

## 郑春苗 讲席教授

南方科技大学环境学院；电话：(0755) 8801-0020；Email: [zhengcm@sustech.edu.cn](mailto:zhengcm@sustech.edu.cn)  
广东省深圳市南山区学苑大道 1088 号，邮编 518055

宁波东方理工大学(暂名)；电话：(0574) 8660-0005；Email: [czheng@eitech.edu.cn](mailto:czheng@eitech.edu.cn)  
浙江省宁波市镇海区同心路 568 号，邮编 315200

**【概述】**郑春苗，美国威斯康星(麦迪逊)大学博士，美国地球物理联合会(AGU)会士、美国地质学会(GSA)会士、中国环境科学学会外籍会士。现任宁波东方理工大学(暂名)讲席教授、副校长，兼任南方科技大学环境学院讲席教授、深圳可持续发展研究院院长。曾任南方科技大学环境学院创院院长、校长办公会成员(分管国际事务)，以及北京大学讲席教授、水科学研究中心首任主任，美国阿拉巴马大学地质科学系 George Lindahl 冠名讲席教授。

2006 年，获得国家自然科学基金委海外青年合作基金(海外杰青)。发表了 6 部专著，包括《Applied Contaminant Transport Modeling》(Wiley 出版社)，以及 480 余篇 SCI 论文，谷歌学术总引用次数超 29,500 次(截止 2024 年 11 月)。研究领域涉及地下水污染机理与修复技术、流域生态-水文-环境过程、全球变化与新污染物对地下水资源可持续利用的影响等。开发了地下水污染模拟标准软件 MT3D 和 MT3DMS，被全球 100 多个国家广泛使用。

目前担任国际期刊 Sustainable Horizons 创刊主编，曾任包括 Water Resources Research 在内的 5 份国际水资源领域权威刊物副主编，并担任过美国国家研究理事会(NRC)水文科学核心小组成员，以及国际水文科协(IAHS)国际地下水委员会主席。

学术兼职包括：国家环境保护流域地表水-地下水污染综合防治重点实验室主任、国家自然科学基金委重大研究计划“西南河流域区径流变化和适应性利用”专家指导组副组长、生态环境部土壤生态环境保护专家咨询委员会成员、国家自然科学基金委环境地球科学学科咨询专家组成员。

荣获多项国际学术荣誉，具体包括：美国地下水协会 John Hem 杰出贡献奖(1998)、美国地质学会 Birdsall-Dreiss 杰出讲席奖(2009)、美国地质学会 O.E. Meinzer 奖(国际水文地质界最高荣誉)(2013)、美国地下水协会 M. King Hubbert 奖(该协会最高科学奖)(2013)、苏丹·本·阿卜杜勒亲王国际水奖(PSIPW)(第 11 届，2024)。

入选多项权威榜单，包括：斯坦福大学发布的“全球前 2% 顶尖科学家”终身科学影响力榜单、爱思唯尔发布的“中国高被引学者”榜单、以及科睿唯安发布的“全球高被引科学家”榜单。

## 教育背景

1985-1988：博士(主修水文地质、辅修环境工程)，美国威斯康星(麦迪逊)大学  
1983-1984：教育部出国代培研究生，成都理工大学(原成都地质学院)  
1979-1983：学士(水文地质)，成都理工大学(原成都地质学院)

## 工作经历

2022-现在：南方科技大学 讲席教授、深圳可持续发展研究院院长  
2022-现在：宁波东方理工大学(暂名) 讲席教授、副校长兼工学部筹建负责人  
2018-2022：南方科技大学 讲席教授、校长办公会成员、国际合作部部长  
2015-2018：南方科技大学 讲席教授、环境科学与工程学院创院院长  
2010-2018：北京大学 讲席教授、水科学研究中心首任主任(2015 后为过渡期)  
2010-2018：美国阿拉巴马大学地质科学系 George Lindahl 讲席教授(2013 开始停薪留职)  
2002-2009：美国阿拉巴马大学地质科学系 教授  
1997-2002：美国阿拉巴马大学地球科学系 副教授(终身职)  
1993-1997：美国阿拉巴马大学地球科学系 助理教授  
1988-1993：美国 S.S. Papadopoulos & Associates, Inc. 环境与水资源咨询公司水文地质专家

## 学术经历

2021-现在：河海大学长江保护与绿色发展研究院 访问讲席教授

2018-现在：美国阿拉巴马大学地质科学系 客座教授

2001：英国谢菲尔德大学土木工程系 访问学者

2000：美国斯坦福大学地质与环境科学系 访问副教授

1995：澳大利亚国家原子能科学技术机构 访问学者

1991：美国乔治·华盛顿大学 兼职讲师

## 获奖及荣誉

2024：第 11 届苏丹·本·阿卜杜勒亲王国际水奖 (PSIPW)

2024：科睿唯安“全球高被引科学家”榜单 (Highly Cited Researcher Award)

2024：中国环境科学学会外籍会士

2019：美国地球物理联合会会士 (AGU Fellow)

2014：美国威斯康星 (麦迪逊) 大学地学系杰出校友奖 (Distinguished Alumni Award)

2013：美国地质学会迈因策尔奖 (O.E. Meinzer Award)

2013：美国地下水协会金·哈博奖 (M. King Hubbert Award)

2010：北京大学“国家特聘讲席教授”

2009：美国地质学会水文地质杰出讲席奖 (Birdsall-Dreiss Distinguished Lecturer)

2008：美国特拉华大学 DuPont Lecturer

2006：中国国家自然科学基金委海外青年合作基金 (海外杰青)

2005：美国德克萨斯大学 Oliver Lecturer

1999：美国地质学会会士 (GSA Fellow)

1998：美国地下水协会 John Hem 杰出贡献奖

## 学术兼职 (部分)

2023-现在：美国地球物理联合会 (AGU) 会士遴选委员会水文科学分委员会成员

2021-现在：国际学术期刊《Sustainable Horizons》创始人、共同主编

2019-现在：国家自然科学基金委环境地球科学学科咨询专家组成员

2018-现在：生态环境部土壤生态环境保护专家咨询委员会成员

2018-现在：国家环境保护流域地表水-地下水污染综合防治重点实验室主任

2017-现在：广东省土壤与地下水污染防控及修复重点实验室主任

2016-现在：国际学术期刊《Vadose Zone Journal》副主编

2015-现在：国家基金委重大研究计划“西南河流域区径流变化和适应性利用”指导专家组副组长

2013-2018：地质学报 (英文版)《Acta Geologica Sinica》副主编

2010-2015：国际学术期刊《Water Resources Research》副主编

2010-2018：国家基金委重大研究计划“黑河流域生态水文过程集成研究”专家组成员

2007-2014：国际学术期刊《Journal of Hydrology》副主编

2007-2013：国际水文科协 (IAHS) 国际地下水委员会当选主席、主席

2005-2015：美国国家研究委员会 (National Research Council) 水文科学核心小组成员

2005-2007：美国大学水文科学联合会 (CUAHSI) 行政负责人之一 (Treasurer)

2003-2007：国际学术期刊《Hydrogeology Journal》副主编

2003-2004：国际中国地球科学促进会 (IPACES) 2003-04 年度主席

1998-至今：国际地下水模拟学术会议系列“MODFLOW and MORE”组织者

1998-2010：国际学术刊物《Ground Water》副主编及软件版主编

## 研究领域

- 地下水污染机理与修复技术
- 流域生态-水文-环境过程
- 全球变化及新污染物对地下水可持续利用的影响
- 基于绿色环境修复的减污降碳协同技术

## 10 篇代表性论文及 2 部重要专著和软件 (\*为通讯作者)

- Kuang, X., J. Liu\*, B.R. Scanlon, ..., C. Zheng\*, 2024, The changing nature of groundwater in the global water cycle, *Science*, 383, eadf0630, doi: 10.1126/science.adf0630.
- Ma, R., K. Chen, C.B. Andrews, S.P. Loheide, A.H. Sawyer, X. Jiang, M.A. Briggs, P.G. Cook, S.M. Gorelick, H. Prommer, B.R. Scanlon, Z. Guo, C. Zheng\*, 2024, Methods for quantifying interactions between groundwater and surface water, *Annual Review of Environment and Resources*, 49, 623-653, doi: 10.1146/annurev-environ-111522-104534.
- Yu, J., Y. Tian\*, X. Wang, T. Sun, M. Lancia, C.B. Andrews, C. Zheng\*, 2024, Integrated modeling of flow, soil erosion, and nutrient dynamics in a regional watershed: Assessing natural and human-induced impacts, *Water Resour. Res.*, 60(9), doi: 10.1029/2024WR037531.
- Pang, M., E. Du\*, C. Zheng\*, 2024, Contaminant transport modeling and source attribution with attention-based graph neural network, *Water Resour. Res.*, 60(6), e2023WR035278.
- Chen, K., X. Chen, J.C. Stegen, J.A. Villa, G. Bohrer, X. Song, K.Y. Chang, M. Kaufman, X. Liang, Z. Guo, E.E. Roden\*, C. Zheng\*, 2023, Vertical hydrologic exchange flows control methane emissions from riverbed sediments, *Environ. Sci. Technol.*, 57(9), 4014-4026.
- Lancia, M., Y. Yao, C.B. Andrews, X. Wang, X. Kuang, J. Ni, S.M. Gorelick, B.R. Scanlon, Y. Wang, C. Zheng\*, 2022, The China groundwater crisis: A mechanistic analysis with implications for global sustainability, *Sustainable Horizons*, 4, 100042, doi: 10.1016/j.horiz.2022.100042.
- Feng, Y., Z. Zeng\*, T. D. Searchinger, A. D. Ziegler, ..., C. Zheng\*, 2022, Doubling of annual forest carbon loss over the tropics during the early twenty-first century, *Nature Sustainability*, 5, 444-451, doi: 10.1038/s41893-022-00854-3.
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- Yao, Y., C. Zheng\*, C.B. Andrews, B.R. Scanlon, X. Kuang, Z. Zeng, S. Jeong, 2021, Role of groundwater in sustaining northern Himalayan rivers, *Geophysical Research Letters*, 48, e2020GL092354.
- Ben, Y., C. Fu, M. Hu, L. Liu, M. H. Wong, C. Zheng\*, 2019, Human health risk assessment of antibiotic resistance associated with antibiotic residues in the environment: A Review, *Environmental Research*, 169, 483-493 (热点及高被引论文, 截止2024年10月谷歌学术单篇引用1080次).
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- Zheng, C. and P.P. Wang, 1999, *MT3DMS: A Modular Three-Dimensional Multi-species Transport Model for Simulation of Advection, Dispersion and Chemical Reactions of Contaminants in Groundwater Systems; Documentation and User's Guide*, Contract Report SERDP-99-1, U.S. Army Engineer Research and Development Center, Vicksburg, MS, 169 pp. (软件, 截止 2024 年 6 月各种版本谷歌学术总引用超 3000 次).

## 论文专著 (\*通讯作者; Google Scholar 总引用数 29,500, 2024 年 11 月检索)

- Kuang, X., J. Liu\*, B.R. Scanlon, J.J. Jiao, S. Jasechko, M. Lancia, B.K. Biskaborn, Y. Wada, H. Li, Z. Zeng, Z. Guo, Y. Yao, T. Gleeson, J.-P. Nicot, X. Luo, Y. Zou, C. Zheng\*, 2024, The changing nature of groundwater in the global water cycle, *Science*, 383, eadf0630, doi: 10.1126/science.adf0630.
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- Zhou, Y., X. Liang, E. Ma, K. Chen, K. Schilling, T. Zheng, Y. Zheng, Y.-K. Zhang, **C. Zheng**, 2024, Spectral analysis of hydrological signals to estimate watershed properties considering impacts of unsaturated zone, *Water Resour. Res.*, 60(11), e2023WR036680, doi: 10.1029/2023WR036680.
- Feng, L., Y. Wang, X. Hou, B. Qin, T. Kuster, F. Qu, N. Chen, H.W. Paerl, **C. Zheng**, 2024, Harmful algal blooms in inland waters, *Nature Reviews Earth & Environment*, 5, 631–644, doi: 10.1038/s43017-024-00578-2.
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- Xiao, K., Y. Wu, F. Pan, Y. Huang, H. Peng, M. Lu, Y. Zhang, H. Li, Y. Zheng, **C. Zheng**, et al., 2024, Widespread crab burrows enhance greenhouse gas emissions from coastal blue carbon ecosystems. *Commun Earth Environ.*, 5, 437, doi: 10.1038/s43247-024-01621-2.
- Akbariforouz, M., Q. Zhao, A. Stocchino, **C. Zheng**, 2024, Evaluating the deformation modulus at representative elementary volume using electrical resistivity tomography, *International Journal of Rock Mechanics and Mining Sciences*, 183, 105935, doi: 10.1016/j.ijrmms.2024.105935.
- He, Y.-J. He, H. Liao, G. Yang, W. Qiu, R. Xuan, G. Zheng, B. Xu, X. Yang, J.T. Magnuson, D. Schlenk, **C. Zheng**, 2024, Perfluorohexanesulfonic acid (PFHxS) impairs lipid homeostasis in zebrafish larvae through activation of PPAR $\alpha$ , *Environ. Sci. Technol.*, 58(37), 16258-16268, doi: 10.1021/acs.est.4c03053.
- Chen, H. Y. Zou, X. Kang, G. Yang, X. Yang, Y. Yao, J.T. Magnuson, X. Cao, W. Qiu, E.G. Xu, **C. Zheng**, 2024, Perfluorooctane sulfonamide induced autotoxic effects on the zebrafish immune system, *Environ. Sci. Technol.*, doi: 10.1021/acs.est.4c01153.
- Shu, Y., B. Han, L. Song, T. Yan, L. Gan, Y. Zhu, **C. Zheng**, 2024, Analyzing the spatio-temporal correlation between tide and shipping behavior at estuarine port for energy-saving purposes, *Applied Energy*, 367, 123382.
- Wu, R., Z. Guo, Y. Zhan, G. Cao, K. Chen, Z. Chang, H. Li, X. He, **C. Zheng**, 2024, Impacts of land surface nitrogen input on groundwater quality in the North China Plain, *ACS ES&T Water*, doi: 10.1021/acsestwater.3c00712.
- Zhu, M., X. Kuang, C. Song, Y. Feng, Q. He, Y. Zou, H. Zhou, **C. Zheng**, 2024, Glacier-fed lakes are significant sinks of carbon dioxide in the Southeastern Tibetan Plateau, *Journal of Geophysical Research: Biogeosciences*, 129 (4), e2023JG007774.
- Feng, Y., K. Jiang, X. Kuang, Y. Yao, S. Liang, K. Yu, J. Liu, **C. Zheng**, 2024, The dual role of meltwater in buffering river runoff in the Yarlung Zangbo Basin, Tibetan Plateau, *Journal of Hydrology: Regional Studies*, 54, 101857, doi: 10.1016/j.ejrh.2024.101857.
- Chang, Z., Z. Guo, K. Chen, Z. Wang, Y. Zhan, W. Lu, **C. Zheng**, 2024, A comparison of inversion methods for surrogate-based groundwater contamination source identification with varying degrees of model complexity, *Water Resour. Res.*, 60 (4), e2023WR036051.
- Li, Z., K. Xiao, Y. Li, F. Pan, H. Li, Y. Zheng, **C. Zheng**, Y. Liu, 2024, Surface water-groundwater interactions drive the spatial variability of dissolved heavy metals and interfacial fluxes in mangrove intertidal zones, *Journal of Hydrology*, 632, 130884.
- Liu, C., T.K. Lowenstein, A. Wang, **C. Zheng**, J. Yu, 2024, Brine: Genesis and sustainable resource recovery worldwide, *Annual Review of Environment and Resources*, 48, 371-394.

- Hao, Y., Q. Gong, X. Kuang, Y. Feng, H. Zhou, **C. Zheng**, 2024, Degassing of mantle-derived helium from hot springs along the India-Asia continental collision settings: Origins, migration velocity and flux, *Geochemistry, Geophysics, Geosystems*, 25, e2023GC011297, doi: 10.1029/2023GC011297.
- Zhang, Y., Y. Guo, J. Wang, D.T. Maher, X. Geng, Q. Wang, K. Xiao, H. Ding, H. Li, **C. Zheng**, Z. Wang, X. Wang, 2024, Dissolved carbon dynamics and exchange in a high permeability beach aquifer, *Geochimica et Cosmochimica Acta*, 368, 64-75, doi: 10.1016/j.gca.2024.01.014.
- Wang, Y., J. Ni, J. Wan, J. Xu, **C. Zheng**, A.G.L. Borthwick, 2024, Global river economic belts can become more sustainable by considering economic and ecological processes, *Communications Earth & Environment*, 5(1), 18, doi: 10.1038/s43247-023-01189-3.
- Wang, J., W. Qiu, H. Cheng, T. Chen, Y. Tang, J.T. Magnuson, X. Xu, E.G. Xu, **C. Zheng**, 2024, Caught in fish gut: Uptake and inflammatory effects of nanoplastics through different routes in the aquatic environment, *ACS EST Water*, 4 (1), 91-102, doi: 10.1021/acsestwater.3c00392.
- Xu, B., M. Pu, K. Jiang, W. Qiu, E.G. Xu, J. Wang, J.T. Magnuson, **C. Zheng**, 2024, Maternal or paternal antibiotics? Intergenerational transmission and reproductive toxicity in zebrafish, *Environ. Sci. Technol.*, 58 (2), 1287-1298, doi: 10.1021/acs.est.3c06090.
- Wang, X., Y. Tian\*, J. Yu, M. Lancia, J. Chen, K. Xiao, Y. Zheng, C.B. Andrews, **C. Zheng\***, 2023, Complex effects of tides on coastal groundwater revealed by high-resolution integrated flow modeling, *Water Resour. Res.*, 59 (10), e2022WR033942.
- Chen, K., S. Yang, E.E. Roden, X. Chen, K.Y. Chang, Z. Guo, X. Liang, E. Ma, L. Fan, **C. Zheng\***, 2023, Influence of vertical hydrologic exchange flow, channel flow, and biogeochemical kinetics on CH<sub>4</sub> emissions from rivers, *Water Resour. Res.*, 59 (12), e2023WR035341.
- Yin, M., K. Xiao\*, P. Xin, H. Li, **C. Zheng\***, E. Smith, A.M. Wilson, 2023, Randomly distributed crab burrows enhance groundwater flow and salt transport in creek-marsh systems, *Water Resour. Res.*, 59 (11), e2023WR035612.
- Fan, L., X. Kuang, D. Or, **C. Zheng\***, 2023, Streamflow composition and water “imbalance” in the northern Himalayas, *Water Resour. Res.*, 59 (10), e2022WR034243.
- Guo, Z., G.E. Fogg\*, K. Chen, R. Pauloo, **C. Zheng\***, 2023, Sustainability of regional groundwater quality in response to managed aquifer recharge, *Water Resour. Res.*, 59(1), e2021WR031459, doi: 10.1029/2021WR031459.
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## 获得资助科研项目

1. 国家重点研发计划政府间国际科技创新合作项目，微塑料在农田土壤和地下水中的分布特征和迁移机理，2023-2025，主持（依托南方科技大学/宁波东方理工大学）。
2. 浙江省顶尖创新项目，减污降碳协同技术，2023-2028，主持（依托宁波东方理工大学）。

3. 宁波市顶尖创新项目，减污降碳协同技术（配套），2023-2028，主持（依托宁波东方理工大学）。
4. 宁波市重点研发计划，城市水体三维仿真、预警及水土共治体系应用研究，2023-2025，主持（依托宁波东方理工大学）。
5. 广东省科技厅，粤港土壤与地下水污染防控及修复联合实验室，2023-2026，主持（依托南方科技大学）。
6. 深圳市可持续发展专项，KCXFZ20201221173410029（专2021N039），深圳饮用水水源地与供水系统全体系动态风险评估预警和应急管理关键技术研发及应用，2021-2024，主持（依托南方科技大学）。
7. 科技部/教育部高等学校学科创新引智计划（“111计划”），环境科学与工程学科创新引智基地，2020-2024，主持（依托南方科技大学）。
8. 国家自然科学基金重点项目，41931292，反常扩散在地下水污染溯源分析、原位修复和风险评估中的关键作用：理论与试验研究，2020-2024，主持（依托南方科技大学）。
9. 国家自然科学基金重大项目课题，41890852，粤港澳大湾区陆海相互作用下营养物质迁移转化过程与机理，2019-2023，主持（依托南方科技大学）。
10. 国家自然科学基金国际（地区）合作与交流项目，41861124003，INFEWS:U.S.-China: 基于耦合水文模型的中美流域尺度“食品、能源、水”系统可持续性比较研究，2018-2022，主持（依托南方科技大学）。
11. 广东省级科技计划项目，2017B030301012，广东省土壤与地下水污染防控及修复重点实验室，2017-2019，主持（依托南方科技大学）。
12. 广东省引进领军人才项目，2016LJ06N469，地下水污染修复技术研发与集成，2017-2022，主持（依托南方科技大学）。
13. 科技部国家重点研发计划项目课题，2016YFC0402806，海水入侵模拟与预测技术方法及软件平台研发，2016-2020，主持（依托南方科技大学）。
14. 深圳发展改革委员会深圳市战略新兴产业发展专项，环境保护与资源高效利用学科建设，2017-2019，主持（依托南方科技大学）。
15. 深圳市海外高层次人才创新创业团队，KQTD2016022619584022，深圳市水环境污染的综合治理与生态修复，2016-2021，主持（依托南方科技大学）。
16. 深圳市科技计划项目，ZDSY20150831141712549，深圳市土壤与地下水污染防治重点实验室，2015-2018，主持（依托南方科技大学）。
17. 国家自然科学基金重大研究计划集成项目，91425303，黑河流域水-生态-经济系统的集成模拟与预测，2015-2018，共同负责人（依托北京大学）。
18. 国家自然科学基金重点项目，41330632，小尺度优先水流通道对地下水污染物迁移过程和修复的控制作用：基于野外试验的基础研究，2014-2018，主持（依托北京大学）。
19. 国家自然科学基金重大研究计划集成项目，91225301，黑河流域中下游生态水文过程的系统行为与调控研究，2013-2016，主持（依托北京大学）。
20. 环境保护部环保公益性行业专项，201309005，稀土尾矿库周边地下水溶质迁移与水文地球化学耦合模型研究，2013-2015，主持（依托北京大学）。
21. 环境保护部《全国地下水污染防治规划（2011—2020年）》项目，全国地下水基础环境状况调查评估，2011-2017，专题负责人（依托北京大学、南方科技大学）。
22. 中国地质调查局地质调查项目，1212011121174，地下水污染迁移过程研究与数值模拟，2011-2013，主持（依托北京大学）。
23. Collaborative Research: High-resolution dynamic characterization of transport pathways: providing new insights into subsurface processes, National Science Foundation, 2008-12, PI (through University of Alabama).
24. Optimal management of coastal aquifers against seawater intrusion, Baldwin County, Alabama, NOAA through the state of Alabama, 2008-2009, PI (through University of Alabama).

25. With John Zachara (PI) and 17 co-PIs, Multi-scale mass transfer processes controlling natural attenuation and engineered remediation: An Integrated Field Challenge (IFC) focused on Hanford's 300 Area uranium plume, Department of Energy, 2007-2012, co-PI (through University of Alabama).
26. Accurate determination of groundwater recharge on the North China Plain through environmental tracers and 3D numerical modeling, Sino-German International Collaborative Research Program, National Natural Science Foundation of China, 2010-2012, PI (through Peking University).
27. A Coupled surface water-groundwater model for understanding hydrologic processes and water quality evolution in the North China Plain (NCP), Ministry of Science and Technology of China, 2007-2011, PI (through Peking University).
28. Spatial distribution of groundwater ages in a large sedimentary basin: Numerical simulation and application, National Natural Science Foundation of China, 2007-2009, PI (through Peking University).
29. Collaborative Research: Solute transport in aquifers containing connected high-conductivity networks: theory founded on laboratory and field data, National Science Foundation, 2006-2009, PI (through University of Alabama).
30. Development of modeling methods and tools for predicting coupled reactive transport processes in porous media at multiple scales, Department of Energy, 2006-2009, PI of subaward to University of Alabama.
31. Discrete fracture network models for risk assessment of carbon sequestration in coal, Department of Energy, 2005-2008, PI of subaward to University of Alabama.
32. Sustainable groundwater management of coastal aquifers in Baldwin County, Alabama, NOAA through the state of Alabama, 2005-2007, PI (through University of Alabama).
33. Reliability considerations in groundwater remediation system and monitoring network design, DuPont Company, 2005-2006, PI (through University of Alabama).
34. Development of information infrastructure for hydrological sciences, National Science Foundation, 2004-2005, PI of subaward to University of Alabama.
35. Groundwater study of Ft. Morgan Peninsula, Baldwin County, NOAA through the state of Alabama, 2004-2005, PI (through University of Alabama).
36. Further development of the MT3DMS contaminant transport model for linkage with the Army Risk Assessment Modeling System, Army Engineer Research and Development Center, 2003-2004, PI (through University of Alabama).
37. Further development of the ModGA code for contaminant source identification, DuPont Company, 2003-2004. PI (through University of Alabama).
38. Acquisition of geophysical field equipment for earth science research and teaching at the University of Alabama, NSF, 2002-2004, Co-PI.
39. With Jimmy Jiao (University of Hong Kong), Modification of regional groundwater regimes by large-scale land reclamation, Research Grants Council of Hong Kong, 2002-2005, Co-PI (through University of Alabama).
40. Collaborative Research: A systematic study of solute transport influenced by preferential flow paths at the decimeter and smaller scales, NSF, 2001-2005, PI (through University of Alabama). Field demonstration of transport optimization modeling for reducing the costs of groundwater pump-and-treat systems, Department of Defense Environmental Security Technology Certification Program (ESTCP), 2000-2003, PI (through University of Alabama).
42. Further development of the ModGA code for monitoring network design optimization, DuPont Company, 2002-2003. PI (through University of Alabama).
43. With Amy Ward (Project Director, University of Alabama) and 17 others at University of Alabama and University of New Mexico, Integrated Graduate Education Research Training (IGERT) Program in Freshwater Sciences, NSF, 1999-2004, co-investigator and leader of the solute transport research theme (through University of Alabama).
44. With Jimmy Jiao (University of Hong Kong), Origin and evolution of abnormal fluid pressures in the Shiwu area in northeastern China, Research Grants Council of Hong Kong, 1999-2002, Co-PI (through University of Alabama).
45. Multi-fractal scaling of hydraulic conductivity distributions and the effect on plume-scale contaminant transport, National Science Foundation, 1997-2000, PI of subaward to University of Alabama.

46. Subsurface site characterization via a computer-aided tool, Gulf Coast Hazardous Substance Research Center, US EPA, 1998-2000, Co-PI (through University of Alabama).
47. Development and application of a multicomponent solute transport simulator for the Department of Defense Groundwater Modeling System (GMS), US Army Engineer Research and Development Center, 1996-2000, PI (through University of Alabama).
48. Incorporation of variably saturated flow and contaminant transport in the groundwater flow and transport optimization model ModGA, DuPont Chemical, 1998-1999, PI (through University of Alabama).
49. Modeling biologically reactive contaminant transport and natural attenuation, Pacific Northwest National Laboratory, Department of Energy, 1997-1998, PI (through University of Alabama).
50. A global optimization approach for parameter identification in contaminant transport modeling, U.S. Environmental Protection Agency, 1995-1997, PI (through University of Alabama).
51. Development of a simulation-optimization model for groundwater management and remediation designs, DuPont Company, 1995-1998, PI (through University of Alabama).
52. Parameter identification using genetic algorithms, DuPont Company, 1995-1996, PI.
53. Simulation of reactive tracer transport in a strongly heterogeneous aquifer, Cray Research, Inc., 1995-1996, PI (through University of Alabama).
54. Augmentation of optimal policy selections to groundwater contaminant transport model MT3D (Phases I and II), USGS through Alabama Water Resources Research Institute, 1994-1995, Co-PI (through University of Alabama).
55. Development of an advanced contaminant fate and transport simulator for Cray supercomputers, Cray Research, Inc., 1994-1995, PI (through University of Alabama).
56. An investigation of underpressured geological formations for disposal of hazardous wastes, State of Alabama through UA School of Mines and Energy Development, 1994-95, PI (through University of Alabama).
57. A graduate fellowship to support Ph.D. research in hydrogeology, S.S. Papadopoulos & Associates, Inc., 1994-1995, PI (through University of Alabama).