

## **FLL STATE JUDGE ADVISOR**

Jeff Nowak

B.S. Biology from Ohio Northern University  
M.A. Geology, Ball State University  
PhD Science Education, Indiana University

From 1994 to 1997, Jeff taught Biology, Chemistry, Geology and Physics at Columbus East High School in Columbus, IN. From 1997 to 1999, he was an Associate Instructor of Elementary Science Education at Indiana University in Bloomington, IN. From 1999 to 2000, he taught Middle School Science and the eighth grade gifted and talented (G&T) science program at Northside Middle School in Columbus, IN. He joined the School of Education at Indiana University Purdue University, Fort Wayne in 2000 as a Visiting Instructor of Elementary Science Education.

Currently an Assistant Professor of Science Education at IPFW, he teaches EDUC Q200 Science Skills, E328 Science Methods for Pre service Elementary Teaching Majors, E548 Advanced Teaching of Science in the Elementary School and F500 - LEGO® Robotics for Teachers. His research interests include how to incorporate and utilize "best practice" technologies and inquiry based instructional strategies in the K 12 science classroom. This will be Jeff's third year working with the state FLL tournament.

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## **RESEARCH PRESENTATION JUDGES**

Chris Douse, Assistant Director of Multicultural Services, IPFW B.A. Communication, IPFW M.S.M., Indiana Wesleyan University, **FLL State Head Research Presentation Judge**

Chris advises students and coordinates the academic support and various pre-college summer programs supported by the office. He also serves as a consultant for L.E.A.D. (Leadership, Empowerment, Action, and Development), specializing in the area of communication and empowerment.

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Arthur Friedel, IPFW Chemistry Department, B.S. and M. Ed. University of Pittsburgh PhD Ohio State University

Arthur Friedel taught junior high math and science for four years before returning to school to obtain a Ph.D. in science education at OSU. He has been teaching general chemistry, methods of science teaching, and supervising student teachers of science in middle and high school since his arrival at IPFW in 1967. For more than 20 years he was the director of the Northeastern Indiana Regional Science Fair and was a judge at many local school science fair competitions.

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Robert Alderman, Indiana State Representative  
BA Criminal Justice, IPFW

After serving in the army, Rep. Alderman joined a semi-professional football team in Indianapolis which moved to Fort Wayne where he then became a resident. He also served in the U. S. Army Reserve and the Indiana Army National Guard. In 1969 he joined the Fort Wayne Police Department and expanded his knowledge by attending numerous law enforcement-related schools such as F.B.I. SWAT School, Hostage Negotiator Training, and the U.S. Secret Service Organized Crime and Criminal Investigation School. Eventually, he rose to the rank of captain in 1988. Representative Alderman began his career in the Indiana House of Representatives in 1976. January 2003 marked his 27th year serving in the Indiana Congress.

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Sarah Nichter, Manager of Information and Development for the City of Fort Wayne,  
Department of Parks and Recreation  
BA in Journalism, Indiana University  
M.A Professional Communications, IPFW.

Sarah's responsibilities include developing funding sources for subsidized activities, grant administration and media relations. Prior to working for the City of Fort Wayne, Sarah was the Director of Regional Services for Arts United Fort Wayne and an Associate Faculty member at IPFW where she coached the competitive speech team. From 1999 -2002 she was a member of the Citizen's Advisory Council, first appointed by Mayor Helmke and then re-appointed by Mayor Graham Richard. She is currently serving as a Neighborhood Association Officer and liaison with the city of Fort Wayne.

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Gary R. Dostal, Retired Verizon Manager of Employee Communications  
B.S., M.A, ABD Journalism & Communications, University of Minnesota,

Gary is a Verizon retiree with twenty-five years as a public affairs professional with managerial experience in both public relations and employee communications. Currently an adjunct faculty member in the communications department at Ivy Tech State College, Gary has also taught at the University of Saint Francis. Prior to his telecommunications career, he taught for thirteen years in higher education at the University of Wisconsin -- River Falls, St. Cloud State and Normandale Community College where he also was the Director of Forensics and coached several award winning speech teams.

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Scott Armstrong, ITT

Scott Armstrong, Director, Special Programs, ITT Industries Aerospace and Communications Division BA, physics, William Jewell College MS, physics, University of Missouri PhD, optical engineering, University of Rochester

Scott Armstrong has spent his 32 year career in advanced product development for space based electro-optical and rf/microwave sensor systems. He has been at ITT since 1995 and has led the space systems engineering and the Fort Wayne space engineering groups at the director level before assuming his current position in special programs management.

Earlier in his career he held a number of engineering management positions in the government and at The Aerospace Corporation and Aerojet Electronic System Division in Los Angeles where he and his family lived for 17 years. Scott has been involved in every aspect of product development including concept development, systems engineering, design, integration and test as well as user support.

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John McGauley, Public Information Director for Allen County Government, B.S. Journalism, Ball State University

John McGauley has served since 2001 as public information director for the Allen County Government. He has served in communications capacities for North American Van Lines and the City of Fort Wayne. As Allen County Public Information Director, John oversaw efforts to expand access to County Government, including projects to launch a new County Internet site and to broadcast County meetings on cable television for the first time. John also currently serves in a variety of neighborhood leadership roles. A former journalist, John has written about science and space flight for The Fort Wayne News-Sentinel, Florida Today, Air & Space Magazine and Space.com.

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Susan Borrer, IPFW Director Services for Students with Disabilities  
B.A., University of Colorado, M.A., University of Northern Colorado

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## **TECHNICAL JUDGES**

John Renie, Torque-Traction Technologies, Inc. Dana Corporation – Maumee, OH.  
**FLL State Head Technical Judge**  
BSAE, MS, Ph.D., Purdue University

John studied aerospace engineering at Purdue University majoring in the area of thermal sciences in general and rocket propulsion in particular. During the period of time between 1984 and 1995, he taught at the University of Illinois and Indiana University, Purdue University at Fort Wayne (IPFW).

In 1995, he left the academic environment to work for the Spicer Outdoor Power Equipment Components Division of Dana Corporation located in Fort Wayne, IN. His primary responsibility at Dana was as Lab Manager, with responsibility for conducting quality assurance and product durability tests on drive train components involved in leisure and utility vehicles. He also had the responsibility of conducting finite element analyses on drive train components as well as NVH measurements. Currently he is

employed with Torque-Traction Technologies, Inc. - Dana Corporation, Maumee, OH. He is an active member of the Fort Wayne chapter of the Society of Automotive Engineers (SAE) serving as their Chairman for one year and as a Governing Board member for the past decade. He has participated in the FLL in 2000 and was a judge for the regional science fair for a number of years during the past decade.

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Jimmy Gogos, Controls Engineer, Complete Controls Inc  
BAS (Bachelors of Applied Science) - Automated Manufacturing, ITT

Jimmy designs, builds, and program controls for industrial machines and processes. He also integrates Programmable Logic Controllers into new or existing machines and processes.

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Kurt Schneider, Project Engineer, Riverside MFG. Inc.  
BS, Mechanical Engineering, Rochester Institute of Technology

Kurt designs, prototypes, and manufactures electro/mechanical devices for military and commercial vehicle applications. His past experience has been in the design, programming and integration of Programmable Logic Controllers for industrial use.

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Michael Hess, Software Engineer, Raytheon  
Degree in CIS from Florida State University

Michael has been employed by Raytheon for over 5 years as a Software Engineer. Michael is an experienced programming in the Java, C/C++ and Ada languages. He is also experienced in programming the Mindstorm sets and Rug Warriors using both NQC and a modified version of the C programming languages.

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Monique Anderson, Software Engineer, Raytheon  
Degree in Computer Engineering, Elizabethtown College

Monique designs and writes software for the department of defense as well as tests and provides technical support in the field. Her work is vital in developing software that is essential for US troops in the battlefield.

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Ron Goltz, Cutting Tools, Inc.  
MBA, Marketing, Indiana University

For the past 25 years, Ron has worked in industrial tooling application. His specialty is motion control. He conducts training for a variety of tool applications.

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Michael Dobbs, Program Manager for Research and Development, ITT Industries  
A/CD

B.S., Electrical Engineering, University of Michigan

Michael arrived in Fort Wayne 4 years ago with 24 years of experience in the development of innovative electrical/optical sensors and automation systems. He began his career at the University of Michigan's Space Physics Laboratory where he developed electro-optical sensors for NASA. His sensors have flown on Rockets, Balloons, on the first Space Shuttle science mission, and on several Satellites, one of which is still operating in orbit after 13 years. Always the entrepreneur, Michael moved on to co-found three high tech companies that developed products and services for commercial space, automotive parts inspection and pharmaceutical research. During that period, he was granted 3 US patents in automation and robotics. Presently at ITT Industries, Michael manages research and development projects and is inventor or co-inventor of a half dozen patent applications on laser-based sensors for weather prediction, monitoring climate change, and protection of US troops.

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Tammy Toscos, IPFW Lecturer **Education:**

M.S. Applied Computer Science, Purdue University Fort Wayne, 2001

B.S. Nutrition & Dietetics, Indiana University, 1988

Tammy is an Associate Faculty member in the Department of Computer Science at Indiana University Purdue University, Fort Wayne. She teaches beginning Java programming courses and is the department webmaster (<http://www.cs.ipfw.edu>). Her professional interests include: Web-based applications, Medical Informatics, and Bioinformatics

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Kyle Jackson, Associate Product Design Engineer, International Truck & Engine Corp.  
B.S. Mechanical Engineering, University of Toledo

A native of Cleveland, OH, Kyle has been employed at International Truck & Engine for 7 years as a Product Design Engineer. He also recruits for International by mentoring college engineering students at IPFW and Indiana Tech. He serves as a board member for the organization of the National Society of Black Engineers, as the Vice Chair for Region IV Alumni members.

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## **TEAM WORK JUDGES**

Robin Hullinger: **State Team Work Head Judge**

B S Science Education and Biology, Tri-State University

After teaching middle school science for two years, Robin was an inside sales representative for a manufacturing company. Robin joined Science Central in 2001 and worked for two years as the Educational Programs Manager. As part of her responsibilities she organized and managed weekend special events, directed the Annual Teacher Workshop, and wrote all educational labs and demonstrations for daily school group visits. Robin also serves on the executive board of the Northeast Indiana Future City Competition and the Engineers Week Executive Committee and the Science Central FIRST Lego League Board. Robin has judged the Team Work or Team Spirit Award for 2 years.

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Paul Frame, Teacher, Indianapolis Public Schools  
BS in Ed from Indiana University, Bloomington, IN  
MS in Secondary Science Ed. IUPUI

Paul teaches at Emma Donnan Middle School #72, and he has been in IPS for 9 years, 8 teaching regular Science. His serious LEGO background started with the Robotics for Teachers course there at IPFW in 2002 and has continued since. He teaches Robotics to 6, 7 and 8th Grades at Donnan, which is the only IPS school with such a program.

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Kim McDonald Chair, IPFW Associate Professor  
Ph.D. Ball State University

**Research Interests:**

Gender issues in management development  
Ethics in human resource development  
Teaching innovations/issues in leadership education

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Dave McDonald

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**TEAM SPIRIT JUDGES**

Glenda Moss, IPFW Department of Education  
A.S., Business, Tyler Junior College, 1970, B.A., English and History, East Texas State University, 1972, Texas Teacher Certification, Abilene Christian University, 1974 M.Ed., Curriculum and Instruction, The University of Texas at Tyler, 1983 Professional Mid-Management Certification, The University of Texas at Tyler, 1996 Ed.D., Educational Leadership, Stephen F. Austin State University, 2001

John Moss, Pharmacist, K-Mart Corporation

John and Glenda have been married for nearly 30 years. Their son, 28, is a fourth-grade teacher in Houston, Texas, where he recently became engaged. Their daughter, 26, lives in Portland, OR. While their children were very young, John and Glenda served 12 foster children. Legos and backpacking have been a regular part of their family' recreation. In their mid-20s, John and Glenda's grown children still exchange large lego packages at Christmas. Wrapped in clear cellophane, large lego ships and planes are displayed in their living room.

Glenda taught middle school students language arts and social studies for 13 years in Texas before beginning her doctoral studies. Her husband has worked for the K-Mart corporation as a pharmacist for 26 years. K-Mart management agreed to transfer John wherever Glenda accepted a university teaching position. They moved to Fort Wayne and IPFW August 11, 2001. Glenda prepares secondary classroom teachers and has transitioned her methods courses to Paul Harding High School's campus.

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## **AGAINST ALL ODDS JUDGE**

Jim Merz, B.F.A. in Sculpture - University of Michigan

Jim spent 10 years as a computer programmer creating award winning children's educational software as well as software for medical and research applications. Currently Jim creates kinetic sculptures that use motors and embeded microcontrollers to provide the movement. One of these sculptures uses an enhanced Mindstorm controller programmed with NQC. Jim also uses Legos when prototyping new sculptures.

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## **REFEREES**

Shane Pickett, Director of Operations, Science Central, **FLL Head Referee**  
B.S., Chemical Engineering, Rose-Hulman Institute of Technology

Shane has worked as the youth programs manager at Science Central, delivering effective science and technology concepts and activities to at-risk middle-school youth. Currently, Shane is the Director of Operations at Science Central. He oversees the educational programs that are offered to students, teachers and all general visitors, including science camps, teacher workshops, demonstrations, labs, and the exhibits. Recently, he has started an education committee on the board. Shane also plays many roles including the computer and network administrator, as well as the volunteer coordinator. He is a member of the downtown Kiwanis Club. Shane is also a member of the Executive Committee of the Indiana Future City Competition.

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Gouping Wang, IPFW Assistant Professor of Physics  
B.S., University of Science and Technology of China, Ph.D. Northwestern University

**Professional Interests:**

Digital System Design, Computer Architecture, VLSI design

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Suining Ding, IPFW Assistant Professor of Interior Design  
B.A. Southwestern University, M.A., Ohio State University

**Professional Interests:**

Interior Design, Architectural Design, 3-D Rendering, Freehand Sketching

Professional Organizations:

AIA, ASEE

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Jiaxin Zhoa – IPFW Assistant Professor Mechanical Engineering, IPFW  
B.S. University of Science and Technology, China  
M.S. University of Missouri-Rolla  
Ph.D. Purdue University, West Lafayette

Jiaxin's research and teaching interests are tribology, machine design, solid mechanics and numerical methods including finite elements and parallel computing.

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Don Mueller, IPFW Assistant Professor of Mechanical Engineer  
B.S., University of Missouri Rolla M.S., Ph.D.

**Professional Interests:**

Thermal sciences, Machine design, Numerical methods

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Hossein Oolomi, IPFW Associate Professor of Electrical Engineering  
B.S., University of Missouri, M.S., Wichita State University, Ph.D.

**Professional Interests:**

Control Theory, Singular Perturbation, Robust Control

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Scott Moor, Assistant Professor of Engineering  
Ph.D. University of California, Berkeley, 1995  
M.A. (Statistics) University of California, Berkeley, 1995  
M.S. Chem. Eng. Practice, Massachusetts Institute of Technology, 1978  
B.S. Chem. Eng., Massachusetts Institute of Technology, 1978

**Professional Interests:**

Engineering Education, Design of Experiments, Process Development, Spray Drying

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Brad Gilbreath – IPFW Assistant Professor of Organizational Leadership & Supervision, Ph.D. New Mexico State University.

Brad's non-academic work experience was in human resource management in the manufacturing and nuclear industries. He research interests include performance-based pay, supervisor, managerial credibility, work and health, person-environment fit, and factors affecting university student well-being.

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Georgios Demetriou, IPFW Assistant Professor of Computer Engineering  
B.S. in Electrical Engineering (Computer Engineering Option), University of Louisiana at Lafayette, 1990  
M.S. in Computer Engineering, University of Louisiana at Lafayette, 1994  
Ph.D. in Computer Science, University of Louisiana at Lafayette, 1998

**Research Interests:**

Robotic Systems / Automated Systems, Intelligent Systems, Control Systems, Computer Graphics / Visualization / Virtual Reality

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