

WILLIAM E. KELLY

EDUCATION

B.S.	Geology, University of Notre Dame	1965
B.S.	Civil Engineering, University of Notre Dame	1965
M.S.	Civil Engineering, University of Notre Dame	1969
Ph.D.	Civil Engineering, University of Notre Dame	1972

PROFESSIONAL LICENSES

Licensed Professional Engineer in Rhode Island and Nebraska

EMPLOYMENT

Academic

2001-	Professor of Civil Engineering Catholic University of America
1996- 2001	Dean of Engineering & Professor of Civil Engineering Catholic University of America
1982- 1996	Professor & Chairman, Civil Engineering University of Nebraska
1981-82	Director Rhode Island Water Resources Center
1977-82	Department Chairman, Civil & Environmental Engineering University of Rhode Island
1972-82	Assistant, Associate, and Professor, Civil & Environmental Engineering University of Rhode Island
1970-71	Assistant Professor of Architecture Rome, Italy Rome Program University of Notre Dame
1969	Instructor in Civil Engineering University of Notre Dame

Military Service

1965-67	First Lieutenant, Engineering Officer, U.S. Marine Corps
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HONORS

Chapter Honor Member Chi Epsilon - University of Nebraska-Lincoln - 1987
Notre Dame College of Engineering Honor Award 1999
ASEE Civil Engineering Division George Wadlin Award 2000
Fellow ASCE –1990
ANSI Meritorious Service Award 2004

TEACHING (Selected)

Catholic University of America

CE 556 Sustainable Development Principles and Practice
ENGR 510 Strategic Standardization

University of Nebraska -Lincoln

CE 458 Groundwater Engineering
CE 910 Groundwater Hydrology
CE 959 Groundwater Modeling
ENG 400 Professionalism and Ethics

University of Rhode Island

CVE 587 Groundwater Flow and Seepage Pressures
CVE 588 Groundwater Hydrology

University of Notre Dame

CE Hydraulics and Hydrology – on campus
Engineering courses for Architecture students - Notre Dame Rome Program

SERVICE (Selected)

Professional

EIR Started and chaired the Engineers International Roundtable continuing the activities of the AAES IntAC 2002- 2004
AAES Chair of International Activities Commission 2001-2002
ANSI Member of Board of Directors 2000- , Member of Board Committee on Conformity Assessment 2001-2004, Chair of ANSI Committee on Education 2001-, Chair of ANSI Personnel Certification Accreditation Committee 2002 -
ASCE ABET program evaluator - 1987-98, ASCE Educational Activities Committee - member 1994-1996, Task Committee for Civil Engineering Education 1996-98, Task Committee on First Professional Degree 1999-2001, member Committee on Sustainability 2002-
ASEE -ASEE representative to International Activities Committee of AAES 1998-2001, organized session on Sustainable Development for Engineering Deans Institute, March 1999.
ABET EAC - Member, 1993, Criteria Committee member, 1994-1997, Executive Committee 1997-, Vice Chair operations 1999-2000, Vice Chair policy 2000-2001, Chair 2001-2002, past chair 2002-2003
Journal of Hydrology Editorial Board - member, 1987-2002
ASCE Department Heads Council - 1990-93, secretary 1992-93, vice chair 1993-94
ASEE Civil Engineering Division - director 1990-93, chair committee on Educational Policy 1991-92, Chair Committee on Teaching Methodology 1989-90, Member Membership Committee 1990-91, Member Project Committee 1992-93, Chair elect - 1994-1995, chair 1995-1996

International Association for Hydrological Sciences Nomination Group - member, 1991
 IAHS/IGCW Working Group for UNESCO/IHP Project M-3.1 - member, 1991
 Nebraska State Wellhead Protection Committee - member, 1989

Nebraska Governor's Advisory Committee on Solid Waste - member, 1991-1992
 Nebraska Grants Review Board Department of Environmental Quality - member, 1992 - 1996

U.S.G.S. Water Center Review. Montana State University, Utah State, University of Arkansas, University of Missouri-Columbia - team member, 1985-86
 U.S.G.S. 105 Program - member Groundwater Panel, 1988
 NSF/EPA Water and Watersheds Environmental Biology Review Panel – 1995
 Rhode Island Governor's Task Force to Review Individual Sewage Disposal System Regulations - member, 1978-79.
 Rhode Island Statewide Planning Committee for Groundwater Management - member, 1980
 Rhode Island Town of South Kingstown Zoning Board - member, 1977-82
 ASCE Geotechnical Division Committee on Environmental Concerns - member, 1976-1986, Chair, October 1978-1984

University

CUA Deans Conference 1996-2002
 U of Nebraska Water Resources Planning and Management Committee - member, 1982 - 1996
 U of Nebraska Water Resources Research Center Executive Committee - member, 1983-84
 U of Nebraska Research Initiative -Water Science Advisory Committee - member, 1987-89.
 U of Nebraska University Council on Water Resources (UCOWR) - representative, 1984 – 1996, chaired the UCOWR International Committee
 U of Nebraska Transportation Research Board - representative, 1991 - 1996
 U of Nebraska Exchange program with the University of Hannover – 1984

CONSULTING (Selected)

1974	Consultant, Hydrogeology, United Nuclear Corporation, Wood River Junction, Rhode Island
1974	Consultant, Engineering Geology and Hydrogeology United Nuclear Industries, Richland, Washington
1975-77	Consultant, Hydrogeology, Town of South Kingstown, Rhode Island
1978-82	Goldberg, Zoino, Dunnclyff & Associates Newton Upper Falls, Massachusetts
1977-79	Consultant, Hydrogeology Rhode Island Attorney General's Office Providence, Rhode Island
1978	Consultant, Hydrogeology, U.S. Nuclear Regulatory Commission Washington, D.C.
1982-83	Consultant Hydrogeology and Geotechnical Engineering Peer Consultants, Rockville, Maryland
1987-96	Consultant Ground-Water Modeling H.D.R, Omaha, Nebraska
2004-05	ABET

RESEARCH PUBLICATIONS (Selected)

Journal

- Kelly, W.E., 1976 "Geoelectric Sounding for Delineating Ground Water Contamination, Ground Water, V.14, n.1, Jan-Feb. 1976, pp. 6-10.
- Kelly, W.E., 1976 "Groundwater Pollution Near a Landfill", Journal of the Environmental Engineering Division ASCE, v. 102, n.EE6, December, pp. 1189-1199.
- Kelly, W.E., 1977 "Electrical Resistivity for Estimating Permeability," Journal of the Geotechnical Div., ASCE v. 103, n. GT10, pp. 1165-1169.
- Kelly, W.E., 1977 "Geoelectric Sounding for Estimating Aquifer Hydraulic Conductivity," Ground Water, v. 15, n. 6, Nov.-Dec.1977, pp. 420-425.
- Kelly, W.E., 1980 "Ground and Surface Water Interaction - Legal Aspects," Journal of the Water Resources Planning and Management Division, Vol.106, No.WRI, March, pp.55-60.
- Kosinski, W., and Kelly, W.E., 1981 "Geoelectric Soundings for Predicting Aquifer Properties," Ground Water, v. 19, n. 2, March-April, pp. 163-171.
- Kelly, W.E., Powers, M.A., and Virgadamo, P.P., 1981 "Control of Ground Water Pollution at a Liquid Chemical Waste Disposal Site," The Science of the Total Environment, v.21, pp. 93-98.
- Kelly, W.E., and Reiter, P.F., 1984 "Influence of Anisotropy on Relations Between Electrical and Hydraulic Properties of Aquifers," Journal of Hydrology, v. 74, n. 3/4, pp. 311-321.
- Kelly, W.E., and Frohlich, R.K., 1985 "Relations Between Aquifer Electrical and Hydraulic Properties," Ground Water, v. 23, n.2, March- April, pp. 182-189.
- Mazac, O., Kelly, W.E., and Landa, I., 1985 "A Hydrogeophysical Model for Relations Between Electrical and Hydraulic Properties," Journal of Hydrology, v. 79, n. 1/2, pp. 1-19.
- Kelly, W.E. 1985 "Electrical Resistivity for Estimating Ground-Water Recharge," Journal of the Irrigation and Drainage Division ASCE, June, v.111, n. 1, pp. 177-180.
- Frohlich, R.K., and Kelly, W.E., 1985 "The Relation Between Hydraulic Transmissivity and Transverse Resistance in a Complicated Aquifer of Glacial Outwash Deposits," Journal of Hydrology, v. 79, pp. 215-219.
- Bardossy, A., Bogardi, I., and Kelly, W.E., 1986 "Geostatistical Analysis of Geoelectrical Estimates for Specific Capacity," Journal of Hydrology, Vol. 84 (1/2), pp. 81-95.
- Mazac, O., Kelly, W.E., and Landa, I., 1987 "Surface Geoelectrics for Ground-Water Pollution and Protection Studies," Journal of Hydrology, 93: 277-294.
- Frohlich, R.K., and Kelly, W.E., 1987 Estimates of Specific Yield with the Geoelectrical Resistivity Method in Glacial Aquifers," Journal of Hydrology 97: 37-44.
- Kelly, W.E., and Bogardi, I. 1989 "Flow Directions with a Spreadsheet," Ground Water, March-April, 27: 245-247.
- Kelly, W.E., Gorman, T., and Curtis, B. 1989 "Relationships Between the Unsaturated Electric and Saturated Hydraulic Properties of Soils," Journal of Hydrology, 109: 115-123.
- Mazac, O., Landa, I., Kelly, W.E. 1989 "Surface Geoelectrics for the Study of Groundwater Pollution-Survey Design," J. Hydrol. 111: 163-176.
- Bardossy, A., Bogardi, I., and Kelly, W.E., 1989 "Imprecise (Fuzzy) Information in Geostatistics," Mathematical Geology, Vol. 1, No. 4, pp. 287-311, 1988.
- Curtis, B., and Kelly, W.E., 1990 "Resistivity-Recharge Relationships - Field Study," J. of Hydrol, 118: 39-53.
- Gorman, T., and Kelly, W.E., 1990 "Electrical Properties of Unsaturated Ottawa Sand," J. of Hydrol. 118: 1-18.
- Gilliland, M.W., Kelly, W.E., and Lokke, D. M. 1991 "Hazardous-Waste Management in Rural Areas," J. of Prof. Issues in Eng. Ed. and Practice ASCE, 117:102-110.
- Woldt, W., Bogardi, I., Kelly, W.E., and A. Bardossy 1992 "Development of a Remedial Action Design Support System, Part I: Probabilistic evaluation of a 3-D Ground Water Contamination Plume,"

- Journal of Contaminant Hydrology, 9:271-288.
- Kalinski, R.J., Kelly, W.E., Bogardi, I., and Pesti, G. 1993 "Electrical Resistivity Measurements to Estimate Travel Time through Unsaturated Ground-Water Protective Layers," *Journal of Applied Geophysics*, 30:161-173.
- Kalinski, R.J., and Kelly, W.E. 1993 "Estimating Water Contents of Soils from Electrical Resistivity," *Geotechnical Testing Journal*, 16(3): 323-329.
- Pesti, G., Bogardi, I., Kelly, W.E., Kalinski, R.J. 1993 "Cokriging of Geoelectric and Well Data to Define Aquifer Protective Layers," *Ground Water* 31(6): 905-912.
- Mergia, G., and Kelly, W.E. 1994 "Modeling Ground-Water Remediation in the High Plains Aquifer," *Ground Water*, 32(1): 151-152.
- Kalinski, R.J., Kelly, W.E., Bogardi, I., Ehrman, R.L., and Yamamoto, P.D. 1994 "Correlation Between DRASTIC Vulnerability and Incidents of VOC Contamination of Municipal Wells in Nebraska," *Ground Water* 32(1): 31-34.
- Kalinski, R.J., and Kelly, W.E. 1994 "Electrical-Resistivity Measurements for Evaluating Compacted-Soil Liners", *Journal of Geotechnical Engineering*, 120(2): 451-457.
- Pesti, G., Kelly, W.E., and Bogardi, I. 1994 "Observation Network Design for Selecting Locations for Water Supply Wells," *Environmetrics*, 5: 91-110.
- Mares, S., Zboril, A., and Kelly, W.E. 1994 "Logging for Determination of Aquifer Hydraulic Properties," *The Log Analyst*, 36(6): 28-37.
- Kelly, W.E., Mazac, O., and Mares, S. 1994 "Dispersion Parameters from the Impulse Response using Regression, *J. Hydrol*, 163: 85-94.
- Pesti, G, Kelly, W.E., Bogardi, I., and Kalinski, R. 1996 "Combining Geophysical and Well Data for Identifying Best Well Locations," *Journal of Water Resources Management ASCE*, 122:97-104.
- Engelbert, P.J., Hotchkiss, R.J., and Kelly, W.E. 1997 Integrated Remote Sensing and Geophysical Techniques for Locating Canal Seepage in Nebraska, *J. Applied Geophysics*, 38(2): 143-154.
- Hotchkiss, R., Wingert, C.B., and Kelly, W.E. 2001 Determining Irrigation Canal seepage with Electrical Resistivity, *J. Irrigation and Drainage Division ASCE*, 127(1): 20-26

Proceedings

- Kelly, W.E. 1971 "A Monte Carlo Approach to Seepage in Jointed Rocks," *Proceedings Thirteenth Symposium on Rock Mechanics*, Urbana, Illinois, pp. 227-239.
- Kelly, W.E. 1975 "Instruction in Ground Water Hydrology in Rhode Island," *Proceedings International Seminar on Water Resources Education (UNESCO)*, Paris, France, March 1975.
- Kelly, W.E. 1976 "Modeling Ground Water Flow Near Landfills and Gravel Pits for Water Quality Studies," *Proceedings of Conference on Ground Water Quality, Measurement, Prediction and Protection*, Reading, England, Sept., pp. 728-735.
- Kelly, W.E., Bogardi, I., Bardossy, A., and Nicklin, M., 1986 "Combining Surface Geoelectrics and Geostatistics for Estimating the Degree and Extent of Ground Water Pollution," *Proceedings ASTM Symposium on Field Methods for Ground Water Contamination Studies and their Standardization*, February, STP 963, Philadelphia.
- Kelly, W.E., Bardossy, A., and Bogardi, I., 1986 "Network Design of Geoelectric Surveys for Estimating Aquifer Properties," *Proceedings Symposium on Integrated Design of Hydrological Networks IAHS*, Budapest, Hungary, July.
- Kelly, W.E., Landa, I., Mazac, O., and Skuthan, B., 1986 "Geophysical Surface Methods Used in Building and Operating Dumps," *Proceedings 19th Congress of the International Association of Hydrogeologists*, Karlovy Vary, Czechoslovakia, September
- Kelly, W.E., 1987 "Aquifer Parameters from the Impulse Response to Pumping," *Proceedings Ninth European Conference on Soil Mechanics and Foundation Engineering*, Dublin, September.
- Kelly, W.E., Bogardi, I., and Bardossy, A., 1987 "Evaluation and Design of Combined Networks for Groundwater Pollution Monitoring," *Proceedings International Conference on the Vulnerability of Soil and Groundwater to Pollutants*, Amsterdam, April.

- Bogardi, I., Kelly, W.E., and Mazac, O. 1988 "Geophysics and Geostatistics for Evaluating Groundwater Pollution," Proceedings Contaminated Soil '88, Hamburg, W. Germany, April.
- Bogardi, I., Fried, J.J., Frind, E., Kelly, W.E., and Rijtema, P.E. 1988 "Groundwater Quality Modeling," Proceedings International Symposium on Water Quality Modeling of Agricultural Non-Point Sources Logan, June.
- Kelly, W.E., Bogardi, I., Woldt, W., and Bardossy, A. 1989 "Combining Surface Geoelectrics and Borehole Measurements for Contamination Control," Proceedings International Symposium on Groundwater Management IAHS, Benidorm, Spain, October.
- Kelly, W.E., Bogardi, I., and Bardossy, A., 1990 "Evaluation of Soil Data for Closure of Surface Impoundments," Proceedings Third International KFK/TNO Conference on Contaminated Soil, Karlsruhe, December.
- Kelly, W.E., and Bogardi, I. 1991 "Design, Operation and Some Examples of Field Monitoring Networks," Proceedings International Symposium Hydrological Basis of Ecologically Sound Management of Soil and Groundwater IAHS, Vienna, Austria, August.
- Kelly, W.E., Bogardi, I., Mazac, O., and Mares, S. 1991 "Geoelectrics in Comprehensive Basin Studies," International Symposium Hydrological Basis of Ecologically Sound Management of Soil and Groundwater IAHS, Vienna, Austria, August.
- Kelly, W.E., Curtis, B., and Adelman, D. 1991 "Nitrate Ground-water Modeling for Agricultural and Other Non-point Sources," in Nitrate Contamination: Exposure, consequence, and Control, ed. by I. Bogardi and R. Kuzelka, Springer Verlag.
- Mazac, O., Kelly, W.E., Landa, I. 1992 "Geoelectrics in Comprehensive Ground Water Contamination Studies," Current Practices in Ground Water and Vadose Zone Investigations, ASTM STP 1118, D.M. Nielsen and M.W. Sala eds., ASTM, Philadelphia, PA, pp. 79-89.
- Kelly, W.E., Bogardi, I., Mazac, O., Mares, S., Karous, M., and Anton, J. 1993 "Geoelectrics for Monitoring Mine Tailings Impoundments," Geoconfine 93, Arnould, Barres & Come (eds.), Balkema, pp. 409-414
- Mares, S., Kelly, W.E., Blecha, A., Dohhnal, J., and Jones, Z. 1993 "Geophysics for Detection of Long-Term Physico-Chemical Processes in Landfills," Proceedings IV Int. Landfill Symposium, S. Margherita di Pula, Italy.
- Kelly, W.E., Dahab, M.F., and Bogardi, I. 1993 "Environmental Engineering in a Global Community," Proceedings ENTREE '93, Delft, The Netherlands, pp. 9-15.
- Karous, M., Mares, S., Kelly, W.E., Anton, J., Havelka, J., and Stoje, V., 1994 "Resistivity Methods for Monitoring Spatial and Temporal Variations in Ground Water Contamination," Proceedings International Conference on Groundwater Quality Management IAHS, Tallin, Estonia, IAHS Pub. no. 22, 00. 21-28.
- Kelly, W.E., Mazac, O., and Mares, S. 1994 "Geoelectrics for Estimating Aquifer Transport Properties," Proceedings International Symposium on Transport and Reactive Processes in Aquifers, Dracos and Stauffer (eds.), Balkema, Rotterdam, pp. 221-226.
- Pesti, G., Bogardi, I., Kelly, W.E., and Nachtnebel, H.P. 1994 "Integrated Observation Network Design for Utilizing and Protecting Aquifers," Proceedings Int. Conf. on Future Groundwater Resources at Risk, Helsinki, June.
- Pesti, G., Bogardi, I., Kelly, W.E., 1994 "Risk-Based Well Field Design Combining Different Sources of Data," Proceedings Int. Conf. on Future Groundwater Resources at Risk, Helsinki, June.
- Dahab, M.F., and Kelly, W.E. 1994 "Pollution Prevention and Clean Technology Based Engineering Education: The Nebraska Project," Proceedings ENTREE '94, Copenhagen, Denmark, pp. 65-72.
- Kelly, W.E., Mares, S., Kujal, R. 1995 "Geoelectrical Monitoring of Dense Electrolytic Solutions in Homogeneous Aquifers, Proceedings International Conference on Groundwater Quality IAHS, Prague, May, IAHS Pub. No. 224, pp. 3-11.
- Mazac, O., Landa, I., and Kelly, W.E. 1995 "Limits of Resisistivy" Proc. EEGS European Section, Torino, Italy, Sept., pp 38-41.
- Mazac, O., Landa, I., Rohde, J.R., Kelly, W.E., and Blaha, J.H. 1996 "Experiences with a New Soil Gas Technique for Detecting Petroleum Pollution, Volatile Organic Compounds in the Environment,

- ASTM STP 1261, W. Wang, J. Schnoor, and J. Doi, Eds., American Society for Testing and Materials, pp. 192 - 200.
- Kelly, W.E., Anderson, R., 1997 "Sustainability - A constraint for Design?," Proceedings ENTREE '96, Sunderland, United Kingdom, pp. 361-367.
- Kelly, W.E., and Dahab, 1997 "Hydrogeology of the Kearney, Nebraska, Wellfield, Groundwater in the Urban Environment: Problems, Processes and Management, Chilton et al. (eds), Balkama, Rotterdam, pp. 335-338.

Other

- Kelly, W.E., and S. Mares (eds.) 1993 Applied Geophysics in Hydrogeological and Engineering Practice, Elsevier, Amsterdam, 289 pp.
- Kelly, W.E. 1997 VIEWPOINT - Beginning a Successful Academic Career, J. Professional Issues in Engineering Education and Practice, 123(4):121-122.
- Mares, S., Kelly, W.E. and Mazac, O. 1997 Applied Geophysics in Environmental Engineering and Science, Charles University Press, Prague, 98 pp.
- Kelly, W.E. 1999 Book Review - The Handbook of Groundwater Engineering, J.W. Delleur (ed.), J. Hydrol 219:94-99.
- Kelly, W.E. 2001 Including Standards in the Education of Future Engineers, Standards Engineering, Vol. 53, No. 1, January/February.
- ASCE 2004 Sustainability in Engineering Practice: An Introduction (edited by J. Vanegas), sponsored by the ASCE Committee on Sustainability, I contributed the article "Sustainability in Engineering Education" to the volume.
- Kelly, W.E., The US Standardization System and Global Educational Outreach, Asia-Link, Helmut Schmidt University, Hamburg, Germany, August 19, 2004.
- Kelly, W.E. Standards for Improving Student Evaluations in the Service of Learning – Commentary, Joint Committee on Standards for Educational Evaluation and Educational Testing Serviced, Washington, DC, September 24, 2004
- Kelly, W.E. Role of Educational Institutions in Responding to Changing Demographics and Government Roles, ASCE National Meeting, Baltimore, October 20, 2004
- Kelly, W.E. Introduction to Engineering Standards in Capstone Design, ANSI Workshop, Catholic University, October 22, 2004.
- Kelly, W.E., Standards and Sustainable Development, Invited presentation made at the Standards Council of Canada meeting, Calgary, November 16, 2004.

RESEARCH GRANTS AND CONTRACTS (Selected)

University of Rhode Island

- Research Initiation-Properties of Aquifers in Glacial Outwash by Surface Resistivity Method," supported by the National Science foundation, 1974-1976 (Principal Investigator).
- "International Travel Grant to Participate in International Water Resources Education Seminar," from National Science Foundation, 1975.
- "An Analog and Digital Model of the Lower Wood River Aquifer in the Lower Pawcatuck River Basin, Rhode Island," supported by the Rhode Island Water Resources Board, 1976 - funding continued until 1982
- "Ground Water Quality Model of the Chipuxet Aquifer in the Upper Pawcatuck River Basin," supported by the Office of Water Resources Research, 1977 (With A.S. Marcus and L. Kirschenbaum, Co-Principal Investigators)
- "A Study of Ground Water Conditions at the Proposed Charlestown Nuclear Facility," for the Rhode Island Coastal Resources Center, 1977 (Principal Investigator).
- "Salt Storage Study," supported by the Rhode Island Department of Transportation, 1979 (Principal

Investigator, with D.W. Urish).
"Estimating Hydraulic Properties of Glacial Aquifers with Surface Geophysical Methods," supported by the National Science Foundation, 1979-1981 (Principal Investigator, with R.K. Frohlich).
"Aquifer Recharge-Electrical Resistivity Relationships," supported by the U.S. Geological Survey 105 Program, 1985-1988 (Principal Investigator with M. Nicklin).
International Travel Grant to Participate in International Association of Hydrology Meeting from National Science Foundation, 1986.
"Investigation of the Sampling Equipment on Ground Water Samples," supported by ISCO, 1986, (with M. Dahab, co-principal investigator).
"Geostatistics and Geoelectrics for Ground Water Pollution," supported by the U.S. Geological Survey 105 Program, 1987-1990 (with I. Bogardi, co-principal investigator).
"Geoelectrics and Geostatistics for Wellhead Protection Zones and Soil Liners," supported by the National Science Foundation, 1990-1993, (Principal Investigator with I. Bogardi).
"Research Experience for Undergraduates," supported by the National Science Foundation, 1991-1993, (Principal Investigator with I. Bogardi).
"U.S. - Czechoslovakia Research on Aquifer Transport Properties, National Science Foundation, 1991-1995, (Principal Investigator with I Bogardi, and S. Mares (Charles University).
"Freshmen Laboratory," supported by the R.M. Parsons Foundation, 1999-2000.
"Connecting to Engineering," supported by the General Electric Foundation 2000-2003