

## RESUME

**Name:** Alfred David Parr  
**Title:** Professor, Dept. of Civil, Environmental and Architectural Engineering  
The University of Kansas

**Personal Data:** Born 9/23/46 in Des Moines, Iowa  
American citizenship

### Academic Training:

B.S. Iowa State University (Engineering Operations), 1970  
M.S. University of Iowa (Mechanics and Hydraulics), 1972  
Ph.D. University of Iowa (Mechanics and Hydraulics), 1976

**Office Address:**  
The University of Kansas  
Dept. of Civil, Env. and Arch. Engineering  
2157 Learned Hall  
Lawrence, Kansas 66045  
(913) 864-3808  
E-mail: parr@ku.edu  
Fax: 785-864-5631

**Home Address:**  
909 Coving Dr.  
Lawrence, Kansas 66049  
(913) 843-6440

### Short Courses Presented

"Groundwater Contamination," University of Kansas and Black & Veatch, Kansas City, Missouri, May 28-29, 1986.

"Floodplain Analysis: Hydrology and Hydraulics" (with Bruce McEnroe) Lawrence, Kansas, May 31-June 2, 1989.

"Stormwater and Floodplain Analysis Using HEC-1 and HEC-2" (with Bruce McEnroe), Lawrence, Kansas, May 30-June 1, 1990.

"Floodplain Analysis Using HEC-2," Lawrence, Kansas, August 20-22, 1990.

"Stormwater and Floodplain Analysis Using HEC-1 and HEC-2" (with Bruce McEnroe), Lawrence, Kansas, January 2-4, 1991, May 1991, May 1992.

"Bridge Scour Analysis Using WSPRO," Lawrence, Kansas, August 17-19, 1992.

"Bridge Scour Analysis Training Session," February 18 and 20, 1992, for Kansas Dept. of Transportation.

"Bridge Scour Analysis Training Session," April 12 and 14, 1994, for Kansas Dept. of Transportation.

"HEC-RAS 2.0 Shortcourse," August 1997 for Kansas Water Office. (Approx 20 participants).

"HEC-RAS 2.1 Shortcourses," January 1998, March 1998. (Approx 60 participants total). Scheduled course in Maricopa County, Phoenix, Arizona, July 1998. (Approx 40 participants).

" Flood Analysis with HEC-HMS and HEC-RAS," July 23 to July 27. 2001, University of Costa Rica, San Jose, Costa Rica.

" GIS Applications in Flood Plain Analysis," May 22-23. 2002, Lenexa KS.

" Flood Analysis Using HEC-RAS 3.0," June 14-15, 2002, Wichita KS.

"HEC-RAS 3.1.1 Modeling," October 22, 2003, Overland Park KS.

"Bridge Modeling and Scour Analysis," December 10 and 17, 2003, Topeka KS.

"HEC-RAS 3.1.1 Modeling," July 27-28, 2004, HNTB, Kansas City KS.

"HEC-RAS 3.1.2 Modeling," May 31-June 2, 2005, LTAP Center, KU campus.

"HEC-RAS 3.1.2 Modeling," June 10-11, 2005, MKEC, Wichita KS.

"HEC-RAS 3.1.2 Modeling," July 12-13, 2005, KDOT, KU campus.

"HEC-RAS 3.1.3 Modeling," March 21-22, 2006, KU Edwards campus.

"HEC-RAS 3.1.3 Modeling," August 8-9, 2006, KU campus.

"Hydraulic Modeling with HEC-RAS 4.0 and HEC-GeoRAS," March 30 and April 1, Olathe, KS.

"Hydraulic Modeling with HEC-RAS 4.0 and HEC-GeoRAS," July 22-23, 2009, Bartlett and West, Topeka KS.

"Hydraulic Modeling with HEC-RAS 4.0 and HEC-GeoRAS," July 5-6, 2009, GBA, Lenexa, KS.

### **Professional Experience:**

Manufacturing Engineer, Square D Co., Cedar Rapids, Iowa, 6/70 to 7/71.

Res Assistant, Iowa Institute of Hydraulic Research, University of Iowa, Iowa City, Iowa, 9/71 to 12/75.

Assistant Professor, Civil Engineering, University of Florida, Gainesville, FL., 12/75 to 8/77.

Assistant Professor, Civil Engineering, Auburn University, Auburn, Alabama, 9/77 to 8/81.

Associate Professor, 8/81 to 7/87; Civil Engineering, University of Kansas, Lawrence, Kansas.

Professor, 8/87 to present, Civil Engineering, University of Kansas, Lawrence, Kansas.  
Assoc. Dept. Chair, 8/98 to 8/01.

**Consulting Experience:**

Served as consultant and/or expert witness on surface water and groundwater flow and pollution problems for the following groups:

Black & Veatch, Kansas City, Kansas  
Schafer, Kline & Warren, Lenexa, Kansas  
City of Overland Park, Overland Park, Kansas  
City of Merriam  
City of Prairie Village  
Johnson County  
Landplan Engineering, Lawrence, Kansas  
Payne and Brockway, Olathe, Kansas  
Wilson and Co., Lenexa, Kansas  
Midwest Mining, Kansas City, Missouri  
Kansas Department of Transportation, Topeka, Kansas  
Phelps Engineering, Inc., Lenexa, Kansas  
Burlington Northern Railroad  
Long, Luder & Gordon, P.A.  
Hovey Williams LLP  
Brown & James Law Firm  
Lathrop & Gage  
McCormick, Adam and Long)  
Polsinelli Shalton & Welte  
Morris, Laing, Evans, Brock & Kennedy, chartered  
Schlee, Huber, McMullen & Krause LLP  
Shughart, Thomson & Kilroy

I was one of the principal modelers on the Tomahawk Creek Flood Study – the original Johnson County Flood study. Afterwards I was hired by Johnson County to serve as the Quality Assurance Quality Control Expert for all of the other Johnson County Flood Studies. I was on retainer with Johnson County continuously for about seven years.

**Awards:**

Outstanding Civil Engineering Teacher Award, Auburn University, 1980  
Excellence in Teaching Award, Civil Engineering, KU Center for Teaching Excellence, 1998.  
Excellence in Teaching Award, Civil Engineering, KU Center for Teaching Excellence, 2000.

**Areas of Expertise:** Flood plain analysis; sediment transport, unsteady flow analysis in streams, open channel hydraulics, groundwater flow, environmental dispersion processes in streams.

**Professional Societies:**

American Society of Civil Engineers  
Kansas Section, American Society of Civil Engineers

**Reviewer:**

ASCE Journal of Environmental Engineering  
ASCE Journal of the Hydraulics Division  
ASCE Journal of the Transportation Engineering Division  
United States-Israel Binational Science Foundation  
Journal of Environmental Quality  
National Institutes of Environment Health Sciences Superfund Hazardous Substances Basic Research  
Program (Phase II Superfund Applications)

**Teaching Experience:**

Undergraduate and graduate courses taught at AU, UK and UF - Statics, dynamics, strength of materials, hydrology, water resources engineering, fluid mechanics, coastal engineering, open channel flow, contaminant transport (groundwater), sediment transport, and groundwater hydrology

**Funded Research:**

- 6/76 - 8/77 Co-principal Investigator of OWRT project entitled "Development of Predictive Methods for Environmentally Acceptable Design of Multiport Diffuser Pipes Discharging into Florida's Waters." (\$49,600)
- 1/78 - 12/78 Principal Investigator of Auburn University Grant-in-Aid Project entitled "Design of a Carotid Pressure Monitoring and Control System." (\$1,800)
- 9/78 - 12/79 Co-principal Investigator of DOE project entitled "Experimental Study of the Storage of Thermal Energy in Confined Aquifers." (\$287,000)
- 10/79 - 9/80 Co-principal Investigator of Auburn Engineering Experiment Station project entitled "Development of the Point-Velocity Method for Sewer Discharge Measurement." (\$23,100)
- 1/79 - 6/80 Principal Investigator of Auburn University Grant-in-Aid Project entitled "Experimental Study of Wave Induced Pressures on Cylindrical Members." (\$1,600)
- 9/79 - 12/80 Principal Investigator of OWRT project entitled "Multiport Diffuser Design for Discharging Pollutants in Alabama's Rivers." (\$27,100)
- 4/80 - 1/83 Principal Investigator of DOE project entitled "Thermal Energy Storage in Confined Aquifers Using the Doublet Well configuration." (\$1,080,000)

- 1/82 - 3/83 Co-principal Investigator of OWRT project entitled "Transport Modeling of an Agricultural Herbicide." (\$16,000)
- 7/82 - 6/83 Principal Investigator of University of Kansas New Faculty Award entitled "Effect of Roughness and Hydraulic Parameters on Pesticide Runoff." (\$4,432)
- 7/83 - 8/84 Principal Investigator of KWRRRI project entitled "Sediment and Pesticide/Herbicide Transport Relationships." (\$14,500)
- 7/84 - 6/85 Principal Investigator of Graduate Research Fund project entitled "Development of a Dispersivity Evaluation Method for Thick Aquifers." (\$4,484)
- 8/84 - 9/85 Principal Investigator of KWRRRI project entitled "Development of the Two-Dimensional Interrill Flow Component for Agricultural Runoff Models." (\$16,500)
- 2/85 - 2/86 Co-investigator on grant from The Associated General Contractors of America to develop a national high school unit on the infrastructure. The project was administered through the KU Center for Economic Education. (\$40,000)
- 7/85 - 6/87 Co-investigator on Kansas Biological Survey project entitled, "Cheyenne Bottoms Project," sponsored by the Kansas Fish and Game Commission. Three months full time. (\$180,000)
- 4/86 - 3/87 Principal Investigator of KWRRRI project entitled "The Effects of Geometric Soil Properties on Pore Water uptake by Agricultural Runoff." (\$15,000)
- 7/86 - 7/87 Principal Investigator of Graduate Research Fund project entitled "The Hydraulic Effect of Vegetation on Nonpoint Source Pollution." (\$4,760)
- 7/89 - 12/91 Principal Investigator of KDOT Project entitled "Development of Scour Evaluation Program for Kansas Bridges." (\$96,341)
- 3/92 - 12/92 Principal Investigator of KDOT Project entitled "Development of Scour Evaluation Program for Kansas Bridges - Phase Four." (\$54,777)
- 5/93 - 8/94 Principal Investigator of KDOT Project entitled "Development of Scour Evaluation Program for Kansas Bridges - Phase Five." (\$62,400)
- 5/93 -12/94 Principal Investigator of K-TRAN Project entitled "Analysis of Bridge Backwater Conditions Using FESWMS-2DH." (\$30,000)
- 1/95-8/96 Principal Investigator of K-TRAN Project entitled "Development of Menu Driven Program for Scour Analysis and Beta Testing of WSPRO Shell Program." (\$35,000)

- 6/96-9/97 Principal Investigator of K-TRAN Project entitled "Comparative Flow Analysis for Site near Neodesha, Kansas." (\$35,000)
- 9/99-9/00 Principal Investigator of K-TRAN Project entitled "Analysis of Bridge Scour Using HEC-RAS 3.0 – Phase I." (\$30,000)
- 5/01-9/02 Principal Investigator of K-TRAN Project entitled "Analysis of Bridge Scour Using HEC-RAS 3.0 – Phase II." (\$42,000)
- 5/02-1/05 Principal Investigator of K-TRAN Project entitled "Development of Analysis Methodology for Combined Flow at Bridges." (\$40,000)
- 7/03-8/07 Principal Investigator of K-TRAN Project entitled "Bridge Analysis Using the HEC-RAS Unsteady Flow Module." (\$40,000)
- 7/04-7/07 Principal Investigator of K-TRAN Project entitled "Effects of Gradual and Abrupt Bends in Culverts." (\$30,000)
- 7/05-8/07 Co-principal Investigator of K-TRAN Project entitled "Development of Handbook for Control of Channel Migration and Streambank Protection." (\$39,000) (With Bob Parsons)
- 8/05-8/07 Principal Investigator of K-TRAN Project entitled "Investigation of Scour Potential for US 59 over the Missouri River at Atchison using Fixed and Non-fixed Flow Boundaries. (\$43,000).
- 7/07-1/09 Principal Investigator of K-TRAN Project entitled "A Study of Fluvial Geomorphology Aspects of Hydraulic Design," (\$48,000).
- 6/09-3/11 Co-Principal Investigator of Project entitled "Dam Break Project," (\$31,700), funded by the Kansas Dept. of Agriculture. (with Stephen Egbert and Jude Kastens of the Kansas Biological Survey)
- 1/11-8/13 Co-Principal Investigator of Project entitled "Dam Break Project Authorization #2," (\$112,942), funded by the Kansas Dept. of Agriculture. (with Stephen Egbert and Jude Kastens of the Kansas Biological Survey)
- 7/11-8/13 Co-Principal Investigator of Project entitled "Dam Break Project Authorization #3," (\$64,697), funded by the Kansas Dept. of Agriculture. (with Stephen Egbert and Jude Kastens of the Kansas Biological Survey)
- 1/12-12/13 Co-Principal Investigator of Project entitled "Dam Break Project Authorization #4," (\$99,618), funded by the Kansas Dept. of Agriculture. (with Stephen Egbert and Jude Kastens of the Kansas Biological Survey)

10/13 -12/14 Co-Principal Investigator of K-TRAN Project entitled "Alternatives to Soil Saver Walls (Phase I)." (\$57,000) (with Robert Parsons, PI, and Jie Han, Co-PI, CEAE Dept.

### **Publications, Presentations and Reports:**

Sayre, W.W., J.F. Kennedy and A.D. Parr, "Design and Operation of the Quad Cities Nuclear Station Diffuser-Pipe System," presented at the ASCE Annual Environmental Engineering Conference, Kansas City, Missouri, 1974.

Parr, A.D., "Once Through Power Plant Cooling: Why Not?," presented at the American Geophysical Union 1976 Fall Annual Meeting, San Francisco, California, December 1976.

Parr, A.D. and W.W. Sayre, "Prototype and Model Studies of the Diffuser-Pipe System for Discharging Condenser Cooling Water at the Quad Cities Nuclear Power Station," *Iowa Institute of Hydraulics Research Report No. 204*, University of Iowa, Iowa City, Iowa, June 1977.

Parr, A.D. and W.W. Sayre, "Thermal-Hydraulic Field and Laboratory Studies of Mixing Zones of the Quad Cities Nuclear Power Station Diffuser-Pipe System," *Proceedings of the Annual ASCE Environmental Engineering Specialty Conference*, Nashville, Tennessee, 1977, pp 151-157.

Parr, A.D., F.J. Molz, P.F. Andersen and V.D. Lucido, "Hot-Water Field Test," *Proceedings of the Third Annual Thermal Energy Storage Contractor's Information Exchange Meeting*, Department of Energy, Richland, Virginia, December 1978.

Molz, F.J., A.D. Parr and P.F. Andersen, "Thermal Energy Storage in Aquifers," *Proceedings of the Spring Annual Meeting of the American Geophysical Union*, Washington, D. C., December 1979.

Parr, A.D., F.J. Molz, P.F. Andersen and J.C. Warman, "Storage of Thermal Energy in Confined Aquifers: Implications for Solar Energy," *Proceedings of the Workshop on Solar Energy Storage Options*, Department of Energy, San Antonio, Texas, 1979.

Molz, F.J., A.D. Parr, P.F. Andersen, "Thermal Energy Storage in Aquifers: Experimental Study," *Proceedings of the 14th Intersociety Energy Conversion Engineering Conference*, Boston, Massachusetts, 1979.

Parr, A.D., F.J. Molz and P.F. Andersen, "An Experimental Study of Heat Storage in Confined Aquifers," presented at the 1979 National Water Well Association Convention, October 10, 1979, Oklahoma City, Oklahoma.

Parr, A.D., and W.W. Sayre, "Multiple Jets in Shallow Flowing Receiving Waters," *Journal of the Hydraulics Division*, ASCE, Vol. 105, No. HY 11, Proc. Paper 14991, November 1979, pp 1357-1374.

Parr, A.D. and W.W. Sayre, "A Power Plant Diffuser-Pipe System," *Journal of the Environmental Engineering Division*, ASCE, Vol. 105, No. EE 6, Proc. Paper 15048, December 1979, pp 1075-1093.

Molz, F.J., A.D. Parr, P.F. Andersen, V.D. Lucido and J.C. Warman, "Thermal Energy Storage in a Confined Aquifer: Experimental Results," *Water Resources Research*, Vol. 15, No. 6, December 1979, pp 1509-1514.

Parr, A.D., J.G. Melville and J.J. Dlubac, "Short Thermal River Diffusers," *Proceedings of the Annual Hydraulics Division Specialty Conference*, Chicago, Illinois, August 1980, pp 131-141.

Parr, A.D., F.J. Molz and J.G. Melville, "Field Studies of the Aquifer Thermal Energy Storage Concept," *Proceedings of the Mechanical, Magnetic, and Underground Energy Storage 1980 Annual Contractor's Review*, U. S. Department of Energy, Washington, D. C., November 1980.

Tsang, C.F., F.J. Molz and A.D. Parr, "Experimental and Theoretical Studies of Thermal Energy Storage in Aquifers," *Proceedings of the 15th Intersociety Energy Conversion Engineering Conference*, Seattle, Washington, 1980, pp 1244-1248.

Parr, A.D., J.F. Judkins and T. Jones, "Point-Velocity Discharge Measurement Method for Sewers," *Journal Water Pollution Control Federation*, Vol. 53, No. 1, January 1981, pp 113-118.

Molz, F.J., A.D. Parr and P.F. Andersen, "Thermal Energy Storage in a Confined Aquifer - Second Cycle," *Water Resources Research*, Vol. 17, No. 3, June 1981, pp 641-645.

Molz, F.J., A.D. Parr and J.G. Melville, "Confined Aquifer Thermal Energy Storage - Mobile Doublet Experiment," *Proceedings of the 16th Intersociety Energy Conversion Engineering Conference*, ASME, Atlanta, Georgia, August 9-14, 1981, pp 941-945.

Parr, A.D. and W.W. Sayre, "Multiport Diffuser Mixing Zones," *Journal of the Environmental Engineering Division*, ASCE, Vol. 107, No. EE3, Proc. Paper 16567, October 1981, pp 903-917.

Parr, A.D. and J.G. Melville, "Nearfield Performance of River Diffusers," *Journal of the Environmental Engineering Division*, ASCE, Vol. 107, No. EE5, Proc. Paper 16593, October 1981, pp 1009-1024.

Molz, F.J., J.G. Melville, A.D. Parr, D.A. King and M.T. Hopf, "Aquifer Thermal Energy Storage Mobile Experiments," presented at AGU Winter Annual Meeting, San Francisco, California, December 1981.

Parr, A.D., F.J. Molz, and J.G. Melville, "Field Determination of Aquifer Thermal Energy Storage Parameters," *Ground Water*, Vol. 21, No. 1, January-February 1983, pp 22-35.

Molz, F.J., J.G. Melville, A.D. Parr, D.A. King, and M.T. Hopf, "Aquifer Thermal Energy Storage: A Well Doublet Experiment at Increased Temperatures," *Water Resources Research*, Vol. 19, No. 1, February 1983, pp 149-160.



Parr, A.D., J.G. Melville, and F.J. Molz, "HP41C and T159 Programs for Anisotropic Confined Aquifers," *Ground Water*, Vol. 21, No. 2, March-April 1983, pp 212-220.

Molz, F. J., J. G. Melville, O.Guven, A. D. Parr, "Aquifer Thermal Energy Storage: An Attempt to Counter Free Thermal Convection," *Water Resources Research*, Vol. 19, No. 4, August 1983, pp 922-930.

Parr, A.D. and D.D. Lane, "Two-point Method of Dispersivity Evaluation for Tracer Tests," *Proceedings of the ASCE Annual Hydraulics Division Specialty Conference*, Boston, Massachusetts, August 1983, pp 29-34.

Parr, A.D., F.J. Molz, and J.G. Melville, "Aquifer Testing for Thermal Energy Storage," *Groundwater Hydraulics*, edited by J. Rosenshein and G.D. Bennett, American Geophysical Union Water Resources Monograph, Vol. 9, 1984, pp 256-296.

Parr, A.D., J.O. Smith, and J.G. Melville, "Mixing Characteristics of River Diffusers," invited paper in *Current Practices in Environmental Engineering*, edited by A. Singh, and U.S. Sharma, Geo-Environ Academia, Jodhpur, India, Vol. 1, 1984, pp 15-25.

Benfield, L.D., J.F. Judkins, and A.D. Parr, *Treatment Plant Hydraulics for Environmental Engineers*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1984.

Parr, A.D., C. Richardson, D.D. Lane, and D. Baughman, "Entrainment of Interstitial Water by Overland Flow," *Hydraulics and Hydrology in the Small Computer Age, Proceedings of the 1985 Annual Hydraulics Specialty Conference*, Orlando, Florida, August 1985, pp 408-413.

Bowen, L. and A.D. Parr, "A Microcomputer Dispersivity Evaluation Method for Thick Aquifers," *Hydraulics and Hydrology in the Small Computer Age, Proceedings of the 1985 Annual Hydraulics Specialty Conference*, ASCE, Orlando, Florida, August 1985, pp 1469-1474.

Parr, A.D., C. Richardson, D.D. Lane and D. Baughman, "Pore Water Uptake by Agricultural Runoff," *Journal of the Environmental Engineering Division*, ASCE, February 1987, pp 49-63.

Richardson, C., and A.D. Parr, "Non-Point Source Pollution: A Diffusional Model," *Proceedings of the ASCE National Conference on Hydraulic Engineering*, Williamsburg, Virginia, August 3-7, 1987, pp 1075-1080.

Richardson, C., and A.D. Parr, "Modified Fickian Model for Solute Uptake by Runoff," *Journal of the Environmental Engineering Division*, ASCE, August 1988, pp 792-809.

Richardson, C. and A.D. Parr, "A Frictional Resistance Model for the Analysis of Non-Point Source Pollution Processes," *Proceedings of the ASCE National Conference on Hydraulic Engineering*, August 14-18, 1989, New Orleans, Louisiana, pp 142-147.

Limback, S., A.D. Parr, and B. McEnroe, "Two-Dimensional Interrill Flow Model for the Analysis of Agriculture Runoff," *Proceedings of the ASCE National Conference on Hydraulic Engineering*, August 14-18, 1989, New Orleans, Louisiana, pp 893-898.

D. Payne, A.D. Parr and K. Janish, "The Effect of Grain Size Distribution on the Entrainment of Interstitial Water into Overland Flow," *Proceedings of the 1990 ASCE National Hydraulic Engineering Conference*, July 30-August 3, 1990, San Diego, California, pp 63-68.

Richardson, C., and A.D. Parr, "Friction and Free Surface Flow over Porous Media," *Journal of the Hydraulics Division*, Vol. 117, No. 11, November 1991, pp 1496-1512.

Zou, Shimin, and A.D. Parr, 1992. Dispersivity Evaluation for Two-Dimensional Plumes, in *Computational Methods in Water Resources IX*, edited by T. F. Russell et al., Vol. I, pp 475-481.

Payne, D., C. Richardson, A.D. Parr, and K. Janish, "Non-Point Source Pollution due to Runoff Over Sandy Soil," *Proceedings of ASCE Water Forum '92*, Environmental Engineering, Baltimore, Maryland, August 2-5, 1992, pp 439-444.

Zou, Shimin, and A.D. Parr, 1993. "Estimation of Dispersion Parameters for Two-Dimensional Plumes," *Ground Water* Vol. 31, No. 3, pp 389-392.

Zou, Shimin, and A.D. Parr, 1994, "Two-Dimensional Dispersivity Estimation Using Tracer Experiment Data," *Ground Water*, Vol. 32, No.3, pp 367-373.

Parr, A.D., S. Limback, B. McEnroe and Shimin Zou, 1994, "Nonpoint Source Pollution from Inter-Rill Flow Areas," *ASCE Journal of Irrigation and Drainage*, Vol. 120, No. 6, pp 1056-1066.

Zou, Shimin, and A.D. Parr, 1995, "Optimal Estimation of Two-Dimensional Contaminant Transport," *Ground Water*, Vol. 33, No. 2, pp 319-325.

Perkins, S. and A. D. Parr, "A Study of the Reverse Flow Region at Overflow Weirs," *Proceedings - AGU/ASCE 16th Annual Hydrology Days*, Colorado State University, Fort Collins, Colo., April 15-19, 1996, pp 423-431.

Parr, A.D., S. Zou and B. McEnroe, "Loss of Contaminants from Soil during Runoff Events," *Engineered Contaminated Soils and Interaction of Soil Geomembranes*, Geotechnical Special Publication No. 59, ASCE, Nov. 1996, pp 72-81.

Parr, A.D., D. Sereno, and S. Zou, "A Study of angle of attach at Bridges and the PREFES Program," Kansas Department of Transportation final report, K-TRAN KU-94-5, December 1996.

Parr, A.D., S. Zou and B. McEnroe, 1998, "Effects of Infiltration on Agricultural Runoff Contamination," *ASCE Journal of Environmental Engineering*, Vol. 24, No. 9, pp 863-868.

- Parr, A.D., and Kirk Swartzbaugh, 1999, "The Momentum Choke at Junctions Boxes," Transactions of ASCE 1999 Water Resources Engineering Division Conference, Seattle, WA. Aug. 9-12, 1999.
- Parr, A.D., S. Zou, "Development of a Methodology for incorporating FESWMS-2DH Results," Kansas Department of Transportation final report, K-TRAN KU-97-4, May 2000.
- Parr, A.D., "GIS Applications in Flood Studies," presentation, *Kansas Society of Professional Engineers 2003 Annual conference*, Overland Park, Kansas, June 11-13, 2003, invited paper.
- Parr, A.D., "Laboratory Analysis of Momentum-Induced Chokes in Free Surface Flow," presentation and proceedings, *4<sup>th</sup> ASME/JSME Joint Fluids Engineering Conference*, Honolulu, Hawaii, July 6-10, 2003, Paper No. FEDSM2003-45423.
- Parr, A.D., "Laboratory Study of Two-Dimensional Flow Components of Bridge Flow," 2004 ASME Heat Transfer/Fluids Engineering Summer Conference, Charlotte, North Carolina, July 11-15, 2004, Paper No. HT-FED2004-56830.
- Gonzalez, P., A.D. Parr, "The 2003 KU Bridge Scour Program for KDOT," presentation, *49<sup>th</sup> Annual Structural Engineering Conference*, University of Kansas, March 4, 2004, invited paper.
- Parr, A.D., "A Laboratory Study of Sediment Transport in Free Surface Flow," presentation and proceedings, 2005 ASME Fluid Engineering Summer Conference, Charlotte, Houston, Texas, June 19-23, 2005, Paper No. FEDSM2005-77336.
- Parr, A.D., "Atchison Bridge Replacement – Scour Study," 52<sup>nd</sup> Annual Structural Engineering Conference, March 1, 2007, University of Kansas, Lawrence KS. (Invited)
- Parr, A.D., "A Laboratory Scour Study for the Proposed Atchison Bridge," 89th Annual Kansas Transportation Engineering Conference, April 3-4, 2007, Kansas State University, Manhattan KS. (Invited)
- Parr, A.D., S. Milburn and T. Malone, "A Model Study of Bridge Hydraulics," Kansas Department of Transportation final report, K-TRAN: KU-03-4, September 2008.
- Parr, A.D., B. Heatherman "The Effect of Buildings in Floodplain Overbank Areas," *River Basin Management IV*, Wessex Institute of Technology Press, Southampton, Boston, pp 139-148. (Presented at River Basin Management 2007, Kos, Greece, May 23-25, 2007, sponsored by Wessex Institute of Technology, UK.)
- Malone, Travis, A. D. Parr, "Bend Losses in Culverts," Kansas Department of Transportation final report, K-TRAN KU-05-5, September 2008.
- Parr, A.D., J. Martin, and C. B. Young, "Hydraulic forces on Submerged Bridge Decks," Kansas Department of Transportation final report, K-TRAN KU-95-2, September 2008.

Parr, A.D., R. Parsons, and J. Miller, "Stream Instability Countermeasures Applied at KDOT Highway Structures," Kansas Department of Transportation final report, K-TRAN KU-06-7, November 2008.

Shelly, John and David Parr, "Using HEC-RAS Hydraulic Design Functions for Geomorphic Channel Design and Analysis," oral presentation and proceedings of the World Environmental & Water Resources Congress 2009, May 17-21, 2009, Kansas City, Missouri.

Parr, A.D.\*, R. Parsons" Stream Instability Countermeasures Applied at KDOT Highway Structures," Transportation Engineering Conference, April 15, 2009, Manhattan, KS (invited).  
\*Speaker

Malone, Travis\*, Parr, A.D., "Atchison Bridge: Investigation of Scour Potential for U.S. 59 over the Missouri river at Atchison Using Fixed and Non-fixed Flow Boundaries," 41<sup>st</sup> Annual Geotechnical Conference, November 20, 2009, Lawrence, KS (invited). \*Speaker

Parr, A. D, J. Shelly, J, "A Study of Fluvial Geomorphology Aspects of Hydraulic Design," Kansas Department of Transportation final report, K-TRAN KU-08-5, March 2010.

Parr, A. D, J. Martin, and C. B. Young. "Hydraulic Forces on Submerged Bridge Decks," Proceedings of the 89th Annual Meeting of the Transportation Research Board of the National Academies, Washington, D.C., January 2010.

Parr, A.D., S. Milburn, T. Malone, and T. Bender "A Model Study of Bridge Hydraulics, Edition 2," Kansas Department of Transportation final report, K-TRAN: KU-03-4R, August 2010.

Parr, A.D., C.B. Young, P. Gonzalez, "Unsteady Flow Analysis of Relief Bridges," Kansas Department of Transportation final report, K-TRAN KU-04-1, December 2012.

Kastens, J, K\* . , D. Parr, K. Dobbs, S. Egbert, "Dam Breach Modeling for Significant and High Hazard Dams in Kansas," 22nd AEG KS Hydrology Seminar, Nov 22, 2013. (invited). \*Speaker

## Recent Reports:

- Dam Failure Analysis Report for DAT-0169, Highway 73 Dam in Atchison County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DLV-0028, Frantz Dam in Leavenworth County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DLV-0033, Johnson/Tadlock Dam in Leavenworth County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DLV-0057, Wagner Dam in Leavenworth County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DLV-0115, Runnebaum Dam in Leavenworth County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DLV-0175, Lake Stellamaris Dam Dam in Leavenworth County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DMI-0047, Louisberg Lake Dam in Miami County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DMI-0062, Lake Miola Dam in Miami County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DMI-0187, James T. & Deeann Foote Dam in Miami County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DMI-0201, KS no name 4583 Dam in Miami County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DOS-0115, KS no name 1571 Dam in Osage County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DOS-0175, Lake Oshwno Dam in Osage County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DOS-0047, Strowbridge Lake Dam in Osage County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DOS-0062, Lyndon City Dam in Osage County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DWY-0187, Pierson Park Dam in Wyandotte County, Kansas\*, Division of Water Resources, KDA, January 2013.
- Dam Failure Analysis Report for DWY-0201, Piper Lake Dam in Wyandotte County, Kansas\*, Division of Water Resources, KDA, January 2013.
- 
- Dam Failure Analysis Report for DBU-0001, Augusta Waterworks Dam in Butler County, Kansas\*, Division of Water Resources, KDA, September 2013.
- Dam Failure Analysis Report for DBU-0026, Upper Dam in Butler County, Kansas\*, Division of Water Resources, KDA, September 2013.
- Dam Failure Analysis Report for DBU-0040, Moffett Dam in Butler County, Kansas\*, Division of Water Resources, KDA, September 2013.
- Dam Failure Analysis Report for DBU-0046, Jaycee Dam in Butler County, Kansas\*, Division of Water Resources, KDA, September 2013.

Dam Failure Analysis Report for DBU-0203, Santa Fe Dam in Butler County, Kansas\*, Division of Water Resources, KDA, September 2013.

Dam Failure Analysis Report for DBU-0225, Allison Dam in Butler County, Kansas\*, Division of Water Resources, KDA, September 2013.

Dam Failure Analysis Report for DBU-0226, Fox Lake Dam in Butler County, Kansas\*, Division of Water Resources, KDA, September 2013.

Dam Failure Analysis Report for DLY-0043, Olpe City Lake Dam in Lyon County, Kansas\*, Division of Water Resources, KDA, September 2013.

Dam Failure Analysis Report for DSU-0035, Hargis Creek Frd No 1 Dam in Sumner County, Division of Water Resources, KDA, September 2013.

Dam Failure Analysis Report for DSU-0036, New Wellington Lake Dam in Sumner County, Division of Water Resources, KDA, September 2013.

Dam Failure Analysis Report for DMI-0185, Martini Dam in Wyandotte County, Kansas\*, Division of Water Resources, KDA, September 2013.

*\*(All co-authored with Jude Kastens, Kevin Dobbs and Steve Egbert of the Kansas Biological Survey. Each report included an unsteady flow computer model, flood maps and GIS output mapping and modeling files.)*