

**REGISTERED PROFESSIONAL ENGINEER (MECHANICAL): DELAWARE REG. NO. 19743**

**EDUCATION**

- Ph.D. University of California, Davis 1991
- M.S. University of California, Davis 1987
- B.S. University of Delaware 1985

**PROFESSIONAL EXPERIENCE**

- Professor, Mechanical Engineering, University of Delaware 7/12 - present
- Associate Professor, Mechanical Engineering, University of Delaware 9/97 – 6/12
- Associate Professor, Bioresources Engineering, University of Delaware 7/97 – 6/12
- Assistant Professor, Bioresources Engineering, University of Delaware 1/91 - 6/97
- Principle and Owner, Mechanical Design and Forensic Analysis LLC, Middletown, DE 6/99 – present
- Partner, Structural Mechanics Associates, Haverford, PA 7/12 - present

**OTHER ACADEMIC APPOINTMENTS**

- Affiliate Faculty, Center for Composite Materials, Univ. of Delaware 7/03 - present
- Engineer, Cooperative Extension Service, Univ. of Delaware 7/03 – present
- Faculty Member, Center for Biomedical Engineering Research, Univ. of Delaware 9/03 - 2013

**RECOGNITION AND AWARDS**

- The University of Delaware George M. Worrlow Award for Outstanding Alumni. 2017.
- The Delaware Farm Bureau Distinguished Service to Agriculture Award. 2014.
- Outstanding Reviewer Award, The American Society of Agricultural and Biological Engineers, 2012.
- The Water Resources Association of the Delaware River Basin's 2011 Government Award - (co-recipient with Governor Jack Markell; Secretary of Environment and Energy Collin O'Mara; Secretary of Agriculture for the State of Delaware, Edwin Kee; Mayor of Middletown, Delaware, Kenneth Branner; and President of Artesian Water, Dian Taylor). 2011.
- Selected as Associate Editor, Power and Machinery Division, The American Society of Agricultural and Biological Engineers, 2004-2012.
- Nominated for Excellence in Academic Advising, University of Delaware, 2006.
- Inducted into the University of Delaware's Mentors' Circle. 2001.
- Dean's Merit Award, University of Delaware, 2001.
- Nominated for Excellence in Teaching Award, University of Delaware College of Engineering, 2000.
- North Central Campus Senior-Faculty Recognition Award, University of Delaware, 2000.
- Excellence in Academic Advising, University of Delaware. 1997.
- Society of Automotive Engineers Recognition Award. 1997, 2004 Off-Highway and Powerplant Exposition.
- *Awards Received by Student Advisees:*
  - The 2009 American Society of Mechanical Engineers (ASME) International Student Design Competition, Second Place Award Recipients (Raquel Ciappi, Brad Miller, Steve Petfield, Chris Uthgenannt). \$1000.00.
  - The 2008 ASME International Student Design Competition, Tied for First Place Award (Sean Collins, Sarah Mabel, Dan Shannon, and Doug Erikson). \$2,500.
  - The 2008 ASME International Student Design Competition, Tied for First Place Award (Jess Dibelka, Julianne Twomey, and Mark Steimer). \$2,500.
  - Sigma Xi (University of Delaware Chapter) Undergraduate Research Thesis Award (Janelle Konchar)
  - Society for the Advancement of Materials and Processing (SAMPE) 2006 National Research Award (Michael Fuqua, 2<sup>nd</sup> Place), \$1,000.
  - Honors Degree with Distinction Thesis (Kerrie Smith, Richard Herseim, Scott Kasprzak, Michael Fuqua)
  - Degree with Distinction Thesis (Janelle Konchar, Dan Brisach, Matt Griffith)
  - Honors Program Undergraduate Research Summer Fellowship (Scott Kasprzak, Michael Fuqua)
  - Hayward Fellowship for Undergraduate Research (Kerrie Smith, Richard Herseim, Scott Kasprzak)
  - Nowinski Award for Undergraduate Research in Mechanical Engineering (Rich Herseim)

- Science and Engineering Scholars (Richard Herseim, Ian Cosden, Michael Fuqua, Janelle Konchar, Jessie Krisher, John Nasr, Mathew Griffith, Stephan Petfield, Connie Helstosky)
- Delaware Water Resources Center Summer Internship (Kerrie Smith, Mathew King)
- Undergraduate Research Supply & Expense Grants (Daniel Brisach (2), Matthew Griffith (3), John Nasr, Scott Kasprzak (2), Janelle Konchar (3), Jesse, Krisher, Mike Fuqua (2), Dan Muhlenforth, James Moore, Jennifer Lawrence, Dominic Schiavoni, Eric Busby, Richard Herseim (2), Gwen Thorsen (2), Dustin Fryberger, Kerrie Smith (2), Dawn Cintavey, Tony Nasr, Annie Tseng, Mike Fyock, Dan Meckley, Chad Stover, Dan Hoffstetter) (\$5,000 total for all students).
- Colonial Academic Alliance Undergraduate Research Symposium Invited Presenter (Janelle Konchar, Kerrie Smith)
- Center for Biomedical Engineering Research Symposium Presenters (Justin Alms, Jennifer Lawrence, James Moore, Dominic Schiavoni, Dan Muhlenforth, Jonathan Fitzgibbons, Barbara Tuesday, Rich Herseim, Janelle Konchar, Jessie Krisher)
- Center for Composite Materials Undergraduate Research Fellowship (Michael Fuqua, Matt Griffith, Steven Petfield)
- Outstanding Senior Researcher, Center for Composite Materials (Scott Kasprzak, Daniel Brisach)
- Center for Composite Material Graduate Achievement Award (Justin Alms, co-advised w/ S. Advani)
- College of Engineering Graduate Student Laird Fellowship (Jingbo Wang, co-advised w/ J. Vinson)
- Center for Composite Materials R.L. McCullough Scholars Award (Justin Alms, co-advised with S. Advani)

## PROFESSIONAL SOCIETIES

- American Society of Mechanical Engineers
- American Society of Agricultural & Biological Engineers
- Society for the Advancement of Material and Process Engineering
- Society of Automotive Engineers
- Delaware Association of Professional Engineers
- American Society of Safety Professionals

## TEACHING

### COURSES TAUGHT AT UNIVERSITY OF DELAWARE

- EGTE 125/167 Freshman Seminar (96F, 97F, 98F).
- EGTE/BREG 209 Computer-Aided Drafting (06S, 08S, 09S, 10S, 11S).
- EGTE 435 Machinery Design (96F, 98S, 01S, 03S, 05S, 07S).
- EGTE 450 Practicum in Industry (06S).
- EGTE 467 Issues in Production Agriculture (02S).
- EGTE 366/466 Undergraduate Independent Study (01F, 02S, 03F, 04S, 06F, 07W, 07S).
- AGEG 666 Graduate Independent Study (97S).
- BREG 666 Graduate Independent Study (08F, 10S).
- MEEG 202 Computer-Aided-Engineering Design (05S, 11S, 12S).
- MEEG 301 Machine Design: Kinematics (11F, 12F, 13F, 14F, 15F, 16F, 17F).
- MEEG 304 Machine Design: Elements (99S, 00S, 12S-18S).
- MEEG 401 Senior Design (99F/S, 00F-05F, 07F-17F).
- MEEG 445 Senior Research (00-06).
- MEEG 366/466 Independent Study (06-18S).
- MEEG 467 Special Topics in Engineering Design (03S, 04S).
- MEEG 666 Graduate Independent Study (08S, 09F).
- MEEG 866 Graduate Research (02F, 03S, 03F, 04S).
- UNIV 111 First Year Experience Freshman Seminar (08F).
- UNIV 401/402 Senior Thesis, University-Wide Instructor of Record (07F, 08S).
- UNIV 401/402 Senior Thesis Advisor (02F, 03S, 03F, 04S, 04F, 05S, 05F, 06S, 06F, 07S).

### INVITED LECTURES

- MEEG 653/463, Manufacturing Processes. Two Lectures: *Computer-Aided Engineering and Manufacturing & Automation for Manufacturing*. (2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2013, 2014, 2015, 2016, 2017).
- MEEG 304, Machine Design. *Developing Design Packages for Communicating Engineering Solutions*. (2008).
- EGTE 440, Plant Layout. *Basics of Vibration and Noise-Related Industrial Hygiene and Engineering Controls to Reduce Exposures and Injuries*. (2007).

- UNIV 401, Senior Thesis. *Developing an Effective Research Presentation: Fall Meeting of the Senior Thesis Candidates.* (2004, 2005, 2006).
- UNIV 401, Senior Thesis. *Using and Not Abusing Technologies to Deliver Research Presentations (a.k.a. Avoiding Death by PowerPoint).* (2005, 2006).
- PLSC 302, Vegetable Science. *Precision Ag for Horticultural Crops.* (2000).
- ANFS 421, Poultry Production. *Pollution Prevention Technologies for the Delmarva Poultry Industry.* (1999).
- PLSC 302, Vegetable Science. *Mechanization & Engineering in Production Horticulture & Introduction to GPS Technologies.* (1999, 2010).
- EGTE 443, Instrumentation. *Basics of GPS and DGPS.* (1998).

#### GRADUATE AND UNDERGRADUATE THESIS

- Ph. D. Students:
  - First Advisor:
    - Justin Alms, Ph.D. in Mechanical Engineering (with Dr. Suresh Advani, 2006-2010). Thesis: Closed Loop Control Strategies with VARTM for Manufacturing Large-Scale Composites.
  - Committee Member:
    - Thomas Cender, Ph.D. in Mechanical Engineering (2017)
    - Hatice Sas, Ph.D. in Mechanical Engineering (2015)
    - Hao Lu, Ph.D. in Mechanical Engineering (2014)
    - John Gandolf, Ph.D. in Mechanical Engineering (2014)
    - Parag Nittur, Ph.D. in Mechanical Engineering (2013).
    - Thomas Cender, Ph.D. in Mechanical Engineering (2013).
    - Hatice Sas, Ph.D. in Mechanical Engineering (2013).
    - Liang Chen, Ph.D. in Mechanical Engineering (2010).
    - Swapnil Garge, Ph.D. in Chemical Engineering (2007).
    - Kalyan Mankala, Ph.D. in Mechanical Engineering (2006).
    - Jeff Lawrence, Ph.D. in Mechanical Engineering (2005).
    - Jie Sheng, Ph.D. in Mechanical Engineering (2005).
    - Chris Foster, Ph.D. in Mechanical Engineering (2005).
    - Xiangyu Wang, Ph.D. in Mechanical Engineering (2004).
    - Luis Crespo, Ph.D. in Mechanical Engineering (2002).
- M.S. Students:
  - First Advisor:
    - Ajit R Nalla, Master in Mechanical Engineering (2006). Thesis: Modeling and Adaptive Control of Vacuum Assisted Resin Transfer Molding Systems with Segmented Injection and Vacuum Lines.
    - Jingbo Wang, Master in Mechanical Engineering (with J. Vinson, 2002), Thesis: Transverse Shear and Non-Linear Deformation Effects on the Physical Properties of Sandwich and Laminate Composite Plates.
    - Manu Krishnan, Master in Mechanical Engineering (with J. Sun, 2000). Thesis: Adaptive Control Strategies for Precision Agriculture Machines.
  - Committee Member:
    - Jeff Lugo Master of Mechanical Engineering. (2013).
    - Joe Walther, Master of Mechanical Engineering. (2011).
    - Kenneth Okonkwo, Master of Mechanical Engineering. (2010).
    - Piyush Bubna, Master of Mechanical Engineering (2010).
    - Justin Merotte, Master of Mechanical Engineering (2009).
    - Darren Brown, Master of Mechanical Engineering (2008).
    - Prabhas Bhat, Master of Mechanical Engineering (2007).
    - John Fader, Master of Mechanical Engineering (2006).
    - Thomas Shipman, Master of Mechanical Engineering (2006).
    - Stephanie Frangakis, Master of Mechanical Engineering (2005).
    - Sean McIntosh, Master of Mechanical Engineering (2005).
    - Yeliz Karakaya, Master of Mechanical Engineering (2005).
    - Scott Lynch, Master of Environmental and Energy Policy (2004).

- James Arters, Master of Mechanical Engineering (2004).
  - Rajkiran Madangopal, Master of Mechanical Engineering (2004).
  - Mathieu Devillard, Master of Mechanical Engineering (2003).
  - Mark Lynch, Master in Food & Resource Economics (1998).
- Undergraduate Degree with Distinction and Honors Degree with Distinction Thesis
    - First Advisor:
      - Daniel Brisach, Degree with Distinction in Mechanical Engineering (2006-07).  
Thesis: Vibration Transmission Measurements in the Hand and Arm from Impacting Components.
      - Matt Griffith, Degree with Distinction in Mechanical Engineering (2006-07).  
Thesis: High Strain Rate Characteristics of Mineral Reinforced Polymers.
      - Janelle Konchar, Degree with Distinction in Mechanical Engineering (2005-06).  
Thesis: Modeling & Testing of a New Polymer-Based Impact Tool Design to Reduce Biomechanical Injuries.
      - Michael Fuqua, Honors Degree with Distinction in Mechanical Engineering (2005-06).  
Thesis: A Port Injection System and Controller for VARTM.
      - Scott Kasprzak, Honors Degree with Distinction in Mechanical Engineering (2004-05).  
Thesis: VARTM Flow Modification with Machine Vision and Robotic Control.
      - Richard Herseim, Honors Degree with Distinction in Mechanical Engineering (2003-04).  
Thesis: A Full Scale Apparatus for Measuring the Forces Exerted on the Human Femur During Falls.
      - Kerrie Smith, Honors Degree with Distinction in Mechanical Engineering (2002-03).  
Thesis: An Autonomous Whole Water Column Environmental Monitoring System with Telemetry.
    - Second Advisor:
 

○ Rossiny Beaucejour	(Mechanical Engineering)	2013-14
○ John Eisenbrey	(Mechanical Engineering)	2004-05
○ Michael Kutzer	(Mechanical Engineering)	2004-05
○ Thomas Shipman	(Mechanical Engineering)	2003-04
○ Kristin Huesmann	(Mechanical Engineering)	2002-03
○ Karin Wood	(Bioresources Engineering)	2002-03
○ Ryan Jost	(Food & Resource Economics)	2000-01
    - Third Reader:
 

○ Yuk-J Leung	(Mathematical Sciences)	2012-13
○ Jennifer Bruhns	(Computer & Info. Science)	2012-13
○ Casey Casalnuovo	(Computer & Info. Science)	2012-13
○ Vikramjit Rathee	(Biological Sciences)	2012-13
○ Matthew Saponaro	(Mathematical Sciences)	2012-13
○ Ricky Shum	(Mathematical Sciences)	2012-13
○ Matthew Stagitis	(Computer & Info. Science)	2012-13
○ Rebecca Aiken	(Civil Engineering)	2011-12
○ Michelle Allen	(Computer Science)	2011-12
○ Cory Bart	(Computer Science)	2011-12
○ Nicholas Troup	(Physics & Astronomy)	2011-12
○ Stephanie Countess	(Civil Engineering)	2010-11
○ Kent Davidson	(Civil Engineering)	2010-11
○ Craig Davis	(Civil Engineering)	2010-11
○ Geoffrey Dilg	(Civil Engineering)	2010-11
○ Christine Sutkowski	(Civil Engineering)	2010-11
○ Nathan Mayercsik	(Civil Engineering)	2009-10
○ Melissa Stewart	(Civil Engineering)	2009-10
○ Jeffrey Bosco	(Chemical Engineering)	2008-09
○ Michael Daugherty	(Health & Exercise Science)	2008-09
○ Emily Gardinier	(Physical Therapy)	2008-09
○ Katherine Monahan	(Health & Exercise Science)	2008-09

○ Jeff Rockwell	(Civil Engineering)	2008-09
○ Jason Schoenfeld	(Health & Exercise Science)	2008-09
○ Adam Blomberg	(Physics & Astronomy)	2007-08
○ Zachary Fry	(Computer & Info. Science)	2007-08
○ Andrew Gearhart	(Computer & Info. Science)	2007-08
○ Hailey Guerriero	(Physics & Astronomy)	2007-08
○ Joshua Kirby	(Computer & Info. Science)	2007-08
○ Donald Andre Scott	(Computer & Info. Science)	2007-08
○ Steven Anton	(Physics & Astronomy)	2006-07
○ Todd Molnar	(Mathematical Sciences)	2006-07
○ Daniel Osborne	(Physics & Astronomy)	2006-07
○ Ming-Jay Shiao	(Electrical Engineering)	2006
○ Patrick Collar	(Computer & Info. Science)	2005-06
○ Janine Janoski	(Mathematical Sciences)	2005-06
○ Kathyne Sharp	(Mathematical Sciences)	2005-06
○ Zachary Loman	(Electrical Engineering)	2005-06
○ Peter Steijn	(Computer & Info. Science)	2005-06
○ Ming-Jay Shiao	(Electrical Engineering)	2005-06
○ Anteneh Anteneh	(Computer & Info. Science)	2004-05
○ Michael Brennan	(Computer & Info. Science)	2004-05
○ Lewis Fishgold	(Computer & Info. Science)	2004-05
○ Ki-Yong Kim	(Computer & Info. Science)	2004-05
○ Brendan Farmer	(Mathematical Sciences)	2004-05
○ Michael Lowinger	(Chemical Engineering)	2003-04
○ Richard Lunt	(Chemical Engineering)	2003-04

#### VISITING SCHOLARS AND STUDENTS

- Guillaume Lecore. 4<sup>th</sup> Year Plastics & Composites Process Engineering, *Ecole des Mines de Douai*, Douai, France. Automation of the VIPR process for composite manufacturing. (co-advised w/Dr. Suresh Advani). 2009.
- Laurent Garnier, 4<sup>th</sup> Year Mechanical Engineering, *Ecole des Mines de Douai*, Douai, France. Evaluation of VARTM control strategies to improve resin filling characteristics. (co-advised w/Dr. Suresh Advani). 2008.
- Aude Catry, 4<sup>th</sup> Year Mechanical Engineering, *Ecole des Mines de Douai*, Douai, France. Evaluation of VARTM control strategies to improve resin filling characteristics. (co-advised w/Dr. Suresh Advani). 2008.
- Benoit Lelievre. M.S., Department of Mechanical Engineering, *Universite de Bretagne Sud*, Lorient, France. Measurement and Control of the Resin Flow in Composite Pre-forms with Flow Disturbances and Variable Permeability. 2003.
- Yuen-Yong Leong, M.S., Electrical Engineering, *Imperial College London*, South Kensington campus, London, England. System Identification and Controller Design for a Hydrostatic Drive New Holland Windrower. 2002.
- Dr. Zhang Zong, Ph. D. Associate Professor, Department of Mechanical Engineering, *Beijing University of Technology*, Beijing, China. Modeling and Experimental Evaluation of the Wear in a Miniature Vane Pump Used for the Evaluation of Hydraulic Fluid Performance. 1999-2001 (w/ Dr. Michael Keefe).

#### SPECIAL EDUCATIONAL PROGRAMS AND ACTIVITIES

- *Solar Decathlon Competition*. (2000-2001). Nationwide design competition to develop and operate an 800 ft<sup>2</sup> solar powered house – the team consisted of three faculty advisors, 30 students, 40 industrial sponsors, and several technical consultants. The University of Delaware house, along with the 9 other houses from universities in the U.S. and Puerto Rico, was built and operated on the National Mall in Washington, D.C. for a 10-day period in October, 2002. Over 90,000 visitors toured the site, and the U of D house placed sixth in the competition. Faculty Advisors: Drs. Lian Ping Wang, Ajay Prasad, and James Glancey.
- *Travel Abroad Program to California/Mexico*. Winter Session 2002. Co-Sponsored by the Departments. of Plant and Soil Sciences & Bioresources Engineering. Faculty Directors: Ed Kee and James Glancey. Cancelled due to terrorist activities of September 11, 2001.
- *Charter High School Senior Research Project Advisor*
  - Derrek Jones. 2004-05. Performance of a non-contact temperature sensor for avian egg embryo temperature measurement. Senior Research Project for the *Charter School of Wilmington*.
  - Phillip Franklin. 2004-05. Biomechanics of a human climbing a fiberglass step ladder. Senior Research Project for the *Charter School of Wilmington*.

- *Summer Research Internship*
  - Kurt Hayes. 2011. Comparison of flashspun high-density polyethylene fibers to other conventional polymer fabrics for the separation of oil from water. *Rowen University*, Glassboro, DE.
  - Erin McCaul. 2005. Estimating physical properties required for computing the forces on the upper femur during falls. *St. Marks High School*, Wilmington, DE.
- *High School Sophomore Science Fair Project Advisor*
  - Samir Streatfield. 2011-02. Design of a grinder to accelerate composting of food wastes. *Unionville High School*. Delaware Valley Science Fair, Unionville, PA.
  - Ameer Raval. 2006-07. Measuring the Heating Value from Several Different Bio-Diesel and E-Diesel Fuels. Sophomore Science Fair for the *Charter School of Wilmington*, Wilmington, DE.
  - Sam Nobles, 2005-06. Testing of Ethanol-Based and Soy Oil-Based Diesel Fuels in Commercial and Industrial Engines. Sophomore Science Fair for the *Charter School of Wilmington*.
  - Shane Furn. 2005-06. Particulate Emission Measurements from Several Biofuels in Commercial and Industrial Engines. S  
Sophomore Science Fair for the *Charter School of Wilmington*.
- *Coach for the Science Olympiad*. Lectures and Demonstrations on Simple Machines. Mario Musumeci and Adam Smith. (2008).
- *New Castle County Annual Science Fair Judge and American Society of Mechanical Engineers Award Presenter*. (2006, 2008, 2009, 2010). Stanton, DE.
- *Presentations and Career Fairs for High School Student Groups*:
  - What's a Professional Engineer? 2008, 2009. Middletown and Appoquinimink High Schools Career Fair.
  - Engineering as a Profession. 2007. *St. Marks High School Career Fair*, Wilmington, DE.
  - Biomechanics: Engineering for (and of) Humans. 2004. *Outreach seminar for the Resources for Successful Engineers (RISE) program*, Students from the Philadelphia School District, Newark, DE.
  - Who's Really Protecting Me? Engineers Who Design and Develop Products! 2003. *Outreach seminar for the Resources for Successful Engineers (RISE) program*, Students from the Philadelphia School District, Newark, DE.

UNDERGRADUATE STUDENT PROJECTS ADVISED FOR CREDIT (INDEPENDENT STUDY OR HONORS DEGREE REQUIREMENT), 3 CREDITS UNLESS OTHERWISE NOTED

1. Kanak Chattopadhyay. 2018. Evaluation of an automated bottle cap torquing system for the filling line of consumables reagent bottles. Sponsored by Siemens Healthineers, Glasgow, DE.
2. Luke Szewczak. 2018. Software development for the 3-axis Mazak milling machine in Spencer lab. No sponsor.
3. Matt Hall, Sarah Ago, and Ricky Hahn. 2018. Redesign of a 3d adjustment system for an optical HASMAT chemical detector. Sponsored by Smith Detection.
4. Matt Siedel, Matt Blasi, and Thomas Cendar. 2018. Design, prototyping and installation of a 2-axis cutter for plexiglass custom sheet cutouts. Sponsors by Norwalt Design.
5. Shannon Russell. 2017. Semi-automated extrusion loader for reagent vessels. Sponsored by Siemens Healthcare Diagnostics.
6. Steven Davis and Adam Smith. 2016. Test system for qualifying silicon lids on reagent delivery trays. Sponsored by Siemens Healthcare Diagnostics.
7. Michael Junken. 2015. Optimized design for the next generation plate lifting system for composite sample manufacturing. Sponsored by GE Aviation.
8. Steve Todderud. 2015. Developing of a tailgate-based bale weighing system for large round balers. Sponsored by Case-New Holland Industrial.
9. David Chun and Devon Prate. 2012. Development of a manufacturing process for composite honeycomb structures for aerospace applications. Sponsored by Alcore.
10. David Eisensmith. 2012. Improved welding method for precision wound temperature sensors for aircraft applications. Sponsored by Sensing Devices, Inc.
11. Daniel Russach. 2010. Failure modes analysis of a blood analysis machine using FMEA and Fault Tree techniques. Sponsored by Siemens Healthcare Diagnostics.
12. John Zerhusen. 2010. Implementation and validation of a non-contact torque test for a blood pump assembly process. Sponsored by Terumo Cardiovascular.
13. Connie Helstosky. 2010. Photovoltaic system sizing for a solar powered facility for the University of Delaware Creamery.
14. Kristen Saksa. 2010. Computer-Aided drafting methods for the University of Delaware Botanical Gardens. (1 credit).

15. Jennifer Iskai. 2009. Design of an automatic adhesive application process to attach an acrylic impeller to a pump motor shaft for the artificial heart-lung oxygenator. Sponsored by Terumo Cardiovascular.
16. Christopher Uthgenannt. 2009. Measurement of airflow characteristics of various disc mower design configurations. Sponsored by Case-New Holland. (6 credits)
17. Ronit Lilu. 2008. Implementation plan for lean manufacturing of an artificial heart-lung oxygenator. Sponsored by Terumo Cardiovascular.
18. Kasey Gust. 2008. Integration of an automated pressure regulator setting system for oxygen bottle manufacturing. Sponsored by Siemens Corp.
19. Daniel Brisach. 2008-09. Development of PWM charging strategies for ultracapacitors used on mobile equipment for energy storage. Sponsored by Case New Holland.
20. Mark Steimer. 2008. Control circuit simulation and prototyping of vehicle energy storage systems using ultracapacitors. Sponsored by Case New Holland
21. Michael Brill. 2008. Design and prototyping of a novel sanitary fly swatter (US Patent No. 6,957,510). Sponsored by Laura Simon, Esquire, Wilmington, DE.
22. Sean Collins and Doug Ericson. 2008. Modeling and experimental validation of an on-board hydraulic bale weighing system for round balers. Sponsored by Case New Holland. (3 credits for each student)
23. Dan Pron. 2007. Confined compression characteristics of a mineral reinforced polymer. Sponsored by Hard Cap, LLC.
24. Daniel Gempshaw. 2007. Kinematic analysis of a composite marine seat structure for military applications. Sponsored by Revenge Composites (in fulfillment of his Honors Capstone Requirement).
25. Tom Coombes. 2007. Design and development of a hand-crank dynamometer as a hands-on museum activity. Sponsored by the Delaware Ag Museum. (4 credits)
26. Dan Pron. 2006-07. Testing of polymers for impact durability on a hammer face. Sponsored by Hard Cap, LLC.
27. Jesse Krisher. 2006. Development of an ALGOR finite element model for the prediction of femoral fractures from human falls. Sponsored by the DuPont Co.
28. Beth Miller, Erik Pearson, and James Woodhouse. 2006. Embedded controller development and vehicle testing of a drive-by-wire propulsion system for a windrower. 2006. Sponsored by CNH America, LLC. (3 credits each)
29. Matt Griffith. 2006. High strain rate testing of reinforced polymer inserts for power tools using a Split Hopkins Bar. Sponsored by Hard Cap, LLC.
30. John Armstrong and Greg Stewart. 2005. Design and testing of a mechanical harvesting system for indoor, closed system tilapia production. Sponsored by Blair View Aquaculture Farm. (3 credits each).
31. Julia Levinson. 2005. Automated measurement of laminate bond strength for substrates bonded to Teflon membranes. Sponsored by W.L. Gore and Associates.
32. Craig Livingston. 2005. Computer-aided-drafting fundamentals (1 credit).
33. Barry Levinson. 2005. Solid modeling with mechanical desktop (1 credit).
34. Mark Deaver. 2004-05. Parametric modeling and finite element analysis of disposable testing components for measuring laminate bond strength. Sponsored by W.L. Gore and Associates.
35. Gwen Thorsen. 2003-04. Software development and testing for the automatic transmission of data via a cellular modem. Sponsored by the Delaware Department of Natural Resources and Environmental Control. (6 credits)
36. Eric Busby. 2004. Development of a remote controlled drip tape cutter for drip tape laying equipment. Sponsored by Busby Farms.
37. Jennifer Lawrence and James Moore. 2004. Development of a test stand for the vibration analysis of power tools. Sponsored by Baltimore Tool Works, Inc. (3 credits each)
38. Dominic Schiavoni. 2004. Design of a drop tower for constant energy impact testing. Sponsored by Baltimore Tool Works, Inc.
39. Dan Muhlenforth. 2004. Design and testing of low vibration accessories for hand-struck tools. Sponsored by Baltimore Tool Works, Inc.
40. Derrick Dickerson. 2004. Development of an automated test device for evaluating the wear characteristics of poultry nipple drinkers. Sponsored by the Delaware Cooperative Extension Service. (co-advised w/ Gary Van Wicklen).
41. Eric Busby. 2004. Development and testing of a device for accelerated life testing of an *Air Pogo* toy. Sponsored by Leavis and Rests, P.C.
42. Dan Muhlenforth. 2003-04. Software and sensor arrangement for determining the frequency content of hand-mounted accelerometers. Sponsored by Baltimore Tool Works, Inc.
43. Dominic Schiavoni. 2003-04. Measurement of vibration transmitted to the hand from hand-struck and power tools. Sponsored by Baltimore Tool Works, Inc.

44. Dominic Pellegrenio. 2003. Design of a steel frame flooring system with EPS foam insulation. Sponsored by Ecothermal Panel Systems, Inc.
45. Mike Fyock and Dan Meckley. 2003. Structural analysis and hydraulic automation of a prototype kicker for round balers. Sponsored by Case New Holland, Inc. (3 credits each)
46. Annie Tseng. 2003. An automated testing machine and methodology for ceramic wafer substrates used for blood sample analysis. Sponsored by Dade Behring.
47. Matt Mitch. 2002. Development of a computer design tool for the cooling systems on skid-loaders. Sponsored by Case-New Holland, Inc.
48. Dawn Cintavey. 2002. Finite element analysis of extruded aluminum structures. Sponsored by National Forensics Engineers, Inc.
49. Mark Orgovan and Dan O'Brien. 2002. Evaluation of a two-piece chisel system designed with a high performance engineering polymer impact surface. Sponsored by Baltimore Tool Works, Inc. (3 credits each)
50. Pete Truitt. 2002. Automated pneumatic capping system for dental adhesive capsules. Sponsored by Densply-Caulk.
51. Julian Jones and Matt Dougherty. 2002. Development of an automated cutter for plastic sleeves. Sponsored by Xymid, LLC.
52. Tony Nasr. 2002. Design and Instron testing of a framing system and fasteners for electrically insulated attachment of solar panel systems to steel-framed structures. Sponsored by the UD Solar Decathlon and AstroPower.
53. Tony Nasr. 2002-03. Ergonomic testing trials of a new low vibration, hand-struck chisel system. Sponsored by Baltimore Tool Works, Inc.
54. Mike Vassallo. 2002. Development of high volume compression system for preparing inoculated silage samples. Sponsored and co-advised by Dr. L. Kung.
55. Rich Herseim. 2002. Design, analysis and testing of plastic drivetrain shields on Case-New Holland windrower headers. Sponsored by Case-New Holland, Inc.
56. Pete Truitt. 2002. Finite element analysis of the impact of a hammer-tool system. Sponsored by Baltimore Tool Works, Inc.
57. Andrew Drysdale. 2002. The current state of photovoltaic technology. (as part of his Honors Degree Capstone Requirement in Mechanical Engineering).
58. Doug Cook, Jeff Gordon, and Matt Dunson. 2001. Development of *AutoGap*: a control system for the automatic adjustment of windrower roll gap. Sponsored by Case New Holland, Inc. (3 credits each)
59. Ian Cosden. 2001. Control software development and field testing for the closed loop control of DC motor angular displacement for mower-conditioner roll gap adjustment. Sponsored by Case-New Holland, Inc.
60. Tim Filasky. 2001-02. Design of a precision push planter. Sponsored by Delaware Cooperative Extension and Rogers Seed Co.
61. Mac Cushing. 2001-03. Design of an automatic fabric feed system for a numerically controlled laser cutter. Sponsored by Cirrus Engineering.
62. Nikki Rossi. 2001. Feasibility of an on-line degradation sensor for soy-based hydraulic fluids. Part of a project funded by DuPont. (co-advised with Mike Keefe)
63. Chad Stover. 2000. Development of improved vaccination system for day-of-age Marek's vaccine. Sponsored by the Allen Laboratory, University of Delaware.
64. Andy Park. 2000. Development of learning modules for CAD/CAM and CNC machining for undergraduate design courses. (co-advised with Dr. Michael Keefe).
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69. Glancey, J.L., D. Hoffstetter, W.E. Kee, T.L. Wootten, and M. Lynch. 1997. Preliminary evaluation of yield monitoring techniques for vegetables. ASAE Paper # 971060. ASAE, 2959 Niles Road, St. Joseph, MI 49085-9659.
70. Glancey, J.L., S. Seymour, C. Bohman, R. Sheehan, and J. Posselius (New Holland N. A., Inc.) 1997. Development of a precision industrial spreader for the land application of solid wastes. ASAE Paper # 971081. ASAE, 2959 Niles Road, St. Joseph, MI 49085-9659.
71. Glancey, J.L., W.E. Kee, and T.L. Wootten. 1997. Reducing damage and improving recovery of mechanically harvested pickling cucumbers. ASAE Paper #971017. ASAE, 2959 Niles Road, St. Joseph, MI 49085-9659.
72. Glancey, J.L., W.E. Kee, T.L. Wootten. 1997. Modeling recovery of pod stripper combines used for the mechanical harvesting of processed vegetables. Proceedings of the 5<sup>th</sup> International Symposium on Fruit, Nut and Vegetable Production Engineering. Davis, CA.
73. Kee, W.E., T.L. Wootten and J.L. Glancey. 1997. Production systems to optimize mechanical harvest of pickling cucumbers. Proceedings of the 5<sup>th</sup> International Symposium on Fruit, Nut and Vegetable Production Engineering. Davis, CA.
74. Glancey, J.L. 1997. Yield monitoring of lima beans in pod stripper combines. Proceedings of the Biennial Meeting of the Bean Improvement Cooperative, Annapolis, MD.
75. Glancey, J.L. 1997. Yield monitoring of peas with pod stripper combines. Proceedings of the Biennial Meeting of the Pea Improvement Cooperative, Annapolis, MD.

#### NON-REFEREED TEACHING PAPERS

1. Glancey, J.L. 2006. Faculty and industry partnerships through sponsored research and design projects targeted to enhance undergraduate education. ASABE Paper No. 068022. ASAE, 2959 Niles Road, St. Joseph, MI 49085-9659.
2. Keefe, M., J.L. Glancey, and N. Cloud. 2005. A case study in assessing team-based design courses that integrate industry-sponsored projects. Paper No. IMECE2005-81756. Proceedings of the 2005 International Mechanical Engineering Congress and Exposition, Orlando, FL

#### ARTICLES IN THE POPULAR PRESS ABOUT RESEARCH & OUTREACH

1. *USA Today*. Study: Water pollution from poultry farms overestimated. 2013.
2. *The News Journal*. Poultry pollution has been overestimated, UD-led study finds. 2013
3. *The Public Trust Project*. Fowling the Bay?: Media Reports Absolving Poultry Industry of Pollution are Premature. 2013.

4. *NASDA*. Study Shows EPA Overestimates Poultry Pollution in Chesapeake Bay. 2013
5. *The New York Times*. A Long Journey to a Kinder Chisel. February, 2008.
6. *Consumer Reports Magazine*. Exercise and Fitness- Panelists don't see benefit in Soloflex device. July, 2007.
7. *Woodwards on the Brandywine*. Meeting Highlights – New Tool Demonstrations. April, 2007.
8. *Consumer Reports Magazine*. Ladders – some can extend your risk. September, 2006.
9. *DuPont News*. DuPont™ Zytel® Nylon Helps Rejuvenate Hardworking Tool. October, 2006.
10. *The News Journal*. Disabled farmers overcome obstacles. July, 2006
11. *The Vegetable Growers News*. High-tech thumper. Watermelon sensor may put an end to ripeness guessing game. July 1999.
12. *Entrepreneur*. Watermelon ripeness sensor promises savings worldwide. July, 1999.
13. *ScienceDaily*. Watermelon Ripeness Sensor Might Promise Huge Savings For Growers Worldwide. June, 1999.
14. *Newswise*. Watermelon Ripeness Sensor, Savings for Growers. June, 1999.
15. *Lubricants World*. Development of a high oleic soybean oil-based hydraulic fluid. January, 1999.
16. *Lubes-N-Greases*. Let's Get Small. February, 1997

#### INVITED PRESENTATIONS

1. Equipment handling and mechanical safety for agricultural operations. 2017. The First Annual Delaware Farm Bureau Safety Conference. Harrington, DE
2. Recommended regulatory changes for the Delaware spray-on-demand wastewater distribution program. 2017. Joint meeting of the DNREC and DDA Cabinet Secretaries. (w/ Mayor Ken Branner, Middletown and Scott Hoffman, Duffield Associates). Dover, DE.
3. Changes to the EPA Chesapeake Bay Model inputs for poultry litter nitrogen and phosphorous generation in the bay watershed. 2017. Chesapeake College, Wye, MD.
4. Wastewater treatment and disposal options for small villages and communities. 2016. Joint meeting of the Delaware Delegation and the Government of Rengo. Rengo, Chile.
5. Using team-based design projects to build university and industrial partnerships. 2016. Joint meeting of the Delaware Delegation and the University of O'Higgins faculty and administration. Rengo, Chile.
6. Reusing treated wastewater for the irrigation of agricultural crops. 2016. Joint meeting of the Delaware Delegation and the Government of O'Higgins. Rancagua, Chile.
7. Electrocutation and fire hazards outside the poultry house. 2016. Special Poultry Safety Seminar in Honor of Bill Brown. Georgetown, DE.
8. Prediction of NOx and PM emission reductions by converting industrial backup and load shaving generators to Tier 4 diesel engines. 2016. The Delaware Electric Cooperative. Greenwood, DE.
9. Production of N and P from poultry production as part of an overall production mass balance (given by Ed Kee). 2015. Wye Research Center, University of Maryland, MD
10. Chemical and production characteristics of agricultural waste products. Joint meeting of the Delaware Department of Agriculture and the Delaware Department of Natural Resources and Environmental Control. 2015. Dover, DE.
11. Land application of highly treated municipal wastewater for agricultural uses: Results of a three year pilot project. Scientific and Technical Advisory Committee. 2014. Center for the Inland Bays. University of Delaware, Lewes, DE.
12. Status and timeline for implementing changes to the Chesapeake Bay Watershed Model. EPA Region 3 Headquarters. 2014. Philadelphia, PA
13. The EPA and Chesapeake Bay Program modeling of the Chesapeake Bay Watershed - Deficiencies and Current Efforts to Improve Model Inputs. The International Poultry Production and Processing Expo. 2014. Atlanta, GA. (given by Kelley Shenk, EPA).
14. Status of revised data inputs to the Chesapeake Bay Watershed Model. Chesapeake Bay Regional Poultry Production Data Meeting. 2014. Beltsville, MD.
15. Final recommendations for the Chesapeake Bay Program modeling of the Bay watershed. Chesapeake Bay Program Ag Working Group. 2014. College Park, MD.
16. Proposed recommendations for the Chesapeake Bay Program modeling of the Bay watershed. Chesapeake Bay Program WQGIT. 2014. College Park, MD.
17. Recommendations to improve nitrogen and phosphorous loading from the poultry industry in the Phase 6 Chesapeake Bay Watershed Model. 2014. Center for the Inland Bays. University of Delaware, Lewes, DE.
18. Poultry Litter Subcommittee Update: Status & Updated Summary. Presentation to the EPA Region III and Chesapeake Bay Program upper administrations. 2013. Buena Vista, New Castle, DE.

19. Setup and operation of hay balers for optimal hay quality. Delaware Ag Week Technical Sessions. 2014 Harrington, DE.
20. Conditioning options to minimize hay drying time. The Maryland Southern Hay Production Meeting. 2014. Brandywine, MD
21. Updates regarding the Chesapeake Bay Program modeling of the Bay watershed. Chesapeake Bay Program Summit. 2013. College Park, MD.
22. Overview of the Chesapeake Bay Program modeling of Delmarva – Concerns and current status. The Delaware and Maryland Congressional Delegation’s Poultry Summit. 2012. Delmar, DE.
23. Comparison of University of Delaware and Delaware Department of Agriculture and Environmental Protection Agency Nitrogen and Phosphorous Estimation Methods within the Chesapeake Bay Watershed. Meeting of the Northeast Presidents of Farm Bureau. 2012. Dover, DE.
24. Power purchase agreements for large scale industrial businesses. Annual meeting of the Delmarva Poultry Industry. 2012. Ocean City, MD.
25. The Chesapeake Bay Program modeling of the Bay watershed. Meeting of the Northeast Council of Governance. 2012. Atlantic City, NJ.
26. Technical and financial consideration for solar power purchase agreements. Solar work shop for the Delmarva Poultry Industry. 2011. Georgetown, DE.
27. Feasibility of irrigating with treated municipal wastewater from the Bridgeville, DE wastewater treatment facility. 2011. Monthly meeting of the Bridgeville town council. Bridgeville, DE.
28. Updates regarding the Chesapeake Bay Program modeling of the Bay watershed. 2011. Meeting of the Delaware Nutrient Management Commission. Dover, DE.
29. Current estimates for N and P amounts on Delmarva. 2011. Joint meeting of the Delmarva Poultry Association’s Environmental and Grower Committees. Salisbury, MD.
30. Comparison of University of Delaware and Delaware Department of Agriculture and Environmental Protection Agency Nitrogen and Phosphorous Estimation Methods within the Chesapeake Bay Watershed. 2011. Meeting of the Chesapeake Bay Program Ag Working Group. Annapolis, MD.
31. Spray-on-demand with treated and filtered municipal wastewater: Results of a one-year pilot study. 2011. Meeting of the Delaware Nutrient Management Commission. Dover, DE.
32. Nutrient removal methods for Concentrated Animal Feeding Operation runoff. 2010. Chesapeake Goal Line 2025: Opportunities for Enhancing Agricultural Conservation. Hunt Valley, MD.
33. Mechanical systems and automation to enhance the ergonomics of aquaculture. The 2010 Agrability National Training Workshop. Charleston, WV.
34. Feasibility of renewable energy and power purchase agreements for the food manufacturing industry. 2010. The 2010 Pickle Packers International Annual Conference. Philadelphia, PA.
35. An overview of lima bean harvesting research and recommendations. 2009. The Lima Bean Forum. Georgetown, DE.
36. Equipment research at the University of Delaware. 2009. Delegation from the Chinese Consulate, Washington, D.C.
37. Equipment, maintenance, and safety considerations in the installation of on-site waste treatment systems. 2009. The annual meeting of the Delaware On-Site Wastewater Treatment Association. Dover, DE.
38. Design recommendations to improve the safety of portable, metal climbing structures. 2008. The annual meeting of the American National Standards Institute (ANSI), Subcommittee 14.2. Chicago, IL.
39. Machine design in vegetable production and harvesting: A review of 100 years of engineering innovation and design. 2007. The 2007 ASABE International Annual Meeting, Minneapolis, MN.
40. Preventing hand and arm injuries through limited exposure and new low vibration tool technology. 2007 Delaware Safety Association Annual Meeting, Ocean City, MD.
41. Reducing vibration-related injuries from hand and power tools. 2006 National Ergonomics Conference and Exposition. Las Vegas, NV.
42. Ladders – Summary of testing and forensics of failures. 2006. Consumer Union, Inc. Headquarters (Publishers of Consumer Reports Magazine). Yonkers, NY.
43. Measuring the potential for noise and vibration injuries in industrial settings. 2006 Eastern Ergonomics Conference and Exposition. Boston, MA.
44. Assessing and preventing ladder accidents. 2006 Delaware Safety Association Annual Meeting, Ocean City, MD.
45. Demonstration of a new cost effective surveillance system for Delaware water bodies. 2005. Scientific and Technical Advisory Committee, Center for the Inland Bays. University of Delaware, Lewes, DE.
46. Automation requirements for retaining pickling cucumber production in the U.S. 2005 Pickle Packers International Annual Meeting, Baltimore, MD.



47. Developments in harvesting of specialty crops. 2005 AETC Conference, Invited Session on Specialty Crops, Louisville, KY.
48. Barriers to vegetable harvest automation. 2005. AETC Conference, Invited Session on Automation. Louisville, KY.
49. Workshop on hand-arm vibration and noise: Overview of current limits and strategies for reducing working exposure and injury. 2005 Eastern Ergonomics Conference and Exposition, New York, NY.
50. Engineered human protection: An overview of research at University of Delaware. 2004. DuPont Experimental Station, Wilmington, DE.
51. Overview of modern machine designs for mechanized harvest of processing peas. The 2004 ASAE Film Forum. 2004 ASAE International Meeting, Ottawa, Ontario, Canada.
52. Ten years of developments for mechanical harvesting pickling cucumbers. The 2004 ASAE Film Forum. 2004 ASAE International Meeting, Ottawa, Ontario Canada.
53. Theoretical and experimental evaluation of an adaptive controller design using off-line model-based prediction and a segmented injection line for resin flow control in VARTM. 2004. Office of Naval Research, Advanced Materials Intelligent Processing Center (AMIPC). Newark, DE.
54. Progress in developing automated equipment for the simulation of human falls. 2004. DuPont Experimental Station, Wilmington, DE.
55. Improving mold part quality through automation and control: Progress and future challenges. 2004. National Science Foundation Invited Workshop Participant: Future of Modeling in Composites Molding Processes. The National Science Foundation, June 9 and 10, 2004, Alexandria, VA.
56. Progress in spatial and temporal surveillance technology for agricultural and environmental monitoring in Delaware. 2004. Department of Geography, spring 2004 Colloquium. Newark, DE.
57. Design and development of near-real-time whole water column surveillance systems for Delaware estuaries. 2004. Scientific and Technical Advisory Committee, Center for the Inland Bays. College of Marine Studies, University of Delaware, Lewes, DE.
58. Engineering aspects of production and mechanization for fresh and processed vegetables. 2003. Workshop on Recent Advances in Machine Harvesting of Fruits and Vegetables. The 100th Annual International Conference of the American Society for Horticultural Sciences. Providence, Rhode Island
59. Technical and strategic advances in vegetable mechanization. 2003. Colloquium: The U.S. Vegetable Industry Past and Future: Highlighting Advances, Challenges, and Opportunities in Vegetable Crop Management. Proceeding of the 100th Annual International Conference of the American Society for Horticultural Sciences. Providence, Rhode Island (co-presenter with E. Kee).
60. Adaptive control options for liquid composite resin injection. 2002. Office of Naval Research Meeting at the Center for Composite Materials, Newark, DE.
61. Performance of soy-based hydraulic fluids in long-term pump tests. 2001. Annual Meeting of the United Soybean Board Industrial Uses Committee. United Soybean Board, Chicago, IL (co-presenter M. Keefe).
62. Machine harvest: Research and field experiences on Delmarva and production systems, comparative tests of the Raven vs. the PicRyte Harvester, and improving tractor mounted harvesters. 2000. The Pickling Cucumber Improvement Committee (PCIC) Spring Meeting of the Pickle Packers International, Newark, DE. (E. Kee, J. Glancey and J. Adkins).
63. Current machine design research projects including harvester improvements, automated pale filing, and electronic and digital sorting of pickles. 2000. The Pickling Cucumber Improvement Committee (PCIC) Spring Meeting of the Pickle Packers International, Newark, DE. Demonstrations held on the University of Delaware campus. (Glancey and Kee).
64. Development of a precision manure spreader for improved nutrient management. 1999. Agricultural Computer Expo, Lancaster, PA.
65. Progress in developing a soyoil based hydraulic fluid. 1999. Annual Meeting of the United Soybean Board Industrial Uses Committee. United Soybean Board, Chicago, IL (co-presenter Keefe and J. Gooch (DuPont)).
66. Weld design and specifications: An engineer's perspective. 1999. Meeting of the American Welding Society, Delaware Section, Newark, DE.
67. A low volume fluid power test standard for hydraulic fluid testing. 1998. The Lubrizol Corporation, Wickliffe, OH.
68. A soyoil based hydraulic fluid: Advantages and limitations. 1998. United Soybean Board, Chicago, IL, Annual Meeting of the United Soybean Board Industrial Uses Committee (co-presenter S. Knowlton).
69. Mechanical harvesting: Current issues and where should we go from here? 1997. 104<sup>th</sup> Pickle Packers International Annual Meeting, Las Vegas, NV. (E. Kee presented on my behalf since I could not attend).

70. Progress in cucumber harvester research. 1997. Block and Guggenheimer Foods Inc. Annual Growers Meeting, DuPont Country Club, Seaford, DE.
71. An overview of pod stripper combine research at University of Delaware. 1997. FMC Corporate Headquarters, Chicago, IL.

#### RESEARCH PRESENTATIONS AT PROFESSIONAL MEETINGS & CONFERENCES

1. Glancey, J., M. Baust, P.E., and E. Kee. Using Treated Municipal Wastewater for Agriculture: A Review of a Pilot Study and Regulations in Delaware. 2015. 2015 NABEC Annual Conference. Newark, DE
2. Glancey, J., B. Brown, E. Kee, M. Davis, L. Towle, Comparison of methods for estimating nutrient generation within the Chesapeake Bay Watershed. 2015. 2015 NABEC Annual Conference. Newark, DE
3. Glancey, J., M. Baust, P.E., B. Carbaugh, E. Kee, and K. Branner. 2011. Using treated municipal wastewater for agriculture: a review of a pilot study and regulations in Delaware. 4th International Symposium on Global Issues in Nutrient Management Science, Technology and Policy. Newark, DE.
4. Glancey, J., B. Brown, E. Kee, M. Davis, L. Towle, J. Timmons, and J. Nelson. 2011. Comparison of methods for estimating poultry manure nutrient generation within the Chesapeake Bay watershed. 4th International Symposium on Global Issues in Nutrient Management Science, Technology and Policy. Newark, DE.
5. Alms, J., J. Glancey and S. Advani. 2009. Mechanical properties of composite structures made with the vacuum induced preform relaxation process. The American Society for Composites, Twenty-fourth Technical Conference. Newark, DE.
6. Brisach, D., J. Alms, J. Glancey and N. Cloud. 2009. Integrated cut performance and sample inspection system for microtome setup evaluation. DETC 2009-87521. The ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, IDETC/CIE 2009. San Diego, CA.
7. Ciappi, R. B. Miller, S. Petfield, C. Uthgenannt, J. Glancey, K. Smith and M. Harkcom. 2009. Design of a protective curtain system for high rotational speed disc mowers. The ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, IDETC/CIE 2009. San Diego, CA.
8. Alms, J., J. Glancey and S. Advani. 2009. Development of computer controlled flow manipulation for vacuum infusion processes. ICCM-17, the International Committee on Composite Materials, Edinburgh, Scotland.
9. Alms, J., J. Glancey and S. Advani. 2009. Sequential injection using a gantry positioning system for flow control in vacuum resin infusion processes. The 2009 Society for the Advancement of Materials and Process Engineering Symposium and Exposition, Baltimore, MD.
10. Alms, J., J. Glancey and S. Advani. 2008. Experimental determination of permeability of woven fiber glass during the vacuum induced preform relaxation (VIPR) process. The 9th International Conference on Textile Composites (TEXCOMP9). Newark, DE.
11. Alms, J., J. Glancey and S. Advani. 2008. Experimental validation of a port based injection methodology for vacuum infusion processes. The 2008 Society for the Advancement of Materials and Process Engineering Symposium and Exposition, Long Beach, CA.
12. Alms, J., J. Glancey and S. Advani. 2008. Vacuum induced preform relaxation (VIPR) process for resin flow control in vacuum infusion processes. The 9th International Conference on Flow Processes in Composite Materials (FPCM-9), July 7th to 9th, Montreal, Quebec, Canada.
13. Collins, S., D. Erickson, S. Mabel, D. Shannon, K. Smith and J. Glancey. 2008. Design and prototyping of a hydraulic hose and cable organizer for mobile equipment. The ASME International Design Engineering Technical Conferences: 5th Symposium on International Design and Design Education (DEC), Brooklyn, NY.
14. Dibelka, J., M. Steimer, L. Traub, J. Twomey, S. Woods, S. Phillips, and J. Glancey, 2008. Design of a heat removal method for the electronics in lithium-ion cordless power tools. The ASME International Design Engineering Technical Conferences: 5th Symposium on International Design and Design Education (DEC), Brooklyn, NY.
15. Glancey, J. 2008. Mechanical harvesting characteristics of several leafy greens grown for processing. The 2008 Northeast Agricultural and Biological Engineering Conference, Annapolis, MD.
16. Pearson, E. J. Woodhouse, B. Miller, R. Strosser and J. Glancey. 2008. Performance of a prototype steer-by-wire driving system for self propelled windrowers. The 2008 Northeast Agricultural and Biological Engineering Conference, Annapolis, MD.
17. Stewart, S., J. Armstrong, J. Harp, D. Breakiron, M. Baker, G. Bennett, R. Jester and J. Glancey. 2008. Mechanical harvesting system for improving the ergonomics for in-door, closed system, live market tilapia production. The 2008 Northeast Agricultural and Biological Engineering Conference, Annapolis, MD.

18. Collins, S., D. Erickson, S. Mabel, D. Shannon, K. Smith and J. Glancey. 2008. A hydraulic hose and electrical cable organizer and support for agricultural implements. The 2008 Northeast Agricultural and Biological Engineering Conference, Annapolis, MD.
19. Alms, J., J. Glancey and S. Advani. 2008. Vacuum induced preform relaxation (VIPR) process for resin flow control in vacuum infusion processes. The American Society for Composites, Twenty-third Technical Conference. Memphis, TN.
20. Glancey, J. 2008. Feasibility of on-site cucumber relish manufacturing from mechanically harvested culled fruit: mechanical and energy requirements. The 2008 ASABE International Annual Meeting. Providence, RI.
21. Glancey, J., R. Gorlich, and R. Jester. 2008. Mechanically-assisted composting of fish mortalities for disabled aquaculture producers. Proceedings of the 2008 ASABE International Annual Meeting. Providence, RI.
22. Fuqua, M. and J. Glancey. 2008. Resin position sensing and control during infusion of composite panels as a cost-effective alternative to metal shielding and panels on agricultural and construction equipment. Proceedings of the 2008 ASABE International Annual Meeting. Providence, RI.
23. Glancey, J., J. Vinson and D. Brisach. 2008. Side rail flexibility and the potential for spreader bar failures on tall step ladders. Proceedings of the 2008 ASABE International Annual Meeting. Providence, RI.
24. Alms, J., J. Glancey and S. Advani. 2008. Vacuum induced preform relaxation (VIPR) process for resin flow control in vacuum infusion processes. The 9th International Conference on Flow Processes in Composite Materials (FPCM-9) will be held from July 7th to 9th 2008, in Montreal, Quebec, Canada.
25. Glancey, J., D. Hoffstetter, and E. Kee. 2008. Impact mechanics of pickling cucumber as a basis for mass flow measurement on mechanical harvesters. Application of Precision Agriculture for Fruits and Vegetables, January 6th – 9th, 2008, Orlando, FL.
26. Alms, J., J. Lawrence, A. Catry, J. Glancey and S. Advani. 2007. Resin delivery and control workstation for VARTM. The Sixth Canadian-International Composites Conference, Winnipeg, Manitoba, Canada.
27. Brisach, D., M. Griffith, J. Konchar, S. Petfield, P. Popper, and J.L. Glancey. 2007. Attenuation of impact and continuous vibration in the hand and arm. The ASME International Design Engineering Technical Conferences: The 21st Biennial Conference on Mechanical Vibration and Noise, & Applications of Vibration and Acoustics in Biomedical Engineering. Las Vegas, NV.
28. Griffith, M., D. Brisach, J. Konchar, S. Petfield, P. Popper, and J.L. Glancey. 2007. Polymer-based vibration and noise emission control characteristics for hand-struck tools. The ASME International Design Engineering Technical Conferences: The 19th Reliability, Stress Analysis and Failure Prevention Conference, Las Vegas, NV.
29. Stewart, S., J. Armstrong, R. Jester and J. Glancey. 2007. A bulk mechanical harvester for indoor, closed system tilapia production. The 4th National Aquaculture Extension Conference, Cincinnati, OH.
30. Brisach, D., M. Griffith, J. Konchar, P. Popper, and J. Glancey. 2007. Polymer composite-based noise emission controls for power and hand-struck impact tools. The 2007 American Industrial Hygiene Conference & Exposition, Philadelphia, PA.
31. Griffith, M., D. Brisach, J. Konchar, J. Nasr, P. Popper, and J. Glancey. 2007. Reducing the potential for vibration-related injuries from hand and power tools. The 2007 American Industrial Hygiene Conference & Exposition, Philadelphia, PA.
32. Glancey, J.L., J. Hummel, A. Chirnside, S. Nobles, S. Chanpimol and A. Ravel. 2007. Bio-fuel emission measurements and potential environmental implications for the Mid-Atlantic Region. National Conference on Agriculture & Natural Resource Conservation and Management. Dover, DE.
33. Smith, K., J. Glancey, S. Huerta, E. Humphries and R. Tyler. 2007. Cost effective, real-time surveillance of shallow depth estuaries for water quality monitoring and harmful algal bloom detection. National Conference on Agriculture & Natural Resource Conservation and Management. Dover, DE.
34. Glancey, J., J.T. Sims and D. Snyder. 2007. Field evaluation of new sidedressing technology for side dressing solid wastes. National Conference on Agriculture & Natural Resource Conservation and Management. Dover, DE.
35. Fuqua, M. and J.L. Glancey. 2007. The Effects of in-tool resin delivery ports on process control and molded part quality for vacuum-based composite manufacturing. The Greater Philadelphia AIAA/ASME 3<sup>rd</sup> Annual Aerospace & Mechanical Engineering Mini-Symposium. Plymouth Meeting, PA.
36. Nasr, J., M. Fuqua, S. Kasprzak, and J. Glancey. 2007. Modeling and experimental validation of an external flooding chamber for vacuum-based composite molding. The Greater Philadelphia AIAA/ASME 3<sup>rd</sup> Annual Aerospace & Mechanical Engineering Mini-Symposium. Plymouth Meeting, PA.
37. Brisach, D., M. Griffith, S. Petfield, P. Popper, and J. Glancey. 2007. Evaluation of reinforced polymer composites for engineering controls of sound and vibration. The Greater Philadelphia AIAA/ASME 3<sup>rd</sup> Annual Aerospace & Mechanical Engineering Mini-Symposium. Plymouth Meeting, PA.

38. Alms, J., S. Advani, and J. Glancey. 2007. Vacuum induced preform relaxation (VIPR) method for liquid composite molding (LCM) processes. The Greater Philadelphia AIAA/ASME 3<sup>rd</sup> Annual Aerospace & Mechanical Engineering Mini-Symposium. Plymouth Meeting, PA.
39. Konchar, J., D. Brisach, M. Griffith, J. Nasr, P. Popper, and J. Glancey. 2007. Design and testing of composite driveline components for impact tools. The 2007 Society for the Advancement of Materials and Process Engineering Symposium and Exposition, Baltimore, MD.
40. Kasprzak, S., J. Nasr, M. Fuqua, and J. Glancey. 2007. An external flow modification system for vacuum-assisted resin transfer molding. The 2007 Society for the Advancement of Materials and Process Engineering Symposium and Exposition, Baltimore, MD.
41. Fuqua, M. and J. Glancey. 2007. Design and performance of a closed loop control, port-based resin delivery system for vacuum-assisted resin transfer molding. The 2007 Society for the Advancement of materials and process engineering symposium and exposition, Baltimore, MD.
42. Glancey, J.L., J. Hummel, S. Nobles, S. Chanpimol, and A. Raval. 2007. Measurement of transient smoke emissions characteristics from e-diesel and soy-diesel fuel blends in two commercial engines. The 2007 ASABE International Annual Meeting, Minneapolis, MN.
43. Glancey, J.L. 2007. Once-over harvesting of several leafy greens. The 2007 ASABE International Annual Meeting, Minneapolis, MN.
44. Brisach, D., M. Griffith, P. Popper and J. Glancey. 2007. Measurement of vibration transmission in the hand and arm from impact and continuous vibrating sources. The 2007 ASABE International Annual Meeting, Minneapolis, MN.
45. Glancey, J.L., and D. Brown. 2007. Mechanical harvesting of spinach. Northeast Region of the American Society for Horticultural Science, University of Maryland, College Park, MD.
46. Glancey, J.L. 2007. Yield, plant architecture, and machine harvest characteristics of several leafy greens grown for processing. Northeast Region of the American Society for Horticultural Science, University of Maryland, College Park, MD.
47. Fuqua, M. and J.L. Glancey. 2006. A port injection process for improved resin delivery and flow control in vacuum-assisted resin transfer molded composites. 2006 ASME International Annual Meeting, Chicago, IL.
48. Konchar, J., P. M. Griffith, P. Popper, and J.L. Glancey. 2006. Modeling and testing of a new polymer-based impact tool design to reduce biomechanical injuries. 2006 ASME International Annual Meeting, Chicago, IL.
49. Kasprzak, S., M. Fuqua., J. Nasr, and J.L. Glancey. 2006. A robotic system for real-time resin flow modification during vacuum-assisted resin transfer molding of composite materials. 2006 ASME International Annual Meeting, Chicago, IL.
50. Brown, D. and J.L. Glancey. 2006. Fatigue and stability analysis of long-span continuous band saw blades. 2006 ASME International Annual Meeting, Chicago, IL.
51. Griffith, M., J. Nasr, P. Popper, and J.L. Glancey. 2006. A reinforced polymer hammer cap for eliminating metal-to-metal contact and reducing hand-transmitted vibration. 2006 ASABE International Annual Meeting, Portland, OR.
52. Brown, D., and J.L. Glancey. 2006. Fatigue analysis and testing of a continuous blade band-type cutter for leafy vegetables. 2006 ASABE International Annual Meeting, Portland, OR.
53. Armstrong, J., G. Stewart, J. Harp, D. Breakiron, M. Baker, G. Bennett, R. Jester, and J. Glancey. 2006. Improving the ergonomics of harvest for pond raised, live market tilapia. 2006 ASABE International Annual Meeting, Portland, OR.
54. Fuqua, M. and J.L. Glancey. 2006. Development of a port injection process for vacuum assisted resin transfer molding. The 2006 Meeting of the Society for the Advancement of Materials and Processes (SAMPE), Long Beach, CA.
55. Fuqua and Glancey. 2006. Modeling of vacuum-assisted resin transfer with in-mold ports. The Greater Philadelphia AIAA/ASME 2<sup>nd</sup> Annual Aerospace & Mechanical Engineering Mini-Symposium. Plymouth Meeting, PA.
56. Nasr, J., S. Kasprzak, and J. Glancey. 2006. External modification of VARTM flow with a rigid external chamber. The Greater Philadelphia AIAA/ASME 2<sup>nd</sup> Annual Aerospace & Mechanical Engineering Mini-Symposium. Plymouth Meeting, PA.
57. Kasprzak, S., M. Fuqua, J. Nasr, and J.L. Glancey. 2006. A real-time resin flow modification robot for vacuum-assisted resin transfer molding of composite materials. The Greater Philadelphia AIAA/ASME 2<sup>nd</sup> Annual Aerospace & Mechanical Engineering Mini-Symposium. Plymouth Meeting, PA.
58. Nalla, A. and J. Glancey. 2006. Adaptive, model-based control for resin transfer molding. The Greater Philadelphia AIAA/ASME 2<sup>nd</sup> Annual Aerospace & Mechanical Engineering Mini-Symposium. Plymouth Meeting, PA.

59. Konchar, J. and J. Glancey. 2006. Molding and testing of composite-based impact tool designs to reduced biomechanical injuries. The 3<sup>rd</sup> Annual Center for Biomedical Engineering Research Symposium, Newark, DE.
60. Nalla, A. and J.L. Glancey. 2005. Closed loop control of resin flow in VARTM using a multi-segment injection line and real-time adaptive, model-based control. The 2005 ASME International Mechanical Engineering Congress and R&D Expo, Orlando, FL.
61. Stewart, S., J. Armstrong, J. Harp, D. Breakiron, M. Baker, G. Bennett, R. Jester and J. Glancey. 2005. Mechanical harvesting aids for indoor, closed system tilapia production. 2005 National Agrability Conference, Burlington, VT.
62. Glancey, J.L. 2005. Design and performance of a hydro-unloading system for machine harvested vegetables. 2005 ASAE International Annual Meeting, Orlando, FL.
63. Glancey, J.L., J. R. Vinson, and G. A. Snyder. 2005. Assessing ladder accidents. 2005 ASAE International Annual Meeting, Orlando, Florida.
64. Glancey, J.L., P. Popper, and J. Konchar. 2005. Ergonomic benefits of polymer capped chisels. 2005 ASAE International Annual Meeting, Orlando, FL.
65. Glancey, J.L., K. Carlisle, and W. Carlisle. 2005. High speed mechanical harvesting of spinach. 2005 NABEC Conference, Lewes, DE.
66. Kasprzak, S., M. Fuqua, M. Griffith, J. Nasr, and J. L. Glancey. 2005. An overview of composite manufacturing processes and applications. 2005 NABEC Conference, Lewes, DE.
67. Meckley, D., K. Smith, E. Priepke, and J. Glancey. 2005. A hydraulic powered bale kicker for large round balers. 2005 NABEC Conference, Lewes, DE.
68. Dickerson, D., R. Benetiz, M. Baker, G. VanWicklen and J.L. Glancey. 2005. Automated testing of poultry nipple drinkers. 2005 NABEC Conference, Lewes, DE.
69. Brown, D., D. Jones, and J.L. Glancey. 2005. Measurement of embryo temperature in incubating avian eggs. 2005 NABEC Conference, Lewes, DE.
70. Herseim, R., K. Comer, T. Stiefvater, and J. Glancey. Structural analysis and testing of injected molded plastic drive train shields for self-propelled mower conditioners. 2005 NABEC Conference, Lewes, DE.
71. Sims, J.T., J.L. Glancey, and D. Snyder. 2005. Field Evaluation of an applicator for sidedressing row crops with solid wastes. 2005 NABEC Conference, Lewes, DE.
72. Konchar, J., J. Glancey, P. Popper. 2005. Sound emission characteristics of new hand-struck tools designed with high performance engineering polymers. 2005 NABEC Conference, Lewes, DE.
73. Glancey, J.L., G. Snyder, J. Vinson, J. Krishnan, P. Franklin. Dynamic loading of fiberglass step ladders. 2005 NABEC Conference, Lewes, DE.
74. Glancey, J.L., R. Strosser, I. Cosden, M. Dunson, J. Gordon, and D. Cook. 2005. Automatic adjustment and control of the conditioning roll gap on mower-conditioners. 2005 NABEC Conference, Lewes, DE.
75. Lynch, S., W. F. Ritter, and J. Glancey. 2005. Potential economic impacts of the biodiesel industry in Delaware. 2005 NABEC Conference, Lewes, DE.
76. Smith, K., G. Thorson, J.L. Glancey, and S.Huerta. 2005. Real-time surveillance of shallow depth estuaries for water quality and harmful algal blooms. 2005 ASCE Watershed Management Conference, Williamsburg, VA.
77. Konchar, J. and J. L. Glancey. 2005. Strategies for reducing hearing loss in industrial workers. 2<sup>nd</sup> Annual Center for Biomedical Engineering Research Symposium, Newark, DE.
78. Krisher, J. and J.L. Glancey. 2005. Modeling the impact of human falls. 2<sup>nd</sup> Annual Center for Biomedical Engineering Research Symposium, Newark, DE.
79. Glancey, J. L., R. Strosser, I. Cosden, J. Gordon, M. Dunson, and D. Cook. 2004. A system for the automatic adjustment and control of the conditioning roll gap on mower-conditioners. 2004 Society of Automotive Engineers Commercial Vehicle Engineering Congress, Advances in Off-Road Vehicle Electronics. Chicago, IL.
80. Vinson, J., J. L. Glancey, and G. A. Snyder. 2004. Analysis, design and optimization of high performance composite sandwich water skis. The 2004 ASME International Mechanical Engineering Congress and R&D Expo, Los Angeles, CA. (presented by J. Vinson).
81. Smith, K. and J. L. Glancey. 2004. Design and testing of a low-cost whole water column, near-real-time surveillance device for shallow depth estuaries. 2004 ASAE International Meeting, Ottawa, Ontario, Canada.
82. Glancey, J.L., W.E. Kee, and T.L. Wootten. 2004. Effects of plant architecture on the mechanical recovery of bush-type vegetable crops. 2004 ASAE International Meeting, Ottawa, Ontario, Canada.
83. Glancey, J.L. and T. Nasr. 2004. Measurement of transmitted vibration in tools designed using engineering polymers. 2004 ASAE International Meeting, Ottawa, Ontario, Canada.
84. Herseim, R., J.L. Glancey, P. Popper, W. Walker, K. Ranjan, and J. Tretacosta (DuPont, Co.). 2004. A device to simulate the mechanics of human falls. 2004 ASAE International Meeting, Ottawa, Ontario, Canada.

85. Herseim, R., J. Moore, and J. L. Glancey. 2004. An instrumented device for measuring the dynamics of human falls. 2004 Northeast Region Ag and Biological Engineers, State College, PA.
86. Smith, K., G. Thorson, and J. L. Glancey. 2004. Progress in developing low cost, near-real-time surveillance systems for water quality monitoring in Delaware. 2004 Northeast Region Ag and Biological Engineers, State College, PA.
87. Nalla, A., J.L. Glancey and B. Leleiver. 2004. Theoretical and experimental evaluation of a segmented injection line for resin flow control in VARTM. The 7<sup>th</sup> International Conference on Flow Processes in Composite Materials, USA, 7 ~ 9 July, Newark, DE..
88. Nalla, A., B. Leleiver, and J.L. Glancey. 2004. Design and performance of a new VARTM resin injection line. The 7<sup>th</sup> International Conference on Flow Processes in Composite Materials, 7 ~ 9 July, 2004, Newark, DE.
89. Moore, J., J. Lawrence, and J.L. Glancey. 2004. A test stand and standard testing methodology for measuring the hand-arm vibration characteristics of power tools. 2004 University of Delaware Center for Biomedical Engineering Research Symposium, Newark, DE.
90. Muhlenforth, D., D. Schiavoni, and J. L. Glancey. 2004. Spectral analysis of new, low vibration hand-struck tool designs. 2004 University of Delaware Center for Biomedical Engineering Research Symposium, Newark, DE.
91. Herseim, R. and J. L. Glancey. 2004. The mechanics of human falls. 1<sup>st</sup> Annual Center for Biomedical Engineering Research Symposium, Newark, DE.
92. Taday, B., J. Fitzgibbons, S. Davidson, and J. L. Glancey. 2004. Design requirements for an automated measurement system for the evaluation of progress during hand and finger physical therapy. 2004 University of Delaware Center for Biomedical Engineering Research Symposium, Newark, DE.
93. Humphries, E. (Delaware Department of Natural Resources and Environmental Control - DNREC), et. al. (DNREC presenter on behalf of all University of Delaware and DNREC researchers). 2003. State of Delaware 2003 harmful algae bloom initiative- summary of current research and partners. 2<sup>nd</sup> Symposium on Harmful Marine Algae in the U.S., Woods Hole, MA.
94. Glancey, J.L., G.A. Snyder (National Forensic Engineers, Inc.), and J.R. Vinson. 2003. Experimental evaluation of the structural characteristics of extruded aluminum stepladders. The ASME International Design Engineering Technical Conferences: 17th Reliability, Stress Analysis and Failure Prevention Conference, Chicago, IL.
95. Snyder, G.A. (National Forensic Engineers, Inc.), J.L. Glancey, and J.R. Vinson. 2003. Failure analysis of stepladders manufactured from extruded aluminum. The 2003 ASME International Mechanical Engineering Congress and R&D Expo, Washington, D.C.
96. Glancey, J.L., P. Popper, M. Mitch, P. Truitt, T. Nasr, M. Orgovan, J. Stevens. 2003. A new cyclic impact device and standard testing methodology for hand struck tools. The 2003 ASME International Mechanical Engineering Congress and R&D Expo, Washington, D.C.
97. Glancey, J.L., P. Popper, T. Nasr, P. Truitt, M. Orgovan, D. O'Brian. 2003. Design and performance of hand-struck impact tools using high performance polymers. The 2003 ASME International Annual Meeting, Washington, D.C.
98. Wang, J., J.L. Glancey, and J.R. Vinson. 2002. Transverse shear deformation effects in laminated and sandwich composite panels subjected to in-plane shear. ASME IMECE, New Orleans, LA.
99. Wang, J., J.R. Vinson., and J.L. Glancey. 2002. Geometric nonlinear deformation effects in composite sandwich plates subject to in-plane shear loads ASME IMECE, New Orleans, LA.
100. Glancey, J. L. 2001. Digital signal processing of the storage bin mass on mobile equipment for the prediction of crop mass flow rate and yield. The 2001 ASAE International Annual Meeting, Sacramento, CA.
101. Keefe, M., J.L. Glancey, and Z. Zhong. 2000. Performance of high oleic soybean oil-based hydraulic fluids in long-duration pump tests. The 2000 International Off-Highway & Powerplant Congress & Exposition. Milwaukee, WI.
102. Krishnan, M., R. Strosser, J.L. Glancey and J.Q. Sun. 2000. Adaptive modeling and control of precision agricultural machines. The 2000 International Off-Highway & Powerplant Congress & Exposition. Milwaukee, WI.
103. Glancey, J.L., S. Knowlton, E.R. Benson. 1999. Development of a high oleic soybean oil-based hydraulic fluid. The 1998 International Off-Highway & Powerplant Congress & Exposition. Milwaukee, WI.
104. Glancey, J.L., J.K. Rosenberger, and S.S. Cloud. 1999. Measurement of embryo and air cell temperatures in incubating broiler eggs. Abstract #9938. The 10<sup>th</sup> Annual Northeast Agricultural and Biological Engineering Conference, Lancaster, PA.
105. Knowlton, S (DuPont), and J.L. Glancey. 1998. Development of a high oleic soybean oil-based hydraulic fluid. 1998. The 89<sup>th</sup> Annual Meeting of the American Oil Chemists Society. May 1998, Chicago, IL.
106. Glancey, J.L., D.W. Hofstetter, W.E. Kee and T.L. Wootten. 1998. Yield and soil property variations in processed vegetable production on the Delmarva Peninsula. The 1998 ASAE International Annual Meeting. Orlando, FL.

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108. Glancey, J.L., D. Hoffstetter, W.E. Kee, T.L. Wootten, and M. Lynch. 1997. Preliminary evaluation of yield monitoring techniques for vegetables. 1997 ASAE International Annual Meeting, Minneapolis, MN.
109. Glancey, J.L., S. Seymour, C. Bohman, R. Sheehan, and J. Posselius (New Holland, Inc.). 1997. Development of a precision industrial spreader for the land application of solid wastes. 1997 ASAE International Annual Meeting, Minneapolis, MN.
110. Glancey, J.L., W.E. Kee, and T.L. Wootten. 1997. Reducing damage and improving recovery of mechanically harvested pickling cucumbers. 1997 ASAE International Annual Meeting, Minneapolis, MN.
111. Glancey, J.L., W.E. Kee, T.L. Wootten. 1997. Modeling recovery of pod stripper combines used for the mechanical harvesting of processed vegetables. The 5<sup>th</sup> International Symposium on Fruit, Nut and Vegetable Production Engineering. Davis, CA.
112. Kee, W.E., T.L. Wootten and J.L. Glancey. 1997. Production systems to optimize mechanical harvest of pickling cucumbers. The 5<sup>th</sup> International Symposium on Fruit, Nut and Vegetable Production Engineering. Davis, CA.
113. Glancey, J.L. 1997. Yield monitoring techniques for lima beans harvested with pod stripper combines. The Biennial Meeting of the Bean Improvement Cooperative, Annapolis, MD.
114. Glancey, J.L. 1997. Yield monitoring of peas with pod stripper combines. The Biennial Meeting of the Pea Improvement Cooperative, Annapolis, MD.

#### TEACHING PRESENTATIONS AT PROFESSIONAL MEETINGS & CONFERENCES

1. Glancey, J.L. 2006. Faculty and industry partnerships through sponsored research and design projects targeted to enhance undergraduate education. The 2006 ASABE International Annual Meeting, Seattle, WA.
2. Keefe, M., J.L. Glancey, and N. Cloud. 2005. A Case Study In Assessing Team-Based Design Courses That Integrate Industry-Sponsored Projects. The 2005 International Mechanical Engineering Congress and Exposition, Orlando, FL.

#### FUNDED RESEARCH PROJECTS

1. Developing Irrigation BMP's for Spray on Demand with Municipal Wastewater. Delaware Department of Agriculture and Delaware Department of Natural Resources and Environmental Control. 2010-11.
2. Advanced Materials Manufacturing: Rapid Tooling for Large Scale Composite Structures-Phase I. Gillespie, Advani, et.al. Office of Naval Research. 2009-11.
3. Advanced Materials Intelligent Processing-Phase VI. Gillespie, Advani, Weile, Glancey, and Panchapakesan. Office of Naval Research. 2003-05. \$1,025,000.
4. Development of Near-Real-Time Whole Water Column Surveillance Technology for Shallow Depth Estuaries. Delaware Department of Natural Resources and Environmental Control, and The Center for the Inland Bays - \$30,500, and University of Delaware, College of Agriculture and Natural Resources Research Match - \$29,500.
5. Advanced Materials Intelligent Processing-Phase V. Gillespie, Advani, Weile, Glancey, and Panchapakesan. Office of Naval Research. 2003-04. \$1,300,000.
6. Development of Hip-Impact Simulation Device. 2003- present. DuPont, Inc. \$22,000.
7. Improving Hand and Power Impact Tool Performance with Engineering Polymers. 2003-04. Hard Hat, LCC. \$9,000.
8. Feasibility of Automation for Medical Sensor Manufacturing Inspections. 2003. Dade Behring, Glasgow, DE. \$5,000.
9. Propulsion Control for the New Holland Power Units. 2002-03. New Holland, NA, New Holland, PA. \$10,000. (with J.Q. Sun).
10. Improving Performance of Commercial Avian Incubators through Innovative Measurement and Control of Embryo Temperature. 2002-04. U.S. Poultry and Egg Association. \$48,000.
11. Advanced Materials Intelligent Processing- Phase IV. 2002-03. Gillespie, Advani, Weile, Glancey, and Panchapakesan. Office of Naval Research. \$1,300,000.
12. Design of a Solar House for the Solar Decathlon Competition. 2001. U.S. Dept. of Energy (co-investigator w/ L.P. Wang and A.J. Prasad). \$5,000.
13. Adaptive Controls for New Holland Demeter Machines. 2000-2002. CNH Global - Haytools \$20,000. (with J.Q. Sun).
14. Chemical Analysis of Used High Oleic Soyoil Hydraulic Fluid. 2001. DuPont. \$20,000 (with M. Keefe).
15. Preliminary Control, Analysis and Design of New Holland Demeter Machines. 2000. CNH Global - Haytools \$8,000 (Co-investigator w/ Jian Sun).

16. Gift from Pickle Packers International. 1999. \$5,000. (E. Kee and J. Glancey).
17. Testing Soyoil-Based Hydraulic Fluids. 1999-2001. The United Soybean Board \$25,000. DRP \$25,000. (Joint project with DuPont, M. Keefe and A. Szeri).
18. Noise Reduction on the New Holland Skid Loader. 1999. New Holland, N.A., Inc. \$20,000 (2<sup>nd</sup> investigator with Jian Sun).
19. Demonstration of Improved Configurations for Cucumbers Harvesters. 1998-99. Delaware Vegetable Growers Check-Off: \$22,000; and the Delaware Research Partnership: \$22,000.
20. Calibration of a Microwave Yield Sensor. 1999. New Holland N.A., Inc. \$6,000.
21. Development of a Phosphorous-Index for the Management of Fertilizer and Poultry Manure P. 1999-2001. \$50,000 (Delaware Department of Natural Resources and Environmental Control - DNREC, the State of Maryland). (J.T. Sims, Principle Investigator).
22. Development of a High Oleic Soybean Oil-Based Hydraulic Fluid. 1997-1999. DuPont: \$45,000; and the Delaware Research Partnership: \$32,000
23. Development of a Precision Industrial Spreader. 1997-98. DNREC: \$39,500, New Holland, N.A., Inc.: \$49,000.
24. Mechanical Harvester Improvement Program. 1997-2001. Pickle Packers International, Inc. \$20,000. (with Ed Kee).

#### INTELLECTUAL PROPERTY

- Patents Awarded
  1. *System and Method for Controlling Permeability in Vacuum Infusion Processes*. U.S. Patent No. 9,079,367. 2015.
  2. *Computer Controlled Flow Manipulation for Vacuum Infusion Processes*. U.S. Patent No. 8,808,612. 2014
  3. *Apparatus and Method for Preform Relaxation and Flow Control in Liquid Composite Molding Processes*. U.S. Patent No. 8,210,841. 2012.
  4. *An Automatic Control System for Vegetable Harvesters*. U.S. Patent No. 5,784,871. 1999.
- Provisional Patents, and Patent Applications Submitted and/or Under Review at the U.S. Patent Office
  5. *A Method for Separating Oil from Water*. U.S. Provisional Patent No. 61/370,067.
  6. *Apparatus and System for Magnetically Controlling Permeability in a Vacuum Infusion Process*. U.S. Provisional Patent No. 61/376,893.
  7. *Twist-Lock Mechanism for Attaching Composite Impact Surfaces to Impact Tools*. U.S. Provisional Patent No. 61/255.331.
  8. *Combination of Impact Tool Cap and Shaped Relatively Low Modulus Material*. U.S. Patent Application No. 12/083903.
  9. *A Functional Polymer Faced Hammer for Reduced Vibration, Noise, and Improved Ergonomics*. U.S. Patent Application No. WO 2007/082238.
  10. *Snap-off Blade Knife with Safety Stop*. U.S. Patent Application No. 12/509085
  11. *Vacuum Assisted Resin Transfer Molding Techniques with Flood Flow Chamber for Composite Material Manufacturing*. U.S. Patent Application No. 11/458122.
  12. *A Low Volume Testing Device to Evaluate Hydraulic Fluid Performance*. U.S. Patent Application No. 09/256,060. (patent application withdrawn by UD).
  13. *Direct, Continuous Measurement of the Mass Flow Rate of Bulk Materials*. U.S. Provisional Patent Application No. 60/094,543.
- Additional Invention Disclosures and Applications
  14. *A High Oleic Soybean Oil-Based Biodegradable, Non-Toxic Hydraulic Fluid*. (Provisional Patent submitted by DuPont).
  15. *An Applicator for Metering Bulk Solid Wastes and Compost in Rows*. (Provisional Patent submitted by New Holland, Inc. N.A.).

#### PROFESSIONAL CONSULTING

- Expert Witness – Depositions & Court Appearances
  1. *Kasper v. Tricam Industries, Inc., Walgreen Company, and Home Depot, Inc.*, Case No. 05 L 0001444 (Circuit Court of Cook County, Illinois) (deposition);
  2. *Arancibia v. Core Distribution, Inc. and Home Depot U.S.A., Inc.*, Case No. 10-CV-05807-ADS-AKT (District Court of New York, Eastern District) (deposition);



3. *Abbate v. Werner Company and Home Depot U.S.A., Inc.*, C/A No. 09C-02-013 (Superior Court of Delaware) (deposition);
  4. *Kahn v. Macklanburn-Duncan Company*, C/A No. 07-CP-1512 (Common Pleas 14<sup>th</sup> Judicial Court of South Carolina) (deposition);
  5. *Bethea v. S.P. Richards & SDI Corporation*, Case No. 4:06-CV-2604-TLW-TER (District of South Carolina, Florence Division), (deposition)
  6. *Uli v. Lowe's HIW, Inc.*, Case No. 34-2009-00038666 (Superior Court of California, County of Sacramento); (deposition)
  7. *Ford v. Werner Company and Home Depot U.S.A., Inc.*, Case No. ED CV 05-00988 SGL (District of California, Eastern Division), (deposition and court appearance);
  8. *Campos v. Louisville Ladder, Inc.*, Civil Action No. C-09-39 Jury, (Southern District of Texas, Corpus Christi Division) (deposition);
  9. *Flores v. Lynn Ladder & Scaffolding Co., Inc., Capital Rental Inc., and TCR Mid-Atlantic Construction*, Law No. CL06-5310 (Circuit Court of Fairfax, Virginia), (deposition and court appearance);
  10. *Chenault et al. v. Doral Industries Inc., Costco Home & Office Products Inc., Walmart Stores Inc., and Sam's Club*, Case No. 1:08-cv-00354-SS (Western District of Texas, Austin Division) (deposition and court appearance);
  11. *Yoder et al. v. The Sportsman's Guide, Inc.*, No. 14-cv-00937 (Western District of Pennsylvania) (deposition);
  12. *Fitzner v. New Werner Holding Co., Inc. et al.*, No. SX-09-cv-400 (Superior Court of the Virgin Islands) (deposition);
  13. *Foster v. Tricam Industries & Home Depot U.S.A., Inc.*, No. 11-cv-00338 (District of Utah) (deposition and court appearance);
  14. *Leach v. Core Distribution, Inc. et al.*, No. 10-cv-02570 (District of Colorado) (deposition and court appearance);
  15. *Jackson v. Louisville Ladder, Inc. et al.*, No. 11-cv-1527 (Middle District of Pennsylvania) (deposition and court appearance);
  16. *Hodge v. Louisville Ladder, Inc. et al.*, No. 12-cv-00240 (Southern District of Texas) (deposition and court appearance);
  17. *Picken v. Cuprum S.A. de C.V. et al.*, No. 11-13044 (Eastern District of Michigan) (deposition and court appearance);
  18. *Ash v. Reber; Reber (3rd Party Plaintiff) v. Tricam Industries et al.*, No. 145499/2012 (Supreme Court Niagara County, New York) (deposition and court appearance);
  19. *Coon v. NK Co. Ltd. et al.*, No. UNN-L-1809-10 (Union County Superior Court, New Jersey) (deposition and court appearance);
  20. *Privado v. Vestil Manufacturing Corporation*, No. 7:16-cv-00649 (Southern District of Texas) (deposition);
  21. *Privado v. AIM Media Texas Operating, LLC*, No. JWA NO. 994-A 2016 (Southern District of Texas) (deposition);
  22. *Bocelli v. Owens & Minor Distribution Inc. and Crown Equipment Corp.*, No. 2:15-cv-06313-NIQA (Eastern District of Pennsylvania) (deposition).
  23. *Blackbird Technologies LLC v. Lenovo (USA, Inc.)*, C.A. No. 16-140-RGA (District Court for the District of Delaware)
- Expert Witness – Patent Infringement & Patent Litigation and Execution
    1. Covington and Burling, LLP, Washington, D.C. (2018-present). John Deere (Plaintiff) vs AGCO and (Defendants). Infringement of a set of 12 patents for the ExactEmerge™ product line. U.S. Patent No 8,813,663.
    2. Rothwell, Figg, Ernst & Manbeck, P.C., Washington, D.C. (2018-present). Unverferth Manufacturing Co., Inc. (Plaintiff) vs. Norwood. (Defendant). Infringement of Agricultural Seed Tender with Pivoting Conveyor, U.S. Patent No. 8,221,047.
    3. David Gerasimow, Esq., Blackbird Technologies, Boston, MA. (2017-18). Blackbird Technologies, Inc. (Plaintiff) vs. Lenovo Corporation (Defendant). Infringement of *Multipurpose Computer Display System*, U.S. Patent No. 7,129,931.

4. Rothwell, Figg, Ernst & Manbeck, P.C., Washington, D.C. (2016-18). Unverferth Manufacturing Co., Inc. (Plaintiff) vs. J&M Manufacturing Co., Inc. (Defendant). Infringement of *Agricultural Seed Carrier with Pivoting Conveyor*, U.S. Patent No. 8,221,047.
5. Daneker, McIntire, Schumm, Prince, Manning & Widmann, P.C., Baltimore, MD. (2011). Testing to demonstrate infringement on Hard Cap patent by a foreign manufacturer. U.S. Patent No. 908,996.
6. Brooke Schumm, Esq., Baltimore, MD. (2010). Prototyping and reduction to practice of U.S. Patent No. 8,092,370.
7. Laura Simon, Esq., Dalton and Associates, Wilmington, DE. (2008) Prototyping and reduction to practice of U.S. Patent No. 6,957,510.

• Expert Witness – Product Liability Lawsuits and Investigations

2. Michael Guerra, Esq. Law Offices of Michael Guerra. McAllen, TX. Design of a centrally located monitoring system for distributed carbon monoxide detection in a commercial hotel. (2018)
3. Jody Mask, Esq. Mask & Guerrero, Trial Attorneys. San Antonio, TX. Examination and design analysis of a failed fall arrester and fall arrest system. (2018)
4. Alberto Guerrero, Esq. Cowen, Mask and Blanchard Attorneys at Law. McAllen, TX. Analysis of a fiberglass crossbow structural failure and injury. (2018)
5. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of the failure of a polymer spray applicator for coating fabrics. (2017).
6. Scott Kagan & Terry McCarty, Reiner, Slaughter, McCartney & Frankel LLP. Rye, NY. Evaluation and testing of a molded elastomeric foot on a multipurpose aluminum ladder. (2017-18).
7. Alberto Guerrero, Esq. Cowen, Mask and Blanchard Attorneys at Law. McAllen, TX. Analysis of a low speed impact between two tractor trailers. (2017).
8. Pete Friday, Esq., Friday and Cox, LLC. Pittsburgh, PA. Analysis of a natural gas repair site and associated signage and traffic accident. (2017).
9. Linsey Scarcello, Esq., Langdon and Emison, LLC, Lexington, MO. Analysis of an articulating ladder molded foot design. (2017-18)
10. Pete Friday, Esq., Friday and Cox, LLC. Pittsburgh, PA. Analysis of a welding torch and failure and clothing fire. (2017).
11. Anthony Pinnie, Esq. Schuster Law and Associates, Media, PA. Failure of a polymer nut on a Pfister bathroom sink fixture. (2017)
12. Jody Mask, Esq., and Alberto Guerrero, Esq. Cowen, Mask and Blanchard Attorneys at Law. Donna, TX. Walkway trip and fall, and assessment of the American Disabilities Act design requirements. (2017)
13. Pete Friday, Esq., and Josh Licata, Esq., Friday and Cox, LLC. Pittsburgh, PA. Analysis of a large elastomeric hose failure after post extrusion pressure testing. (2017).
14. Jody Mask, Esq., and Alberto Guerrero, Esq. Cowen, Mask and Blanchard Attorneys at Law. McAllen, TX. Modeling of the kinetics of an impact between a John Deere backhoe and a pickup truck. (2017)
15. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of the failure of a harness during the fall of worker cutting of a tree. (2016).
16. Chris Apeessos Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of a rear end collision involving a bumper hitch recreational trailer. (2016).
17. Alberto Guerrero, Esq. Cowen, Mask and Blanchard Attorneys at Law. McAllen, TX. Forensic evaluation of a fall involving a mobile ladder. (2016-present)
18. Greg Nicosia, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of an incident involving a Caterpillar Escavator. (2016).
19. Joshua Licata, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of an electrocution involving a truck mounted aerial lift. (2016).
20. Justin Bernstein, Esq. Schuster Law and Associates, Media, PA. Extremity laceration and equipment evaluation of a highschool wood shop tablesaw. (2015-present).
21. Justin Bernstein, Esq. Schuster Law and Associates, Media, PA. Evaluation of a pallet jack foot crushing incident. (2015-present).
22. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of a fall into a press for manufacturing tubing. (2015-present).
23. Justin Bernstein, Esq. Schuster Law and Associates, Media, PA. Extremity loss evaluation from an automated chopsaw. (2015-present).

24. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of a fall from a scissors lift (2015-present).
25. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of a motorcycle ignition switch failure. (2015-present).
26. Amy Eddy, Esq. The Law office of Amy Eddy, PLLC. Kalispell, MT. Examination of a fiberglass extension ladder failure. (2015-present).
27. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Determining the impact characteristics of a rear truck bumper during a rear end collision. (2015-present).
28. Kevin Burger, Esq. Friday and Cox, LLC. Pittsburgh, PA. Analysis and testing of failed concrete reinforcement (rebar). (2015-present).
29. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Determining the permeability characteristics of a crib bumper. (2015-present).
30. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of a hunting stand structural failure. (2015-present).
31. Scott Kauff, Esq. Law Offices of John K. Dema, PC., St. Croix, Virgin Islands Analysis of a failed aluminum step ladder assembly. (2015-present).
32. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of a failed clip for bicycle clip-in shoes. (2015-present).
33. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Examination of an ATV accident involving an unmarked electric pole guy wire. (2014-present)
34. Anthony Pinnie, Esq. Schuster Law and Associates, Media, PA. Examination of an electric cable transfer system at the Philadelphia Water Department's Receiving Station. (2014-present).
35. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of an amputated arm accident by a horizontal boring machine. (2014-present).
36. Justin Bernstein, Esq. Pinnie Law Offices., Media, PA. Analysis of a smoke tunnel door latch system failure on a paper manufacturing system. (2014-2015).
37. James Navagh, Esq. The Law Office of John Wallace. Buffalo, NY Analysis of failed fiberglass ladder siderail. (2014 – present).
38. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of a failed weld on a wood chipper jack. (2014-present)
39. Allan Freeman, Esq. Schultz Law LLC. Conshohocken, PA. Evaluation of a failed fiberglass step ladder. (2014-present).
40. David Cutt, Esq. Eisenberg, Gilchrist, and Cutt. Analysis and testing of a failed aluminum step ladder. (2014 – present).
41. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of a crushing head impact on an enclosed water slide stairs. (2014-present).
42. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of an electrocution from overhead power lines.. (2014-present).
43. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of a powered rotating entrance door at a casino. (2013).
44. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Evaluation of the electrocution of a tree trimmer. (2013-present).
45. Peter Friday, Esq. Friday and Cox, LLC. Pittsburgh, PA. Examination of a leg crushing accident involving a natural gas well beam pump. (2013-present).
46. Bobby Kenny, Kenny Brothers, Inc. Bridgeville, DE. Analysis of a fractured GM diesel engine crank shaft. (2012).
47. Craig Hilborn, Esq., Hilborn & Hilborn, Birmingham, MI. Analysis of a step failure on a bucket truck fiberglass bucket. (2012-13)
48. Brently White, Esq. Sico, White, Hoelscher, Braugh. Corpus Christi, TX. Analysis of an aluminum extension ladder failure. (2012-14).
49. David L. Jones, Esq., Jones Law Firm, P.L.L.C., Corpus Christi, TX. Analysis of an apartment heater temperature controller failure. (2011-12).
50. Gregory Hopper Esq., Salsbury, Clements, Bekman, Marder & Adkins, LLC. Analysis of a ladder failure. Baltimore, MD. (2011-12).
51. David L. Jones, Esq., Jones Law Firm, P.L.L.C., Corpus Christi, TX. Analysis of an extrusion machine design and accident. (2011-13).

52. David Kramer, Esq., Hilborn & Hilborn, Birmingham, MI. Analysis of failed fiberglass ladder siderail. (2011 – 14).
53. Kristen Sinisi, Esq., Angino and Associates, Harrisburg, PA. Analysis and testing of a failed aluminum stepladder. (2011-present)
54. Brett Farney, Esq., Farney Law Office, San Antonio, TX. Analysis of a failed aluminum step ladder side rail and first step. (2011-2012).
55. Joel Rosen, Esq. Cohen, Placitella & Roth, P.C., Philadelphia, PA. Analysis of an oxygen cylinder failure and injury. (2011-12).
56. Cameron Davis, Esq., Hoversten, Johnson, Beckmann & Hovey, Austin, MN. Failure analysis of a failed aluminum extension ladder. (2011-present).
57. Douglas B. Cannon, Esq., Fabian & Clenndenin, P.C., Salt Lake City, UT. Failure analysis of the structural failure of an articulating ladder. (2011-13).
58. John O’Connell, Esq., O’Connell and Associates, PC. Denver, CO. Analysis and testing of a failed aluminum telescoping extension ladder. (2010-12).
59. David J. DeToffol, Esq. DeToffol & Associates Attorneys at Law. New York, NY. Failure analysis of the locking pin on a telescoping extension ladder. (2010-present).
60. David L. Jones, Esq., Watts, Guerra, and Craft LLP, Corpus Christi, TX. Stress analysis and testing of a Grade A, class 2 shackle failure and injury. (2010-12).
61. David L. Jones, Esq., Watts, Guerra, and Craft LLP, Corpus Christi, TX. Analysis and testing of a Schedule 160 high pressure pipe fitting failure and fatality. (2010-12).
62. David L. Jones, Esq., Watts, Guerra, and Craft LLP, Corpus Christi, TX. Georgia buggy accident and operator injury investigation. (2010-present).
63. Thomas J. Gilbride, Esq. O’Malley & Langan, P.C., Scranton, PA. Failure analysis of an aluminum scaffold jack. (2010).
64. Kiersta D. Perlee, Esq., The Arnold Law Firm, Sacramento, CA. Structural analysis of a failed fiberglass channel. (2010).
65. Tom Power, Esq. Power, Rogers & Smith, P.C., Chicago, IL. Examination of a failed rubber foot. (2010-present).
66. Peter Friday, Esq. Friday, Porta, Cox, and Ward, LLC. Pittsburgh, PA. Evaluation of the swimming pool electrocution. (2010). – just papers
67. Jeff Clark, Esq., Schmittinger & Rodriguez, Dover, DE. Analysis and testing of a pultruded fiberglass structural failure. (2010-12).
68. Eugene McGurk, Esq., Raynes McCarty, Philadelphia, PA. Analysis of the structural failure of a carbon fiber bicycle frame. (2010-2012).
69. Christina T. Novajosky, Esq. O’Malley & Langan, P.C., Scranton, PA. Analysis of a foot pad failure and overall stability of an aluminum step ladder. (2010).
70. Tim Lengkeek, Esq., Young, Conaway, Stargatt, & Taylor, LLP, Wilmington, DE. Analysis of an accident involving a conveying system. (2009).
71. Junie Sinson, Esq, Sinson & Sinson, LTD, Chicago, IL. Analysis of a ladder side rail structural failure. (2009-present).
72. Devon Bruce, Esq., Power, Rogers & Smith, P.C., Chicago, IL. Examination of a fiberglass side rail failure. (2009).
73. A.J. Sackett & Sons, Inc., Baltimore, MD. Review of a load out conveyor and blending system design and accident. (2009).
74. Steven Stambaugh, Esq., Stambaugh Law, York, PA. Analysis of the electro-hydraulic system design and failure for a trailer boom lift accident. (2009). – just papers
75. Lauren Hudecki, Esq., Young, Conaway, Stargatt, & Taylor, LLP, Wilmington, DE. Analysis of an accident involving a hydraulically driven screening machine (2009).
76. Wyatt Stevens, Esq., Roberts & Stevens, P.A., Asheville, N.C. Testing and analysis of a high performance carbon fiber water ski failure. (2009).
77. David L. Jones, Esq., Watts, Guerra, and Craft LLP, Corpus Christi, TX. Analysis of an aluminum step ladder failure. (2009).
78. Peter Friday, Friday, Porta, Cox, and Ward, LLC. Pittsburgh, PA. Analysis and testing of a horizontal mixing mill safety shutdown system. (2009).
79. John Roberts, Esq., Ball, Hulbert and Roberts. Analysis of a fiberglass step ladder failure. Pasadena, CA (2008).

80. The Dalton Law Firm, Wilmington, DE. Structural analysis and property testing of aluminum step ladder (2007-2008).
81. Steven Stambaugh, Esq., Stambaugh Law, York, PA. Analysis and testing of a defective cast aluminum motorcycle wheel. (2007-08).
82. O'Malley & Langan, P.C., Scranton, PA. Failure analysis of a portable steel ladder failure and accident. (2006)
83. Craig D. Brown, Esq., Foote, Meyers, Mielke & Flowers, Geneva, Illinois. Analysis of a spreader bar failure on a step ladder. (2006-07).
84. Steven Stambaugh, Esq., Stambaugh Law, York, PA. Analysis and testing of a fiber reinforced composite cut-off wheel for abrasive metal cutting (2006-2008).
85. The Walker Law Group, Clearwater, FL., Analysis of fiberglass step ladder failure (2006-present).
86. Richard South, Esq., Wright and Greenhill, P.C., Austin TX., Analysis and testing of an articulating ladder failure. (2006-09).
87. Joel Rosen, Esq. Cohen, Placitella & Roth, P.C., Philadelphia, PA. Analysis of a snap blade knife failure and accident. (2006-09).
88. Welebir & McCune, Redlands, California. Failure analysis of a fiberglass step ladder. (2006-08).
89. Mary Buonanno, Esq., Attorney-at-Law, Takoma Park, MD. Failure analysis of a composite extension ladder siderail. (2006-08).
90. Danny Henderson, Esq., Peters, Murdaugh, Parker, Eltzroth & Detrick Law Offices, Hampton, SC. Failure analysis of an aluminum step stool. (2006-09).
91. Cohen, Placitella & Roth, P.C., Philadelphia, PA. Preliminary analysis of a window failure. (2006-07).
92. Steven Stambaugh, Esq., Stambaugh Law, York, PA. Evaluation of the safety shutdown system on a concrete power trowel (2006).
93. Steven Stambaugh, Esq., Stambaugh Law, York, PA. Structural analysis and testing of an extension ladder. (2006).
94. Steven Stambaugh, Esq., Stambaugh Law, York, PA. Analysis of a forklift brake failure. (2006).
95. Edgar Snyder and Associates, Pittsburgh, PA. Analysis and ASTM testing of the structural failure of a polyethylene molded chair. (2006).
96. Edgar Snyder and Associates, Pittsburgh, PA. Analysis of the structural failure of a composite bike fork. (2006).
97. O'Malley & Langan, P.C., Scranton, PA. Failure analysis of a step stool accident. (2006)
98. Ronald Owen, Attorney at Law, Jacksonville, FL. Failure analysis of a fiberglass extension ladder. (2004-present).
99. O'Malley & Langan, P.C., Scranton, PA. Biomechanics of the impact of a clevis pin on the human skull and neck fitted with a hardhat. (2004-present).
100. Todd S. Miller and Associates, Allentown, PA. Evaluation of a brake failure on a hydrostatic drive, self-propelled asphalt paver. (2004-05).
101. Ferrara, Rossetti & DeVoto, P.A., Cherry Hill, NJ. Preliminary failure analysis of the power train on a shaft-drive motorcycle. (2004).
102. O'Malley & Langan, P.C., Scranton, PA. Analysis of a motorcycle steering column failure and accident. (2004-present)
103. Peter Friday, Esq., Woomer and Friday, Attorneys at Law, LLP, Pittsburg, PA. Analysis and testing of a horizontal mixing mill accident. (2003-05).
104. Todd O'Malley, Esq., O'Malley & Langan, P.C., Scranton, PA. Analysis of an automotive jackstand failure. (2003-07).
105. Leavis and Rests, P.C., Boston, MA. Analysis and experimental evaluation of a defective child's toy. (2003-07).
106. Crews and Bodiford, P.A., Orlando, FL. Failure analysis and testing of a composite sandwich structure water ski. (2003-06).
107. Leavis and Rests, P.C., Boston, MA. Failure analysis of an aluminum extension ladder siderail. (2003-06).
108. Gibson, Valenti & Ashley, P.A., Lake Wales, FL. Rivet pullout analysis of a fiber reinforced structure. (2003-05).
109. Smith, Phillips, Mitchell and Scott, Hernando, MS. Failure analysis of an aluminum open channel. (2003-05).
110. Robert M. N. Palmer, P.C., Springfield, MS. Failure analysis of an aluminum step ladder. (2003-05).
111. Frankel, Cunningham, Stambaugh & Associates, York, PA. Failure of an aluminum extension ladder. (2003-05).

112. Hardin, Kundla, McKeon, Poletto & Polifroni, Springfield, NJ. Fiberglass side rail structural analysis and testing for a failed Werner step ladder. (2003-05).
  113. Kessler, Cohen, and Roth, Inc., Philadelphia, PA. Structural analysis and testing of an aluminum folding walker. (2003).
  114. Hourigan, Kluger, and Quinn, Kingston, PA. Failure analysis of an aluminum step ladder. (2002-03).
  115. The Krasnow Law Firm, Roanoke, VA. Failure analysis of a fiber-reinforced step ladder. (2002-03).
  116. Smith, Stephens, Reed & Phillips, Inc., Pittsburgh, PA. Evaluation/testing of the safety shutdown system on a horizontal mixing mill. (2002).
  117. Litvin, Blumberg, Matusow, and Young, Philadelphia, PA. Evaluation/testing of the crushing potential of a vehicle power seat with position memory. (2002-03).
  118. Venable, Baetjer, Howard & Civiletti, LLP, Washington, D.C. Failure analysis and testing of an exercise device. (2002).
  119. Kessler, Cohen, and Roth, Inc., Philadelphia, PA. Failure analysis of a vending machine fan motor. (2002).
  120. Scanlon and Co., LLC, Akron, OH. Failure analysis of an aluminum step ladder. (2002).
  121. Universal Underwriters Group, Overland Park, KS. Product liability design evaluation. (2002).
  122. Kessler, Cohen, and Roth, Inc., Philadelphia, PA. Assessment of the design, and testing of a concrete chop saw. (2001).
  123. Structural Mechanics Associates, Inc., Philadelphia, PA. Various stress analysis projects for extruded aluminum and fiber-reinforced structures. (1999-present).
  124. National Forensic Engineers, Inc., Pittsburgh, PA. Various failure analyzes of step ladders accident cases. (1999-present).
- Engineering Design - Industry and Government
    1. The Covered Bridge Inn, Lewes, DE. Design of a radiant infrared heating system for a barn and reception facility. (2017).
    2. The Dupont Co., Wilmington Experimental Station, Wilmington, DE. Development of an automated XY table for rapid carbon fiber fabric formation for near net shape structural automotive components. (2016-present).
    3. The Town of Middletown, Delaware. Middletown, DE. Development of a bidding and selection process for the remediation of the town-owned agricultural fields. (2014, 2016, 2018)
    4. Siemens Healthcare Diagnostics. Glasgow, DE. Fatigue analysis, and mechanical and chemical testing of injection molding tooling. (2016-present).
    5. Siemens Healthcare Diagnostics. Glasgow, DE. Automated torquing of bottle lids for analytical instrument reagents. (2016-present).
    6. The Town of Middletown, Delaware. Middletown, DE. Development of 150 acre sports complex utilizing treated municipal wastewater for irrigation. (2015-present)
    7. Mid Atlantic Industrial Belting, Newark, DE. Analysis of a flat belt failure. (2015).
    8. ATK (Alliant Techsystems, formerly Thiokol), Elkton, MD. Analysis of a fiberglass structural failure and recommendations for an improved safety inspection procedure. (2014).
    9. Kraft Foods, Dover, DE. Analysis and recommendations to reduce downtime for the Stovetop Stuffing line. (2013-14). Peter Popper, Wilmington, DE. Modeling the needle tip spatial location during tumor sample extraction. (2013)
    10. The Town of Middletown, Delaware. Middletown, DE. Calculation of field loading rates resulting from Copper Sulfate algae treatment in the wastewater lagoons. (2013)
    11. Kraft Foods, Dover, DE. Design of servo motor mount. (2013)
    12. New Castle County, DE. Odessa, DE. Calculation of the assimilation rates for nutrients and heavy metals for as-needed spray irrigation with treated wastewater for the Odessa area fields. (2012)
    13. The Town of Middletown, Delaware. Middletown, DE. Calculation assimilation rates for nutrients and heavy metals for as-needed spray irrigation with treated wastewater for the Burger farm. (2012)
    14. Siemens Healthcare Diagnostics. Glasgow, DE. Elastic property measurement of a multi-laminant polymer film for medical applications. (2012).
    15. The Town of Middletown, Delaware. Middletown, DE. Preparation of an amended permit application to expand spray-on-demand in the Middletown region. (2012)
    16. The Town of Middletown, Delaware. Middletown, DE. Review of the soil and irrigation management program at the Frog Hollow Golf Course. (2012)
    17. The Town of Middletown, Delaware. Middletown, DE. Development and supervision of a bid process for the remediation of the dedicated spray irrigation fields used for waste water disposal. (2012)

18. Siemens Healthcare Diagnostics, Glasgow, DE. Analysis of an HDPE injection molded component failure. (2011).
19. Tornier, Inc. Edina, MN. Consolidation characteristics of several biomedical laminates. (2011-present).
20. Delaware Department of Transportation (DelDOT), Georgetown, DE. Diagnosis of the misalignment on the loading ramp and redesign of the ramp lifting linkage on the Delaware Woodland Ferry. (2011-present).
21. The Town of Bridgeville, Delaware. Bridgeville, DE. Calculation of assimilation rates for nutrients and heavy metals for as-needed spray irrigation with treated wastewater. (2011-present)
22. Delaware Department of Transportation (DelDOT), Georgetown, DE. Design analysis of the hydrostatic drive propulsion system and thruster shaft sealing system on the Delaware Woodland Ferry. (2011-present)
23. Austin & Bednash, Newark, DE. Analysis of the head loss in a dry fire hydrant line & sizing of a primer pump for the hydrant. (2011).
24. ARCA Advisors and Mid-Atlantic Renewable Partners LLC (MARP). Wilmington, DE. Design of several photovoltaic arrays and systems for the State of Delaware. (2011-present)
25. Tornier, Inc. Edina, MN. Development of a manufacturing process to consolidate and compress biomedical fabrics. (2010-2011).
26. Tornier, Inc. Edina, MN. Development of a machine vision system to quantify porosity of biomedical fabrics. (2010-2011).
27. Kraft Foods, Inc., Dover, DE. Re-design of the liquid ingredient pumping system for bulk shaved coconut manufacturing. (2010-present).
28. University of Delaware, College of Engineering. Newark, DE. Load rating computation, engineering drawings and load rating label recommendations for two lift structures in the College of Engineering Machine Shop. Newark, DE (2010).
29. The Town of Odessa, Delaware. Odessa, DE. Calculation assimilation rates for nutrients and heavy metals for as-needed spray irrigation with treated wastewater. (2010)
30. Kraft Foods Inc., Dover, DE. Fastener strength requirements for an overhead crane system. (2009).
31. Consumer Union, Yonkers, NY. Evaluation of vibrating exercise machines. (2006-07).
32. Cirrus Engineering, Delaware Technology Park, Newark, DE. Measurement of cutting force dynamics for several PTFE coated microtome histologist blades. (2006-2011).
33. Institute for Energy Conversion, Newark, DE. Design and implementation of a self-tuning controller for a multi-chemical batch reactor with web handling for thin film photovoltaic manufacturing. (2003-2005).
34. Hard Hat, LCC, Baltimore, MD. Design and computer-aided-drafting of a hand-struck tool product line for overseas production. (2003).
35. George Whitmyre, Newark DE. Design of and engineering drawings for a welded steel bracket. (2003).
36. Baltimore Tool Works, Inc., Baltimore, MD. Programmable Logic Controller (PLC) programming. (2002).
37. Cirrus Engineering, Inc., Wilmington, DE. Characterization of edge geometry for coated microtome knives; Estimation of cutting energy for apparel fabric and the design and automation of fabric cutting equipment. (2002-03).
38. Monsanto Co., Inc., Galena, MD. Design/Development of a pneumatic conveying system for hybrid seed. (2001-02).
39. Monsanto Co., Inc., Galena, MD. Calculation of the load capacity of a storage loft. (1999).

## OUTREACH

### PEER-REVIEWED EXTENSION PUBLICATIONS

1. Kee, W.E., J.L. Glancey, and T.L. Wootten. 2004. Successful lima bean production in Delaware: A management profile. Extension Bulletin VF-6. University of Delaware, Newark, DE.
  2. Kee, W.E, K. Everts, J.L. Glancey, and T.L. Wootten. 2004. Pea production in Delaware. Extension Bulletin VF-4. University of Delaware, Newark, DE.
- Glancey, J.L. 2001. Equipment for effective poultry litter management. Delaware Nutrient Management Notes. 2 (1): 1-3.

### NON-REFEREED EXTENSION PUBLICATIONS & REPORTS

1. Stoops, A. and J. Glancey. 2010. Drip irrigation basics. Handout for the 2010 Twilight New Castle Growers Meeting, Newark, DE.
2. Glancey, J. 2008. Facility housing considerations for Delaware dairy farms. Proceedings of the 2008 Delmarva Dairy Day, Harrington, DE

3. Glancey, J. 2007. Mechanical sidedressing: Is there an opportunity with some horticultural crops? Proceedings of the 2007 Mid-Atlantic Vegetable Workers Conference, Newark, DE.
4. Glancey, J. 2007. Adjustment and operation of conditioning equipment for increased drying rates and decreased dry matter losses. Proceedings of the Southern and Central Maryland Hay and Pasture Conference, Waldorf, MD.
5. Glancey, J. 2006. Mechanical harvest characteristics of several small greens. 2006. Proceedings of the 2006 Mid-Atlantic Vegetable Workers Conference, Newark, DE.
6. Glancey, J. 2005. Performance and safety concerns with the new bandsaw-type spinach harvester. 2005. Proceedings of the 2005 Mid-Atlantic Vegetable Workers Conference, Newark, DE.
7. Glancey, J. 2000. Flow rate requirements for center pivot irrigation systems. 2000.
8. Glancey, J. and E. Kee. 1999. Report on the throughput capacities and recovery characteristics of tractor mounted and pull-type cucumber harvesters.
9. Kee, E. and J. Glancey. 1997. Harvest loss in peas and lima beans with pod stripper combines.
10. Kee, E., T. Wootten, and J. Glancey. University of Delaware Pea Variety Trials. 1996, 1997, 1998, 2000, 2002.

#### PRESENTATIONS & DEMONSTRATIONS AT COOPERATIVE EXTENSION AND OTHER MEETINGS

1. Multiple Updates on the Delmarva N and P mass balance as part of the Land and Litter Challenge. (2017). L&L Steering Committee Meeting, Wye, MD.
2. Moisture sensing technologies for hay production. 2013. Delaware Ag Week, Harrington, DE.
3. Moisture sensing technologies for hay production. 2013. Southern Maryland Hay & Pasture Conference, Brandywine, MD.
4. Moisture sensing technologies for hay production. 2013. Tri-State Hay & Pasture Conference, Oakland, MD.
5. Comparison of methods for estimating poultry manure nutrient generation in the Chesapeake Bay watershed. 2012. Quarterly meeting of the Chesapeake Bay Program Water Quality Goal Implementation Team. Annapolis, MD.
6. As Needed Irrigation with Municipal Wastewater: A Pilot Project for the Town of Middletown. 2012. Delaware Ag Week, Harrington, DE.
7. Drip irrigation basics demonstration. 2010. Twilight meeting for New Castle County growers. (with Anna Stoops, Extension Agriculture Agent).
8. Moderator of a grower and dealer panel—Irrigation Engineering Advances and Water Conservation. 2010. Irrigation Session, Delaware Ag Week, Harrington, DE.
9. Season extenders: row covers, greenhouses, high and low tunnels and cold frames. 2010. Delaware Organic food and Farming Association Annual Educational Meeting. Dover, DE.
10. Compaction in processing vegetable fields: causes and cures. 2009. Delaware Ag Week, Harrington, DE.
11. Technologies on Manure Management. 2009 Delmarva Dairy Day. Hartley, DE.
12. Energy efficiency of alternative fuels and tips for saving energy on the farm. 2008. Agronomy/Soybean Session, Delaware Ag Week, Harrington, DE.
13. Nutrient management considerations for various tillage systems. 2008. Nutrient Management Session, Delaware Ag Week, Harrington, DE.
14. Facility considerations for Delaware dairy farms. 2008 Delmarva Dairy Day, Harrington, DE
15. Panel member: Discussion on cover crops, irrigation, tillage practices and nutrient management. 2008 Delmarva Dairy Day, Harrington, DE
16. Machine setup and operation for optimal quality forage. 2007. The 2007 Mid-Atlantic Crop Management School, Ocean City, MD.
17. GPS and precision agriculture applications for agronomic and vegetable crops grown in the Delmarva region. 2007. The Southern States Cooperative Growmaster Annual Training Program, Harrington, DE.
18. Composite-based tool designs to reduce vibration and noise. 2007. The Delaware Woodworkers Guild Meeting, Glasgow, DE.
19. Maintenance, adjustment, and operation of mower-conditioners to minimize drying time and dry matter losses in hay production. 2007. Southern and Central Maryland Hay and Pasture Conference. Waldorf, MD.
20. Harvest recovery of a band saw cutter for spinach and several small greens. 2007 Delaware Ag Week, Harrington, DE.
21. Maintenance, adjustment, and operation of mower-conditioners to minimize drying time and dry matter losses in hay production, 2007 Delaware Ag Week (both day and night programs), Harrington, DE.
22. Performance and recovery characteristics of a band saw cutter for spinach and several small greens. 2006 Mid-Atlantic Vegetable Workers Conference, Newark, DE.
23. Design of a continuous blade cutter for processing spinach. 2006. Delaware Ag Week, Harrington, DE.
24. GPS contest. 2005 Day on the Farm, Hockessin, DE.



25. Design and safety concerns with the new bandsaw-type spinach harvester. 2005 Mid-Atlantic Vegetable Workers Conference, Newark, DE.
26. How to use GPS waypoints to identify and find hidden objects. 2004 Day on the Farm, Middletown, DE.
27. Biodiesel: Facts and fiction. 2004. 2004 Agronomy Days. Delaware Cooperative Extension. Harrington, DE.
28. Update on commercialization of bio-based fuels and lubricates & considerations for road and off-road vehicles. 2004. Delaware Vegetable Growers Association, Harrington, DE.
29. Application machinery and technology considerations for cost-effective nutrient management. 2004. The 2004 Mid-Atlantic Crop Management School, Ocean City, MD.
30. GPS technology demonstration and GPS challenge contest. 2003. Farm and Home Field Day, Georgetown, DE.
31. How to choose, use and not abuse hydraulic systems and fluids. 2003. Delaware Agronomy and Machinery Day, Harrington, DE
32. Design and development of detachable cutter knives for high speed disc cutter bars. 2002. Delaware Vegetable Growers Association (with Dawn Cintavey, W.L. Gore and Associates, Inc.), Harrington, DE.
33. Yield monitoring and precision field mapping in vegetable crops. 2001. Delaware Vegetable Growers Meeting, Felton, DE 2001.
34. Current and future trends in intelligent agricultural machinery, 2001. Delaware Agronomy Day, Harrington, DE.
35. Irrigation system design for the Mid-Atlantic region. 2000. University of Maryland Cooperative Extension Service Winter Growers Meeting. Fair Hill, MD.
36. Yield monitors and new harvesting equipment for processed vegetable production. 2000. The 2000 Mid-Atlantic Crop Management School, Ocean City, MD.
37. Center pivot irrigation system design and economic considerations for Delaware. 1999. Delaware Cooperative Extension Service New Castle County Growers Breakfast Meeting. 1999. St. Georges, DE.
38. Prototype device for sensing watermelon ripeness. Farm and Home Field Day. 1999. Georgetown, DE.
39. Update on Cucumber Harvesting Research. 1999. University of Delaware Grower and Processor Pickling Cucumber Meeting. Georgetown, DE.
40. What's driving precision agriculture in Delaware? 1998. University of Delaware In-Service for Cooperative Extension Professionals. Dover, DE.
41. Irrigation pumping methods and equipment for improved water management. 1998. University of Maryland Cooperative Extension Kent Co. Growers Meeting, Galena, MD.
42. New equipment for irrigation and water resources management. 1998. University of Maryland Wye Research Center, Wye Mills, MD.
43. New technology for vegetable production. Delaware Vegetable Growers Meeting. 1998. Milford, DE.
44. Comparison of the new shaker harvester to conventional harvesters for processed cucumbers. Delaware Vegetable Growers Meeting. 1998. Milford, DE.
45. New technology for irrigation and water management. 1998. Mid-Atlantic Crop Certification School, Dover, DE.
46. Demonstration of a precision manure applicator. 1997. DNREC Crop Management Tour, Sussex County, DE.
47. Techniques for reducing tire-induced soil compaction. 1997. Delaware Vegetable Growers Meeting. Milford, DE.
48. Progress in developing yield monitors for processed vegetables. 1997. Delaware Vegetable Growers Meeting. Milford, DE.
49. Reducing the potential for soil compaction induced with pneumatic tires. 1997. Milford Fertilizer Inc. Annual Field Crops Growers Meeting, Bordentown, NJ.

#### DELAWARE COOPERATIVE EXTENSION ENGINEERING SERVICES PROJECTS

1. The Town of Middletown, Delaware. Middletown, DE. Preparation of an amended CMR permit application to recognize spray-on-demand irrigation as dedicated wastewater disposal capacity in the Middletown region. (2017-present).
2. Puglusi Egg Farm, Middletown, DE. Modifications to the washwater disposal system to achieve compliance with the DNREC operating permit. (2015-16).
3. Howard Webb Farm, Lincoln, DE. Design of a ventilation system and electrical service for a beef holding and finishing building. (2016).
4. Delaware Electric Coop. Greenwood, DE. Pollution and energy implications of converting Tier 1, 2, and 3 diesel irrigation pump engines to electric motors. (2013).
5. The Town of Middletown, Delaware. Middletown, DE. Preparation of an amended permit application to expand spray-on-demand in the Middletown region. (2012-present).

6. Duffield and Associates, Pike Creek, DE. Calculation of Ag BMP's nutrient savings for the purpose of nutrient credit trading (2013).
7. Dogfish Head Brewery, Milton, DE. Design of a processing facility to extract juices from local produce as ingredients for beer. (2012-13).
8. Fifer Orchards, Wyoming, DE. Redesign of a sweetcorn packing line for a crew size of 50 packers. (2012-present).
9. West Farms, Milford, DE. Modification of a grading station and development of an amended permit application for DNREC compliance. (2011-present).
10. Delaware Electric Coop. Greenwood, DE. Computation of PM and NOx emissions from all stationary generators
11. Artesian Water Company, Inc. Christiana, DE. Nutrient loading limits and water demand for spray on demand irrigation with treated municipal wastewater from Rehoboth Beach, DE. (2011)
12. Delaware Refining Company, LLC., Delaware City, DE. 2011. Feasibility analysis for an ethanol processing facility and a biodiesel processing facility at the Delaware City Refinery. (2011)
13. Aerca Advisors, Wilmington, DE and the Delaware Department of Agriculture, Dover, DE. Development of a power purchase agreement (PPA) between the State of Delaware and a corporation in Delaware. (2011).
14. Chesapeake Utilities, Dover, DE. Feasibility of using natural gas as a replacement for propane for heating poultry houses. (w/ Bill Brown). (2011-present)
15. Lally White, LLP, Lewes, DE & the Delaware Department of Agriculture, Dover, DE. Development of an online knowledge base for the evaluation of solar power systems for agribusinesses. (2011-present)
16. Rolland Hitchens, Georgetown, DE. Calculation of structural member sizes to support extended ballasting weights. (2011).
17. Port of Wilmington, Wilmington, DE. Design recommendations for a 2000 heifer short-term holding facility for loading overseas transportation vessels. (2010-present)
18. Coleman's Christmas Tree Farm, Odessa, DE. A Day on the Farm 2010. Promoting agriculture in the state of Delaware –recommendations of land use planning and event volunteer. (2010).
19. West Farms, Milford, DE. Design of new manufacturing processes and hardware for separating green and white lima beans that reduce Sodium and Chloride concentrations in the wastewater distributed to wastewater spray irrigation systems. (2010-present).
20. Town of Middletown, DE. Drafting of a long-term contract between the growers and town for the use of treated municipal waste water for the irrigation of agricultural crops. (2010-present).
21. Fifer Orchards, Wyoming, DE. Preliminary kWh production estimate and design for a low head turbine-based electrical generation system and dam redesign for the Wyoming pond. (2010-present).
22. L & L Farms, Townsend, DE. Drafting of a lease agreement for renting land for as-needed spray irrigation of agricultural crops with treated and filtered municipal wastewater. (with Anna Stoops, Extension Agriculture Agent). (2010-present)
23. Aerca Advisors, Wilmington, DE and the Delaware Department of Agriculture, Dover, DE. 2010. Feasibility study for large (multi-acre) photovoltaic systems at Perdue (Milford), Mountaire (Millsboro), Vlastic (Millsboro), and Allen's Family Foods (Harbeson).
24. Delaware Department of Agriculture, Dover, DE. 2010. Preliminary sizing for a PV system for the Dover State office. (2010).
25. Town of Middletown, DE. Recommendations for remediating compaction in dedicated spray irrigation fields owned by municipalities (w/ Anna Stoops, Ext. Ag. Agent). (2010-present)
26. Kranz Farm, Newark, DE. Design of a drip tape or drip emitter system for vegetable production. (with Anna Stoops, Extension Agriculture Agent). (2010).
27. Fifer Orchards, Wyoming, DE. Reconfiguration of a fresh market sweet corn packing line to increase throughput. (2010).
28. Town of Middletown & Artesian Water, Middletown DE. Recommendations for using treated wastewater effluent to irrigate agricultural crops. (2009-present).
29. Delaware Department of Agriculture, Dover, DE. 2010. PV system design and costing for the Redden State Facility in Georgetown, DE.
30. Howard Webb, Milford, DE. Design and configuration of a slatted floor beef facility. (2009)
31. Vogl Farms, Harrington, DE. Design of a structure for a new young animal housing. (2008-09).
32. Carlisle Farms, Greenwood, DE. Design and fabrication of steel drive pulleys for band saw type greens cutters. (2008).
33. Fifer Orchards, Wyoming, DE. Redesign of the hydrocooler water pumping and cleaning systems to reduce heat exchanger fouling. (2008).
34. Seaford High School. Structural analysis and wind load certification of a non-engineered greenhouse. (2008).

35. Rolland Hitchens & Hannover Foods Corp, Georgetown, DE. Configuration, calibration, emergence measurements of a grain drill for narrow row, no-till lima bean production. (2008).
36. Fifer Orchards, Wyoming, DE. Design and implementation of processing line modifications to reduce peach and apple fruit bruising during handling and packing. (2007).
37. Blair View Aquaculture Farm and the NRCES. Milford, DE. Design and implementation of a powered, closed-system, rotary drum composter for tilapia mortalities. (2007)
38. Kenny Grading Station, Bridgeville, DE. Paper design of an on-site relish fermentation system – heater sizing and estimate of energy requirements and costs. (2006)
39. H&S DuBoise, Pittgrove, NJ. Design of and recovery measurements for a continuous cutter for small greens. (2006).
40. Blair View Aquaculture Farm, Milford, DE. Design and implementation of a catch-and-weigh system for tilapia harvest. (2005-06).
41. Kenny Grading Station, Bridgeville, DE. Design and installation of a speed reduction drive for a high volume pumping station. (2005).
42. Colemans Tree Farm, Odessa, DE. Irrigation pump and electric motor selection. (2005).
43. Carlisle Farms, Greenwood DE. Installation of a continuous blade spinach cutter header on a Portaway harvester. (2004).
44. Mumford General Contractors, Seaford, DE. Testing protocol for the evaluation of a defective concrete floor. (2004).
45. Carrazza Farms, Townsend, DE. Estimation of fuel consumption for stationary power units for oxygenator recommendations on diesel power units in Delaware. (2004).
46. Blair View Aquaculture Farm, Milford, DE. Design and fabrication of a basket conveyor for live tilapia harvest and loading. (2004-05).
47. Kenny Grading Station, Bridgeville, DE. Finite element analysis and installation of a continuous, long-span, beam-type water line and support structure for the hydro-unloading of cucumber transport trucks. (2004).
48. Woodenhawk Farms, Greenwood, DE. Structural analysis and engineering certification of a greenhouse structure. (2003).
49. L&L Farms, Inc., Middletown, DE. Field measurements and analysis of multiple center pivot irrigation system structural failures. (2001).
50. Gundry Greenhouses, Laurel, DE. Structural analysis and engineering certification of a hoop greenhouse structure. (2000).
51. Richardson’s Farm, Hurlock, MD. Design of bridges over drainage ditches for center pivot irrigation systems. (2000).
52. Hitchens Farms, Inc. Georgetown, DE. Field evaluation of an irrigation system end gun reconfiguration for lawsuit settlement. (1999).
53. Carlisle Brothers, Inc., Greenwood, DE. Selection and installation of a fuel flow meter for irrigation system power units. (1999).
54. Holy Hill Farms, Milford, DE. Hydraulic system redesign and installation for a raven cucumber harvester. (1998).
55. Fifer Orchards, Wyoming, DE. Design and setup of a sweet corn grading & packing line with a hydrocooler. (1998-99).
56. Fifer Orchards, Wyoming, DE. Design and setup of a hydraulic drive and unloading system for sweet corn wagons. (1997).
57. Jersey Asparagus Farms, Elmer, NJ. Design and testing of shaker cleaning system for asparagus root crowns. (1997-98).

## SERVICE

### GOVERNMENT SERVICE

- *Gubernatorial Appointment*, Delaware’s Representative on the EPA’s Scientific and Technical Advisory Committee (STAC) for the Chesapeake Bay Program. 2011-2014 term.
- *Invited Panel Member*, Congressional Delegations of Delaware and Maryland’s Environmental Summit. 2012.
- *Cabinet Secretaries (DNREC & DDA) Appointment*, State Certainty Committee and Program, State of Delaware. 2012-present.
- *Gubernatorial Appointment*, Governor’s Energy Advisory Council, State of Delaware. 2009-2012 term.
- *Cabinet Secretaries (DNREC & DDA) Appointment*, State Technical Standards Committee, State of Delaware. 2010-present.

- *Invited Member*, Planning & Advisory Committee for the Town of Middletown Wastewater Treatment Facility Expansion Project. 2009-present.
- *Invited Member*, Chesapeake Bay Programs' Implementation Workgroups. Agriculture Workgroup & Watershed Technical Workgroup. 2011-present.
- *Chair*, Chesapeake Bay Programs' Sub-committee on Quantifying Nutrient Generation by the Poultry Industry within the Chesapeake Bay Watershed. (2011).
- *Invited Panel Member*. Forum on Expanding the U.S. Biofuels Market. USDA/Rural Development/Farm Services Agencies (FSA). 2010-present.

#### PROFESSIONAL & INDUSTRIAL SERVICE

- *Member*, Land and Litter Challenge, Subcommittee on the Mass Balance of Nitrogen and Phosphorous on Delmarva. 2016-present.
- *Chairman, Vice-Chair, and Past-Chair* of PM48 – Fruit and Vegetable Production Engineering. ASAE. 1999-2005.
- *University Relations Officer*, Delaware Section of the American Society of Mechanical Engineers. 2003-present.
- *National Science Foundation Invited Workshop Participant*: Engineering Solutions for Sustainable Food and Energy Supplies in the U.S. Co-Sponsored by NSF, NASA, and USDA. April 24-25, 2007, Washington, DC.
- *Scientific Committee Member*, International Symposium on the Application of Precision Agriculture for Fruits and Vegetables. 2007-08.
- *National Science Foundation Invited Workshop Presenter and Participant*: Future of Modeling in Composites Molding Processes. Co-Sponsored by NSF, DOE and APC, June 9-10, 2004, Washington, DC.
- *Member*, United Soybean Board National Technical Advisory Panel for Industrial Uses of Soybean Oil. (1999- 2001).
- *Member*, ASAE PM 04 - Power and Machinery Publications Committee. 2003-present.
- *Member*, ASAE PM 01/02 - Power and Machinery Executive Steering Committee. 2001-2003.
- *ASABE Technical Committee Memberships*: PM 48 – Fruit and Vegetable Production Engineering (1996-present); PM 54 – Precision Agriculture (1998-99); PM 51 – Hydraulics (1998-00); ESH 04 – Ergonomics, Safety and Health (2003-present)
- *Member*, Scientific and Technical Advisory Committee, Center for the Inland Bays, Lewes, DE 2004-present.
- *SAE Technical Committee Memberships*: Alternate Industrial Lubricants (1997-00); Fluid Power (1997-99); Farm Equipment (1997-99, 2003-present)
- *ASME Committee Memberships*: Reliability, Stress Analysis and Failure Prevention Technical Committee (RSAFP) (2003-present)
- *Chair and/or Moderator*, Sessions at Professional Meetings
  - 2008 Conference on Application of Precision Agriculture for Fruits and Vegetables, Session on *Economics, Quality and Environmental Aspects of Precision Agriculture*.
  - 2007 Greater Philadelphia AIAA/ASME 3rd Annual Aerospace/Mechanical Engineering Mini-Symposium, Session on *Materials*.
  - 2007 ASABE International Annual Meeting – Session ESH-4, *Agricultural Safety and Health – Education and Intervention*.
  - 2006 ASABE International Annual Meeting – Session ESH 216, *Advances in Safety Technology*.
  - 2004 SAE Commercial Vehicle Engineering Congress and Exposition – *Advances in Off-Road Vehicle Electronics*.
  - 2001 ASAE International Annual Meeting – Session 112 – *New Technology for Fruit and Vegetable Production Engineering*.
  - 1999 SAE Off-Highway and Powerplant Congress and Exposition – *Alternative Industrial Lubricants*.
- *Reviewer*, Manuscripts
  - Journal of Mechanical Design, Transactions of the American Society of Mechanical Engineers (2).
  - Journal of Composites, Part A: Applied Science Manufacturing (4).
  - Journal of Sandwich Structures and Materials (3)
  - Peer-Reviewed Proceedings of the Design Engineering Technical Conference (2005) – Symposium on Reliability, Stress, and Failure Prediction (American Society of Mechanical Engineers) (2).
  - Peer-Reviewed Proceedings of Society for the Advancement of Materials and Processes (SAMPE) (1).
  - Peer-Reviewed Proceedings of the American Society of Mechanical Engineers Congress (2)
  - Peer-Reviewed Proceedings of the Design Engineering Technical Conference (2008) – 5th Symposium on International Design and Design Education (American Society of Mechanical Engineers) (3).
  - Transactions of the American Society of Agricultural Engineers (6)
  - Computers and Electronics in Ag (1)

- Journal of Agricultural Engineering Research (1)
- Biosystems Engineering (3)
- Applied Engineering in Agriculture (7)
- Canadian Journal of Bio-Engineering (1)
- SAE Technical Papers (4)
- HortTechnology (ASHS) (4)
- Special Issue of Soil and Tillage Research (1)
- Journal of Irrigation and Drainage Engineering, American Society of Civil Engineers (1)
- USDA Peer-Reviewed Publications (1)
- *Reviewer, Books*
  - *Mechanical Engineering Design*, 8<sup>th</sup> Edition. McGraw Hill, New York, NY
  - *Solid Works Workbook*. Prentice Hall, Upper Saddle River, NJ.
  - *Practical Reliability Analysis*. Prentice Hall Publishing, Upper Saddle River, NJ.
  - *Machine Design Series*. John Wiley & Sons, Inc., Hoboken, NJ
- *Reviewer, Proposals*
  - Kentucky Science and Engineering Foundation, R & D Excellence Funding Program (2006).
  - Canadian Natural Sciences and Engineering Research Council (NSERC) (2006).
  - The Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET) – Environmental Technology Development Grants Program (2004).
  - Canadian Natural Sciences and Engineering Research Council (NSERC) (2002).
  - National Review Panel, Small Business Innovative Research Program, Washington, D.C. (1999).
  - Small Business Innovative Research Program, Proposal Reviewer (1998, 1999, 2000, 2001, 2002, 2003, 2006, 2007, 2008).
- *Reviewer, Papers for Northeast Agricultural and Biological Engineers (NABEC) Student Design Competition.* (1992-2004, 2006, 2009, 2010).
- *Proctor, Delaware Association of Professional Engineers. Fundamentals of Engineering Exam.* (1998, 1999).

#### UNIVERSITY SERVICE

- *Member, UD Sustainability Fund Working Group.* (2011-2013 term)
- *Member, Advisory Panel for the Undergraduate Research Program* (2009-present).
- *Instructor of Record, Undergraduate Senior Thesis (UNIV 401 and 402).* (2007-08).
- *Member, Senior Thesis Board, Undergraduate Research Program.* (2003-present).
- *Co-Advisor, Solar Decathlon Competition.* (2001-2003).
- *Member, Search Committee for Project Manager in the Office of the Vice Provost for Research.* (1999-2000).
- *Member, Search Committee for Assistant Project Manager in the Office of the Vice Provost for Research.* (1999).
- *Member, Undergraduate Studies Committee, Faculty Senate* (1995-97).

#### COLLEGE OF AGRICULTURE AND NATURAL RESOURCES (CANR) SERVICE

- *Member, Nutrient Management Committee* (2012-present).
- *Member, Search Committee for CANR Dean Specialist* (2012).
- *Member, Search Committee for CANR Nutrient Management Faculty Member and Specialist* (2012).
- *Member, Search Committee for CANR Extension Environmental Quality and Management Specialist* (2012).
- *Member, Search Committee for CANR Newark Farm Manager* (2008-10).
- *Member, Search Committee for the Extension Vegetable Specialist.* (2007-09).
- *Member, College Promotion and Tenure Committee* (2003-2005).
- *Member, Advisory Committee for the CANR Industrial Partnership Program.* (2003, 2005-present).
- *Member, Search Committee for Animal and Food Sciences Assistant Professor - Food Processing.* (2003).
- *Member, Search Committee for CANR Associate Dean for Education and Research.* (2003).
- *Member, Search Committee for CANR Newark Farm Manager* (2002).
- *Member, Search Committee for Animal and Food Sciences Assistant Professor - Food Engineer* (2002).
- *Member, Review Committee for the CANR Research Partnership Program.* (2001, 2005).
- *Member, College Promotion and Tenure Committee* (2000-2002).
- *Member, Deans Advisory Committee* (2000-2001).
- *Co-Host, Delaware Vegetable Growers Trip to the Tulare Farm Show (w/ Ed Kee).* (1999).
- *Member, College Committee on Nutrient Management.* (1998).

- *Member*, College Strategic Planning Committee (1997-98).

#### COLLEGE OF ENGINEERING (COE) SERVICE

- *Faculty Advisor and Coordinator*, Student Machine Shop. (2016-present)
- *Member*, Search Committee – CNC and CAD/CAM Master Machinist for the Student Machine Shop. (2017).
- *Member*, Search Committee – Replacement Master Machinist for the Colburn Machine Shop. (2017).
- *Faculty Consultant*, Reconfiguration of the Colburn Machine Shop Lathe Lifts (2010).
- *Member*, Advisory Committee for the Society of Automotive Engineers Club (2009-10).
- *Member*, Center for Composites Materials Honors Day Awards Committee (2004, 2007).
- *Member*, Search Committee - Master Machinist for the Student Shop. (2003).
- *Moderator*, Center for Composites Spring and Summer Research Symposiums (Fall, 2003, Spring, 2004, Spring 2005, Spring 2007, Spring 2008, Spring 2009, Spring 2010)
- *Faculty Coordinator*, Renovations of the Student Shop and Student Shop Website (2001–2004).

#### DEPARTMENT OF BIORESOURCES ENGINEERING SERVICE

- *Chair*, Promotion and Tenure Committee. (2012-13)
- *Member*, Promotion and Tenure Committee. (2007-08)
- *Chair*, Promotion and Tenure Committee. (2006-07)
- *Presenter*, RISE Program Presentation to High School Students. (Fall 2003, Spring 2004)
- *Member*, Department Promotion and Tenure Committee. (2001-02).
- *Member*, Search Committee for Assistant Professor/Extension in Irrigation/Water Resources Engineering (2000-01).
- *Member*, Search Committee for Assistant Professor/Extension Specialist in Poultry Production Engineering (2000-01).
- *Member*, Search Committee for Assistant Professor in Power and Machinery, Bioresources Engineering (2000).
- *Member*, Search Committee for Engineering Extension Associate. (1999).

#### DEPARTMENT OF MECHANICAL ENGINEERING SERVICE

- *Member*, Industrial Relations Committee (2018)
- *Chair*, Safety Committee (2017-18).
- *Member*, Planning Committee for the Future of Design Instruction (2009).
- *Member*, Design Curriculum Committee. (2005).
- *Member*, Laboratory Committee. (2000- present).
- *Advisor*, Student Chapter of SAE. (2000-01).
- *Member*, Graduate Student Recruitment Committee. (1999-00).