

## ALAN J. RABIDEAU

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### GENERAL

#### Education

1. Ph.D. Env. Sciences and Eng., University of North Carolina, Chapel Hill, 1994.
2. M. E. Civil Engineering, University at Buffalo, 1986.
3. M.A. Philosophy, University at Buffalo, 2015.
4. B. S. Civil Engineering, University of Notre Dame, 1979.

#### Professional Experience

- 2007 - Professor, Department of Civil, Structural, and Environmental Engineering (CSEE), University at Buffalo (UB).
- 1999 – 2007 Associate Professor, Department of CSEE, University at Buffalo.
- 1993 – 1999 Assistant Professor, Department of CSEE, University at Buffalo.
- 1990 – 1993 Research Assistant, University of North Carolina at Chapel Hill.
- 1986 – 1992 O'Brien & Gere Engineers Inc., St. Louis, MO and Raleigh, NC.
- 1984 – 1986 Graduate Assistant, Dept. of Civil Engineering, University at Buffalo.
- 1981 – 1984 Self-employed musician, Rochester, NY.
- 1979 – 1981 Mennonite Volunteer Service, Cincinnati, OH.

#### Administrative Appointments

- 2022 – Department Chair, CSEE (July 01, 2022)
- 2020 – 2023 Director of Undergraduate Studies, Environmental Eng., CSEE
- 2016 – 2018 Director of Graduate Studies, CSEE
- 2013 – 2014 UB Research and Economic Development Leadership Fellow, planning and startup for Research and Education in eNergy, Environment & Water (UB-RENEW)
- 2007 – 2015 Director, Ecosystem Restoration through Interdisciplinary Exchange (ERIE), externally funded programs of research education, and outreach
- 2003 – 2009 Director, UB Environment & Society Institute
- 2001 – 2003 Director of Undergraduate Studies, Civil and Env. Eng., CSEE

**Professional Engineering Registration:** North Carolina (P. E. 018160).

#### Professional and Honorary Societies

American Society of Civil Engineers, American Geophysical Union, Association of Environmental Engineering and Science Professors, Association of Ground Water Scientists and Engineers (National Ground Water Association), Chi Epsilon Honorary Society.

## **Awards and Honors**

1. UB *Green SLICE* Award (2015). Sustainability Leadership, Innovation, Collaboration and Engagement, inaugural recipient, UB faculty award.
2. Contribution to Engineering Education Award (2014). New York State Society of Professional Engineers (State-wide award).
3. Engineering Educator Award (2014). New York State Society of Professional Engineers, Western New York Chapter.
4. Remediation Project of the Year (2011). Nat. Ground Water Assoc., member of West Valley Demonstration Project team with AMEC Geomatrix, U.S. Dept. of Energy.
5. John Chester Brigham Award for Outstanding Service (2004). New York Water Env. Association, awarded for student performance at national design competitions.
6. Rudolph Hering Medal (2001). American Society of Civil Engineers award for best paper, environmental engineering, with J.E. Van Benschoten, C. Ganguly, C. Huang.
7. Outstanding Student Award (1993). University of N. Carolina Alumni Association.
8. Hoechst-Celanese Award for Original Research (1993). UNC-Chapel Hill.
9. Cray Research Fellow, North Carolina Supercomputing Center (1992, 1993).
10. United States Department of Education Doctoral Fellowship (GANN) (1991).
11. University Fellowship, State University of New York at Buffalo (1984 – 86).

## **Professional Development Training (in-person, teaching-oriented)**

1. Training workshop, PC-SWMM (stormwater modeling), Toronto CA, June 21-22, 2015.
2. Professional development workshop, *Teaching capstone design in environmental engineering* (2015), Association of Environmental Engineering and Science Professors, New Haven, CT, June 05.
3. *Princeton Remediation Course* (2015). Five-day training, Las Vegas, NV, May.
4. Professional development workshop, *Green Screen for Safer Chemicals* (2014), U.S. Environmental Protection Agency, Buffalo NY, June 14.
5. Professional development workshop, *Graduate Ethics Education: Bridging the Gap Between Engineers and Society - Learning to Listen* (2014), Association of Environmental Engineering and Science Professors, Golden CO, July 13
6. Professional development workshop: *Bringing Sustainability into the Engineering Curriculum* (2014), Golden CO, July 13
7. Professional development workshop: *Beyond the Formula* (2000). Three-day workshop on teaching undergraduate statistics, Monroe Community College, Rochester, NY, Aug. 15 – 17.
8. ABET accreditation for Env. Eng. Programs (1998). One-day workshop offered by American Academy of Env. Engineers, Baltimore, MD, Nov. 12.
9. Teaching Effectiveness workshop (1993). Semester-long (15-hour) short-course offered by UB Office of Teaching Effectiveness.

## TEACHING ACTIVITIES

### Summary of Student/Post-doc Mentoring

- Supported and supervised three post-doctoral research scientists.
- Primary advisor for nine Ph.D. and 39 M.S./M.E. students in Civil, Structural, and Environmental Engineering.
- Member of numerous Ph.D. and M.S./M.E. committees in American Studies; Civil, Structural, and Environmental Engineering; Geology; Geography; Industrial and Systems Engineering; Philosophy; and Urban Planning.
- Mentored numerous undergraduate research students, individually and as PI for ERIE *Research Experience for Undergraduates* program.

### Selected Awards to Students

1. Water Environment Federation Student Design Competition:
  - a. Second prize (2003) for CIE449 (Env. Eng. Design) project.
  - b. First prize (2002) for CIE449 (Env. Eng. Design) project.
2. Donald Renny awards for outstanding student paper at the annual *Great Lakes Research Consortium Student-Faculty Conf.*: Z. Jiang (2006), J. Balent (2003), J. R. Craig (2002), A. Khandelwal (1998).
3. Khandelwal, A. (1997). Scholarship award for outstanding student paper presented at the *1997 Int. Containment Conf. and Ex.*, St. Petersburg, FL.
4. Russell, K. T. (1997). First prize, M. S. Thesis competition, Association of Environmental Engineering Professors (AEEP) and Montgomery-Watson.

### Post-doctoral Associates

1. Dr. Douglas Lambert (2022 - ), Post-doctoral Associate.
2. Dr. Maria Torres (2019 - ), Post-doctoral Associate and RENEW Fellow, supported by Buffalo Sewer Authority.
3. Dr. David Blersch (2008 – 2011), Research Scientist, supported by National Science Foundation, currently Associate Professor, Auburn University.

### Graduate Student Advisees: Ph.D. (9 completed)

Student	Thesis/dissertation	Current
Lambert, Douglas (2018)	<i>Qualitative analysis of groundwater rest.</i>	Post-doc, UB-CSEE
Bronner, Colleen (2014)	<i>Assessing success in stream restoration</i>	Asst. Prof, UC-Davis
Singh, Anshuman (2013)	<i>Nonideal sorption, groundwater and vapor</i>	Asst. Prof., U. Patnode, India
Seneca, Shannon (2012)	<i>Radionuclide transport in natural zeolites</i>	Roswell Park Cancer Inst., Buffalo, NY
Jiang, Zhengzheng (2012)	<i>Parameter est. for sorption isotherms</i>	HealthCore, Raleigh NC
Matott, L. Shawn (2007)	<i>Application of heuristic optimization to groundwater management</i>	Roswell Park Cancer Inst., Buffalo, NY
Craig, James (2005)	<i>Development of reactive transport models using continuous parameter fields</i>	Assoc. Prof. Civil Eng., U. Waterloo, Canada
Khandelwal, Ashutosh (1999)	<i>Contaminant transport in vertical barriers</i>	Fannie Mae., Wash. DC
Putuhena, Fredrick (1996)	<i>Decision-support for the Niagara River</i>	Indonesia (retired)

**Graduate Student Advisees: M.S./M.E. (39, \* = co-advisor)**

<b>Student</b>	<b>Degree</b>	<b>Thesis/project</b>	<b>Current</b>
Zixuan Chen	M.S. 2021	Phytohydraulics of poplar trees	Doctoral student (U. Minnesota)
Haoyang Jia	M.S. 2020	Water quality in WNY streams	In transition
Glose, Lauren	M.S. 2018	Water treatment pilot study	Wendell, Buffalo NY
McEvoy, Molly	M.S. 2016	Performance of pump-and-treat systems	ERG, Arlington VA
Wilson, Meghan	M.S. 2016	Analysis of phytoremediation system	In transition
Ransom, Beynan	M.S. 2015	Comprehensive exam (Eng. science)	NYSDEC, New Paltz, NY
Hennessy, Elizabeth	M.S. 2015	<i>Review of practices in sub. remediation</i>	AECOM, Buffalo NY
Sui, Jingqi	M.S. 2015	<i>Hydrologic analysis of phytobarrier</i>	Kropp Env., N. Franklin, CT
Ransom, Beynan	M.S. 2013	<i>Analysis of Onondaga creek dam removal</i>	NYSDEC, New Paltz, NY
Sheh, Chialin	M.E. 2012	<i>Measuring cation exchange in zeolites</i>	Unknown
Huang, Xuan	M.S. 2012	<i>Modeling nonlinear sorption</i>	Graduate student (PhD)
Chew, Edward	M.S. 2012	<i>Groundwater quality, Tuscarora Nation</i>	Graduate student (PhD)
Johnson (Ross), Erin	M.S. 2010	<i>Cation exchange in natural zeolites</i>	Unknown
Roberts, Nadine	M.S. 2009	<i>Subsurface vapor intrusion at MGP sites</i>	URS; Buffalo, NY
Lesakowski, Michael	M.S. 2008	<i>Analysis of subsurface vapor intrusion</i>	Benchmark Env.; Buffalo, NY
Heaphy, Kevin	M.E. 2008	<i>Nat. attenuation of MTBE at JFK airport</i>	PB Americas; New York, NY
Jiang, Zhenzheng	M.S. 2006	<i>Nonlinear sorption of organic pollutants</i>	HealthCore, Raleigh NC
Milewski, Daniel *	M.S. 2005	<i>PAH contaminants in New York soils</i>	URS; Buffalo, NY
Golubski, Jason *	M.S. 2005	<i>Metal contaminants in New York soils</i>	Blas., Bouck & Lee; Syr., NY
Lim, MiSuk	M.S. 2005	<i>Groundwater model calibration</i>	Unknown (Korea)
Gwiazdowski, Lisa	M.S. 2005	<i>Risk management for CCA playgrounds</i>	Fuss & O'Neil; Albany, NY
Winslow, James	M.S. 2004	Comprehensive exam	Geocon; Sacramento, CA
Pai, Vikram	M.S. 2003	<i>Transport of sequentially decaying solutes</i>	Anderson/Mulholland; NJ
Kiehl-Simpson, Caryn	M.E. 2003	<i>Performance assessment of sediment caps</i>	Parsons Eng.; Buffalo, NY
Murphy, Edward	M.E. 2003	<i>Uncertainty of vapor transport models</i>	Golder; Niagara Falls, NY
Bandilla, Karl	M.S. 2001	<i>Parallel proc. of cont. transport models</i>	Princeton University; NJ
Mead, Wendy	M.S. 2001	<i>Watershed protection, Cattaragus County</i>	Tioga County (NY) Soil/Water
Zhang, Yongrong	M.S. 2001	<i>Studies of zeolite barrier materials</i>	Ros. Park Inst., Buff., NY
Chang, Hsing-Ju	M.S. 2001	<i>Modeling of competitive ion exchange</i>	Wat. Env. Cent.; Tapei, Taiwan
Patel, Amita	M.S. 2001	<i>Sorption of strontium by natural zeolites</i>	Malc. Pirnie; White Plains, NY
Gaude, Paschal	M.S. 1999	<i>Groundwater model for West Valley</i>	Wayss & Freytag; Germany
Ostrowski, Merik	M.E. 1999	<i>Gr. model for Plattsburgh Air Force base</i>	URS; NJ
Blayden, James	M.S. 1997	<i>Air sparging: model and case study</i>	Consultant; Pittsburg PA
Russell, Kevin	M.S. 1997	<i>Decision analysis of pump-and-treat</i>	Anchor QEA; Liverpool, NY
Shen, Peiliang	M.S. 1997	<i>Slurry walls and zero-valent iron</i>	Olin Chemical; McIntosh, AL
Liu, Siyuan	M.S. 1997	<i>Modeling of subsurface bioremediation</i>	Unknown
Chang, W.	M.S. 1996	<i>Contaminant loadings to the Niagara Riv.</i>	Unknown
Millar, David	M.E. 1996	<i>Contaminant transport in vertical barriers</i>	Malcolm Pirnie; Buff., NY
Buechi, Stephen	M.S. 1995	<i>Groundwater transport modeling</i>	U.S.A.C.E.; Buffalo, NY

**Teaching Summary:** 68 standard course offerings since 1993, including 8 different graduate courses and 7 undergraduate courses, with 3 dual-listed as graduate/undergraduate.

**Courses Taught (enrollment)**

Year	Fall		Spring	
2021-22*	CIE469/569 (16)		CIE500 (16)	
2020-21*	CIE469/569 (35)	CIE500(13)		
2019-20	CIE469/569 (28)	CIE500(10)	CIE449 (32)	
2018-19	CIE469/569 (17)		CIE449 (26)	CIE532 (12)
2017-18*	CIE469/569 (30)		CIE532(11)	
2016-17*	CIE469/569 (46)		CIE532(8)	
2015-16	CIE441/562 (47)	CIE469/569 (35)	CIE532 (21)	
2014-15*	CIE441/562 (41)		CIE532(24)	
2013-14*	CIE447 (37)		CIE445/541 (27)	
2012-13*	CIE469/569 (50/7)	UE141(13)	CIE647(11)	
2011-12*	CIE643 (9)	UE141(14)	CIE647(7)	UE141(14)
2010-11*	CIE447 (30)	PHI598 (9)		
2009-10	Sabbatical leave			
2008-09*	CIE469(10)/569(6)	UE140(13)	CIE449 (12)	UB141(15)
2007-08*	CIE469(10)/569(1)		CIE340 (100)	
2006-07	CIE469(8)/569(12)		CIE449 (9)	CIE532 (15)
2005-06	CIE469(9)/569(2)	CIE532(9)	CIE449(8)	
2004-05	CIE469(15)/569(7)	CIE532(9)	CIE340(75)	
2003-04	CIE469(7)/569(15)		CIE449(10)	CIE340(73)
2002-03*	CIE647(12)		CIE449(14)	
2001-02*	CIE546(13)		CIE449(13)	
2000-01*	Sabbatical leave			
1999-00	CIE569(10)		CIE445(11)/541(5)	EAS308(96)
1998-99	CIE641 cancelled		CIE445(3)/541(15)	CIE554(6)
1997-98	CIE641(5)		CIE445(13)/541(13)	EAS308(70)
1996-97	CIE641(7)		CIE445(12)/541(4)	EAS308(79)
1995-96	CIE641(8)		CIE445(23)/541(7)	CIE442(45)
1994-95	CIE641(8)		CIE445(15)/541(8)	CIE440(87)
1993-94	CIE641(3)		CIE445(22)/541(5)	

\* administrative course reduction

Graduate courses

1. CIE500 *Ethical perspectives in engineering sustainability*. Developed as new course, required for M.S. in *Engineering sustainability*.
2. CIE647 *Groundwater restoration*. Developed as new course.
3. CIE643 *Ecological restoration practicum*. Developed as new course with D. Blersch.
4. PHI598 *Perspectives on environmental and ecological restoration*. Interdisciplinary doctoral seminar developed for ERIE-IGERT program, team taught with K. Shockley (Philosophy) and D. Grinde (American Studies).
5. CIE532 *Statistical Methods in Civil Engineering*. Developed as new course, now required for graduate environmental engineering program.
6. CIE546 *Environmental Fluid Mechanics*.
7. CIE569 *Hazardous Waste Management*. Revised, dual-listed with CIE469.
8. CIE641 *Advanced Topics in Groundwater Engineering*. Developed as new graduate course with dynamic content to emphasize emerging issues.

9. CIE541 *Groundwater Engineering*. Significantly revised, dual-listed with CIE445.
10. CIE554 *Numerical Methods in Water Resources/Environmental Engineering*.

#### Undergraduate courses

1. CIE441 *Ecological Engineering*. Required for B.S. Environmental Engineering.
2. CIE447 *Sustainability*. Developed as new course, required for B.S. Environmental Engineering.
3. CIE340 *Environmental Engineering*. Required for B.S. Civil and B.S. Environmental Engineering (formerly CIE440, *Water Quality*).
4. CIE469 *Brownfield restoration*. Dual-listed with CIE569 and significantly revised to become core course for B.S. Environmental Engineering (formerly *Haz. Waste*).
5. CIE449 *Environmental Engineering Design*. “Capstone” project-based course developed as new requirement for B.S. Environmental Engineering.
6. CIE445 *Groundwater Engineering*. Significantly revised, dual-listed with CIE541.
7. EAS308 *Engineering Statistics*. Significantly revised to introduce applied statistics into B.S. Civil Engineering curriculum.
8. CIE442 *Design of Water Quality Systems*.
9. UE140, 141 *Discovery Seminar*. Developed as new team-taught 1-credit seminar for freshmen/sophomores. Topics included *Ecological restoration* (2008-09) and *Sustainability* (2011-12).

#### Short Courses (summer)

1. “Engineering for ecosystem restoration”. Month-long series of 1-5 day workshops offered annually since 2005 by UB Great Lakes Program and ERIE-IGERT program. Typical attendance is approximately 5-20 participants, representing a mixture of fee-paying professionals, ERIE graduate trainees, and graduate students pursuing academic credit. Assumed primary administrative role in 2009 in conjunction with ERIE-IGERT program. Provided lecture sections for several individual workshops, including *Design for stream restoration* (introduced in 2012).
2. “Regional groundwater modeling and GIS,” June 28 – 30, 2004, with follow-up tutorial at office of Malcolm Pirnie Inc. (New York City). Two-day short course presenting theory and practice of regional groundwater flow modeling, with hands-on tutorials using software developed by the UB Groundwater Research Group. Co-instructors: J. Craig\* (lead), I. Janković, and L. S. Matott\*. Paid attendees included 11 professionals from 5 states.

## SPONSORED RESEARCH

Sponsor	Title (% effort)	\$	Dates	Co-PIs
<b>Project Director (\$9.5 M total)</b>				
BW	Water distribution study (50)	522,000	07/21 – 06/24	N. Dai
BW	Water distribution study (50)	300,000	06/17 – 06/21	N. Dai
BSA	CSO long term control plan (80)	1,001,201	12/15 – 07/22	A. Goyal
BSA	Vacant Lot Assessment (50)	79,881	05/15 – 12/15	S. Burkholder
NSF	INSPIRE Suppl. (Citizen Science) (8)	76,000	09/16 – 08/17	M. Frisch, E. Robinson
NSF	INSPIRE: Qualitative analysis of groundwater restoration (40)	796,000	09/12 – 08/18	K. Shockley, M. Frisch, E. Robinson
Motorola	Phytoremediation, Ischua Creek Habitat (100)	539,625	08/10 – 12/17	
NSF	REU: Ecosystem Rest. through interdisc. exchange (ERIE) (100)	588,000	06/10 – 05/16	S. Delavan (2013-16)
NSF	Acquisition of Fiber-Optic Distributed Temp. Sensing Equip. (50)	130,599	09/07 – 07/12	M. Becker, S. Bennett, J. Atkinson
NSF	Prof. Dev. Fellowship: Ethics and values of ecological restoration (100)	90,072	01/09 – 07/10	NA
WVNS	Perf. assess. of zeolitic materials (100)	254,337	01/09 – 12/10	NA
NSF	IGERT: Ecosystem Rest. through interdisciplinary exchange (ERIE) (50)	3,198,000	08/07 – 07/12	S. Bennett, D. Grinde, R. Allen, H. Lasker
NG	Soil vapor intrusion at MGP sites (100)	266,615	01/07 – 06/10	NA
EC	Groundwater quality assessment (100)	47,844	05/04 – 08/06	NA
NSF	A high performance regional contaminant transport model (70)	383,165	06/02 – 05/06	I. Janković J. Van Benschoten
WVNS	Analysis of perm. reactive barrier (100)	49,939	11/00 – 06/02	NA
USEPA	A high-performance analytic element model (50)	977,107	03/00 – 02/05	D. Flewelling, I. Janković, M. Becker
USEPA	Technical assistance to Cattaraugus Creek Basin Citizen's Task Force (95)	80,000	10/99 – 05/03	A.S. Weber
WVNS	Testing for reactive barrier design (60)	132,300	11/98 – 10/00	J. Van Benschoten
DuPont	Containment technology studies (100)	233,022	01/94 – 05/99	NA
Motorola	Develop. of ground water and stream contaminant transport model (90)	158,700	12/94 – 12/97	J. Atkinson A. S. Weber

BSA = Buffalo Sewer Authority, BW = Buffalo Water, EC = Erie County Dept. of Health, ESI = UB Environment & Society Institute, Gen. Elec. = General Electric, GLRC = Great Lakes Research Consortium, NG = National Grid, NSF = National Science Foundation, NYSHWC = New York State Hazardous Waste Center, SERDP = Strategic Env, R&D Prog (DOD), USEPA = U. S. Environmental Protection Agency, WVNS = West Valley Nuclear Services, VPR = UB Vice President for Research

**SPONSORED RESEARCH (continued)**

<b>Sponsor</b>	<b>Title (% effort)</b>	<b>\$</b>	<b>Dates</b>	<b>PD</b>
<b><i>Co-investigator (\$3 M total) or participant*</i></b>				
Hazen	Water distribution research (30)	\$117,589	07/21 – 06/25	Ning Dai
NSF	REU: Env Eng Sol. For Poll. Prev. (20)	360,000	05/19 – 04/22	John Atkinson
NSF	REU: Env Eng Sol. For Poll. Prev. (25)	266,165	05/16 – 04/19	John Atkinson
NSF	MRI: Acquisition of ICP/MS (10)	390,524	01/10 – 12/12	D. Aga
SERDP	Sorption in low-K zones (20)	1.5M	01/10 – 12/13	R. Allen-King
NG	Remediation of former MGP sites (60)	50,000	05/05 – 04/06	A. S. Weber
USEPA	Reuse assess. and redevel. plan for Hiteman Leather Superfund Site (10)	100,000	12/03 – 11/04	L. Zicari
UB-ESI	Wellhead protection for the Cattaraugus Creek basin (10)	20,000	10/99 – 09/00	M. Becker
GLRC	Upgradient reactive barrier to treat residual coal tar contamination (40)	20,000	09/97 – 05/98	S. Powers (Clarkson)
EPA	Experimental and modeling studies of soil washing (30)	189,000	06/95 – 05/97	J. Van Benschoten
NYSHWC	Evaluation of surfactant-enhanced aquifer remediation (50)	70,000	09/94 – 08/95	J. Fountain
NSF	* Int. Grad. Ed. and Res. Training (IGERT) in Geographic Inf. Science	2,700,000 3,600,000	09/98 – 08/03 09/03 – 08/10	D. Mark + 32 participants
<b><i>Seed grants (&lt; \$20K each, \$75K total)</i></b>				
UB-VPR	Collaborative env. research facility	10,000	11/03 – 12/04	18 co-PIs
UB-ESI	Ag. waste disp. and groundwater qual.	14,310	05/03 – 12/03	M. Becker
UB-ESI	Letchworth State Park Water Quality	15,668	03/02 – 02/03	M. Becker
Gen. Elec.	Modeling of reactive barriers	8,377	01/97 – 12/97	A. S. Weber
UB-VPR	Reactive low-permeability barriers	8,480	06/95 – 12/95	R. Giese
GLRC	Contam. loadings from haz. waste sites	18,000	08/94 – 07/95	T. Young (Clarkson)

EC = Erie County Dept. of Health, ESI = UB Environment & Society Institute, Gen. Elec. = General Electric, GLRC = Great Lakes Research Consortium, NG = National Grid, NSF = National Science Foundation, NYSHWC = New York State Hazardous Waste Center, SERDP = Strategic Env, R&D Prog (DOD), USEPA = U. S. Environmental Protection Agency, WVNS = West Valley Nuclear Services, VPR = UB Vice President for Research



## PUBLICATIONS

**Summary:** 60 journal papers (55 with students), 5 book chapters, 16 conference proceedings, 20 research reports, 7 software products, 116 presentations and posters, 37 seminars.

### PhD Dissertation

Rabideau, A. J. (1994). “Modeling of reactive solute transport in heterogeneous porous media: application to aquifer remediation by pump-and-treat,” Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill.

### Articles in Refereed Journals (59 published, 1 in process, \* = student/post-doc)

1. Ghodsi, S. H.\*, Zhenduo, Z., Matott, L.S., Rabideau, A. J., Torres, M. N.\*  
“Simulation-optimization methods for optimal siting of rainwater harvesting cisterns at the city-scale,” *J. Hydrology.*, revision in process.
2. Torres, M. N.\*, Rabideau, A. J., Zhenduo, Z., Ghodsi, S. H.\*, Matott, L. S. “Optimal design of porous pavements for reducing Combined Sewer Overflows,” *J. Hydrology*, 607, 127465.
3. Roseboro, A.\*, Torres, M. N.\*, Zhu, Z., and Rabideau, AJ (2021). “The impacts of climate change and porous pavements on Combined Sewer Overflows: A case study of the City of Buffalo, New York, USA,” *Frontiers in Water*, 3, 110, <https://doi.org/10.3389/frwa.2021.725174>.
4. Ghodsi, S. H.\*, Zhenduo, Z., Gheith, H., Rabideau, A. J., Torres, M. N.\*, Meindl, K. (2021). “Modeling the effectiveness of rain barrels, cisterns, and downspout disconnections for reducing combined sewer overflows in a city-scale watershed,” *Wat. Res. Man.*, 35, 2895–2908.
5. Rabideau, A.J., Swensen, K.\*, Chen, Z.\*, Santiago-Collazo, F. L.\*, Bronner, C., Lowry, C., Gnat, R., Lockwood, T. (2021). “Hydrologic evaluation of a poplar phytoremediation barrier,” *Int. J. Phytoremediation*, 24(2), 144 – 155.
6. Torres, M. N.\*, Fontechab, F. E., Walteros, J. L., Zhu, Z. Ahmed, Z., Rodríguez, J. P., and Rabideau, A. J. (2021). “City-scale optimal location planning of Green Infrastructure using piece-wise linear interpolation and exact optimization methods,” *J. Hydrology*, 601, 126540.
7. Behrouz, M. S.\*, Zhu, Z., Matott, L. S., Rabideau, A. J. (2020). “A new tool for the calibration of the Storm Water Management Model,” *J. Hydrology*, 581, 124436.
8. Macro, K.\*, Zhu, Z., Matott, L. S., Rabideau, A. J., and Ghodsi, S. H.\* (2019). “OSTRICH-SWMM: A new multi-objective optimization tool for green infrastructure planning with SWMM,” *Environmental Modeling and Software*, 113, 42 – 47.
9. Matott, L.S., Rabideau, A.J., and Singh, A.\* (2017). “Parameterizing sorption isotherms using a hybrid global-local fitting procedure” *J. Contaminant Hydrology*, 200, 35 – 48, <https://doi.org/10.1016/j.jconhyd.2017.03.006>.
10. Maghrebi, M.\*, Jankovic, I, Weissmann, G. S., Matott, L.S., Allen-King, R. A., Rabideau, A. J. (2015). “Contaminant tailing in highly heterogeneous porous formations: Sensitivity on model selection and material properties,” *J. Hydrology*, 531(1), 149 – 160.
11. Matott, L.S., Jiang, Z.\*, Rabideau, A.J., and Allen-King, R. (2015). “Isotherm ranking and selection using thirteen literature datasets involving hydrophobic organic

- compounds” *J. Contaminant Hydrology*, 177- 178, 93- 106,  
<http://dx.doi.org/10.1016/j.jconhyd.2015.03.011>.
12. Maghrebi, M.\*, Jankovic, I, Allen-King, R. A., Rabideau, A. J., Kalinovich, I., Weissmann, G. S. (2014). “Impacts of transport mechanisms and plume history on tailing of sorbing plumes in heterogeneous porous formations,” *Adv. Water Res.*, 72, 123 – 133, <http://dx.doi.org/10.1016/j.advwatres.2014.07.007>.
  13. Singh, A., Rabideau, A. J., and Allen-King. R. A. (2014). “Groundwater transport influenced by nonlinear sorption and intraparticle pore diffusion,” *Adv. Water Res.*, 70, 12 – 23, <http://dx.doi.org/10.1016/j.advwatres.2014.04.010>.
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**Conference Proceedings** (16, \* = student)

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3. Van Benschoten, J. E., Rabideau, A. J., Bandilla\*, K., Chang\*, H., and Patel\*, A. (2001). "Application of a competitive cation exchange model for simulating removal of strontium in a zeolite permeable reactive barrier," *Proc., 2001 Int. Containment & Remediation Technology Conf. and Exhibition*, Orlando, FL, June 10 – 13.
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### **Major Research Reports (20, \* = student)**

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18. Rabideau, A. J., and Miller, C. T. (1994). "Two-dimensional visualization of aquifer remediation," video and accompanying guide, U. S. Env. Protection Agency, Dept. of Env. Sciences and Engineering, UNC - Chapel Hill, Chapel Hill, NC.
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## Software

*Unless otherwise noted, all software is public domain and distributed by the UB Department of Civil, Structural, and Environmental Engineering.*

### Lead developer

1. Rabideau, A. J. (2004). “MOUSER: Moderately User-friendly Reactive Transport Model.” Updated periodically, public research versions in use since 1994.
2. Rabideau, A. J. (1999). “TRANS1D, Version 3: Computer model for simulating contaminant transport in subsurface barriers.” Products include software, User’s Guide (90 pages), and Technical Reference Manual (60 pages). Developed for the DuPont Company (not public). Previous versions: 2.2 (1997), 2.1 (1996) and 1.0 (1995).

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4. Silavisesrith\*, W., and Matott\*, L. S. (2005). “ArcAEM: A GIS-based application for modeling groundwater flow with the Analytic Element Method, Version 2.13,” extensions to ArcGIS (multiple versions) developed through USEPA funding, first distributed in 2004.
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## Published Abstracts, Presentations, and Posters (116)

(\* = student/post-doc, AGU = American Geophysical Union)

1. Rabideau, A. J., Torres, M.N.\*, Mattot, L.S. (2022). “Incorporating values pluralism into optimal planning for Green Infrastructure,” Association of Environmental Engineering and Science Professors, Research and Education Conference, June 28 – 30, Washington University, St. Louis MO.
2. Torres, M.N.\*, Mattot, L.S., Rabideau, A.J., Zhu, Z. (2022). “Improvements to OSTRICH-SWMM: A multi-LID and multi-algorithm optimization software tool,” *Int. Conference on Water Management Modeling*, Toronto, CN, Mar 02 – 03.
3. Torres, M.N.\*, Rabideau A.J. (2022). “An overlook into environmental justice in Green Infrastructure: The experience of the City of Buffalo,” *Red Sistemas de Drenaje Urbano Sostenible* (Colombia) (June 3, virtual).
4. Ghodsi, S. H.\*, Zhu, Z., Rabideau, A. (2021). “Incorporating impacts of Green Infrastructure into a large-scale land surface model,” *AGU Fall Meeting*, New Orleans, LA, Dec. 13 – 17.
5. Torres, M.N.\*, Mattot, L.S., Rabideau, A.J. (2021). “Permeable pavements impact on combined sewer overflows,” *International Conference on Water Management Modeling*, Toronto, CN, Feb 24 – 25.
6. Torres, M.N.\*, Matott, S., Rabideau A.J. (2020). “Optimization of Green Infrastructure for Combined Sewer Overflow management,” *Institute for Operations Research and the Management Sciences (INFORMS) 2020 Annual Meeting*, 8th - 11th November. National Harbor, WA.
7. Torres, M. N.\*, Macro, K.\*, Matott, L., Zhu, Z., Rabideau, A.J. (2020). “Application of OSTRICH-SWMM for green infrastructure optimization: Case study of the City of Buffalo,” *International Conference on Water Management Modeling*, Toronto, CN, Feb. 24 – 25.
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11. Lambert, D.\*, Frisch, M., Rabideau, A. (2018). “Oral history of engineering, oral history IN engineering,” *Oral History Association Annual Meeting*, Concordia University, Montreal ON, Oct. 10 – 14.
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13. Macro, K.\*, Matott, L. S., Ghodsi, S., Rabideau, A., Hampstead, Z., Zhenduo, Z. (2018), “A new multi-objective optimization tool for Green Infrastructure,” *9th Intl. Congress on Environmental Modelling and Software*, Fort Collins, CO, June 24 – 28.
14. Macro, K.\*, Zhenduo, Z., Matott, L. S., Rabideau, A., Hampstead, Z. (2018), “Progress toward a multi-objective decision support for integrating Green

- Infrastructure into urban planning,” *New York Water Environment Association 90<sup>th</sup> Annual Meeting*, New York, NY, Feb. 05 – 07.
15. Lambert, D.\* and Rabideau, A. (2018). Re-evaluating the state of groundwater restoration using oral history, *University Consortium for Field-Focused Groundwater Contamination Research Annual Progress Meeting*, University of Guelph, Guelph ON, June 05 – 07.
  16. Macro, K.\*, Zhenduo, Z., Matott, L. S., Rabideau, A., Hampstead, Z. (2018), “A new multi-objective optimization tool for Green Infrastructure planning,” (oral), *Society of Women Engineers WE Local Symposium*, Providence RI, April 19 – 22.
  17. Macro, K.\*, Zhenduo, Z., Matott, L. S., Rabideau, A., Hampstead, Z. (2018), “A multi-objective optimization tool for Green Infrastructure planning,” (poster), *Society of Women Engineers WE Local Symposium*, Providence RI, April 19 – 22.
  18. Hamstead, Z., Zhu, Z., Matott, L. S., Rabideau, A. (2017). “Integrated decision support for vacant land use,” *Assoc. of Collegiate Schools of Planning Annual Conference*, Denver, CO, Oct. 12 – 17.
  19. Rabideau, A., and Swensen, K.\* (2016). “Hydrologic evaluation of a humid climate phytoremediation barrier,” *AGU Fall Meeting*, San Francisco, CA, Dec. 12 – 16.
  20. Kikunnen, S.\*, Swensen, K., and Rabideau, A. (2016). “Quantifying evapotranspiration in poplar trees, with implications for phytoremediation,” *Geological Society of America Annual Meeting*, Nov. 16 – 20, New Orleans, LA.
  21. Shockley, K., Robinson, E., and Rabideau, A (2016). "Integrating Perspectives: Rethinking the role of stakeholder input in groundwater restoration from an interdisciplinary perspective," *Association for Environmental Studies and Sciences, 2016 Annual Conference*, June 08-11, Washington DC.
  22. Shockley, K. E., Robinson, E., and Rabideau, A. (2016). “Integrating perspectives: Rethinking the role of stakeholder input in groundwater restoration from an interdisciplinary perspective,” *XXIst International Conference of the Society for Human Ecology*, April 13, Santa Ana, CA.
  23. Santiago, F.\*, Rabideau, A., and Ransom\*, B. (2016). “Hydrologic analysis of a poplar-based phytoremediation system,” *2016 Karst Water Institute Annual Meeting*, San Juan, Puerto Rico, January 27-30.
  24. Santiago, F.\*, Rabideau, A., and Ransom\*, B. (2015). “Hydrologic analysis of a poplar-based phytoremediation system,” *Geological Society of America Annual Meeting*, Baltimore, Maryland, November 01 – 04. *1st Place Award for Undergraduate Research in Hydrogeology*.
  25. Santiago\*, F., Rabideau, A., and Ransom\*, B. (2015). “Hydrologic analysis of a poplar-based phytoremediation system,” *Ana G. Mendez University System (AGMUS) Research Symposium*, San Juan, Puerto Rico.
  26. Matott, L. S., Rabideau, A. J., and Allen-King, R. A. (2014). “Incorporating nonlinear sorption into high fidelity subsurface reactive transport models,” *AGU Fall Meeting*, San Francisco, CA, Dec. 15 – 19.
  27. Allen-King, R. A., Rabideau, A. J., and Merlo, A. (2014). “Nonlinear chlorinated solvent sorption impedes remediation in sedimentary aquifers,” *AGU Fall Meeting*, San Francisco, CA, Dec. 15 – 19.
  28. Shockley, K., Rudroff, B., Rabideau, A. , and Lambert, D. (2014). “Rethinking the value of stakeholder participation in generating context sensitive baselines for

- groundwater restoration,” *Association for Environmental Studies and Sciences Annual Conference*, June 11 – 14, New York, NY.
29. Bronner, C.E., Bartlett, A.M., Whiteway\*, S.L., Lambert\*, D.C., Bennett, S.J., and Rabideau, A.J. (2014). “Compensatory mitigation policy under the Clean Water Act: Necessary changes to protect stream ecosystem functions and services,” *AGU Science Policy Conference*, Washington, DC, June 16 – 18.
  30. Rabideau, A. J., Singh, A. S. Lambert, D., Matott, L. S., Allen-King, R. A. (2014). “Nonlinear chlorinated solvent sorption impedes remediation in sedimentary aquifers,” *Ninth Int. Conf. Remediation of Chlorinated and Recalcitrant Compounds*, Monterey, CA, May 19 – 22.
  31. Allen-King, R. A., Rabideau, A. J., Carlone, D., Anton, J., Estivill, S., Lambert, D., Matott, L. S., Singh, A. S. (2014). “Tools for modeling nonlinear contaminant sorption,” *Ninth Int. Conf. Remediation of Chlorinated and Recalcitrant Compounds*, Monterey, CA, May 19 – 22.
  32. Whitlock\*, A., Salvado\*, J., Allen-King, R. A., Rabideau, A. J., and Williams\*, K. L. (2014). “The impact of sorption mechanism on chlorinated solvent uptake rate via intragranular diffusion in kerogen-containing sedimentary rock grains,” *Geological Society of America Northeastern Section, 49<sup>th</sup> Annual Meeting and Exhibition*, Lancaster PA, Mar. 23 – 25.
  33. Barbarossa\*, V., Merlo\*, A., Williams, K.L., Carlone\*, D., Allen-King, R. A., Rabideau, A. J., and Salvado\*, J. (2014). “A study of trichloroethene (TCE) release rate from Borden Ontario aquifer sediments through intermittent purging experiments and modeling,” *Geological Society of America Northeastern Section, 49<sup>th</sup> Annual Meeting and Exhibition*, Lancaster PA, Mar. 23 – 25.
  34. Maghrebi\*, M., Jankovic, I., Allen-King, R. A., Weismann, G. S., Rabideau, A.J. (2013). “Cont. transp. in highly heterogeneous sedimentary formation at Can. Forces Base Borden, Ont. Canada,” *AGU Fall Meeting*, San Francisco, CA, Dec. 6 – 13.
  35. Ransom\*, B.E., Sui\*, J. S., Bronner\*, C. E., and Rabideau, A.J. (2013). “Quantifying hydrologic impacts of a Western New York phytoremediation barrier” *Assoc. of Am. Geographers Middle States Division Annual Meeting*, Buffalo, NY, Oct. 18-19.
  36. Bronner\*, C.E., Bartlett, A.M., Whiteway\*, S.L., Lambert\*, D.C., Bennett, S.J., and Rabideau, A.J. (2013). “Compensatory mitigation policy under the Clean Water Act: Necessary changes to protect stream ecosystem functions and services” *Assoc. of Am. Geographers Middle States Division Annual Meeting*, Buffalo, NY, Oct. 18-19.
  37. Copeland, L., Blersch, D., and Rabideau, A. J. (2013). “Using social network analysis to measure interdisciplinary training,” *American Evaluation Association Evaluation 2013*, Oct. 14 – 19, Wash., DC.
  38. Allen-King, R. A., Munger\*, Z. W., Carlone\*, D., Kalinovich, I., Salvado, J. A., Rabideau, A. J., Matott, L. S. Singh, A., and Lambert\*, D. (2013). “Nonlinear chlorinated solvent sorption and its impact on remediation in surficial sedimentary aquifers,” *Goldschmidt2013*, Florence, Italy, Aug. 25 – 30.
  39. Warner, S., D., Bablitch, D., Rabideau, A. J. (2013). “The Permeable Treatment Wall at West Valley, New York: Passive in situ removal of radioactive strontium (Sr-90) from groundwater beneath a former commercial nuclear fuel reprocessing facility,” *RemTEC Summit*, Westminster CO, March 5.

40. Lambert\*, D., Bronner\*, C., Frisch, M., Rabideau, A. J. (2012). "Anecdota: Oral history methods in the natural sciences," *Oral History Association Annual Meeting*, Cleveland, OH, October.
41. Singh\*, A., Allen-King, R. A., Rabideau, A.J. (2012). "Modeling reactive transport with nonlinear sorption and pore diffusion," *AGU Fall Meeting*, San Francisco, CA, Dec. 3 – 7.
42. Maghrebi\*, M., Jankovic, I., Allen-King, R. A., Rabideau, A.J., Weismann, G. S. (2012). "Novel geostatistical characterization of the Borden aquifer, Canada," *AGU Fall Meeting*, San Francisco, CA, Dec. 3 – 7.
43. Seneca\*, S.M., Rabideau, A.J. (2012). "Natural zeolite permeable treatment wall implementation and analysis in the remediation of radioactively contaminated groundwater," *American Chemical Society Northeast Regional Meeting 2012*, Rochester, NY, September.
44. Bronner, C.E.\*, Bartlett, A.M., Whiteway, S.L.\*, Lambert, D.C.\*, Bennett, S.J., and Rabideau, A.J. (2012). "An assessment of U.S. stream mitigation policy: necessary changes to protect ecosystem functions and services," *Clean Water Act at 40: Facing the Future Conference*, Hudson River Env. Society, Poughkeepsie, NY, May.
45. Munger, Z., Allen-King, R.A., Kalinovich, I. (2012). "Modeling nonlinear sorption of trichloroethene in natural sorbents with kerogen," *Geological Society of America Annual Meeting and Exhibition*, Hartford CN, Nov. 4 – 7.
46. Rabideau, A. J., Bartlett, A.M, and Copeland, H.L. (2012). "An interdisciplinary Research Experience for Undergraduates in ecosystem restoration," *NSF Engineering Education Awardees Conference*, March 4-6, Arlington, VA.
47. Munger, Z., Allen-King, R.A., Kalinovich, I., Jiang, Z.Z., and Rabideau, A.J. (2012). "Dual-mode isotherm modeling of chlorinated solvent sorption to surficial aquifer sediment," *Geological Society of America Northeastern Section Annual Meeting*, Charlotte NC, Mar. 18 – 20.
48. Singh\*, A., Huang, X., Allen-King, R. A., Rabideau, A.J. (2011). "A comparison of solution schemes for modeling reactive transport with nonlinear sorption," *AGU Fall Meeting*, San Francisco, CA, Dec. 5 – 9.
49. Maghrebi\*, M., Jankovic, I., Rabideau, A.J., Allen-King, R. A., Weismann, G. S. (2011). "Relative effects of advection, sorption and diffusion on transport and tailing of chlorinated solvents," *AGU Fall Meeting*, San Francisco, CA, Dec. 5 – 9.
50. Allen-King, R.M., Jankovic, I., Rabideau, A., Weismann, G. (2011). "The importance of sorption in low-permeability zones on chlorinated solvent plume longevity in sedimentary aquifers: Building the framework," *2011 Partners in Environmental Technology Technical Symposium & Workshop*, Washington, D.C., Nov. 29 - Dec. 1.
51. Singh\*, A., Neuhauser, E., and Rabideau, A. J. (2011). "Dealing with censored vapor concentration data, Case study of former Manufactured Gas Plant sites," *27<sup>th</sup> Annual Conference on Soil, Sediments, Water, and Energy*, Amherst, MA, Oct. 17 – 21.
52. Blersch, D., and Rabideau, A. J. (2011). "A case study in interdisciplinary education in ecosystem restoration: The ERIE Practicum at the University at Buffalo," *4<sup>th</sup> Nat. Conf. on Ecosystem Rest.*, Baltimore, MD, Aug. 1-5.
53. Stewart, D.T.R.\*, Blersch, D.M., Donhauser, J.C.\*, Habberfield, M.W.\*, Mackintosh, S.A.\*, and Rabideau, A.J. (2011). "Design and implementation of a phytoremediation system for groundwater impacted by chlorinated solvents: a field application,"

*Laurentian Chapter of the Society of Environmental Toxicology and Chemistry 16<sup>th</sup> Annual General Meeting*, Elgin, ON, Canada, June.

54. Allen-King, R., Kalinovich, I., Weissman, G., Jankovic, I., and Rabideau, A. J. (2011). "A Sedimentary architecture approach to characterizing reactive transport properties heterogeneity in sedimentary aquifers," **invited** presentation at *NOVCARE 2011, Novel methods for subsurface characterization and monitoring*, Cape Cod, MA, May 09 – 11.
55. Seneca\*, S. M., Bandilla, K., Rabideau, (2010). "Evaluation of removal of strontium-90 from groundwater using a zeolite permeable treatment wall, *AGU Fall Meeting*, San Francisco, CA, Dec. 13 – 17.
56. Bronner\*, C. E., and Rabideau, A. J. (2010). "Assessing variability and uncertainty of water quality, geomorphic and habitat indicators to evaluate western New York stream restoration projects, *AGU Fall Meeting*, San Francisco, CA, Dec. 13 – 17.
57. Blersch, D.M., Rabideau, A.J. (2010). "A case study in university-level interdisciplinary education in ecosystem restoration," *North American Association for Environmental Education 39th Annual Conference*, Buffalo, NY, Oct. 30 – Nov. 2.
58. Blersch, D.M., Rabideau, A.J. (2010). "Ecosystem Restoration through Interdisciplinary Exchange (ERIE): An interdisciplinary doctoral program at the University at Buffalo," *N. Am. Assoc. for Env. Education 7<sup>th</sup> Annual Research Symposium*, Buffalo, NY, Oct. 30 – Nov. 2.
59. Wolfe, G., Bowen, P., Blersch, D.M., Rabideau, A.J. (2010). "Streams of Thought: Teaching art through science and science through art," *N. Am. Assoc. for Env. Education 7<sup>th</sup> Annual Research Symposium*, Buffalo, NY, Oct. 30 – Nov. 2.
60. Choung\*, S., Allen-King, R.M., and Rabideau, A.J. (2010). "Sorptions models for chlorofluorocarbons (CFCs) with subsurface sediments," *2010 Geological Society of America Annual Meeting*, 31 October-3 November.
61. Blersch, D.M., Rabideau, A.J. (2010). "The Earsing Sills Oxbow Wetland restoration effort: A case study in interdisciplinary collaborative education in ecosystem restoration," *10th Annual Meeting of the Am. Ecological Eng. Society, 17th World Congress of the Int. Commission of Ag. and Biosystems Eng.*, Quebec City, CN.
62. Seneca\*, S. M., and Rabideau, A. J. (2009). "Native Americans, ecosystem restoration, and traditional ecological knowledge," *American Indian Science and Engineering Society National Conference*, Portland, OR, Oct. 29 – 31.
63. Seneca\*, S. M., Bandilla, K., Rabideau, A. J., Ross\*, E., Bronner\*, C. E. (2009). "Evaluation of zeolite permeable treatment wall for the removal of strontium-90 from groundwater, *AGU Fall Meeting*, San Francisco, CA, Dec. 14 – 18.
64. Rabideau, A. J. (2009). "Interdisciplinary education, research, and training for ecosystem restoration," *AGU Spring Meeting (invited)*, Toronto, CN, May 24 – 27.
65. Bronner\*, C. E., Newham, M., Fellows, C. S., and Rabideau, A. J. (2009). "Determining the effectiveness of riparian revegetation projects in Maroochy Catchment, Queensland Australia," *AGU Spring Meeting*, Toronto, CN, May 24 – 27.
66. Blersch\*, S., and Rabideau, A. J. (2009). "A conceptual model for stream restoration in Western New York: A developing case study in the Elton Creek watershed," *AGU Spring Meeting*, Toronto, Canada, May 24 – 27.
67. Seneca\*, S. M., Bronner\*, C.E., Ross\*, E., and Rabideau, A. J. (2009). "Evaluation of zeolite permeable treatment wall for the removal of Strontium-90 from groundwater," *AGU Spring Meeting*, Toronto, Canada, May 24 – 27.

68. Blersch, D., and Rabideau, A. J. (2009). "A new interdisciplinary doctoral program in ecosystem restoration at the University at Buffalo," *Society for Ecological Restoration Midwest-Great Lakes Chapter Annual Meeting*, Indianapolis, IN, Apr.
69. Blersch, D., and Rabideau, A. (2008). "A new interdisciplinary doctoral program in ecosystem restoration at the University at Buffalo," *4th Annual Finger Lakes Region Research Conference*, Geneva, NY, October.
70. Bandilla\*, K.W., Jankovic, I., Rabideau, A.J. (2008). "Computational efficiency of contaminant transport modeling using the Analytic Element Method in combination with the deterministic Streamline Method," International Conference on Computational Methods in Water Resources, XVII, San Francisco, CA, July 6-10.
71. Bandilla\*, K. W., Rabideau, A. J., Jankovic, I. (2007). "Contaminant transport modeling using Analytic Element Method and the Deterministic Streamline Method," *AGU Fall Meeting*, San Francisco, CA, Dec. 10 – 14.
72. Rabideau, A. J., Matott\*, L. S., Fowler, K., Bartelt-Hunt, S. (2007). "Heuristic optimization and formal algorithm tuning applied to sorptive barrier design," *SIAM Conf. on Computational Science and Engineering*, Costa Mesa, CA, Feb. 19 – 23.
73. Matott\*, L. S., and Rabideau, A. J. (2006). "Selection and calibration of subsurface reactive transport models using a surrogate-model approach," *AGU Fall Meeting*, San Francisco, CA, Dec. 11 – 15.
74. Jiang\*, Z., Matott\*, L. S., and Rabideau, A. J. (2006). "Incorporating dual-mode sorption into groundwater transport models," *AGU Fall Meeting*, San Francisco, CA, Dec. 11 – 15
75. Bandilla\*, K., Rabideau, A. J., and Jankovic, I. (2006). "Using the Analytic Element Method for the groundwater flow solution in a cont. trans. simulator based on the deterministic streamline meth.," *AGU Fall Meeting*, San Francisco, CA, Dec. 11 – 15.
76. Matott\*, L. S., and Rabideau, A. J. (2006). "Calibration of large-scale nitrogen transport model," *American Geophysical Union (AGU) Spring Meeting*, Baltimore, MD, May 23 – 26.
77. Craig, J.R.\* , Rabideau, A.J., and Bandilla, K. (2006). "An overview of using analytic element flow solutions for contaminant transport simulation, *5th Int. Conf. on the Analytic Element Method*, Manhattan, KS, May 14-18.
78. Becker, M. W., Flewelling, D., Matott\*, L. S., and Rabideau, A. J. (2006). "Integration of analytic element groundwater models with Geographic Inf. Systems," *5th Int. Conf. on the Analytic Element Method*, Manhattan, KS, May 14 – 18.
79. Craig\*, J. R., Rabideau, A. J., Bandilla\*, K., Janković, I., Matott\*, L. S., Fredrick\*, K., Flewelling, D., and Silavisesrith\*, W. (2005). "Development of a regional-scale groundwater modeling system for research, education, and outreach," *2005 Assoc. of Env. Eng. and Science Professors (AEESP) Research & Education Conf.*, Clarkson University, Potsdam, NY, July 24 – 26.
80. Matott\*, L. S., Rabideau, A. J., and Becker, M. W. (2005). "Large-scale regional groundwater modeling using GIS and the Analytic Element Method," *2005 IGERT project meeting*, National Science Foundation, Arlington, VA, May 17 – 19.
81. Craig\*, J. R., Rabideau, A. J., and Matott\*, L. S. (2004). "Optimal mesh generation for AEM-based Eulerian transport simulators" *AGU Fall Meeting*, San Francisco, CA, Dec. 12 – 17.

82. Matott\*, L. S., Fredrick\*, K., Rabideau, A. J., and Becker, M. (2004). "Calibration of the geometry of high conductivity zones in groundwater flow models," *AGU Fall Meeting*, San Francisco, CA, Dec. 12 – 17.
83. Fredrick\*, K., Matott\*, L. S., Rabideau, A. J., and Becker, M. (2004). "High-accuracy lake level measurements as calibration observations in regional groundwater modeling," *AGU Fall Meeting*, San Francisco, CA, Dec. 12 – 17.
84. Craig\*, J.R., and Rabideau, A.J. (2004). "Discretization of analytic element flow solutions for transport simulation," *Computational Methods in Wat. Res. XV Int. Conf.*, Chapel Hill, NC, June 13 – 17.
85. Matott\*, L. S., and Rabideau, A. J. (2004). "Ostrich: A model-independent, multi-algorithm, optimization software tool," *Computational Methods in Water Res., XV Int. Conf.*, Chapel Hill, NC, June 13 – 17.
86. Warner, S., Mok, C. M., Bennet, P., Frappa, R., Steiner, R., Bohan, C., Rabideau, A. J., and Steiner, A. (2004). "Performance assessment of a zeolitic permeable treatment designed to remove Sr-90 from groundwater," *4<sup>th</sup> Int. Conf. on Remediation of Chlorinated and Recalcitrant Compounds*, Monterey, CA, May 20 – 23.
87. Janković, I., Bandilla\*, K., Craig\*, J.R., and Rabideau, A. J. (2003). "Role of the analytic element methods in regional-scale GIS-based modeling of groundwater flow and transport," *AGU Fall Meeting*, San Francisco, CA, Dec. 8 – 12.
88. Craig\*, J.R., Sinha\*, G., Flewelling, D., Silaviserith, W., and Rabideau, A. J. (2003). "Automated geographic simplification tools for development of regional scale groundwater models," *AGU Fall Meeting*, San Francisco, CA, Dec. 8 – 12.
89. Craig\*, J.R., and Rabideau, A. J. (2003). "Linking the Analytic Element Method to reactive contaminant transport models," *MODFLOW 2003 and More: Understanding through Modeling*, September 16 – 19.
90. Craig\*, J.R., and Rabideau, A. J. (2003). "Visual BLUEBIRD: software for teaching groundwater modeling and potential flow to undergraduate students," *Frontiers in Assessment Methods for the Env. (FAME)*, Minneapolis, MN, Aug. 10 – 13.
91. Craig\*, J.R., and Rabideau, A. J. (2003). "Vertically averaged contaminant transport with the streamline method in near-surface aquifers," *European Geophysical Union – AGU-EGS Joint Assembly*, Nice, France, Apr. 6 – 11.
92. Balent\*, J., and Rabideau, A. J. (2003). "Groundwater modeling in the Great Lakes Basin," *Great Lakes Research Consortium (GLRC) Student-Faculty Conf.*, Syracuse, NY, Mar. 14 – 15.
93. Craig\*, J. R., and Rabideau, A. J. (2002). "Reducing dependence upon "the grid": A framework for contaminant transport modeling using analytic flow solutions," *AGU Fall Meeting*, San Francisco, CA, Dec. 6 – 10.
94. Rabideau, A. J., Van Benschoten, J. E., and Fredrick, W. (2002). "Performance of natural zeolites in permeable reactive barriers," *3<sup>rd</sup> Int. Conf. on Remediation of Chlorinated and Recalcitrant Compounds*, Monterey, CA, May 20 – 23.
95. Balent\*, J., Janković, I., and Rabideau, A. J. (2002). "Application of the Analytic Element Method to develop a groundwater model for the Great Lakes Basin," *GLRC Student-Faculty Conf.*, Syracuse, NY, March 15 – 16.
96. Craig\*, J., Janković, I., and Rabideau, A. J. (2002). "Modeling groundwater/surface water interactions with the Analytic Element Method," *GLRC Student-Faculty Conf.*, Syracuse, NY, March 15 – 16.

97. Patel\*, A., Huang\*, C., Van Benschoten, J. E., and Rabideau, A. J. (1999). "Removal of Sr-90 from groundwater by zeolite barrier," *AGU Fall Meeting*, San Francisco, CA, Dec. 11 – 15.
98. Rubin, H., and Rabideau, A. J. (1999). "Approximate analysis of the containment of contaminated sites prior to remediation," *7<sup>th</sup> Int. Conf. of the Israel Society for Ecology and Env. Quality Sciences*, Jerusalem, Israel, June 13 – 18.
99. Ganguly\*, C., Van Benschoten, J. E., and Rabideau, A. J. (1999). "Bridging the gap between research and field models for describing metal and proton binding to heterogen. sorbents," *Amer. Chem. Soc. Nat. Meeting*, Anaheim, CA, Mar. 21 – 25.
100. Sehayek, L., Chien, C., Buchanen, R., Rabideau, A. J., and Ellis, D. (1999). "Fate of substrate of enhanced in situ anaerobic biodegradation," *5<sup>th</sup> Int. Symposium on In situ and On-site Bioremediation*, San Diego, CA, April 19 – 22.
101. Rabideau, A. J. (1998). "Modeling of reactive subsurface barriers," *Amer. Soc. of Civil Eng. Joint Water Res. and Env. Eng. Conf.*, Chicago, IL, June 5 – 10.
102. Khandelwal\*, A., and Rabideau, A. J. (1998). "Enhancement of soil/bentonite barrier performance by the addition of natural humus," *AGU Spring Meeting*, Boston, MA, May 25 – 29.
103. Ganguly\*, C., Van Benschoten, J. E., and Rabideau, A. J. (1998). "Modeling the transport of pH and metal ions in aquifer material," *AGU Spring Meeting*, Boston, MA, May 25 – 29.
104. Van Benschoten, J. E., and Rabideau, A. J. (1997). "Metal binding to heterogeneous surfaces: an experimental and modeling study with implications for soil remediation, metal transport, and environmental risk," *Northeast Hazardous Substances Research Center EPA Site Visit*, Newark, NJ, June 11.
105. Sehayek, L., Chien, C., Rabideau, A. J., and Buchanen, R. J. (1996). "Modeling of primary substrate of enhanced in situ bioremediation," *Geological Society of America Annual Meeting*, Denver, CO, Oct. 28 – 31.
106. Putuhena\*, F., Chang\*, W., Rabideau, A. J., DePinto, J. V., and Atkinson, J. F. (1996). "Development of a decision support model for the Niagara River," *Geo. Soc. of America - Northeast Section Annual Meeting*, Buffalo, NY, March 21.
107. Rabideau, A. J., and Miller, C. T. (1994). "Prediction of cleanup time for heterogeneous aquifers influenced by sorption nonequilibrium: insights from numerical modeling studies," *invited*, *Annual Meeting of the National Ground Water Association*, Las Vegas, NV, Oct. 10 – 12.
108. Rabideau, A. J., and Miller, C. T. (1993). "Two-dimensional modeling of aquifer remediation for stratified two-phase system," *AGU Spring Meeting*, Baltimore, MD, May 24 – 28.
109. Miller, C. T., and Rabideau, A. J. (1992). "Simulation of pump-and-treat systems for sorbing solutes in heterogeneous subsurface environments," *invited*, *Annual Meeting of the National Ground Water Association*, Las Vegas, NV, October 1 – 2.
110. Rabideau, A. J. (1992). "Supercomputer simulation of aquifer remediation," *North Carolina Supercomputing Center Cray Day*, Res. Tri. Park, NC, October 16.
111. Rabideau, A. J. (1992). "Modeling of reactive solute transport in heterogeneous groundwater systems," *Quadrangular Env. Conf.*, Georgia Institute of Technology, Atlanta, GA, Feb. 22 – 23.



112. Miller, C. T., and Rabideau, A. J. (1991). "Field-scale simulation of reactive solute transport in heterogeneous groundwater systems," *North Carolina Supercomputing Center Fall Users' Forum*, Research Triangle Park, NC, Sept 19.
113. Rabideau, A. J., and Miller, C. T. (1991). "Relative effects of hydraulic conductivity heterogeneity, rate-controlled sorption, and nonlinear sorption equilibrium on solute transport in two-dimensional porous medium systems," *AGU Spring Meeting*, Baltimore, MD, May 28 – June 1.
114. Rabideau, A. J., and Miller, C. T. (1990). "Evaluation of a split-operator Petrov-Galerkin model for simulating multicomponent transport and transformation in porous media systems," *AGU Fall Meeting*, San Francisco, CA, Dec. 3 – 7.
115. Rabideau, A. J., and Miller, C. T. (1990). "Evaluation of an operator- splitting method for approximating a diffusional sorption process," *AGU Spring Meeting*, Baltimore, MD, May 29 – June 1.
116. Weber, A. S., Matsumoto, M. R., Goeddertz, J. G., and Rabideau, A. J. (1986). "Effects of extended idle periods on hazardous waste treatment," *Int. Conf. on Innovative Bio. Treatment of Toxic Wastewaters*, Arlington, VA, June 22 – 26.

### **Seminars and Lectures (39)**

1. Rabideau, A. (2018). Natural zeolite treatment for passive removal of Strontium-90 from groundwater, University of Guelph, February 23.
2. Lambert, D. and Rabideau, A. (2018). Re-evaluating the state of groundwater restoration and advancing interdisciplinary practices in environmental engineering using oral history, University of Guelph, February 23.
3. Rabideau, A.J. (2017). "Rethinking pollution treatment," *Erich Bloch Symposium*, UB Dept. of Materials Design and Innovation, May 31.
4. Rabideau, A.J. (2017). "Sustainable stormwater management," *Symposium: Korean-American Res. on Urban Environments*, UB School of Arch. & Planning, March 30.
5. Rabideau, A.J. (2016). "Nonlinear sorption in subsurface systems," Queen's University, November 16.
6. Rabideau, A. J. (2014). "Groundwater detox," *UBThisSummer* lecture, University at Buffalo, July 29.
7. Rabideau, A. J. (2012). "Protecting West Valley groundwater from radioactive contamination," *Bridge* lecture series, University at Buffalo, July 11.
8. Rabideau, A. J. (2012). "Application of natural zeolites for restoring groundwater at nuclear facilities," Carnegie Mellon University, April 29.
9. Rabideau, A. J. (2011). "Geochemical modeling of competitive cation exchange for removal of strontium-90 from groundwater," UB Chemistry Dept., April 16.
10. Rabideau, A. J. (2011). "Permeable treatment wall for removal of strontium-90 from groundwater," Continuing education seminar sponsored by the Erie-Niagara Chapter of the New York State Society of Profession Engineers, Buffalo NY, February 25.
11. Rabideau, A. J. (2010). "Application of natural zeolites for restoring groundwater at nuclear facilities," University of Delaware, April 29.
12. Rabideau, A. J. (2010). "Application of natural zeolites for restoring groundwater at nuclear facilities," U.S. Department of Energy, Office of Soil and Groundwater, Germantown MD, April 15.
13. Rabideau, A. J. (2010). "Application of natural zeolites for restoring groundwater at nuclear facilities," University of Virginia, January 29.

14. Rabideau, A. J. (2010). "Application of natural zeolites for restoring groundwater at nuclear facilities," Johns Hopkins University, January 26.
15. Rabideau, A. J. (2008). "Performance assessment of natural zeolites for restoring groundwater at nuclear facilities," University of Windsor, November 14.
16. Rabideau, A. J. (2008). "Ecosystem restoration engineering," Greater Buffalo Environmental Conference, March 18.
17. Rabideau, A. J. (2007). "Ecosystem restoration in Western New York," Brockport State College, November 12.
18. Rabideau, A. J. (2006). "Influence of nonideal sorption on contaminant transport," University of Wisconsin-Madison, October 25.
19. Rabideau, A. J. (2006). "Advances in modeling regional groundwater flow and transport," invited presentation to U. S. Env. Protection Agency Ecosystem Research Division, Athens, GA, April 11.
20. Rabideau, A. J. (2005). "Advances in modeling regional groundwater flow and transport," Clarkson University, Potsdam, NY, April 22.
21. Rabideau, A. J. (2005). "Advances in modeling regional groundwater flow and transport: Computation, calibration, and data management," invited presentation to U. S. Env. Protection Agency Ecosystem Research Division, Athens, GA, March 17.
22. Rabideau, A. J. (2004). "Groundwater and the Great Lakes," University of Waterloo, Waterloo, CA, January 29.
23. Rabideau, A. J. (2001). "Innovative groundwater remediation at the West Valley Demonstration Project," ASCE Buffalo Section meeting, October 24.
24. Rabideau, A. J., and Janković, I. (2000). "A high-performance Analytic Element Model," *Cross-Discipline Ecosystem Modeling and Analysis Workshop* sponsored by the U.S. Env. Protection Agency, Research Triangle Park, NC, Aug. 15 – 17.
25. Rabideau, A. J. (2000). "Groundwater remediation using a zeolite barrier: Evaluation of a new cleanup technology at the West Valley Demonstration Project," University at Buffalo, Buffalo, NY, Feb. 18.
26. Rabideau, A. J. (1999). "Scrap metal, leaf mulch, and cat litter: Can low-cost barriers replace pump-and-treat for groundwater cleanup?" University at Buffalo Geology Department, Buffalo, NY, Sept. 17.
27. Rabideau, A. J. (1998). "Mass transfer limitations to air sparging performance," University of North Carolina, Chapel Hill, NC, Nov. 18.
28. Rabideau, A. J. (1998). "Reactive barriers for subsurface remediation," Duke University, Durham, NC, Nov. 17.
29. Rabideau, A. J. (1998). "Field study of air sparging performance," Clarkson University, Potsdam, NY, May 8.
30. Rabideau, A. J. (1998). "Air sparging at the Machias Gravel Pit site: mass transfer limitations and potential performance enhancement," Buffalo Society of Professional Geologists, Buffalo, NY, Feb. 18.
31. Rabideau, A. J. (1997). "Modeling of reactive subsurface barriers," seminar presentation, University of Delaware, Newark, DE, Oct. 25.
32. Rabideau, A. J. (1997). "Analytical and numerical modeling of iron-based treatment walls," *Permeable Reactive Barrier Remediation Technology Development Forum Meeting*, Virginia Beach, VA, Sept. 17.

33. Rabideau, A. J., and Shen, P. (1996). "Kinetics of TCE transformation in mixtures of soil and zero-valent iron," *Permeable Reactive Barrier Remediation Technology Development Forum Meeting*, San Francisco, CA, Aug. 15 – 16.
34. Rabideau, A. J. (1996). "Contaminant loadings to the Niagara River," Buffalo State College, Buffalo, NY, Apr. 17.
35. Rabideau, A. J. (1995). "Contaminant transport in containment systems," U. S. Department of Energy, Dover Air Force Base, Dover, DE, Nov. 9.
36. Rabideau, A. J. (1995). "Contaminant transport modeling," Session leader at the *Containment Tech. Workshop*, sponsored by U. S. Env. Protection Agency, U. S. Department of Energy, and DuPont Inc., Baltimore, MD, Aug. 10 – 12.
37. Miller, C. T., Rabideau, A. J., Mayer, A. S., Loftis, B., and Houyoux, M. R. (1994). "Simulating the fate and transport of groundwater contaminants," *Conf. on Env. Impact Prediction, Simulation of Env. Decision Making*, N. Carolina Supercomputing Center, Research Triangle Park, NC, Oct. 6 – 7.
38. Rabideau, A. J. (1994). "Emerging strategies for subsurface remediation," Geotechnical Committee, ASCE Buffalo Section, April 12.
39. Miller, C. T., Frizell, A., Vancjo, L. A., Imhoff, P. T., McBride, J., Okuda, I., Gleyzer, S., Lowry, M. I., Rabideau, A. J., and Mayer, A. S. (1993). "An evaluation of mass transfer phenomena for enhanced remediation processes," N. Carolina State University, Raleigh, NC, Oct. 26.

## PROFESSIONAL SERVICE

**Editorial Board** *Advances in Water Resources*, Elsevier Science (2009 – ); *Journal of Contaminant Hydrology*, Elsevier Science (2020 – ); *Journal of Environmental Engineering*, American Society of Civil Engineers (2006 – 2009, Associate Editor and Invited Papers Editor).

### Peer review of journals and books (partial list)

1. American Geophysical Union: *Water Res. Research*
2. American Chemical Society: *Env. Sci. & Tech.*, *ACS Symposium Series*
3. American Society of Civil Engineers (3 journals): *Hydraulic Eng.*, *Env. Eng.* (Outstanding Reviewer award, 2009), *Geotech. and GeoEnv. Eng.*
4. Association of Ground Water Scientists and Engineers (2 journals): *Ground Water*, *Ground Water Monitoring and Remediation*
5. Elsevier Science (5 journals): *Adv. in Water Res.*, *J. Contaminant Hyd.*, *J. Env. Management*, *J. Haz. Materials. Science of the Tot. Environment*
6. International Association of Water Quality: *Water Research*
7. *J. Air and Waste Management*.
8. Kluwer Publishers: book chapter
9. Marcel Dekker Publishers: textbook
10. Mary Ann Liebert Publishers: *Env. Eng. Science*
11. Prentice Hall Publishers: textbook
12. Soil Science of America Society: *J. Soil Science of Amer. Soc.*
13. Springer: *Transport in Porous Media*
14. Wiley: *Envirometrics*

### **Peer review of research proposals (multiple years)**

1. American Association for the Advancement of Science
2. Illinois Office of Solid Waste Research
3. National Science Foundation (multiple programs)
4. Technion – Israel Institute of Technology Water Research Institute
5. U.S. Department of Defense, *Strategic Env. Research and Development Program*
6. U.S. Department of Energy
7. Wisconsin Water Res. Research Institute

### **Other professional service**

1. External Advisory Committee, Department of Geography and Environmental Engineering, Johns Hopkins University (2012 – 2016).
2. Awards Committee, Association of Env. Eng. and Science Professors (1998 – 2001).
3. Groundwater Management Committee, American Soc. of Civ. Engineers (1997 – 99).
4. Technical Organizing Committee and Session chair, *2001 International Containment and Remediation Technology Conf. and Exhibition*, Orlando, FL, June 10 – 13.
5. Session chair and plenary panel speaker, *1997 International Containment Technology Conf. and Exhibition*, St. Petersburg, FL, Feb. 9 – 12.
6. Technical Advisory Committee and Session leader, *28<sup>th</sup> Mid-Atlantic Industrial and Hazardous Waste Conf.*, Buffalo, NY, July 15 – 17, 1996.

### **Service to Public Agencies and Community Organizations**

1. North Brooklyn Neighbors, Technical Advisor (2021 - ). Providing technical advice related to State Superfund cleanup at NuHart Plastic site (Brooklyn, NY), with J. Gardella (UB-Chemistry), through NYS Technical Assistance Grant.
2. Buffalo-Niagara Waterkeeper, Board of Directors (2014 - 2020). Chair of *Technical and Science Committee* and *Strategic Planning Committee*.
3. National Academy of Science (2009 - 2013). Participant in National Research Council study: *Future options for management of the nation's subsurface remediation effort*, co-authored 2012 book.
4. Washington State, U.S. Department of Energy, and Science Applications International Corporation (2006 - 2013). Technical review panel for Hanford nuclear facility groundwater modeling, in support of Environmental Impact Statement process.
5. Jericho Road Family Practice (2006 – 2007). Technical assistance related to soil contamination on property of community health clinic in Buffalo, NY.
6. Village of Gowanda, and Cattaraugus Creek Basin Citizen's Task Force (1999 – 2005). Technical assistance related to Superfund sites in Village of Gowanda, NY, from Remedial Investigation through Record of Decision.
7. New York State Department of Health (2005 - 2010). Technical committee for NY State Pesticide Advisory Board.
8. Town of Amherst, NY (2005 - 2006). Technical assistance related to evaluation of health risks from pressure-treated wood in municipal parks.
9. Residents for Responsible Government (2004 – 2005). Technical assistance related to inactive hazardous waste sites located in Lewiston, New York.
10. Friends of the Buffalo/Niagara River (2004). Coordinated UB technical review of environmental studies related to Niagara Falls NY power plant relicensing.

11. Sweet Home School District, Amherst, NY (2004 – 2007). Technical assistance related to evaluation of health risks from pressure-treated wood in school playgrounds.
12. Erie County Department of Health (2004 – 2007). Technical assistance in evaluating groundwater sources for drinking water.
13. New York City Department of Env. Protection (2002 – 05). *Scientific Review Panel* for Brooklyn-Queens Aquifer Feasibility Study.
14. NY State Department of Parks and Historic Recreation (2002 – 03). Supervised student project to analyze water supply alternatives for Letchworth State Park.
15. Hickory Woods Homeowners Association (2001). Co-authored external review of New York State *Health Consultation for Hickory Woods neighborhood*, Buffalo, NY.
16. NY Department of Env. Conservation and Department of Health, and U. S. Env. Protection Agency (1999 – 2001). Technical assistance in development of sampling plan to assess arsenic contamination in Middleport, NY.
17. West Valley Nuclear Services, West Valley, NY (1997 – 99). Participated in external peer review panels for North Plateau groundwater remediation.
18. New York State Department of Env. Conservation (1997 – 98). Technical assistance in development of corrective action guidelines for petroleum spills.

## UNIVERSITY SERVICE

### University at Buffalo

1. Steering committee (2018 - ), *Advanced Graduate Certificate in Sustainability*, College of Arts and Science.
2. RENEW (Research and Education on Energy, Environment, and Water)
  - a. Faculty Steering Committee (formalized under new leadership in January 2022; previously intermittent since 2015).
  - b. Director Search Committee (2014).
  - c. Leadership Fellow, Startup coordination (2014).
  - d. Faculty planning committee, Chair (2013).
3. Search committee, Dean of Engineering and Applied Sciences (2012).
4. Environmental Stewardship Committee (2010 - 2014). Co-chair of subcommittee on *teaching, research, and service*.
5. Director, Environment & Society Institute (ESI, 2003 – 2009). Activities included:
  - a. Reported to UB provost. Reconfigured programs to coordinate with UB strategic planning process.
  - b. Administered small grants program (\$90,000/year in 2004 – 2005) and operating budget (\$10,000/year). Supervised staff assistant. Developed and maintained web site.
  - c. Organized annual colloquia, with outside speakers, workshops, and student poster competitions.
  - d. Coordinated initial curriculum proposals for B.S. Environmental Science.
  - e. Participated in various ESI special projects and committees since 1998.
6. Faculty search committees (non-Engineering)
  - a. Department of Urban and Regional Planning (2016)
  - b. School of Public Health (2006 – 2007)
  - c. Department of Geography (2001)
7. Provost's Junior Faculty Advisory Committee (1995 – 99).

### School of Engineering and Applied Science

1. Academic Programs Committee (undergraduate) (2001 – 2003; 2020 – ).
2. Academic Programs Committee (graduate) (2016 – 2018).
3. Awards committee (2013 – 2015).
4. Full professor promotion committee, alternate (2007 – 2008)
5. Computing staff search committee (1995).
6. Co-administrator of high-performance workstation (1995 – 96).

### Department of Civil, Structural, and Environmental Engineering

1. Department Chair (2022 –)
2. Director of Undergraduate Studies, Environmental Engineering (2020 –).
3. Director of Graduate Studies (2016 – 2018).
4. Graduate Studies Committee (1994, 2011 – 2020).
5. Undergraduate Studies Committee (1998 – 2003; 2005 – 2009; 2020 –).
6. Computer Committee, (2010 – 2013, Chair; 1993 – 2000)
7. Faculty advisor for Chi Epsilon, Civil Engineering Honor Society (2006 – 2009).
8. Strategic Planning Committee (2005 – 2007).

9. Webmaster (2003 – 2006). Supervised complete redesign of departmental site.
10. Environmental Engineering Faculty Search Committees: 2021 (EIP); 2015 (Chair, 2 searches), 2014 (Chair, 2 positions), 2011 (Co-Chair), 2001
11. Other Faculty Search Committees: Transportation (2006), Structural (2004), Geotechnical (1995).
12. Coordinator, B. S. Env. Eng, program (1999 – 2003). Developed initial curriculum and managed degree approval process.
13. Director of Undergraduate Studies (2001 – 2003). Coordinated departmental activities related to undergraduate education, including implementation of assessment program and management of 2002 ABET accreditation process for B.S. Civil Eng. and B. S. Env. Eng. programs.
14. Administrator of Env. Eng. computing lab (1993 – 1999).
15. Webmaster for Env. Eng. & Science web site (1994 – 2004).