

## John R. Wright, Jr., Ph.D., CSTM, CLSSGB, CSCE, F.ATMAE

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### BIO STATEMENT:

Dr. John R. Wright, Jr. is a Professor of Automation and Electronics Technologies and NFMT Program Coordinator in the Department of Applied Engineering, Safety & Technology at Millersville University of Pennsylvania. His research and teaching interests include semi-autonomous and autonomous mobile robotic development and control, industrial robotics/machine vision, humanoid robotics, programmable logic controllers, and systems integration.

### LEADERSHIP EXPERIENCE:

- Led the 1000+ member National Association of Industrial Technology (NAIT) through a strategic planning and reinvention process which resulted in a name change to *The Association of Technology, Management, and Applied Engineering (ATMAE)* with a broader professional focus as a CHEA Special Program Accreditor and Professional Certification provider
- Led a national task force to establish new 2020 Classification of Instructional Program (CIP) codes for the emerging fields of Applied Engineering (14.0103), Applied Engineering Technology (15.0001) and Science/Technology Management (52.0216) as an ATMAE Senior Fellow working with the United States Department of Education (2017-2019)
- Developed the organizational identity/scope for ATMAE as a Senior Fellow charged by the Board of Directors
- Managed ~\$500,000 annual budget of a non-profit professional association (NAIT) while a member of the Board of Directors and also as an officer of the Board (Vice Chair and Chair)
- Served as the Assistant Vice-Chair and Executive Board Member for the American Society for Engineering Education (ASEE) Annual Programs Engineering Technology Division
- Served as President of two different special-interest divisions (Electricity, Electronics, and Computer Technology Division (EECT) and the Student Division) of the National Association of Industrial Technology (NAIT)
- Served as the first Editor-in-Chief of the online Journal of Industrial Technology and co-developed all policies, training, and procedures to enact the effort
- Developed a national robotics competition for NAIT/ATMAE which has endured for more than 20 years
- Served eight years as a Program Coordinator for the Department of Applied Engineering, Safety & Technology in a unionized faculty environment (Industrial Technology, Automation & Intelligent Robotics Engineering Technology, and Nanofabrication Manufacturing Technology programs)
- Developed a new interdisciplinary baccalaureate degree (Engineering and Computer Science) program in Automation & Intelligent Robotics Engineering Technology (ARET)
- Secured/funded more than \$800,000 of new lab instrumentation from industry to support a state-of-the-art robotics laboratory
- Chaired/served on numerous promotion and tenure committees (Department & University-wide) as part of a unionized shared governance environment
- Chaired/served on numerous faculty and administrative search committees
- Served 12 years on the departmental budget committee (six years as Budget Committee Chair, ~\$80,000 operating budget plus additional annual \$30-60,000 equipment funding allocations)
- Led and/or served departmental accreditation/assessment efforts annually for over 15 years (NAIT/ATMAE)
- Completed ABET's Institute for the Development in Excellence Leadership (IDEAL) Workshop in 2016
- Founded and advised an undergraduate robotics team at Millersville University which has earned more than 40 1<sup>st</sup>-3<sup>rd</sup> place individual awards and six national championships since 2001
- Led teams of engineers as a senior controls engineer in industry and co-founded a research & development company

## EDUCATION:

*Ph.D., Industrial Education and Technology*, Iowa State University, Ames, Iowa, 1998

- *Dissertation: Natural Language and Mixed Modality Task Presentations in the Human-computer Interaction Using Programmable Logic Controllers*

*M.S., Industrial Management*, Central Connecticut State University, New Britain, Connecticut, 1995

*B.S.I.T., Industrial Technology (Electrical Systems Specialization)*, Central Connecticut State University, New Britain, Connecticut, 1993

## PROFESSIONAL CERTIFICATIONS:

2020-Present, Certified Senior Controls Engineer (CSCE) – Registration #10086, The Association of Technology, Management, and Applied Engineering (ATMAE), Raleigh, North Carolina

2019-Present, Certified Lean Six Sigma Green Belt (CLSSGB) – Registration #9625, The Association of Technology, Management, and Applied Engineering (ATMAE), Raleigh, North Carolina

1998-Present (Life Certified / 20+ Years of Continuous Certification), Certified Senior Technology Manager (CSTM) – Registration #1382, The Association of Technology, Management, and Applied Engineering (ATMAE), Raleigh, North Carolina (*formerly the CSIT, National Association of Industrial Technology*)

2008-2013, Associate Engineering Manager (AEM), American Society for Engineering Management (ASEM). Rolla, Montana (*formerly the EMCF, American Society for Mechanical Engineers and prior the CEM, Society of Manufacturing Engineers*)

## PROFESSIONAL AWARDS:

2019 Distinguished Service Citation, Epsilon Pi Tau International Honor Society for Professions in Technology

2017 Honorary Alumni Award, Millersville University of Pennsylvania

2017 ATMAE Senior Fellow, The Association of Technology, Management, & Applied Engineering

2013 Charles W. Keith Award, The Association of Technology, Management, & Applied Engineering. Award was created and named after the Founder of the National Association of Industrial Technology (NAIT) in 1986

- Eighth recipient of ten

2009 Laureate Citation, Epsilon Pi Tau International Honor Society for Professions in Technology

2008 Service Award for Exemplary Contributions to NAIT as Chairman of the Executive Board, National Association of Industrial Technology

2008 Service Award for Exemplary Contributions to NAIT as President of the Electricity, Electronics, and Computer Technology (EECT) Division, National Association of Industrial Technology

2003 Outstanding Industrial Technology Professor of the Year (Region 1), National Association of Industrial Technology

2003 Service Award for Exemplary Contributions to NAIT as President of the Student Division, National Association of Industrial Technology

## PROFESSIONAL EXPERIENCE:

### Faculty Member (August 1999-Present)

Department of Applied Engineering, Safety & Technology, Millersville University of Pennsylvania, Millersville, Pennsylvania

- *Applied Engineering & Technology Management (AETM) Nanofabrication Manufacturing Technology (NFMT) Program Coordinator* (September 2019-Present)
- *Automation & Intelligent Robotics Engineering Technology Program Coordinator* (October 2015-January 2022)
- *Full Professor* (August 2009-Present)

- Secured/established new 2020 CIP codes for the emerging fields of Applied Engineering (14.0103), Applied Engineering Technology (15.0001) and Science/Technology Management (52.0216)

- Secured External Funding to support State-of-the-Art Industrial Robotics Laboratory

- Developed new Bachelor of Science degree: Automation & Intelligent Robotics Engineering Technology

- Sabbatical Leave Awarded 2015–2016: Humanoid Robotics/AI Research

- Led The Association of Technology, Management & Applied Engineering (ATMAE) through a strategic planning and reinvention process from their former name/identity: The National Association of Industrial Technology (NAIT)

- *Industrial Technology Program Coordinator* (June 2008-August 2010)
  - Led the Bachelor of Science degree in Industrial Technology name change: *Applied Engineering & Technology Management*
  - Led the Associate of Technology degree in Industrial Technology name change: *Applied Engineering & Technology*
- *Associate Professor* (August 2004-August 2009)
  - Developed/Renamed Industrial Technology degree concentration in Electronics/Control Systems: *Robotics & Control Systems*
- *Assistant Professor* (August 1999-August 2004)
  - Tenure granted (August 2004)
  - Developed/Renamed Industrial Technology degree concentration in Electronics: *Electronics/Control Systems*

**Hardware/Software Experience at MU:** Allen Bradley Micrologix 1000, 1100, 1200 with daisy chained analog i/o, & 1500/RSLogix 500 & RSLogix Micro, Mitsubishi RVM1 5-axis Articulating Industrial Robotic Arms/Roboware, Mitsubishi 2AJ 5-axis Articulating Industrial Robotic Arms/MELFA-Basic IV, Mitsubishi RH-6FH3520-D1-S 4-axis SCARA Industrial Robotic Arms/MELFA-Basic V with Cognex IS-1403-11 Vision Systems/In-Sight, Parallax Basic Stamp II Microcontroller/PBASIC, NetMedia BX24p Microcontroller/BasicX, Teensy 3.2 & 4.0 Microcontrollers/C++ (via Arduino IDE), OpenMV H7 Machine Vision Cam/Python (via OpenMV IDE), Samsung RCM4 4-axis Cartesian & SM7 5-axis SCARA Industrial Robots/FARAL, Aldebaran NAO Humanoid Robots/Choregraphe, Cognex Checkers 101, 3G7 & 4G1, Hitachi VFDs, DH-485 Network, Allen Bradley PanelView HMI, Control Station/Loop Pro Trainer, MultiSim, ExpressSCH, ExpressPCB, Microsoft Project, Microsoft Visio, Minitab, & SurveyMonkey.

**Senior Controls/Automation Engineer** (July 2016-Present, Part-time) (“Denotes MDI Lead/Co-Lead Controls Engineer)

Multi-Dimensional Integration, Shrewsbury, Pennsylvania.

- Amazon/Dematic FWA4 Fulfillment Center Commissioning (FMH Maxxreach Trailer Loaders/Restuffits / Fluid Load Area) Project (2022), Fort Wayne, Indiana
- Amazon/Dematic SAN3 Fulfillment Center Commissioning (Shipping Sorter, Receiving Decant Workstations & RSP) Project (2021), San Diego, California
- Procter & Gamble Company (Swiffer S1 Wax Process) Programming Development Project (2020), Martinsburg, West Virginia<sup>a</sup>
- Amazon/Dematic MQJ1 Distribution Center Commissioning (Package Identification (PID) Lines) Project (2020), Indianapolis, Indiana<sup>a</sup>
- Amazon/Dematic STL8 Fulfillment Center Commissioning (Shipping Sorter & Receiving Merge Workstations) Project (2019), St. Louis, Missouri
- Amazon/Dematic SLC1 Fulfillment Center Commissioning (ARSAWs and ARSAW Trunk Lines, SLAMs & Shipping Sorter) Project (2018), Salt Lake City, Utah
- Family Dollar/Dematic Distribution Center PLC-5 to ControlLogix Upgrades Project (2018), Front Royal, Virginia
- Amazon/Dematic BDL2 Fulfillment Center Commissioning (ARSAWs) Project (2017), Windsor, Connecticut
- Lowes/Dematic Distribution Center PLC-5 to ControlLogix Upgrades Project (2016), Pottsville, Pennsylvania
- Houghton Mifflin/Dematic Distribution Center PLC-5 to ControlLogix Upgrades Project (2016), Indianapolis, Indiana
- Amazon/Dematic ABE-8 Distribution Center Pre-Commissioning Project (2016), South Florence, New Jersey

**Controls/Automation Engineer/Programmer** (May 2012-July 2016, Part-time)

Multi-Dimensional Integration, Shrewsbury, Pennsylvania.

- Walgreens/Dematic PLC-5 to ControlLogix Upgrades Project (2016), Perrysburg, Ohio
- Walgreens/Dematic PLC-5 to ControlLogix Upgrades Project (2016), Mt. Vernon, Illinois
- abec/Regeneron Bio-pharmaceutical Programming Project (2015), Bethlehem, Pennsylvania
- Amazon/Dematic EWR4 Fulfillment Center Commissioning (AFE Re-Bin Lanes) Project (2014), Robbinsville, New Jersey
- Harrisburg Water Authority SCADA Programming Project (2012) - Programmer, Harrisburg, Pennsylvania

**Hardware/Software Experience at MDI:** *ControlLogix, CompactLogix, PLC-5, RSLogix/Studio 5000 (Ladder Diagram & Sequential Function Chart), RSLogix 500, AB PowerFlex VFDs, FactoryTalk HMI, SCADAPack/Telepace Studio (Relay Ladder Logic), DMCs, Fluke CableIQ Reporter, Profibus, ASIMON, Autopilot, DematicMRC, ECCs / CAN bus*

**Independent Consultant** (September 1997-February 2010)

Rixan Associates, Inc. (January-February 2010), Dayton, Ohio.

- Provided Research on Optimal Electrical/Control Components for a Wind Turbine Project.

Chester County Intermediate Unit (November 2007), Downingtown, Pennsylvania

- Provided Robotics Training/Instruction to Area Technology Education Teachers (In-service).  
· *Basic Stamp II Microcontroller/PBASIC*

Robotic Industries Association (October 2006-February 2007), Ann Arbor, Michigan

- Developed an electronic survey, conducted interviews, and assessed the market for hybrid sensor technology in material handling applications.  
· *Minitab & SurveyMonkey*

Mechanical Plus, Inc. (June-July 2003), Lancaster, Pennsylvania

- Designed propulsion system solution for an electric cart for transporting 20,000lb steel rolls.

Safe Harbor Water Power Corporation (July 2002), Conestoga, Pennsylvania

- Designed rotating shift schedules for Safe Harbor's control room operators.  
· *Excel*

Iowa State University, Department of Industrial Technology & Education (July & August 2001), Ames, Iowa:

- Identified and negotiated pricing for new state-of-the-art robotics equipment (August 2001).
- Provided robotics/PLC programming instruction, curriculum advisement, and equipment assessment (July 2001)  
· *Seiko 4-axis Cylindrical Industrial Robot, General Electric 5-axis SCARA Industrial Robot, GE Fanuc Micro PLC/Relay Ladder Logic, GE Fanuc 90-30 PLC/LogicMaster Relay Ladder Logic & State Logic*

Delevan, Incorporated (September-December 1997), Des Moines, Iowa:

- Identified major defects by applying the Tools of Ishikawa  
· *Minitab*

**Post-Doctoral Fellow** (January 1999-September 1999)

General Robotics and Active Sensory Perception Laboratory (GRASP), Department of Mechanical Engineering & Applied Mechanics (MEAM), School of Engineering & Applied Science, University of Pennsylvania, Philadelphia, Pennsylvania [Professor Vijay Kumar]

- Coordinated project personnel (12 engineers and computer scientists) and \$475K/yr. grant objectives
- Facilitated weekly meetings and developed monthly progress reports
- Organized all project purchasing requirements
- Designed and implemented 12V power system for vehicle's vision and communication requirements
- Researched and implemented a wireless 2.4GHz communication system for the transmission of video images from the robot to its computer
- Fabricated and assembled robot systems and subsystems as required

**Teaching Assistant** (January 1996-December 1998)

Department of Industrial Education and Technology, Iowa State University, Ames, Iowa

- ITEC 360 Total Quality Improvement (Grading)
- ITEC 435 Computer Automated Manufacturing (Instructor)
- ITEC 446 Automation Systems (Instructor)

**Commercial Product Development Manager & Cofounder** (June 1995-October 1995)

TENERGY L.L.C., New Britain, Connecticut

- Negotiated pricing, delivery schedules, and contract details with management
- Developed product design parameters
- Planned for effective cost reduction improvements and design changes
- Maintained contact with appropriate government agencies to ensure compliance with regulations
- Invented 1996 U.S. Patent 5,524,726, *Swing arm supported electric drive assembly for powering cycles*

### **Technical Manager & Cofounder** (June 1994-June 1995)

TENERGY L.L.C., New Britain, Connecticut

- Supervised engineering staff and daily departmental functions
- Directed the development of drive train components
- Prepared and delivered presentations on the company's technologies and products
- Traveled to England, China, Hong Kong, and Indonesia to meet with suppliers, strategic partners, and customers

### **Researcher** (December 1993-June 1994)

TENERGY L.L.C. & Central Connecticut State University Foundation, Inc., New Britain, Connecticut

- Researched optimal drive train components for prototype commercial electric scooter development
- Developed a commercial prototype based on the technology and research conducted by Central Connecticut State University's School of Technology. J. Wright, Jr., G. Engel, and Professor D. Dowty were the principal investigators of the original technology

### **Graduate Assistant** (September 1993-December 1993)

Central Connecticut State University, New Britain, Connecticut

- Supervised robotics, electronics, and fluid power laboratories
- Set up Rhino SCARA robot with Panasonic CCTV camera

### **Quality Control Technician/Internship** (January 1993-September 1993)

Statistical Process & Quality Department, Duracell, Inc., Bethel, Connecticut

- Tested new and current company battery technologies
- Implemented the NiMH testing program
- Designed, implemented and documented new product testing equipment including: a microprocessor-based (M4) test unit for electricals, a bar code defect identification recorder, and a load voltage instability test stand for shock analysis
- Assisted Engineering Manager in defect battery analysis

### **JOURNAL ARTICLES:**

- [14] Wright, J. R., Jr., Haughery, J. R., Kaskel, J. M., Troop, I. P., & Kiesel, R. G. (In-progress). Using machine vision and distributed control for object and line avoidance. [Blinded, Peer-Refereed Journal Article]. *Journal of Field Robotics*.
- [13] Wright, J. R., Jr., & Wright, J. R. (Under review). A method for capturing measurement error when predicting process capability. [Blinded, Peer-Refereed Journal Article]. *Quality Engineering*.
- [12] Wright, J. R., Jr., Buchanan W. W., & Wright, J. R. (2020). Is the engineering technology profession ready for a name change to applied engineering? [Blinded, Peer-Refereed Journal Article]. *Journal of Technology, Management & Applied Engineering (JTMAE)* 36(1).
- [11] Wright, J. R., Jr., Ginter, E. S., David, B. G., Kilbourne, B. J., & Wells, J. R. (2019). Intermediate programming methodologies for manipulating modern humanoid robots [Blinded, Peer-Refereed Journal Article]. *Universal Journal of Electrical and Electronic Engineering* 6(4).
- [10] Kuperavage, J. M. & Wright, J. R., Jr. (2007). Non-holonomic robotic control using the BasicX-24p microcontroller [Blinded, Peer-Refereed Journal Article]. *International Journal of Modern Engineering (IJME)*, 7(2), 1-14.
- [9] Wright, J. R., Jr. & Harris, S. (2006). The value of partnering with academia [Non-Refereed Journal Article]. *Journal of Industrial Technology* 22(3), 1-3.
- [8] Wright, J. R., Jr. & Harris S. (2006, June). Automate or evaporate? A public/private partnership model/case study designed to help US manufactures and educational institutions of higher learning meet this critical challenge [Non-Refereed Article]. *Robotics Online*.
- [7] Wright, J. R., Jr. (2006). Experimental analysis of a battery thermal management system: Implications and applications for industrial and commercial products [Blinded, Peer-Refereed Journal Article]. *Journal of Industrial Technology* 22(2), 1-7.
- [6] Wright, J. R., Jr. & Vahradian, H. M. (2006). Historical changes made to the student division: An extreme makeover (2001-2004) [Non-Refereed Journal Article]. *Journal of Industrial Technology* 22(1), 1-5.
- [5] Geissler, J., Knott, P. J., Vazquez, M. R. & Wright, J. R., Jr. (2004). Virtual reality robotic programming software in the technology classroom [Blinded, Peer-Refereed Journal Article]. *The Technology Teacher*, 63(6), 6-8.

- [4] Wright, J. R., Jr. & Sgro, S. D. (2002). Building and controlling your PLC controlled robot from the workbench [Blinded, Peer-Refereed Journal Article]. *The Technology Teacher*, 61(8), 7-10.
- [3] Wright, J. R., Jr., Jung, S., Steplight, S., Wright, J. R., Sr., & Daas, A. (2000). Omnidirectional visual control for mobile robots [Blinded, Peer-Refereed Journal Article]. *The Technology Teacher*, 59(5), 32-38.
- [2] Wright, J. R., Jr. (1999). The debate over which PLC programming language is the state-of-the-art? [Blinded, Peer-Refereed Journal Article]. *Journal of Industrial Technology*, 15(4), 2-5.
- [1] Wright, J. R., Jr. (1998). Overcoming resistance to change through participative staff development [Blinded, Peer-Refereed Journal Article]. *Journal of Industrial Technology*, 14(1), 2-5.

#### WHITE PAPERS:

- [7] Wright, J. R., Jr. (2022, 2020). School of Engineering Practice (SoEP) proposal v2 [White Paper]. *Department of Applied Engineering, Safety & Technology (AEST)*. Millersville University of Pennsylvania. Millersville, Pennsylvania.
- [6] Wright, J. R., Jr. (2019). Classification of Instructional Programs (CIP) Code public comments [White Paper]. *The United States Department of Education*. The Association of Technology, Management, & Applied Engineering. Raleigh, North Carolina.
- [5] Wright, J. R., Jr. (2017, January). Using the venn as a road map [Solicited White Paper]. *The Association of Technology, Management, and Applied Engineering's Board of Directors*, Elmhurst, Illinois.
- [4] Wright, J. R., Jr., Ginter, E. S., David, B. G., Kilbourne, B. J., & Wells, J. R. (2015). Custom programming for the NAO robotic humanoid [White Paper]. *Department of Applied Engineering, Safety & Technology*. Millersville University of Pennsylvania.
- [3] Wright, J. R., Jr., Atharifar, H., & Atwater, M. (2014, January). A meta-analysis of the skills gap dilemma in today's engineering professions [Blinded, Peer-Refereed White Paper]. *The Association of Technology, Management, & Applied Engineering*. Elmhurst, Illinois.
- [2] Wright, J. R., Jr. (2005). SWOT analysis of COSIMIR<sup>®</sup> software [White Paper]. *Rixan Associates, Inc.*, Millersville University of Pennsylvania, Millersville, Pennsylvania.
- [1] Angelopoulou, E., & Wright, J. R., Jr. (1999). Laser ranging technology [Solicited White Paper]. *Defense Advanced Research Project Agency (DARPA)*, #MS-CIS-99-16, University of Pennsylvania, Philadelphia, Pennsylvania.

#### RESEARCH REPORTS:

- [9] Wright, J. R., Jr. (2015). *2014-2015 Sabbatical leave research report*. Office of the President. Millersville University, Millersville, Pennsylvania.
- [8] Wright, J. R., Jr. (2007). *Material handling / hybrid sensor market research* [Final Research Report]. Robotic Industries Association (RIA): Professional Consultation, Ann Arbor, Michigan.
- [7] Wright, J. R., Jr. (2006). *Using CHAID analysis for economic market segmentation: Completing the Emprise™ system product suite* [Final Research Report]. Pennsylvania Department of Community and Economic Development (DCED): Lancaster/Harrisburg Keystone Investment Zone (KIZ) Grant, Millersville University of Pennsylvania, Millersville, Pennsylvania.
- [6] Wright, J. R., Jr. (2005). *Battery thermal management systems* [Final Research Report]. State System of Higher Education Professional Development Grant, Basic and Applied Research Category (1-C), Millersville University of Pennsylvania, Millersville, Pennsylvania.
- [5] Wright, J. R., Jr. (1999). *Tactile Mobile Robotics (TMR) program September progress report*. Defense Advanced Research Projects Agency (DARPA). General Robotics Automation Sensing and Perception (GRASP) Laboratory, University of Pennsylvania, Philadelphia, Pennsylvania. ARO MURI grant #DAAH04-96-0007.
- [4] Wright, J. R., Jr. (1999). *Tactile Mobile Robotics (TMR) program July progress report*. Defense Advanced Research Projects Agency (DARPA). General Robotics Automation Sensing and Perception (GRASP) Laboratory, University of Pennsylvania, Philadelphia, Pennsylvania. ARO MURI grant #DAAH04-96-0007.
- [3] Wright, J. R., Jr. (1999). *Tactile Mobile Robotics (TMR) program June progress report*. Defense Advanced Research Projects Agency (DARPA). General Robotics Automation Sensing and Perception (GRASP) Laboratory, University of Pennsylvania, Philadelphia, Pennsylvania. ARO MURI grant #DAAH04-96-0007.
- [2] Wright, J. R., Jr. (1999). *Tactile Mobile Robotics (TMR) program May progress report*. Defense Advanced Research Projects Agency (DARPA). General Robotics Automation Sensing and Perception (GRASP) Laboratory, University of Pennsylvania, Philadelphia, Pennsylvania. ARO MURI grant #DAAH04-96-0007.
- [1] Wright, J. R., Jr. (1999). *Tactile Mobile Robotics (TMR) program April progress report*. Defense Advanced Research Projects Agency (DARPA). General Robotics Automation Sensing and Perception (GRASP) Laboratory, University of Pennsylvania, Philadelphia, Pennsylvania. ARO MURI grant #DAAH04-96-0007.

## OTHER PUBLICATIONS:

- [10] Wright, J. R., Jr. (2019). *Certified Controls Engineer examination questions* [Mechanical Advantage, Financial Justification, Open Loop/Closed Loop Control, Instrumentation, & Programming Fundamentals – Contributed 15.6% of Exam Questions, 30/192]. The Association of Technology, Management, & Applied Engineering CCE Certification Commission. Raleigh, North Carolina.
- [9] Dorsey, P. & Wright, J. R., Jr. (2018). *SLAM field setup/commissioning guide*. MDI/Dematic/Amazon. Salt Lake City, Utah.
- [8] Wright, J. R., Jr. (2017, March). *ATMAE's guiding principles & broad strategic objectives* [Solicited Policy Draft]. The Association of Technology, Management, & Applied Engineering's Board of Directors, Elmhurst, Illinois.
- [7] Wright, J. R., Jr. (2017, March). *ATMAE's Organizational identity/scope* [Solicited Policy – Approved April 28, 2017], The Association of Technology, Management, & Applied Engineering's Board of Directors, Elmhurst, Illinois.
- [6] David, B. G., Litowitz, L. S. & Wright, J. R., Jr. (2015). *Automation & Intelligent Robotics Engineering Technology New Bachelor of Science Degree Proposal*. PASSHE Board of Governors. Harrisburg, Pennsylvania.
- [5] Wright, J. R., Jr. & David, B. (2010). *2010 ATMAE accreditation progress report* [Industrial Technology BS Program]. The Association of Technology, Management, and Applied Engineering. Elmhurst, Illinois.
- [4] Kuperavage, J. M. & Wright, J. R., Jr. (2006). Non-holonomic robotic control using the BasicX-24p microcontroller [Blinded, Peer-Refereed International Proceedings Paper]. *9<sup>th</sup> Annual International Journal of Modern Engineering (IJME) / INTERTECH Joint International Conference on Engineering and Technology: Research - Education – Entrepreneurship Proceedings*, Union, New Jersey.
- [3] Wright, J. R., Jr. (1998). *Natural language and mixed modality task presentations in the human-computer interaction using programmable logic controllers* [Doctoral Dissertation]. Iowa State University. Ames, Iowa.
- [2] Wright, J. R., Jr. (1997). *Multimedia for decision makers* [Book Review]. *Journal of Industrial Teacher Education*, 34(4), 92-93.
- [1] Wright, J. R., Jr. (1996). *Swing arm supported electric drive assembly for powering cycles*. U.S. Patent 5,524,726, TENERGY L.L.C., New Britain, Connecticut.

## EDUCATIONAL MATERIALS:

- [12] Wright, J. R., Jr. (2021). *Lecture notes*. AENG 101 Introduction to Engineering. Department of Applied Engineering, Safety & Technology, Millersville University of Pennsylvania Campus Bookstore/AKADEMOS. Millersville, Pennsylvania.
- [11] Wright, J. R., Jr. (2020, 2009, 2003). *Lecture notes and supplemental materials (3<sup>rd</sup> ed)*. AENG 364 Digital Electronics. Department of Applied Engineering, Safety & Technology, Millersville University of Pennsylvania Campus Bookstore/AKADEMOS. Millersville, Pennsylvania.
- [10] Wright, J. R., Jr. (2020, 2018, 2012, 2007, 2006, 2002). *Lecture notes and supplemental materials (6<sup>th</sup> ed)*. AENG 425 Industrial Robotic Systems. Department of Applied Engineering, Safety & Technology, Millersville University of Pennsylvania Campus Bookstore/AKADEMOS. Millersville, Pennsylvania.
- [9] Wright, J. R., Jr. (2019, 2018, 2012, 2007, 2006, 2005, 2002). *Laboratory experiments manual (7<sup>th</sup> ed)*. AENG 425 Industrial Robotic Systems. Department of Applied Engineering, Safety & Technology, Millersville University of Pennsylvania Campus Bookstore/AKADEMOS. Millersville, Pennsylvania.
- [8] Wright, J. R., Jr. (2018, 2017, 2014, 2012, 2009, 2005). *Lecture notes (6<sup>th</sup> ed)*. AENG 494 Total Quality Management. Department of Applied Engineering, Safety & Technology, Millersville University of Pennsylvania Campus Bookstore/AKADEMOS. Millersville, Pennsylvania.
- [7] Wright, J. R., Jr. (2017, 2014, 2012). *Lecture notes (3<sup>rd</sup> ed)*. AENG 427 Programmable Logic Controllers. Department of Applied Engineering, Safety & Technology, Millersville University Bookstore/AKADEMOS. Millersville, Pennsylvania.
- [6] Wright, J. R., Jr. (2017, 2014, 2012). *Laboratory experiments manual (3<sup>rd</sup> ed)*. AENG 427 Programmable Logic Controllers. Department of Applied Engineering, Safety & Technology, Millersville University Bookstore/AKADEMOS. Millersville, Pennsylvania.
- [5] Wright, J. R., Jr. (2017, 2014, 2013). *Lab manual (3<sup>rd</sup> ed)*. AENG 494 Total Quality Management. Department of Applied Engineering, Safety & Technology, Millersville University of Pennsylvania Campus Bookstore/AKADEMOS. Millersville, Pennsylvania.
- [4] Wright, J. R., Jr. (2015, 2009, 2008, 2002, 1999). *Lecture notes (5<sup>th</sup> ed)*. AENG 261 Electrical/Electronic Systems I. Applied Engineering, Safety & Technology Department, Millersville University of Pennsylvania Campus Bookstore/AKADEMOS. Millersville, Pennsylvania.

- [3] Skelly, W. H., De Lucca, K. P., & Wright, J. R., Jr. (2012, 2008, 2007, 2005, 2002, 2001). *Student activities/experiments manual (6<sup>th</sup> ed)*. AENG 262 Semiconductor Electronics. Department of Applied Engineering, Safety & Technology, Millersville University of Pennsylvania Campus Bookstore/AKADEMOS. Millersville, Pennsylvania.
- [2] Wright, J. R., Jr. (2006, 2000). *Lecture notes (2<sup>nd</sup> ed)*. AENG 120 Energy, Power and Transportation Systems. Department of Industry and Technology, Millersville University of Pennsylvania Campus Bookstore. Millersville, Pennsylvania.
- [1] Wright, J. R., Jr. (2000). *Lecture notes*. AENG 325 Power Conversion and Control. Department of Industry and Technology, Millersville University of Pennsylvania Campus Bookstore. Millersville, Pennsylvania.

#### NEWSLETTER / WEB CONTRIBUTIONS:

- [37] Wright, J. R., Jr. (2020). *Firefighting robots compete once again in Osburn Hall* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Spring/Summer 2020, 3.
- [36] Wright, J. R., Jr. (2019). *Emerging fields of study received federal recognition with new 2020 CIP codes* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Fall/Winter 2019, 4.
- [35] Wright, J. R., Jr. (2019). *TQM faculty and students earn professional certifications* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Spring/Summer 2019, 2.
- [34] Wright, J. R., Jr. (2018). *Imagineering becomes reality* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Spring/Summer 2018, 1-2.
- [33] Wright, J. R., Jr. (2018). *Students earn professional certification* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Spring/Summer 2018, 4.
- [32] Wright, J. R., Jr. (2017). *First graduates from ARET* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Fall/Winter 2017, 1.
- [31] De Lucca, K. P. & Wright, J. R., Jr. (2017). *Digital electronics: celebrating 10 years of designing printed circuit boards* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Fall/Winter 2017, 3.
- [30] Wright, J. R., Jr. (2017). *Students earn professional certification* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Fall/Winter 2017, 4.
- [29] Wright, J. R., Jr. (2017). *Ville gets state-of-the-art robotics*. Millersville News. <http://blogs.millersville.edu/news/2017/03/13/ville-gets-state-of-the-art-robotics/>
- [28] Wright, J. R., Jr. (2016). *Robotics tour guide learns to drive* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Fall/Winter 2016, 1.
- [27] Wright, J. R., Jr. (2016). *Robotics team takes second place* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Fall/Winter 2016, 3.
- [26] Wright, J. R., Jr. (2016). *TQM students earn certifications* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Fall/Winter 2016, 5.
- [25] Wright, J. R., Jr. (2016). *Airline Hydraulics makes donation to AEST*. AEST Homepage, Retrieved on January 21, 2017 from <http://www.millersville.edu/academics/educ/aest/index.php>.
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- [23] Wright, J. R., Jr. (2016). *AEST department launches new robotics degree* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare Fall 2015, 5(1) 1.
- [22] Wright, J. R., Jr. (2011). *ATMAE student chapter brings home more national awards* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare 4(1), 1.
- [21] Wright, J. R., Jr. (2011). *MAC DADI rides on* [Millersville University Faculty Newsletter]. The Exchange.
- [20] Wright, J. R., Jr. (2011). *Robotics team holds 24 awards throughout decade* [Millersville University Student Newspaper]. The Snapper.
- [19] Wright, J. R., Jr. (2010). *ATMAE student chapter takes first prize* [Applied Engineering, Safety & Technology Department Newsletter]. Abbozzare 3(1), 1-2.
- [18] Wright, J. R., Jr. (2010). *Reflections on the past two years* [Industrial Technology Program Coordinator Report, Millersville University's Department of Industry & Technology Newsletter Column]. Abbozzare 2(2), 3.
- [17] Wright, J. R., Jr. (2009). *Department approves new degree name changes!* [Industrial Technology Program Coordinator Report, Millersville University's Department of Industry & Technology Newsletter Column]. Abbozzare 2(1), 3.
- [16] Wright, J. R., Jr., Mosley, I. T., Sr., & Martini, J. (2009). *New ATMAE bylaws up for a vote!* IT Insider 11(2) 1-3.
- [15] Wright, J. R., Jr. (2009). *The Department considers a name change for the industrial technology program*. [Industrial Technology Program Coordinator Report, Millersville University's Department of Industry & Technology Newsletter Column]. Abbozzare 1(2), 3.
- [14] Wright, J. R., Jr. (2008). *Major changes proposed at the national level* [Industrial Technology Program Coordinator Report, Millersville University's Department of Industry & Technology Newsletter Column]. Abbozzare 1(1), 3.



- [13] Wright, J. R., Jr. (2008). *Focus groups underway – Testing the strategic plan* [From the Executive Board Chair Newsletter Column]. IT Insider 10(2), 1.
- [12] Wright, J. R., Jr. (2008). *EECT's awards recognize achievement* [EECT Division Newsletter Column]. IT Insider 10(2), 4.
- [11] Wright, J. R., Jr. (2008). *NAIT strategic plan to be rolled out in Nashville* [From the Executive Board Chair Newsletter Column]. IT Insider 10(1), 2-3.
- [10] Wright, J. R., Jr. (2008). *Collaboration and networking! Opportunities to expand your vitae* [EECT Division Newsletter Column]. IT Insider 10(1), 4.
- [9] Wright, J. R., Jr. (2008). *Going back to our roots to plan for our future* [From the Executive Board Chair Newsletter Column]. IT Insider 9(3), 1.
- [8] Wright, J. R., Jr. (2008). *Research division disbanded to better serve members* [From the Executive Board Chair Newsletter Column]. IT Insider 9(3), 1.
- [7] Wright, J. R., Jr. (2007). *EECT's partnering vision* [EECT Division Newsletter Column]. IT Insider 8(3), 6.
- [6] Wright, J. R., Jr. & Harris, S. (2006). *Hardware for intelligence – Partnering not just a buzzword* [Invited Feature Article - Excerpted Partial Reprint of The Value of Partnering with Academia]. IT Insider 8(2), 4.
- [5] Wright, J. R., Jr., Hsiung, S. C. & Weinsier, P. D. (2006). *2006 Convention agenda – New opportunities for our members* [EECT Division Newsletter Column]. IT Insider 8(2), 8.
- [4] Wright, J. R., Jr. (2003). *Put your school on the map!* [Student Division Newsletter Column]. IT Insider 5(3), 10.
- [3] Wright, J. R., Jr. (2003). *2003 Strategic plans/goals update* [Student Division Newsletter Column]. IT Insider 5(2), 10.
- [2] Wright, J. R., Jr. (2003). *Mobile robotic manipulator contest returns for 2003* [Student Division Newsletter Column]. IT Insider 5(1), 1-2.
- [1] Wright, J. R., Jr. (2002). *Students make mobile robotic manipulator contest a hit!* [Student Division Newsletter Column]. IT Insider 4(4), 5.

#### NATIONAL PRESENTATIONS:

- [42] Martin, R. C., Wright, J. R., Jr. & Smith, I. M. (2021). *Design, development and implementation of a complex stacking/unstacking industrial robotic application* [Blinded, Peer-Refereed National Presentation]. Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract). Orlando, Florida.
- [41] Haughery, J. R. & Wright, J. R., Jr. (2020). *Ideation, development, and implementation of the ATMAE Certified Controls Engineer examination* [Blinded, Peer-Refereed National Presentation]. 2020 Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract). Online Conference.
- [40] Wright, J. R., Jr., Gehron, D. A., Kury, N. J. & Spisak, A. C. (2018). *Incorporating machine vision into an industrial robotics course* [Blinded, Peer-Refereed National Presentation]. 2018 Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract). Kansas City, Missouri.
- [39] Gehron, D. A., Kury, N. J., Spisak, A. C. & Wright, J. R., Jr. (2018). *Active, real-time object tracking using Cognex machine vision and Mitsubishi industrial robots* [Blinded, Peer-Refereed National Presentation]. 2018 Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract). Kansas City, Missouri.
- [38] Wagner, K. L. & Wright, J. R., Jr. (2017). *Multi-layer behavioral motion for complex robotic control with >10 DoF* [Blinded, Peer-Refereed National Presentation]. 2017 Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract). Cincinnati, Ohio.
- [37] Bozzelli, N. A., Wiles, M. P., Wright, J. R., Jr., Kilgore, Q. D., & Wagner, K. L. (2017). *Enacting active compliant visual robotic control: setup, configuration, and applications* [Blinded, Peer-Refereed National Presentation]. 2017 Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract). Cincinnati, Ohio.
- [36] Wiles, M. P., Bozzelli, N. A., Wright, J. R., Jr., Kilgore, Q. D., & Wagner, K. L. (2017). *Using Cognex vision for part id and analysis: tutorials, labs, and YouTube* [Blinded, Peer-Refereed National Presentation]. 2017 Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract). Cincinnati, Ohio.
- [35] Wright, J. R., Jr. (2015). *EECT certification brief* [Invited, EECT Membership Meeting]. 2015 Association of Technology, Management, and Applied Engineering Conference. Pittsburgh, Pennsylvania.
- [34] Wright, J. R., Jr. (2015). *Practical loop tuning – How to tune a PID loop!* [Blinded, Peer-Refereed National Presentation]. 2015 Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract). Pittsburgh, Pennsylvania.
- [33] Wright, J. R., Jr. (2014). *EECT certification brief* [Invited, EECT Membership Meeting]. 2014 Association of Technology, Management, and Applied Engineering Conference. St. Louis, Missouri.
- [32] Wells, J. R., Kilbourne, B. J. & Wright, J. R., Jr. (2014). *Advanced dynamic motion control and object tracking for humanoid robotics* [Blinded, Peer-Refereed National Presentation]. 2014 Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract). St. Louis, Missouri.

- [31] Ramos, G. G. & Wright, J. R., Jr. (2013). *Programming the NAO robotic humanoid with object-oriented programming methodology* [Blinded, Peer-Refereed National Presentation]. 2013 Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract). New Orleans, Louisiana.
- [30] Wright, J. R., Jr. (2010). *Assessing knowledge of electronics students via the incorporation of manipulative and design methods of examination* [Blinded, Peer-Refereed National Presentation]. 2010 Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract), Panama City, Florida.
- [29] Wright, J. R., Jr., Jordan, J. & Oliver, D. (2010). *Firefighting robots for the classroom: An exciting application for your microcontroller-based electronics curricula* [Blinded, Peer-Refereed National Presentation]. 2010 Association of Technology, Management, and Applied Engineering Conference Proceedings (Abstract), Panama City, Florida.
- [28] Bostic, L., Sarapin, M., Nwoke, B., Uwakweh, B., Tetteh, E. [Moderator], Travers, K., & Wright, J. R., Jr. (2010). *Panel discussion and forum: strategies to negotiate the tenure & promotion process* [Invited Panelist - Round Table Discussion]. 2010 Association of Technology, Management, and Applied Engineering Conference, Panama City, Florida.
- [27] Buck, J., Laux, C., Sgro, S. D. [Moderator], Wright, J. R., Jr. (2010). *ATMAE student chapter roundtable / chapter advisors meeting* [Invited Panelist - Round Table Discussion]. 2010 Association of Technology, Management, and Applied Engineering Conference, Panama City, Florida.
- [26] Wright, J. R., Jr., Mosley, I. T., Sr., Martini, J. & Coscarelli, R. (2009). *ATMAE moves forward!* [Keynote Luncheon Address]. 2009 Association of Technology, Management, and Applied Engineering Conference, Louisville, Kentucky.
- [25] Wright, J. R., Jr., Travers, K. A., Mosley, I. T., Sr. & Slocumb, C. A., (2008). *NAIT strategic plan – embrace the future!* [Keynote Luncheon Address]. 2008 National Association of Industrial Technology Conference, Nashville, Tennessee.
- [24] Wright, J. R., Jr. & Weinsier, P. D. (2008). *EECT division membership meeting address* [One-hour Annual Division Report]. 2008 National Association of Industrial Technology Conference, Nashville, Tennessee.
- [23] Travers, K. A. & Wright, J. R., Jr. (2007). *NAIT's past, present and future* [Keynote Luncheon Address]. 2007 National Association of Industrial Technology Conference, Panama City, Florida.
- [22] Wright, J. R., Jr. (2007). *EECT division membership meeting address* [One-hour Annual Division Report]. 2007 National Association of Industrial Technology Conference, Panama City, Florida.
- [21] Patrick, C. & Wright, J. R., Jr. (2007). *Journal of Industrial Technology reviewer training workshop* [Invited National Workshop (Two sessions, two hours each – total 30 referees) – the JIT requires mandatory training of its reviewers every two years to maintain consistency of procedures and protocols]. 2007 National Association of Industrial Technology Conference, Panama City, Florida.
- [20] Wright, J. R., Jr. (2006). *EECT division membership meeting address* [One-hour Annual Division Report]. 2006 National Association of Industrial Technology Conference, Cleveland, Ohio.
- [19] Patrick, C. & Wright, J. R., Jr. (2006). *JIT reviewer forum and primer* [A Two-hour Forum & Primer on New Policies & Procedures for JIT Reviewers]. 2006 National Association of Industrial Technology Conference, Cleveland, Ohio.
- [18] Wright, J. R., Jr. & Kuperavage, J. M. (2006). *Let's all migrate to industry grade! An introduction to the BasicX-24p microcontroller and the BasicX language* [Blinded, Peer-Refereed National Presentation]. 2006 National Association of Industrial Technology Conference Proceedings (Abstract), Cleveland, Ohio.
- [17] Hearn, D. R. & Wright, J. R., Jr. (2005). *What you need to know: regulations and guidelines for deploying industrial robotics in the workplace* [Blinded, Peer-Refereed National Presentation]. 2005 National Association of Industrial Technology Conference Proceedings (Abstract), St. Louis, Missouri.
- [16] Kuperavage, J. M., Haughery, J. R., & Wright, J. R., Jr. (2005). *Semi-autonomous control of mobile robotic field agents: the algorithm, interface, and implementation results* [Blinded, Peer-Refereed National Presentation]. 2005 National Association of Industrial Technology Conference Proceedings (Abstract), St. Louis, Missouri.
- [15] Wright, J. R., Jr., Kuperavage, J. M., & Smith, J. T. (2004). *Jazzing up your microprocessor/microcontroller course through the infusion of mobile robotic agents utilizing Basic Stamp II microcontrollers for autonomous navigation* [Blinded, Peer-Refereed National Presentation]. 2004 National Association of Industrial Technology Conference Proceedings (Abstract), Louisville, Kentucky.
- [14] Miley, J. E. & Wright, J. R., Jr. (2003). *Programming and interfacing analog I/O devices for the micrologix 1200 PLC* [Blinded, Peer-Refereed National Presentation]. 2003 National Association of Industrial Technology Conference Proceedings (Abstract), Nashville, Tennessee.
- [13] Vazquez, M. R., Tarnowski, B. J., & Wright, J. R., Jr. (2002). *The implementation of tele-operated robotics in the IT classroom and competition* [Blinded, Peer-Refereed National Presentation]. 2002 National Association of Industrial Technology Conference Proceedings (Abstract), Panama City, Florida.
- [12] Wright, J. R., Jr. & Sgro, S. D. (2001). *Is relay ladder logic obsolete? State Logic reduces novice programming times by 70%* [Blinded, Peer-Refereed National Presentation]. 2001 National Association of Industrial Technology Conference Proceedings (Abstract), Dearborn, Michigan.

- [11] Wright, J. R., Jr. (2001). *PLC BOTS: Hallway survival application for the automation/robotics classroom* [Blinded, Peer-Refereed National Presentation]. 2001 National Association of Industrial Technology Conference Proceedings (Abstract), Dearborn, Michigan.
- [10] Wright, J. R., Jr. & Smith, E. W. (2001). *Increasing the navigation capability of your mobile robot with active sensing devices* [Blinded, Peer-Refereed National Presentation]. 2001 National Association of Industrial Technology Conference Proceedings (Abstract), Dearborn, Michigan.
- [9] Vazquez, M. R. & Wright, J. R., Jr. (2001). *Incorporating VR programming of industrial robotics into your ITEC curriculum* [Blinded, Peer-Refereed National Presentation]. 2001 National Association of Industrial Technology Conference Proceedings (Abstract), Dearborn, Michigan.
- [8] Wright, J. R., Jr. & Sgro, S. D. (2000). *Double RF controlled PLC robots: Taking the control off-board* [Blinded, Peer-Refereed National Presentation]. 2000 National Association of Industrial Technology Conference Proceedings (Abstract), Pittsburgh, Pennsylvania.
- [7] Sgro, S. D. & Wright, J. R., Jr. (2000). *The nuts and bolts of organizing and developing a national solar/electric race team* [Blinded, Peer-Refereed National Presentation]. 2000 National Association of Industrial Technology Conference Proceedings (Abstract), Pittsburgh, Pennsylvania.
- [6] Wright, J. R. & Wright, J. R., Jr. (2000). *Envirocycle: an innovative alternative energy vehicle testbed* [Blinded, Peer-Refereed National Presentation]. 2000 International Technology Education Association Conference Proceedings [Special Session, Council on Technology Teacher Education (Abstract), Salt Lake City, Utah.
- [5] Wright, J. R., Jr. & Marshall, J. A. (1999). *PLC controlled robots for the Industrial Technology classroom* [Blinded, Peer-Refereed National Presentation]. 1999 National Association of Industrial Technology Conference Proceedings (Abstract), Panama City, Florida.
- [4] Wright, J. R., Jr. & Wisner, D. G. (1998). *Piggybacking PLCs on top of existing robotic control systems* [Blinded, Peer-Refereed National Presentation]. National Association of Industrial Technology Conference Proceedings (Abstract), Indianapolis, Indiana.
- [3] Wright, J. R., Jr., Wisner, D. G. & Smith, R. A. (1998). *State logic: An alternative PLC programming language* [Blinded, Peer-Refereed National Presentation]. National Association of Industrial Technology Conference Proceedings (Abstract), Indianapolis, Indiana.
- [2] Bradshaw, L. L., Wright, J. R., Jr., Strong, S. D., & Huang, H. (1998). *Networking to prepare collaborative publication manuscripts* [Blinded, Peer-Refereed National Presentation]. National Association of Industrial Technology Conference Proceedings (Abstract), Indianapolis, Indiana.
- [1] Wright, J. R., Jr. (1992). *How to implement a solar/electric vehicle program in your school of technology* [Blinded, Peer-Refereed National Presentation]. National Association of Industrial Technology Conference Proceedings (Abstract), Fort Worth, Texas.

#### LOCAL/REGIONAL PRESENTATIONS:

- [28] Wright, J. R., Jr. (2019). *Millersville University and robotics - preparing our future engineers* [Invited Local Presentation]. Willow Valley Computer Club, Willow Valley Retirement Community Cultural Center. Willow Street, Pennsylvania.
- [27] Vazquez, D. M, Vipperman, J. C. & Wright, J. R., Jr. (2018). *Autonomous vehicle design and development* [Invited Local Presentation/Demonstration (Six sessions, 20 min each)]. Family Science Night. Wheatland Middle School, Lancaster, Pennsylvania.
- [26] Wright, J. R., Jr. & Wagner, K. L. (2017). *Come meet some humanoid robots that read books* [Invited Local Presentation/Demonstration (Four sessions, 30 min each)]. Milanof-Schock Public Library Summer Reading Program, Mount Joy, Pennsylvania.
- [25] Wagner, K. L. & Wright, J. R., Jr. (2017). *Layered motion techniques for the NAO robot* [Invited Local Presentation/Demonstration (Five sessions, 20 min each)]. Family Science Night. Wheatland Middle School, Lancaster, Pennsylvania.
- [24] Wright, J. R., Jr. (2016). *The professor career (Honors/International Baccalaureate Small Learning Community Example)* [Invited Local Presentation/Demonstration (Seven sessions, 20 min each – 175 total students)]. Lincoln Middle School Career Day. Lincoln Middle School, Lancaster, Pennsylvania.
- [23] Wright, J. R., Jr. (2016). *Programming a humanoid robot with object-oriented software* [Invited Local Presentation/Demonstration (Four sessions, 25 min each)]. Family Science Night. Wheatland Middle School, Lancaster, Pennsylvania.
- [22] Wright, J. R., Jr. & Ramos, G. G., (2014). *An introduction to robotics* [Invited Local Presentation/Demonstration, 90 min session, 25 students]. Project Forward Leap, Millersville University, Millersville, Pennsylvania.

- [21] Wright, J. R., Jr., Wells, J. R., & Kilbourne, B. J. (2014). *Advanced dynamic motion control of soccer playing robots* [Invited Local Presentation/Demonstration (Six sessions, 20 min each)]. Family Science Night. Wheatland Middle School, Lancaster, Pennsylvania.
- [20] Ramos, G. G. & Wright, J. R., Jr. (2014). *Programming humanoid robots* [Invited Local Presentation/Demonstration]. Rotary Club of Lancaster Northeast, Manheim, Pennsylvania.
- [19] Wright, J. R., Jr., Ramos, G. G., (2013). *Humanoid robotics: object and facial recognition technology* [Invited Local Presentation/Demonstration (Four sessions, 30 min each)]. Family Science Night. Wheatland Middle School, Lancaster, Pennsylvania.
- [18] Wright, J. R., Jr., Ramos, G. G., & Ginter, E. S. (2013). *Introduction to the NAO robot and how the study of electronics helps us develop cool robots* [Invited Local Presentation/Demonstration (Three sessions, 45 min each – total 52 4th grade students)]. Burrowes Elementary School, Lancaster, Pennsylvania.
- [17] Wright, J. R., Jr. & Ramos, G. G. (2013). *Come talk to a robot!* [Invited Local Presentation/Demonstration (Three sessions, 45 min each – total 67 K-6 grade students)]. Lancaster County Partners for Gifted Education Super Saturday Seminars. Franklin & Marshall University, Lancaster, Pennsylvania.
- [16] Litowitz, L. S., Wright, J. R., Jr., Ramos, G. G., Schneider, G. P. & Thom, P. J. (2013). *Exploring robotics* [Invited Local Presentation/Demonstration (Two sessions, 2 hours each – total 30 9-12 grade students)]. Lancaster-Lebanon Intermediate Unit 13 Student Enrichment Seminar. Millersville University, Millersville, Pennsylvania.
- [15] Wright, J. R., Jr. (2011). *Robotics technology and semi-autonomous control systems – discussion on recent projects* [Local Invited Presentation]. Innovation Transfer Network (ITN) Engineering Forum, Millersville University, Millersville, Pennsylvania.
- [14] Wright, J. R., Jr. (2010). *Industrial Technology marketing /informational survey* [Local Presentation – Research Results for the 2009 Survey Initiated by the Industrial Technology Advisory Council]. The Industrial Technology Advisory Council, Millersville University of Pennsylvania, Millersville, Pennsylvania.
- [13] Wright, J. R., Jr., Alexander, A. & The Lincoln Middle School Robotics Team (2009). *Line Reading Delivery Robots* [Invited Local Presentation/Demonstration (Four sessions, 45 min each – total 80 students)]. Burrowes Elementary Reading Day Celebration, Lancaster, Pennsylvania.
- [12] Wright, J. R., Jr. & Warner, A. J. (2008). *The new 3Rs: reading, writing and robotics* [Invited Local Presentation/Demonstration (Four sessions, one hour each – total 75 students)]. Burrowes Elementary Reading Day Celebration, Lancaster, Pennsylvania.
- [11] Wright, J. R., Jr. & ITEC 467 Students (2008). *The robots are coming!* [Three-hour Local Demonstration]. Stayer Hall, Millersville University, Millersville, Pennsylvania.
- [10] Wright, J. R., Jr., Litowitz, L. S., Sickel, S. W., & Jenkins, J. W. (2007). *Robotic control elements for the technology education classroom* [Invited Local Workshop]. Chester County Intermediate Unit's County-Wide Inservice, Great Valley High School, Malvern, Pennsylvania.
- [9] Wright, J. R., Jr. (2006). *Elementary robotics: Why we need to read to succeed* [Invited Local Presentation (Three sessions, one hour each - total 50 students)]. Burrowes Elementary Reading Day Celebration, Lancaster, Pennsylvania.
- [8] Wright, J. R., Jr. (2005). *Robotics for classroom use* [Invited Statewide Workshop]. Governor's Institute for Technology Education, Millersville University of Pennsylvania, Millersville, Pennsylvania.
- [7] Wright, J. R., Jr. & Kuperavage, J. M. (2005). *Reading and robotics* [Invited Local Presentation/Demonstration (Three sessions, one hour each – total 50 students)]. Burrowes Elementary Reading Day Celebration, Lancaster, Pennsylvania.
- [6] Wright, J. R., Jr. (2005). *Extending the capability of advanced glass mat (AGM) lead-acid batteries for electric vehicles with a thermal management charging system* [Invited Local Presentation]. Scholarship Social, Millersville University, Millersville, Pennsylvania.
- [5] Wright, J. R., Jr. (2002). *Artificial intelligence and expert systems* [Invited Statewide 3-hour Workshop]. Collaborative for Excellence in Teacher Preparation Conference in Pennsylvania (CETP-PA), Millersville University of Pennsylvania, Millersville, Pennsylvania.
- [4] Wright, J. R., Jr. & Sgro, S. D. (2001). *Designing PLC driven mobile robots with double RF control* [Invited Local Presentation]. The Society of Manufacturing Engineers, Chapter 89, Millersville University of Pennsylvania, Millersville, Pennsylvania.
- [3] Ryan, E., Wright, J. R., Jr., & Waring, T. (2001). *Getting started: What's really involved* [Invited Regional Presentation]. Energizing Schools 2001: Integrating the Standards. Northeast Sustainable Energy Association's Regional Conference, Philadelphia, Pennsylvania.
- [2] Wright, J. R., Jr. (2000). *Millersville's 1<sup>st</sup> national electrical motorcycle race entry and its development* [Invited Local Presentation]. The Society of Manufacturing Engineers, Chapter 89, Millersville University of Pennsylvania, Millersville, Pennsylvania.

- [1] Das, A., Jung, S. Steplight, S., Walker, D., & Wright, J. R., Jr. (1999). *A vision guided robot for urban terrain*. Poster session presented at the Center for Discrete Mathematics and Theoretical Computer Science's (DIMACS) Workshop on Large Scale Discrete Optimization in Robotics and Vision, Rutgers University, New Jersey.

**GRANTS & SECURED DONATIONS: (\$850,388.68)**

\$1000.00	ATMAE Senior Fellow Travel Grant (2018), Engineering Technology Division Executive Committee Meeting, American Society for Engineering Education (ASEE) Conference, Salt Lake City, Nevada.
\$275.00	Faculty Travel-to-Present Grant (2017), Millersville University of Pennsylvania, <i>ATMAE Conference</i> .
\$1000.00	ATMAE Senior Fellow Travel Grant (2017), Engineering Technology National Forum (ETNF), Engineering Technology Council (ETC), American Society for Engineering Education (ASEE) Conference, Columbus, Ohio.
\$368.00	Myers Professional Development Grant (2017), Millersville University of Pennsylvania, ASEE Conference/Engineering Technology Forum.
\$150.00	Special Academic and Administration Grant (2017), Millersville University of Pennsylvania, <i>Rixan Associates, Inc. Training</i> .
\$860.00	Myers Professional Development Grant (2017), Millersville University of Pennsylvania, Rixan Associates 2-day Training Session (Industrial Robotics & Vision Custom Training Session).
\$725.00	Gift-in-Kind (2016), <i>Twelve air regulators, fittings &amp; hose for automation lab, <u>Airline Hydraulics</u></i> .
\$618,000.00	Public/Private Partnership Grant (2016), <i>12 Industrial Robotic Arms with Integrated Cognex Vision Systems. <u>Rixan Associates, Inc.</u></i> Total Cost: \$794,512.00. Co-recipient: Dr. Michael Jackson, College of Science & Technology Dean.
\$2800.00	AEST Department & College of Science & Technology (2016). Institute for the Development in Excellence Leadership (IDEAL) Workshop. Accreditation Board for Engineering and Technology, Inc. (ABET), Baltimore, Maryland.
\$14,335.00	Gift-in-Kind (2015), <i>Fourteen 24VDC switch mode power supplies, <u>Phoenix Contact</u></i> .
\$500.00	Bob Garvey – Local Entrepreneur (2014), <i>MU Robotics Fund 6033500030 (formerly Fund #3558) Monetary Donation</i> . Thank you for control systems assistance (Phase II) for his new exercise product.
\$1280.00	Gift-in-Kind (2013), <i>160 ft<sup>2</sup> Kombi carpet/flooring for humanoid robotics research (R&amp;D Lab Rm 118, Osburn Hall), <u>Regupol America</u></i> .
\$30.00	Bob Garvey – Local Entrepreneur (2013), <i>MU Robotics Fund 6033500030 (formerly Fund #3558) Monetary Donation</i> . Gift to Robotics Team.
\$500.00	Bob Garvey – Local Entrepreneur (2012), <i>MU Robotics Fund 6033500030 (formerly Fund #3558) Monetary Donation</i> . Thank you for control systems assistance (Phase I) for his new exercise product.
\$1,733.32	Gift-in-Kind (2010), <i>Belts and tensioners for ATMAE robot development, <u>Brown Transmission &amp; Bearing Co.</u></i> Co-recipient: Dr. Chris Erickson.
\$6,606.50	Gift-in-Kind (2010), <i>12 BP solar modules for alternative energy research and education, <u>BP</u></i> . Co-recipient: Dr. Mehmet Goksu, Physics.
\$1,057.22	Gift-in-Kind (2010), <i>Additional pulleys and belts for new ATMAE robot project, <u>Brown Transmission &amp; Bearing Co.</u></i>
\$678.60	Gift-in-Kind (2010), <i>Timing belt and pulley parts for new ATMAE robot project, <u>Brown Transmission &amp; Bearing Co.</u></i>
\$141.75	Gift-in-Kind (2009), <i>Transmission/gears/chain parts for new ATMAE robot project, <u>Brown Transmission &amp; Bearing Co.</u></i>
\$8,000.00	Sustainable Energy Fund. <i>2008 Solar Scholars Program Part 1: Summer Conference (Training for two participants from Millersville University)</i> . Co-recipient: Dr. Mehmet Goksu, Physics.
\$350.00	Faculty Travel-to-Present Grant (2006), Millersville University of Pennsylvania, <i>NAIT Conference</i> .
\$200.00	SOE Professional Development Grant (2006), Millersville University of Pennsylvania, <i>NAIT Conference</i> .
\$400.00	Gift-in-Kind (2006), <i>Two .5 HP Hitachi L100 Variable Frequency Drives, <u>RAM Industries, Inc.</u></i> Co-recipient: Dr. Joseph McCade.
\$106.00	Myers Professional Development Grant (2006), Millersville University of Pennsylvania, <i>Hershey Training (Control Loops and Ethernet Networking)</i> .
\$750.00	Safe Harbor Water Power Corporation (2006), <i>MU Robotics Fund #3558 Monetary Donation</i> .
\$250.00	Marshal Kaiser (CEO) - Safe Harbor Water Power Corporation (2006), <i>MU Robotics Fund #3558 Monetary Donation</i> .

\$10,000.00	PA Department of Community and Economic Development (DCED): Lancaster/Harrisburg Keystone Investment Zone (KIZ) Grant (2006), <i>Using CHAID Analysis for Economic Market Segmentation: Completing the Emprise™ System Product Suite</i> .
\$40,000.00	Gift-in-Kind (2005), <i>Four CRS A465 Robots</i> , <u>Graybill Machines, Inc.</u> Co-recipient: Dr. Perry Gemmill.
\$200.00	SOE Revenue Sharing Professional Development Fund (2004), Millersville University of Pennsylvania, <i>NAIT Conference</i> .
\$300.00	Myers Professional Development Grant (2004), Millersville University of Pennsylvania, <i>NAIT Conference</i> .
\$500.00	SOE Professional Development Grant (2004), Millersville University of Pennsylvania, <i>Advanced Robotics Training</i> .
\$107,000.00	Public/Private Partnership Grant (2004-2005), <i>Advanced Robotics Center for Undergraduate Program Development and Improvement</i> , <u>Rixan Associates, Inc.</u> , ¼ Release Time, Spring 2005. Total Cost: \$212,757.00
\$550.00	Faculty Research Grant (2003), Millersville University of Pennsylvania, <i>Battery Thermal Management Systems</i> .
\$4,903.00	Pennsylvania State System of Higher Education (SSHE) Professional Development Grant, (2003-2004), Basic and Applied Research Category, <i>Battery Thermal Management Systems</i> , ¼ Release Time, Fall 2003.
\$200.00	Myers Professional Development Grant (2002), Millersville University of Pennsylvania, <i>Tour de Sol</i> .
\$485.00	Myers Professional Development Grant (2001), Millersville University of Pennsylvania, <i>Robotics Training</i> .
\$450.00	Myers Professional Development Grant (2001), Millersville University of Pennsylvania, <i>Tour de Sol</i> .
\$300.00	Faculty Travel-to-Present Grant (2001), Millersville University of Pennsylvania, <i>NAIT Conference</i> .
\$426.00	Myers Professional Development Grant (2000), Millersville University of Pennsylvania, <i>CTTE/ITEA Conference</i> .
\$400.00	Faculty Travel-to-Present Grant (2000), Millersville University of Pennsylvania, <i>NAIT Conference</i> .
\$400.00	Faculty Travel-to-Present Grant (1999), Millersville University of Pennsylvania, <i>NAIT Conference</i> .
\$280.00	Myers Professional Development Grant (1999), Millersville University of Pennsylvania, <i>NAIT Conference</i> .
\$21,898.29	Electric Motorcycle Research Fund #3555 (1999-2004).

#### **SUPERVISED GRADUATE/UNDERGRADUATE STUDENT RESEARCH:**

##### Millersville University of Pennsylvania

- [32] Martin, R. C. (2021). *Design, development and implementation of a complex stacking/unstacking industrial robotic application*. Undergraduate Honors Applied Project [Faculty Advisor].
- [31] Steffy, B. (2020). *Topics: management for enterprise*. Graduate Independent Study [Supervisor].
- [30] Murray, H. D. (2019). *GPS integration with microcontroller and/or personal computer using Robot Operating System (ROS) and Python*. Undergraduate Independent Study [Supervisor].
- [29] Murray, H. D. (2019). *Advanced mobile robotics*. Undergraduate Honors Applied Project [Faculty Advisor].
- [28] Wright, J. R. (2019). *Lean six sigma*. Undergraduate Honors Study [Faculty Advisor].
- [27] Funk, T. L. (2019). *Mobile robot navigation using computer vision*. Undergraduate Independent Study [Supervisor].
- [26] Vazquez, D. M. (2019). *Autonomous outdoor navigation and mapping*. Undergraduate Honors Applied Project [Faculty Advisor].
- [25] Gehron, D. A. (2018). *Machine vision techniques for object and line tracking*. Undergraduate Honors Applied Project [Faculty Advisor].
- [24] Chambers, W. B. (2018). *Computer & machine vision applied to mobile robots*. Undergraduate Honors Applied Project [Faculty Advisor].
- [23] Miller, A. J. (2018). *Osborn Hall promotional music video*. Undergraduate Honors Applied Project [Faculty Advisor].
- [22] Poff, D. R. (2018). *Digital robotic helmet*. Undergraduate Independent Study [Supervisor].
- [21] Wagner, K. L. (2017). *Multi-layer behavioral motion for artificially intelligent humanoids*. Undergraduate Honors Thesis [Faculty Advisor].
- [20] Wiles, M. P. (2017). *Part and feature recognition techniques for machine vision systems*. Undergraduate Honors Thesis [Faculty Advisor].

- [19] Bozzelli, N. A. (2017). *Vision-guided active compliance techniques for industrial robotics*. Undergraduate Honors Thesis [Faculty Advisor].
- [18] Coble, T. R. (2016). *Microcontrollers applied research and experimentation*. Undergraduate Independent Study [Supervisor].
- [17] Lees, R. R. (2016). *Active sensory perception for mobile robotics*. Undergraduate Independent Study [Supervisor].
- [16] Wells, J. R. (2014). *Advanced dynamic motion control and object tracking for humanoid robotics – Goal Kicking*. Undergraduate Independent Study [Supervisor].
- [15] Kilbourne, B. J. (2014). *Advanced dynamic motion control and object tracking for humanoid robotics – Goal Blocking*. Undergraduate Independent Study [Supervisor].
- [14] Snyder, A. R. (2013). *Implementation and development of a Cognex vision system training module*. Undergraduate Independent Study [Supervisor].
- [13] Ramos, G. G. (2013). *Development of interactive algorithms & code for robotic humanoid control*. Undergraduate Independent Study [Supervisor].
- [12] Sensenig, B. S. (2012). *Optimizing image characteristics for mobile sensory perception*. Undergraduate Honors Thesis [Faculty Advisor].
- [11] Freeman, M. K. (2009). *A unit of instruction in robotics*. Research and Development Project, M.Ed., Technology Education [Faculty Advisor].
- [10] Sickel, S. W. (2007). *Inductive sensory perception and communication*. Undergraduate Independent Study [Supervisor].
- [9] Vazquez, M. R. (2006). *Proportional-integral-derivative control*. Research and Development Project, M.Ed., Technology Education [Faculty Advisor].
- [8] Haughery, J. R. (2006). *Integration and optimization of a vision enhanced automated robotic work cell*. Undergraduate Honors Thesis. [Faculty Advisor].
- [7] Kuperavage, J. M. (2005). *An experimental testing of infrared sensor arrays to determine the most efficient number of sensors needed to detect an object, based on marginal product*. Undergraduate Honors Thesis [Faculty Advisor].  
2005 Breidenstine Award. Undergraduate University Honors Thesis of the Year
- [6] Smith, J. T. (2004). *Utilization and implementation of microcontrollers and the PBASIC programming language for the dynamic motion control of semi-autonomous mobile robots*. Undergraduate Independent Study [Supervisor].
- [5] Tarnowski, B. J. (2003). *Integration of wireless vision systems on mobile robot platforms*. Undergraduate Independent Study [Supervisor].
- [4] Vazquez, M. R. (2002). *Advanced topics in robotics*. Graduate Independent Study [Supervisor].
- [3] Sgro, S. D. (2000). *Double RF controlled PLC robots*. Undergraduate Independent Study. Millersville University of Pennsylvania [Supervisor].
- [2] Smith, E. (2000). *Renewable energy source*. Graduate Independent Study [Supervisor].
- [1] Polk, C. (1999). *PLC controlled mobile robots*. Undergraduate Independent Study [Supervisor].

#### Indiana State University

- [1] Hoffa, D. W. (2003). *Installation of a new robot into and the safety enhancement of an existing flexible manufacturing workcell*. Major Applied Project [M.S., Electronics & Computer Technology],  
Electronics & Computer Technology Department [Committee Member].

#### **UNDERGRADUATE SUPERVISED ROBOTICS TEAM COMPETITIONS:**

2022 Intelligent Ground Vehicle Competition (IGVC). AENG 467 mobile robotics class/ATMAE student chapter robotics team (Ville Robotics). Oakland University, Rochester, Michigan.

- 4th Place Overall, AutoNav (AN) – A.Li.E.N. 2.0
  - 1<sup>st</sup> Robot to Qualify Award
  - 2<sup>nd</sup> Place Design
  - 6<sup>th</sup> Place Performance
- Completed 4/5 AutoNav (AN) qualification requirements – A.Li.E.N. 3.0

- 2021 The Association of Technology, Management, and Applied Engineering (ATMAE) Robotic Manipulator Contest. ATMAE student chapter robotics team. ATMAE National Conference, Orlando, Florida.
- 3<sup>rd</sup> Place Overall – T.U.R.T.L.E.
    - 1<sup>st</sup> Place Manufacturing/Design
    - 1<sup>st</sup> Place Fan Vote
    - 2<sup>nd</sup> Place Poster
    - 2<sup>nd</sup> Place Electrical/Control Methodology
    - 5<sup>th</sup> Place Performance
- 2019 The Association of Technology, Management, and Applied Engineering (ATMAE) Semi-Autonomous Robotic Manipulator Contest. ATMAE student chapter robotics team. ATMAE National Conference, Charlotte, North Carolina.
- 9<sup>th</sup> Place – S.N.A.P.
- 2019 Intelligent Ground Vehicle Competition (IGVC). ATMAE student chapter robotics team. Oakland University, Rochester, Michigan.
- Completed 4/5 AutoNav (AN) qualification requirements – A.Li.E.N.
- 2016 The Association of Technology, Management, and Applied Engineering (ATMAE) Semi-Autonomous Robotic Manipulator Contest. ATMAE student chapter robotics team. ATMAE National Conference, Orlando, Florida.
- 2<sup>nd</sup> Place – M.A.V.I.S. 2.0
- 2015 The Association of Technology, Management, and Applied Engineering (ATMAE) Semi-Autonomous Robotic Manipulator Contest. ATMAE student chapter robotics team. ATMAE National Conference, Pittsburgh, Pennsylvania.
- 1<sup>st</sup> Place / National Champions – M.A.V.I.S.
    - 1<sup>st</sup> Place Fan Vote
    - 1<sup>st</sup> Place Fabrication/Innovation
    - 1<sup>st</sup> Place Poster
    - 1<sup>st</sup> Place Team Presentation/Technical Report
    - 1<sup>st</sup> Place Performance (Relay Race)
    - 2<sup>nd</sup> Place Performance (Obstacle Course)
    - 2<sup>nd</sup> Place Electrical/Controller Methodology
- 2014 The Association of Technology, Management, and Applied Engineering (ATMAE) Robotic Olympics Contest. ATMAE student chapter robotics team. ATMAE National Conference, St. Louis, Missouri.
- 4<sup>th</sup> Place Overall – T.O.M.
    - 1<sup>st</sup> Place Poster
    - 1<sup>st</sup> Place Electrical/Control Methodology
    - 3<sup>rd</sup> Place Manufacturing/Design
- 2013 The Association of Technology, Management, and Applied Engineering (ATMAE) Semi-Autonomous Robotic Manipulator Contest. ATMAE student chapter robotics team. ATMAE National Conference, New Orleans, Louisiana.
- 1<sup>st</sup> Place / National Champions – S.A.M.S.O.N.
    - 1<sup>st</sup> Place Performance
    - 1<sup>st</sup> Place Poster
    - 1<sup>st</sup> Place Technical Report
- 2011 The Association of Technology, Management, and Applied Engineering (ATMAE) Semi-Autonomous Robotic Manipulator Contest. ATMAE student chapter robotics team. ATMAE National Conference, Cleveland, Ohio.
- 3<sup>rd</sup> Place Overall – M.A.C. D.A.D.I.
    - 1<sup>st</sup> Place Manufacturing
    - 1<sup>st</sup> Place Technical Paper
    - 1<sup>st</sup> Place Electrical/Control Methodology
- 2010 The Association of Technology, Management, and Applied Engineering (ATMAE) Semi-Autonomous Robotic Manipulator Contest. ATMAE student chapter robotics team. ATMAE National Conference, Panama City, Florida.
- 1<sup>st</sup> Place / National Champions – S.A.M.
    - 1<sup>st</sup> Place Performance
    - 1<sup>st</sup> Place Electrical/Control Methodology



- 2010 Trinity College Home Fire Fighting Robot Contest. ITEC 467, microcontroller electronics class. Trinity College, Hartford, Connecticut.
- 9<sup>th</sup> place – Team Marauder
- 2008 Trinity College Home Fire Fighting Robot Contest. ITEC 467, microprocessors electronics class & NAIT student chapter's robotics team (three robots entered). Trinity College, Hartford, Connecticut.
- 8<sup>th</sup> Place – Team Black
  - 9<sup>th</sup> Place – Team Gold
  - 12<sup>th</sup> place – Team Marauder
- 2007 National Association of Industrial Technology (NAIT) Tele-operated Robotic Manipulator Contest. NAIT student chapter robotics team. NAIT National Conference, Panama City, Florida.
- 3<sup>rd</sup> Place Overall – MF-1
    - 1<sup>st</sup> Place Poster
    - 1<sup>st</sup> Place Electrical/Control Methodology
- 2006 Trinity College Home Fire Fighting Robot Contest. ITEC 467, microprocessors electronics class (two robots entered). Trinity College, Hartford, Connecticut.
- 13<sup>th</sup> Place (Tie) – Team Black & Team Gold
- 2004 National Robotics Challenge. University of Northern Ohio, Marion, Ohio.
- 2<sup>nd</sup> Place / Silver Award, Robot Construction – SA-1
- 2004 National Association of Industrial Technology (NAIT) Tele-operated Robotic Manipulator Contest (Vision Class). NAIT student chapter robotics team. NAIT National Conference, Louisville, Kentucky.
- 2<sup>nd</sup> Place Overall – SA-1
    - 1<sup>st</sup> Place Poster
    - 1<sup>st</sup> Place Design & Innovation
- 2003 Society of Manufacturing Engineers (SME) Robotics Contest. NAIT student chapter robotics team. Rochester Institute of Technology, Rochester, New York.
- 1<sup>st</sup> Place / Gold Award, Robot Construction – R.R.S.
- 2003 National Association of Industrial Technology (NAIT) Tele-operated Robotic Manipulator Contest. NAIT student chapter robotics team. NAIT National Conference, Nashville, Tennessee.
- 4<sup>th</sup> Place – Churchill
- 2002 National Association of Industrial Technology (NAIT) Tele-operated Robotic Manipulator Contest. NAIT student chapter robotics team. NAIT National Conference, Panama City, Florida.
- 2<sup>nd</sup> Place – R.R.S.
- 2001 Society of Manufacturing Engineers (SME) Robotics Contest. NAIT student chapter robotics team. Robert Morris University, Moon Township, Pennsylvania.
- 1<sup>st</sup> Place / Gold Award, Robot Construction, Erle Smith - Pyrobot
  - 1<sup>st</sup> Place / Gold Award, Virtual Programming, Matt Vazquez

### **PROFESSIONAL WORKSHOPS/WEBINARS/FORUMS ATTENDED:**

- 2021 Millersville Physics Department Seminar (1-hour, Zoom): Novel Semiconductor and Epitaxial Nanocomposite Materials for Energy Conversion and Optoelectronic Applications. Dr. Joshua Zide, Department of Physics, University of Delaware.
- 2021 Siemens S7-1200 Basic Controller Webinar [1-hour], Applied Controls
- 2017 Engineering Technology National Forum (ETNF) [1.5-hour], Engineering Technology Council (ETC), American Society for Engineering Education (ASEE) Conference, Columbus, Ohio.
- 2017 Fulbright Workshop [2-hour], Global Education, Millersville University of Pennsylvania, Millersville, Pennsylvania
- 2017 Industrial Robotics & Vision Custom Training [2-day], Rixan Associates, Dayton, Ohio.
- 2016 National Science Foundation Grant Writing Workshop [3-hour], Association of Technology, Management, and Applied Engineering (ATMAE) National Conference, Orlando, Florida.
- 2016 Institute for the Development in Excellence Leadership (IDEAL) Workshop [Four-day, 32 hours total], Accreditation Board for Engineering and Technology, Inc. (ABET), Baltimore, Maryland.
- 2016 Arc Flash Safety Certification Course, <https://www.compliancetrainingonline.com> [2 hour course with exam].
- 2016 Using Python to Develop your Vision Algorithm (1.14.5) [Webinar], <https://community.ald.softbankrobotics.com/en/resources/tutorials/using-python-develop-your-vision-algorithm-1145>

2011 HITec Inc. Mechatronics Workshop [One-day], Millersville University of Pennsylvania, Millersville, Pennsylvania  
 2010 Student Organization Advisor Workshop, Millersville University of Pennsylvania, Millersville, Pennsylvania  
 2008 Introduction to the Newly Designed PIC Microcontroller Training System with Curriculum to Be Used in On-Campus and Distance Learning Classes [Half-day], National Association of Industrial Technology (NAIT) National Conference, Nashville, Tennessee  
 2008 Learning Outcomes Assessment Workshop #3 – Making Sense of the Results to Make Improvements, Millersville University of Pennsylvania, Millersville, Pennsylvania  
 2008 Learning Outcomes Assessment Workshop #2 – Planning to Assess Student Learning Outcomes, Millersville University of Pennsylvania, Millersville, Pennsylvania  
 2008 Learning Outcomes Assessment Workshop #1 – Using the Learning Outcomes Template, Millersville University of Pennsylvania, Millersville, Pennsylvania  
 2008 Photovoltaic Training [Four-day, 12 hours total], Solar Scholars Conference, Sustainable Energy Fund, Dickinson College, Carlisle, Pennsylvania  
 2007 Understanding and Applying Machine Vision (Cognex Products) Knowledge Boost Seminar [half-day], United Electric Supply – Industrial Automation Division, Lancaster, Pennsylvania  
 2006 Basic Networking (Ethernet) Training [Two-day workshop], Hershey Foods, Hershey, Pennsylvania  
 2006 Introduction to Process Control (Control Loops) Training [Two-day workshop], Hershey Foods, Hershey, Pennsylvania  
 2005 Effective Teaching Strategies Using *MultiSim 7* for Traditional or Distributive Learning Environments EECT Workshop [Half-day], National Association of Industrial Technology (NAIT) National Conference, St. Louis, Missouri  
 2004 COSIMIR Training [Four-day workshop], Rixan Associates, Dayton, Ohio  
 2004 Mitsubishi (A Series) Basic Robot Training [Five-day SME certified workshop], Rixan Associates, Dayton, Ohio  
 2004 PIC Microcontrollers: Programming and Controls EECT Workshop [Half-day], National Association of Industrial Technology (NAIT) National Conference, Louisville, Kentucky  
 2003 Parallax BASIC Stamp Educator’s Course [Two-day workshop], Parallax, Inc., Brooklyn College, Brooklyn, New York  
 2001 Mitsubishi (RV-E & EN Series) Robot Training [Four-day workshop], Rixan Associates, Dayton, Ohio  
 2001 Creating Web Pages with Netscape Composer, Millersville University of Pennsylvania, Millersville, Pennsylvania  
 2000 NAIT Accreditation Workshop [Half-day], National Association of Industrial Technology (NAIT) National Conference, Pittsburgh, Pennsylvania  
 2000 PLC Training II – Allen Bradley RSLogix500 and Panelview 550 Programming for Programmable Logic Controllers [One-day], Millersville University of Pennsylvania, Millersville, Pennsylvania  
 2000 PLC Training I – Networking Programmable Logic Controllers [One-day], Millersville University, Millersville, Pennsylvania  
 1999 NAIT Accreditation Workshop [Half-day.], National Association of Industrial Technology (NAIT) National Conference, Panama City, Florida  
 1999 Microsoft Outlook Training, Millersville University of Pennsylvania, Millersville, Pennsylvania  
 1998 GE Fanuc LogicMaster Relay Ladder Logic Programming [One-day], Iowa State University, Ames, Iowa

## **COURSE INSTRUCTION:**

### Major Courses at Millersville University of Pennsylvania

#### **AENG 494 Total Quality Management**

The history and development of the quality movements; factors influencing the total quality concept; the scope of modern quality systems; management organization and strategies for quality; engineering technology for quality; and statistical tools for measurement and monitoring of quality (2 hours lecture, 3 hours lab). Prerequisite: MATH 130 & Senior Standing or permission of instructor.

#### **AENG 467 Mobile Robotics**

This course is a study of the development of mobile robotic solutions. Emphasis is placed on the programming and interfacing of microcontrollers to control autonomous mobile robots in known environments. A research and development activity is required. 2 hours lecture, 3 hours laboratory. Prerequisite: AENG 262 or permission of the instructor.

**AENG 427 Programmable Logic Controllers**

This course focuses on the integration and application of the programmable logic controller (PLC). Students design, construct and troubleshoot a variety of industrial control systems utilizing programmable logic controllers, networks, human-machine interfaces, variable frequency drives, control loops and sensors. A research and development component required. 2 hours lecture, 3 hours lab. Prerequisites: AENG 425 & MATH 151 or 161.

**AENG 425 Industrial Robotic Systems**

This course focuses on the study of industrial robotics and modern machine vision technology. Topics include the evaluation, justification, programming, safety, and integration of industrial robotic devices with machine vision systems. 2 hours lecture, 3 hours lab. Prerequisite: AENG 325.

**AENG 364 Digital Electronics**

Practical applications of digital logic for processing electronically encoded information. Covers numbering systems, logic design, basic gates, sequential and combination logic, and digital troubleshooting (2 hours lecture, 3 hours lab). Prereq: AENG 262 or permission of instructor.

**AENG 325 Power Conversion and Control**

Applications of energy and power conversion devices and control systems. Includes disassembly and diagnosis of fluid motors and electric motors. Power circuitry is designed to perform specific industrial applications (2 hours lecture, 3 hours lab). Prereq: AENG 120 or 261.

**AENG 262 Semiconductor Electronics**

In-depth study of semiconductor theory, including diodes, transistors, field effect transistors, SCRs, triacs, and unijunction transistors. Overview of integrated circuits provided. Contains hands-on activities with breadboarding and fabrication of electronic circuits (2 hours lecture, 3 hours lab). Prereq: AENG 261.

**AENG 261 Electronic Systems**

Survey of electrical and selected electronics principles, typical applications, safe practices and technological impacts. Practical applications include breadboarding, problem solving, use of test equipment and printed circuit board fabrication (2 hours lecture, 3 hours lab).

**AENG 120 Energy and Power Systems**

An introduction to energy and power systems. Principles of conventional and alternative energy resources and energy conservation, and electrical, fluid and mechanical power will be studied along with environmental concerns associated with power production (2 hours lecture, 3 hours lab).

**AENG 101 Introduction to Engineering**

This course engages learners in using scientific and mathematical reasoning to explore and engage in engineering design, covers the fundamentals of the engineering design process, and exposes students to a wide range of career paths available to engineers, including engineering, applied engineering, and engineering technology areas. In this course, students will follow the creativity-based engineering design process through laboratory-based activities. Students will design and manufacture physical artifacts to meet a specific engineering challenge, and must defend their decisions with scientific and mathematical reasoning. This course focuses on how engineers apply their creativity, resourcefulness, mathematical, scientific and technical knowledge and skills in the creation or refinement of technological products/systems.

Summer Workshops at Millersville University of Pennsylvania**Microsoft™ Products for Classroom Use**

Provides participants with an overview of Microsoft Word™, Excel™ and PowerPoint™. Throughout the workshop participants will complete practical exercises like creating classroom newsletters, and PowerPoint™ presentations. This introductory workshop is specifically designed for teachers of all subjects with minimal computer expertise.

**Developing Instructional Materials for the Classroom Using PowerPoint (PC Computers)**

This workshop for teachers K-12 will utilize computers for the development of electronic presentations, transparencies, and supplemental classroom materials. The primary software will be PowerPoint by Microsoft; it will be supported by other graphic software to enhance the design capabilities present in PowerPoint.

**Creating a Visually Stimulating Classroom**

Creative ideas and activities, such as art and drama, and modern techniques, such as airbrushing, will be used to develop projects to enhance the classroom atmosphere. Integration among the areas of mathematics, social studies, science, and language arts is emphasized. This is an active, project-oriented workshop. Recommended for K-12 educators.

### **Production and Utilization of Visual Materials in the Curriculum, K-12**

A workshop designed to provide teachers, K-12, with a basic background in the production of visual materials. Participants will develop learning activities and Learning Center based on their classroom needs. Special emphasis on modern use of photography. This is project-oriented workshop.  
Recommended for K-12 educators.

### **Technology of Making Things to Teach Traditional Subjects**

Workshop activities include design and construction of teacher-made learning stations and classroom materials. The workshop is designed to use technology as a vehicle to teach traditional subject matter, such as mathematics, science, social science, English, and other academic areas. Participants will be exposed to the history of technology and to technological principles. Recommended for K-12 educators.

### **Electrical Engineering Camp**

Are you interested in engineering? This camp will introduce electrical components and theory needed to design simple power supplies and gate logic solutions for control systems. Participants will design and construct electrical circuits using simulation software and prototyping boards. No experience in electronics is necessary. Grades 9 - 12.

### **Mechanical Engineering Camp**

Are you interested in engineering? This camp will introduce mechanical advantage through the study of levers, pulleys, and gears. Participants will design and build solutions that require mechanical advantage using Lego gear sets and assorted hardware located in the laboratory. No prior experience with mechanical advantage concepts is necessary. Grades 9 - 12.

### **Electro-Mechanical Engineering Camp**

Are you interested in engineering? This camp will introduce electro-mechanical control through the use of basic electrical line diagrams and hydraulic actuators and motors. Participants will design and build solutions that require electrically actuated hydraulic circuits. No prior experience with electrical systems or fluidics required. Grades 9 - 12.

### **Basic Robotics Summer Kids Camp**

The camp is designed for kids (5<sup>th</sup> grade and higher) that desire a hands-on introductory experience with robotics. Each participant constructed a Moonwalker II robot kit that when completed responds (walks) to either light or sound instruction. Discussions on sensors, soldering, mechanical advantage, troubleshooting circuits, and mobile robotics are included.

### **Advanced Robotics Summer Kids Camp**

The camp is designed for kids (5<sup>th</sup> grade and higher) that wish to explore a second level experience with robotics. Each participant constructed a Hyper Line Tracker robot kit that uses a light emitter, light sensor circuitry, and tracking memory to demonstrate how robots "see" a pathway and follow it. Basic programming techniques also covered through the use of the Basic Stamp II Microcontroller.

### **Lego Logo Kids Camp**

This camp demonstrates how computers are used to control machines in our world. The camp teaches children fundamental computer programming and encourages cooperative learning and problem solving while using LEGO. Participants design and build robots, cars, amusement rides and other machines; they then write Logo computer programs to operate and control their inventions.

### **Robotic Arm Construction Camp**

Build your own robotic arm and take it home with you in this exciting camp experience. Campers will utilize a robotics kit that will enable them to construct their own personal robotic arm! Electro-mechanical concepts and entry level programming activities are introduced in this entry level, 12-hour adventure into the world of robotics. This camp is intended for students in grades 5 & up.

## **SUPERVISED UNDERGRADUATE COOP/INTERNSHIP EXPERIENCES:**

- [41] Hendrzak, Nicholas (2021, x2). Clinical Manufacturing Associate. Altascience, Harleysville, PA. Mr. Scott Myslinki.
- [40] Kiesel, Robert (2021). Controls Engineer Intern. Multi-Dimensional Integration, Shrewsbury, PA. Mr. John Kuperavage.
- [39] Laverio, Shaylene (2021). Controls Engineer Intern. Multi-Dimensional Integration, Shrewsbury, PA. Mr. John Kuperavage.
- [38] Case, Jenna (2020). Surface Mount Technician Assistant. ETEMCO, Lancaster, PA. Mr. Edward Hockenberry.
- [37] Gaines, David (2020). Automation Technician Intern. Tyson Foods, Inc., New Holland, PA. Mr. Rick Bellmer.
- [36] Rivera, Giovanni (2020). Automation Technician Intern. Tyson Foods, Inc., New Holland, PA. Mr. Rick Bellmer.
- [35] Kury, Nathan (2019). System Integrator Intern. Engel Machinery, York, PA. Mr. Michael Wiles.
- [34] Miller, Tyler (2019). System Integrator Intern. Engel Machinery, York, PA. Mr. Michael Wiles.
- [33] Cartusciello, Bailey (2018). Electrical Controls Engineering Intern. PrecisionForm, Inc., Lititz, PA. Mr. Guscott.
- [32] Bortner, Grant (2018). Controls Engineering Intern, Multi-Dimensional Integration, Shrewsbury, PA. Mr. Mike Ficchi.

- [31] Martin, Cody (2017). AutoCAD Designer Intern, Trijay Systems, Inc., Line Lexington, PA. Mr. Ken Radley.
- [30] Kilgore, Quentin (2017). Automation & Software Intern, Engel Machinery, York, PA. Mr. Stefan Aberl.
- [29] Jones, Shakar (2017). Electrical Engineer Intern, Communications Test Design, Inc. (CTDI), West Chester, PA. Mr. Steve Citrullo.
- [28] Krape, Jonathan (2013). Engineering Assistant, Precision Medical Products, Inc., Denver, PA. Mr. Carson Sleeper.
- [27] Hanson, Jonathan (2012). Jr. Superintendent, Moser Group, Chalfont, PA. Mr. Edward Moser.
- [26] Bloch, Alex (2011). Program Manager, Macron Dynamics, Croydon, PA. Mr. Craig Marshal.
- [25] Baxevane-Connell (2010). Shipping Intern, Weiler Corporation, Cresco, PA. Ms. Cindy Evans.
- [24] Alexander, Terry (2008). Asset Reliability II Intern, The Hershey Company, Hershey PA. Mr. Jeff Klahre.
- [23] Rodriguez, Juan (2008). Technical Support Intern, The RG Group, York, PA. Mr. Greg Yohe.
- [22] Shannon, Timothy (2007). Intern, Schrader Mechanical, Landenberg, PA. Mr. Bruce Shannon.
- [21] Brumbaugh, Seth (2007). Co-op Engineer, Harley Davidson Inc., York, PA. Mr. Victor Marquez.
- [20] Ficchi, Mike (2007). Intern, Multi-Dimensional Integration, Shrewsbury, PA. Mr. Chris Roush.
- [19] Klinger, Dustin (2006). Manufacturing Engineer Level 1, Souriau USA, York, PA. Mr. Richard Moore.
- [18] Nichols, Ian (2005). Roadway Management Intern, PA Department of Transportation, Harrisburg, PA. Mr. Rod Irvin.
- [17] Malora, Doug (2005). Asst. CAD Operator, Clair Brothers Audio Systems, Lititz, PA. Mr. Barry Clair.
- [16] Romine, Scott (2005). Center Director for Computer Operations, MU Center for Disaster & Research Education, Millersville University, Millersville, PA. Dr. Henry Fischer.
- [15] Mooney, Zachary (2005). Drafting & Design Intern, Architectural Resources, Lancaster, PA. Mr. Kevin Miller.
- [14] Keller, Christopher (2005). PTE Intern, MU Professional Training & Education, Millersville University, Millersville, PA. Ms. Loreal Maguire.
- [13] Frederick, Michael (2005). Process Engineer, Fabral, Lancaster, PA. Mr. Joseph Carr.
- [12] Strawn, Ian (2004). Autocad Operator, Johnson & Johnson Merck, Lancaster, PA. Mr. Larry Lane.
- [11] Parker, Richard (2002). CommTech 5, Comcast Cable/Suburban Cable, Lancaster, PA. Mr. Bruce Luegers.
- [10] Snyder, Kenny (2002). Intern. Bethlehem Lukens Plate, Coatesville, PA. Mr. Troy Graver.
- [9] Aubry, William (2001). Control Technician, Optimum Controls, Reading, PA. Mr. Mike Galiyano.
- [8] Gates, Samuel (2001). Manufacturing Intern, Donsco Inc., Wrightsville, PA. Mr. Steve Keller.
- [7] Arnold, David (2001). Electro-Mechanical Technician, Nichia America Corp., Lancaster, PA. Mr. Robert Thomson.
- [6] Cleary, Thomas (2001). General Manager, Wheels Motor Sports, Toms River, NJ. Mr. Tom Cleary.
- [5] Helderman, Paul (2000). Intern, Phillips Comm & Security Systems Inc, Lancaster, PA. Mr. John Richie.
- [4] Morganstern, Matthew (2000). Draftsman Intern, ITW DACCO, Somerset, NJ. Mr. Dave Gilmore.
- [3] Sgro, Sergio (2000). Process Engineering Coop., Carpenter Technology Corp., Reading, PA. Mr. Jim Andora.
- [2] Yackaneck, Nicholas (2000). Engineering Technician, Turkey Hill Dairy, Conestoga, PA. Mr. Bill Gregory.
- [1] Keithley, Michael (1999). Manufacturing Intern, Donsco Inc., Wrightsville, PA. Mr. Chris Buck.

#### **SUPERVISED UNDERGRADUATE STUDENT TEACHERS:**

- [11] Johe, Mylinda (2013). Communication Technology & Digital Fabrication. Elizabethtown Area High School. Mr. Ken Boland.
- [10] Shirley, Robert (2013). 3D Animation & Technology and Society. Elizabethtown Area High School. Mr. Kevin Hufnagl.
- [9] Sandoe, Lucas (2012). Metals Manufacturing. Eastern York High School. Mr. Mike Ober.
- [8] Lee, Stephen (2012). Graphic Communications. Eastern York High School. Mr. Jason Sellers.
- [7] Bardman, Blake (2012). Wood & CAD/Prototyping. Garden Spot High School. Mr. Mark Kauffman.
- [6] Ruth, Brian (2012). TV Production, Graphic Communications, & Engineering. Garden Spot High School. Mr. Mike Stitzer.
- [5] Landis, John (2011). Materials and Processes. Hempfield High School. Mr. Jason James.
- [4] Keller, Mike (2011). Manufacturing & CAD. Conestoga Valley Middle School. Mr. Andrew Zellers.
- [3] Chandlee, Daniel (2011). Process Engineering. Central York High School. Mr. Robert Ressel.
- [2] Yersak, Corey (2011). Electronics, Architectural Design, & Engineering Design. Central York High School. Mr. Sean Blasetti.
- [1] Betz, Gregory (2011). Robotics & Electronics. Pequea Valley High School. Mr. Rob Dorshimer.

## **NATIONAL SERVICE:**

### Institute for Electrical and Electronic Engineers (IEEE)

- International Conference on Robotics and Automation (ICRA) – Paper Reviewer (2015)
- American Controls Conference (ACC) – Paper Reviewer (2001)

### The American Society for Engineering Education

- Executive Board Member, Engineering Technology Division (2017-2018)
- Assistant Vice-Chair for ASEE Annual Programs, Engineering Technology Division (2017-2018)
- Engineering Technology Division Conference Reviewer – Abstract Proposals (2011)

### The Association of Technology, Management, and Applied Engineering (ATMAE)

- Senior Fellow for Engineering Technology (2017-Present)
- EECT Special Interest Division Conference Reviewer/Subcommittee Chair\* (2005, 2007, 2011\*, 2019, 2022)
- Standards and Accreditation Committee Member, Board of Accreditation (2017-2020)
- Certified Controls Engineer Exam Development Commission Member (2014-2020)
- CIP Code Task Force (2017-2019)
- Certification Board Member/Certified Controls Engineer Exam Development Commission (2014-2016)
- Best Conference Paper Review Committee (2014-2015)
- Board of Directors Ad hoc Bylaws Review Committee (2014-2015)
- Review Board Member: Journal of Technology, Management, & Applied Engineering (JTMAE) formerly known as The Journal of Industrial Technology (JIT) (2001-2009, 2013-2015)
- Past Chairs Executive Board Advisory Subcommittee (2013)
- Executive Board Member (2006-2009, 2002-2004)
- Past President, EECT Special Interest Division (2008-2009)
- Immediate Past Chairman /Advisor, Non-voting member, Executive Board (2008-2009)
- Chairman, Executive Board (2007-2008)
- President, EECT Special Interest Division (2006-2008)
- Vice-Chairman, Executive Board (2006-2007)
- Editor-in-Chief & Editorial Panel Member, Journal of Industrial Technology (2005-2007)
- Member, Ad hoc Committee for Developing “The Technologist” Publication (2005-2006)
- EECT Special Interest Division Awards Committee Chair (2005-2006)
- President Elect, EECT Special Interest Division (2004-2006)
- Research Special Interest Division Conference Review Committee Member - Abstract Proposals (2005)
- Past President, Student Primary Division (2003-2004)
- President, Student Primary Division (2002-2003)
- Member, Ad hoc Committee for Operations and Policy of the Journal of Industrial Technology (JIT) (2002-2003)
- President Elect, Student Primary Division (2001-2002)

### U.S. of Bureau of Labor Statistics

- Field Reviewer for *The Occupational Outlook Handbook* (ATMAE Representative), Engineering Management Definition (2011)

## **UNIVERSITY-WIDE & COLLEGE/SCHOOL SERVICE:**

### Millersville University of Pennsylvania

- Search Committee Member, Inaugural College of Business Dean (2019-2020)
- Undergraduate Commencement Marshal, School of Science and Technology (2019)
- School of Education Curriculum Committee Member (2003-2005, 2013-2014)
- University-wide Promotion & Tenure Committee Member (2010-2012)
- General Education Review Committee (GERC) Member (2008-2011)
- Faculty Senator (2011)
- APSCUF Department Representative (2008-2009)
- Alternate Senate Member (2002-2009)

- Academic Policies Committee (2005-2006)
- Teacher Education University Committee (TEC) Member: School of Education, (2001-2005)
- Academic & Cultural Enrichment Committee Member (2002-2004)
- Graduate Task Force in Environmental Science/Environmental Education Member: University-wide Committee (2000-2003)
- Faculty Advisor, Chinese Visiting Scholar-Shanghai Project (2001-2002)

## **DEPARTMENTAL SERVICE:**

### Millersville University of Pennsylvania

- Applied Engineering & Technology Management (AETM) Nanofabrication Manufacturing Technology (NFMT) Program Coordinator (2019-Present)
- Professional Standards Committee, Promotion & Tenure Subcommittee (Chair, 2021-Present)
- Budget Committee (1999-2008, 2020-Present), (Chair, 2005-2008, 2020-Present)
- Applied Engineering & Technology Program Committee (2006-2014, 2018-Present), (Chair, 2008-2010)
- Assessment Committee (2008-2013, 2015-Present), (Chair, 2008-2010)
- Professional Standards Committee, Promotion, Tenure & Reappointment Subcommittee (2004-2008, 2009-2010, 2013-2014, 2015-Present), (Chair, 2017-2018)
- Advisor, ATMAE Club/MU Robotics Team (Lead Advisor 2001-2004, 2007-2014, Co-Advisor 2015-2020, 2021-Present)
- Automation & Intelligent Robotics Engineering Technology Program Coordinator (2015-2022)
- Faculty Search Committee, Automation & Electronics Technologies Faculty Position (Chair, 2019-2020)
- Department Chair Nominations Committee (2019)
- Graduate Committee (2001-2004, 2019)
- Professional Standards Committee, Tenure Track & PTFT Reappointment Subcommittee (Chair, 2016-2017)
- Faculty Search Committee, Manufacturing Technology Faculty Position (2015-2016)
- Faculty Search Committee, Construction Technology Faculty Position (Co-chair, 2013-2014)
- Lead Advisor, Submersible Research Team (2012-2014)
- Faculty Search Committee, Industrial Design & Drafting Faculty Position (2012-2013)
- Faculty Search Committee, Manufacturing Technology Faculty Position (Chair, 2011-2012)
- Industrial Technology Program Coordinator (2008-2010)
- ITEC Advisory Council Coordinator (2008-2010)
- Professional Standards Committee, Temporary Faculty Subcommittee (2008-2009)
- Faculty Search Committee, Energy, Power, Transportation Part-time Temporary Position (Chair, 2007-2008)
- Curriculum Committee (2005-2008)
- Professional Development Committee (2001-2005), (Chair, 2004-2005)
- Faculty Search Committee, Design, Innovation & Communication Systems Position (Chair, 2004)
- Advisor, Electric Motorcycle Research Team (1999-2004)
- Faculty Search Committee, General Technology Full-time Temporary Position (Chair, 2003)
- Faculty Search Committee, Industrial Technology Faculty Position (2002-2003)
- ITEC Accreditation Committee (2000-2002)
- Activities and Recruitment Committee (1999-2002), (Chair, 2001-2002)

## **COMMUNITY SERVICE:**

### Lancaster, Pennsylvania

- Meals on Wheels Volunteer, Lancaster County, Lancaster PA (2020)
- J.P. McCaskey High School Band Volunteer, Friends of Music (2018-2020)
- Red Cross Home Fire Alarm Supply Logistics Volunteer, Central Pennsylvania Chapter, Harrisburg, PA (September 8, 2017)
- Red Cross Home Fire Alarm Volunteer Installer, Central Pennsylvania Chapter, Columbia, PA (May 19, 2017)
- Burrowes Elementary PTO Volunteer (2011-2014)
- Lincoln Middle School (Enrichment Program) Robotics Curriculum Volunteer Instructor (2007-2010)
- Lancaster Youth Baseball Major League Volunteer Assistant Coach, Mets (2008)
- Burrowes Elementary (Enrichment Program) Robotics Curriculum Volunteer Instructor (2006-2008)
- Medulla Palooza Volunteer, Franklin and Marshall University [Egg Drop Contest] (2007)

- Lancaster Instructional Baseball League Volunteer Assistant Coach, Red Sox (2007)
- Odyssey of the Mind (OOTM) Volunteer, Burrowes Elementary School (2006-2007)
- Lancaster Instructional Baseball League Volunteer Assistant Coach, Team Blue (2006)
- Neighborhood Services (5<sup>th</sup>-8<sup>th</sup> Grade After School Program) Robotics/Control Eng. Volunteer (2006)
- MU Lancaster Partnership (Corporate Mentor) Program (2001-2003)
- Burrowes Elementary (Kindergarten) School Math Volunteer (2001-2002)

**CURRENT PROFESSIONAL AFFILIATIONS:**

- Epsilon Pi Tau (EPT) Honorary Technology Fraternity
- The Association of Technology, Management, and Applied Engineering (ATMAE)
  - Administrative Division
  - Electricity, Electronics & Computer Technologies (EECT) Division
  - Management Division
  - Student Division