Gary Krutz

Ph.D. Michigan State University - 1976

Professor

Agricultural and Biological Engineering
Purdue University
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Director, MAHA Distance Education Center, Purdue University.
Director, Electrohydraulic Center, Purdue University.
Purdue University Teaching Academy Founding Fellow, 1997.
Charles Murphy Award, Outstanding Teacher at Purdue, 1995.
Purdue ABE Outstanding Teacher Awards 1995, 1994, 1987, 1986, 1979.
Society of Automotive Engineering, SAE Fellow, 1991.
AA Potter Best of Engineering Teaching Award, Purdue University, 1987.
American Society of Agricultural Engineers, Young Educator Award, 1983.
SAE Ralph Teetor Educator Award, 1980.

Research Areas:

Sensor Development. Sensor development for agricultural automation applicable to robotics & farm machinery. Electromagnetic devices for sensing technology. Basketball floor dynamics. Color machine vision. Electro hydraulics & feedback control systems.

Classes Taught:

ABE 435 – Hydraulic Control Systems
ABE 330 – Design of Ag Machinery
ABE 501 – Welding Engineering

Selected Publications (last 5 years):

Harmeyer, K., Holland, M., Lumkes, J., Krutz, G., "Embedded Sensors in Rubber and Other Polymer Components" Experimental Mechanics 47:2, 263, 2007.

Chua, P., Krutz, G.W., "Steered and Propelled Water Powered Vehicle." International Journal of Vehicle Design, Vol. 38, Nos. 2/3, pp. 179-195, 2005

Krutz, G.W., Deckard, A., Radtke, I., "Design of Power-Transmitting Hydraulic Hose with Integrated Controller Area Network and Life-Sensing Capabilities." AETC 05003, Louisville, KY, ASAE, February 13-15, 2005.

Krutz, G.W., Lumkes, J., Ivantysynova, M., "MAHA Fluid Power Research Center." AETC 05002, Louisville, KY, ASAE, February 13-15, 2005.

Krutz, G.W., Rusch, D., Brown, J., Ess, D., "Rotary, No-Leak Valve." AETC 05006, Louisville, KY, ASAE, February 13-15, 2005.

Krutz, G.W., Sederlund, A., "Design of a High Pressure Relief Valve Comprised of Composite and Plastic Material." AETC 05001, Louisville, KY, ASAE, February 13-15, 2005.

Krutz, G.W., Beck, M., "A Power Steering Valve for a Water Hydraulic Lawn Mower." AETC 05004, Louisville, KY, ASAE, February 13-15, 2005.

Krutz, G.W., Liu, S., Yao, B., "Programmable Valves Enable Both Precision Motion Control and Energy Savings." AETC 05005, Louisville, KY, ASAE, February 13-15, 2005.

Sumali, H., Bystrom, E.P., and Krutz, G.W., "A Displacement Sensor for Nonmetallic Hydraulic Cylinders." IEEE Sensors Journal, Vol. 3, No. 6, December 2003.

Selected Conference Presentations (last 5 years):

Garcia, J., Krutz, G., Lumkes, J., 2007. Self Propelled Water Hydraulic Vehicle, 10th Scandinavian International Conference on Fluid Power, Conference Proceedings, Volume 1, session B1.

Krutz, G.W., Sigurdson, C., "Distance Education MS Fluid Power Engineering." Conference on Cybernetics and Information Technologies, Systems and Applications, Orlando, FL, CITSA 2004, pg 23, ISBN 980-6560-19-1.

Huang, C. and Ivantysynova, M. 2003. A new approach to predict the load carrying ability of the gap between valve plate and cylinder block. Bath Workshop on Power transmission and Motion Control PTMC 2003, Bath, UK, pp. 225- 239. Best paper award.

Krutz, G. W., Deckard, Aaron, "Distance Education MS in Engineering – Fluid Power Engineering." Paper No. AETC03002. Presentation at AETC and ICCHP 2003 Conference, February 2003.

Krutz, G. W., "Distance Education Delivery of Fluid Power Curriculum." NFPA Educator/Industry Summit, Indianapolis, IN., October 2003.

Krutz, G. W., "Distance Education MS in Engineering." Paper in proceedings, 1st International Conference on Computational Methods in Fluid Power Technology. Melbourne, Australia. November 26-28, 2003.

Krutz, Gary W., Chua, Patrick S., "The Power of Water Hydraulics: an Applications Workshop." AETC Louisville, KY., February 9, 2004.