymer Degradation* **1**: 143–153.
7. **Gu, J.-D.**, D. Eberiel, S.P. McCarthy, and R.A. Gross (1993) Degradation and mineralization of cellulose acetate in simulated thermophilic compost environments. *Journal of Environmental Polymer Degradation* **1**: 281–291.
8. **Gu, J.-D.**, S. Coulter, D. Eberiel, S.P. McCarthy, and R.A. Gross (1993) A respirometric method to measure mineralization of polymeric materials in a matured compost environment. *Journal of Environmental Polymer Degradation* **1**: 293–299.
9. **Gu, J.-D.**, S. Yang, R. Welton, D. Eberiel, S.P. McCarthy, and R.A. Gross (1994) Effects of environmental parameters on degradability of polymer films. *Journal of Environmental Polymer Degradation* **2**: 129–135.
10. **Gu, J.-D.**, T.E. For, B. Mitton, and R. Mitchell (1995) Microbial degradation of complex polymeric materials used as insulation in electronic packaging materials. *Corrosion/95*, Paper No. 202, NACE International, Houston, Texas

11. Gross, R.A., **J.-D. Gu**, D. Eberiel, and S.P. McCarthy (1995) Laboratory scale composting test methods to determine polymer biodegradability: model studies on cellulose acetate. *Journal of Macromolecule Science - Pure & Applied Chemistry* **A32**: 613–628.
12. **Gu, J.-D.**, T. Ford, K. Thorp, and R. Mitchell (1996) Microbial growth on fiber reinforced composite materials. *International Biodeterioration & Biodegradation* **37**: 197–203.
13. **Gu, J.-D.**, T. Ford, and R. Mitchell (1996) Susceptibility of electronic insulation polyimides to microbial degradation. *Journal of Applied Polymer Science* **62**: 1029–1034.
14. **Gu, J.-D.**, C. Lu, K. Thorp, A. Crasto, and R. Mitchell (1996) Fungal degradation of fiber-reinforced composite constituents. *Corrosion/96*, Paper No. 275, NACE International, Houston, Texas
15. **Gu, J.-D.**, C. Lu, K. Thorp, A. Crasto, and R. Mitchell (1997) Fiber-reinforced polymeric composite are susceptible to microbial degradation. *Journal of Industrial Microbiology and Biotechnology* **18**: 364–369.
16. **Gu, J.-D.**, C. Lu, K. Thorp, A. Crasto, and R. Mitchell (1997) Fungal degradation of fiber-reinforced composite constituents. *Materials Performance* **36**: 37–42.
17. Thorp, K.E.G., A.S. Crasto, **J.-D. Gu**, and R. Mitchell (1997) Contribution of microorganisms to corrosion. *Corrosion/97*, Paper No. 207, NACE International, Houston, Texas.
18. **Gu, J.-D.**, M. Roman, T. Esselman, and R. Mitchell (1998) The role of microbial biofilms in deterioration of space station candidate materials. *International Biodeterioration & Biodegradation* **41**: 25–33.
19. **Gu, J.-D.**, R. Mitchell, B. Mitton, and T.E. Ford (1998) Microbial degradation of polymeric protective coatings determined by the electrochemical impedance spectroscopy. *Biodegradation* **9**: 39–45.
20. **Gu, J.-D.**, T.E. Ford, and R. Mitchell (1998) Biodeterioration of concrete by the *Fusarium* species. *International Biodeterioration & Biodegradation* **41**: 101–109.
21. Mitchell, R. and **J.-D. Gu** (2000) Changes in the biofilm microflora of limestone caused by atmospheric pollutants. *International Biodeterioration & Biodegradation* **46**: 299–303.
22. Gu, J.-G., S.P. Cheng, J. Liu, and **J.-D. Gu** (2000) A sensitive electrochemical impedance spectroscopy method for detection of polyimides degradation by microorganisms. *Journal of Polymer and the Environment* **8**: 167–174.
23. **Gu, J.-D.**, B. Belay, and R. Mitchell (2001) Protection of catheter surfaces from adhesion of *Pseudomonas aeruginosa* by a combination of silver ions and lectins. *World Journal of Microbiology & Biotechnology* **17**: 173–179.
24. **Gu, J.-D.**, and R. Mitchell (2001) Antagonism of bacterial extracellular metabolites to the freshwater fouling zebra mussels, *Dreissena polymorpha*. *The Journal of Microbiology* **39**: 133–138.
25. **Gu, J.-D.**, and K.H. Cheung (2001) Phenotypic expression of *Vogesella indigofura* upon exposure to hexavalent chromium, Cr<sup>6+</sup>. *World Journal of Microbiology & Biotechnology* **17**: 475–480.
26. Chen, W., J. Yan, Q. Tao, X. Chen, D. Pei, **J. Gu**, Y. Wang, W. Qiu, Y. Fan, and S. Cheng (2002) Morphological identification with SEM for the fusant FHHH constructed from Eukaryote and Prokaryote strains. *Journal of Nanjing University (Natural Sciences)* **38** (4): 550–555. (in Chinese with English Abstract)
27. Chen, X., W. Chen, Q. Tao, **J. Gu**, D. Pei, J. Yan, C. Hao, and S. Cheng (2002) Transcription of *mnp* gene in inter-Kingdom fusant FHHH for degradation of PTA wastewater. *Journal of Nanjing University (Natural Sciences)* **38** (4): 544–549. (in Chinese with English Abstract)
28. Cheng, S., L. Chen, J. Yan, C. Hao, W. Li, **J. Gu**, G. Cheng, and N. Chen (2002) Degradation of purified terephthalic acid and expression of *mnp* gene for GEM Fhhh. *Acta Scientiae Circumstantiae* **22** (1): 1–5. (in Chinese with English Abstract)
29. Cheung, K.H., and **J.-D. Gu** (2002) Bacterial color response to hexavalent Chromium, Cr<sup>6+</sup>. *The Journal of Microbiology* **40**: 234–236.
30. **Gu, J.-D.**, J.-G. Gu, J. Liu, and S.P. Cheng (2002) Sensitive detection of polyimides degradation by microorganisms using electrochemical impedance spectroscopy. *Microbes and the Environments* **17**: 105–112.
31. **Gu, J.-D.**, Y. Fan, and H. Shi (2002) Relationship between structures of substituted indolic compounds and their degradation by marine anaerobic microorganisms. *Marine Pollution Bulletin* **45**: 379–384.

32. **Gu, J.-D.**, and R. Mitchell (2002) Indigenous microflora and opportunistic pathogens of the freshwater zebra mussels, *Dreissena polymorpha*. *Hydrobiologia* **474**: 81–90.
33. Wang, Y., W. Qiu, Y. Fan, and **J. Gu** (2002) Degradation pathways and mechanisms of substituted indoles under methanogenic condition. *Chinese Journal of Applied and Environmental Biology* **8** (5): 514–519. (in Chinese with English Abstract)
34. **Gu, J.-D.** (2003) Microbiological deterioration and degradation of synthetic polymeric materials: recent research advances. *International Biodeterioration & Biodegradation* **52**: 69–91. DOI: 10.1016/S0964-8305(02)00177-4
35. **Gu, J.-D.** (2003) Microorganisms and microbial biofilms in the degradation of polymeric materials. *Corrosion/2003*, Paper No. 3570, NACE, Texas.
36. Cheung, K.H., and **J.-D. Gu** (2003) Reduction of chromate ( $\text{CrO}_4^{2-}$ ) by an enrichment consortium and an isolate of marine sulfate-reducing bacteria. *Chemosphere* **52**: 1523–1529. DOI: 10.1016/S0045-6535(03)00491-0
37. **Gu, J.-D.**, and Y.-Y. Wang (2003) Microbial degradation of endocrine-disrupting organic compounds and environmental residues of pharmaceutical compounds. *Ecologic Science* **22** (1) 1–5. (in Chinese with English Abstract)
38. Gu, J., Y. Fan, and **J.-D. Gu** (2003) Biodegradability of Atrazine, Cyanzine and Dicamba under methanogenic conditions in three soils of China. *Chemosphere* **52**: 1515–1521. DOI: 10.1016/S0045-6535(03)00490-9
39. Gu, J.-G., C. Qiao, and **J.-D. Gu** (2003) Biodegradation of the herbicides Atrazine, Cyanazine and Dicamba by methanogenic enrichment cultures from selective soils of China. *Bulletin of Environmental Contamination and Toxicology* **71**: 924–932.
40. Hao, C.-B., J. Yan, M.-M. Qu, D. Wang, S.-P. Cheng, **J.-D. Gu**, W.-F. Qiu, and Y.-Y. Wang (2003) Analysis of parental strain DNA fragments existing in GEMs-Fhfh. *Journal of Environmental Sciences* **15** (5): 590–594.
41. Liang, P.-Z., and **J.-D. Gu** (2003) Potential degradation of polyaromatic hydrocarbons under anaerobic conditions of mangrove ecosystem. *Ecologic Science* **22** (2) 97–103. (in Chinese with English Abstract)
42. Wan, C.K., H. Sun, and **J.-D. Gu** (2003) Surface properties of galvanized metals and attachment by the bacterium *Janthinobacterium lividum*. *Corrosion/2003*, Paper No. 3567, NACE, Texas
43. Wang, Y., Y. Fan, and **J.-D. Gu** (2003) Microbial degradation of the endocrine-disrupting chemicals phthalic acid and dimethyl phthalate ester under aerobic conditions. *Bulletin of Environmental Contamination and Toxicology* **71**: 810–818.
44. Wang, Y., Y. Fan, and **J.-D. Gu** (2003) Aerobic degradation of phthalic acid by *Commamonas acidovorans* fy-1 and dimethyl phthalate ester by two reconstituted consortia from sewage sludge at high concentrations. *World Journal of Microbiology & Biotechnology* **19**: 811–815.
45. Wang, Y., C.W. Yip, Y.Z. Fan, and **J.-D. Gu** (2003) Aerobic and anaerobic degradation pathways for *N*-heterocyclic aromatic compound indole. *Bulletin of Mineralogy, Petrology and Geochemistry* **22**: 170–173.
46. Xu, X.-R., and **J.-D. Gu** (2003) Study progress on treatment of the gasoline additive methyl *tert*-butyl ether contamination. *Ecologic Science* **22** (2) 177–182. (in Chinese with English Abstract)
47. Diao, H.F., X.Y. Li, **J.D. Gu**, H.C. Shi, and Z.M. Xie (2004) Electron microscopic investigation of the bactericidal action of electrochemical disinfection in comparison with chlorination, ozonation and Fenton reaction. *Process Biochemistry* **39**: 1421–1426. DOI: 10.1016/S0032-9592(03)00274-7
48. Fan, Y., Y. Wang, P. Qian, and **J.-D. Gu** (2004) Optimization of phthalic acid batch biodegradation and the use of modified Richards model for modeling degradation. *International Biodeterioration & Biodegradation* **53**: 57–63.
49. **Gu, J.-D.**, W. Qiu, A. Koenig, and Y. Fan (2004) Removal of high  $\text{NO}_3^-$  concentrations in saline water through autotrophic denitrification by the bacterium *Thiobacillus denitrificans* strain MP. *Water Science and Technology* **49** (5-6): 105–112.

50. **Gu, J.-D.**, Y. Fan, and J.-G. Gu (2004) Microbial degradation of herbicides under nitrate-reducing and methanogenic conditions in three soils of China. *International Biodeterioration & Biodegradation* **53**: 199–200.
51. Li, J. and **J.-D. Gu** (2004) Degradation of dimethyl terephthalate ester and its isomer by mangrove microorganisms. *Chinese Journal of Applied and Environmental Biology* **10** (6): 782–785.
52. Li, X.Y., H.F. Diao, F.X.J. Fan, **J.D. Gu**, F. Ding, and A.S.F. Tong (2004) Electrochemical wastewater disinfection: identification of its principal germicidal actions. *Journal of Environmental Engineering* **130**: 1217–1221. DOI: 10.1061/(ASCE)0733-9372(2004)130:10(1217)
53. Shen, P., Y. Wang, and **J. Gu** (2004) Degradation of phthalic acid and *ortho*-dimethyl phthalate ester by bacteria isolated from sewage sludge and its biochemical pathway. *Chinese Journal of Applied and Environmental Biology* **10** (5): 643–646.
54. Wang, Y., Y. Fan, and **J.-D. Gu** (2004) Dimethyl phthalate ester degradation by two planktonic and immobilized bacterial consortia. *International Biodeterioration & Biodegradation* **53**: 93–101.
55. Wang, Y., P.C. Leung, P. Qian, and **J.-D. Gu** (2004) Effects of UV, H<sub>2</sub>O<sub>2</sub> and Fe<sup>3+</sup> on the growth of four environmental isolates of *Aeromonas* and *Vibrio* species isolated from a mangrove environment. *Microbes and Environments* **19**: 163–171.
56. Xu, X.-R., Z.-Y. Zhao, X.-Y. Li, and **J.-D. Gu** (2004) Chemical oxidative degradation of methyl *tert*-butyl ether in aqueous solution by Fenton's reagent. *Chemosphere* **55**: 73–79. DOI: 10.1016/j.chemosphere.2003.11.017
57. Xu, X.R., and **J.-D. Gu** (2004) Elucidation of methyl *tert*-butyl ether degradation with Fe<sup>2+</sup>/H<sub>2</sub>O<sub>2</sub> by purge-and-trap gas chromatography-mass spectrometry. *Microchemical Journal*. **77**: 71–77. DOI: 10.1016/j.microc.2003.12.005
58. Xu, X.R., H.B. Li, **J.-D. Gu**, and K.J. Paeng (2004) Determination of fluoride in water by reverse-phase high-performance liquid chromatography. *Chromatographia* **59**: 745–747.
59. Xu, X.R., H.B. Li, W.-H. Wang, and **J.-D. Gu** (2004) Degradation of dyes in aqueous solutions by the Fenton process. *Chemosphere* **57**: 595–600. DOI: 10.1016/j.chemosphere.2004.07.030
60. Xu, X.R., H.B. Li, and **J.-D. Gu** (2004) Reduction of hexavalent chromium by ascorbic acid in aqueous solutions. *Chemosphere* **57**: 609–613. DOI: 10.1016/j.chemosphere.2004.07.031
61. Xu, X.R., H.B. Li, **J.-D. Gu**, and K.J. Peang (2004) Determination of iodate in iodized salt by Reversed-phase High-Performance Liquid Chromatography with UV detection. *Chromatographia* **60**: 721–723.
62. Zhao, Z., W. Qiu, A. Koenig, and **J.-D. Gu** (2004) Nitrate removal from saline water using autotrophic denitrification by the bacterium *Thiobacillus denitrificans* MP-1. *Environmental Technology* **25**: 1201–1210.
63. Cheung, K.H., and **J.-D. Gu** (2005) Reduction of chromate (CrO<sub>4</sub><sup>2-</sup>) by a *Bacillus magnetarium* isolated from marine. *World Journal of Microbiology & Biotechnology* **21**: 213–219. DOI: 10.1007/s11274-004-3619-9
64. **Gu, J.-D.**, J. Li, and Y. Wang (2005) Biochemical pathway and degradation of phthalate ester isomers by bacteria. *Water Science and Technology* **52(8)**: 241–248.
65. Gu, J.-G, and **J.-D. Gu** (2005) Methods currently used in testing microbiological degradation and deterioration of a wide range of polymeric materials with various degree of degradability: a review. *Journal of Polymers and the Environment* **13**: 65–74. DOI: 10.1007/s10924-004-1230-7
66. Lai, M.Y., P. Shen, and **J.-D. Gu** (2005) Heavy metals in the benthic infauna gastropoda (*Sermyla riqueti* and *Stenothyra devalis*) of Mai Po Nature Reserve and Inner Deep Bay Ramsar Site of Hong Kong. *Bulletin of Environmental Contamination and Toxicology* **74**: 1065–1071. DOI: 10.1007/s00128-005-0689-9
67. Li, J., **J.-D. Gu**, and L. Pan (2005) Transformation of dimethyl phthalate, dimethyl isophthalate and dimethyl terephthalate by *Rhodococcus rubber* Sa and modeling the processes using the modified Gompertz model. *International Biodeterioration & Biodegradation* **55**: 223–232. DOI: 10.1016/j.ibiod.2004.12.003
68. Li, J., **J.-D. Gu**, and J.-H. Yao (2005) Degradation of dimethyl terephthalate by *Pasteurella multocida* Sa and *Sphingomonas paucimobilis* Sy isolated from mangrove sediment. *International Biodeterioration & Biodegradation* **56**: 158–165. DOI: 10.1016/j.ibiod.2005.07.001



69. Li, X.-Y., Y.H. Cui, Y.-J. Feng, Z.M. Xie, and **J.-D. Gu** (2005) Reaction pathways and mechanisms of the electrochemical degradation of phenol on different electrodes. *Water Research* **39**: 1972–1981. DOI: 10.1016/j.watres.2005.02.021
70. Wang, Y., and **J.-D. Gu** (2005) Influence of temperature, salinity and pH on the growth of environmental isolates of *Aeromonas* and *Vibrio* species isolated from Mai Po and the Inner Deep Bay Nature Reserve Ramsar site of Hong Kong. *Journal of Basic Microbiology* **45**: 83–93. DOI: 10.1002/jobm.200410446
71. Xu, X.R., H.B. Li, and **J.-D. Gu** (2005) Biodegradation of an endocrine-disrupting chemical di-*n*-butyl phthalate ester by *Pseudomonas fluorescens* B-1. *International Biodeterioration & Biodegradation* **55**: 9–15. DOI: 10.1016/j.ibiod.2004.05.005
72. Xu, X.R., H.B. Li, and **J.-D. Gu** (2005) Kinetics of the reduction of chromium (VI) by vitamin C. *Environmental Toxicology and Chemistry* **24**: 1310–1314.
73. Xu, X.R., H.B. Li, W.H. Wang, and **J.-D. Gu** (2005) Decolorization of dyes and textile wastewater by potassium permanganate. *Chemosphere* **59**: 893–898. DOI: 10.1016/j.chemosphere.2004.11.013
74. Xu, X.R., H.B. Li, and **J.-D. Gu** (2005) Degradation of *n*-butyl benzyl phthalate by *Pseudomonas fluorescens* B-1 isolated from mangrove sediment. *Journal of Microbiology and Biotechnology* **15**: 946–951.
75. Xu, X.R., H.B. Li, W.-H. Wang, A. Peng, and **J.-D. Gu** (2005) Determination of methylmercury fluxes across the air-water and air-soil interfaces by gas chromatography with electron capture detection. *Analytical and Bioanalytical Chemistry* **381**: 1631–1634. DOI: 10.1007/s00216-005-3113-8
76. Yin, B., **J.-D. Gu**, and N. Wan (2005) Degradation of indole by enrichment culture and *Pseudomonas aeruginosa* Gs isolated from mangrove sediment. *International Biodeterioration & Biodegradation* **56**: 243–248. DOI: 10.1016/j.ibiod.2005.10.001
77. Zhang, X.-X., Y.-Q. Wan, S.-P. Cheng, S.-L. Sun, C.-J. Zhu, W.-X. Li, X.-C. Zhang, and **J.-D. Gu** (2005) Purified terephthalic acid wastewater biodegradation and toxicity. *Journal of Environmental Sciences* **17**: 876–880.
78. Cheung, K.H., H.Y. Lai, and **J.-D. Gu** (2006) Membrane-associated hexavalent chromium reductase of *Bacillus megaterium* TKW3 with induced expression. *Journal of Microbiology and Biotechnology* **16**: 855–862.
79. **Gu, J.-D.** (2006) Editorial. *International Biodeterioration & Biodegradation* **58**: 59.
80. **Gu, J.-D.**, and L. Pan (2006) Comparison of growth characteristics of three bacteria involved in degrading rubber. *Journal of Polymers and the Environment* **14**: 273–279. DOI: 10.1007/s10924-006-0016-5
81. Lan, W.S., **J.D. Gu**, J.L. Zhang, B.C. Shen, H. Jiang, A. Mulchandani, W. Chen, and C.L. Qiao (2006) Co-expression of two detoxifying pesticide-degrading enzymes in a genetically engineered bacterium. *International Biodeterioration & Biodegradation* **58**: 70–76.
82. Li, J., and **J.-D. Gu** (2006) Biodegradation of dimethyl terephthalate by *Pasteurella multocida* Sa follows an alternative biochemical pathway. *Ecotoxicology* **15**: 391–397. DOI: 10.1007/s10646-006-0070-8
83. Li, J., and **J.-D. Gu** (2006) Biochemical cooperation between *Klebsiella oxytoca* Sc and *Methylobacterium mesophilium* Sr for complete degradation of dimethyl isophthalate. *Water, Air and Soil Pollution: Focus* **6**: 569–574. DOI: 10.1007/s11267-006-9041-6
84. Lin, C., J.-G. Gu, C. Qiao, S. Duan, and **J.-D. Gu** (2006) Degradability of Atrazine, Cyanazine and Dicamba in methanogenic enrichment culture microcosms using sediment from the Pearl River of Southern China. *Biology and Fertility of Soils* **42**: 395–401. DOI: 10.1007/s00374-006-0082-9
85. Shen, P., H. Zhou, H.-Y. Lai, and **J.-D. Gu** (2006) Benthic infaunal composition and distribution at an intertidal wetland mudflat. *Water, Air and Soil Pollution: Focus* **6**: 575–581. DOI: 10.1007/s11267-006-9042-5
86. Wang, Y., and **J.-D. Gu** (2006) Degradation of dimethyl isophthalate by *Viarovorax paradoxus* strain T4 isolated from deep-ocean sediment of the South China Sea. *Journal of Human and Ecological Risk Assessment* **12**: 236–247. DOI: 10.1080/10807030500531521

87. Wang, Y., and **J.-D. Gu** (2006) Degradation of dimethyl terephthalate by *Variovorax paradoxus* T4 and *Sphingomonas paucimobilis* DOS1 of the South China Sea. *Ecotoxicology* **15**: 549–557. DOI: 10.1007/s10646-006-0093-1
88. Wang, Y., P.C. Leung, P. Qian, and **J.-D. Gu** (2006) Antibiotic resistance and plasmid profile of environmental isolates of *Vibrio* species from Mai Po Nature Reserve, Hong Kong. *Ecotoxicology* **15**: 371–378. DOI: 10.1007/s10646-006-0078-0
89. Xie, B., **J.-D. Gu**, and X.-Y. Li (2006) Protein profiles of extracellular polymeric substances and activated sludge in a membrane biological reactor by 2-dimensional gel electrophoresis. *Water Science & Technology: Water Supply* **6**: 27–33. DOI: 10.2166/ws.2006.968
90. Xu, X.R., H.B. Li, and **J.-D. Gu** (2006) Simultaneous decontamination of hexavalent chromium and methyl *tert*-butyl ether by UV/TiO<sub>2</sub> process. *Chemosphere* **63**: 254–260. DOI: 10.1016/j.chemosphere.2005.07.062
91. Xu, X.R., H.B. Li, and **J.-D. Gu** (2006) Elucidation of *n*-butyl benzyl phthalate biodegradation using high-performance liquid chromatography and gas chromatography-mass spectrometry. *Analytical and Bioanalytical Chemistry* **386**: 370–375. DOI: 10.1007/s00216-006-0627-7
92. Yin, B., and **J.-D. Gu** (2006) Aerobic degradation of 3-methylindole by *Pseudomonas aeruginosa* Gs isolated from mangrove sediment. *Journal of Human and Ecological Risk Assessment* **12**: 248–258. DOI: 10.1080/10807030500531539
93. Yin, B., L. Huang, and **J.-D. Gu** (2006) Biodegradation of 1-methylindole and 3-methylindole by mangrove sediment enrichment cultures and an isolated *Pseudomonas aeruginosa* Gs. *Water, Air and Soil Pollution* **176**: 185–199. DOI: 10.1007/s11270-006-9159-1
94. Yu, X., and **J.-D. Gu** (2006) Uptake, metabolism and toxicity of methyl *tert*-butyl ether (MTBE) in weeping willows. *Journal of Hazardous Materials* **B137**: 1417–1423. DOI: 10.1016/j.jhazmat.2006.04.024
95. Zhang, R., Y. Wang, and **J.-D. Gu** (2006) Identification of environmental plasmid-bearing *Vibrio* species isolated from polluted and pristine marine reserves of Hong Kong and resistance to antibiotics and mercury. *Antoine van Leeuwenhoek – International Journal of General and Molecular Microbiology* **89**: 307–315. DOI: 10.1007/s10482-005-9032-z
96. Zhang, R., J. Jiang, **J.-D. Gu**, and S. Li (2006) Long term effect of Methylparathion contamination on soil microbial community diversity estimated by 16S rRNA gene cloning. *Ecotoxicology* **15**: 523–530. DOI: 10.1007/s10646-006-0088-y
97. Zhang, R., Z. Cui, X. Zhang, J. Jiang, **J.-D. Gu**, and S. Li (2006) Cloning of the organophosphorus pesticide hydrolase gene clusters of seven degrading bacteria isolated from a Methyl Parathion contaminated field site and evidence of their horizontal gene transfer. *Biodegradation* **17**: 465–472. DOI: 10.1007/s10532-006-9075-5
98. Zhao, Z., **J.-D. Gu**, X.-J. Fan, and H.-B. Li (2006) Molecular size distribution of dissolved organic matter in water of the Pearl River and trihalomethane formation characteristics with chlorine and chlorine dioxide treatments. *Journal of Hazardous Materials* **B134**: 60–66. DOI: 10.1016/j.jhazmat.2005.10.032
99. Zhu, C.-J., Y.-Z. Lang, X.-X. Zhang, S.-L. Sun, D.-Y. Zhao, **J.-D. Gu**, H.-X. Yu, and S.-P. Cheng (2006) PTA wastewater molecular toxicity detected with gene chip. *Journal of Environmental Sciences* **18**: 514–518.
100. Cheung, K.H., and **J.-D. Gu** (2007) Mechanisms of hexavalent chromium detoxification by bacteria and bioremediation applications. *International Biodeterioration & Biodegradation* **59**: 8–15. DOI: 10.1016/j.ibiod.2006.05.002
101. Cheung, J.K.H., R.K.W. Lam, M.Y. Shi, and **J.-D. Gu** (2007) Environmental fate of the endocrine disruptors, dimethyl phthalate esters (DMPE), under anoxic sulfate-reducing conditions. *Science of the Total Environment* **381**: 126–133. DOI: 10.1016/j.scitotenv.2007.03.030
102. **Gu, J.-D.** (2007) Microbial colonization of polymeric materials for space applications and mechanisms of biodeterioration: a review. *International Biodeterioration & Biodegradation* **59**: 170–179. DOI: 10.1016/j.ibiod.2006.08.010

103. Jiang, J., R. Zhang, R. Li, **J.-D. Gu**, and S. Li (2007) Simultaneous biodegradation of methyl parathion and carbofuran by a genetically engineered microorganism constructed by mini-Tn5 transposon. *Biodegradation* **18**: 403–412. DOI: 10.1007/s10532-006-9075-5
104. Li, J., and **J.-D. Gu** (2007) Complete degradation of dimethyl isophthalate requires the biochemical cooperation between *Klebsiella oxytoca* Sc and *Methylobacterium mesophilicum* Sr isolated from wetland sediment. *Science of the Total Environment* **380**: 181–187. DOI: 10.1016/j.scitotenv.2006.12.033
105. Pan, L., and **J.-D. Gu** (2007) Characterization of aerobic bacteria involved in degrading polyethylene glycol (PEG)-3400 obtained using plating and enrichment culture techniques. *Journal of Polymers and the Environment* **15**: 57–65. DOI: 10.1007/s10924-006-0047-y
106. Wan, N., **J.-D. Gu**, and Y. Yan (2007) Degradation of *p*-nitrophenols by *Achromobacter xylosoxidans* Ns isolated from wetland sediment. *International Biodeterioration & Biodegradation* **59**: 90–96. DOI: 10.1016/j.ibiod.2006.07.012
107. Wu, B., X.-X.Zhang, **J.-D. Gu**, and S.-P. Cheng (2007) Environmental proteomics and technology on measurement of pollutant molecular toxicity. *Asian Journal of Ecotoxicology* **2**(1): 116–122.
108. Xu, X.R., H.B. Li, **J.-D. Gu**, and X.-Y. Li (2007) Kinetics of *n*-butyl benzyl phthalate degradation by a pure bacterial culture from the mangrove sediment. *Journal of Hazardous Materials* **140**: 194–199. DOI: 10.1016/j.jhazmat.2006.06.054
109. Xu, X.R., H.B. Li, and **J.-D. Gu** (2007) Photocatalytic reduction of hexavalent chromium and degradation of di-*n*-butyl phthalate in aqueous TiO<sub>2</sub> suspensions under ultraviolet light irradiation. *Environmental Technology* **28**: 1055–1061.
110. Yu, X., and **J.-D. Gu** (2007) Accumulation and distribution of trivalent chromium and effects on metabolism of the hybrid willow *Salix matsudana* Koidz × *alba* L. *Archives of Environmental Contamination and Toxicology* **52**: 503–511. DOI: 10.1007/s00244-006-0155-7
111. Yu, X., and **J.-D. Gu** (2007) Difference in the Michaelis-Menten kinetics for different species of maize during cyanide removal. *Ecotoxicology and Environmental Safety* **67**: 254–259. DOI: 10.1016/j.ecoenv.2006.06.009
112. Yu, X., and **J.-D. Gu** (2007) Metabolic responses of weeping willows to selenate and selenite. *Environmental Science and Pollution Research* **14**: 510–517. DOI: 10.1065/espr2007.04.407
113. Yu, X.J., Y. Yan, and **J.-D. Gu** (2007) Attachment of the biofouling bryozoan *Bugula neritina* larvae affected by inorganic and organic chemical cues. *International Biodeterioration & Biodegradation* **60**: 194–198. DOI: 10.1016/j.ibiod.2006.12.003
114. Yu, X.-Z., **J.-D. Gu**, and S.-Z. Huang (2007) Hexavalent chromium induced stress and metabolic responses in hybrid willows. *Ecotoxicology* **16**: 299–309. DOI: 10.1007/s10646-006-0129-6
115. Yu, X., and **J.-D. Gu**, and S. Liu (2007) Biotransformation and metabolic response of cyanide in weeping willows. *Journal of Hazardous Materials* **147**: 838–844. DOI: 10.1016/j.jhazmat.2007.01.081
116. Zhang, R., Y. Wang, P.C. Leung, and **J.-D. Gu** (2007) pVC, a small cryptic plasmid from the environmental isolate of *Vibrio cholerae* MP-1. *The Journal of Microbiology* **45**: 193–198.
117. Zhao, Z.-Y., **J.-D. Gu**, and H.-B. Li (2007) Characterization of dissolved organic matter and disinfection characteristics of source water from Pear River of P.R. China. *Water Science & Technology: Water Supply* **7**: 205–212. DOI: 10.2166/ws.2007.055
118. Zhao, D., C. Zhu, S. Sun, H. Yu, L. Zhang, W. Pan, X. Zhang, H. Yu, **J. Gu**, and S. Cheng. (2007) Toxicity of pharmaceutical wastewater on male reproductive system of *Mus musculus*. *Toxicology and Industrial Health* **23**: 47–54. DOI: 10.1177/0748233707077446
119. Li, A.-J., S.-F Yang, X.-Y. Li, and **J.-D. Gu** (2008) Microbial population dynamics during aerobic sludge granulation at different organic loading rates. *Water Research* **42**: 3552–3560. DOI: 10.1016/j.watres.2008.05.005
120. Li, H., **J.-D. Gu**, and H. Sun (2008) Structure, topology and assembly of a 32-mer peptide corresponding to the loop 3 and transmembrane domain 4 of divalent metal transporter (DMT1) in membrane-mimetic environments. *Journal of Inorganic Biochemistry* **102**: 1257–1266. DOI: 10.1016/j.jinorgbio.2007.12.019

121. Wang, Y., B. Yin, Y.-G. Hong, Y. Yan, and **J.-D. Gu** (2008) Degradation of dimethyl carboxylic phthalate ester by *Burkholderia cepacia* DA2 isolated from marine sediment of South China Sea. *Ecotoxicology* **17**: 845–852.
122. Yu, X., and **J.-D. Gu** (2008) The role of EDTA in phytoextraction of hexavalent and trivalent chromium by two willow trees. *Ecotoxicology* **17**: 143–152. DOI: 10.1007/s10646-007-0177-6
123. Yu, X., and **J.-D. Gu** (2008) Effect of available nitrogen on phytoavailability and bioaccumulation of hexavalent and trivalent chromium in Hankow willows (*Salix matsudana* Koidz). *Ecotoxicology and Environmental Safety* **70**: 216–222. DOI: 10.1016/j.ecoenv.2007.11.010
124. Yu, X.-Z., and **J.-D. Gu** (2008) Effects of available nitrogen on the uptake and assimilation of ferrocyanide and ferricyanide complexes in weeping willows. *Journal of Hazardous Materials* **156**: 300–307. DOI: 10.1016/j.jhazmat.2007.12.020
125. Yu, X., and **J.-D. Gu** (2008) Differences in uptake and translocation of selenate and selenite by weeping willow and hybrid willow. *Environmental Science and Pollution Research* **15**: 499–508. DOI: 10.1007/s11356-008-0036-x
126. Yu, X., **J.-D. Gu**, and T.-P. Li (2008) Availability of ferrocyanide and ferricyanide complexes as a nitrogen source to cyanogenic plants. *Archives of Environmental Contamination and Toxicology* **55**: 229–237. DOI: 10.1007/s00244-007-9101-6
127. Yu, X., **J.-D. Gu**, and L. Li (2008) Assimilation and physiological effects of ferrocyanide on weeping willows. *Ecotoxicology and Environmental Safety* **71**: 609–615. DOI: 10.1016/j.ecoenv.2008.05.007
128. Yu, X., **J.-D. Gu**, and L.-Q. Xing (2008) Differences in uptake and translocation of hexavalent and trivalent chromium by two species of willows. *Ecotoxicology* **17** (8): 747–755. DOI: 10.1007/s10646-008-0224-y
129. Yu, X., W. He, **J.-D. Gu**, M. He, and Y. Yan (2008) The effect of chemical cues on settlement of pearl oyster *Pinctada fucata martensii* (Dunker) larvae. *Aquaculture* **277**: 83–91. DOI: 10.1016/j.aquaculture.2008.02.010
130. Hong, Y.-G., and **J.-D. Gu** (2009) Bacterial anaerobic respiration and electron transfer relevant to the biotransformation of pollutants. *International Biodeterioration & Biodegradation* **63**: 973–980. DOI: 10.1016/j.ibiod.2009.08.001
131. Hong, Y., M. Li, and **J. Gu** (2009) Bacterial anaerobic ammonia oxidation (Anammox) in the marine nitrogen cycle – a review. *Acta Microbiologia Sinica* **49** (3): 283–286. (in Chinese with English Abstract)
132. Li, M., H. Yang, and **J.-D. Gu** (2009) Phylogenetic diversity and axial distribution of microbes in the intestinal tract of the polychaete *Neanthes glandicincta*. *Microbial Ecology* **58**: 892–902. DOI: 10.1007/s00248-009-9550-8
133. Luo, Z.-H., K.-L. Pang, **J.-D. Gu**, R.K.K. Chow, and L.L.P. Virijmoed (2009) Degradability of the three dimethyl phthalate isomer esters (DMPEs) by a *Fusarium* species isolated from mangrove sediment. *Marine Pollution Bulletin*. **58**: 765–786. DOI: 10.1016/j.marpolbul.2009.03.005
134. Xu, X.-R., S.-X. Li, X.-Y. Li, **J.-D. Gu**, F. Chen, X.-Z. Li, and H.-B. Li (2009) Degradation of *n*-butyl phthalate using TiO<sub>2</sub>/UV. *Journal of Hazardous Materials* **164**: 527–532. DOI: 10.1016/j.jhazmat.2008.08.027
135. Yu, X.-Z., and **J.-D. Gu** (2009) Uptake, accumulation and metabolic response of ferricyanide in weeping willows. *Journal of Environmental Monitoring* **11**: 145–152. DOI: 10.1039/b809304k
136. Zhang, R.F., and **J.-D. Gu** (2009) Complete sequence of plasmid pMP1 from the marine environmental *Vibrio vulnificus* and location of its replication origin. *Marine Biotechnology* **11**: 456–462. DOI: 10.1007/s10126-008-9160-3
137. Zhao, Z.-Y., **J.-D. Gu**, H.-B. Li, X.-Y. Li, and K.M.Y. Leung (2009) Disinfection characteristics of the dissolved organic fractions at several stages of a conventional drinking-water treatment plant in Southern China. *Journal of Hazardous Materials* **172**: 1093–1099. DOI: 10.1016/j.jhazmat.2009.07.101

[2010]

138. Hazen, T.H., L. Pan, **J.-D. Gu**, and P.A. Sobecky (2010) The contribution of mobile genetic elements to the evolution and ecology of *Vibrios*. *FEMS Microbiology Ecology* **74**: 485–499. DOI: 10.1111/j.1574-6941.2010.00937.x
139. Hong, Y.-G., and **J.-D. Gu** (2010) Physiology and biochemistry of reduction of azo compounds by *Shewanella* strains relevant to electron transport chain. *Applied Microbiology and Biotechnology* **88**: 637–643. DOI: 10.1007/s00253-010-2810-z
140. Lan, W., H. Li, W.-D. Wang, Y. Katayama, and **J.-D. Gu** (2010) Microbial community analysis of fresh and old microbial biofilms on Bayon Temple sandstone of Angkor Thom, Cambodia. *Microbial Ecology* **60**: 105–115. DOI: 10.1007/s00248-010-9707-5
141. Li, H., S. Chen, B.-Z. Mu, and **J.-D. Gu** (2010) Molecular detection of anaerobic ammonium-oxidizing (anammox) bacteria in high temperature petroleum reservoirs. *Microbial Ecology* **60**: 771–783. DOI: 10.1007/s00248-010-9733-3
142. Li, M., Y. Hong, M.G. Klotz, and **J.-D. Gu** (2010) A comparison of primer sets for detecting 16S rRNA and hydrazine oxidoreductase genes of anaerobic ammonium-oxidizing bacteria in marine sediments. *Applied Microbiology and Biotechnology* **86**: 781–790. DOI: 10.1007/s00253-009-2361-5
143. Li, X.S., T. Sato, Y. Ooiwa, A. Kusumi, **J.-D. Gu**, and Yoko Katayama (2010) Oxidation of elemental sulfur by *Fusarium solani* strain THIF01 harboring endobacterium *Bradyrhizobium* sp. *Microbial Ecology* **60**: 96–104. DOI: 10.1007/s00248-010-9699-1
144. Pan, L., P.C. Leung, and **J.-D. Gu** (2010) A new ColE1-like plasmid group revealed by comparative analysis of the replication proficient fragments of *Vibrionaceae* plasmids. *Journal of Microbiology and Biotechnology* **20**: 1163–1178. DOI: 10.4014/jmb.1003.03007
145. Shen, P., H. Zhou, and **J.-D. Gu** (2010) Patterns of polychaete communities in relation to environmental perturbations in a subtropical wetland of Hong Kong. *Journal of the Marine Biological Association of the United Kingdom* **90**: 923–932. DOI: 10.1017/S0025315410000068
146. Wang, Y.-L., B. Yin, Y.-G. Hong, and **J.-D. Gu** (2010) Biodegradation of dimethyl phthalate by *Burkholderia* sp. DA2 isolated from marine sediment from the South China Sea. *Journal of Tropical Oceanography* **29** (4): 71–75. (in Chinese with English Abstract)
147. Wu, B., T. Ford, **J.-D. Gu**, X.-X. Zhang, A.-M. Li, and S.-P. Cheng (2010) Computational studies of interactions between endocrine disrupting chemicals and androgen receptor of different vertebrate species. *Chemosphere* **80**: 535–541. DOI: 10.1016/j.chemosphere.2010.04.043
148. Yu, X.-Z., and **J.-D. Gu** (2010) Effect of temperature on removal of iron cyanides from solution by maize plants. *Environmental Science and Pollution Research* **17**: 106–114. DOI: 10.1007/s11356-009-0173-x

[2011]

149. Cao, H., M. Li, H. Dang, and **J.-D. Gu** (2011) Responses of aerobic and anaerobic ammonia/ammonium-oxidizing microorganisms to anthropogenic pollution in coastal marine environments. *Methods in Enzymology* **496**: 35–62. DOI: 10.1016/B978-0-12-386489-5.00002-6
150. Cao, H., Y. Hong, M. Li, and **J.-D. Gu** (2011) Diversity and abundance of ammonia-oxidizing prokaryotes in sediments from the coastal Pearl River Estuary to the South China Sea. *Antonie van Leeuwenhoek Journal of Microbiology* **100**: 545–556. DOI: 10.1007/s10482-011-9610-1
151. Cao, H., M. Li, Y.-G. Hong, and **J.-D. Gu** (2011) Diversity and abundance of ammonia-oxidizing archaea and bacteria in polluted mangrove sediment. *Systematic and Applied Microbiology* **34**: 513–523. DOI: 10.1016/j.syapm.2010.11.023
152. Cao, H., Y. Hong, M. Li, and **J.-D. Gu** (2011) Phylogenetic diversity and ecological pattern of ammonia-oxidizing archaea in the surface sediments of the Western Pacific. *Microbial Ecology* **62**: 813–823. DOI: 10.1007/s00248-011-9901-0
153. Fang, L., C. Zhou, P. Cai, W. Chen, X. Rong, K. Dai, W. Liang, **J.-D. Gu**, and Q. Huang (2011) Binding characteristics of copper and cadmium by cyanobacterium *Spirulina platensis*. *Journal of Hazardous Materials* **190**: 810–815. DOI: 10.1016/j.jhazmat.2011.03.122
154. Feng, W.-W., J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2011) Nitrate-reducing community in production water of three oil reservoirs and their responses to different carbon sources revealed by nitrate-reductase

- encoding gene (*napA*). *International Biodeterioration & Biodegradation* **65**: 1081–1086. DOI: 10.1016/j.ibiod.2011.05.009
155. Ford, T.E., A.L. Bass, S. Cheng, G.N. Cherr, B. Cole, E. Fairbairn, **J.-D. Gu**, R.S. Halbrook, F.E. Löffler, E.L. Madsen, and N.A. McGinn (2011) EHPC 2010: sharing knowledge on environmental health for risk mitigation. *Ecotoxicology* **20**: 937–939. DOI: 10.1007/s10646-011-0656-7
156. Han, X., Y.-L. Li, and **J.-D. Gu** (2011) Oxidation of As(III) by MnO<sub>2</sub> in the absence and presence of Fe(II) under acidic conditions. *Geochimica et Cosmochimica Acta* **75**: 368–379. DOI: 10.1016/j.gca.2010.10.010
157. Hong, Y.-G, M. Li, H. Cao, and **J.-D. Gu** (2011) Residence of habitat-specific anammox bacteria in the deep-sea subsurface sediments of the South China Sea: analyses of marker genes abundance with physical chemical parameters. *Microbial Ecology* **62**: 36–47. DOI: 10.1007/s00248-011-9849-0
158. Hu, H.L., J. van den Brink, B.S. Gruben, H.A.B. Wösten, **J.-D. Gu**, and R.P. de Vries (2011) Improved enzyme production by co-cultivation of *Aspergillus niger* and *Aspergillus oryzae* and with other fungi. *International Biodeterioration & Biodegradation* **65**: 248–252. DOI: 10.1016/j.ibiod.2010.11.008
159. Li, H., B.-Z. Mu, Y. Jiang, and **J.-D. Gu** (2011) Production processes affected prokaryotic *amoA* gene abundance and distribution in high-temperature petroleum reservoirs. *Geomicrobiology Journal* **28**: 692–704. DOI: 10.1080/01490451.2010.514026
160. Li, M., and **J.-D. Gu** (2011) Advances in methods for detection of anaerobic ammonium oxidizing (anammox) bacteria. *Applied Microbiology and Biotechnology* **90**: 1241–1252. DOI: 10.1007/s00253-011-3230-6
161. Li, M., H. Cao, Y. Hong, and **J.-D. Gu** (2011) Spatial distribution and abundance of ammonia-oxidizing archaea (AOA) and ammonia-oxidizing bacteria (AOB) in mangrove sediments. *Applied Microbiology and Biotechnology* **89**: 1243–1254. DOI: 10.1007/s00253-010-2929-0
162. Li, M., H. Cao, Y.-G. Hong, and **J.-D. Gu** (2011) Seasonal dynamics of anammox bacteria in estuarial sediments of Mai Po Nature Reserve revealed by analyzing 16S rRNA and hydrazine oxidoreductase (*hzo*) genes. *Microbes and Environments* **26**: 15–22. DOI: 10.1016/j.ibiod.2010.12.010
163. Li, M., T. Ford, X.-Y. Li, and **J.-D. Gu** (2011) Cytochrome *cd<sub>1</sub>*-containing nitrite reductase encoding gene *nirS* as a new functional biomarker for detection of anaerobic ammonium oxidizing (Anammox) bacteria. *Environmental Science and Technology* **45**: 3547–3553.
164. Li, M., Y.-G. Hong, H.-L. Cao, and **J.-D. Gu** (2011) Mangrove trees affect the community structure and distribution of anammox bacteria at an anthropogenic-polluted mangrove in the Pearl River Delta reflected by 16S rRNA and hydrazine oxidoreductase (HZO) encoding gene analyses. *Ecotoxicology* **20**: 1780–1790. DOI: 10.1007/s10646-011-0711-4
165. Liu, Y., P. Han, X.-Y. Li, K. Shih, and **J.-D. Gu** (2011) Enantioselective degradation and unidirectional chiral inversion of 2-phenylbutyric acid, an intermediate from linear alkylbenzene, by *Xanthobacter flavus* PA1. *Journal of Hazardous Materials* **192**: 1633–1640. DOI: 10.1016/j.jhazmat.2011.06.088
166. Luo, Z.-H., Y.-R. Wu, K.-L. Pang, **J.-D. Gu**, and L.L.P. Vrijmoed (2011) Comparison of initial hydrolysis of the three dimethyl phthalate ester (DMPEs) by a basidiomycetous yeast, *Trichosporon* DMI-5-1, from coastal sediment. *Environmental Science and Pollution Research* **18**: 1653–1660. DOI: 10.1007/s11356-011-0525-1
167. Mbadanga, S.M., L.-Y. Wang, L. Zhou, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2011) Microbial communities involved in anaerobic degradation of alkanes. *International Biodeterioration & Biodegradation* **65**: 1–13. DOI: 10.1016/j.ibiod.2010.11.009
168. Wang, L.-Y., C.-Y. Gao, S.M. Mbadanga, L. Zhou, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2011) Characterization of an alkane-degrading methanogenic enrichment culture from production water of oil reservoir after 274 days of incubation. *International Biodeterioration & Biodegradation* **65**: 444–450. DOI: 10.1016/j.ibiod.2010.12.010
- [2012]**
169. Cao, H., M. Li, Y.-G. Hong, and **J.-D. Gu** (2012) Lower abundance of ammonia-oxidizing archaea (AOA) than ammonia-oxidizing bacteria (AOB) detected in the subsurface sediments of the South China Sea. *Geomicrobiology Journal* **29**: 332–339. DOI: 10.1080/01490451.2011.559304

170. Cao, H., Y. Hong, Li, and **J.-D. Gu** (2012) Community shift of ammonia-oxidizing bacteria along an anthropogenic pollution gradient from the Pearl River Delta to the South China Sea. *Applied Microbiology and Biotechnology* **94**: 247–259. DOI: 10.1007/s00253-011-3636-1
171. **Gu, J.-D.**, and Y. Wang (2012) Environmental feedback: lessons from pollution problems in China. *Ecotoxicology* **21**: 1583–1584. DOI: 10.1007/s10646-012-0954-8
172. Han, X., Y.-L. Li, and **J.-D. Gu** (2012) Abiotic oxidation of Mn(II) and its effect on the oxidation of As(III) in the presence of nano-hematite. *Ecotoxicology* **21**: 1753–1760. DOI: 10.1007/s10646-012-0950-z
173. Jiang, X.-W., X. Li, P.K.S. Lam, S.H. Cheng, D. Schlenk, Y. Sadovy de Mitcheson, Y. Li, **J.-D. Gu**, and L.L. Chan (2012) Proteomic analysis of hepatic tissue of ciguatoxin (CTX) contaminated coral reef fish *Cephalopholis argus* and moray eel *Gymnothorax undulatus*. *Harmful Algae* **13**: 65–71. DOI: 10.1016/j.hal.2011.10.009
174. Li, H., Q. Zhang, X.-L. Wang, X.-Y. Ma, K.-F. Lin, Y.-D. Liu, **J.-D. Gu**, S.-G. Lu, L. Shi, Q. Lu, and T.-T. Shen (2012) Biodegradation of benzene homologues in contaminated sediment of the East China Sea. *Bioresource Technology* **124**: 129–136. DOI: 10.1016/j.biortech.2012.08.033
175. Li, W., L.-Y. Wang, R.-Y. Duan, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2012) Microbial community characteristics of petroleum reservoir production water amended with *n*-alkanes and incubated under nitrate-, sulfate-reducing and methanogenic conditions. *International Biodeterioration & Biodegradation* **69**: 87–96. doi:10.1016/j.ibiod.2012.01.005
176. Luo, Z.-H., Y.-R. Wu, R.K.K. Chow, J.-J. Luo, **J.-D. Gu**, and L.L.P. Vrijmoed (2012) Purification and characterization of an intracellular esterase from a *Fusarium* species capable of degrading dimethyl terephthalate. *Process Biochemistry* **47**: 687–693. DOI: 10.1016/j.procbio.2012.01.015
177. Mbadinga, S.M., K.-P. Li, L. Zhou, L.-Y. Wang, S.-Z. Yang, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2012) Analysis of alkane-dependent methanogenic community derived from production water of a high temperature petroleum reservoir. *Applied Microbiology and Biotechnology* **96**: 531–542. DOI: 10.1007/s00253-011-3828-8
178. Peng, L., P. Qin, M. Lei, Q. Zeng, H. Song, J. Yang, J. Shao, B. Liao, and **J. Gu** (2012) Modifying Fe<sub>3</sub>O<sub>4</sub> nanoparticles with humic acid for removal of Rhodamine B in water. *Journal of Hazardous Materials* **209-210**: 193–198. doi:10.1016/j.jhazmat.2012.01.011
179. Shen, P.-P., H. Zhou, Z. Zhao, X.-Z. Yu, and **J.-D. Gu** (2012) Evaluation of sampling sizes on the intertidal macroinfauna assessment in a subtropical mudflat of Hong Kong. *Ecotoxicology* **21**: 1706–1716. DOI: 10.1007/s10646-012-0968-2
180. Wang, L.-Y., R.-Y. Duan, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2012) Molecular analysis of the microbial community structures in water-flooding petroleum reservoirs with different temperatures. *Biogeosciences Discuss* **9**: 5177–5203. DOI: 10.5194/bgd-9-5177-2012
181. Wang, L.-Y., W. Li, S.M. Mbadinga, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2012) Methanogenic microbial community composition of oily sludge and its enrichment amended with alkanes incubated for over 500 days. *Geomicrobiology Journal* **29**: 716–726. DOI: 10.1080/01490451.2011.619634
182. Xie, B., **J. Gu**, and J. Lu (2012) Surface properties of bacteria from activated sludge in relation to bioflocculation. *Journal of Environmental Sciences* **22(12)**: 1840–1845. DOI: 10.1016/S1001-0742(09)60329-6
183. Xu, X., L. Xia, Q. Huang, **J.-D. Gu**, and W. Chen (2012) Biosorption of cadmium by a metal-resistant filamentous fungus isolated from chicken manure compost. *Environmental Technology* **33** (14): 1661–1670. 10.1080/09593330.2011.641591
184. Zhang, R., L. Pan, Z. Zhao, and **J.-D. Gu** (2012) High incidence of plasmids in marine *Vibrio* species isolated from Mai Po Nature Reserve of Hong Kong. *Ecotoxicology* **21**: 1661–1668. DOI: 10.1007/s10646-012-0939-7
185. Zhao, Z., Y.-X. Zhuang, and **J.-D. Gu** (2012) Abundance, composition and vertical distribution of polycyclic aromatic hydrocarbons in sediments of the Mai Po Inner Deep Bay of Hong Kong. *Ecotoxicology* **21**: 1734–1742. DOI: 10.1007/s10646-012-0951-y

186. Zhao, Z.-Y., Y.-L. Chu, and **J.-D. Gu** (2012) Distribution and sources of polycyclic aromatic hydrocarbons in sediments of the Mai Po Inner Deep Bay Ramsar Site in Hong Kong. *Ecotoxicology* **21**: 1743–1752. DOI: 10.1007/s10646-012-0948-6
  187. Zhang, Z.-H., H.-X. Song, Q. Liu, X.-M. Rong, J.-W. Peng, G.-X. Xie, Y.-P. Zhang, L.-R. Chen, C.-Y. Guan, and **J.-D. Gu** (2012) Responses of seed yield and quality to nitrogen application levels in two oilseed rape (*Brassica napus* L.) varieties differing in nitrogen efficiency. *Plant Production Science* **15** (4): 265–269. DOI: 10.1626/pp.s.15.265
  188. Zhou, L., K.-P. Li, S.M. Mbadanga, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2012) Analysis of *n*-alkanes degrading community dynamics of a high-temperature methanogenic consortium enriched from production water of a petroleum reservoir by a combination of molecular techniques. *Ecotoxicology* **21**: 1680–1691. DOI: 10.1007/s10646-012-0949-5
- [2013]**
189. Cao, H., J.-C. Auguet, **J.-D. Gu** (2013) Global ecological pattern of ammonia-oxidizing archaea. *PLoS ONE* **8**: e52853. doi:10.1371/journal.pone.0052853
  190. **Gu, J.-D.**, and Y. Wang (2013) A new era for geomicrobial ecotoxicology in environmental science research. *International Biodeterioration & Biodegradation* **85**: 345–346. DOI: 10.1016/j.ibiod.2012.06.024
  191. **Gu, J.-D.**, R. Kigawa, Y. Sato, and Y. Katayama (2013) Addressing the microbiological problems of cultural property and archive documents after earthquake and tsunami. *International Biodeterioration & Biodegradation* **76**: 1–2. DOI: 10.1016/j.ibiod.2013.08.018
  192. Guan, J., L.-P. Xia, L.-Y. Wang, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2013) Diversity and distribution of sulfate-reducing bacteria in four petroleum reservoirs detected by using 16S rRNA and *dsrAB* genes. *International Biodeterioration & Biodegradation* **76**: 58–66. DOI: 10.1016/j.ibiod.2012.06.021
  193. Han, P., and **J.-D. Gu** (2013) More refined diversity of anammox bacteria recovered and distribution in different ecosystems. *Applied Microbiology and Biotechnology* **97**: 3653–3663. DOI: 10.1007/s00253-013-4756-6
  194. Han, P., M. Li, and **J.-D. Gu** (2013) Biases in community structures of ammonia/ammonium-oxidizing microorganisms caused by insufficient DNA extractions from Baijiang soil revealed by comparative analysis of coastal wetland sediment and rice paddy soil. *Applied Microbiology and Biotechnology* **97**: 8741–8756. DOI: 10.1007/s00253-013-5169-2
  195. Han, P., and **J.-D. Gu** (2013) A newly designed degenerate PCR primer based on *pmoA* gene for detection of nitrite-dependent anaerobic methane oxidation bacteria in diverse ecosystem niches. *Applied Microbiology and Biotechnology* **97**(23): 10155–10162. DOI: 10.1007/s00253-013-5260-8
  196. Han, P., Y.-T. Huang, J.-G. Lin, and **J.-D. Gu** (2013) A comparison of two 16S rRNA gene-based PCR primer sets in unraveling anammox bacteria from different environmental samples. *Applied Microbiology and Biotechnology* **97**(24): 10521–10529. DOI: 10.1007/s00253-013-5305-z
  197. Hu, H., Y. Katayama, A. Kusumi, S.X. Li, J. Wang, R.P. de Vries, and **J.-D. Gu** (2013) Occurrence of *Aspergillus allahabadii* on sandstone at Bayon Temple, Angkor Thom, Cambodia. *International Biodeterioration & Biodegradation* **76**: 112–117. DOI: 10.1016/j.ibiod.2012.06.022
  198. Huang, H.-T., X.-M. Rong, H.-X. Song, Q. Liu, Q. Liao, J.-P. Luo, **J.-D. Gu**, C.-Y. Guan, J.-M. Gong, and Z.-H. Zhang (2013) Effect of nitrate reductase (NR) inhibitor on NR activity in oilseed rape (*Brassica napus* L.) and its relation to nitrate content. *Acta Agronomica Sinica* **39**(9): 1668. DOI: 10.3724/SP.J.1006.2013.01668
  199. Kusumi, A., X. Li, Y. Osuga, A. Kawashima, J.-D. Gu, M. Nasu, and Y. Katayama (2013) Bacterial communities in pigmented biofilms formed on the sandstone bas-relief walls of the Bayon Temple, Angkor Thom, Cambodia. *Microbes and the Environments* **28**: 422–431. DOI: 10.1264/jsme2.ME13033
  200. Li, H., X.-L. Wang, B.-Z. Mu, **J.-D. Gu**, Y.-D. Liu, K.-F. Lin, S.-G. Lu, Q. Lu, B.-Z. Li, Y.-Y. Li, and X.-M. Du (2013) Molecular detection, quantification and distribution of alkane-degrading bacteria in production water from low temperature oilfields. *International Biodeterioration & Biodegradation* **76**: 49–57. DOI: 10.1016/j.ibiod.2012.06.007



201. Li, H., T.-T. Shen, X.-L. Wang, K.-F. Lin, Y.-D. Liu, S.-G. Lu, **J.-D. Gu**, P. Wang, Q. Lu, and X.-M. Du (2013) Biodegradation of perchloroethylene and chlorophenol co-contamination and toxic effect on activated sludge performance. *Bioresource Technology* **137**: 286–293. DOI: 10.1016/j.biortech.2013.02.050
202. Li, M., and **J.-D. Gu** (2013) Community structure and transcript responses of anammox bacteria, AOA and AOB in mangrove sediment microcosms amended with ammonium and nitrite. *Applied Microbiology and Biotechnology* **97** (22): 9859–93874. DOI: 10.1007/s00253-012-4683-y
203. Li, M., H. Cao, Y. Hong, and **J.-D. Gu** (2013) Using the variation of anammox bacteria community structures as a bio-indicator for anthropogenic/terrestrial nitrogen inputs in the Pearl River Delta (PRD). *Applied Microbiology and Biotechnology* **97** (22): 9875–9883. DOI: 10.1007/s00253-013-4990-y
204. Li, M., Y. Hong, H. Cao, M.G. Klotz, and **J.-D. Gu** (2013) Diversity, abundance and distribution of NO-forming nitrite reductase-encoding genes in deep-sea subsurface sediments of the South China Sea (SCS). *Geobiology* **11**: 170–179. DOI: 10.1111/gbi.12020
205. Li, M., Y. Hong, H. Cao, and **J.-D. Gu** (2013) Community structures and distribution of anaerobic ammonium oxidizing and *nirS*-encoding nitrite-reducing bacteria in surface sediments of the South China Sea. *Microbial Ecology* **66**: 281–296. DOI: 10.1007/s00248-012-0175-y
206. Luo, S., S. Luo, P. Qin, J. Shao, L. Peng, Q. Zeng, and **J.-D. Gu** (2013) Synthesis of reactive nanoscale zero valent iron using rectorite supports and its application for Orange II removal. *Chemical Engineering Journal* **223**: 1–7. DOI.org/10.1016/j.cej.2012.10.088
207. Meng, H., K. Li, M. Nie, J.-R. Wan, Z.-X. Quan, C.-M. Fang, J.-K. Chen, **J.-D. Gu**, and B. Li (2013) Microbial community response to an elevation gradient in a subtropical forest of mountain Lushan, China. *Applied Microbiology and Biotechnology* **97**: 2219–2230. DOI 10.1007/s00253-012-4063-7
208. Shao, J., R. Li, J.E. Lepo, and **J.-D. Gu**, (2013) Potential for control of cyanobacterial blooms using bioactive substances: problems and prospects. *Journal of Environmental Management* **125**: 149–155. DOI: org/10.1016/j.jenvman.2013.04.001
209. Shao, J., D. Liu, D. Gong, Q. Zeng, Z. Yan, and **J.-D. Gu** (2013) Inhibitory effects of sanguinarine against the cyanobacterium *Microcystis aeruginosa* nies-843 and possible mechanisms of action. *Aquatic Toxicology* **142-143**: 257–263. doi.org/10.1016/j.aquatox.2013.08.019
210. Shao, J., L. Peng, S. Luo, G. Yu, **J.-D. Gu**, S. Lin, and R. Li (2013) First report on the alleopathic effect of *Tychonema bourrellyi* (Cyanobacteria) against *Microcystis aeruginosa* (Cyanobacteria). *Journal of Applied Phycology* **25**: 1567–1573. DOI 10.1007/s10811-012-9969-z
211. Wang, J., and **J.-D. Gu** (2013) Dominance of *Candidatus Scalindua* species in anammox community revealed in soils with different duration of rice paddy cultivation in Northeast China. *Applied Microbiology and Biotechnology* **97**: 1785–1798. DOI: 10.1007/s00253-012-4036-x
212. Wang, L.-Y., R.-Y. Duan, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2013) Molecular analysis of the microbial community structures in water-flooding petroleum reservoirs with different temperatures. *Biogeosciences* **9** (11): 4645–4659. DOI: 10.5194/bg-9-4645-2012
213. Wang, Y., and **J.-D. Gu** (2013) Higher diversity of ammonia/ammonium-oxidizing prokaryotes in constructed freshwater wetland than natural coastal marine wetland. *Applied Microbiology and Biotechnology* **97**: 7015–7033. DOI: 10.1007/s00253-012-4430-4
214. Wang, Y., Y.-Y. Feng, X.-J. Ma, and **J.-D. Gu** (2013) Seasonal changes of ammonia/ammonium oxidizing prokaryotes (AOPs) in the oxic and anoxic sediments of mangrove wetland. *Applied Microbiology and Biotechnology* **97**: 7919–7934. DOI: 10.1007/s00253-012-4510-5
215. Yang, J., Q. Zeng, L. Peng, M. Lei, M. Song, B. Tie, and **J. Gu** (2013) La-EDTA coated Fe<sub>3</sub>O<sub>4</sub> nanomaterial: preparation and application in removal of phosphate from water. *Journal of Environmental Sciences* **25**(2): 413–418. DOI: 10.1016/S1001-0742(12)60014-X
216. Zhang, F.-Z., X.-Z. Yu, and **J.-D. Gu** (2013) Transport and assimilation of ferricyanide by three willow species. *Water Air and Soil Pollution* **224** (4): 1522 DOI: 10.1007/s11270-013-1522-4
217. Zhao, Y., **J.-D. Gu**, and X. Zhan (2013) Recent advances in water resource management and pollution control: with special focus on China. *Environmental Engineering and Management Journal* **12** (7): 1309–1310.

218. Zhou, F., S. M. Mbadinga, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2013) Evaluation of microbial community composition in thermophilic methane-producing incubation of production water from a high-temperature oil reservoir. *Environmental Biotechnology* **34** (18): 2681–2689. doi.org/10.1080/09593330.2013.786135
- [2014]**
219. Bian, X.-Y., S.M. Mbdinga, S.-Z. Yang, **J.-D. Gu**, R.-Q. Ye, and B.-Z. Mu (2014) Synthesis of anaerobic degradation biomarkers alkyl-, aryl- and cycloalkylsuccinic acids and their mass spectral characteristics. *European Journal of Mass Spectroscopy* **20**(4): 287–297. DOI: 10.1255/ejms.1280
220. Chen, J., Z.C. Zhou, and **J.-D. Gu** (2014) Occurrence and diversity of nitrite-dependent anaerobic methane oxidation bacteria in the sediments of the South China Sea revealed by amplification of both 16S rRNA and *pmoA* genes. *Applied Microbiology and Biotechnology* **98** (12): 5685–5696. DOI: 10.1007/s00253-014-5733-4
221. Chen, Y., L. Peng, Q. Zeng, Y. Yang, M. Lei, H. Song, L. Chai, and **J. Gu** (2014) Removal of trace Cd (II) from water with the manganese oxides/ACF composite electrode. *Clean Technologies and Environmental Policy* DOI: 10.1007/s10098-014-0756-1
222. **Gu, J.-D.** (2014) Assessment of ecosystem health and ecotoxicology through chemical analysis and modeling. *Ecotoxicology* **23** (4): 475–479. DOI: 10.1007/s10646-014-1206-x
223. **Gu, J.-D.**, and Y.X. Wang (2014) Geomicrobial Ecotoxicology as a new subject in environmental sciences is proposed. *Ecotoxicology* **23** (10): 1823–1825. DOI: 10.1007/s10646-014-1359-7
224. Guan, J., B.-L. Zhang, S.M. Mbadinga, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2014) Functional genes (*dsr*) approach reveals similar sulphidogenic prokaryotes diversity but different structure in saline waters from corroding high temperature petroleum reservoirs. *Applied Microbiology and Biotechnology* **98** (4): 1871–1881. DOI: 10.1007/s00253-013-5152-y
225. Han, Y.-L., Q. Liu, **J.-D. Gu**, J.-M. Gong, C.-Y. Guan, J.E. Lepo, Z.-M. Rong, H.-X. Song, and Z.-H. Zhang (2014) V-ATPase and V-PPase at the tonoplast affect NO<sub>3</sub><sup>-</sup> content in *Brassica napus* by controlling distribution of NO<sub>3</sub><sup>-</sup> between the cytoplasm and vacuole. *Journal of Plant Growth Regulation*. DOI: 10.1007/s00344-014-9439-8
226. Hong, Y., M. Li, H. Cao, and **J.-D. Gu** (2014) Anammoxosome in anaerobic ammonium-oxidizing bacteria - could it be originated from an endosymbiosis? *American Journal of Current Microbiology* **2**: 18–40.
227. Lee, K.H., Y.-F. Wang, H. Li, and **J.-D. Gu** (2014) Niche specificity of ammonia-oxidizing archaeal and bacterial communities in a freshwater wetland receiving municipal wastewater in Daqing, Northeast China. *Ecotoxicology* **23** (10): 2081–2091. DOI: 10.1007/s10646-014-1334-3
228. Lee, K.H., Y.-F. Wang, G.X. Zhang, and **J.-D. Gu** (2014) Distribution patterns of ammonia-oxidizing bacteria and anammox bacteria in the freshwater marsh of Honghe wetland in Northeast China. *Ecotoxicology* **23**(10): 1930–1942. DOI: 10.1007/s10646-014-1333-4
229. Li, X.-R., Y. Lv, H. Meng, **J.-D. Gu**, and Z.-X. Quan (2014) Analysis of microbial diversity by pyrosequencing the small-subunit ribosomal RNA without PCR amplification. *Applied Microbiology and Biotechnology* **98** (8): 3777–3789. DOI: 10.1007/s00253-014-5583-0
230. Liu, K., J.J. Jiao, and **J.-D. Gu**. (2014) Analysis on bacterial community and diversity in the multilayer aquifer-aquitard systems of the Pearl River Delta, China. *Ecotoxicology* **23**(10): 2041–2052. DOI: 10.1007/s10646-014-1311-x
231. Luo, S., T. Lu, L. Peng, J. Shao, Q. Zeng, and **J.-D. Gu** (2014) Synthesis of nanoscale zero-valent iron immobilized in alginate microcapsules for removal of Pb(II) from aqueous solution. *Journal of Material Chemistry A* **2**: 15463–15472. DOI: 10.1039/C4TA02920H
232. Peng, L., Y. Ren, **J.-D. Gu**, P. Qin, Q. Zeng, J. Shao, M. Lei, and L. Chai (2014) Iron improving biochar derived from microalgae on removal of tetracycline from aqueous system. *Environmental Science and Pollution Research* **21** (12): 7631–7640. DOI: 10.1007/s11356-014-2677-2
233. Shao, J., **J.-D. Gu**, L. Peng, S. Luo, H.L. Luo, Z.Y. Yan, and G.Y. Wu (2014) Modification of cyanobacterial bloom-derived biomass using potassium permanganate enhanced the removal of microcystins and adsorption capacity towards cadmium. *Journal of Hazardous Materials* **272**: 83–88. DOI: 10.1016/j.jhazmat.2014.03.013

234. Shao, J., Y. Jiang, Z. Wang, L. Peng, S. Luo, **J. Gu**, and R. Li (2014) Interactions between algicidal bacteria and the cyanobacterium *Microcystis aeruginosa*: lytic characteristics and physiological responses in the cyanobacteria. *International Journal of Environmental Science and Technology* **11**: 469–476. DOI: 10.1007/s13762-013-0205-4
235. Wang, J., H.L. Dong, W.-D. Wang, and **J.-D. Gu** (2014) Reverse-transcriptional gene expression of anammox, AOA and AOB in soybean and paddy soils of Northern China. *Applied Microbiology and Biotechnology* **98** (6): 2675–2686. DOI: 10.1007/s00253-013-5242-x
236. Wang, J., W.-D. Wang, and **J.-D. Gu** (2014) Conversion from soybean to rice paddy cultivation on community structure and abundance of ammonia-oxidizing archaea and bacteria in Baijiang soil of Northern China. *Applied Microbiology and Biotechnology* **98** (6): 2765–2778. DOI: 10.1007/s00253-013-5213-2
237. Wang, L.-Y., X.-B. Sun, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2014) Comparison of bacterial community in aqueous and oil phases of the water-flooded petroleum reservoir using pyrosequencing and clone library approaches. *Applied Microbiology and Biotechnology* **98** (9): 4209–4221. DOI: 10.1007/s00253-013-5472-y
238. Wang, Y., X.-Y. Li, and **J.-D. Gu** (2014) Differential responses of ammonia/ammonium-oxidizing microorganisms in mangrove sediment to amendment of acetate and leaf litter. *Applied Microbiology and Biotechnology* **98** (7): 3165–3180. DOI: 10.1007/s00253-013-5318-7
239. Wang, Y., and **J.-D. Gu** (2014) Effects of allylthiourea, salinity and pH on ammonia/ammonium-oxidizing prokaryotes in mangrove sediment incubated in laboratory microcosms. *Applied Microbiology and Biotechnology* **98** (7): 3257–3274. DOI: 10.1007/s00253-013-5399-3
240. Wang, Y.-F., F.-Q. Zhang, and **J.-D. Gu** (2014) Improvement of DGGE analysis by modifications of PCR protocols for analysis of microbial community members with low abundance. *Applied Microbiology and Biotechnology* **98** (12): 5655–5663. DOI: 10.1007/s00253-014-5734-3
241. Xiao, R., B. Chen, Y. Liu, C. Wang, **J.-D. Gu**, H. Feng, and X. Ma (2014) Higher abundance of ammonia oxidizing archaea than ammonia oxidizing bacteria and their communities in Tibetan alpine meadow soils under long-term nitrogen fertilization. *Geomicrobiology Journal* **31**(7): 597–604. DOI 10.1080/01490451.2013.875298
242. Xu, W., M. Li, J.-F. Ding, **J.-D. Gu**, and Z.-H. Luo (2014) Bacteria dominate the ammonia-oxidizing community in a hydrothermal vent site of the Mid-Atlantic Ridge of the South Atlantic Ocean. *Applied Microbiology and Biotechnology* **98** (18): 7993–8004. DOI: 10.1007/s00253-014-5833-1
243. Zhang, Z.H., H.X. Song, Q. Liu, X.M. Rong, C.Y. Guan, **J.D. Gu**, J.W. Peng, G.X. Xie, and Y.P. Zhang (2014) Distribution characters of absorption nitrogen in oilseed rape (*Brassica napus* L.) at different growth stages. *Journal of Plant Nutrition* **37**(10): 1648-1660. DOI: 10.1080/01904167.2014.888747
244. Zhou, Y.-Z., J. Yang, X.-L. Wang, Y.-Q. Pan, H. Li, D. Zhou, Y.-D. Liu, P. Wang, **J.-D. Gu**, Q. Lu, Y.-F. Qiu, and K.-F. Lin (2014). Bio-beads with immobilized anaerobic bacteria, zero-valent iron, and active carbon for the removal of trichloroethane from groundwater. *Environmental Science and Pollution Research* **21** (19): 11500–11509. DOI: 10.1007/s11356-014-3110-6
245. Zhou, Z., P. Han, and **J.-D. Gu** (2014) New PCR primers based on *mcrA* gene for retrieving more anaerobic methanotrophic archaea from coastal reedbed sediments. *Applied Microbiology and Biotechnology* **98** (10): 4663–4670. DOI: 10.1007/s00253-014-5599-5
- [2015]**
246. Ali, C.H., S.M. Mbadinga, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2015) Significant enhancement of *Pseudomonas aeruginosa* FW\_SH-1 lipase production using response surface methodology and analysis of its hydrolysis capability. *Journal of the Taiwan Institute of Chemical Engineers* **52**: 7–13. DOI: 10.1016/j.jtice.2015.02.001
247. Ali, C.H., J.-J. Zhang, S.M. Mbadinga, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2015) Screening, isolation and optimization of an extracellular lipase producing *Exiguobacterium* sp. BBXS-7 segregated from waste cooking oil contaminated sites. *Kärntner Botanikzentrums* **22** (5): 183–201.
248. Bian, X.-Y., S.M. Mbadinga, Y.-F. Liu, S.-Z. Yang, J.-F. Liu, R.-Q. Ye, **J.-D. Gu**, and B.-Z. Mu (2015) Insights into the anaerobic biodegradation pathway of *n*-alkanes in oil reservoirs by detection of signature metabolites. *Scientific Reports* **5**: 09801 DOI: 10.1038/srep09801

249. Chen, J., X.W. Jiang, and **J.-D. Gu** (2015) First evidence for the existence of nitrite-dependent anaerobic methane oxidation bacteria in surface and subsurface ocean sediments of the South China Sea. *Geomicrobiology Journal* **32** (1): 1–10. DOI: 10.1080/01490451.2014.917742
250. Chen, J., Z.-C. Zhou, and **J.-D. Gu** (2015) Complex community of nitrite-dependent anaerobic methane oxidation bacteria in coastal sediments of the Mai Po wetland by PCR Amplification of both 16S rRNA and *pmoA* genes. *Applied Microbiology and Biotechnology* **99** (3): 1463–1473. DOI: 10.1007/s00253-014-6051-6
251. Chen, Y., L. Peng, **J.-D. Gu**, Q. Zeng, Y. Yang, M. Lei, H. Song, and L. Chai (2015) Removal of trace Cd(II) from water with the manganese oxides/ACF composite electrode. *Clean Technologies and Environmental Policy* **17**: 49–57. DOI: 10.1007/s10098-014-0756-1
252. Ding, S., H. Hu, and **J.-D. Gu** (2015) Analysis of fungi colonizing the wood sticks of Chinese fir (*Cunninghamia lanceolata*) in subtropical urban soil grown with *Ficus microcarpa* trees. *International Journal of Environmental Science and Technology* **12** (12): 3781–3790. DOI: 10.1007/s13762-015-0802-5
253. Du, Z.-Y., M.-X. Chen, Q.-F. Chen, **J.-D. Gu**, and M.-L. Chye (2015) Expression of *Arabidopsis* acyl-CoA-binding proteins AtACBP1 and AtACBP4 confers Pb(II) accumulation in *Brassica juncea* roots. *Plant, Cell and Environment* **38** (1): 101–117. DOI: 10.1111/pce.12382
254. Fei, J., Y.-S. Wang, Q. Zhou, and **J.-D. Gu** (2015) Cloning and expression analysis of HSP70 gene from mangrove plant *Kandelia obovata* under cold stress. *Ecotoxicology* **24** (7-8): 1677–1685. DOI: 10.1007/s10646-015-1484-y
255. Fu, Y., L. Peng, Q. Zeng, Y. Yang, H. Song, J. Shao, S. Liu, and **J. Gu** (2015) High efficient removal of tetracycline from solution by degradation and flocculation with nano-scale zero valent iron. *Chemical Engineering Journal* **270**: 631–640. DOI: 10.1016/j.cej.2015.02.070
256. **Gu, J.-D.** (2015) Editorial. *Applied Environmental Biotechnology* **1** (1): 1–3. Dx.doi.org/10.18063/AEB.2015.01.001
257. **Gu, J.-D.**, and Y.-S. Wang (2015) Coastal and marine pollution and ecotoxicology. *Ecotoxicology* **24** (7-8): 1407–1410. DOI: 10.1007/s10646-015-1528-3
258. Han, P., and **J.-D. Gu** (2015) Further analysis of anammox bacterial community structures along an anthropogenic nitrogen-input gradient from the riparian sediments of the Pearl River Delta to the deep-ocean sediments of the South China Sea. *Geomicrobiology Journal* **32** (9): 789–798. DOI: 10.1080/01490451.2014.1001502
259. Han, Y.-L., Q. Liao, Y. Yu, H.-X. Song, Q. Liu, X.-M. Rong, **J.-D. Gu**, J.E. Lepo, C.-Y. Guan, and Z.-H. Zhang (2015) Nitrate reutilization mechanisms in the tonoplast of two *Brassica napus* genotypes with different nitrogen use efficiency. *Acta Physiologia Plantarum* **37**: 42. DOI: 10.1007/s11738-014-1744-0
260. Han, Y., Q. Liu, **J. Gu**, J. Gong, C. Guan, J.E. Lepo, X. Rong, H. Song, and Z. Zhang (2015) V-ATPase and V-PPase at the tonoplast affect NO<sub>3</sub><sup>-</sup> content in *Brassica napus* by controlling distribution of NO<sub>3</sub><sup>-</sup> between the cytoplasm and vacuole. *Journal of Plant Growth and Regulation* **34**: 22–34. DOI: 10.1007/s00344-014-9439-8
261. Jiang, X.W., J. Wang, Y. Gao, L. Chan, P.S.K. Lam, and **J.-D. Gu** (2015) Comparison of three protein extraction procedures from toxic and non-toxic dinoflagellates for proteomics analysis. *Ecotoxicology* **24** (6): 1395–1406. DOI: 10.1007/s10646-015-1514-9
262. Jiang, X.W., J. Wang, Y. Gao, P.S.K. Lam, and **J.-D. Gu** (2015) Relationship of proteomic variation and toxin synthesis in the dinoflagellate *Alexandrium tamerense* CI01 under phosphorus and inorganic nitrogen limitation. *Ecotoxicology* **24** (7-8): 1744–1753. DOI: 10.1007/s10646-015-1513-x
263. Ke, Y., M. Azari, P. Han, I. Gortz, **J.-D. Gu**, and M. Denecke (2015) Microbial community of nitrogen-converting bacteria in anammox granular sludge. *International Biodeterioration & Biodegradation* **103**: 105–115. DOI: dx.doi.org/10.1016/j.biod.2015.04.011
264. Li, C.-Y., J.-Y. Li, S.M. Mbadanga, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2015) Analysis of bacterial and archaeal communities along a high-molecular-weight polyacrylamide transportation pipeline system in an oil-field. *International Journal of Molecular Sciences* **16**: 7445–7461. DOI: 10.3390/ijms16047445

265. Liang, B., L.-Y. Wang, S.M. Mbadinga, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2015) *Anaerolineaceae* and *Methanosaeta* turned to be the dominant microorganisms in alkane-dependent methanogenic culture after long-term of incubation. *AMB Express* **5**: 37 DOI 10.1186/s13568-015-0117-4
266. Liu, J.-F., S.M. Mbadinga, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2015) Chemical structure, property and potential applications of surfactants produced by *Bacillus subtilis* in petroleum recovery and spill mitigation. *International Journal of Molecular Sciences* **15**: 4814–4837. DOI: 10.3390/ijms16034814
267. Liu, J.-F., X.-B. Sun, G.-C. Yang, S.M. Mbadinga, **J.-D. Gu**, and B.-Z. Mu (2015) Analysis of microbial communities in the oil reservoir subjected to CO<sub>2</sub>-flooding by using functional genes as molecular biomarkers for microbial CO<sub>2</sub> sequestration. *Frontiers in Microbiology* **6**: 236. DOI: 10.3389/fmicb.2015.00236
268. Liu, J.-F., S.M. Mbadinga, X.-B. Sun, G.-C. Yang, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2015) Microbial communities responsible for fixation of CO<sub>2</sub> revealed by using *mcrA*, *cbbM*, *cbbL*, *fthfs*, *fefe-hydrogenase* genes as molecular biomarkers in petroleum reservoirs of different temperatures. *Biogeosciences Discuss* **12**: 1875–1906. DOI: 10.5194/bgd-12-1875-2015
269. Lu, Q., Q. Shi, H. Li, Y.D. Liu, **J.D. Gu**, and K.F. Lin (2015) Characterization of chlorinated aliphatic hydrocarbons and environmental variables in a shallow groundwater in Shanghai using Krigig interpolation and multifactorial analysis. *PLoS One* **10** (11): e0142241. DOI: 10.1371/journal.pone.0142241
270. Luo, L., and **J.-D. Gu** (2015) Seasonal variability of extracellular enzymes involved in carbon mineralization in sediment of a subtropical wetland. *Geomicrobiology Journal* **32** (1): 68–76. DOI:10.1080/01490451.2014.925012
271. Luo, L., and **J.-D. Gu** (2015) Particle-size fractions-dependent extracellular enzyme activity in sediments and implications for resource allocation in a subtropical mangrove ecosystem. *Global Journal of Environmental Science and Management* **1** (1): 15–26.
272. Luo, L., Z. Zhou, and **J.-D. Gu** (2015) Distribution, diversity and abundance of bacterial laccase-like genes in different particle size fractions of sediments in subtropical mangrove ecosystem. *Ecotoxicology* **24** (7-8): 1508–1516. DOI: 10.1007/s10646-015-1452-6
273. Luo, Z.-H., W. Xu, M. Li, **J.-D. Gu**, and T.-H. Zhong (2015) Spatial distribution and abundance of ammonia-oxidizing microorganisms in deep-sea sediments of the Pacific Ocean. *Antonie van Leeuwenhoek* **108**: 329–342. DOI: 10.1007/s10482-015-0485-4
274. Lü, L., S.M. Mbadinga, L.-Y. Wang, J.-F. Liu, **J.-D. Gu**, B.-Z. Mu, and S.Z. Yang (2015) Acetoclastic methanogenesis is likely the dominant pathway of palmitate degradation in the presence of sulfate. *Applied Microbiology and Biotechnology* **99** (18): 7757–7769. DOI: 10.1007/s00253-015-6669-z
275. Ma, Y., H. Zhang, Y. Du, T. Tian, T. Xiang, X. Liu, F. Wu, L. An, W. Wang, **J.-D. Gu**, and H. Feng (2015) The community distribution of bacterial and fungi on ancient wall paintings of the Mogao Grottoes. *Scientific Reports* **5**: 7752 DOI: 10.1038/srep07752
276. Peng, L., Y. Chen, H. Dong, Q. Zeng, H. Song, L. Chai, and **J.-d. Gu** (2015) Removal of trace As(V) from water with titanium dioxide/ACF composite electrode. *Water Air and Soil Pollution* **226** (7): 203. DOI: 10.1007/s11270-015-2463-x
277. Peng, Y.-L., Y.-S. Wang, and **J.-D. Gu** (2015) Identification of suitable reference genes in mangrove *Aegiceras croniculatum* under abiotic stresses. *Ecotoxicology* **24** (7-8): 1714–1721. DOI: 10.1007/s10646-015-1487-8
278. Shen, P., and **J.-D. Gu** (2015) Genetic population structure of polychaeta *Neanthes glandicincta* (Nereididae) of the Mai Po Inner Deep Bay Ramsar Site, Hong Kong. *Ecotoxicology* **24** (7-8): 1557–1565. DOI: 10.1007/s10646-015-1465-1
279. Wang, L.-Y., Y.-S. Wang, J.-P. Zhang, and J.-D. Gu (2015) Molecular cloning of class III chitinase gene from *Avicennia marina* and its expression analysis in response to cadmium and lead stress. *Ecotoxicology* **24** (7-8): 1697–1704. DOI: 10.1007/s10646-015-1501-1
280. Wu, M.-L., Y.-S. Wang, and **J.-D. Gu** (2015) Assessment for water quality by artificial neural network at Daya Bay, South China Sea. *Ecotoxicology* **24** (7-8): 1632–1642. DOI: 10.1007/s10646-015-1453-5

281. Xu, Y.-B., Y. Zhou, J.-J. Ruan, S.-H. Xu, **J.-D. Gu**, S.-S. Huang, L. Zheng, B.-H. Yuan, and L.-H. Wen (2015) Endogenous nitric oxide in *Pseudomonas fluorescens* ZY2 as mediator against the combined exposure to zinc and Cefradine. *Ecotoxicology* **24** (4): 835–843. DOI: 10.1007/s10646-015-1428-6
282. Zhou, Z., J. Chen, H. Cao, P. Han, and **J.-D. Gu** (2015) Comparison of communities of both methane-producing and metabolizing archaea and bacteria in sediments between the northern South China Sea and coastal Mai Po Nature Reserve revealed by PCR amplification of *mcrA* and *pmoA* genes. *Frontiers in Microbiology* **5**: 789. DOI: 10.3389/fmicb.2014.00789
- [2016]**
283. Chan, H.W., H. Meng, and **J.-D. Gu** (2016) Anammox bacteria detected in fish intestinal tract systems. *Applied Environmental Biotechnology* **1** (1): 13–18. DOI: dx.doi.org/10.18063/AEB.2016.01.010
284. Chen, J., R. Dick, J.-G. Lin, and **J.-D. Gu** (2016) Current advances in molecular methods for detection of nitrite-dependent anaerobic methane oxidation bacteria in the environments. *Applied Microbiology and Biotechnology* **100(23)**: 9845–9860. DOI: 10.1007/s00253-016-7853-5
285. Gan, X.-H., F.-Q. Zhang, **J.-D. Gu**, Z.-Q. Li, W.-Q. Zhang, X.-Y. Xu, Y. Zhou, Y.-D. Guo, X.-Y. Wen, G.-G. Xie, and Y.-F. Wang (2016) Differential distribution patterns of ammonia-oxidizing archaea and bacteria in acidic soils of Nanling reserve forests in subtropical China. *Antonie van Leeuwenhoek* **109**: 237–251. DOI: 10.1007/s10482-015-0627-8
286. **Gu, J.-D.** (2016) A promising future. *International Biodeterioration & Biodegradation* **115**: 146–147. DOI: 10.1016/j.ibiod.2016.08.009
287. **Gu, J.-D.** (2016) Biodegradation testing: so many tests but very little new innovation. *Applied Environmental Biotechnology* **1** (1): 92–95. DOI: dx.doi.org/10.18063/AEB.2016.01.007
288. **Gu, J.-D.** (2016) More than simply bacterial growth curve. *Applied Environmental Biotechnology* **1(2)**: 63–65. DOI: dx.doi.org/10.18063/AEB.2016.02.007
289. Kuang, X., **J.-D. Gu**, B. Tie, B. Yao, and J. Shao (2016) Interactive effects of cadmium and *Microcystis aeruginosa* (cyanobacteria) on the growth, antioxidative responses and accumulation of cadmium and microcystins in rice seedlings. *Ecotoxicology* **25(8)**: 1588–1599. DOI: 10.1007/s10646-016-1714-y
290. Kuang, X., J. Shao, A. Chen, S. Luo, L. Peng, G. Wu, and **J.-D. Gu** (2016) Effects of bloom-forming cyanobacterial extracellular polymeric substances on the adsorption of cadmium onto kaolinite: behaviors and possible mechanisms. *SpringerPlus* **5**: 542. DOI: 10.1186/s40064-016-2191-8
291. Li, A., X.Y. Li, and **J.-D. Gu** (2016) Characteristics of free cells and aggregated flocs for the flocculation and sedimentation of activated sludge. *International Journal of Environmental Science and Technology* **13(2)**: 581–588. DOI: 10.1007/s13762-015-0896-9
292. Li, C.-Y., D. Zhang, X.-X. Li, S. M. Mbadinga, S.-Z. Yang, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2016) A biofilm properties and its correlation with high-molecular-weight polyacrylamide degradation in a water injection pipeline of Daqing oilfield. *Journal of Hazardous Materials* **304**: 388–399. DOI: 10.1016/j.jhazmat.2015.10.067
293. Li, C.-Y., H. Hu, J.-Y. Feng, S.M. Mbadinga, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2016) Diversity and abundance of ammonia-oxidizing bacteria (AOB) revealed by PCR amplification of *amoA* gene in a polyacrylamide transportation system of an oilfield. *International Biodeterioration & Biodegradation* **115**: 110–118. DOI: 10.1016/j.ibiod.2016.08.001
294. Li, M., and **J.-D. Gu** (2016) The diversity and distribution of anammox bacteria in the marine aquaculture zones. *Applied Microbiology and Biotechnology* **100 (20)**: 8943–8953. DOI: 10.1007/s00253-016-7690-6
295. Li, M., and **J.-D. Gu** (2016) Molecular evidence of the existence of anaerobic ammonia oxidation bacteria in the gut of Polychaete (*Neanthes glandicincta*). *Applied Environmental Biotechnology* **1** (1): 19–29. DOI: dx.doi.org/10.18063/AEB.2016.01.011
296. Li, X., J.-F. Liu, F. Yao, W.-L. Wu, S.-Z. Yang, S.M. Mbadinga, **J.-D. Gu** and B.-Z. Mu (2016) Dominance of *Desulfotignum* in sulfate-reducing community in high sulfate production-water of high temperature and corrosive petroleum reservoirs. *International Biodeterioration & Biodegradation* **114**: 45–56. DOI: 10.1016/j.ibiod.2016.05.018

297. Liang, B., L.-Y. Wang, Z. Zhou, S.M. Mbadinga, L. Zhou, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2016) High frequency of *Thermodesulfovibrio* spp. and *Anaerolineaceae* in association with *Methanoculleus* spp. in a long-term incubation of *n*-alkanes-degrading methanogenic enrichment culture. *Frontiers in Microbiology* **7**: 365. DOI: dx.doi.org/10.3389/fmicb.2016.00365
298. Liu, J.-F., S.M. Mbadinga, X.-B. Sun, G.-C. Yang, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2016) Microbial communities responsible for fixation of CO<sub>2</sub> revealed by using *mcrA*, *cbbM*, *cbbL*, *fthfs*, *fefe*-hydrogenase genes as molecular biomarkers in petroleum reservoirs of different temperatures. *International Biodeterioration & Biodegradation* **114**: 164–175. DOI: 10.1016/j.ibiod.2016.06.019
299. Liu, J.-F., S.M. Mbadinga, W.-J. Ke, **J.-D. Gu**, and B.-Z. Mu (2016) The diversity of hydrogen-producing microorganisms in a high temperature oil reservoir and its potential role in promoting the in situ bioprocess. *Applied Environmental Biotechnology* **1** (2): 25–34. DOI: dx.doi.org/10.18063/AEB.2016.02.005
300. Liu, J.-F., W.-L. Wu, F. Yao, B. Wang, B.-L. Zhang, S.M. Mbadinga, **J.-D. Gu**, and B.-Z. Mu (2016) A thermophilic nitrate-reducing bacterium isolated from production water of a high temperature oil reservoir and its inhibition on sulfate-reducing bacteria. *Applied Environmental Biotechnology* **1** (2): 35–42. DOI: dx.doi.org/10.18063/AEB.2016.02.004
301. Lu, T., C. Xue, J. Shao, **J.-D. Gu**, Q. Zeng, and S. Luo (2016) Adsorption of dibutyl phthalate on *Burkholderia cepacia*, minerals, and their mixtures: behaviors and mechanisms. *International Biodeterioration & Biodegradation* **114**: 1–7. DOI: 10.1016/j.ibiod.2016.05.015
302. Lü, L., Zhou, L., Wang, L.-Y., Liu, J.-F., **J.-D. Gu**, B.-Z. Mu, and S.-Z. Yang (2016) Selective inhibition of methanogenesis by sulfate in enrichment culture with production water from low-temperature oil reservoir. *International Biodeterioration & Biodegradation* **108**: 133–141. DOI: 10.1016/j.ibiod.2015.11.002
303. Luo, L., and **J.-D. Gu** (2016) Alteration of extracellular enzyme activity and microbial abundance by biochar addition for carbon sequestration in subtropical mangrove sediment. *Journal of Environmental Management* **182**: 29–36. DOI: 10.1016/j.jenvman.2016.07.040
304. Luo, L., R. Wu, H. Meng, X.-Y. Li, and **J.-D. Gu** (2016) Seasonal and spatial variations in diversity and abundance of bacterial laccase-like genes in sediments of a subtropical mangrove ecosystem. *International Biodeterioration & Biodegradation* **114**: 260–267. DOI: 10.1016/j.ibiod.2016.07.002
305. Luo, S., M. Shen, J. Shao, Q. Zeng, and **J.-D. Gu** (2016) Synthesis Fe<sub>3</sub>O<sub>4</sub>-loaded porous carbons and developed from rice husk for removal of arsenate from aqueous solution. *International Journal of Environmental Science and Technology* **13(4)**: 1137–1148. DOI: 10.1007/s13762-016-0955-x
306. Meng, H., Y.-F. Wang, H.-W. Chan, R.-N. Wu, and **J.-D. Gu** (2016) Co-occurrence of nitrite-dependent anaerobic ammonium and methane oxidation processes in subtropical acidic forest soils. *Applied Microbiology and Biotechnology* **100(17)**: 7727–7739. DOI: 10.1007/s00253-016-7585-6
307. Meng, H, L. Luo, H.W. Chan, Y. Katayama, and **J.-D. Gu** (2016) Higher diversity and abundance of ammonia-oxidizing archaea than bacteria detected at the Bayon temple of Angkor Thom in Cambodia. *International Biodeterioration & Biodegradation* **115**: 234–243. DOI: 10.1016/j.ibiod.2016.08.021
308. Peng, L., B. Liu, Q. Zeng, **J.-D. Gu**, M. Lei, J. Shao, and L. Chai (2016) Highly efficient removal of methylene blue from aqueous solution by a novel fishing-net effect of manganese oxide nano-sheets. *Clean Technologies and Environmental Policy* **19** (1): 269–277. doi:10.1007/s10098-016-1214-z
309. Peng, L., Y. Xu, F. Zhou, and **J.-D. Gu** (2016) Enhanced removal of Cd(II) by poly(acrylamide-co-sodium acrylate) water-retaining agent incorporated nano hydrous manganese oxide. *Materials and Design* **96**: DOI: 10.1016/j.matdes.2016.02.025
310. Ruan, M.-Y., B. Liang, S.M. Mbadinga, L. Zhou, L.-Y. Wang, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2016) Molecular diversity of a community as traced by *bamA* gene markers involved in anaerobic degradation of aromatic hydrocarbons in mesothermic petroleum reservoirs. *International Biodeterioration & Biodegradation* **114**: 122–128. DOI: 10.1016/j.ibiod.2016.06.005

311. Shao, J., Y. He, F. Li, H. Zhang, A. Chen, S. Luo, and **J.-D. Gu** (2016) Growth inhibition and possible mechanism of Oleamide against the toxin-producing cyanobacterium *Microcystis aeruginosa* NIES-843. *Ecotoxicology* **25** (1): 225–233. DOI: 10.1007/s10646-015-1582-x
312. Shao, J., Y. He, H. Zhang, A. Chen, M. Lei, J. Chen, L. Peng, and **J.-D. Gu** (2016) Silica fertilization and nano-MnO<sub>2</sub> amendment on bacterial community composition in high arsenic paddy soils. *Applied Microbiology and Biotechnology* **100** (5): 2429–2437. DOI: 10.1007/s00253-015-7131-y
313. Tao, P., H. Li, Y. Yu, **J. Gu**, and Y. Liu (2016) Ectoine and 5-hydroxyectoine accumulation in the halophile *Virgibacillus halodenitrificans* PDB-F2 in response to salt stress. *Applied Microbiology and Biotechnology* **100** (15): 6779–6789. DOI: 10.1007/s00253-016-7549-x
314. Wang, Y.-F., H. Meng, V.W. Gu, and **J.-D. Gu** (2016) Molecular diagnosis of the brown root rot disease agent *Phellinus noxius* in trees and in soil by rDNA ITS analysis. *Applied Environmental Biotechnology* **1** (1): 81–91. DOI: dx.doi.org/10.18063/AEB.2016.01.002
315. Yan, L., Z. Li, G. Wang, Y. Gao, Y. Wang, **J.-D. Gu**, and W. Wang (2016) Diversity of ammonia-oxidizing bacteria and archaea in response to different aeration rates during cattle manure composting. *Ecological Engineering* **93**: 46–54. DOI: dx.doi.org/10.1016/j.ecoleng.2016.05.002
316. Yang, G.-C., L. Zhou, S.M. Mbadinga, J. You, H.-Z. Yang, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2016) Activation of CO<sub>2</sub>-reducing methanogenesis in oil reservoir after addition of nutrient. *Journal of Bioscience and Bioengineering* **122(6)**: 740–747. DOI: 10.1016/j.jbiosc.2016.06.011
317. Yang, G.-C., L. Zhou, S.M. Mbadinga, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2016) Formate-dependent microbial conversion of CO<sub>2</sub> and the dominant pathways of methanogenesis in production water of high-temperature oil reservoirs amended with biocarbonate. *Frontiers in Microbiology* **7**: 365. DOI: dx.doi.org/10.3389/fmicb.2016.00365
318. Yip, K.C.Y., and **J.-D. Gu** (2016) A novel bacterium involved in the degradation of 2-methylindole isolated from sediment of Inner Deep Bay of Hong Kong. *Applied Environmental Biotechnology* **1** (1): 52–63. DOI: dx.doi.org/10.18063/AEB.2016.01.008
319. Zhang, F.-Q., W. Pan, **J.-D. Gu**, B. Xu, W.-H. Zhang, B.-Z. Zhu, Y.-X. Wang, and Y.-F. Wang (2016) Dominance of ammonia-oxidizing archaea community induced by land use change from masson pine to eucalypt plantation in subtropical China. *Applied Microbiology and Biotechnology* **100** (15): 6859–6869. DOI: 10.1007/s00253-016-7506-8
320. Zhou, J., X.-Y. Bian, S.M. Mbadinga, S.-Z. Yang, J.-F. Yang, **J.-D. Gu**, and B.-Z. Mu (2016) Synthesis and characterization of anaerobic degradation biomarkers of *n*-alkanes via hydroxylation/carboxylation pathways. *European Journal of Mass Spectroscopy* **22**: 31–37. DOI: 10.1255/ejms.1402
- [2017]**
321. Azari, M., U. Walter, V. Rekers, **J.-D. Gu**, and M. Denecke (2017) More than a decade of experience of landfill leachate treatment with a full-scale anammox plant combining activated sludge and activate carbon biofilm. *Chemosphere* **174**: 117–126. doi:10.1016/j.chemosphere.2017.01.123
322. Chen, J., and **J.-D. Gu** (2017) Faunal burrows alter the diversity and structure of AOA, AOB, anammox and *n*-damo bacterial communities in coastal mangrove sediments. *Microbial Ecology* **74(1)**: 140–156. DOI: 10.1007/s00248-017-0939-5
323. **Gu, J.-D.** (2017) Biodegradability of plastics: the pitfalls. *Applied Environmental Biotechnology* **2(1)**: 58–60. DOI: 10.26789/AEB.2017.01.008
324. **Gu, J.-D.**, and W.B. McGill (2017) Microbial biomass C and N dynamics, and <sup>15</sup>N incorporation into microbial biomass under faba bean, canola, barley and summer fallow on a Gray Luvisol. *Applied Environmental Biotechnology* **2(1)**: 46–57. DOI: 10.26789/AEB.2017.01.007
325. Han, P., U. Klümper, A. Wong, M. Li, J.-G. Lin, Z. Quan, M. Denecke, and **J.-D. Gu** (2017) Assessment of molecular detection of anaerobic ammonium-oxidizing (anammox) bacteria in different environmental samples using PCR primers based on 16S rRNA and functional genes. *Applied Microbiology and Biotechnology* **101** (20): 7689–7702. DOI: 10.1007/s00253-017-8502-3
326. Ismail, W.A., J.D. van Hamme, J.J. Kibane, and **J.-D. Gu** (2017) Petroleum microbial biotechnology: challenges and prospects. *Frontiers in Microbiology: Microbiotechnology, Ecotoxicology and Bioremediation* doi.org/10.3389/fmicb.2017.00833



327. Li, B., L. Peng, D. Wei, M. Lei, B. Liu, Y. Lin, Z. Li, and **J. Gu** (2017) Enhanced flocculation and sedimentation of trace cadmium from irrigation water using phosphoric fertilizer. *Science of the Total Environment* **601-602**: 485–492. DOI: 10.1016/j.scitotenv.2017.05.160
328. Li, X.X., J.-F. Liu, L. Zhou, S.M. Mbadinga, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2017) Diversity and composition of sulfate-reducing microbial communities based on genomic DNA and RNA transcription in production water of high temperature and corrosive oil reservoir. *Frontiers in Microbiology: Microbiotechnology, Ecotoxicology and Bioremediation* doi: 10.3389/fmicb.2017.01011
329. Li, X.X., S.M. Mbadinga, J.-F. Liu, L. Zhou, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2017) Microbiota and their affiliation with physiochemical characteristics of different subsurface petroleum reservoirs. *International Biodeterioration & Biodegradation* **120**: 170–185. DOI: 10.1016/j.ibiod.2017.02.005
330. Li, X.-X., T. Yang, S.M. Mbadinga, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, B.-Z. Mu (2017) Responses of microbial community composition to temperature gradient and carbon steel corrosion in production water of petroleum reservoir. *Frontiers in Microbiology: Microbiotechnology, Ecotoxicology and Bioremediation* **8**: 2379. DOI: 10.3389/fmicb.2017.02379
331. Liu, Y., S.M. Mbadinga, **J.-D. Gu**, and B.-Z. Mu (2017) Type II chaperonine gene as a complementary barcode for 16S rRNA gene in study of Archaea diversity of petroleum reservoirs. *International Biodeterioration & Biodegradation* **123**: 113–120. DOI: 10.1016/j.ibiod.2017.04.015
332. Luo, L., M. Han, R.-n. Wu, and **J.-D. Gu** (2017) Impact of nitrogen pollution/deposition on extracellular enzyme activity, microbial abundance and carbon storage in coastal mangrove sediment. *Chemosphere* **177**: 275–283. DOI: 10.1016/j.chemosphere.2017.03.027
333. Luo, L., H. Meng, and **J.-D. Gu** (2017) Microbial extracellular enzymes in biogeochemical cycling of ecosystems. *Journal of Environmental Management* **197**: 539–549. DOI: 10.1016/j.jenvman.2017.04.023
334. Luo, S., L. Li, A. Chen, H. Xia, and **J.-D. Gu** (2017) Biosorption of diethyl phthalate ester by living and nonliving *Burkholderia cepacia* and the role of its cell surface components. *Chemosphere* DOI: 10.1016/j.chemosphere.2017.03.042
335. Meng, H, Y. Katayama, and **J.-D. Gu** (2017) Wide occurrence and dominance of ammonia-oxidizing archaea than bacteria at three Angkor sandstone temples Bayon, Phnom Krom and Wat Athvea in Cambodia. *International Biodeterioration & Biodegradation* **117**: 78–88. DOI: 10.1016/j.ibiod.2016.11.012
336. Meng, H., Y. Yang, J.-G. Lin, M. Li, M. Denecke, and **J.-D. Gu** (2017) Occurrence of anammox bacteria in a traditional full-scale wastewater treatment plant and successful inoculation for new establishment. *International Biodeterioration & Biodegradation* **120**: 224–231. DOI: 10.1016/j.ibiod.2017.01.022
337. Meng, H., R. Wu, Y.-F. Wang, and **J.-D. Gu** (2017) A comparison of denitrifying bacterial community structures and abundance in acidic soils between natural forest and re-vegetated forest of Nanling Nature Reserve in southern China. *Journal of Environmental Management* **198**: 41–49. DOI: 10.1016/j.jenvman.2017.04.066
338. Pan, P., B. Hong, S.M. Mbadinga, L.-Y. Wang, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2017) Iron oxides alter methanogenic pathways of acetate in production water of high-temperature petroleum reservoir. *Applied Microbiology and Biotechnology* **101** (18): 7053–7063. DOI: 10.1007/s00253-017-8422-2
339. Wu, F., H. Feng, W. Wang, and **J.-D. Gu** (2017) Realization of biodeterioration to cultural heritage protection in China. *International Biodeterioration & Biodegradation* **117**: 128–130. DOI: 10.1016/j.ibiod.2016.12.002
340. Wu, F., Y. Duan, W. Wang, D. He, **J.-D. Gu**, H. Feng, T. Chen, G. Liu, and L. An (2017) The microbial community characteristics and biodeterioration assessment of ancient wall paintings in Maijishan Grottoes, China. *PLoS One* **5**: 12(7): e0179718
341. Wu, R., H. Meng, Y. Wang, W. Lan, and **J.-D. Gu** (2017) A more comprehensive community of ammonia-oxidizing archaea (AOA) revealed by genomic DNA and RNA analyses of *amoA* gene in subtropical acidic forest soil. *Microbial Ecology* **74**(4): 910–922. DOI: 10.1007/s00248-017-1045-4

342. Xiong, Z.-Q., G.-X. Wang, Z.-C. Hou, L. Yan, Y.-M. Gao, Y.-J. Wang, **J.-D. Gu**, and W.-D. Wang (2017) Effect of aeration rates on the composting process and loss of nitrogen during composting. *Applied Environmental Biotechnology* **2** (1): 20–27. DOI: 10.26789/AEB.2017.01.003
343. Yang, T., S.M. Mbadanga, L. Zhou, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2017) Propionate metabolism and diversity of relevant functional genes by in silico analysis and detection in subsurface petroleum reservoirs. *World Journal of Microbiology and Biotechnology* **33**(10): 182 DOI: 10.1007/s11274-017-2350-2
344. Yip, K., G. Zhang, and **J.-D. Gu** (2017) Aerobic degradation and metabolite identification of the *N*-heterocyclic indole by the *Pseudomonas putida* strain mpky-1 isolated from subtropical mangrove sediment. *Applied Environmental Biotechnology* **2** (1): 1–10. DOI: 10.26789/AEB.2017.01.001
345. Zhang, G., and **J.-D. Gu** (2017) Biodegradation of chemically synthesized syndiotactic poly( $\beta$ -[R]-hydroxybutyrate) in soil. *Applied Environmental Biotechnology* **2** (1): 41–44. DOI: 10.26789/AEB.2017.01.006
346. Zhou, Z., J. Chen, H. Meng, V. Dvornyk, and **J.-D. Gu** (2017) New PCR primers targeting hydrazine synthase and cytochrome *c* biogenesis proteins in anammox bacteria. *Applied Microbiology and Biotechnology* **101** (3): 1267–1287. DOI: 10.1007/s00253-016-8013-7
347. Zhou, Z., H. Meng, Y. Liu, **J.-D. Gu**, and M. Li (2017) Stratified bacterial and archaeal community in mangrove and intertidal wetland mudflats revealed by high throughput 16S rRNA gene sequencing. *Frontiers in Microbiology: Terrestrial Microbiology* **8**:2148. DOI: 10.3389/fmicb.2017.02148  
**[2018]**
348. Au, W.Y., X.-Z. Yu, and **J.-D. Gu** (2018) Current research advances on phytoremediation of cyanide and iron cyanide complexes. *Applied Environmental Biotechnology* **3** (1): 10–17. DOI: dx.doi.org/10.26789/AEB.2018.01.002
349. Cai, M., Y. Liu, Z. Zhou, Y. Yang, J. Pan, **J.-D. Gu**, and M. Li (2018) Asgard archaea are diverse, ubiquitous, and transcriptionally active microbes. *bioRxiv* DOI: 10.1101/374165
350. Duan, Y., F. Wu, W. Wang, **J.-D. Gu**, Y. Li, H. Feng, T. Chen, G. Liu, and L. An (2018) Differences of microbial community on the wall paintings preserved in situ and ex situ of the Tiantishan Grottoes, China. *International Biodeterioration & Biodegradation* **132**: 102–113. DOI: 10.1016/j.ibiod.2018.02.013
351. **Gu, J.-D.** (2018) Mining, pollution and site remediation. *International Biodeterioration & Biodegradation* **128**: 1–2. DOI: 10.1016/j.ibiod.2017.11.006
352. **Gu, J.-D.** (2018) The endocrine-disrupting plasticizers will stay with us for a long time. *Applied Environmental Biotechnology* **3** (1): 61–64. DOI: dx.doi.org/10.26789/AEB.2018.01.008
353. **Gu, J.-D.** (2018) Steadily progress into the future. *Applied Environmental Biotechnology* **3** (2): 1.
354. **Gu, J.-D.** (2018) Bioremediation of toxic metals and metalloids for cleaning up from soils and sediments. *Applied Environmental Biotechnology* **3** (2): 61–64. DOI: dx.doi.org/10.26789/AEB.2018.02.006
355. **Gu, J.-D.**, and W.B. McGill (2018) Quantification of symbiotically fixed N<sub>2</sub> by faba bean and allocation of <sup>15</sup>N among above- and below-ground components of faba bean, canola and barley on a Gray Luvisol. *Applied Environmental Biotechnology* **3** (1): 29–39. DOI: dx.doi.org/10.26789/AEB.2018.01.004
356. Hu, H., J.-F. Liu, C.-Y. Li, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2018) Anaerobic biodegradation of partially hydrolyzed polyacrylamide in a long-term methanogenic enrichment cultures from production water of oil reservoirs. *Biodegradation* DOI: 10.1007/s10532-018-9825-1
357. Lee, K.H., Y.F. Wang, Y. Wang, **J.-D. Gu**, and J.J. Jiao (2018) Abundance and diversity of aerobic/anaerobic ammonia/ammonium-oxidizing microorganisms in an ammonium-rich aquitard in the Pearl River Delta of South China. *Microbial Ecology* **76** (1): 81–91. DOI: 10.1007/s00248-016-0815-8
358. Liang, B., K. Zhang, L.-Y. Wang, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2018) Different diversity and distribution of archaeal community in the aqueous and oil phases of production fluid from high-temperature petroleum reservoirs. *Frontiers in Microbiology* **9**: 841. DOI: 10.3389/fmicb.2018.00841

359. Liu, J.-F., J.-Y. Feng, H. Hu, C.-Y. Li, S.-Z. Yang, J.-D. Gu, and B.-Z. Mu (2018) Decrease in viscosity of partially hydrolyzed polyacrylamide solution caused by the interaction between sulfide ion and amide group. *Journal of Petroleum Science and Engineering* **170**: 738–743. DOI: 10.1016/j.petrol.2018.07.017
360. Liu, X., H. Meng, Y. Wang, Y. Katayama, and **J.-D. Gu** (2018) Water is the critical factor to establishment biological and stability of Angkor temple sandstone in Southeast Asia. *International Biodeterioration & Biodegradation* **133**: 9–16. DOI: 10.1016/j.ibiod.2018.05.011
361. Liu, X., J. Pan, Y. Liu, M. Li, and **J.-D. Gu** (2018) Diversity and distribution of Archaea in global estuarine ecosystems. *Science of the Total Environment* **637**: 349–358. DOI: 10.1016/j.scitotenv.2018.05.016
362. Liu, X., M. Li, C.J. Castelle, A.J. Probst, Z. Zhou, J. Pan, Y. Liu, J.F. Banfield, and **J.-D. Gu** (2018) Insights into the ecology, evolution and metabolism of the widespread Wosearchaeotal lineage. *Microbiome* **6**: 102. DOI: 10.1186/s40168-018-0488-2
363. Liu, X., L. Shi, and **J.-D. Gu** (2018) Microbial electrocatalysis: Redox mediators responsible for extracellular electron transfer. *Biotechnology Advances* **36**: 1815–1827. DOI: 10.1016/j.biotechadv.2018.07.001
364. Liu, Y., Z. Zhou, J. Pan, B.J. Baker, **J.-D. Gu**, and M. Li (2018) Comparative genomic inference suggests mixtrophic life style for Thoarchaeatoa. *ISME Journal* DOI: 10.1038/s41396-018-0060-x
365. Liu, Y.-F., D.D. Galzerani, S.M. Mbadinga, L.S. Zaramela, **J.-D. Gu**, B.-Z. Mu, and K. Zengler (2018) Metabolic capability and in situ activity of microorganisms in an oil reservoir. *Microbiome* **6**: 5 DOI: 10.1186/s40168-017-0392-1
366. Luo, L., and **J.-D. Gu** (2018) Nutrient limitation status in a subtropical mangrove ecosystem revealed by analysis of enzymatic stoichiometry and microbial abundance for sediment carbon cycling. *International Biodeterioration & Biodegradation* **128**: 3–18. DOI: 10.1016/j.ibiod.2016.04.023
367. Luo, L., and **J.-D. Gu** (2018) Influence of macrofaunal burrows on extracellular enzyme activity and microbial abundance in subtropical mangrove sediments. *Microbial Ecology* **76** (1): 92–101. DOI: 10.1007/s00248-016-0844-3
368. Luo, L., R. Wu, **J.-D. Gu**, J. Zhang, S. Deng, Y. Zhang, L. Wang, and Y. He (2018) Influence of mangrove roots on microbial abundance and coenzyme activity in sediments of a subtropical coastal mangrove ecosystem. *International Biodeterioration & Biodegradation* **126**: 95–102. DOI: 10.1016/j.ibiod.2018.05.002
369. Ma, L., B. Liang, L.-Y. Wang, L. Zhou, S.M. Mbadinga, **J.-D. Gu**, and B.Z. Mu (2018) Microbial reduction of CO<sub>2</sub> from injected NaH<sup>13</sup>CO<sub>3</sub> with degradation of *n*-hexadecane in the enrichment culture derived from a petroleum reservoir. *International Biodeterioration & Biodegradation* **132**: 10–17. DOI: 10.1016/j.ibiod.2017.12.002
370. Ma, L., L. Zhou, M. Mbadinga, **J.-D. Gu**, and B.Z. Mu (2018) Accelerated CO<sub>2</sub> reduction to methane by zero valent iron in oil reservoir production water. *Energy* **147**: 663–671. DOI: 10.1016/j.energy.2018.01.087
371. Peng, L., X. Deng, H. Song, X. Tan, **J.D. Gu**, S. Luo, and M. Lei (2018) Manganese enhances the immobilization of trace cadmium from irrigation water in biological soil crust. *Ecotoxicology and Environmental Safety* **168**: 369–377. DOI: 10.1016/j.ecoenv.2018.10.087
372. Sterflinger, K., B. Little, G. Pinar, F. Pinzari, A. de los Rios and **J.-D. Gu** (2018) Future directions and challenges in biodeterioration research on historic materials and cultural properties. *International Biodeterioration & Biodegradation* **129**: 10–12. DOI: 10.1016/j.ibiod.2017.12.007
373. Wan, K.C., and **J.-D. Gu** (2018) Surface physical roughness correlating to biofilm attachment on galvanized aluminum surfaces by bacteria. *Applied Environmental Biotechnology* **3(1)**: 40–45. DOI: 10.26789/AEB.2018.01.005
374. Wang, Q., G.-Y. A. Tan, M. Azari, X. Huang, M. Denecke, Y. Men, J.Y. Jung, S. Okabe, M. Ali, Y.-T. Huang, Z. Wu, W.-H. Lo, **J.-D. Gu**, J.-G. Lin, and P.-H. Lee (2018) Insights into the roles of anammox bacteria in post-treatment of anaerobically-treated sewage. *Critical Reviews in Environmental Science and Technology* **48(6)**: 655–684. DOI: 10.1080/10643389.2018.1474679

375. Wang, Y., and **J.-D. Gu** (2018) Ecological distribution of *Vibrios* and their significance in coastal ecosystem. *Applied Environmental Biotechnology* **3**(2): 40–45. DOI: 10.26789/AEB.2018.02.002
376. Wu, R., H. Meng, Y.-F. Wang, and **J.-D. Gu** (2018) Effects of re-forestation on ammonia-oxidizing microbial community composition and abundance in subtropical acidic forest soils. *Applied Microbiology and Biotechnology* **102**: 5309–5322. DOI: 10.1007/s00253-018-8873-0
377. Xu, H.-B., M. Tsukuda, Y. Takahara, T. Sato, **J.-D. Gu**, and Y. Katayama (2018) Lithoautotrophical oxidation of elemental sulfur by fungi including *Fusarium solani* isolated from sandstone Angkor temples. *International Biodeterioration & Biodegradation* **126**: 95–102. DOI: 10.1016/j.ibiod.2017.10.005
378. Yan, L., G. Wang, S. Ai, Z. Huo, Y. Wang, **J.-D. Gu**, and W. Wang (2018) Abundance of ammonia-oxidizing bacteria and archaea under different ventilation strategies during cattle manure composting. *Journal of Environmental Management* **212**: 375–382. DOI: 10.1016/j.jenvman.2018.02.032
379. Yang, Y., F.T.M. Chui, P.P. Shen, Y. Yang, and **J.-D. Gu** (2018) Modeling the temporal dynamics of intertidal benthic infauna biomass with environmental factors: Impact assessment of land reclamation. *Science of the Total Environment* **618**: 439–450. DOI: 10.1016/j.scitotenv.2017.10.325
380. Yang, Y., M. Li, X.-Y. Li, and **J.-D. Gu** (2018) Two identical copies of the hydrazine synthase gene clusters found in the genomes of anammox bacteria. *International Biodeterioration & Biodegradation* DOI: 10.1016/j.ibiod.2018.04.011
381. Zhang, X., Y. Liu, and **J.-D. Gu** (2018) A global analysis on the distribution pattern of the bacteria coupling methane oxidation to nitrite reduction. *International Biodeterioration & Biodegradation* **126**: 123–132. DOI: 10.1016/j.ibiod.2018.01.014
382. Zhang, X., Q. Ge, X. Zhu, M. Deng, and **J.-D. Gu** (2018) Microbiological community analysis of the Royal Palace in Angkor Thom and Beng Mealea of Cambodia by Illumina sequencing based on 16S rRNA gene. *International Biodeterioration & Biodegradation* **134**: 127–135. DOI: 10.1016/j.ibiod.2018.06.018
383. Zheng, J., J.-Q. Feng, L. Zhou, S.M. Mbadinga, **J.-D. Gu** and B.-Z. Mu (2018) Characterization of bacterial composition and diversity in a long-term petroleum contaminated soil and isolation of high-efficiency alkane-degrading strains using an improved medium. *World Journal of Microbiology and Biotechnology* **34**: 34 DOI: 10.1007/s11274-018-2417-8
384. Zhou, Z., Y. Liu, M. Li, and **J.-D. Gu** (2018) Two or three domains: A new view of the tree of life in the genomics era. *Applied Microbiology and Biotechnology* **102** (7): 3049–3058. DOI: 10.1007/s00253-018-8831-x
385. Zhou, Z., J. Pan, F. Wang, **J.-D. Gu**, and M. Li (2018) Bathyarchaeota: global generalists with an important role in carbon cycling. *FEMS Microbiology Reviews* **42** (5): 639–655. DOI: 10.1093/femsre/fuy023
386. Zhou, Z., Q. Wei, Y. Yang, M. Li, and **J.-D. Gu** (2018) Practical applications of PCR primers in detection of anammox bacteria effectively from different types of samples. *Applied Microbiology and Biotechnology* **102** (14): 5859–5871. DOI: 10.1007/s00253-018-9078-2
387. Zhou, Z., G.-X. Zhang, Y.-B. Xu, and **J.-D. Gu** (2018) Successive transitory distribution of Thaumarchaeota and partitioned distribution of Bathyarchaeota from the Pearl River estuary to the northern South China Sea. *Applied Microbiology and Biotechnology* **102** (18): 8035–8048. DOI: 10.1007/s00253-018-9147-6
- [2019]**
388. **Gu, J.-D.** (2019) Microbial ecotoxicology as an emerging research subject. *Applied Environmental Biotechnology* **4** (1): 1–4. DOI: 10.26789/AEB.2019.01.001
389. **Gu, J.-D.** (2019) On applied toxicity. *Applied Environmental Biotechnology* **4** (2): 1-4. DOI: 10.26789/AEB.2019.02.001
390. Ma, L., L. Zhou, M.-Y. Ruan, **J.-D. Gu**, and B.Z. Mu (2019) Simultaneous methanogenesis and acetogenesis from the greenhouse carbon dioxide by an enrichment culture supplemented with zero-valent iron. *Renewable Energy* **132**: 861–870. DOI: 10.1016/j.renene.2018.08.059

391. Meng, H., Z. Zhou, R. Wu, Y. Wang, and **J.-D. Gu** (2019) Diazotrophic microbial community and abundance in acidic subtropical natural and re-vegetated forest soils revealed by high-throughput sequencing of *nifH* gene. *Applied Microbiology and Biotechnology* **103** (2): 995–1005. DOI: 10.1007/s00253-018-9466-7
392. Tao, Y., H. Li, **J. Gu**, H. Shi, S. Han, Y. Jiao, G. Zhong, Q. Zhang, M.S. Akindolie, Y. Lin, Z. Chen, and Y. Zhang (2019) Metabolism of diethyl phthalate (DEP) and identification of degradation intermediates by *Pseudomonas* sp. DNE-S1. *Ecotoxicology and Environmental Safety* **173**: 411–418. DOI: 10.1016/j.ecoenv.2019.02.055
393. Wu, J., Y. Hong, X. Chang, L. Jiao, Y. Li, X. Liu, H. Xie, and **J.-D. Gu** (2019) Unexpected high diversity of anammox bacteria in deep-sea surface sediments of the South China Sea. *FEMS Microbiology Ecology* **95** (3): 861–870. DOI: 10.1093/femsec/fiz013
394. Xu, D., K. Zhang, S.M Mbadinga, L. Zhou, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2019) Simulation of *in situ* oil reservoir conditions in a laboratory bioreactor testing for methanogenic conversion of crude oil and analysis of the microbial community. *International Biodeterioration & Biodegradation* **136**: 24–33. DOI: 10.1016/j.ibiod.2018.10.007
395. Yang, G.-C., L. Zhou, S.M. Mbadinga, **J.-D. Gu**, and B.-Z. Mu (2019) Bioconversion pathway of CO<sub>2</sub> in the presence of ethanol by methanogenic enrichments from production water of a high-temperature petroleum reservoirs. *Energies* **12**: 918. DOI: 10.3390/en12050918
396. Zhou, Z., Y. Liu, K.G. Lloyd, J. Pan, Y. Yang, **J.-D. Gu**, and M. Li (2019) Genomic and transcriptomic insights into the ecology and metabolism of benthic archaeal cosmopolitan, Thermopfundales (MBG-D archaea). *The ISME Journal* **13**: 885–901. DOI: 10.1038/s41396-018-0321-8

#### [Accepted/Online](#)

397. Zhang, X., K. Liu, P. Li, J.J.J. Jiao, V. Dvornyk, and **J.-D. Gu** (2019) Molecular existence and diversity of nitrite-dependent anaerobic methane oxidizing bacteria (n-damo) in the lakes of Badain of the Gobi Desert. *Geomicrobiology Journal* **95** (3): 861–870. DOI: 10.1080/01490451.2019.1578441
398. Chen, J., Y.-F. Liu, L. Zhou, M. Mbadinga, T. Yang, J. Zhou, **J.-D. Gu**, and B.-Z. Mu (2019) Methanogenic degradation of branched alkanes in enrichment cultures of production water from a high-temperature petroleum reservoir. *Applied Microbiology and Biotechnology* **132**: 861–870. DOI: 10.1007/s00253-018-09574-1
399. Wu, R., H. Meng, Y.-F. Wang, and **J.-D. Gu** (2019) Functional dominance and community compositions of ammonia-oxidizing archaea in extremely acidic soils of natural forests. *Applied Microbiology and Biotechnology* **102**: 5309–5322. DOI: 10.1007/s00253-019-09721-2
400. Wu, Z., H. Meng, X. Huang, Q. Wang, W.H. Chen, **J.-D. Gu**, and P.-H. Lee (2019) Salinity-driven heterogeneity toward anammox distribution and growth kinetics. *Applied Microbiology and Biotechnology* **132**: 861–870. DOI: 10.1007/s00253-018-9521-4
401. Chan, P.C., Q. Lu, R.A. de Toledo, **J.-D. Gu**, and H. Shim (2019) Improved anaerobic co-digestion of food waste and domestic wastewater by copper supplementation – microbial community change and enhanced effluent quality. *Science of the Total Environment* **132**: 861–870. DOI: 10.1016/j.scitotenv.2019.03.081
402. Zhou, Z., B. Liang, L.-Y. Wang, J.-F. Liu, B.-Z. Mu, H. Shim, and **J.-D. Gu** (2019) Identify the core bacterial microbiome of hydrocarbon degradation and a shift of dominant methanogenesis pathways in oil and aqueous phases of petroleum reservoirs with different temperatures from China. *Biogeosciences Discuss* DOI: 10.5194/bg-2018-470
403. Liu, J.-F., K. Zhang, B. Liang, Z. Zhou, L. Ma, **J.-D. Gu**, and B.-Z. Mu (2019) Key players in the methanogenic biodegradation of *n*-hexadecanes identified by DNA-stable isotope probing. *International Biodeterioration & Biodegradation* DOI:
404. Zhou, L., Z. Zhou, L. Ma, S.M. Mbadinga, X.-X. Li, J.-F. Liu, **J.-D. Gu**, and B.-Z. Mu (2019) The new archaea in the production waters from five wells of a high-temperature petroleum reservoir. *Applied Microbiology and Biotechnology* DOI:
405. Li, J., M. Deng, Y. Katayama, and **J.-D. Gu** (2019) Recent advances of active microbiological processes on Angkor sandstone monuments in the tropical Cambodia – A Review. *Annals of Microbiology* DOI:

406. Zhang, G., C. Gong, J. Gu, Y. Katamaya, and **J.-D. Gu** (2019) Biodeterioration and the mechanisms involved of sandstone monuments of World Cultural Heritage sites in tropical regions. *Applied Microbiology and Biotechnology* DOI:

### Submitted

407. Meng, H., Z. Zhou, L. Luo, Y. Xu, J.-G. Lin, X. Li, and **J.-D. Gu** (2019) Simultaneous detection of anammox and n-damo bacteria in wastewater treatment plants.
408. Yang, G.-C., L. Zhou, S.M. Mbadinga, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2016) Fate of the CO<sub>2</sub> and the dominant biochemical pathways in methanogenic microcosms inoculated with production water from high temperature oil reservoirs.
409. Yang, Y.-C., H. Li, M. Li, Jih-Gaw Lin, M. Denecke, X.-Y. Li, and **J.-D. Gu** (2019) Recent Development and application of PCR primers for detection of anammox bacteria based on 16S rRNA and other genes. *Water Research*
410. Zhang, X.-W., Y. Yang, and **J.-D. Gu** (2019) Abundance and diversity of anammox bacterial in shipping channels of Hong Kong. *Folia Microbiology/Research in Microbiology*
411. Liu, X., R. Koestler, T. Warscheid, Y. Katayama, and **J.-D. Gu** (2019) Biodeterioration of stone cultural heritage and buildings and sustainable conservation in a changing environment. *Nature Sustainability*
412. Cai, M., X. Yin, Y. Liu, Z. Zhou, X. Wang, W. Li, A. Kulkarni, T. Richter-Heitmann, J. Pan, Y. Yang, **J.-D. Gu**, M.W. Friedrich, and M. Li (2019) Asgard archaea are key participants in marine sediment carbon cycle.
413. Hu, Q., Z. Zhou, Y.-F. Liu, L. Zhou, S.M. Mbadinga, J.-F. Liu, S.-Z. Yang, **J.-D. Gu**, and B.-Z. Mu (2019) High microbial diversity for the nitric oxide dismutation reaction revealed by PCR amplification and analysis on the *nod* gene. *Applied Microbiology and Biotechnology* DOI:
414. Ji, J.-H., Y.-F. Liu, L. Zhou, S.M. Mbadinga, P. Pan, J. Chen, J.-F. Liu, S.-Z. Yang, W. Sand, **J.-D. Gu**, and B.-Z. Mu (2019) Strong evidences on the initial activation by fumarate addition mechanism in methanogenic degradation of long-chain *n*-alkanes.
415. Ji, J.-H., Y.-F. Liu, L. Zhou, S.M. Mbadinga, P. Pan, J. Chen, J.-F. Liu, S.-Z. Yang, W. Sand, **J.-D. Gu**, and B.-Z. Mu (2019) Anaerobic *n*-alkanes biodegradation activated via fumarate addition by cultures enriched from low-temperature oil reservoir production water.
416. Hu, Y., X. Liu, **J.-D. Gu**, and B. Cao (2019) Optogenetic modulation of a catalytic biofilm for biotransformation of indole into tryptophan. *RSC*
417. Wu, F., et al. (2019) Biocide review. *IBB*
418. Meng, H., and **J.-D. Gu** (2019) Comammox
419. Xu, Y., J. Shao, and **Gu, J.-D.** (2019) New advances on microbial corrosion of concrete and stone. *Applied Microbiology and Biotechnology* DOI:
420. Luo, S., S. Yang, C. Sun, and **J.-D. Gu** (2012) Improved debromination of polybrominated diphenyl ethers by bimetallic iron-silver nanoparticles coupled with microwave energy.
421. Luo, S., T. Lu, L. Peng, J. Shao, Q. Zeng, and **J.-D. Gu** (2013) Removal of Pb(II) from water using nanoscale zero-valent iron immobilized in alginate microcapsules.
422. Li, H., J.-G. Lin, M. Denecke, and **Gu, J.-D.** (2017) Development and applications of microbial enhanced oil and energy recovery. *Trends in Biotechnology*

### Monograph

1. **Gu, J.-D.**, D.F. Berry, R.H. Taraban, D.C. Martens, H.L. Walker, Jr., and W.J. Edmonds (1992) Biodegradability of Atrazine, Cyanazine, and Dicamba in wetland soils. Virginia Water Resource Research Center, Bulletin No.172, Virginia Tech, Blacksburg, Virginia. 72 pages.

### Book Chapters

1. Mullins, D.E., R.W. Young, D.F. Berry, **J.-D. Gu**, and G.H. Hetzel (1993) Biologically-based sorbents and their potential use in pesticide waste disposal during composting. Pages 113–126. *In*: K.D. Racke and

- A.R. Leslie, (eds). *Pesticides in the Urban Environments: Fate and Significance*, ACS Publication No. 522, American Chemical Society, Washington, DC.
2. Gross, R.A., **J.-D. Gu**, D. Eberiel, M. Nelson, and S.P. McCarthy (1993) Cellulose acetate biodegradability in simulated aerobic composting and anaerobic bioreactors as well as by a bacterial isolate derived from compost. Pages 257–279. *In: D. Kaplan, E. Thomas and C. Ching, (eds.), Fundamentals of Biodegradable Materials and Packaging*. Technomic Publishing Co., Lancaster, Pennsylvania.
  3. Gross, R.A., **J.-D. Gu**, D. Eberiel, and S.P. McCarthy (1995) Laboratory scale composting test methods to determine polymer degradability: model studies on cellulose acetate. Pages 21–36. *In: A. Albertson and S. Huang (eds), Degradable Polymers, Recycling and Plastics Waste Management*. Marcel Dekker, New York.
  4. Mitchell, R., **Gu, J.-D.**, M. Roman, and S. Soukup (1996) Association of microbial biofilms with degradation of candidate polymeric materials for the International Space Station. *In: W. Sand (ed.), DECHEMA Monographs Vol. 133, Biodeterioration and Biodegradation*, Pages 3–16, VCH, Frankfurt, Germany.
  5. **Gu, J.-D.**, T.E. Ford, and R. Mitchell (1996) Fungal degradation of concrete. Pages 135–142. *In: W. Sand (ed.), DECHEMA Monographs Vol. 133, Biodeterioration and Biodegradation*, VCH, Frankfurt, Germany.
  6. Mitton, D.B., S. Toshima, R.M. Latanison, F. Bellucci, T.E. Ford, **J.-D. Gu**, and R. Mitchell (1997) Biodegradation of polymer-coated metallic substrates. Pages 211–222. *In: G.P. Bierwagen (ed.), Corrosion Control by Coatings*, ACS Symposium 689, American Chemical Society, Washington DC.
  7. **Gu, J.-D.**, J.S. Maki, and R. Mitchell (1997) Microbial biofilms and their role in the induction and inhibition of invertebrate settlement. Pages 343–357. *In: F.M. D'Itri, (ed.), Zebra Mussel and Other Aquatic Nuisance Species*, Ann Arbor Press, Inc., Chelsea, Michigan.
  8. **Gu, J.-D.**, Ford, and R. Mitchell (2000) Chapter 27: Microbial degradation of concrete. Pages 477–491. *In W. Revie, (ed.) The Uhlig Corrosion Handbook (2<sup>nd</sup> ed.)*, John Wiley & Sons, New York
  9. **Gu, J.-D.**, T.E. Ford, and R. Mitchell (2000) Chapter 50: Microbial corrosion of metals. Pages 915–927. *In: W. Revie, (ed.) The Uhlig Corrosion Handbook (2<sup>nd</sup> ed.)*, John Wiley & Sons, New York
  10. **Gu, J.-D.**, T.E. Ford, B. Mitton, and R. Mitchell (2000) Chapter 25: Microbial degradation of polymeric materials. Pages 439–460. *In: W. Revie, (ed.) The Uhlig Corrosion Handbook (2<sup>nd</sup> ed.)*, John Wiley & Sons, New York
  11. **Gu, J.-D.**, T.E. Ford, and R. Mitchell (2000) Chapter 21: Microbial degradation of materials: general processes. Pages 349–365. *In: W. Revie, (ed.) The Uhlig Corrosion Handbook (2<sup>nd</sup> ed.)*, John Wiley & Sons, New York
  12. **Gu, J.-D.**, and R. Mitchell (2001) Biodeterioration. *In: M. Dworkin, S. Falkow, E. Rosenberg, K.-H. Schleifer, and E. Stackebrandt, (eds), The Prokaryotes: An Evolving Electronic Resource for the Microbiological Community. (3<sup>rd</sup> ed.)* Springer-Verlag, New York
  13. **Gu, J.-D.** (2003) Microbial deterioration of synthetic and biological polymers used in engineering and construction. Pages 97–138. *In: A. Steinbüchel (ed.), Biopolymers. Vol. 10: Special Applications and General Aspects*. Wiley-VCH Verlag GmbH, Weinheim, Germany
  14. **Gu, J.-D.** (2004) Effects of free radicals on marine microbial populations. Pages 89–99. *In: N. Ramaiah (ed.), Marine Microbiology: Facets and Opportunities*. National Institute of Oceanography, Goa, India.
  15. **Gu, J.-D.** (2005) Chapter 9: Biofouling and prevention: corrosion, biodeterioration and biodegradation of materials. Pages 179–206. *In: M. Kultz, (ed.), Handbook of Environmental Degradation of Materials*. William Andrew Publishing, New York.
  16. **Gu, J.-D.**, W. Qiu, and A. Koenig (2005) Autotrophic denitrification by the bacterium *Thiobacillus denitrificans* strain MP for removal of high concentrations of NO<sub>3</sub><sup>-</sup> from simulated saline water. Pages 565–571. *In: Z. Zhu, K. Minami and G. Xing (eds), 3<sup>rd</sup> International Nitrogen Conference Contributed Papers*. Science Press and Science Press USA Inc, Beijing.
  17. Katayama, Y., X. Li, A. Kusumi, and **J.-D. Gu** (2007) Chapter 6.2 Investigation of biodeterioration. Pages 189-198. *In: T. Nakagawa, I. Shimoda, and K. Okuda (eds.), Annual Technical Report on the Survey of Angkor Monument 2007*, Angkor Project Office, Waseda University, Japan.

18. **Gu, J.-D.** (2008) Microbial transformation of organic chemicals in natural environments: the fate of chemicals and the microbial involvement through enrichment culturing techniques. Pages 175-198. *In: Q.Y. Huang, P.M. Huang, and A. Violante (eds.), Soil Mineral-Microbe-Organic Interactions – Theories and Applications.* Springer-Verlag, Berlin.
19. Xu, X.R., H. B. Li, **J.-D. Gu**, and X.Y. Li (2008) Kinetics and metabolic pathway of melatonin biodegradation by a bacterium isolated from the mangrove sediment. *In: Frank Columbus (ed.), Environmental Biodegradation Research Focus.* Nova Science, Hauppauge, New York.
20. Katayama, Y., X. Li, A. Kusumi, Y. Osuga, and **J.-D. Gu** (2008) Chapter 5.3 Microbiological study of bas-relief. Pages 166-176. *In: T. Nakagawa, I. Shimoda, and K. Okuda (eds.), Annual Technical Report on the Survey of Angkor Monument 2008,* Angkor Project Office, Waseda University, Japan.
21. **Gu, J.-D.** (2009) Corrosion, Microbial. Pages 259–269. *In: M. Schaechter (ed.), Encyclopedia of Microbiology (3<sup>rd</sup> ed.), Elsevier, U.K. dx.doi.org/10.1016/B978-012373944-5.00141-3*
22. **Gu, J.-D.** (2009) Chapter 8: Biofouling and prevention: corrosion, biodeterioration and biodegradation of materials. Pages 243–282. *In: M. Kultz, (ed.), Handbook of Environmental Degradation of Materials.* Elsevier, New York.
23. Katayama, Y., A. Kusumi, Y. Osuga, and **J.-D. Gu** (2009) Chapter 5.3 Analysis of microorganisms on surface of sandstone. Pages 136-154. *In: T. Nakagawa, I. Shimoda, K. Okuda, and Y. Yamagishi (eds.), Annual Technical Report on the Survey of Angkor Monument 2009,* Angkor Project Office, Waseda University, Japan
24. Han, X., and **J.-D. Gu** (2010) Sorption and transformation of toxic metals by microorganisms. Pages 153–176. *In: R. Mitchell and J.-D. Gu (eds.) Environmental Microbiology (2<sup>nd</sup> ed.),* John Wiley, New York.
25. **Gu, J.-D.**, T.E. Ford, and R. Mitchell (2011) Chapter 26: Microbial degradation of materials: general processes. Pages 351–363. *In: W. Revie, (ed.) The Uhlig Corrosion Handbook (3<sup>rd</sup> ed.),* John Wiley & Sons, New York
26. **Gu, J.-D.**, T.E. Ford, B. Mitton, and R. Mitchell (2011) Chapter 30: Microbial degradation of polymeric materials. Pages 421–438. *In: W. Revie, (ed.) The Uhlig Corrosion Handbook (3<sup>rd</sup> ed.),* John Wiley & Sons, New York
27. **Gu, J.-D.**, Ford, and R. Mitchell (2011) Chapter 32: Microbial degradation of concrete. Pages 451–460. *In: W. Revie, (ed.) The Uhlig Corrosion Handbook (3<sup>rd</sup> ed.),* John Wiley & Sons, New York
28. **Gu, J.-D.**, T.E. Ford, and R. Mitchell (2011) Chapter 39: Microbial corrosion of metals. Pages 549–557. *In: W. Revie, (ed.) The Uhlig Corrosion Handbook (3<sup>rd</sup> ed.),* John Wiley & Sons, New York
29. **Gu, J.-D.** (2012) Corrosion, Microbial. Pages 613–623. *In: T.M. Schmidt and M. Schaechter (ed.), Topics in Ecological and Environmental Microbiology,* Elsevier, U.K.
30. **Gu, J.-D.** (2012) Microbial deterioration/degradation of polymers used in conservation and issues with the use of antimicrobial biocides. Pages 97–105. *In: Y. Kigawa, and Y. Sato (Eds), Microbial Biodeterioration of Cultural Property, Recent Topics on the Investigation of and Countermeasures for Biodeterioration of Outdoor/Indoor Properties and Disaster-affected Objects.* National Research Institute for Cultural Properties, Tokyo
31. Katayama, Y., X.S. Li, A. Kumsumi, and **J.-D. Gu** (2012) Sulfur-oxidizing microorganisms isolated from the deteriorated sandstone in Angkor monuments, Cambodia. Pages 87–95. *In: Y. Kigawa, and Y. Sato (Eds), Microbial Biodeterioration of Cultural Property, Recent Topics on the Investigation of and Countermeasures for Biodeterioration of Outdoor/Indoor Properties and Disaster-affected Objects.* National Research Institute for Cultural Properties, Tokyo
32. Luo, Z.-H., K.-L. Pang, Y.-R. Wu, **J.-D. Gu**, R.K.K. Chow, and L.L.P. Vrimoed (2012) Degradation of phthalate esters by *Fusarium* sp. DMT-5-3 and *Trichosporon* sp. DMI-5-1 isolated from mangrove sediments. Pages . *In: C. Raghukumar (ed), Biology of Marine Fungi, Progress in Molecular and Subcellular Biology 53.* Springer-Verlag, Heidelberg, Germany. doi: 10.1007/978-3-642-23342-5\_15
33. **Gu, J.-D.** (2012) Chapter 8: Biofouling and prevention: corrosion, biodeterioration and biodegradation of materials. Pages 243–282. *In: M. Kultz, (ed.), Handbook of Environmental Degradation of Materials (2<sup>nd</sup> ed.).* Elsevier, Waltham, Massachusetts.
34. **Gu, J.-D.**, and Y. Wang (2013) Microbial transformation of phthalate esters: diversity of hydrolytic



- esterases. Pages 313–345. *In*: M.H. Wong, (ed.), *Environmental Contamination – Health Risks, Bioavailability and Bioremediation*. CRC Press, Boca Raton, Florida.
35. **Gu, J.-D.**, and R. Mitchell (2013) Biodeterioration. *In*: E. Rosenberg, E.F. DeLong, S. Lory, E. Stackebrandt, and F. Thompson, (Eds), Pages 309–341. *The Prokaryotes: Applied Bacteriology and Biotechnology*. Springer-Verlag, New York. DOI: 10.1007/978-3-642-31331-8\_31
  36. Yu, X.-Z., and **J.-D. Gu** (2013) Chapter 9: Phyto-transport and assimilation of selenium. Pages 159-175. *In*: D.K. Gupta (ed.), *Plant-Based Remediation Processes, Soil Biology 35*. Springer-Verlag Berlin, Germany.
  37. Kumar, M., A. Daverey, **J.-D. Gu**, and J.-G. Lin, (2017) Chapter 15: Anammox processes. Pages 381-407. *In*: D.J. Lee, J. Jegatheesan, H.H. Ngo, P.C. Hallenbeck, and A. Pandey (eds.), *Current Developments in Biotechnology & Bioengineering, Volume IV A: Biological Treatment of Industrial Effluents*. Elsevier, New York. DOI: 10.1016/B978-0-444-63665-2.00015-1
  38. **Gu, J.-D.** (2018) Corrosion, Microbial. Pages 1–9. *In*: T.M. Schmidt and M. Schaechter (ed.), *Topics in Ecological and Environmental Microbiology* (4<sup>th</sup> ed.), Elsevier, U.K. DOI:10.1016/B978-0-12-809633-8.13026-2
  39. **Gu, J.-D.** (2018) Chapter 14: Biofilm, Biofouling and biodeterioration of materials and prevention. Pages 273–298. *In*: M. Kultz, (ed.), *Handbook of Environmental Degradation of Materials* (3<sup>rd</sup> ed.). Elsevier, Waltham, Massachusetts. DOI: B978-0-323-52472-8.00014-9
  40. Wu, E.K.W., and **Gu, J.-D.** (2018) Biodegradability of plastics and polymeric materials: an illusion or reality to waste management solution? *In*: S.N. Singh (ed.), *Microbe-assisted Degradation of Polymer Wastes*. (submitted)
  41. Lou, L., and **J.-D. Gu** (2019) Extracellular enzymes and activities as indicators of ecosystem health. *In*: A.S. Nadda (ed.), *Microbes and Enzymes in Soil Health and Bioremediation*. Springer, Switzerland (submitted)
  42. **Gu, J.-D.**, and Y. Katayama (2019) .
  43. Zhou, L., B.-Z. Mu, and **J.-D. Gu** (2019)

### **Conference Proceedings Papers**

1. **Gu, J.-D.**, S.P. McCarthy, G.P. Smith, D. Eberiel, and R.A. Gross. 1992. Degradability of cellulose acetate (1.7, d.s.) and cellophane in anaerobic bioreactors. *Polymer Materials: Science and Engineering 67*: 230–231.
2. **Gu, J.-D.**, M. Gada, G. Kharas, D. Eberiel, S.P. McCarthy, and R.A. Gross. 1992. Degradability of cellulose acetate (1.7 and 2.5, d.s.) and poly(lactide) in simulated composting bioreactors. *Polymer Materials: Science and Engineering 67*: 351–352.
3. Thorp, K.E.G., A.S. Crasto, **J.-D. Gu**, and R. Mitchell. 1994. Biodegradation of composite materials. Pages 303–314. *In*: T. Naguy (ed), *Proceedings of Tri-Service Conference on Corrosion*, June 21-23, 1994, Orlando, Florida. U.S. Government Printing Office, Washington DC.
4. **Gu, J.-D.**, T.E. Ford, K.E.G. Thorp, and R. Mitchell. 1994. Microbial degradation of polymeric materials. Pages 291–302. *In*: T. Naguy (ed), *Proceedings of Tri-Service Conference on Corrosion*, June 21-23, 1994, Orlando, Florida. U.S. Government Printing Office, Washington DC.
5. **Gu, J.-D.**, J.S. Maki, and R. Mitchell. 1994. Biological control of zebra mussels *Dreissena polymorpha* by indigenous bacteria and their products. Pages 219–229. *In: Proceedings of the 4th International Zebra Mussel Conference*. University of Wisconsin Sea Grant Institute, Madison, Wisconsin.
6. **Gu, J.-D.**, T.E. Ford, K.E.G. Thorp, and R. Mitchell. 1995. Effects of microorganisms on stability of fiber reinforced polymer composites. Pages 279–280. *In*: D. Hui, (ed.), *The Second International Conference on Composite Engineering*, August 21-24, 1995, New Orleans, Louisiana. University of New Orleans, New Orleans, Louisiana.
7. **Gu, J.-D.**, T.E. Ford, K.E.G. Thorp, and R. Mitchell. 1995. Microbial deterioration of fiber reinforced polymeric materials. Pages 16–17, *In*: J.R. Scully, (ed.), *Corrosion/95 Research in Progress Symposium*. NACE International, Houston, Texas.

8. **Gu, J.-D.**, T.E. Ford, K.E.G. Thorp, and R. Mitchell. 1995. Microbial biodeterioration of fiber reinforced composite materials. Pages 25/1–7. In: P. Angell, S.W. Borenstein, R.A. Buchanan, S.C. Dexter, N.J.E. Dowling, B.J. Little, C.D. Lundin, M.B. McNeil, D.H. Pope, R.E. Tatnall, D.C. White, and H.G. Ziegenfuss. (eds.), *International Conference on Microbial Influenced Corrosion*, May 8-10, 1995, New Orleans, Louisiana. NACE International, Houston, Texas.
9. **Gu, J.-D.** 1998. Ecologically sustainable development: biodiversity, environmental change and human diseases. *International Symposium on Environmental Sciences and Sustainable Development for the Celebration of Centennial of Peking University*. May 2 - 5, 1998. Beijing, China.
10. Zhang, T., **J.-D. Gu**, and H.H.P. Fang. 1999. Microbial distribution in the marine biofilm. *IAWQ Conference on Biofilm Systems*, New York.
11. Mitchell, R., and **J.-D. Gu**. 1999. Interactions between air pollutants and biofilms on historic limestone. Pages 143-145. *An International Conference on Microbiology and Conservation: Of Microbes and Art*. June 16-19, 1999. Florence, Italy.
12. **Gu, J.-D.**, J.-G. Gu, and X.Y. Li. 2000. Degradation of poly(hydroxybutyrate-co-16% valerate) and cellulose acetate (DS 1.7 and 2.5) under simulated landfill condition. Pages 564–572. In: X. Bao and A.J. Englande (eds.), *Critical Technologies to the World in 21st Century: Pollution Control and Reclamation in Process Industries*. September 18-20, 2000. Beijing, China.
13. **Gu, J.-D.**, Y. Fan, and H. Shi. 2001. Degradation mechanisms of indolic compounds under methanogenic conditions. Pages 296–302. In: D.D. Sun and F. Wilson (eds.), *IWA Asia Environmental Technology 2001*. October 30-November 3, 2001. Singapore.
14. Fan, Y., S. Cheng, and **J.-D. Gu**. 2001. Degradation of phthalic acid and dimethyl phthalate ester by an aerobic enrichment of microorganisms. Pages 547–554. In: D.D. Sun and F. Wilson (eds.), *IWA Asia Environmental Technology 2001*. October 30-November 3, 2001. Singapore.
15. **Gu, J.-D.** 2002. Microbiological deterioration of polymeric materials: fact or fiction. *International Congress on Emerging Corrosion Control Strategies for the New Millennium*. February 20-22, 2002. New Delhi, India.
16. **Gu, J.-D.** 2003. Microorganisms and microbial biofilms in the degradation of polymeric materials. *Corrosion/2003*, Paper No. 3570. March 17-21, 2003. San Diego, California. NACE International, Houston, Texas.
17. Wan, C.K., H. Sun, and **J.-D. Gu**. 2003. Surface properties of galvanized metals and attachment by the bacterium *Janthinobacterium lividum*. *Corrosion/2003*, Paper No. 3567. March 17-21, 2003. San Diego, California. NACE International, Houston, Texas.
18. **Gu, J.-D.**, W. Qiu, A. Koenig, and Y. Fan. 2003. Autotrophic denitrification by the bacterium *Thiobacillus denitrificans* strain MP for removal of high concentrations of NO<sub>3</sub><sup>-</sup> in saline wastewater. Pages 139–148. In: E. Choi and Z. Yun (eds.), *IWA Specialty Symposium on Strong Nitrogenous and Agro-Wastewater*. June 11-13, 2003. Seoul, Korea.
19. Wang, Y., and **J.-D. Gu**. 2003. Effects of temperature, salinity and pH on the growth of environmental isolates of *Aeromonas* and *Vibrio* species from Mai Po and the Inner Deep Bay Nature Reserve Ramsar site of Hong Kong. Pages 108–110. *International Symposium on Health-Related Water Microbiology*. September 14-19, 2003. Cape Town, South Africa.
20. **Gu, J.-D.**, Y. Wang, and J. Li. 2004. Biodegradation of the endocrine-disrupting dimethyl phthalate ester isomers by microorganisms isolated from coastal sediment. Pages 70–71. *International Workshop on Marine Pollution and Ecotoxicology*. February 25-26, 2004. Goa, India.
21. **Gu, J.-D.**, and Y. Wang. 2004. *Vibrio* species isolated from coastal water of Hong Kong and responses to environmental factors. Pages 254–255. *International Workshop on Marine Pollution and Ecotoxicology*. February 25-26, 2004. Goa, India.
22. **Gu, J.-D.**, and Y. Wang. 2004. Degradation of the plasticizer *ortho*-dimethyl phthalate ester by environmental bacteria. *Corrosion/2004*, Paper No. 4576. New Orleans, Louisiana.
23. **Gu, J.-D.** and R. Mitchell. 2004. Degradation of water-soluble polyester polyurethane by *Rhodococcus globerulus* H07 isolated from soil. *Corrosion/2004*, Paper No. 4584. New Orleans, Louisiana.
24. **Gu, J.-D.**, J. Li, and Y. Wang. 2004. Degradation of the endocrine-disrupting dimethyl phthalate ester isomers by aerobic microorganisms isolated from mangrove sediment. Pages 557–561. *European*

- Symposium on Environmental Biotechnology, ESEB 2004*. W. Verstraete (ed.). (April 25-28, 2004. Oostende, Belgium). A.A. Balkema Publishers, London.
25. **Gu, J.-D.**, 2004. Degradation of the endocrine-disrupting dimethyl phthalate ester isomers: microbiology, metabolic pathways and ecological implications. Pages 350–358. *In: Proceedings of International Symposium on Biotechnology for Environmental Pollution Control*. August 14-15, 2004. Tsinghua University, Beijing, P.R. China.
  26. **Gu, J.-D.**, Y. Wang, and C.K. Wan. 2004. Degradation of poly( $\beta$ -hydroxybutyrate-co-16% valerate) and cellulose acetates in simulated methanogenic bioreactors. Pages 1651–1654. *In: Proceedings of Anaerobic Digestion 2004*. August 29-September 2, 2004. Montreal, Canada.
  27. **Gu, J.-D.**, and S.-F. Yen. 2004. Susceptibility of polymers used in artworks to biodeterioration by environmental microorganisms. Pages 228. *International Institute for Conservation Congress*. September 13-18, 2004. Bilbao, Spain.
  28. Li, J., and **J.-D. Gu**. 2004. Degradation of dimethyl isophthalate by bacteria isolated from wetland sediment. CD-Rom, *6<sup>th</sup> International Wetland Conference*. October 26-30, Avignon, France.
  29. Zhao, Z.-Y., Y.-Z. Fan, P.-P. Shen, H.Y. Lai, and **J.-D. Gu**. 2004. Distribution and sources of polycyclic aromatic hydrocarbons in sediments of the Mai Po Marshes Wetland of Hong Kong. CD-Rom, *6<sup>th</sup> International Wetland Conference*. October 26-30, Avignon, France.
  30. **Gu, J.-D.**, J. Li, and Y. Wang. 2004. Degradation of the endocrine-disrupting dimethyl phthalate ester isomers by aerobic microorganisms isolated from mangrove sediment. CD-Rom, *IWA 4<sup>th</sup> World Water Congress*. September 20-24, 2004. Marrakesh, Morocco.
  31. **Gu, J.-D.**, W. Qiu, A. Koenig and Y. Fan. 2004. Autotrophic denitrification by the bacterium *Thiobacillus denitrificans* strain MP for removal of high concentrations of  $\text{NO}_3^-$  from eutrophied water body. Pages 154–155. *The 3<sup>rd</sup> International Nitrogen Conference*. October 12-16, 2004, Nanjing, P.R. China.
  32. **Gu, J.-D.** 2004. Degradation of endocrine-disrupting phthalates: microorganisms involved and biochemical pathways. Page O23. *International Conference on Environmental and Public Health Management: Persistent Toxic Substances*. November 17-19, 2004. Baptist University of Hong Kong, Hong Kong.
  33. Li, J., and **J.-D. Gu**. 2005. Phylogenetic analysis and characteristics of microorganisms involved in degradation of endocrine-disrupting phthalate esters. Pages 161–167. *Proceedings of the 8<sup>th</sup> National Symposium on Environmental Microbiology*. S. Li, N. Ren, and F. Ma, (eds). Chemicals and Industry Press, Beijing. August 14-17, 2005, Harbin, P.R. China.
  34. **Gu, J.-D.**, and R. Zhang. 2005. Abundance of environmental *Vibrio* species in marine environment and characterization of cryptic plasmids. P. C1-10. *Seminar on Microbiology in Food and Water, Analytical Technique and Applications* in Macau. December 1-2, 2005. Macau, P.R. China.
  35. **Gu, J.-D.**, and B. Xie (2006) Protein profiles of extracellular polymeric substances and activated sludge in a membrane biological reactor by 2-dimensional gel electrophoresis. *IWA Specialized Conference – Sustainable Sludge Management: State of the Art, Challenges and Perspectives*. Pages 269-275. May 28-June 2, 2006. Moscow, Russia.
  36. Xie, B., **J.-D. Gu**, and X.Y. Li (2006) Protein profiles of extracellular polymeric substances and activated sludge in a membrane biological reactor by 2-dimensional gel electrophoresis. *Leading-Edge Strategies and Technologies for Sustainable Urban Water Management*. Pages 245-252. September 16-20, 2006. Hong Kong, PR China.
  37. Cheng, S., D. Zhao, C. Zhu, S. Sun, H. Yu, L. Zhang, W. Pan, X. Zhang, H. Yu, and **J.-D. Gu** (2006) Toxicity of Pharmaceutical Wastewater on Male Reproductive System of *Mus musculus*. *International Workshop on Environmental Health and Pollution Control*. Pages 239-246. October 22-25, 2006. Nanjing, P.R. China.
  38. Li, W.-X., X.X. Zhang, W.Y. Pan, D.-Y. Zhao, B. Wu, H.-Y. Jia, S.-L., Sun, Y.-B. Cui, H.-X. Yu, and **J.-D. Gu**, and S.-P. Cheng (2006) Software development for design of the PTA petrochemical wastewater treatment process. Pages 579-585. October 22-25, 2006. Nanjing, P.R. China

## Conference Presentations

(P, poster; OP, oral presentation; IP, invited presentation)

**[This section of more than 200 presentations to international meetings is omitted to limit this document not exceeding 45 pages.]**

## Invited Speakers

- College of Materials Science and Engineering, Beijing Institute of Astronautics and Aeronautics (1998)
- School of the Environment, Nanjing University (2000)
- Chinese Environmental Microbiology Meeting in Nanjing (2001)
- Key Laboratory of Pollution Control and Modeling, Tsinghua University (2002)
- Nanjing Agricultural University in Nanjing (May 2003)
- Chinese Environmental Microbiology Meeting in Chengdu (October 2003)
- Tropical Marine Research Institute, National University of Singapore (January 2004)
- International Workshop on Marine Pollution and Ecotoxicology, National Institute of Oceanography, Goa, India (February 2004)
- Zhejiang University in Hangzhou (April 2004)
- The 1<sup>st</sup> China-Germany Symposium on Environmental Microbiology, Beijing (August 2004)
- The 7<sup>th</sup> Symposium on Environmental Microbiology in Shanghai (October 2004)
- Conference on Microbiology of the Tropical Seas, National Institute of Oceanography, Goa, India (December 13-15, 2004)
- Swiss Federal Institute for Water Resources and Water Pollution Control (EAWAG), Dübendorf, Switzerland (May 18-19, 2005)
- Swiss Federal Laboratories for Materials Testing and research (EMPA), St. Gallen, Switzerland (May 20, 2005)
- The 8<sup>th</sup> Symposium on Environmental Microbiology in Harbin (August 14-17, 2005)
- Microbiology in Food and Water, Analytical Technique and Applications in Macau (December 1-2, 2005)
- The 4<sup>th</sup> International Symposium on Genomics, Bioinformatics, Biotechnology and Economic Development in Karachi, Pakistan (December 4-8, 2005)
- International Conference on Environmental Health and Pollution Control, Nanjing, P.R. China (October 22 – 25, 2006)
- International Aviation and Transportation Association (IATA): Aviation Fuels Forum. Athens, Greece (May 20–22, 2008)
- Kadoorie Institute, The University of Hong Kong (January 22, 2009)
- European Union Research Project COST D33 Nanoscale Electrochemical and Bioprocesses (Corrosion) at Solid aqueous Interfaces of Industrial Materials. Cluj-Napoca, Romania (May 13-15, 2009)
- International Symposium on Biological Responses to Chemical Contaminants: from Molecular to Community Level. Aveiro, Portugal (September 2–4, 2009)
- BSR Forum on Water Quality and Pollution in the region. Hong Kong, PR China (January 22, 2010)
- School of Life Sciences, Zhejiang University. Hangzhou, PR China (April 1-4, 2010)
- Plenary Keynote lecture: 13<sup>th</sup> Mainland-Taiwan Environmental Protection Conference, Chongqing, PR China, 23–25 April, 2010.
- International Conference on Enzymes & Biocatalysis-2010 (SEB-2010). Shanghai, China (April 22-24, 2010)
- College of Environmental Engineering and Sciences, East China University of Science and Technology, Shanghai, PR China (May 9-11, 2010)
- School of Environmental Engineering and Sciences, Hunan Agricultural University, Changsha, PR China (May 13-15, 2010)
- Wuhan Botanical Garden, Chinese Academy of Sciences, Wuhan, PR China (July 12-16, 2010)
- School of Biological Sciences, Lanzhou University, PR China (August 3-9, 2010)

- Sino-Forest Applied Research Centre for Pearl River Delta Environment (ARCPE) - Public Environmental Lectures. Hong Kong, China (July, 2010)
- 2010 Taipei International Conference on Investigation, Remediation and Management of Soil and Groundwater Contaminated Sites – Invited Speaker. Taipei, Taiwan (October 24-29, 2010)
- Materials Research Society Meeting, Microbial Life on Surfaces: Biofilm-Material Interactions– Invited Speaker, San Francisco, USA (April 25-29, 2011)
- Taiwan National Shiao Tung University, Hsinchu, Taiwan (May, 2011)
- The 1<sup>st</sup> International Conference on Geomicrobial Ecotoxicology – Invited Speaker, Wuhan, P.R. China, May 30–June 2, 2011.
- The 4<sup>th</sup> International Conference on Enzymes in the Environment, Methods in Environmental Enzymology – Invited Speaker, Bad Nauheim, Germany, 17–21 July, 2011.
- Taiwan National Shiao Tung University, Hsinchu, Taiwan (May, 2012)
- The 14<sup>th</sup> Symposium on Environmental Microbiology in Xiamen (November 25-28, 2011)
- Environmental Microbiology Symposium in Taichung, Taiwan (September 13-15, 2012)
- International Biotechnology Symposium in Daegu, Korea (September 16-21, 2012)
- China-USA Forum on Environmental Health and pollution Control, Nanjing, P.R. China (September 21-22, 2012)
- International Water Association (IWA) Conference on Nutrient Removal and Recovery in Harbin, PR China (September 23-25, 2012)
- International Symposium on Microbial Biodeterioration of Cultural Property: Recent Topics on the Investigation and Countermeasures, Tokyo National Museum, Tokyo, Japan (December 5–7, 2012)
- The XVI International Biodeterioration and Biodegradation Symposium, Lodz, Poland (September 3–5, 2014)
- The XVII<sup>th</sup> International Environmental Biodeterioration and Biodegradation Symposium (IBBS17): Preservation and Protection of Materials. Manchester, U.K. (September 6–8, 2017)
- The 4<sup>th</sup> International Environmental Engineering Conference & Annual Meeting of the Korean Society of Environmental Engineers (IEEC 2017). Jeju, South Korea (November 15–17, 2017)
- The 4<sup>th</sup> International Water Industry Conference – New Paradigm of Water Industry. Daegu, South Korea (September 11–14, 2018)
- The 3<sup>rd</sup> European Conference on Biodeterioration of Stone Monuments (ECBSM2018). Cergy-Pontoise, France (November 8–9, 2018)

### Courses Teaching

- BIOL2606/3109 Environmental Microbiology
- BIOL2614/3110 Environmental Toxicology
- ENVS2008/3042 Pollution (*discontinued from 2016*)
- ENVS2009/4110 Environmental Remediation

### Supervision Experience

- Post-doctoral research fellows: currently: Yongfeng Wang; completed: Yanzhen Fan, Yiguo Hong, Wensheng Lan, Hui Li, Xiangzhen Li, Ruifu Zhang, Zhenye Zhao, Hongli Hu, Xiaozhang Yu, Yongfeng Wang, Meng Li, Anwei Chen
- Graduate students: currently 6 Ph.D. students
- M.Sc. (Environ. Manag.): 10+ graduated

### Graduate Students Completed:

Name	Year	Title	Degree
Ma, Yee Ki	2002	Fractionation, release and adsorption of heavy metals in contaminated marine sediments	M.Phil.

<b>Wany, Yanling</b>	2003	Isolation and characterization of environmental <i>Vibrio</i> species from Mai Po Nature Reserve	M.Phil.
<b>Lai, Mei Yi</b>	2004	Fractionation, mobilization and bioaccumulation of heavy metals and mineralogical characteristics of the Mai Po Inner Deep Bay mudflat	M.Phil.
<b>Wang, Yingying</b>	2004	Bacterial degradation of <i>ortho</i> -dimethyl phthalate ester and adaptation of <i>Escherichia coli</i> K12 to carbon-limited growth	M.Phil.
<b>Wang, Yuping</b>	2004	Degradation of dimethyl phthalate, dimethyl isophthalate and dimethyl terephthalate by bacteria from deep-ocean sediment	M.Phil.
<b>Cheung, Ka Hong</b>	2005	Chromate toxicity assessment and detoxification by bacteria from the environments	Ph.D.
<b>Yip, Choi Yuen</b>	2005	Degradation of <i>N</i> -heterocyclic aromatics indole and 2-methylindole and characterization of the bacteria involved from wetland sediment	M.Phil.
<b>Xu, Xiangrong</b>	2005	Reductive detoxification of hexavalent chromium and degradation of methyl tertiary butyl ether and phthalate esters	Ph.D.
<b>Chiu, Ellen</b>	2007	Proteomic and physiological studies of paralytic shellfish toxin producing dinoflagellates <i>Alexandrium tamarense</i> and <i>Gymnodinium catenatum</i>	M.Phil.
<b>Shen, Pingping</b>	2008	Benthic infaunal community at an intertidal mudflat and molecular analysis of the dominant species <i>Neanthes glandicincta</i> (polychaeta)	Ph.D.
<b>Yu, Xiao-Zhang</b>	2008	Uptake, assimilation and toxicity of cyanogenic compounds in plants	Ph.D.
<b>Pan, Li</b>	2008	The <i>Vibironaceae</i> horizontal gene pool: plasmid replication and identification	Ph.D.
<b>Hu, Hongli</b>	2010	Morphological and molecular studies of selected Dothideomycetes	Ph.D.
<b>Lee, Ka Kwok</b>	2010	Molecular analysis of anammox, AOA and AOB in high nitrogen sediment and wetlands	M.Phil.
<b>Wang, Jing</b>	2011	Cultural independent analysis of anammox, AOA and AOB in paddy soils of Sanjiang Plain in Northeast China	Ph.D.
<b>Li, Meng</b>	2011	Diversity of anammox bacteria in coastal and ocean sediments and interactions among ammonia oxidizers and nitrite reducers	Ph.D.
<b>Cao, Huiluo</b>	2011	Molecular ecology of ammonia oxidizing archaea and bacteria	Ph.D.
<b>Jiang, Xiwen</b>	2012	Proteomics analysis of toxins-producing dinoflagellates and toxins-contaminated marine organisms	Ph.D.
<b>Wang, Yongfeng</b>	2012	Molecular analysis of ammonia oxidizing prokaryotes in mangrove wetlands and factors affecting their dynamics	Ph.D.
<b>Ding, Shunping</b>	2013	A survey of fungi associated with trees in subtropical Hong Kong	M.Phil.
<b>Han, Ping</b>	2013	Molecular detection methods and characterization of anammox bacteria from different niches	Ph.D.
<b>Chen, Jing</b>	2015	Nitrite-dependent methane oxidation bacteria from ocean sediment and coastal wetland	Ph.D.
<b>Lou, Ling</b>	2015	Extracellular enzyme activities in coastal mangrove sediment	Ph.D.
<b>Zhou, Zhichao</b>	2016	Molecular detection and ecology of newly emerging bacterial	Ph.D.

		and archaeal groups in coastal wetland and ocean sediments	
<b>Meng, Han</b>	2017	Molecular analysis of nitrogen cycling related microorganisms in forest soils and engineering systems	Ph.D.
<b>Wu, Ruonan</b>	2018	Ammonia-oxidizing microorganisms in acidic forest soil and CRISPR-CAS of soil metagenomes	Ph.D.
<b>Zhang, Xiaowei</b>	2018	Analysis of microbial nitrite-dependent oxidation of methane and ammonium in different niches by molecular techniques	Ph.D.

### Current Graduate Students:

**Yang, Yuchun** (2019) Ph.D.

**Liu, Xiaobo** (2020) Ph.D.

**Ding, Xinhua** (2021) Ph.D.

### Consulting Reports

1. Assessment of microbial degradation of space station materials. (Part A). Prepared for and submitted to US NASA (June 1995).
2. Assessment of microbial degradation of space station materials. (Part B). Prepared for and submitted to US NASA (August 1995).
3. A preliminary analysis of potable air-conditioning units for microbial contamination. Prepared for and submitted to United Technologies and Carrier Co. (February 1996). 19 pages.
4. A comparative analysis of six air-conditioning coils for microbial contamination. Prepared for and submitted to United Technologies and Carrier Co. (March 1996). 25 pages.
5. Efficacy of Omicide<sup>®</sup> against a mixed fungal culture isolated from air-conditioning coils. Prepared for and submitted to United Technologies and Carrier Co. (March 1996). 25 pages.
6. Test of two water-soluble lubricants with a mixed fungal culture and efficacy of Omicide<sup>®</sup> against the fungal culture in a simulated study. Prepared for and submitted to United Technologies and Carrier Co. (September 1996). 22 pages.
7. Test of four biocides at different concentrations on growth of microorganisms for air-conditioning units. Prepared for and submitted to United Technologies and Carrier Co. (December 1996). 41 pages.
8. Microbial colonization of G.I.C. consolidant polymers and inhibition of microbial growth by biocides. Prepared for and submitted to Getty Conservation Institute (January 1997). 14 pages.
9. Preliminary analysis of microbial growth in the presence of Prelube 19 and the addition of a biocide TBTO. Prepared for and submitted to The Grignard Company. (July 1997). 27 pages.
10. Mai Po Inner Deep Bay Ramsar Site Baseline Ecological Monitoring Project 2001-2002 – Final Report. Tender Ref. No. AFD/SQ/28/01. Prepared for and submitted to Agriculture, Fisheries and Conservation Department of the Hong Kong Government. (June 2003) 266 pages.
11. Mai Po Inner Deep Bay Ramsar Site Baseline Ecological Monitoring Project 2001-2002 – Executive Summary. Tender Ref. No. AFD/SQ/28/01. Prepared for and submitted to Agriculture, Fisheries and Conservation Department of the Hong Kong Government. (June 2003) 18 pages.
12. Mai Po Inner Deep Bay Ramsar Site Baseline Ecological Monitoring Project 2002-2004 – Final Report. Tender Ref. No. AFD/SQ/57/02. Prepared for and submitted to Agriculture, Fisheries and Conservation Department of the Hong Kong Government. (June 2007) 276 pages.
13. Mai Po Inner Deep Bay Ramsar Site Baseline Ecological Monitoring Project 2003-2005 – Final Report. Tender Ref. No. AFCD/SQ/46/03. Prepared for and submitted to Agriculture, Fisheries and Conservation Department of the Hong Kong Government. (February 2005) 283 pages.
14. Mai Po Inner Deep Bay Ramsar Site Baseline Ecological Monitoring Project 2004-2006 – Final Report. Tender Ref. No. AFCD/SQ/59/04. Prepared for and submitted to Agriculture, Fisheries and Conservation Department of the Hong Kong Government. (April 2006) 328 pages.

15. Mai Po Inner Deep Bay Ramsar Site Baseline Ecological Monitoring Project 2005-2007 – Final Report. Tender Ref. No. AFCD/SQ/49/05. Prepared for and submitted to Agriculture, Fisheries and Conservation Department of the Hong Kong Government. (April 2007) 328 pages.
16. Mai Po Inner Deep Bay Ramsar Site Baseline Ecological Monitoring Project 2007-2008 – Final Report. Tender Ref. No. AFCD/SQ/89/06. Prepared for and submitted to Agriculture, Fisheries and Conservation Department of the Hong Kong Government. (April 2008) 309 pages.

### Consulting Experience

- *Agriculture, Fisheries and Conservation Department of the Hong Kong SAR Government*: Mai Po Inner Deep Bay Ramsar Site Baseline Ecological Monitoring (2001 - 2008)
- *Spill-Treatment International Co.*: Environmental toxicology of encapsulation chemical for hydrocarbon spill treatment (2000 - 2002)
- *Macau Water Supply Co.*: Biological control of cyanobacterial pollution (2000 - 2002)
- *NASA/Marshall Flight Center*: Monitoring microbial biofilm formation in water recycling systems for the life support systems on NASA's International Space Station (1997 - 1999)
- *Grignard Company Inc.*: Microbial corrosion of suspension bridge cables and control (1997 - 1998)
- *Altran Materials Engineering, Inc.*: Microbial degradation of metals and polymeric materials and biofouling in industrial systems and their control (1995 - 1999)
- *Carrier Company, and United Technologies*: Microbial contamination of air-conditioning systems and control strategies (1996 - 1997)
- *W.R. Grace Company*: Biodeterioration of concrete by fungi (1995 - 1997)
- *NASA/Marshall Flight Center*: Assessment of biodeterioration of candidate polymeric materials for the International Space Station (1995 - 1996)
- *GeoCenter, Inc.*: Development of biosensor for detection of microbial contamination using laser and fiber technologies (1995 - 1996)
- *3M Company*: Development of methodologies for testing polymer biodegradability under thermophilic composting and anaerobic landfill (1991 - 1993)

### Non-governmental Organizations

- *BSR*: Sustainable Water Group (2010 - )
- *Asia Water project*: Water and Health (2009 - )

### Research Grants

- Biological control of the zebra mussel, *Dreissena polymorpha*. The U.S. Army Corps of Engineers (1995 - 1997) (Co-I)
- Microbiological deterioration of protective coatings. The U.S. Air Force (1997 - 2000) (Co-I)
- Bacterial reduction of toxic metals under sulfate-reducing and methanogenic conditions. CRCG HK\$120,000 (8/1999 - 7/2001) PI
- Biofilm characterization on mild steel by CLSM and microcalorimetry. Germany/Hong Kong Joint Research Scheme 1999-2000 HK\$29,950 (3/2000 - 2/2001) PI
- Fouling control biotechnologies using immobilized bacteria and bacterial metabolites. Innovative Technology Fund HK\$1,562,000 (4/2000 - 9/2003) PI
- Marine bacteria and bioactive compounds for antifouling applications. CRCG HK\$20,000 (7/2000 - 6/2001) PI
- Biological control of algal pollution in drinking water reservoirs. Macau Water Supply Co. HK\$100,000 (11/2000 - 7/2001) PI
- Sequestration of heavy metals by microorganisms and biomaterials. Higher Education Commission, The Ministry of Education, PR China. RMB100,000 (8/2000 - 7/2001) PI



- Biofilm corrosion of metals in polluted seawater. RGC 2000-2001 HK\$1,001,817 (9/2000 - 8/2003) Co-I
- Ecological monitoring of Mai Po Inner Deep Bay Ramsar site. Agriculture, Fisheries and Conservation Department (AFCD) of HK SAR Government AFD/SQ/28/01 HK\$1,285,685 (8/2001 - 8/2002) PI
- Marine bacteria for bioactive substances. RGC 2001-2004 HK\$3,500,000 (6/2001 - 5/2004) Co-I
- Ecological monitoring of Mai Po Inner Deep Bay Ramsar site. AFD/SQ/57/02 HK\$1,181,685 (12/2002 - 11/2003) PI
- Ecological monitoring of Mai Po Inner Deep Bay Ramsar site. AFCD/SQ/46/03 HK\$1,199,999 (1/2004 - 2/2005) PI
- Super genetic engineered bacterium and detoxification enzymes for bioremediation. Ministry of Science and Technology, PR China RMB¥3,500,000 (12/2003 - 12/2005) Co-I
- Super genetic engineered bacterium and detoxification enzymes for bioremediation. CRCG Matching Fund HK\$300,000 (12/2003 - 12/2005) PI
- Ecological monitoring of Mai Po Inner Deep Bay Ramsar site. AFCD/SQ/59/04 HK\$1,200,000 (12/2004 - 2/2006) PI
- Sludge granulation in biological wastewater treatment: characterization, mechanisms and technology. NSFC/RGC JRS HK\$800,000 (10/2004 - 9/2007) Co-I
- Ecological monitoring of Mai Po Inner Deep Bay Ramsar site. AFCD/SQ/49/05 HK\$1,200,000 (12/2005 - 3/2007) PI
- Ecological monitoring of Mai Po Inner Deep Bay Ramsar site. AFCD/SQ/89/06. HK\$1,200,000 (1/2007- 4/2008) PI
- Mechanism of the elevated algal proliferation in intertidal shrimp ponds (*gei wais*) of the Mai Po Nature Reserve. Environmental Conservation Fund HK\$149,544 (3/2007 - 2/2008) PI
- Water quality at fish culture zones. AFCD HK\$993,646 (4/2007- 3/2008) PI
- Uncovering proteins associated with toxin biosynthesis in dinoflagellates by proteomic approaches. RGC HKU 7655/07M HK\$872,642 (10/2007- 9/2010) PI
- Ecological monitoring of Mai Po Inner Deep Bay Ramsar site. AFCD/SQ/96/07. HK\$1,089,974.12 (1/2008- 3/2009) PI
- Water quality at fish culture zones AFCD/SQ/143/07. HK\$771,794.12 (4/2008- 3/2009) PI
- Water quality monitoring at fish ponds and fish culture zones. AFCD/SQ/145/08. HK\$1,013,529.41 (4/2009- 3/2010) PI
- Analysis of fungi from wood samples. DEVB(SS)Q023/2010) HK\$49,411.76 (9/2010 - 12/2010) PI
- Provision of services for laboratory testing and diagnosis of *Phellinus noxious*. DEVB(SS) Q058/2010. HK\$559,000 (3/2011 - 9/2011) PI
- Anaerobic ammonium oxidizing bacteria as bio-indicator for the anthropogenic pollution and its history (ECF project 15/2011). Environmental Conservation Fund HK\$499,980 (12/2011 - 11/2013) PI
- Biological methanogenesis of alkanes: thermodynamics and microbial ecology. RGC/NSFC HK\$ 1,035,000.00 (12/2011 - 11/2014) PI
- Provision of Services for analysis of fungi on trees of Hong Kong. DEVB(SS) Q072/2010. HK\$1,009,000 (1/2012 - 12/2013) PI
- Phylogenetic diversity and contribution of anaerobic ammonium oxidation (anammox) bacteria to nitrogen removal in mangrove wetland ecosystem. RGC GRF HKU701913P HK\$656,521 (1/2014- 12/2016) PI
- Provision of Services Provision of Services for Laboratory Identification and Confirmation of *Phellinus noxious* on Trees Through Laboratory Diagnosis Based on Culture and/or Molecular Techniques for the Development Bureau (Works Branch) (WQ/027/13). HK\$180,000 (10/2013 - 3/2014) PI
- Next-generation wastewater technology with smart water reuse networks for a sustainable urban environment RGC (TRS T21-711/16-R). HK\$21,024,000 (11/2016 - 10/2021) Co-I