

Larry J. Weber

Work Address

IIHR – Hydrosience and Engineering
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Current Position

I am the Edwin B. Green Chair in Hydraulics and a full professor in the Department of Civil and Environmental Engineering and a Research Engineer at IIHR – Hydrosience and Engineering.

Previous Positions

From 2017 -2018 I served as the **Executive Associate Dean for the College of Engineering** at the University of Iowa. In this position I was the Chief Operating Officer for the College, with administrative responsibility for the research, teaching and service programs of the College and its associated centers and institutes. From 2004 – 2017 I served as the **Director of IIHR – Hydrosience and Engineering**, the nation’s oldest academic research program focused on hydraulics, hydrology and fluid mechanics. I was also the **co-founder of the Iowa Flood Center**, formed in 2009 as the nation’s only state-funded center focused on flood mapping, flood mitigation and flood-science research. In 2013 I **co-founded the Iowa Nutrient Research Center** (an Iowa Regents Center located at Iowa State University in partnership with University of Iowa and University of Northern Iowa), the nation’s only academic center focused developing scientific understanding for the reduction of non-point source agricultural nutrient runoff. Additionally, I have been asked to assume the leadership of the **UI Water Sustainability Initiative** to enhance the scholarly and service productivity of these 10 junior and mid-career faculty. Lastly, I was called upon by State Leadership in 2014 to lead the transition of the **Iowa Geological Survey** from the Iowa Department of Natural Resources to the University of Iowa (namely to IIHR).

Given my demonstrated leadership of IIHR, service as founder of the Iowa Flood Center and the Iowa Nutrient Research Center, and my leadership to reconstitute the Iowa Geological Survey, I am considered a thought-leader on water resources program development throughout the state and across the country. Through these center-level activities I have developed research, educational and service programs of significant strength across the state with expertise ranging from drought to flood, connecting surface water and ground water processes to better understand and manage issues of water quantity and water quality. These programs are cross-cutting, including faculty, students and staff in engineering, environmental sciences, social sciences, communications, and the visual and performing arts, to name a few. Additionally, the technology developed through this research has led to significant partnerships with state and federal agencies, and both environmental groups and agricultural commodity organizations.

During recent years, my research has focused on watershed sustainability and increasing community resilience across all sizes of cities, from small rural communities to large urban centers. This research follows a systematic process of hydrologic assessment, goal setting, developing watershed plans, installing monitoring systems, project construction, community engagement, identification of vulnerable populations, and details participant surveys and quantitative assessment. I serve as the principle investigator of an initial \$8.8m grant that demonstrated the value of this approach, leading to a recent \$96.9M grant awarded to the State of Iowa from US Housing and Urban Development’s National Disaster Resilience Competition. The State of Iowa project is seen as leading the nation in watershed resilience through *The Iowa Watershed Approach*.

Special Fields of Knowledge

Community Resilience and Planning; Flooding; Flood Mapping; Flood Mitigation; River Hydraulics; Fate and Transport of Nutrients; Hydropower; Coupling Individual-Based Ecological and Fluid Mechanics Models; Fish Passage Facilities; Environmental Hydraulics; Hydraulic Structures; and River Restoration and Sustainability

Education

- Ph.D., University of Iowa, Civil and Environmental Engineering, 1990-1993
- M.S., University of Iowa, Civil and Environmental Engineering, 1989-1990
- B.S., University of Iowa, Civil and Environmental Engineering, 1984-1989

Professional Experience

- Executive Associate Dean, College of Engineering, University of Iowa, August 2017 – Dec. 2018
- Director, Interdisciplinary Research Development, Office of the Vice President for Research and Economic Development (40%-time appointment), December 2016 – August 2017
- Director, IIHR – Hydrosience and Engineering, University of Iowa, May 2004 – August 2017
- Director, Water Sustainability Initiative program 2014 - 2017
- Co-Founder – Iowa Nutrient Research Center, 2013
- Co-Founder – Iowa Flood Center, 2009
- Professor and Edwin B. Green Chair in Hydraulics, Civil and Environmental Engineering, University of Iowa, 2007 – present
- Associate Director, IIHR – Hydrosience and Engineering, University of Iowa, Aug 2003 – May 2004
- Associate Professor, Civil and Environmental Engineering, University of Iowa, 2001 – 2007
- Assistant Professor, Civil and Environmental Engineering, University of Iowa, 1996 – 2001
- Assistant Research Scientist, IIHR – Hydrosience and Engineering, University of Iowa, 1994 – 1996
- Post Doctoral Associate, IIHR – Hydrosience and Engineering, University of Iowa, 1993 – 1994

Professional Memberships

- Fellow, American Society of Civil Engineers
 - Hydraulics and Structures Track Chair, 2006 EWRI Congress, Omaha, NE
 - Hydraulics and Structures Track Chair, 2005 EWRI Congress, Anchorage, Alaska
 - Session Convenor, 1999 ASCE Water Resources Conference, Fish Passage, Seattle, WA
 - Task Committee Chair: Engineering for Fish Bypass and Enhancement, 1998 – 2007
- International Association for Hydraulic Research – Member
 - Chair, Flood Risk Management Technical Committee, July 2015 - present
 - Member, Local organizing committee, 4th International Conference on Hydroinformatics 2000, Cedar Rapids, IA, July 23-27, 2000
 - Session Convenor, Fish Passage Through Hydropower Installations Session, XXVII IAHR Congress, San Francisco, CA, 10-15 August 1997
- Licensed Engineer, Iowa, Certificate 13494, 1996

Honors and Awards

- 2018 Huner Rouse Hydraulic Engineering Award, American Society of Civil Engineers
- 2017 Michael J Brody Award for Faculty Excellence in Service
- 2015 Iowa Woodland Owners of the Year, State of Iowa
- 2014 Board of Regents Faculty Excellence Award
- 2014 Johnson County Heritage Trust Conservationist of the Year Award
- College of Engineering Faculty Award for Exceptional Service, 2010
- 1992 ASCE Collingwood Prize, Best Technical Paper by a Younger Member
- University of Iowa Dean's Scholarship, June, 1989 - January, 1993

Service Activities (last 10 years)

College

- Engineering Associate Dean for Research Search Committee (2013)
- Engineering Dean Search Committee (2011 – 2012)

- Engineering Development Council (August 2006 – present)
- Engineering Administrative Council (May 2004 – present)
- Strategic Planning Committee, Chair Better Futures for Iowans (2010)

University

- Director State Hygienic Laboratory, Co-Chair, 2017
- University Presidential Search Committee, Member, 2015
- Vice President for Research and Economic Development Search Committee, Co-Chair (2011 – 2012)
- University of Iowa Shooting Sports Club, Faculty Advisor (2011 – present)
- Pentacrest Museums Review Committee (Jan 2010 – Jan 2011)
- Flood Mitigation Task Force, Co-Chair (Aug 2008 – 2012)
- Governmental Relations Committee (Aug 2007 – 2010)

Community – State – National

- Director, America’s Watershed Initiative, Board of Directors (2018 – present)
- Director, Bur Oak Land Trust, Board of Directors (2018 – present)
- Chair of the Board of Trustees, The Nature Conservancy, Iowa Chapter (2020 – present)
- Trustee, The Nature Conservancy, Iowa Chapter (2016 – present)
- Scholastic Clay Target Program, Certified Coach, West High Trap Club (2010 – 2013)
- State of Iowa, Certified Shooting Sports Coach (2010 – 2013)
- State of Iowa Water Resources Coordinating Council (2009 – present)
- Iowa Department of Natural Resources Floodplain Mapping Advisory Board (2009 – 2013)
- Knight of Columbus, St Patricks Church, Iowa City (2008 – present)
- US Army Corps of Engineers, Navigation and Ecosystem Sustainability Program, Science Panel Member (2004 – present)
- Advisory Board Member, Western Dubuque High School, Project Lead the Way (2005 – 2010)
- Certified Baseball Coach (Babe Ruth, Little League), Tri-County Baseball Association (2001- 2010)

Teaching Activities (last 10 years)

- Watershed Hydrology and Ecosystem Processes, Spring 2021
- Watershed Hydrology and Ecosystem Processes, Spring 2020
- Ecohydrology and Watershed Modeling, Spring 2016
- Engineering Problem Solving I, Fall 2011, 2012

Graduate Student Research Advising

Thesis supervision completion of 53 MS theses, 25 Ph.D. dissertations (listed below), and 12 Post Doctoral Associates

- Maral Rasmand, 2020
- Chad Drake, 2019, Northwest Hydraulic Consultants
- Iornanis Moustakidis, 2016
- Nicholas Thomas, 2015, HDR
- Oscar Hernandez, 2015, IIHR – Hydroscience and Engineering
- Ali Firoozfar, 2014, HDR
- Yushi Wang, 2013, CH2M Hill
- Kyutae Lee, 2013, Oakridge National Laboratory
- Antonio Arenas, 2012, IIHR – Hydroscience and Engineering
- Charles Theiling, 2010, US Army Corps of Engineers
- Joseph Dario, 2009, USGS
- Dongsu Kim, 2008, Korea
- MD Haque, 2007, California State Water Resources Program
- Cagri Turna, 2007, Bechtel Corps
- Jie Zeng, 2006, South Florida Water Management District
- Haegyun Lee, 2006, Korea

- Andy McCoy, 2006, HDR
- Youngsung Kim, 2006, Korea
- Nathan Young, 2006, University of Iowa
- Seng Keat Ooi, 2005, Singapore
- Yenory Morales, 2004, France
- Ouyang Huei-Tau, 2001, Taiwan
- Heqing Huang, 2002, China
- Kevin Nielsen, 2000, CH2M Hill
- Jianchun Huang, 2000, US Bureau of Reclamation

Research Grants and Contracts

From 1996 – present, Principle or co-Principle Investigator on grants and contracts exceeding \$90m with direct credit for over \$51m.

Principal investigator on contracts and/or grants (last five years)

Contract or Grant Title	Sponsor	Start and End Date	Funding	% Credit
Development of a Real-Time Forecast Model for the Missouri River	US Department of Commerce, Economic Development Authority	7/20 – 12/21	\$800,000	50
Iowa Watershed Approach for Enhanced Community Resilience	US Department of Housing and Urban Development	7/16 – 7/21	\$11.5m (UI) of \$96.9m (State of Iowa)	50%
Iowa Geological Survey	Iowa Department of Natural Resources	1/14 – 6/18	1,000,000/yr	50%
Iowa Nutrient Research Center	Iowa Statue University	7/13 – 6/15	1,056,000	50%
Watershed Demonstration Project	US Department of Housing and Urban Development	11/10-12/15	8,800,000	50%
Iowa Flood Center	Iowa Flood Center	7/12-6/17	\$1,300,000	33%
Iowa Flood Center	Iowa Flood Center	7/10-6/12	\$1,300,000	33%
Iowa Statewide Floodplain Mapping Program	Iowa Department of Natural Resources	5/10-6/14	\$10,000,000	30%
Influence of River Training Structures on Flood Stages in the Unimpounded Reach of the Upper Mississippi River - Supplemental Numerical Simulations	Jacobs/USACE, St Louis District Office	4/10-7/10	\$38,158	50%
Identifying the Primary Sources of Sediment in an Anthropogenically Altered Watershed	Iowa State University	3/10-2/11	\$25,000	5%
Professional Engineering Services for Hydraulic Analysis, Modeling, and Testing for Public Utility District No. 2 of Grant County	Grant County Public Utilities Department #2	1/10-12/04	\$15,000,000	75%
Hydraulic Model Study to Support the Design of Dropshafts for the Abu Dhabi Strategic Tunnel Enhancement Programme (STEP)	CH2M Hill	12/09-12/10	\$413,548	5%

Iowa Statewide Floodplain Mapping Program Pilot Study	Iowa Department of Natural Resources	9/09-3/10	\$199,415	30%
ARRA: Modeling of Fish Behavior and Water Quality Conditions in the Lake Washington Ship Canal	Tetra Tech, Inc.	9/09-12/10	\$66,915	25%
Iowa Flood Center	Iowa Flood Center	7/09-6/10	\$1,300,000	33%
Influence of River Training Structures on Flood Stages in the Upper Mississippi River	Biedenharn Group, LLC	6/09-9/09	\$31,852	50%
Feasibility Assessment of Dredging Coralville Reservoir to Increase Flood Storage Capacity	Coralville, Iowa (City of)	3/09-6/09	\$22,500	20%
Iowa River Modeling	University of Iowa	10/08 - 12/09	\$200,000	50%
Basin-scale Hydrologic Analysis of the Cedar River Basin and Flood Wave Propagation Study for the 2008 Cedar River Flood Event	Alliant Energy Corporation	11/08-1/09	\$30,000	30%
CFD Analysis of an Undershot Impulse-Jet Waterwheel	K.R. Broome & Associates	8/08-12/08	\$24,845	5%
CFD Modeling for the Flow at S65E Spillway and Surroundings at the Kissimmee River	South Florida Water Management District	7/08-9/08	\$47,000	1%
Computational Fluid Dynamics (CFD) Modeling to Support Development of Surface Passage Alternatives at McNary Dam	CH2M Hill	6/08-8/08	\$127,029	25%
Hydrodynamic and Dispersion Modeling - Middle Snake River	Idaho Power Company	5/09-2/09	\$15,000	5%
Computational Fluid Dynamics (CFD) Construction to Evaluate Total Dissolved Gas Within the Tailrace at McNary Dam	Tetra Tech, Inc.	5/08-9/09	\$83,370	5%
Aquatic Resource Study for the Red Rock Hydroelectric Project	Nelson Energy, Inc.	4/08-2/09	\$21,138	5%
TDG Modeling for the Tailrace of Wells Dam	Douglas County Public Utility District	1/08-12/09	\$234,872	5%
Integration of National Research Initiatives at the Lucille A. Carver Mississippi Riverside Environmental Research Station	Roy J. Carver Charitable Trust	11/07-2/09	\$900,000	50%
Design of Fish Research Flume for the Engineering Research and Design Center	US Department of Defense, Army Engineer Research and Development Center	10/07-10/08	\$19,815	25%
CFD Hydrodynamic Simulations for the Proposed Cargill Eddyville Intake on the Des Moines River	Howard R. Green Company	10/07-10/07	\$13,000	5%
Preservation of the Allagash River Ecosystem Study	US Department of Defense, Army	8/07-12/07	\$9,950	30%

Ottumwa Hydro Study Plan for Aquatic Resources	Ottumwa Water & Hydro	4/07-6/07	\$18,600	5%
CFD Model to Identify Zone of Influence at the Prairie du Sac Hydroelectric Project	Mead & Hunt, Inc.	4/07-5/09	\$95,645	30%
Bathymetric Survey of Mississippi River Near the Quad Cities Generating Station	Exelon Generation Company, L.L.C.	12/06-2/07	\$17,950	5%
Identifying the Movement Rules Sea Lamprey Use to Navigate Complex Flows	University of Guelph	9/06-1/08	\$35,584	5%
Floating Island in Mississippi River - CFD Hydrodynamic Simulations	Hellmuth, Obata and Kassabaum, Inc.	8/06-11/06	\$118,650	25%
MWH Americas, Inc. Silver Lake Flood Litigation Retention Agreement	MWH Americas, Inc.	6/06 - 6/08	\$279,999	75%
Laboratory Tests on the Underdrain Lateral Prototype – Scottsdale CAP	Johnson Screens	1/06 – 1/07	\$19,770	100%
Juvenile Fish Passage at Wanapum and Priest Rapids Dams	Public Utility District No. 2 of Grant County	2/04 – 12/05	\$6,817,608	75%
Forebay Computational Fluid Dynamics Modeling to Support Fish Passage at Lower Granite, Ice Harbor and McNary Dams	Tetra Tech, Inc.	7/05 – 7/06	\$153,809	34%
Numerical Modeling of McNary Dam for Temperature Improvements	Walla Walla District Office, USACE	6/05 – 6/06	\$103,932	50%
Numerical Modeling of Fish Passage Facilities at Lower Granite, Ice Harbor and McNary Dams	Walla Walla District Office, USACE	6/05 – 6/06	\$398,018	50%
Support for the Upper Mississippi River System Navigation and Ecosystem Sustainability Program	US Dept. of the Army	4/05 – 8/06	\$68,627	100%
Numerical Model of Ohio River Contaminant Dispersion Between CSO at Twelvemile Creek and Murray Plant Intake	Holly and Associates	12/04 – 3/05	\$60,000	50%
CFD Modeling of Rocky Reach Dam	Chelan County PUD	4/01 – 12/01	\$80,000	75%
Numerical Model of Thermal Regime Downstream of the Quad Cities Nuclear Generation Station	Exelon Generation Corp. LLC	2/04 – 12/04	\$60,000	50%
Juvenile Fish Passage at Wanapum and Priest Rapids Dams	Public Utility District No. 2 of Grant County	2/04 – 12/05	\$1,738,000	75%
Numerical Modeling of The Dalles Dam	Portland District Office, USACE	9/03 – 6/04	\$86,077	50%
Temperature Control Weir and Spillway Deflector Design for Brownlee Dam	Idaho Power Corp, Boise, ID	8/03 – 12/04	\$665,000	100%
Application of CFD for Modeling Design and Analysis of Hydropower Facilities	Rock Island District Office, USACE	7/03 – 7/06	\$159,295	100%
Fish River Ecosystem Study	USACE	3/03 – 8/03	\$4,000	100%
Numerical Modeling of McNary Dam for Temperature Improvements	Walla Walla District Office, USACE	9/02 – 9/04	\$288,060	50%

Hydraulic Model Study of Circulating Water Pump Basin for East Kentucky Power Cooperative	Eastern Kentucky Power Cooperative	8/02 – 7/03	\$84,500	50%
Juvenile Fish Passage at Wanapum and Priest Rapids Dams	Public Utility District No. 2 of Grant County	8/02 – 12/05	\$6,872,566	75%
Numerical Modeling of Lake Washington Ship Canal	Seattle District Office, USACE	6/02 – 2/03	\$60,000	50%
Enhancement and Application of CFD for Modeling Fish Passage Facilities	Vicksburg District Office, USACE	3/02 – 2/04	\$142,000	50%
Hydraulic Modeling of the Villalobos River Catchment	University of Idaho	7/01 – 9/02	\$30,420	100%
Lower Granite Dam Surface Bypass and Collection, Numeric Interpolation	USACE	1/01 – 1/02	\$22,500	100%
3-D Model of Hells Canyon Dam	Idaho Power Corp, Boise, ID	10/00 – 6/01	\$200,000	100%
Numerical Modeling of Rocky Reach Dam, Integration with Fish Tracking Data	Chelan County PUD via ENSR Consulting	10/00 – 5/01	\$46,000	75%
Juvenile Fish Passage at Wanapum and Priest Rapids Dams	Public Utility District No. 2 of Grant County	8/00 – 12/01	\$2,150,048	100%
Intergovernmental Personnel Act for Jianchun Huang	US Department of Interior	6/00 – 6/01	\$115,204	100%
2-D Total Dissolved Gas Model for Hells Canyon Dam	Idaho Power Corp, Boise, ID	12/99 – 8/00	\$192,000	100%
Numerical Modeling of Rocky Reach Dam	Chelan County PUD via ENSR Consulting	9/99 – 8/00	\$52,800	75%
Nursery Bridge Model	US Army Corps of Engineers, Walla Walla District (thru CH2M Hill, Boise, ID office)	8/99 – 9/99	\$14,000	100%
Juvenile Fish Passage at Wanapum and Priest Rapids Dams	Public Utility District No. 2 of Grant County	7/99 – 6/00	\$600,000	100%
Juvenile Fish Passage at Rock Island and Rocky Reach Dams	Public Utility District No. 1 of Chelan County	7/99 – 6/00	\$75,000	100%
Numerical Modeling of Lower Granite Dam, Surface Bypass Channel	US Army Corps of Engineers, Walla Walla District (thru CH2M Hill, Boise, ID office)	4/99 – 3/00	\$97,700	75%
Hydraulic Model Testing of ESBS Perforated Plate Vibrations	US Army Corps of Engineers, Walla Walla District (thru Sverdrup Civil, Inc, Bellevue, WA office)	9/98 – 2/99	\$123,500	100%
Juvenile Fish Passage at Wanapum and Priest Rapids Dams	Public Utility District No. 2 of Grant County	7/98 – 6/99	\$751,495	75%
Juvenile Fish Passage at Rock Island and Rocky Reach Dams	Public Utility District No. 1 of Chelan County	7/98 – 6/99	\$155,242	100%

Numerical Modeling of Lower Granite Dam, Surface Bypass Channel	US Army Corps of Engineers, Walla Walla District (thru Sverdrup Civil, Inc, Bellevue, WA office)	6/98 – 1/99	\$40,000	100%
Fabrication of Model Screen Components for Rocky Reach Dam	ENSR Consulting	6/98 – 8/98	\$28,250	100%
Physical Model Study of Stilling Basin for Yelm Hydroelectric Spillway No. 3	CH2M Hill, Boise, ID	4/98 – 9/98	\$25,000	100%
Ott Current Meter Calibration	ENSR Consulting	3/98 – 4/98	\$10,000	100%
Juvenile Fish Passage at Wanapum and Priest Rapids Dams	Public Utility District No. 2 of Grant County	7/97 – 6/98	\$142,869	75%
Juvenile Fish Passage at Rock Island and Rocky Reach Dams	Public Utility District No. 1 of Chelan County	7/97 – 6/98	\$274,776	100%
Lower Granite Dam, Surface Bypass and Collection – Numerical Interpolation	US Army Corps of Engineers, Walla Walla District (thru CH2M Hill, Boise, ID office)	6/97 – 7/97	\$20,600	100%
Lower Granite Dam, SBC – Physical Modeling of Behavioral Guidance Structure	US Army Corps of Engineers, Walla Walla District (thru CH2M Hill, Boise, ID office)	6/97 – 7/97	\$23,317	100%
Headloss Evaluation of Intake Screens	Hendricks Screen Co	8/96 - 10/96	\$30,000	100%
Juvenile Fish Passage at Wanapum and Priest Rapids Dams	Public Utility District No. 2 of Grant County	7/96 – 6/97	\$1,038,596	75%
Juvenile Fish Passage at Rock Island and Rocky Reach Dams	Public Utility District No. 1 of Chelan County	7/96 – 6/97	\$254,995	100%
			Total Grant and Contract Funding	\$91,021,409
			Total Credited Grant and Contract Funding	\$51,842,083

Publications. (List in chronological order with each publication shown with proper order of authors, inclusive page numbers, and in correct bibliographical form.)

1. Bressan, F., Mantilla, R., Schilling, K.E., Palmer, J.A. and Weber, L.J. (2020). Hydrologic-hydraulic modeling of sediment transport along the main stem of a watershed: role of tributaries and channel geometry. Journal of Hydrologic Sciences. 65 (2), pages 183-199.
2. Meulemans, M., Jones, C.S., Schilling, K.E., Young, N.C., and Weber, L.J., Assessment of Spatial Nitrate Patterns in an Eastern Iowa Watershed Using Boat-Deployed Sensors. Water **2020**, 12, 146; doi:10.3390/w12010146.
3. Ettema, R., Cassidy, J., Ryan, P., Hay, D., Odgaard, J., Findikakis, A., Alsaffar, A., and Weber, L.J. (2019). Challenges in Design: Rex A. Elder and the advances of hydraulic engineering. Journal of Hydraulic Engineering. 145 (10).
4. Moustakidis, I., Schilling, K.E., and Weber, L.J. (2019). Soil total phosphorus deposition and variability patterns across the floodplains of an Iowa river. Catena, vol. 174, pages 84-94.

5. Jones CS, Nielsen JK, Schilling KE, Weber LJ (2018) Iowa stream nitrate and the Gulf of Mexico. *PLoS ONE* 13(4): e0195930. <https://doi.org/10.1371/journal.pone.0195930>
6. Arenas, Antonio, Keith Schilling, James Niemeier, and Larry J. Weber. Evaluating the timing and interdependence of hydrologic processes at the watershed scale based on continuously monitored data. *Water* **2018**, *10*, 261; doi:10.3390/w10030261.
7. Yushi Wang, Marcela Politano & Larry Weber (2018) Spillway jet regime and total dissolved gas prediction with a multiphase flow model. *Journal of Hydraulic Research*, DOI: [10.1080/00221686.2018.1428231](https://doi.org/10.1080/00221686.2018.1428231)
8. Drake, Chad, Christopher S. Jones, Keith E. Schilling, Antonio Arenas, and Larry J. Weber. Estimating nitrate-nitrogen retention in a large constructed wetland using high-frequency, continuous monitoring and hydrologic modeling. *Journal of Ecological Engineering* 69-83. doi.org/10.1016/j.ecoleng.2018.03.014.
9. Jones, Christopher S., Caroline A. Davis, Chad W. Drake, Keith E. Schilling, Samuel H.P. Debionne, Daniel W. Gilles, Ibrahim Demir, and Larry J. Weber, 2017. Iowa Statewide Stream Nitrate Load Calculated Using In Situ Sensor Network. *Journal of the American Water Resources Association (JAWRA)* 1–16. <https://doi.org/10.1111/1752-1688.12618>
10. Amado, A. Arenas, K. E. Schilling, C. S. Jones, N. Thomas, and L. J. Weber. "Estimation of tile drainage contribution to streamflow and nutrient loads at the watershed scale based on continuously monitored data." *Environmental monitoring and assessment*, 189, no. 9 (2017): 426.
11. Larry J. Weber, Marian Muste, A. Allen Bradley, Antonio Arenas Amado, Ibrahim Demir, Chad W. Drake, Witold F. Krajewski, Tony J. Loeser, Marcela S. Politano, Breanna R. Shea & Nicholas W. Thomas (2017). The Iowa Watersheds Project: Iowa's prototype for engaging communities and professionals in watershed hazard mitigation, *International Journal of River Basin Management*, DOI: [10.1080/15715124.2017.1387127](https://doi.org/10.1080/15715124.2017.1387127).
12. Thomas, Nicholas, K. E. Schilling, Antonio Arenas Amado, Matthew Streeter, and Larry Weber. "Inverse Modeling of Soil Hydraulic Properties in a Two-Layer System and Comparisons with Measured Soil Conditions." *Vadose Zone Journal* 16, no. 2 (2017).
13. Arenas Amado A., Politano M., Schilling K. and Weber L. (2016). Investigating Hydrologic Connectivity of a Drained Prairie Pothole Region Wetland Complex using Fully Integrated, Physically-Based Model. *Wetlands*, DOI: [10.1007/s13157-016-0800-5](https://doi.org/10.1007/s13157-016-0800-5).
14. Thomas, N. W., Arenas, A. A., Schilling, K. E., and Weber, L. J. (2016). "Numerical investigation of the spatial scale and time dependency of tile drainage contribution to stream flow." *JHydrol*, 538, 651-666.
15. Thomas, N. W., Arenas Amado, A., Schilling, K. E., and Weber, L. J. (2016). "Evaluating the efficacy of distributed detention structures to reduce downstream flooding under variable rainfall, antecedent soil, and structural storage conditions." *Adv Water Resour*, 96, 74-87.
16. Wang, Y., Politano, M., Laughery, R., and Weber, L.J., "Model development in OpenFoam to predict spillway jet regimes" *Journal of Applied Water Engineering and Research*, April 2015.
17. Davis, C., Ward, A., Burgin, A., Loecke, T., Diego, A., Schnoebelen, D., Just, C., Steven, T., Weber, L., and St Clair, M., (2014). "Antecedent moisture controls on stream nitrate flux in an agricultural watershed", *Journal of Environmental Quality*, Vol. 43, No. 4, pp 1494 – 1503.
18. Goodwin, R.A., Politano, M., Garvin, J., Nestler, J., Hay, D., Anderson, J., Weber, L.J., Dimperio, E., Smith, D., and Timko, M., "Fish Navigation of Large Dams Emerges from Their Modulation of Flow Field Experience", *Proceedings of the National Academy of Sciences of the USA*, April 2014, vol. 111,

no. 14, pp. 5277-5282.

19. Arenas, A.A., Politano, M., Weber, L.J., Lopez, S., and Timko, M. (2014). "A model to predict juvenile salmon swim paths" Hydro Review, Vol. 33, No. 2, March 2014, pp. 38-42.
20. Daraio JA, Weber LJ, Zigler SJ, Newton TJ, Nestler JM. (2012). "Simulated effects of host fish distribution on juvenile unionid mussel dispersal in a large river" River Research and Applications, online publication, (wileyonlinelibrary.com) DOI: 10.1002/rra.1469.
21. Zeng, J., Constantinescu, S.G., Weber, L.J. "3D calculations of equilibrium conditions in loose-bed open channels with significant sediment load" Journal of Hydraulic Engineering, ASCE, Vol. 136, No. 9, (2010) pp. 557-571.
22. Daraio, JA, Weber, LJ, and Newton, TJ. (2010). "Hydrodynamic modeling of juvenile mussel dispersal in a large river: the potential effects of bed shear stress and other parameters," Journal of the North American Benthological Society, 29 (3), 838-851.
23. Daraio, JA, Weber, LJ, Newton, TJ, and Nestler, JM. (2010). A methodological framework for integrating computational fluid dynamics and ecological models applied to juvenile freshwater mussel dispersal in the Upper Mississippi River. Ecological Modelling 221 (2):201-214.
24. Ferrari G., Politano M., and Weber L. 2009. "3D Numerical simulations of free surface flows on a fish bypass" Computers and Fluids, 38, 5, 997-1002.
25. Politano, M., Carrica, P. and Weber, L.J., "A Multiphase Model for the Hydrodynamics and Total Dissolved Gas in Tailraces," International Journal of Multiphase Flow, Vol. 35, (2009) pp. 1036-1050.
26. Ooi, S.K., Constantinescu, S.G. and Weber, L.J., "Numerical Simulations of Lock-Exchange Compositional Gravity Current," Journal of Fluid Mechanics, Vol. 635, (2009), pp 361-388.
27. Turan, C., Carrica, P.M., Lyons, T., Hay, D. and Weber, L.J., "A Three-Dimensional Numerical Model and Experimental Study of the Free Surface Flow in an Ogee-Crested Fish Bypass," Journal of Hydraulic Engineering, ASCE, Vol. 134, No. 8, (2008) pp. 1172-1175.
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