

Research

Summary of Funded Research Grants where John McCray is PI or co-PI

Total Research Dollars Awarded: **>\$15 M Total, ~\$ 10 M as PI**

Project Descriptive Title	Sponsoring Agency	Total Budget	Start Date	End Date	PI or Co-PI
Reinventing America's Urban Water Infrastructure: Managing Urban Stream Hyporheic Zones for Water Reclamation application	NSF, ERC (via Stanford)	\$ 5 MM	8/1/11	7/31/16	CSM PI
Water Quality Impacts of the Mountain Pine Beetle Infestation in the Rocky Mountain West: Heavy Metals and Disinfection Byproducts," \$140,162	USGS-NIWR	\$140,162	9/1/11	10/31/14	PI
Risk-Based Decision Making for Assessing Potential Impacts of Geologic CO2 Sequestration on Drinking-Water Sources	U.S. EPA	\$900,000	12/1/09	11/30/12	PI
Training Graduate and Undergraduate Students in Simulation and Risk Assessment for Carbon Sequestration	U.S.DoE NETL	\$300,000	12/4/09	12/3/12	PI
Geochemical Processes associated with porosity and permeability changes during CO2 Sequestration ⁷	U.S. DoE	\$200,100	10/15/09	10/1/11	PI
Impacts of mountain pine beetle on hydrology and water quality of Rocky Mountain watersheds.	U.S. EPA STAR Graduate Fellowship	\$150,000	8/1/11	7/31/14	Grad Student Advisor
Role of Retention Time in the Environmental Buffer of Indirect Potable Reuse Projects	Water Reuse Foundation	\$300,000	10/1/11	9/31/13	Co-PI
Modeling cyclodextrin-enhanced in situ chemical ozone oxidation	AFCEE via EnChem Eng.	\$36,000	8/1/11	7/31/12	Co-PI
Evaluation of test kits for remote analysis of petroleum hydrocarbons.	Chevron	\$32,000	4/1/09	6/30/10	PI
Nitrogen Reduction Strategies In Florida - Development of Modeling Tools for Prediction and Decision Making ⁶	Florida Dept. of Health	\$800,000	02/01/09	10/31/12	Co-PI
Expected performance for wastewater treatment in soil treatment units: nutrients, microbes, and emerging organics ¹	Water Environment Research Foundation	\$1.0 M	1/15/08	3/31/10	PI
Dissolution in Bedrock Fractures and Fracture Networks during Ground-water Transport and Biochemical Remediation ²	U.S. DoD SERDP	\$440,000	6/1/06	12/31/10	PI

Site Demonstration of Polymer-amended In Situ Chemical Oxidation (PA-ISCO) for Enhanced Delivery & In Situ Destruction of Trichloroethylene Contaminant	U.S. DoD ESTCP via Clarkson University	\$359,000	3/1/09	8/31/11	Co-PI
Graduate Program in Environmentally Sustainable Nuclear Power	U.S. DoEd	\$450,000	8/31/07	5/31/11	Co-PI
Water quality and quantity assessment of the Upper Colorado River for potential oil-shale development.	U.S. DoE	\$1.1M	10/1/08	9/30/11	Co-PI
Evaluation of Evapotranspiration Covers for DoE Landfills	U.S. EPA via Cadmus Inc.	\$38,000	3/1/10	12/1/11	PI
Watershed Modeling to Assess Hydrologic and Ecologic Impacts of Climate Change in the Upper Colorado River Basin	Los Alamos National Lab.	\$25,000	11/15/06	12/31/07	co-PI
Watershed-scale models of wastewater pollutant transport in Oregon and Colorado ⁴	Water Environment Research Foundation	\$280,000	2/1/06	1/31/08	PI
Multi-Scale Experiments to Evaluate Mobility Control Methods for Enhancing the Sweep Efficiency of Injected Subsurface Remediation Amendments	U.S. DOD SERDP	\$575,405	5/1/06	12/31/08	PI
Advice in Subsurface Remediation Design, Site Characterization, and Modeling	U.S. EPA, National Risk Mgmt Res Lab (NRMRL)	\$78,000	1/1/07	12/31/08	PI
Animation of Interaction of Ground Water and Surface Water and Conjunctive Use of Ground Water ^F	NGWA	\$27,250	11/1/06	8/1/07	co-PI
Remediation and Characterization services for EPA (STREAMS)	U.S. EPA	TBD	1/1/06	1/1/11	PI
Transport and treatment of emerging organic pollutants during riverbank filtration	City of Aurora CO	\$70,000	2/1/06	1/31/07	Co-PI
Assessing the sustainability of the Clear Creek Watershed, CO	U.S. EPA	\$75,000	8/1/06	7/31/07	Co-PI
Onsite Wastewater Source Characterization & Relevance to System Design & Performance	Water Environment Research Foundation	\$597,163	1/1/05	12/31/07	Co-PI
Onsite Wastewater Source Characterization & Relevance to System Design & Performance	Water Environment Research Foundation	\$597,163	1/1/05	12/31/07	Co-PI
Small Flows Research Program	Infiltrator Systems Inc.	\$ 1.0 M	6/1/02	5/31/08	Co-PI

Evaluation of Potential Impact of ISDS in a Proposed Development in Todd Creek, Adams County CSM 4-48302	Adams County	\$43,300	12/01/05	5/31/05	PI
A Framework for Interdisciplinary Watershed Research: Scaling Issues	NSF-CUAHSI	\$6000	3/1/04	3/1/05	Co-PI
Chemical-Enhanced DNAPL Remediation, Virginia Beach, VA ⁵	DOD-ETSCP	\$201,000	4/1/2001	7/31/2004	PI
Chemical-Enhanced DNAPL Remediation, Virginia Beach, VA ⁵	DOD-ETSCP	\$710,000	4/1/2001	7/31/2004	Co-PI
Evaluating Wastewater Pollutant Transport from Site to Watershed Scales, Blue River CO.	U.S. EPA-NDWRCDP WU-HT-02-27	\$307,500	7/1/2000	3/31/2004	Co-PI
Assessing Metal Pollution in Mining-Impacted Streams, Alaska	Comico via CSM Found.	\$10,000	9/1/2001	9/1/2004	PI
Modeling Mounding Below Wastewater Infiltration Systems	U.S. EPA-NCWRCDP	\$75,000	2/15/2003	2/14/2004	Co-PI
Modeling Fuel and Solvent Contamination	ExxonMobil via CSM Found.	\$45,000	10/1/2002	9/20/2006	Co-PI
Modeling contaminant vapor transport at INEEL	INEEL Bechtel	\$5000	7/1/03	10/1/04	PI
Computational Contaminant Transport – PhD Fellowships	U.S. DoEd, GAANN	\$333,100	8/15/2000	8/14/2003	PI
Pesticide Vulnerability Model for Colorado	CDPHE	\$95,000	10/1/1999	6/30/2001	PI
Location of Monitoring Wells for Colorado Pesticide Program	USDA via CSU	\$10,000	5/15/2001	6/30/2001	PI
Modeling Unsaturated Flow in Soil-Based Wastewater Treatment Systems	Infiltrator Systems Inc.	\$54,000	5/1/1999	11/1/2001	PI
Natural Attenuation of CAH Contaminants in US DOD Landfills	Parsons Eng. Sci.	\$12,000	8/10/2000	5/30/2001	PI
Develop a civil engineering module for SYGN 201	NSF - CSM Minigrant	\$5,000	6/1/1999	2/28/2000	PI
Assessment of Emerging Contaminants in the Blue River	USGS-NIWR	\$106,800	9/1/2002	8/31/2004	Co-PI
Fate of Non-point Source Pollution from Septic Tanks	CWWRI	\$19,000	3/1/2002	2/28/2003	Co-PI
Use of Low Cost Data to Characterize Fractured Aquifers	USGS-NIWR	\$120,000	9/1/2001	8/31/2003	Co-PI
Transport of Metal and Organic Contaminants in Landfills	Palm Beach SWA	\$30,000	9/1/2001	8/31/2004	Co-PI
Multidimensional Hydrologic Experiments	NSF	\$150,000	9/1/1999	8/31/2002	Co-PI

Amounts shown are contracted to CSM with McCray as PI

Footnotes

1. Joint research project between CSM, University of Rhode Island, and University of Georgia.
2. Joint project between CSM, Shaw Environmental and Infrastructure, and University of Auburn
3. Joint project between CSM, East Tennessee State University, and CH2MHill
4. Joint project between CSM, University of Texas at San Antonio, USGS Oregon Water Science Center, Deschutes County Oregon.
5. Joint project between CSM, University of Rhode Island, University of Arizona, and Louisiana State University.
6. Total project is \$2M, but budget is uncertain due to State of Florida budget constraints.
7. Joint project between CSM (ESE, Geophysics, CE, Chemistry) and CU-Boulder. McCray portion of grant is ~ \$200K