Yu-Feng Forrest Lin, Ph.D., PG

Prairie Research Institute
University of Illinois at Urbana-Champaign
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EDUCATION

2002 Ph.D. in Geological Engineering
University of Wisconsin – Madison, Madison, Wisconsin, USA
Major: Hydrogeology; Minor: Uncertainty Analysis and Statistics

1996 M.S. in Civil and Environmental Engineering
University of Connecticut, Storrs, Connecticut, USA

1993 B.S. in Water Resources and Environmental Engineering
Tamkang University, New Taipei City, Taiwan

EMPLOYMENT

Present Director (since 2018)
Illinois Water Resource Center, Prairie Research Institute
University of Illinois at Urbana-Champaign

Principal Research Scientist (since 2012 as Hydrogeologist)
Illinois State Geological Survey, Prairie Research Institute
University of Illinois at Urbana-Champaign

Clinical Professor (since 2012 as Adjunct Associate Professor)
Department of Civil and Environmental Engineering
University of Illinois at Urbana-Champaign

Research Professor (since 2012 as Adjunct Associate Professor)
Department of Natural Resources and Environmental Sciences
University of Illinois at Urbana-Champaign

2017 – 2019 Associate Director
Illinois-Indiana Sea Grant College Program
University of Illinois at Urbana-Champaign

2013 – 2016 Assistant Section Head, Hydrogeology and Geophysics Section
Illinois State Geological Survey, Prairie Research Institute
University of Illinois at Urbana-Champaign

2009 – 2012 Hydrogeologist
Illinois State Water Survey, Prairie Research Institute
University of Illinois at Urbana-Champaign

2006 – 2008 Associate Hydrogeologist
Illinois State Water Survey, Illinois Department of Natural Resources

2002 – 2005 Assistant Hydrogeologist
Illinois State Water Survey, Illinois Department of Natural Resources

1999 – 2002 Hydrologic Technician (Student Position)
Wisconsin Geological and Natural History Survey and
U.S. Geological Survey, Water Resources Division, Wisconsin District Office

2000 – 2001 Teaching Assistant
Department of Geology and Geophysics, University of Wisconsin – Madison

1998 – 1999 Research Assistant
Department of Soil Science, University of Wisconsin – Madison

1997 – 1998 Research Assistant
Department of Civil and Environmental Engineering, University of Wisconsin – Madison

1995 – 1996 Graduate Assistant
Graduate and Research Information Systems, University of Connecticut

1994 – 1996 Research Assistant
Environmental Research Institute, University of Connecticut

HONORS

Fellow, 2018, Geological Society of America

Distinguished Alumni Award, 2013, Department of Water Resources and Environmental Engineering, Tamkang University, Taipei, Taiwan

Faculty Fellow, 2006, National Center for Supercomputing Applications, Champaign, IL (Web Lecture available at: http://gladiator.ncsa.uiuc.edu/vidcasts/ffp/ncsa_ff-lin-2007.04.05.m4v)

NAS Invited Student Presentation, 2002, Groundwater Fluxes Across Interfaces Workshop, National Research Council, National Academy of Sciences (NSA), Egg Harbor, WI

Best Student Paper Award, 2001, Oral Presentation, the 46th Annual Midwest Groundwater Conference, Madison, WI

MAJOR RESEARCH PROJECTS (EXCLUDING ADMINISTRATIVE AND CAPITAL PROJECTS)

Development and Testing of a Subsurface Energy Transport Package for MODFLOW, 2022 – 2024, Principal Investigator, awarded by U.S. Geological Survey.

Renewable Energy Resilience: City-scale Geothermal Energy Everywhere, 2022 – 2024, Principal Investigator, awarded by U.S. Geological Survey.

FedGeo Technical Assistance Pipeline for Low-Temperature Geothermal Technologies, 2022 – 2026, Senior Staff, awarded by U.S. Department of Energy.

Regenerative Agriculture and the Human Health Nexus in the age of Climate Change, 2021 – 2022, Co-Principal Investigator, awarded by the Illinois Regenerative Agriculture Initiative, University of Illinois at Urbana-Champaign.

Field Test of a Full-Size Prototype Underground Thermal Battery, since 2020, Principal Investigator, co-awarded by Oak Ridge National Laboratory and University of Illinois at Urbana-Champaign.

Campus as a Living Laboratory: Integrating Groundwater Resources and Geothermal Energy for Water–Energy Security and Resilience, 2020 – 2022, Principal Investigator, awarded by the Institute for Sustainability, Energy, and Environment, University of Illinois at Urbana-Champaign.

Geothermal Heat Recovery Complex: Large-Scale, Deep Direct-Use System in a Low-Temperature Sedimentary Basin, 2017 – 2020, Principal Investigator, awarded by the Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy.

Thermal Response Test Unit for Geothermal Pilot Project, 2017 – 2018, Advisor, Student Sustainability Committee project awarded by the University of Illinois at Urbana-Champaign.

Development on Improving Geothermal Exchange Infrastructure, 2016-2017, Principal Investigator, awarded by the University of Illinois at Urbana-Champaign and the Army Construction Engineering Research Laboratory, U.S. Department of Defense.

Using Distributed Temperature Sensing to Measure Stream–Aquifer Exchange at the Ribeirão da Onça Creek Watershed in the Guarani Aquifer System, 2016 – 2018, Principal Investigator, awarded by the Lemann Institute for Brazilian Studies at the University of Illinois at Urbana-Champaign, and the São Paulo Research Foundation, FAPESP [Grant# 2015/03806-1].

High Resolution Temperature Profiling and Thermal Analysis for Geothermal Energy, 2016 – 2018, Principal Investigator, awarded by the University of Illinois at Urbana-Champaign.

MRI: Acquisition of a National CyberGIS Facility for Computing and Data-Intensive Geospatial Research and Education, 2014 – 2017, Senior Personnel, awarded by US National Science Foundation.

Scientific Activities in Support of Water Supply Planning, Illinois, 2014 – 2016, Co-Principal Investigator, awarded by Illinois Department of Natural Resources.

Intensively Managed Landscapes-Critical Zone Observatory (IML-CZO), 2013 – 2020, Investigator, awarded by US National Science Foundation.

Protecting drinking water by reducing uncertainties associated with the geologic carbon sequestration in deep saline aquifers, 2010 – 2013, Co-Principal Investigator, awarded by US Environmental Protection Agency – Science to Achieve Results (STAR) program.

Groundwater Studies for Water Supply Planning in McHenry County, Illinois, 2010 – 2012, Co-Principal Investigator, awarded by McHenry County, Illinois.

Scientific Support for Updating Elgin's Comprehensive Water Master Plan, 2010, Co-Principal Investigator, awarded by Engineering Enterprises, Inc.

Illinois water supply planning, 2007 – 2010, Co-Principal Investigator, awarded by the State of Illinois.

Balancing irrigation and instream water requirements under drought conditions: a study of the Kankakee River watershed, 2007 – 2009, Collaborator, awarded by the Illinois Water Resources Center.

Smart Pipe – Nanosensors for monitoring water quantity and quality in public water systems, 2006 – 2009, Principal Investigator, awarded by US Environmental Protection Agency – Midwest Technology Assistance Center.

The development of point-to-zone pattern learning (P2Z) for groundwater recharge and discharge estimation, 2006 – 2008, Principal Investigator, awarded by the National Center for Supercomputing Applications - Faculty Fellows Program 2006.

Antibiotic resistance genes and residues in water and soil in close proximity to swine production facilities, 2005 – 2009, Co-Principal Investigator, awarded by U.S. Department of Agriculture (National Research Initiative Competitive Grants).

Estimating shallow recharge and discharge in northeastern Illinois using GIS and pattern-recognition procedures, 2004 – 2007, Principal Investigator, awarded by U.S. Geological Survey and National Institutes for Water Resources (National Competitive Grants 104G).

Spatial and temporal shallow recharge rates in Wisconsin, 2003 – 2006, Collaborator, awarded by U.S. Geological Survey internal fund.

Water-resources investigations for Kane County, Illinois, 2002 – 2008, Researcher, awarded by Kane County, Illinois and the State of Illinois.

SOFTWARE DEVELOPMENT

uWATER-PA – Ubiquitous WebGIS Analysis Toolkit for Extensive Resources: an ArcGIS Explorer plug-in package developed for initial assessment on complex groundwater pumping impacts (Details and download available at https://www.isws.illinois.edu/iswsdocs/sware/uwaterpa/uWATER-PA-Manual.pdf)

uWATER – The ubiquitous WebGIS Analysis Toolkit for Extensive Resources: an ArcGIS Explorer plug-in package developed for visualizing and analyzing decision support variables (Details and download available at https://www.isws.illinois.edu/iswsdocs/sware/uwater/uWATER1.1-Manual.pdf)

SP2Learn – Spatial Pattern to Learn: A software suite for geospatial modeling from ancillary field measurements using image processing and machine learning (Details and download available at http://isda.ncsa.illinois.edu/download/index.php?project=SP2Learn&category=documentation&version=Unknown&file=SP2Learn_v2_userGuide20090112.pdf)

PRO-GRADE – Pattern Recognition Organizer and Groundwater Recharge And Discharge Estimator for Geographic Information Systems: A software package includes two GIS plug-in tools for image and map pattern recognition and groundwater recharge and discharge estimation in 2D and steady state (Details and download available at https://www.isws.illinois.edu/iswsdocs/sware/prograde/PRO-GRADE-guide-web.pdf)

MEDIA INTERVIEW

Heating Your Home Through Geothermal Power by Wisconsin Public Radio
https://www.wpr.org/heating-your-home-through-geothermal-power

The Massive 'Batteries' Hidden Beneath Your Feet by WIRED
https://www.wired.com/story/the-massive-batteries-hidden-beneath-your-feet/
https://omny.fm/shows/wired-science/the-massive-batteries-hidden-beneath-your-feet

Sustainability at the University of Illinois: Illinois Climate Action Plan (iCAP) 2020 objectives
https://mediaspace.illinois.edu/media/t/1_poty17ok#

PRI Scientists and Students Study Geothermal Exchange Technology on U of I Campus
https://www.youtube.com/watch?v=BFLjf9MJWvA

Fiber-optic Sensing Enables Precise Temperature Monitoring of Geothermal Exchange System
https://www.youtube.com/watch?v=iw0s3xkW8Lw

A Natural Choice: Mathematica's Role in Natural Resource Studies by Wolfram Research, Inc.
http://www.wolfram.com/mathematica/customer-stories/natural-resource-studies-with-mathematica.html

ACADEMIC SERVICES

Adjunct and Affiliate Faculty

Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign

Department of Natural Resources and Environmental Sciences, University of Illinois at Urbana-Champaign

Center for Urban Resilience and Environmental Sustainability, Discovery Partners Institute, University of Illinois System

Illinois Informatics Institute, University of Illinois at Urbana-Champaign

Center for Nanoscale Science and Technology, University of Illinois at Urbana-Champaign

Cyberinfrastructure and Geospatial Information Laboratory, University of Illinois at Urbana-Champaign

Dissertation Committee and Postdoctoral Mentorship

Ryan C. Cahalan, Mendenhall Research Fellowship, Postdoctoral Research Advisor, 2022-2024, U.S. Geological Survey

Franklin H. Holcomb, Ph.D. candidate, Dissertation Committee, Department of Civil & Environmental Engineering, University of Illinois at Urbana-Champaign

Chieh-Ying Chen, Ph.D. candidate, Research Supervisor, Department of Civil & Environmental Engineering, University of Illinois at Urbana-Champaign

Zilong (John) Zhou, Ph.D. Dissertation Committee, 2023, Department of Agricultural & Biological Engineering, University of Illinois at Urbana-Champaign

Tianfang Xu, Ph.D. Dissertation Committee, 2016, Department of Civil & Environmental Engineering, University of Illinois at Urbana-Champaign, now at Arizona State University

Jihua Wang, Ph.D. Dissertation Committee, 2013, Department of Civil & Environmental Engineering, University of Illinois at Urbana-Champaign, now with Maven Wave Partners, Chicago

Diego M. Oviedo-Salcedo, Ph.D. Dissertation Committee, 2012, Department of Civil & Environmental Engineering, University of Illinois at Urbana-Champaign, now at Universidad Pontificia Bolivariana, Bucaramanga, Colombia

Yi-Chen Ethan Yang, Postdoctoral Research Associate, Supervisor, 2010-2011, Illinois State Water Survey, University of Illinois at Urbana-Champaign, now at Lehigh University

Jun Wan, Ph.D. Dissertation Committee, 2011, Department of Urban and Regional Planning, University of Illinois at Urbana-Champaign, now with Liberty Mutual Insurance, Boston

Yonas Demissie, Ph.D. Dissertation Committee, 2008, Department of Civil & Environmental Engineering, University of Illinois at Urbana-Champaign, now at Washington State University

Advisor, since 2022, Students for Environmental Concerns, University of Illinois at Urbana-Champaign.

Instructor, 2012, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign
- CEE457: Groundwater

Instructor, 2009 - 2012, ESRI–GIS Development Center / Prairie Research Institute, University of Illinois at Urbana-Champaign.

Instructor, 2004, Illinois State Water Survey, University of Illinois at Urbana-Champaign
- Professional Short Course: Groundwater Modeling with Groundwater Vistas Application.

Teaching Assistant, 2001, for Professor Jean M. Bahr, Department of Geology and Geophysics, University of Wisconsin – Madison
- Geology 729: Field Applications in Hydrogeology

Teaching Assistant, 2000, for Professor Mary P. Anderson, Department of Geology and Geophysics, University of Wisconsin – Madison
- Geology 724: Groundwater Flow Modeling

PROFESSIONAL SERVICES

Commissioner, Appointee of Illinois Governor, since 2020, Great Lakes Commission

Executive Editor, since 2017, *Groundwater*, National Ground Water Association

Executive Committee, since 2017, Center for Urban Resilience and Environmental Sustainability, Discovery Partners Institute, University of Illinois System

Delegate, Since 2013, Universities Council on Water Resources (UCOWR)

Representative, since 2011, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI) established by U.S. National Science Foundation

President-Elect, 2024-2025, National Institutes for Water Resources

Co-Editor, 2023-2024, *Journal of Contemporary Water Research and Education*, Editors: Yu-Feng F. Lin and Jeffrey Peterson

Special Issue Editor, 2023, *Groundwater 61(2): 159-287, Special Issue: Advances in the Thermal Use of Groundwater*, Editors: Yu-Feng F. Lin, Corinna Abesser, Jannis Epting, and Alejandro García-Gil, https://ngwa.onlinelibrary.wiley.com/toc/17456584/2023/61/2.

Board Member, 2023-2025, Board of Directors, Campus Middle School for Girls, Urbana, Illinois

Great Lakes Representative, 2023-2024, Board of Directors, National Institutes for Water Resources

At-Large Representative, 2020-2023, Board of Directors, National Institutes for Water Resources

Chair of Water Resources, 2020-2023, Board on Natural Resources, Association of Public and Land-grant Universities (APLU)

Chair, 2021-2022, Hydrogeology Division, Geological Society of America

Vice Chair, 2020-2021, Hydrogeology Division, Geological Society of America

Technical Chair, 2018, Hydrogeology Division, Geological Society of America

Chair, 2018, committee member since 2017, Energy Generation, Purchasing, and Distribution Sustainability Working Advisory Team, University of Illinois at Urbana-Champaign

Representative Member, 2010-2019, University Consortium for Geographic Information Science (UCGIS) established by U.S. National Science Foundation

Advisory Committee Member, 2016-2018, Illinois Water Resources Center

Technology Editor, 2014-2016, *Groundwater*, National Ground Water Association

Vice Chair, 2016, The 50th Annual Meeting of Geological Society of America - North-Central Section Champaign, IL

Vice Chair, 2015-2016, Geological Society of America - North-Central Section

Session Chair, Recent Advances in Hydrogeology I, 2015 Annual Meeting of Geological Society of America, November 1 – 4, 2015, Baltimore, MD

Associate Editor, 2011-2016, *Groundwater*, National Ground Water Association

Guest Editor, *The Journal of Stochastic Environmental Research and Risk Assessment, Special Issue: Evaluation of Multiple Conceptual Models and Modeling Scenarios*, Editors: Ming Ye, Philip D. Meyer, Yu-Feng F. Lin, Shlomo P. Neuman, 2010.

Organizer, GIS Fair 2009 and 2010, University of Illinois at Urbana-Champaign, Champaign, IL

Conference Manager, Conceptual, Spatial, and Numerical Modeling for Decision Support, 2009, University of Illinois at Urbana-Champaign, Champaign, IL

Organizer, Mathematica Workshop 2008, Campus Information Technologies and Educational Services, University of Illinois at Urbana-Champaign, Champaign, IL

Final Review Panelist, National Competitive Grants Program - 104(G): National Institutes for Water Resources - U.S. Geological Survey, 2006, Reston, VA

Judge, National Science Olympiad, 2005, Urbana, IL

Member, American Geophysical Union, Geological Society of America, International Association of Hydrological Sciences, National Ground Water Association

PROFESSIONAL LICENSE CERTIFICATION AND TRAINING

Professional Geoscientist, 2014, Louisiana Board of Professional Geoscientists

Graduate Faculty Mentoring Workshop, 2013, "Identifying Your Personal Mentoring Style and Adapting to Students' Needs", University of Illinois at Urbana-Champaign.

Kepner-Tregoe Project Management Workshop, 2013, University of Illinois at Urbana-Champaign.

Geographic Information Systems Professional (GISP), 2011, GIS Certification Institute, USA

Distributed Temperature Sensing (DTS) Workshop, 2011, USGS, Fort Lauderdale, FL

Advanced Mathematica Summer School, 2009, Wolfram Research, Champaign, IL

LINUX Cluster-Building Workshop, 2006, NCSA, Champaign, IL

Workshops for Teaching Excellence, 2006, University of Illinois at Urbana-Champaign, Urbana, IL

PEST: Model-independent parameter estimation, 2005, USGS, Middleton, WI

Introduction to Programming ArcObjects with VBA, 2004, ESRI, Naperville, IL

UCODE: A computer code for universal inverse modeling, 2000, USGS, Middleton, WI

GFLOW: Analytic element modeling, 2000, USGS, Middleton, WI

National License (Taiwan): Class-A Wastewater Treatment Manager, 1993, Taipei, Taiwan

INTERNATIONAL LECTURES

A New Groundwater Energy (GWE) Transport Model for the MODFLOW 6 Hydrologic Simulator, Department of Civil Engineering, National Yang Ming Chiao Tung University, Hsinchu City, Taiwan, 5/1/2024.

Campus as a Living Laboratory: Groundwater and Geothermal Nexus, Hydrotech Research Institute, National Taiwan University, Taipei, Taiwan, 4/30/2024.

The Nexus of Groundwater and Geothermal Resources in Taiwan, Department of Earth Sciences, National Central University, Taoyuan City, Taiwan, 4/26/2024.

City-scale Geothermal Energy Everywhere to Support Renewable Resilience, Department of Bioenvironmental Systems Engineering, National Taiwan University, Taipei, Taiwan, 4/25/2024.

Applications and Prospects of Low-Temperature Geothermal System in the United States, APOLL TECH of VEOLIA, Taipei, Taiwan, 4/24/2024.

Living Laboratory: Integrating Groundwater and Geothermal Resources, Future Earth, online, 4/11/2022.

The Significance of Groundwater and Underground Infrastructures to Shallow Geothermal System, MUSE of GeoERA by European Union, online, 6/14/2021.

Fiber Optic Distributed Temperature Sensing (FO-DTS) Workshop, National Chiao Tung University and National Water Resources Agency, Taiwan, 11/24 & 29/2017.

Monitoring Temperature as a Tracer for Stream and Aquifer Exchange, Department of Civil Engineering, National Chiao Tung University, Hsinchu City, Taiwan, 11/27/2017.

Connecting Stream/Aquifer Exchange in Guarani Aquifer System and Geothermal Exchange in Urbana, ARSOUTH Engineers Event, U.S. Army Corps of Engineers, Urbana, IL, USA, 8/8/2017.

Vertical Temperature Profiling and Thermal Analysis for Geothermal Energy Alternatives, University of São Paulo, São Carlos, Brazil, 6/22/2017.

Characterizing Vertical Heat Transport and Groundwater Flow in Critical Zone, Institute of Earth Environment, Chinese Academy of Sciences, Xi'an, China, 10/11/2016.

Characterizing Vertical Heat Transport in the Critical Zone by Using Fiber-Optic Distributed Temperature Sensing, Institute of Earth Environment, China University of Geosciences, Beijing, China, 8/3/2016.

Vertical Temperature Profiling and Thermal Analysis for Geothermal Energy Alternatives, National Science and Technology Center for Disaster Reduction, New Taipei City, Taiwan, 7/28/2016.

Augmenting Digital Hydrostratigraphic Model to 3-D Printed Object, Department of Earth Sciences, National Central University, Taoyuan City, Taiwan, 7/27/2016.

PEER-REVIEWED PUBLICATIONS (* Denotes student or postdoc author)

Zhao, Z*, G. Lv, Y. Xu, **Y.F. Lin**, P. Wang, and X. Wang. 2024. Enhancing ground source heat pump system design optimization: A stochastic model incorporating transient geological factors and decision variables. *Renewable Energy.* https://doi.org/10.1016/j.renene.2024.120279

Zhao, Z*, **Y.F. Lin**, A.J. Stumpf, and X. Wang. 2023. Improving LEED-certified building loads on borehole heat exchangers by coupling subsurface variables. *Applied Thermal Engineering.* 224. https://doi.org/10.1016/j.applthermaleng.2023.120119

Lin, Y.F., C. Abesser, J. Epting, and A. García-Gil. 2023. Groundwater: A key factor for geothermal energy systems. *Groundwater*. 61(2): 159-160. https://doi.org/10.1111/gwat.13293

Wendland, E.C. A. Reis*, J.A.A. Anache*, D.M.S. Rosa*, G.M. Alcântara*, C.S. Lowry, and **Y.F. Lin**. 2022. Identifying stream-aquifer exchange by temperature gradient in a Guarani Aquifer system outcrop zone. *Brazilian Journal of Water Resources* 27: e23. https://doi.org/10.1590/2318-0331.272220220058

Zhao, Z*, **Y.F. Lin**, A.J. Stumpf, and X. Wang. 2022. Assessing impacts of groundwater on geothermal heat exchangers: A review of methodology and modeling. *Renewable Energy.* 190: 121-147. https://doi.org/10.1016/j.renene.2022.03.089.

Zong, Y.*, A.J. Valocchi, and **Y.F. Lin**. 2021. Coupling a borehole thermal model and MT3DMS to simulate dynamic ground source heat pump efficiency. *Groundwater*. 61(2): 237-244. **Top Cited Paper in 2021-2022**. https://doi.org/10.1111/gwat.13159

Liu, H.*, A.J. Stumpf, **Y.F. Lin**, and X. Liu. 2021. Distributed thermal response multi-source modeling to evaluate heterogeneous subsurface properties. *Groundwater*. 61(2): 224-236. https://doi.org/10.1111/gwat.13154.

Zhao, Z.*, Y. Xu*, **Y-F. Lin**, X. Wang, and P. Wang. 2021. Probabilistic Modeling and Reliability-based Design Optimization of a Ground Source Heat Pump System. *Applied Thermal Engineering*. 197. https://doi.org/10.1016/j.applthermaleng.2021.117341.

Stumpf, A.J., J. Damico, R. Okwen, T. Stark, S. Elrick, W.J. Nelson, Y. Lu, F. Holcomb*, J. Tinjum, F. Yang, S. Frailey and **Y-F. Lin**. 2018. Feasibility of a Deep Direct-Use Geothermal System at the University of Illinois Urbana-Champaign. *GRC Transactions*. 42: 227–248.

McDaniel, A.*, J. Tinjum, D. Hart, **Y.F. Lin**, A.S. Stumpf, and L. Thomas*. 2018. Distributed Thermal Response Test to Analyze Thermal Properties in Heterogeneous Lithology. *Geothermics*. 76: 116-124. doi: 10.1016/j.geothermics.2018.07.003.

Wu, Q., Y. Zhao*, **Y.F. Lin**, H. Xu, and H. Zhang. 2018. Direct conservative domain in continuous Galerkin groundwater models, *Groundwater*. 56(3): 491-500. doi: 10.1111/gwat.12622.

Kumar P., V.V. L. Phong, T. A. N. Papanicolaou, R. L. Bruce, A. Anders, A. Stumpf, C. Wilson, A. Bettis, N. Blair, A. S. Ward, T. Filley, H. Lin, L. Keefer, D. A. Keefer, **Y.F. Lin**, M. Muste, T. V. Royer, E. Foufoula-Georgiou, and P. Belmont. 2018. Critical Transition in Critical Zone of Intensively Managed Landscapes. *Anthropocene*. 22: 10-19. doi: 10.1016/j.ancene.2018.04.002.

Xu, T.*, A. J. Valocchi, M. Ye, F. Liang and **Y.F., Lin**. 2017. Bayesian Calibration of Groundwater Models with Input Data Uncertainty. *Water Resources Research*. 53: 3224–3245. doi: 10.1002/2016WR019512.

Wu, Q., Y. Zhao*, **Y.F. Lin**, and H. Xu. 2016. Locally Conservative Flow Fields in Continuous Galerkin Groundwater Models Using Prismatic Meshes. *Water Resources Research*. 52: 9182-9189. doi: 10.1002/2016WR018967.

Dong, D., G. Lin*, **Y.F. Lin**, M. Zhao, and L. Li. 2016. Evaluating Induced Fractures between a Large Artificial Lake and an Aquifer-Coal Seam System: A Case Study in Tangshan Coal Mine, China. *Mine Water and the Environment*. 35(2): 253-260. doi: 10.1007/s10230-014-0319-z.

Lin, Y.-F. F. 2014. Hydrogeology: Objectives, Methods, Applications (Book Review), *Groundwater*. 52(6): 815-816. doi: 10.1111/gwat.12282.

Wan, J.*, Y.E. Yang*, **Y.F. Lin** and J. Wang*. 2013. Groundwater Resource Planning to Preserve Streamflow - Where Environmental Amenity Meets Economic Welfare Loss. *Journal of Water Resources Planning and Management*. 139(4): 440–448

Wan, J.*, Y.E. Yang*, and **Y.F. Lin**. 2013. The Effect of Groundwater Allocation on Economic Welfare Loss. *Groundwater*. 51(4): 603–612. DOI: 10.1111/j.1745-6584.2012.00998.x

Meyer S.C., **Y.F. Lin**, and G.S. Roadcap. 2012. Improved Recharge and Discharge Estimation for a Three-Dimensional Flow System. *Groundwater*. 15(3): 457-463.

Bajcsy P., **Y-F. Lin**, A. Yahja, and C-Y. Kim. 2011. A Framework for Accurate Geospatial Modeling Using Image Ranking and Machine Learning. *Journal of Hydroinformatics*, 13(3): 443–460. DOI:10.2166/hydro.2010.187.

Yang Y.E.* and **Y.F. Lin**. 2011. A New GIScience Application for Visualized Natural Resources Management and Decision Support. *Transactions in GIS* 15(s1): 109-124.

Ye M., P. D. Meyer, **Y-F. Lin**, S. P. Neuman. 2010. Quantification of Model Uncertainty in Environmental Modeling. *Stochastic Environmental Research and Risk Assessment* 24(6): 807–808.

Zhou Q., J. T. Birkholzer, H. Leetaru, E. Mehnert, **Y-F. Lin**, and K. Zhang. 2010. Modeling Basin- and Plume-Scale Processes of CO2 Storage for Full-Scale Deployment. *Groundwater* 48(4): 494-514.

Chee-Sanford J. C., R. I. Mackie, S. Koike, I. J. Krapac, **Y-F. Lin**, A. C. Yannarell, S. Maxwell, and R. I. Aminov. 2009. Fate and Transport of Antibiotic Residues and Antibiotic Resistance Genes Following Land Application of Manure Waste. *Journal of Environmental Quality* 38: 1086–1108.

Lin Y-F., J. Wang,* and A. J. Valocchi. 2008. PRO-GRADE: GIS Toolkits for Ground Water Recharge and Discharge Estimation. *Groundwater* 47(1): 122-128.

Lin Y-F., J. Wang,* and A. J. Valocchi. 2008. A New GIS Approach for Estimating Shallow Groundwater Recharge and Discharge. *Transactions in GIS* 12(4): 459-474.

Lin Y-F. and M.P. Anderson. 2003. A Digital Procedure for Ground Water Recharge and Discharge Pattern Recognition and Rate Estimation. *Groundwater* 41(3): 306-315.

Lin Y-F. and M. P. Anderson. 2003. UCODE Calibration for Recharge/Discharge Rates Using a Digital Pattern Recognition Procedure. *Calibration and Reliability in Groundwater Modelling: A Few Steps Closer to Reality, K. Kovar (ed.)*, International Association of Hydrological Sciences Redbook 277: 212-218.

Lin Y-F. 2002. *Development of a Digital Method for Estimating Groundwater Recharge and Discharge*, Ph.D. Dissertation, University of Wisconsin - Madison, 106 pp. (plus one CD-ROM)

Sawyer C. S. and **Y-F. Lin**. 1998. Mixed-Integer Chance-Constrained Models for Ground-Water Remediation. *Journal of Water Resources Planning and Management* 124(5): 185-194.

Lin Y-F. 1996. *Chance-Constrained Models for Groundwater Remediation*, M.S. Thesis, University of Connecticut, 89 pp.

TECHNICAL REPORTS

Stumpf, A.J., **Y.F. Lin**, and T.D. Stark. 2021. *Subsurface Characterization, Monitoring, and Modeling of a Geothermal Exchange Borefield for the Campus Instructional Facility at the University of Illinois at Urbana-Champaign*. Illinois State Geological Survey, Circular 606, 35 p. http://isgs.illinois.edu/publications/c606

Lin, Y.F., C-Y Tseng, and S.L. Sargent. 2020. *User's Manual for the Portable Thermal Response Test Device*. Illinois State Geological Survey, Circular 603, 11 p. http://isgs.illinois.edu/publications/c603

Lin, Y.F., A. Stumpf, S. Frailey, R. Okwen, Y. Lu, F. Holcomb, J. Tinjum, T. Stark, J. Damico, S. Elrick, J. Nelson, D. Garner, F. Yang, H. Salih, W. Fu, Z. Lin, J. Lin, C. Korose, L. Thomas, R. McKaskle, K. Fisher, A. Vance, J. Urlaub, J. Kirksey, and C. Hammock, 2020. *Geothermal Heat Recovery Complex: Large-Scale, Deep Direct-Use System in a Low-Temperature Sedimentary Basin.* Champaign, IL: Illinois State Geological Survey. DOE-DE-EE0008106 Final Report.

Lin, Y.F., S. Zhong, and A.J. Stumpf. 2016. *Procedure for Three-dimensional Printing of a Digital Hydrostratigraphic Model*. Illinois State Geological Survey, Circular 593, 9 p. http://isgs.illinois.edu/publications/c593

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