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I. BIOGRAPHICAL INFORMATION

A. *Academic degrees:*

- a. **Ph.D.**, Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA. USA., 2006
- b. **Masters of Science**, Industrial and Systems Engineering, Georgia Institute of Technology, Atlanta, GA. USA., 2005
- c. **Masters of Science**, Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA. USA., 2004
- d. **Masters of Science**, Mechanical Engineering, Michigan State University, East Lansing, MI. USA., 2001
- e. **Bachelors of Science**, Mechanical Engineering, Ghulam Ishaq Khan Institute of Engineering and Technology, Topi, Pakistan, 2000

B. *Employment*

a. *Industry Appointments*

Avidyne Corporation, Lincoln, MA.

Systems Engineer Lead, May 2007 – June 2009

- *Design*
 - Perform architecture definition, design and development of cockpit avionics for general aviation aircraft
 - Lead systems and software engineering team for design, development and testing of the next generation of Entegra Electronics Flight Instrument System (EFIS)
 - Thorough working knowledge and understanding of RTCA document DO-178B level B and C safety critical applications, software consideration in airborne systems and equipment certification
 - Development of CONOPS (Concept of Operations) for moving map for MFD (Multi-Function Display application)
 - Development of CONOPS for Datalink live broadcast weather, Flight Information System (FIS-B) for IFDs (Integrated Flight Displays)

- Generation of design documentation including specifications, design sheets, and Interface Control Documentation
- *Requirements Engineering*
 - Perform requirements definition, allocation, analysis, review, and management
 - Analyze and define system and software high/low level requirements
 - Perform documentation and tracing of requirements to code and test using Telelogic DOORS 8.1
- *Testing and Quality Assurance*
 - Apply requirements based testing to develop the system test plan
 - Perform test case scripting, testing, validation and verification
 - Led the team in developing an in-house automated testing tool to reduce ‘user in the loop testing’
 - Develop automated test scripts employing functional, negative testing, robustness, and performance based testing techniques
 - Led a team to achieve 100% statements and decision coverage for Datalink weather and Moving map applications

b. *Teaching Appointments*

Kennesaw State University

Associate Professor, January 2015 – Present

Southern Polytechnic State University

Associate Professor, August 2014 – December 2014

Assistant Professor, August 2009 – July 2014

Adjunct Professor, January 2007 – December 2008

Lahore University of Management Sciences (LUMS), Lahore Pakistan

Adjunct Professor, August 2009 – October 2009

Michigan State University

Graduate Teaching Assistant, August 2000 – December 2001

c. *Administrative Appointments*

Southern Polytechnic State University

Program Coordinator – Systems Engineering, Aug 2013 – Present

Interim Program Coordinator (Systems Engineering), July – Aug 2012

C. Professional Activities

Professional Societies

- *Division Chair*, Aerospace Division, American Society of Engineering Education (ASEE), 2016-17
- *Council Member*, American Institute of Aeronautics and Astronautics (AIAA), Atlanta Chapter, 2013-15

- *Program Chair*, Aerospace Division, American Society of Engineering Education (ASEE), 2014-15
- *Academic Representative*, International Council of Systems Engineers (INCOSE), Atlanta Chapter, 2010 – present
 - Help coordinate campus events, meetings, and presentations
 - Help encourage students to participate in INCOSE activities
- *President*, International Council of Systems Engineers (INCOSE), New England Chapter, 2008-2009
- *Vice-President*, International Council of Systems Engineers (INCOSE), New England Chapter, 2007-2008
- *Student Chair*, American Society of Mechanical Engineers (ASME), undergrad senior year
- *President*, “AeroTech” aero modeling flying club, undergraduate senior year, 1999
- *Lifetime member of ALAA*: American Institute of Aeronautics and Astronautics
- *Lifetime member of AOPA*: Aircraft Owner and Pilots Association
- *Associate member*: ASME: American Society of Mechanical Engineers
- *Member*: AHS, AMA, ASEE, INFORMS, INCOSE, United States Ultra-light Association
- *Pilot*: Holder of commercial pilot license and remotely piloted flying vehicles

II. TEACHING, SUPERVISION AND MENTORING

A. *Honor Students Supervised* (*Students published honors theses*)

1. Valerie Washington, Spring 2017
2. Pranita Saraswatula, Spring 2013

B. *Directed Study* (*For credit course; Students co-wrote technical reports and research papers that were published in conference proceedings and journal papers – see Scholarship Section for details*)

1. Christopher Roper, Spring 2018
2. Ahmed Alaslani, Fall 2016
3. Donald Bragg, Spring 2014

C. *Research Supervision* (*Students conducted supervised research that resulted in conference papers, presentations and technical reports – see Scholarship Section for details*)

1. Danielle Kendall, Fall 2017-Summer 2018
2. Christopher Roper, Summer 2015-Spring 2018
3. Joshua Hunter, Summer 2016-Spring 2018
4. Alain Santos, Summer 2017-Spring 2018
5. Matthew Salter, Spring 2017
6. Shawn Sinclair, Spring 2017
7. Austin Collett, Spring 2017
8. Andrew Pirrello, Fall 2016-Spring 2017
9. Skyler Bagley, Fall 2015-Spring 2016
10. Ricky Mitchell, Summer 2016
11. Tahir Upshaw, Summer 2016
12. Parth Kumar, Summer 2011-Summer 2015
13. Divanny Pena, Fall 2015-Spring 2016

14. Jordan Fraser, Summer 2015
15. Phillip T., Fall 2014-Spring 2015
16. Donald Bragg, Fall 2013-Spring 2014
17. Nathan Su, Spring 2014
18. Douglas Woodruff, Spring 2013
19. Shari Holmes, Fall 2012
20. Parth Kumar, Fall 2012
21. Christopher Evans and James Bittner, Spring 2012
22. Clyde Sanders, Fall 2011
23. Leland, Roberts, William Johnson, Spring 2011

D. Student Advising

- Faculty advisor for ISYE students – advise ISYE students (last names A-K) to design their curricula and help them along the way to figure out which courses to take and in what sequence, 2016-17-18

E. Student Organization Advising

- Faculty Advisor for Aerial Robotics Team (ART), Spring 2010 – Present
- Faculty Advisor for American Institute of Aeronautics and Astronautics (AIAA), KSU Student Branch, Fall 2015 – Present

F. Camps Conducted

- Conducted multiple Aerospace Engineering Summer at Southern Polytechnic State University campus from 2010 to 2014. Over 1,000 middle and high school students attended.
- Multiple ‘Become an RC Pilot’ Summer Camps conducted at Southern Polytechnic State University campus and Stone Mountain RC Club, from 2010-2014. Over 100 middle and high school students attended.

G. Workshops and Short Courses Conducted

- “Aerospace Vehicle Design and Optimization: A Multi-Disciplinary Approach”, workshop conducted at Ghulam Ishaq Khan Institute of Engineering and Technology, Topi, NWFP, Pakistan, October 16th – 18th, 2009, Attendees: 20
- “Rotorcraft Design, Aerodynamics, and Performance”, workshop conducted at Institute of Space Technology, Islamabad, Pakistan, October 2nd – 3rd 2009, Attendees: 50

H. Courses Developed and Improved

- Re-designed and re-structured SYE 6025 ‘Engineering Economic Analysis,’ and QA 6613 ‘Linear Regression Analysis,’ using Desire to Learn, following the departmental and university guidelines for external re-evaluation, Fall 2017.

- Re-designed and re-structured SYE 6015 ‘System Analysis and Design,’ SYE 6025 ‘Engineering Economic Analysis,’ and SYE 6055 ‘System Development Workshop,’ using Desire to Learn, following the departmental and university guidelines for external re-evaluation, Spring 2015.
- SYE 4803, ‘Senior Design Project – Aerospace,’ was taught for the first time in spring 2013. This class is part of the minor in aerospace engineering.
- SYE 4801, ‘Aircraft Propulsion,’ was taught for the first time in fall 2012. This class is part of the minor in aerospace engineering.
- SYE 4802, ‘Helicopter Theory,’ was taught for the first time in fall 2012. This class is part of the minor in aerospace engineering.
- HNRS 3001, ‘Research Honors’ class, was developed for the first time in the systems engineering program. This is a follow on of the HNRS 2001 course. The idea is to introduce more advanced topics in large scale aerospace systems. As a project, students continued to work on development of a wireless video feedback system for an Unmanned Aerial Vehicle (UAV).
- SYE 3802, ‘Aircraft Design and Performance,’ was taught for the first time in spring 2012. This class is part of the minor program in aerospace engineering.
- SYE 3801, ‘Aerodynamics,’ was taught for the first time in fall 2011. This class is part of the minor in aerospace engineering. There has been interest in this field – a number of students from engineering and engineering technology disciplines are keen in learning about the aerospace systems. The goal is to develop five aerospace courses over two years’ time, which will serve as a minor. Aerodynamics is the first course in the series.
- Started the Aerospace Engineering minor program at SPSU. Five courses will be developed for the minor. The minor is open to all engineering and engineering technology majors.
- HNRS 2001, ‘Research Honors’ class, was developed for the first time in the systems engineering program to introduce students to large scale aerospace systems. The goal is to walk students through the research process of design, development, and implementation of systems. As a project, students worked on development of a wireless video feedback system for an Unmanned Aerial Vehicle (UAV).
- SYE 6903 – 901 – ‘System of Systems – Research and Evaluation,’ was developed to be taught for the first time at SPSU starting summer 2011. The idea is to introduce students to the cutting edge research in the field of Systems Engineering. Students research the papers, critique them and present their findings in the class. Students also critique each other’s work.
- SYE 2600 – “Application of Probability” was developed to be taught at SPSU for the first time starting spring 2011. It is one of the core courses in undergraduate systems engineering program.
- Proposed Systems Engineering Options: Aeronautics, Nuclear Power, Transportation, and Nuclear Power. These courses are being developed and the first course is scheduled to be offered starting Fall 2011. Students can take a series of courses in their field of interest and get bachelors of Systems Engineering degree with concentration in the respective field. I am responsible for developing and teaching all the Aeronautics courses.

- SYE 2100 – “System Analysis and Design” was developed to be taught for the first time at SPSU in Fall 2010.
- SYE 6903 – “Helicopter Theory” was taught for the first time at SPSU campus. I developed the course for the summer semester. The response was so encouraging that we had to increase the class capacity. Most of the students did well in the course. This has motivated me to start an Aeronautics option within the Systems Engineering program at SPSU.
- SYE 6015 – “System Analysis and Design” was passed on to me as an online distance learning course but there was very little material in terms of lecture slides, notes, handouts etc. The previous instructor changed the text book but did not transition completely to the new book. So in Fall 2009, I developed the entire online distance learning course from scratch – put together lecture slides containing 50-80 slides per lecture, created weekly home works, exams, and project. The creation / re-creation of the course took 15-20 hours of work each week.
- SYE 6005 – “Introduction to Systems Engineering” usually has the enrollment of 10-15 students every semester. The cap is set at 20. In Fall 2009, 26 students wanted to take the course and I allowed all of them to register. Part of the reason was that this course, although usually offered in every spring and fall semester, was not offered in spring 2009. So in fall 2009, it turned out to be big class and had challenges associated with it. The class was handled well but required extra work than usual in terms of grading homework papers and exams.

I. Courses Taught

*Distance learning online course using D2L and Blackboard Collaborate (formerly GeorgiaView Vista, WebCT, Horizon Wimba)

Summer 2018

- Kennesaw State University, Marietta, Georgia, USA
 - Project Management, ENGR 3250

Spring 2018

- Kennesaw State University, Marietta, Georgia, USA
 - Aircraft Design and Performance, ISYE 3802
 - Undergraduate Research in Systems Engineering (independent study), ISYE 4400
 - Senior Design Project, ISYE 4803, ISYE 4900
 - *Engineering Economy, SYE 6025

Fall 2017

- Kennesaw State University, Marietta, Georgia, USA
 - Reliability and Maintainability, ISYE 3100
 - Aircraft Propulsion, ISYE 4801
 - Helicopter Theory, ISYE 4802

Summer 2017

- Kennesaw State University, Marietta, Georgia, USA
 - Project Management, ENGR 3250

Spring 2017

- Kennesaw State University, Marietta, Georgia, USA
 - Aircraft Design and Performance, ISYE 3802
 - Senior Design Project, ISYE 4803, ISYE 4900
 - Engineering Optimization I, ISYE 3400
 - Engineering Optimization II, ISYE 4200

Fall 2016

- Kennesaw State University, Marietta, Georgia, USA
 - Aircraft Propulsion, SYE 4801
 - Helicopter Theory, SYE 4802

Spring 2016

- Kennesaw State University, Marietta, Georgia, USA
 - *Engineering Economy, SYE 6025
 - Aircraft Design and Performance, SYE 3802
 - Senior Design Project, SYE 4803
 - Engineering Economics and Decision Analysis, SYE 3320

Fall 2015

- Kennesaw State University, Marietta, Georgia, USA
 - Aircraft Propulsion, SYE 4801
 - Helicopter Theory, SYE 4802
 - Engineering Optimization II, SYE 4400

Summer 2015

- Kennesaw State University, Marietta, Georgia, USA
 - Engineering Economic Analysis, SYE 3320
 - *Operations Optimization, SYE 6065

Spring 2015

- Kennesaw State University, Marietta, Georgia, USA
 - *Engineering Economy, SYE 6025
 - Aircraft Design and Performance, SYE 3802
 - Senior Design Project, SYE 4803
 - Engineering Economics and Decision Analysis, SYE 3320

Fall 2014

- Southern Polytechnic State University, Marietta, Georgia, USA
 - Aircraft Propulsion, SYE 4801

- Helicopter Theory, SYE 4802
- Engineering Optimization II, SYE 4400
- Applications of Probability, SYE 2600

Summer 2014

- Southern Polytechnic State University, Marietta, Georgia, USA
 - Hitch Hiker's Guide to SPSU, SPSU 1001

Spring 2014

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *Engineering Economy, SYE 6025
 - Aircraft Design and Performance, SYE 3802
 - Senior Design Project, SYE 4803
 - Aircraft Propulsion, SYE 4801 (Independent Study)
 - Honors Research, HNRS 3002

Fall 2013

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *System Development Workshop, SYE 6055
 - Aircraft Propulsion, SYE 4801
 - Helicopter Theory, SYE 4802
 - Honors Research, HNRS 3002
 - Hitch Hiker's Guide to SPSU, SPSU 1001
 - Aeronautics Research Class, ME 4803

Summer 2013

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *System Analysis and Design, SYE 6015

Spring 2013

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *Engineering Economy, SYE 6025
 - Aircraft Design and Performance, SYE 3802
 - Senior Design Project, SYE 4900, SYE 4803
 - Honors Research, HNRS 3002

Fall 2012

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *System Development Workshop, SYE 6055
 - Aircraft Propulsion, SYE 4801
 - Helicopter Theory, SYE 4802
 - Honors Research, HNRS 3002

Summer 2012

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *System Analysis and Design, SYE 6015

Spring 2012

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *Engineering Economy, SYE 6025
 - *Operations Optimization, SYE 6065
 - Aircraft Design and Performance, SYE 3802
 - Honors Research, HNRS 3001

Fall 2011

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *System Development Workshop, SYE 6055
 - System Analysis and Design, SYE 2100
 - Aerodynamics, SYE 3801
 - Honors Research, HNRS 2001

Summer 2011

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *System of Systems – Research and Evaluation, SYE 6903-901
 - *Helicopter Theory, SYE 6903-900

Spring 2011

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *Engineering Economy, SYE 6025
 - *Operations Optimization, SYE 6065
 - Applications of Probability, SYE 2600

Fall 2010

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *System Development Workshop, SYE 6055
 - *System Analysis and Design, SYE 6015
 - System Analysis and Design, SYE 2100

Summer 2010

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *System Development Workshop, SYE 6055
 - *Helicopter Theory, SYE 6903

Spring 2010

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *Engineering Economy, SYE 6025
 - *Operations Optimization, SYE 6065

Fall 2009

- Lahore University of Management Sciences (LUMS), Lahore, Pakistan

- Operations Research (OR), Math 341, Undergraduate and Graduate Course
- Southern Polytechnic State University, Marietta, Georgia, USA
 - *Introduction to Systems Engineering, SYE 6005
 - *System Analysis and Design, SYE 6015
 - *System Development Workshop, SYE 6055

Following courses were taught as adjunct professor or graduate teaching assistant

Fall 2008

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *Introduction to Systems Engineering, SYE 6005
- Boston University, Boston, Massachusetts, USA
 - Engineering Mechanics: Statics, MET EK 311

Spring 2008

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *Introduction to Systems Engineering, SYE 6005

Fall 2007

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *Introduction to Systems Engineering, SYE 6005

Spring 2007

- Southern Polytechnic State University, Marietta, Georgia, USA
 - *Introduction to Systems Engineering, SYE 6005
 - Introduction to Statistics, IET 2227

Spring 2001

- Michigan State University, East Lansing, Michigan, USA
 - Heat Transfer Laboratory

Fall 2001

- Michigan State University, East Lansing, Michigan, USA
 - Fluid Mechanics Laboratory
 - Heat Transfer Laboratory
 - Freshmen Mathematics and Algebra

III. SCHOLARSHIP & CREATIVE ACTIVITY

A. Research Experience

KENNESAW UNIVERSITY, MARIETTA, GA. (PREVIOUSLY SOUTHERN POLY)

Associate Professor, August 2009 - Present

- Research Areas:

- a. Rotorcraft based Unmanned Aerial Vehicle (UAV) design and operation for civilian applications (GDOT, FAA, Campus Police etc.)
 - b. STEM Research on methodologies to improve engineering classroom instruction using interactive techniques
 - c. Application of Systems Engineering principles to a variety of projects including energy, transportation, waste management, requirements engineering etc.
- Established Research Learning Community (RLC)
 - a. RLC is under the umbrella of Center of Excellence for Teaching and Learning (CETL)
 - b. The goal of RLC is to provide a platform for faculty members from different disciplines to share pedagogical experiences and explore ideas to advance to art of effective teaching
 - c. RLC members have published numerous journal and conference papers as a result of inter-disciplinary collaborations
- Developed Aerospace Engineering minor program at KSU
 - a. Course developed (Aerodynamics, Aircraft Design, Aircraft Performance, Propulsion, Helicopter Theory, Aircraft senior design project)
 - b. Minor is available to all engineering majors
 - c. Developed Aerospace Engineering laboratory (flight simulator, 5-axis automated milling machine, 3-D printer, gas turbine engine etc.)
- Wrote research papers, grants and proposals on topics related to Systems and Aerospace Engineering (see details under conference and journal papers)

GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA, GA.

Post Doctoral Fellow, January 2007 - May 2007

- Managed the aerodynamic design and CFD analysis of Adams aircraft A700 using FLUENT
- Participated in the winning AHS industry annual student design competition award to develop an advanced deployable compact rotorcraft in support of special operations forces

Graduate Research Assistant, January 2002 - December 2006

1. Center of Excellence in Rotorcraft Technology (CERT)
 - Reviewed the two-seat single-engine turbine training helicopter, Georgia Tech entry into AHS student design competition, winning team 2006
 - Coordinated the design for military heavy lift VTOL aircraft, Georgia Tech entry into AHS student design competition, 2005
 - Collaborated in the design of a helicopter for high altitude rescue operations for AHS design, Georgia Tech, 2004
 - Designed the transmission system for light commercial helicopter in collaboration with Istanbul Technical University (ITU), 2003
 - Reviewed the VTOL urban disaster response vehicle project for AHS design competition, Georgia Tech, 2003

- Participated in American Helicopter Society (AHS) design competition for upgrade and manufacture of turbine helicopter for commercial applications, Georgia Tech, 2002
- 2. Aerospace System Design Laboratory (ASDL)
 - Conducted trade study for the design of a light general aviation aircraft at the system level 2002
 - Presented research at the world's largest air-show and symposium at Oshkosh, WI on the feasibility and conceptual analysis of Personal Air Vehicle (PAV) 2002

MICHIGAN STATE UNIVERSITY, EAST LANSING, MI.

Graduate Research Assistant, August 2000 – December 2001

Turbulent Mixing & Unsteady Aerodynamics Laboratory (TMUAL)

- Analyzed the flow field of flapping airfoil at various frequencies and computed pressure, lift and drag using Molecular Tagging Velocimetry (MTV) technique

B. Ph.D. Thesis

Advisor: Dr. Daniel P. Schrage

Title: Development and implementation of Georgia Tech Rotorcraft preliminary design methodology and its integration with Collaborative Optimization (CO)

C. Research Grants

Funded Project

- Kennesaw State University Undergraduate Research and Creative Activities (URCA) travel funds (\$2,100) awarded for three students to present flight simulation research study results at the American Society of Engineering Education (ASEE-SE) conference at Embry-Riddle Aeronautical University in Spring 2018, **PI: Adeel Khalid**, October 2017
- Kennesaw State University Student Assistant for Leadership in Teaching (SALT) program awarded \$1,600 for two undergraduate students to pursue research with me in 2017-18, **PI: Adeel Khalid**, October 2017
- Lockheed Martin Grant for the Aerospace Engineering minor program at Kennesaw State University, (\$15,000), **PI: Adeel Khalid**, August 2017
- American Society of Engineering Education (ASEE) PIC Special Projects Fund for the Aerospace Division – funds to be used for a field trip to the Dayton Air Force Museum during the 2017 conference, (\$500), **PI: Adeel Khalid**, December 2016
- Lockheed Martin Grant for the Aerospace Engineering minor program at Kennesaw State University, (\$5,000), **PI: Adeel Khalid**, January 2016

- Lockheed Martin Grant for the Aerospace Engineering minor program at Southern Polytechnic State University, (\$10,000), **PI: Adeel Khalid**, September 2014
- Georgia Tech led DARPA (Defense Advanced Research Projects Agency) Mentor 2 (Manufacturing Experimentation and Outreach Two) project grant for collaborative dispersed summer camps as real life test benches, (\$1.9M), DARPA-BAA-14-12, Collaborator: Adeel Khalid, March 2014
- Lockheed Martin Grant for the Aerospace Engineering Summer Camp for Youth at SPSU, to help with further developing the camps, improving the materials, and creating a better experience for students, (\$5,700), **PI: Adeel Khalid**, December 2013
- Bringing Theory to Practice, Category I, Association of American Colleges and Universities, Title: Engaged Learning, Civic Engagement and Development, and the Psychosocial Well-Being of College Students, (\$1,000), **PI: Adeel Khalid**, October 2012
- Center for Disease Control and Prevention (CDC) grant number: CO-31096-12, administered by CRDF Global, 'Develop mathematical models of the transmission dynamics of TB in healthcare settings and to assess the impact and costs of various Infection Control interventions and strategies' (\$30,000), PI: Christina Scherrer, **Co-PI: Adeel Khalid**, August 2012

Internal Funding – Including equipment grants (SPSU)

- Distance Learning Marketing Funds, MS Systems Engineering, **PI: Adeel Khalid**, Co-PI: Kamran Moghaddam, Woodrow Winchester (\$12,615), February 2014
- Technology Fee, 'Year-Two Aerospace Laboratory Equipment Enhancement,' **PI: Adeel Khalid**, Co-PI: Apinut Sirirojvisuth, (\$150,495.19), June 2013
- Technology Fee, 'Establishment of new Integrated Systems Design, Modeling and Optimization Laboratory,' PI: Kamran Moghaddam, **Co-PI: Adeel Khalid**, Renee Butler, (\$73,330), June 2013
- Mini-Grant for Scholarship of Teaching and Learning (SoTL) (\$750), Text Books – Print Vs. EBooks – What students prefer and what faculty should know, Center for Teaching Excellence, Southern Polytechnic State University, **PI: Adeel Khalid**, April 2013
- Distance Learning Marketing Funds, MS Systems Engineering, **PI: Adeel Khalid**, Co-PI: Kamran Moghaddam, (\$5,729), April 2013
- Adult Learning Consortium (ALC), Southern Polytechnic's Renewal Effort for Adult Degrees (SPREAD), grant to develop an online Prior Learning Assessment (PLA) course for students, \$3,000, August 2012
- Adult Learning Consortium (ALC), University System of Georgia (USG), Georgia Opportunity for Adult Learners (GOAL) grant award of \$750 to develop a course for teaching adult students, August 2012
- Technology Fee Project: TF-13-ENG-4, Aerospace Automation Systems for Student Design Projects, (\$99,995), Southern Polytechnic State University, **PI: Adeel Khalid**, April 2012

- Mini-Grant for Scholarship of Teaching and Learning (SoTL) (\$750), for developing and investigating improved teaching techniques applicable to Aerospace Engineering classes and laboratories, Center for Teaching Excellence, Southern Polytechnic State University, **PI: Adeel Khalid**, April 2012
- Southern Polytechnic State University Alumni Board – Student Competition Team Committee award (\$500) for the surveillance helicopter project for 2012 calendar year, acted the Honors Research class Advisor to develop Autonomous Patrol Surveillance System (APSS), **PI: Adeel Khalid**
- Technology Fee Project: TF-12-32 Establishment of new Aerospace Engineering Laboratory, (\$98,150), Southern Polytechnic State University, **PI: Adeel Khalid**, Summer 2011
- Professional Growth and Development grant (\$1000), for developing technical concentration in Aerospace Engineering within the Systems Engineering Program, Center for Teaching Excellence, Southern Polytechnic State University, **PI: Adeel Khalid**, April 2011
- Mini-Grant for Teaching Excellence (\$500), for investigating and applying innovative teaching techniques in engineering classrooms, Center for Teaching Excellence, Southern Polytechnic State University, **PI: Adeel Khalid**, April 2011
- Awarded conference support grant (\$750), to improve student learning through interactive on-line classroom activities, Center for Teaching Excellence, Southern Polytechnic State University, **PI: Adeel Khalid**, April 2011
- Promoting interest in Aerospace Engineering in K-16 students through interactive activities, Math + Science = Success, small grant program, Improving instruction and enhancing student success in STEM disciplines, **PI: Adeel Khalid**, Funding: \$5,000, September 2010
- Improving engineering students learning through interactive online classroom activities, Math + Science = Success, small grant program, Improving instruction and enhancing student success in STEM disciplines, **PI: Adeel Khalid**, Co-PI: Renee Butler, Funding: \$10,000, September 2010
- Immersive visualization technique in enhancing K-12 STEM pedagogical processes of computing concepts, Math + Science = Success, small grant program, Improving instruction and enhancing student success in STEM disciplines, PI: Dr. Sarah North, **Co-PI: Adeel Khalid**, Co-PI: Max North, Funding: \$10,000, September 2010

Pending / Not Funded

External Grants Submitted

- Gaskins Engineering and Surveying Unmanned Aerial System (UAS) Development, \$40,000, July 2016
- Midfield, Multiple Institution database for Investigating Engineering Longitudinal Development, Collaboration with Purdue University, NSF Grant Subcontract (\$10,000), May 2016
- Pakistan – United States Science and Technology Cooperation Program 2014, Establishment of Educational and Research Infrastructure for Advancing

- Vehicular Emission Control Technologies in Pakistan, PI: Adeel Khalid, (\$475,000), January 2015
- ExxonMobil Bernard Harris Summer Science Camp, Harris Foundation, PI: Adeel Khalid, (\$79,999), November 2012
- ABB – Research Grant Program, ‘Integrated Production Planning and Maintenance Scheduling in Automated Manufacturing Systems,’ (\$80,000), PI: Kamran Moghaddam, Co-PI: Adeel Khalid, Cyril Okhio, November 2012
- Google Rise – Aerospace Engineering Summer Camp – Promoting STEM through interactive activities, (\$30,000), PI: Adeel Khalid, Co-PI: Kamran Moghaddam, October 2012
- Feasibility study for the Georgia Department of Transportation (GDOT) to determine the benefits of utilizing Unmanned Aerial Vehicles (UAVs), (\$75,000), PI: Adeel Khalid, Co-PI: Sung-Hee (Sonny) Kim, Chih-Cheng Hung, September 2012
- Summer transport institute at Southern Polytechnic State University, National summer transportation institute, Department of Transportation (DOT), PI: Sarah North, Co-PI: Adeel Khalid, CO-PI: Max North, \$65,000, November 2010, *not granted*
- Immersive classroom, and laboratory environment for online distance learning, National Science Foundation (NSF), Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics (TUES), PI: Adeel Khalid, funding: \$90,000, May 2010, *not granted*

Internal Funding (SPSU)

- Technology Fee, ‘Remote Sensing Sensors for Teaching and Research Capstone Projects,’ PI: Chih-Cheng Hung, Co-PI: Adeel Khalid, Sung-Hee (Sonny) Kim, (\$42,500), November 2012
- SPSU Mini Grant, ‘Feasibility study of the use of UAVs to determine the highway condition,’ PI: Adeel Khalid, Co-PI: Sung-Hee (Sonny) Kim, Chih-Cheng Hung, (\$10,000), November 2012
- SPSU Mini Grant, ‘Automation of Integrated Production Planning,’ PI: Kamran Moghaddam, (\$10,000), Co-PI: Adeel Khalid, November 2012
- SPSU Mini Grant, ‘Research Learning Community – A process for promoting engaged learning across disciplines,’ PI: Beth Stutzmann, Co-PI: Adeel Khalid et. al., (\$5,000), November 2012
- Development office, Establishment of New Aerospace Engineering Laboratory (\$100,000), Fall 2011
- Development office, Small scale wind energy feasibility study in the state of Georgia (\$50,000), Fall 2011
- Development office, Aerospace engineering summer camp for youth, (\$25,000), Fall 2011

D. Publications

Journal Publications (Blind peer reviewed journal publications)

- [J24] Khalid, A., 'Flight Simulation based Study to Compare Student Learning and Retention,' summer 2018, *In Progress*
- [J23] Lowder, L., Khalid, A., et al. 'Peer Observation: Improvement of Teaching Effectiveness through Class Participation at a Polytechnic University,' *Journal of STEM Education: Innovations and Research*, Vol. 18, Issue 4, Oct-Dec, 2017
- [J22] Kumar, P., Khalid, A., 'Blended Wing Body Propulsion System Design,' *International Journal of Aviation, Aeronautics, and Aerospace*, Vol. 4 (2017), issue 4, October 8, 2017
- [J21] Khalid, A., 'Engaging Aerospace Students using Interactive Web-Based Techniques,' *Advances in Aerospace Science and Technology*, June 6, 2016, <http://www.scirp.org/journal/aast>
- [J20] Khalid, A., 'Comparison of Academic Misconduct Across Disciplines – Faculty and Student Perspectives,' *Universal Journal of Educational Research* 3(4): 258-268, 2015, DOI: 10.13189/ujer.2015.030402
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Conference Publications (Blind peer reviewed conference proceedings)

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[C72] Khalid, A., Roper, C., Pirrello A., Santos, A., ‘Comparison of Student Learning and Flight Performance as a Function of Method of Teaching – A Research Study,’ 125th, 2018 American Society of Engineering Education (ASEE) Annual Conference and Exposition, Salt Lake City, UT. June 24-27, 2018

[C71] Roper, C., Bagley, S., Khalid, ‘Comparison of High By-pass Turbofan Engine Cycle Analysis – A Case Study,’ Proceedings of the Sixteenth Annual Early Career Technical Conference (ECTC), American Society of Mechanical Engineers (ASME), Birmingham, AL., Nov. 4-5, 2017

[C70] Roper, C., Santos, A., Bagley, S., Khalid, ‘Simulation and Cycle Analyses for high bypass turbofan engine – A Comparative study,’ Proceedings of The National Conference on Undergraduate Research (NCUR) 2017, University of Memphis, TN., April 7-9, 2017

[C69] Mitchel, R., Upshaw, T., Khalid, A., ‘Gas Turbine Engine Cycle Analysis Comparison,’ 2017 American Society of Engineering Education (ASEE-SE) Zone II Conference, Puerto Rico, March 1-5, 2017

[C68] Khalid, A., ‘Enhancing Learning using Gas Turbine Engine Simulation and Analysis,’ 2017 American Society of Engineering Education (ASEE-SE) Zone II Conference, Puerto Rico, March 1-5, 2017

[C67] Lowder M. L., Khalid, A., et al, ‘Peer Observation: Improvement of Teaching Effectiveness through Class participation at a Polytechnic University,’ 123rd, 2016 American Society of Engineering Education (ASEE) Annual Conference and Exposition, New Orleans, LA. June 26-29, 2016

[C66] Khalid, A., Roper, C., ‘Research Learning Experience while Designing Wind Turbine for Low Speed Wind Applications,’ 123rd, 2016 American Society of Engineering Education (ASEE) Annual Conference and Exposition, New Orleans, LA. June 26-29, 2016

[C65] Roper, C., Khalid, A., 'Wind Turbine Design for Low Speed Wind Application - Improvements,' American Society of Aeronautics and Astronautics (AIAA) Region II Student Conference, University of Alabama, Huntsville, AL. April 4-5, 2016

[C64] Pena, D., Khalid, A., 'Sting 1: UAS Design and Implementation,' American Society of Aeronautics and Astronautics (AIAA) Region II Student Conference, University of Alabama, Huntsville, AL. April 4-5, 2016

[C63] Khalid, A., Roper, C., 'Wind Turbine Design for Low Speed Wind Applications,' 2016 American Society of Engineering Education (ASEE-SE) Southeast Section Conference, University of Alabama, Tuscaloosa, AL. March 13-15, 2016

[C62] Mayeed, M., Khalid, A., 'Optimization of the Wind Turbine Designs for Areas with Low Wind Speeds,' 9th International Conference on Energy Sustainability, 2015 American Society of Mechanical Engineering, Power & Energy, San Diego, CA., June 28 – July 2, 2015

[C61] Kumar, P., Khalid, A., 'Blended Wing Body Propulsion System Design,' American Institute of Aeronautics and Astronautics (AIAA) Design and Optimization of Aerospace Vehicles, Region II Conference, Savannah, GA. April-9-10, 2015

[C60] Khalid, A., Qazi, S., Khan, J., Siddiqui, S., Siddiqui, J., 'Challenges and Potential of Teaching Engineering Students in Developing Countries Using New Trends and Methodologies,' 122nd Annual Conference and Exposition, 2015 American Society of Engineering Education (ASEE) Conference, Seattle, WA. June 14-17, 2015

[C59] Lowder, L., Keyser, R.S., Khalid, A., et al., 'Student and Faculty Perceptions of Attendance Policies at a Polytechnic University,' 122nd Annual Conference and Exposition, 2015 American Society of Engineering Education (ASEE) Conference, Seattle, WA. June 14-17, 2015

[C58] Khalid, A., Mayeed, M., 'Wind Turbine Design Improvements for Low Speed Environments,' 2015 American Society of Engineering Education (ASEE) Southeast Section Conference, University of Florida, Gainesville, FL. April 12-14, 2015

[C57] Khalid, A., Phillip, T., 'Aircraft Winglet Optimization: An Undergraduate Research Project,' 2015 American Society of Engineering Education (ASEE) Southeast Section Conference, University of Florida, Gainesville, FL. April 12-14, 2015

[C56] Bragg, D., Khalid, A., 'Personal Flight Jet Powered Flying Wing: Project Icarus,' 2014 Bollinger Rosado Faculty Symposium, Embry-Riddle Aeronautical University, Daytona Beach, October 14, 2014

[C55] Terwilliger, B., Vincenzi, D., Ison, D., Witcher, K., Thirtyacre, D., Khalid, A., 'Influencing Factors for Use of Unmanned Aerial Systems in Support of Aviation Accident and Emergency Response,' 2nd International Conference on Control, Robotics, and Cybernetics, ICCRC, August 8-10, 2014, Singapore

[C54] Mayeed, M., Khalid, A., 'Designing Wind Turbines for Areas with Low Wind Speeds,' Proceedings of the ASME 2014 4th Joint US-European Fluids Engineering Division Summer Meeting and 11th International Conference on Nanochannels, Microchannels, and Minichannels, FEDSM2014, Chicago, IL. August 3-7, 2014

[C53] Kumar, P., Khalid, A., 'Analysis of Aspect Ratio and Winglet Height of a Box Wing Design,' American Institute of Aeronautics and Astronautics (AIAA) Design and Optimization of Aerospace Vehicles, 15th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Atlanta, GA. June 16-20, 2014

[C52] Khalid, A., McFall, K., 'Aerial Robotic Autonomous Patrol and Surveillance System,' American Institute of Aeronautics and Astronautics (AIAA) Design and Optimization of Aerospace Vehicles, 15th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Atlanta, GA. June 16-20, 2014

[C51] Khalid, A., Stutzmann, B., Lowder, L., Clay, K., Chin, C., Singh, R., Atiqullah, M., Sweigart, J., 'Academic Misconduct at a Polytechnic University - Case Studies,' American Society of Engineering Education (ASEE) 121st Annual Conference and Exposition, Indianapolis, IN, June 15-18, 2014

[C50] Khalid, A., Singh, R., Sweigart, J., Atiqullah, M., Stutzmann, B., Colebeck, D., 'Text Books: ebook Vs. Print,' American Society of Engineering Education (ASEE) 121st Annual Conference and Exposition, Indianapolis, IN, June 15-18, 2014

[C49] Khalid, A., 'Use of Student Generated Videos to Enhance Teaching Quality in Aerospace Engineering Classes,' 2014 American Society of Engineering Education (ASEE) Southeast Section Conference, Mercer University, Macon, GA. March 30-April 1st, 2014

[C48] Khalid, A., Golson, B., 'Aerodynamic Analysis of Box Wing Configuration for Unmanned Aircraft System (UAS) – Student Design Project,' 2014 American Society of Engineering Education (ASEE) Southeast Section Conference, Mercer University, Macon, GA. March 30-April 1st, 2014

[C47] Khalid, A., 'Improving the Aerospace Engineering Summer Camps – Student Surveys,' 2014 American Society of Engineering Education (ASEE) Southeast Section Conference, Mercer University, Macon, GA. March 30-April 1st, 2014

[C46] Khalid, A., Terwilliger, B., Coppola, A., Marion, J., Ison, D., Shepherd, A., Sanders, B., 'Real World Design Challenge (RWDC) – An Overview,' 2014 2nd International Conference on Manufacturing Engineering and Technology for Manufacturing Growth (METMG 2014), Miami, FL. January 20-21, 2014

[C45] Cline, W., Saraswatula, P., John, K., Khalid, A., Moghaddam, K., 'Cobb County-Marietta Water Authority Pump Station Maintenance Optimization Plan,' Thirteenth Annual Technical Conference, American Society of Mechanical Engineers Early Career Annual Technical Conference (ASME ECTC 2013), The University of Alabama, Birmingham, AL., November 2-3, 2013

[C44] Qazi, S., Khalid, A., 'Incorporating New Trends and Teaching Methodologies: Improving State of Engineering Education in Pakistan,' ASEE 120th Annual Conference and Exposition, Atlanta, GA., June 23-26, 2013

[C43] Khalid, A., Stutzmann, B., Toson, S., Nuhfer-Halten, B., 'Building a Better Engineer: The Importance of Humanities in Engineering Curriculum,' ASEE 120th Annual Conference and Exposition, Atlanta, GA., June 23-26, 2013

[C42] Khalid, A., 'Autonomous Patrol and Surveillance System (APSS) – A Student Project to Help Aid the Campus Police,' ASEE 120th Annual Conference and Exposition, Atlanta, GA., June 23-26, 2013

[C41] Snyder, K., Khalid, A., 'Improving the Systems Engineering Requirements Analysis Process: Few Tools and Techniques,' Polytechnic Summit 2013, Boston, MA. June 5-7, 2013

[C40] Khalid, A., 'Comparison of Teaching Systems Analysis and Design Course to Graduate Online Students verses Undergraduate On-Campus Students,' Polytechnic Summit 2013, Boston, MA. June 5-7, 2013

[C39] Khalid, A., 'Teaching Aircraft Design Course Using Real and Virtual Wind Tunnel,' Polytechnic Summit 2013, Boston, MA. June 5-7, 2013

[C38] Khalid, A., Scherrer, C., 'Alternatives for Reducing the Risk of Transmission of Tuberculosis in a Typical Hospital Clinic in Developing African Countries,' Conference on Systems Engineering Research (CSER'13), Procedia Computer Science, 00 (2013), Georgia Institute of Technology, Atlanta, GA., March 19-22, 2013

[C37] Khalid, A., 'Systems Engineering Graduate Research as Part of Curriculum – Summary of Research,' Conference on Systems Engineering Research (CSER'13), Procedia Computer Science, 00 (2013), Georgia Institute of Technology, Atlanta, GA., March 19-22, 2013

[C36] Khalid, A., Stutzmann, B., 'Teaching Adult Engineering Learners – Ease and Challenges,' 2013 ASEE Southeast Section Conference, Tennessee Technological University, Cookeville, TN., March 10-12, 2013

[C35] Khalid, A., Williamson, J., 'Advising Engineering Students – Demands and Challenges,' 2013 ASEE Southeast Section Conference, Tennessee Technological University, Cookeville, TN., March 10-12, 2013

[C34] Khalid, A., 'Improving Student Interest in Engineering Curricula – Exciting Students about their Classes,' 2013 ASEE Southeast Section Conference, Tennessee Technological University, Cookeville, TN., March 10-12, 2013

[C33] Khalid, A., Scherrer, C., 'Study of Tuberculosis spread in Hospital Rooms in Developing Countries using Computational Fluid Dynamics (CFD),' American Society of Mechanical Engineers (ASME), The Twelfth Annual Early Career Technical Conference (ECTC), November 2-3, 2012, Woodruff School of Mechanical Engineering, Georgia Institute of Technology, Atlanta, GA.

[C32] Khalid, A., Scherrer, C., 'Modeling the Effectiveness of Selected Tuberculosis Interventions in Resource Constrained Countries using CFD,' Institute for Operations Research and the Management Sciences (INFORMS), Southeastern Chapter 2012 Conference, Oct 4-5, Myrtle Beach, SC

[C31] Khalid, A., Chin, C., Halten, B. N., Sweigart, J., Stutzmann, B., 'Cross Disciplinary Peer Observations for Classroom Based Learning Activities,' Institute for Operations Research and the Management Sciences (INFORMS), Southeastern Chapter 2012 Conference, Oct 4-5, Myrtle Beach, SC

[C30] Khalid, A., Chin, C., Halten, B. N., 'Effectiveness of the use of Portable Electronic Devices (PEDs) in Classrooms across Disciplines: Faculty and Student Perspectives,' Institute for Operations Research and the Management Sciences (INFORMS), Southeastern Chapter 2012 Conference, Oct 4-5, Myrtle Beach, SC

[C29] Khalid, A., 'Introducing Aerospace Engineering to Middle and High School Students – Techniques that help them learn while having Fun,' 119th Annual Conference and Exposition, American Society for Engineering Education (ASEE), San Antonio, Texas, June 10-13, 2012

[C28] Khalid, A., 'Freshman Research Project: Design, Development, and Testing of Variable Pitch Propeller Thrust Measurement Apparatus – A Case Study,' 119th Annual Conference and Exposition, American Society for Engineering Education (ASEE), San Antonio, Texas, June 10-13, 2012

[C27] Khalid, A., 'Interactive Web-Based Classroom Teaching Techniques – An Effective Methodology for Aerospace Concepts,' 119th Annual Conference and Exposition, American Society for Engineering Education (ASEE), San Antonio, Texas, June 10-13, 2012

[C26] Khalid, A., 'Systems Engineering Classes can be Fun – What Faculty can do to keep Students Engaged,' 119th Annual Conference and Exposition, American Society for Engineering Education (ASEE), San Antonio, Texas, June 10-13, 2012

[C25] Khalid, A., 'Aerospace Engineering is still cool – Active Learning, Effective Teaching Techniques,' 119th Annual Conference and Exposition, American Society for Engineering Education (ASEE), San Antonio, Texas, June 10-13, 2012

[C24] Khalid, A., 'Design, Development and Testing of Variable Pitch Propeller Thrust Measurement Apparatus – Freshmen Research Project,' American Society for Engineering Education (ASEE) Southeastern Section, annual conference, James Worth Bagley College of Engineering, Mississippi State University, April 1-3, 2012

[C23] Khalid, A., 'Challenges of Starting a New Aerospace Program at a Polytechnic University,' American Society for Engineering Education (ASEE) Southeastern Section, annual conference, James Worth Bagley College of Engineering, Mississippi State University, April 1-3, 2012

[C22] Khalid, A., Nuhfer-Halten, B., Colebeck, D., Atiqullah, M., Toson, S., Chin, C., Stutzmann B., 'Teaching Methods – What Engineers can Learn from Liberal Arts,' American Society for Engineering Education (ASEE) Southeastern Section, annual conference, James Worth Bagley College of Engineering, Mississippi State University, April 1-3, 2012

[C21] Khalid, A., 'Modern Distance Education – Going Global while Staying Home,' American Society for Engineering Education (ASEE) Southeastern Section, annual conference, James Worth Bagley College of Engineering, Mississippi State University, April 1-3, 2012

[C20] Khalid, A., 'Aerospace Engineering Camp for Youth – Techniques Used and Lessons Learnt,' American Society for Engineering Education (ASEE) Southeastern Section, annual conference, James Worth Bagley College of Engineering, Mississippi State University, April 1-3, 2012

[C19] Khalid, A., 'Multidisciplinary Design Optimization of Aerospace Vehicle – Single Engine Rotorcraft,' American Society of Mechanical Engineers Early Career Annual Technical Conference (ASME ECTC), Georgia Institute of Technology, Atlanta, GA., November 4-5, 2011

[C18] Antonio, S., Khalid, A. "Improving the Drop-off Recycling Cooperative: Forsyth County," American Society of Mechanical Engineers Early Career Annual Technical Conference (ASME ECTC), Georgia Institute of Technology, Atlanta, GA., November 4-5, 2011

[C17] Khalid, A., Nuhfer-Halten, B., Vandenbussche, J., Colebeck, D., Atiqullah, M., Toson, S., Chin, C., 'Effective multidisciplinary active learning techniques for freshmen polytechnic students,' Intellectbase International Consortium Academic Conference, Atlanta, GA., October 13-15, 2011

[C16] Waindi, I., Khalid, A. "Renewable Energy in East Africa: Solutions to providing electricity using a systems approach", American Society of Engineering Education, 118th Annual Conference and Exposition, Vancouver, BC, Canada, June 26th – 29th, 2011

- [C15] Vaughn, C., Khalid, A. “Metro Atlanta: Alternatives to traffic congestion issues”, American Society of Engineering Education, 118th Annual Conference and Exposition, Vancouver, BC, Canada, June 26th – 29th, 2011
- [C14] Banks, S., Khalid, A. “Systems Engineering Approach to First Responder Interoperability”, American Society of Engineering Education, 118th Annual Conference and Exposition, Vancouver, BC, Canada, June 26th – 29th, 2011
- [C13] Khalid, A. “From Conception to Maturation – A Systems Engineering Approach,” 3rd annual Polytechnic Summit, Southern Polytechnic State University, June 8-10, 2011
- [C12] Khalid, A. “Improving Engineering student learning through interactive on-line classroom activities,” 3rd annual Polytechnic Summit, Southern Polytechnic State University, June 8-10, 2011
- [C11] Khalid, A. “Distance Learning Approach in Engineering – Pluses and Minuses,” 3rd annual Polytechnic Summit, Southern Polytechnic State University, June 8-10, 2011
- [C10] Khalid, A., Nuhfer-Halten, B. “Enhancing Learning at the Polytechnic University: Interactive Classroom Techniques,” 3rd annual Polytechnic Summit, Southern Polytechnic State University, June 8-10, 2011
- [C9] Rivard, G., Khalid, A. “Solutions for creating wind energy sources to the U.S. power grid”, Accepted for the World Engineering Congress, Kuching, Sarawak, Malaysia, 2-5th August 2010
- [C8] Usher, C., Khalid, A. “Development of a residential hot water heating system using Passive heating methods”, Presented at the 2010 Purdue Compressor Engineering, Refrigeration and Air Conditioning and High Performance Building Conference, Purdue University, July 12-15th, 2010
- [C7] Khalid, A. “Rotorcraft Performance, Controls, and Aerodynamics: A Multidisciplinary Approach”, Presented at the 1st International Conference on Aerospace Science and Engineering, Institute of Space Technology, Islamabad, Pakistan, August 18-20th, 2009
- [C6] Gunduz, E., Khalid, A., Schrage, D., “Weight estimation using CAD in the preliminary Rotorcraft Design”, Accepted 33rd European Rotorcraft forum, Kazan Russia, September 11-13th, 2007
- [C5] Khalid, A., Schrage, D., “Helicopter cost minimization using Collaborative Optimization”, Submitted AHS 63rd Annual Forum and Technical Display, Virginia Beach, VA., May 2007

[C4] Shrotri, K., Khalid, A., Gunduz, E., Manyapu, K., Sumer, F., Schrage, D., “Marvin – Near surface methane detection on Mars”, Paper presented in IEEE Aerospace Conference, Big Sky, MT, March 2007

[C3] Khalid, A., Schrage, D., “Framework development and Implementation of Collaborative Optimization and IPPD integration for rotorcraft design”, submitted for 11th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Portsmouth, VA., September 2006

[C2] Khalid, A., Schrage, D., “Implementation of Collaborative Optimization Technique for Helicopter Design”, Eleventh Australian International Aerospace Conference, Melbourne, Australia, March 2005

[C1] Khalid, A., Schrage, D., “Air load calculation for Istanbul Technical University (ITU) Light Commercial Helicopter (LCH) Design”, School of Aerospace Engineering, Georgia Institute of Technology, September 2003

Interviews

[I1] Interview on Aerospace Engineering Education published in the article “Soaring Education” by Adam Hadhazy, Aerospace America, AIAA Publication, June 2017

Technical Reports, Proposals and Presentations (w/o full paper)

[P31] Tekes, A., Khalid, A., et al, “Helicopter Swashplate Design and Analysis Using Semi-Compliant Mechanism,” Proceedings of the ASME 2018 International Mechanical Engineering Congress and Exposition, Pittsburg, PA., Nov 2018 - Accepted

[P30] Khalid, A., “Comparison of Student Learning and Flight Performance as a Function of the Method of Teaching – A Research Study,” ASEE, Salt Lake City, UT., June 2018

[P29] Santos, A., Roper, C., Pirrello, A., Khalid, A., “Learning While Flying – A Simulation Based Case Study,” ASEE-SE, Daytona Beach, FL., March 2018

[P28] Khalid, A., “Gas Turbine Engine Cycle Comparative Analysis,” ASEE, Columbus, OH., June 2017

[P27] Roper, C., Khalid, A., “Investigating Parametric, Analytical, and Experimental Propulsive Engine Cycle Analysis on the DGEN 380,” ASEE-SE, San Juan, PR., March 2017

[P26] Khalid, A., "Computational Design of Wind Turbines for Low Speed Environments," ASEE, New Orleans, LA., June 2016

[P25] Khalid, A., Roper, C., "Wind Turbine Design Improvements for Low Speed Environment," ASEE-SE, University of Alabama, Tuscaloosa, AL., March 2016

- [P24] L. Lowder, J. Vandenbussche, D. Ferreira, A. Khalid, M. Karim, R. Singh, C. Chin, K. Acharya, D. Colebeck, J. Sweigart, M. Atiqullah, S. Das, T. Yee. "Promoting Peer Observation of Teaching in Higher Education," SoTL Commons Conference, Savannah, GA, March 2015
- [P23] Thirtyacre, D., Terwilliger, B. Vincenzi, D., Ison, D., Witcher, K., & Khalid, A. (2014), 'Influencing factors for use of unmanned aerial systems in support of aviation accident and emergency response,' Presented at the 2014 2nd International Conference on Control, Robotics, and Cybernetics, Singapore
- [P22] Vincenzi, D., Terwilliger, B. Smith, T., Ison, D., Witcher, K., Thirtyacre, D., & Khalid, A. (2014), 'Development and analysis of unmanned aerial systems aviation rescue and firefighting response framework,' Presented at Unmanned Systems Canada Annual Conference, Montreal, QC.
- [P21] Khalid, A., 'Personal Flight Jet Powered Flying Wing: Project Icarus,' 2014 Bollinger-Rosado Symposium, Embry-Riddle Aeronautical University, October 14, 2014
- [P20] Atiqullah, M., Stutzmann, B., Colebeck, D., Khalid, A., 'Research Learning Community (RLC) @ SPSU - The Process,' 5th Annual Polytechnic Summit, Wentworth Institute of Technology, Boston, MA. June 5-7, 2013
- [P19] Khalid, A., 'Text Books - eBooks vs. Print,' 5th Annual Polytechnic Summit, Wentworth Institute of Technology, Boston, MA. June 5-7, 2013
- [P18] Stutzmann, B., Colebeck, D., Khalid, A., 'Flipped Classroom or Flipped Out?: Professors Attitudes Towards Online Learning,' The SoTL Commons, A Conference on the Scholarship of Teaching and Learning, Georgia Southern University, Savannah, GA. March 27-29, 2013
- [P17] Khalid, A., 'Faculty and Students Perceptions of the Effectiveness of the use of Portable Electronic Devices (PEDs),' 18th Annual SLOAN Consortium, International Conference on Online Learning, Walt Disney World Swan and Dolphin Resort, Lake Buena Vista, FL. October 10-12, 2012
- [P16] Campos, J., Richey, J., Khalid, A., Mayeed, M., 'Feasibility Study of Wind Turbines in the State of Georgia,' 3rd Annual Polytechnic Summit – The Polytechnic Opportunity, Southern Polytechnic State University, June 6 – 8th, 2012
- [P15] Toson, S., Khalid, A., et. al. 'Academic Integrity Across Disciplines,' 3rd Annual Polytechnic Summit – The Polytechnic Opportunity, Southern Polytechnic State University, June 6 – 8th, 2012
- [P14] Khalid, A., Nuhfer-Halten, B., Stutzmann B., Khalid, A., Colebeck, D., Atiqullah, M., Toson, S., Chin, C., 'What STEM Faculty could Learn from the Humanities and Other Disciplines: How we Stepped Off the Stage and let the

Students run the Show,' 3rd Annual Polytechnic Summit – The Polytechnic Opportunity, Southern Polytechnic State University, June 6 – 8th, 2012

[P13] Khalid, A., et. al, 'Cross Disciplinary Peer Observations,' 3rd Annual Polytechnic Summit – The Polytechnic Opportunity, Southern Polytechnic State University, June 6 – 8th, 2012

[P12] Khalid, A., Nuhfer-Halten, B., Colebeck, D., Atiqullah, M., Toson, S., Chin, C., Stutzmann B., 'Multidisciplinary Learner Centered Activities,' 3rd Annual Polytechnic Summit – The Polytechnic Opportunity, Southern Polytechnic State University, June 6 – 8th, 2012

[P11] Khalid, A., et. al, 'Multidisciplinary Research Learning Community (RLC) as a process – Barriers and Successes,' 3rd Annual Polytechnic Summit – The Polytechnic Opportunity, Southern Polytechnic State University, June 6 – 8th, 2012

[P10] Stutzmann B., Khalid, A., Nuhfer-Halten, B., Colebeck, D., Atiqullah, M., Toson, S., Chin, C., 'The Arts and Critical Thinking Across Disciplines,' 3rd Annual Polytechnic Summit – The Polytechnic Opportunity, Southern Polytechnic State University, June 6 – 8th, 2012

[P9] Ramsey, D., Khalid, A., et. al. 'Challenges for Teaching Centers in Polytechnic Universities,' 3rd Annual Polytechnic Summit – The Polytechnic Opportunity, Southern Polytechnic State University, June 6 – 8th, 2012

[P8] Khalid, A., 'Hands on Aerospace Engineering – An Immersive Experience,' 3rd Annual Polytechnic Summit – The Polytechnic Opportunity, Southern Polytechnic State University, June 6 – 8th, 2012

[P7] Khalid A., 'Study of Tuberculosis spread in Hospital Rooms in Developing Countries using Computational Fluid Dynamics (CFD),' 3rd Annual Polytechnic Summit – The Polytechnic Opportunity, Southern Polytechnic State University, June 6 – 8th, 2012

[P6] Toson, S., Stutzmann B., Khalid, A., Nuhfer-Halten, B., Colebeck, D., Atiqullah, M., Chin, C., "Innovative Techniques to Minimize Misconduct in the Classroom,' Southern Regional Faculty and Instructional Development Consortium, March 24-27, 2012, Furman University, Greenville, SC.

[P5] Stutzmann B., Khalid, A., Nuhfer-Halten, B., Colebeck, D., Atiqullah, M., Toson, S., Chin, C., 'Critical Thinking Across Disciplines: The Polytechnic Experience,' 19th Georgia Conference on College and University Teaching, February 3-4, 2012, Kennesaw State University, Kennesaw, GA.

[P4] Khalid, A., 'Engaging Students: Interactive Classroom Techniques that Work,' Online Lifeline Conference, Valdosta State University, February 16-17, 2012

[P3] Khalid, A., ‘Online Engineering Classes – What are we missing?’, Online Lifeline Conference, Valdosta State University, February 16-17, 2012

[P2] Stutzmann, B., Colebeck D., Khalid, A., et al., ‘Critical Thinking Across Disciplines: The Polytechnic Experience,’ 19th Georgia Conference on College and University Teaching, Center for Excellence in Teaching and Learning, Kennesaw State University, February 3-4, 2012

[P1] Khalid, A., “The good, the bad, and the ugly of outsourcing teaching by distance learning approach”, presented on February 19th, 2010, University of West Georgia, STEM Regional Conference

E. Invited Talks and Presentations

[I56] Presentation, ASME 2018 International Mechanical Engineering Congress and Exposition, Pittsburg, PA., Nov 2018 - Accepted

[I55] Presentation, ASEE 125th Annual Conference, Salt Lake City, UT., June 2018

[I54] Poster Presentation, ASEE-SE, Daytona Beach, FL., March 2018

[I53] Presentation, ASEE 124th Annual Conference, Columbus, OH., June 2017

[I52] Presentation, ASEE-SE, San Juan, PR., March 2017

[I51] Presentation, ASEE 123rd Annual Conference, New Orleans, LA., June 2016

[I50] Presentation, ASEE-SE, University of Alabama, Tuscaloosa, AL., March 2016

[I49] Invited panelist on ‘Life as a Faculty Member,’ for the Career, Research, and Innovation Development Conference (CRIDC), Georgia Institute of Technology, March 5, 2015

[I48] Presentations, ASEE 122nd Annual Conference and Exposition, Seattle, WA, June 14-17, 2015

[I47] Presentations, 2015 ASEE Southeast Section Conference, University of Florida, Jacksonville, FL., March, 2015

[I46] Presentations, ASEE 121th Annual Conference and Exposition, Indianapolis, Indiana, June 15-18, 2014

[I45] Presentations, 2014 ASEE Southeast Section Conference, Mercer University, Macon, GA., March, 2014

[I44] Presentation, 2014 Bollinger-Rosado Symposium, Embry-Riddle Aeronautical University, October 14, 2014

[I43] Presentations, American Society of Mechanical Engineers (ASME), The Thirteenth Annual Early Career Technical Conference (ECTC), November 2-3, 2013, Department of Mechanical Engineering, The University of Alabama, Birmingham, AL

[I42] Presentations, ASEE 120th Annual Conference and Exposition, Atlanta, GA., June 23-26, 2013

[I41] Presentations, Polytechnic Summit 2013, Boston, MA. June 5-7, 2013

[I40] The SoTL Commons, A Conference on the Scholarship of Teaching and Learning, Georgia Southern University, Savannah, GA. March 27-29, 2013

[I39] Presentations, Conference on Systems Engineering Research (CSER'13), Procedia Computer Science, 00 (2013), Georgia Institute of Technology, Atlanta, GA., March 19-22, 2013

[I38] Presentations, 2013 ASEE Southeast Section Conference, Tennessee Technological University, Cookeville, TN., March 10-12, 2013

[I37] Presentations, American Society of Mechanical Engineers (ASME), The Twelfth Annual Early Career Technical Conference (ECTC), November 2-3, 2012, Woodruff School of Mechanical Engineering, Georgia Institute of Technology, Atlanta, GA

[I36] Presented in Dr. Mohammad Mayeed's Dynamics class ENGR 3122 on Relative motion analysis: Acceleration, November 12th, 2012, Southern Polytechnic State University, Marietta, GA.

[I35] Submitted ongoing research projects and recent publications including RLC publications for the scholarship showcase at Southern Polytechnic State University, October 24th, 2012

[I34] Presented 'Faculty and Student Perceptions of the Effectiveness of the use of Portable Electronic Devices (PEDs),' at the 18th Annual SLOAN-C Consortium at the Disney World Resort, Orlando, FL., Oct 11th, 2012

[I33] Conducted Workshop: Improving Online Course Delivery, with Larry R. Taubue from University of North Carolina, and presented papers at the 48th Institute for Operations Research and the Management Sciences (INFORMS), Southeastern Chapter, 2012 Conference, Myrtle Beach, SC., October 4-5, 2012

[I32] Presented 'My Research – APSS, CFD, RLC' to the school of engineering faculty during the kickoff week, Southern Polytechnic State University, Aug 13th, 2012

[I31] Presentations, 119th Annual Conference and Exposition, American Society for Engineering Education (ASEE), San Antonio, Texas, June 10-13, 2012

[I30] Presentations, 4th Annual Polytechnic Summit, Southern Polytechnic State University, Marietta, GA. 30060, June 8-10, 2012

[I29] 'INFORMS lessons learned,' presented during the Center for Teaching Excellence (CTE) seminar week, Southern Polytechnic State University, April 19th, 2012

[I28] Presentations, American Society for Engineering Education (ASEE) Southeastern Section, annual conference, James Worth Bagley College of Engineering, Mississippi State University, April 1-3, 2012

[I27] Presentations, Online Lifeline Conference 2012, Valdosta State University, Valdosta, GA. February 16-17, 2012

[I26] Presented in Dr. Mohammad Mayeed's Dynamics class ENGR 3122 on Relative motion analysis: Acceleration, November 16th, 2011, Southern Polytechnic State University, Marietta, GA.

[I25] 'Improving the Drop-off Recycling Cooperative: Forsyth County,' The Atlanta Chapter of the International Council on Systems Engineering (INCOSE), monthly meeting, November 9th, 2011

[I24] Presentations, American Society of Mechanical Engineers, Early Career Technical Conference (ECTC), The eleventh annual technical conference, Georgia Institute of Technology, Atlanta, GA. November 4-5, 2011

[I23] Submitted ongoing research projects and recent publications for the scholarship showcase at Southern Polytechnic State University, October 19th, 2011

[I22] Presentation, IntellectBase International Consortium, Academic Conference - Intellectual Perspective & Multidisciplinary Foundations, Atlanta, GA. October 13-15, 2011

[I21] 'Platform design of thrust measurement apparatus, using variable pitch propeller,' a research presentation involving undergraduate students, presented at the Scholarship at SPSU (S@S) brown bag lunch, Center for Teaching Excellence (CTE), Southern Polytechnic State University, September 7th, 2011

[I20] Presented the Systems Engineering Master's program review at the graduate forum, Martin Aeronautical Company, August 23rd, 2011, Marietta, GA.

[I19] Presentations, 118th Annual Conference and Exposition, American Society of Engineering Education (ASEE), Vancouver, B.C. Canada, June 26-29, 2011

[I18] Presentations, 3rd Annual Polytechnic Summit, Southern Polytechnic State University, Marietta, GA. 30060, June 8-10, 2011

[I17] Presented at the Aerospace Engineering information session to introduce and promote Aerospace Engineering undergraduate courses at Southern Polytechnic State University, April 21st, 2011, Southern Polytechnic State University, Marietta, GA.

[I16] Presented the lessons learnt in the NSF conference held at Vanderbilt University, to the SPSU faculty and staff, April 14, 2011, Southern Polytechnic State University, Marietta, GA.

[I15] Presented a talk titled “You have an innovative idea: What next?” at the brown bag lunch, February 2nd, 2011, Southern Polytechnic State University, Marietta, GA.

[I14] Presented in Dr. Renee Butler’s Systems Engineering Introduction and Orientation class SYE 1101 on basic concepts of Systems Engineering and its application – Helicopter Design, September 7th, 2010, Southern Polytechnic State University, Marietta, GA.

[I13] “Best practices in requirements writing”, Proceedings of INCOSE requirements working group, presented at the INCOSE Atlanta Chapter meeting, Southern Polytechnic State University, April 8th, 2010, Marietta, GA.

[I12] Presented in Dr. Renee Butler’s Systems Engineering Introduction and Orientation class SYE 1101 on basic concepts of Systems Engineering and its application – Helicopter Design, March 24th, 2010, Southern Polytechnic State University, Marietta, GA.

[I11] Presentation, Engaging the STEM students in and out of classroom, STEM Regional Conference, University of West Georgia, February 18-19th, 2010, Carrollton, GA.

[I10] “The good, the bad, and the ugly of outsourcing teaching via distance learning”, Engaging the STEM students in and out of classroom, Stem regional institute, Feb 18-19th, 2010, University of West Georgia, Carrollton, GA.

[I9] “Rotorcraft – Ugly flying machines”, presented during the Engineer’s week, Feb 16th, 2010, Southern Polytechnic State University, Marietta, GA.

[I8] Submitted ongoing research projects for the scholarship showcase at Southern Polytechnic State University, Feb 16th, 2010. Projects include Systems Engineering applications to alternative energy sources etc.

[I7] “Rotorcraft Multidisciplinary Design and Optimization”, August 20th 2009, School of Mechanical Engineering, Ghulam Ishaq Khan Institute of Engineering and Technology, Topi, Pakistan.

[I6] Keynote Speaker, “Rotorcraft Aerodynamics, Controls, and Propulsion – A Multidisciplinary Approach”, 1st international conference on Aerospace Science and

Engineering, August 18th – 20th, 2009, Institute of Space Technology, Islamabad, Pakistan.

[15] “Operations Research, A Systems Design Application”, August 6th 2009, School of Science and Engineering, LUMS, Lahore, Pakistan.

[14] “System Design and Analysis: Research, Academic and Industrial Perspectives”, May 28th 2009, School of Industrial Engineering, Southern Polytechnic State University, Marietta, GA. 30060, USA.

[13] “INCOSE International Workshop 2008, Requirements Guide and Best Practices”, March 2008, Avidyne Corporation, Lincoln, MA. 01773, USA.

[12] “Development and Implementation of Georgia Tech Rotorcraft Preliminary Design Methodology using Multidisciplinary Design Optimization”, November 8th 2006, School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA. 30332, USA.

[11] Presentation, “Implementation of Collaborative Optimization for Helicopter Design”, March 2005, Eleventh Australian International Aerospace Conference, Melbourne, Australia.

F. Honors and Awards

- Advised award winning students Christopher Roper (1st place) and Tahir Upshaw (3rd place) at PSLSAMP student research conference, Spring 2017
- Advised award winning student group – AIAA Student Aircraft Design Competition, 2nd Place, Matthew Salter, Shawn Sinclair, Austin Collett, Spring 2017
- Intel Society For Science & The Public, Science Talent Search (STS) 2016, nation’s oldest and most prestigious pre-college science competition, semifinalist for the 75th anniversary year for the research work done with Parth Kumar on Blended Wing Body Design concept selected from 1,750 entrants (\$1,000) award with additional (\$1,000) going towards Parth’s university of choice
- Awarded Excellence in Teaching Award by the Sigma Alpha Pi, The National Society of Leadership and Success, Atlanta, GA. April 12th, 2014
- Awarded Mini-Grant for Scholarship of Teaching and Learning (\$750), Center for Teaching Excellence, Southern Polytechnic State University, April 2014
- Selected as the Governor’s Teaching Fellow, University System of Georgia, 2013
- Nominated for the Regents’ Teaching Excellence Award, selected from other nominees at Southern Polytechnic State University to represent the university, June 2012
- Awarded Mini-Grant for Scholarship of Teaching and Learning (\$750), Center for Teaching Excellence, Southern Polytechnic State University, April 2012
- Nominated for the Outstanding Faculty award, Southern Polytechnic State University, Spring 2012

- Nominated for the ASEE – SE Southern Region Outstanding New Teacher Award, Spring 2012
- Awarded professional growth and development grant (\$1000), Center for Teaching Excellence, Southern Polytechnic State University, April 2011
- Awarded Mini-Grant for Teaching Excellence (\$500), Center for Teaching Excellence, Southern Polytechnic State University, April 2011
- Awarded conference support grant (\$750), Center for Teaching Excellence, Southern Polytechnic State University, April 2011
- Awarded Teaching Fellowship for Scholarship of Teaching and Learning (SoTL), Center for Teaching Excellence, Southern Polytechnic State University, April 2011
- Received excellent evaluation from students in teaching in all semesters at Southern Polytechnic State University
- Awarded Teaching Fellowship for Scholarship of Teaching and Learning (SoTL), Center for Teaching Excellence, Southern Polytechnic State University, April 2010
- Center for Teaching Excellence (CTE) Scholarship of Teaching and Learning (SoTL), Southern Polytechnic State University, Feb 2010
- NASA graduate student Mars methane detection design competition award, May 2006
- NASA and FAA award for competition in small aircraft transportation system university student competition, June 2002
- Received 2nd place award for American Helicopter Society (AHS) graduate student design competition, June 2002
- ASME International Gas Turbine Scholarship award and cash reward of \$1000, March 2000
- Placed on Dean's honors list through undergraduate and graduate schools

G. Achievements and Skills

- Performed requirements analysis for PFD (Primary Flight Displays), MFD (Multi-functional Displays), Charts and Maps for glass cockpits for general aviation aircraft
- Lead systems engineering team to design and develop and test requirements for Datalink weather
- Working knowledge of and familiarity with FAA software certification process
- Experience with Bullseye for code coverage during testing of source code
- Implemented system level design for rotorcraft using numerical optimization
- Completed Manufacturing Education Program (MEP) from Georgia Tech
- Trained in manufacturing processes and systems, six sigma, lean manufacturing, automated manufacturing process planning, machine tool analysis and metrology systems
- Collaborated transportation and supply chain, warehousing and manufacturing related projects
- Experienced in software integration packages e.g. Model Center, iSight

- Proficient in Matlab, MathCAD, Minitab and JMP
- Trained in vehicle engineering packages e.g. CATIA, AutoCAD, ProEngineer, Solid Works
- Performed CFD analysis on aerospace geometries using Nascart and Fluent
- Proficient in computer programming using C++, Basic and Microsoft office applications
- Conducted CAD/CAM/CAE workshop
- Administered FEA training on ANSYS
- Received 3D modeling training in AutoCAD

IV. PROFESSIONAL SERVICE

A. Service to Department - Systems and Industrial Engineering Department

- *Tenure and Promotion Committee Chair*
 - Chaired the department T&P committee, reviewed the T&P packets for several faculty members, 2015-16-17-18
 - Performed pre and post tenure reviews for Industrial and Systems Engineering faculty members 2015 – 2018
- *Department Faculty Council (DFC)*
 - Elected as the DFC representative for the ISYE department, Fall 2018
- *Faculty Advisor for ISYE students*
 - Advise ISYE students (last names A-K) to design their curricula and help them along the way to figure out which courses to take and in what sequence, 2016-17-18
- *Aerospace Endowed Scholarship*
 - Administer \$50,000 Aerospace endowed scholarship for women, promote minor among women and help select students for the scholarship, Spring 2017 – Present
- *Curriculum Ad Hoc Committee*
 - Represented ISYE department for the Introduction to Circuits course in the Electrical Department, fall 2017 – spring 2018
- *Faculty Review*
 - Performed post tenure review for Industrial and Systems Engineering faculty members, 2015 - 2018
- *IET / SYE Curriculum Update*

- Helped formulate / update the Systems Engineering curriculum to introduce Industrial and Systems Engineering program by comparing it with the Industrial Engineering Technology (IET) program to ensure that the two programs are unique and they both satisfy the accreditation requirements, Fall 2015
- *Nuclear Engineering Faculty Search Committee*
 - Helped with the search committee to select candidates for the position of Assistant/Associate professor in Nuclear Engineering, Summer 2014
- *SYE Catalog Update*
 - Reviewed and helped update the SYE online graduate catalog 2013-14, August 2013
- *MS Thesis Option for SYE*
 - Helped draft the MS SYE Thesis option guidelines for systems engineering graduate students, July 2013
- *ABET Preparation for SYE Courses*
 - Helped prepare documentation for the first ABET visit for the systems engineering program, Spring 2013 – 2018
- *Fulbright Scholar*
 - Hosted the Fulbright scholar to SPSU, Dr. Eric Huerta, Purdue University, visiting from Mexico. Activities included faculty research meetings, seminar, student meetings, campus tour, and collaboration opportunities, February 26th, 2013.
- *Systems Engineering Faculty Search Committee*
 - Chaired the search committee to select candidates for the position of Assistant/Associate professor in Systems Engineering, Spring 2013
 - Participated in the committee activities (meetings, information gathering, resume review, selecting, interviewing etc.) for new Systems Engineering Assistant Professor for the Division of Engineering, Spring 2011
- *Open Houses*
 - Presented the program highlights to the students and parents interested in the Systems Engineering at the open house, spring, summer and fall semesters – 2010 – 2016
- *Student Orientation*
 - Helped with student orientations at SPSU in spring, summer and fall semesters – 2010 – 2015
- *SYE Brochure*

- Provided information to be included in the Systems Engineering undergraduate brochure at Southern Polytechnic State University, February, 2011. Information and pictures from my classes were published in the brochure.

B. Service to the College of Engineering

College Promotion and Tenure Committee – Appointed pro-bono

- Reviewed P&T packets for faculty members across multiple departments and wrote recommendations, Fall 2015 – Spring 2018
- Served on the ad-hoc college T&P committee to evaluate faculty members from other departments in the college 2016 – 2018

College Curriculum Committee

- Worked on Ad Hoc curriculum committee to decide the contents of new Circuit Analysis course being designed for non-EE majors - lead by Sandip Das, Fall 2017
- Helped formulate / update the College of Engineering curriculum to introduce various engineering programs and provided inputs so the engineering curriculum satisfied the accreditation requirements, 2015

Seminars Organized and Moderated

- Seminar titled ‘The Fifth Technological Revolution: The Age of Information & Telecommunications, Inspiring the Innovators of Tomorrow,’ by Matt Kelly, Senior Technical Staff Member, IBM Systems, April 14th, 2015
- Seminar titled ‘The Impact of Cobb County Airport – McCollum Field and General Aviation on Economy,’ by Karl Hagel, Airport Manager, November 20th, 2013
- Seminar titled ‘Warning – This Aircraft is Amateur-Built (by SPSU graduate),’ by Brandi and Brian Unrein, organized as part of the Aerospace Engineering program at Southern Polytechnic State University, October 23rd, 2013
- Organized seminar titled ‘The next generation air transportation system (NEXTGEN): Why, how, and what does it mean to you?,’ Richard Charles, Ph.D., Dean, School of Aviation, Middle Georgia College, September 16th, 2013
- Weekly aerospace documentary series, films on aerospace subjects, open to faculty, students and staff, Spring, 2013
- Organized AIAA: American Institute of Aeronautics and Astronautics Atlanta Chapter meeting, seminar by Robert Zimmerman, ‘The History of Manned Spaceflight since Apollo: When the Russians Overtook the U.S. in Space.’ Southern Polytechnic State University, November 13th, 2012
- Organized seminar titled ‘Systems Engineering Competency: The Missing Element in Engineering Education – Why you should care,’ Charles Wasson,

Author of the text System Analysis Design and Development, held at Southern Polytechnic State University, Nov 8th, 2012

- Organized seminar titled ‘Rocket Motor Design and Construction,’ Burl Finkelstein, Executive VP and General Counsel, Kason Industries, held at Southern Polytechnic State University, September 27th, 2012
- Organized seminar titled ‘Elastomers of the Future,’ by Dianne Zimnavoda, President and CEO of RCF Technologies, held at Southern Polytechnic State University, September 13th, 2012
- Weekly aerospace documentary series, films on aerospace subjects, open to faculty, students and staff, Fall, 2012
- Organized seminar titled ‘The Lunar Rover,’ by Eugene G. Cowart, NASA Apollo program Lunar Rover Design, Boeing company, held at Southern Polytechnic State University, April 19th, 2012
- Organized seminar titled ‘Unmanned Aircraft Systems,’ by Dr. Rick Miles, Aeronautical Engineer, Lockheed Martin, held at Southern Polytechnic State University, April 10th, 2012
- Organized seminar titled ‘Airborne Radar,’ by Dr. Irwin Share, Systems Engineer, held at Southern Polytechnic State University, March 20th, 2012
- Organized seminar titled ‘Real World Aircraft Design,’ by Steve Justice, Director – Georgia Center of Innovation for Aerospace, held at Southern Polytechnic State University, March 13th, 2012
- Organized seminar titled ‘Electronic Warfare,’ by Dr. Irwin Share, Systems Engineer, held at Southern Polytechnic State University, February 14th, 2012
- Weekly aerospace documentary series, films on aerospace subjects, open to faculty, students and staff, Spring, 2012
- Organized seminar titled ‘Advanced Mobility – The Next Generation’ by Bruce McKay from Lockheed Martin Skunk Works, held at Southern Polytechnic State University, November 17th, 2011. Attendees: 30+
- Started the weekly aerospace documentary series, films on aerospace subjects, open to everyone, to promote aerospace engineering at Southern Polytechnic State University, Fall 2011
- Organized seminar titled ‘The Apollo Program – A System’, by Charles D. Carter, former NASA technician, Tuesday, September 6th, 2011, Southern Polytechnic State University, Marietta, GA.
- Organized seminar titled ‘Aircraft mass properties engineering – Making light of it?’ by Larry Linner from Lockheed Martin Skunk Works, at Southern Polytechnic State University, March 29th, 2011. Attendees: 30+
- Organized seminar titled ‘Structural Loads Applied to F-22 by Wing Pylons’ by David Sharp from Lockheed Martin Skunk Works, at Southern Polytechnic State University, September 21st, 2010. Attendees: 30+
- Organized seminar by Dr. Daniel Schrage from Georgia Institute of Technology, School of Aerospace Engineering for ‘Systems Engineering’ at Southern Polytechnic State University on September 16th, 2010.
- Organized International Council of Systems Engineers (INCOSSE) Meeting and presentation titled “INCOSSE in 2010 Review” by Dave Takacs from

Lockheed Martin Aeronautics Company and Atlanta chapter president, held at Southern Polytechnic State University, September 9th, 2010.

- *College of Engineering Outreach Committee*
 - Provided help with website, industry sponsorship, high school tours and other outreach activities on behalf of the school of engineering, 2015
- *Established Collaboration with Lockheed Martin Aeronautical Company for the following:*
 - Received \$25,000 for donor Douglas Shore to establish a women endowed scholarship in Aerospace Engineering, Fall 2017
 - Received \$15,000 from LM for the Aerospace Engineering program, 2017
 - Received \$10,000 from LM for the Aerospace Engineering program, 2014, 15, 16
 - Received \$5,700 from LM for the Aerospace Engineering Summer Camps, December 2013
 - Facility manufacturing facility visits for the Aerospace classes and all systems and Aerospace engineering students
 - Arrange for subject matter experts to present technical seminars at SPSU
 - Search for adjunct faculty to teach Aerospace and other courses at SPSU
 - Provide funding for the Aerospace Engineering Summer camps
- *Faculty Search – Electrical Engineering*
 - Participated in the interview and evaluation process of Electrical Engineering faculty candidates for the Assistant Professor position in the Division of Engineering at Southern Polytechnic State University, Spring 2011
- *Substitute Instructor*
 - Covered Strength of Materials (Engr 3132) class for Professor Richard Ruhala in his absence on February 16th, 2011
- *Senior Design Project*
 - Introduced a project ‘Design of thrust measurement apparatus for variable pitch propeller’, to Dr. Chan Ham’s capstone project class, spring 2011
- *Guest lecturer*
 - Electrical engineering lab courses for Dr. Deidra Hodges, EE 2401: Semi-Conductors, EE 2302: Circuits II, EE 2201: Circuits I, January 26, 28th, 2010
- *Academic Advisor search committee*
 - Participate in the committee activities (meetings, information gathering, resume review, selecting, interviewing etc.) for an academic advisor for the Division of Engineering, Fall 2010

C. Service to the University

- *Board of Regents Presentation*
 - With the help of the Aerial Robotics Team (ART) and the Aerospace Engineering students, the team presented the Unmanned Aerial System (UAS) designed for the KSU athletics department at the Board of Regents meeting on Oct 28, 2015. The UAS was a major highlight of the presentations and was well received
- *Consolidation Working Group (OWG)*
 - Served on the community engagement working group for the SPSU and KSU consolidation effort, Spring 2014
- *Faculty Mentor*
 - Served as a faculty mentor for the new faculty member *Jeanne Bobannon* (ETCMA) as part of the new faculty mentors program, Fall 2013
- *Faculty Marshal*
 - Served as faculty commencement Marshal for spring 2013 graduation, May 11, 2013
- *SPSU Honors Program Director Search Committee*
 - Reviewed the applications of the candidates for the honors program director and provide comments for the selection of the new director, Spring 2013
- *Graduate Programs Committee (GPC)*
 - Department of Systems and Mechanical Engineering representative for the GPC, Fall 2012 – Fall 2014
- *Desire2Learn Implementation Committee*
 - Helped with training, testing, and support mechanism for transition to the new learning management system Desire2Learn from the old system GAView Vista
 - Registered and took the D2L pilot course, April 2012
- *Reviewed Research related Policies and Procedures (P&Ps) for modifications and updates*
 - 604.0 Institutional Review Board (06/05)
 - 709.0 Grants and Contracts (07/98)
 - 802.10 Faculty Consulting and Extra Compensation (08/07)
 - 803.07 Assessment of Faculty (12/10)
 - 803.075 Faculty Activities (05/10)
 - 803.09 Faculty Promotion and Tenure (09/11)
 - 1120.0 Gifts, Grants and Contracts (07/84)
- *Elected as the faculty secretary, 2011-12*

- Managed general faculty meeting minutes
- Managed senate meeting minutes
- Managed the standing committee minutes website
- *Task Force on Inadequate Capital Funding*
 - Identified issues that SPSU currently faces that can get worse if capital funding is inadequate
 - Identified current actions taken to address inadequate capital funding
 - Identified risks associated with inadequate capital funding
 - Suggested other potential actions that will help alleviate risks
 - Outlined consequences if no action is taken to alleviate risks associated with inadequate capital funding
- *USG Adult Learning Consortium (ALC) Committee*
 - Participated in, contributed, and advanced the SPREAD (Southern Polytechnic Renewal Effort for Adult Degrees) efforts at SPSU
 - Developed PLA2000 for students course to orient students with the process of acquiring credit for prior learning
 - Participated in the Prior Learning Assessment (PLA) workshop under the School of New Learning, DePaul University, July 2011
- *Teacher Education Faculty Committee*
 - Coordinated the committees efforts in developing a teacher education program
 - Helped establish of the teaching certificate program creation in engineering and technology
- *Distance Learning Task Force Committee (Spring 2010 to Fall 2012)*
 - Prepared a report in a sub-committee on 'Engaging Online Students,' to help improve the online education and the committee mission, spring 2012
 - Participated in the Learning Management System (LMS) sandbox evaluation process to help USG select a potential replacement for Blackboard GAView Vista, spring 2011.
 - Student services review subcommittee: Served on the student services review committee and designed / improved the instrument for capturing student feedback on the online services they obtain while taking an online course
 - Proposed improvements in on-line teaching methodologies – synchronous live multi-way audio & video conference
 - Online Evaluation Sub-Committee: Served in the sub-committee to redesign online evaluation form, criteria, and questions for online classes
- *International Film Festival*
 - Showed the film titled 'Jinnah' for the 2nd annual SPSU International Film Series held at SPSU student center auditorium, September 30th, 2010

- *Honor Student Orientation*
 - Assisted with honor student orientation at SPSU, March 25th, 2010

D. Service to the Profession

Professional Affiliations

- *AIAA – American Institute of Aeronautics and Astronautics*
 - Lifetime member
 - Elected Atlanta Chapter Council Member, 2013-15
 - Coordinated Aerospace related seminars (see details under *Seminars Conducted*)
 - Invited AIAA members to SPSU for Workshops, Seminars and Camps (see details in corresponding sections)
 - Faculty advisor AIAA KSU Student branch
 - Help coordinate student activities including but not limited to having them attend and present at the regional AIAA conferences
- *INCOSE – International Council on Systems Engineering*
 - Atlanta Chapter campus representative, 2010 – 2013
 - New England Chapter President, 2008-09
 - Regional and National Conferences (see details under *Professional Growth and Development*)
 - Paper reviewer
 - Conference presenter
- *ASEE – American Society of Engineering Education*
 - Aerospace National Division Chair, 2016-17
 - Aerospace Division vice chair, program chair and secretary 2012-2016
 - South East and National Conferences (see details under *Professional Growth and Development*)
 - Session Moderator / Chair
 - Paper reviewer
 - Conference presenter
- *ASME – American Society of Mechanical Engineers*
 - Early Career Technical Conference, 2010 – 2018
 - Member – Editorial Board
 - Paper reviewer
 - Session Moderator / Chair
 - Conference presenter
- *PSLSAMP – Peach State Louis and Stokes Alliance for Minority Participation*
 - Annual Conference, 2014-2018
 - Student mentor

- Paper reviewer
- Session chair
- Judge

Textbook review and critique

- Reviewed the text book ‘Engineering Economy’ by Donald Newnan, Oxford Publication, Wrote, edited and provided solutions for problems for two chapters, December 2016
 - Reviewed the text book ‘How to Do Systems Analysis,’ by Gibson, Scherer, Gibson and Smith, 2nd edition, Wiley Publication, and provided feedback to the publisher for possible improvements, April 2015
 - Reviewed the text book ‘Elements of Propulsion’ by Jack Mattingly, 2nd edition, AIAA Publication, and provided feedback to the publisher for possible improvements, ISBN: 978-1563477799, October 2013
 - Tenth edition of ‘Introduction to Operations Research,’ by Frederick S. Hillier and Gerald J. Lieberman, McGraw-Hill Publications, Summer 2012
 - Reviewed the ‘Engineering Economic Analysis’ text book by Donald Newnan, Ted Eschenback, and Jerome Lavelle, Oxford Publications, for potential adoption for the SYE6025, Engineering Economic Analysis graduate level course in the Systems Engineering program at Southern Polytechnic State University
 - Second edition of ‘System Analysis, Design, and Development: Concepts, Principles, and Practices,’ by Charles Wasson, Wiley Series in Systems Engineering and Management, Summer 2012
- *Faculty Advisor – Student Clubs*
 - Faculty advisor for the *Aerial Robotics Competition Team*, spring 2012 – Present.
 - Developed and submitted Tech Fee Proposal for new CNC five axis-machines and high definition 3-D printer
 - Helped with the student design competition for autonomous quad copter
 - *Ph.D. Committee*
 - Served on the Ph.D. Committee of Dr. Mir Masood, “Digitally Assisted, Efficiency Enhanced, Linear RF Power Amplifier Architectures”, School of Electrical and Computer Engineering, Georgia Institute of Technology, December 9th, 2017, Atlanta, GA.
 - Served on the Ph.D. Committee of Dr. Mohammad Omer, “Towards Harmonious Co-existence: Linear and Nonlinear Techniques for Interference Management in RFICs”, School of Electrical and Computer Engineering, Georgia Institute of Technology, February 6th, 2013, Atlanta, GA.
 - Served on the Ph.D. Committee of Dr. Emre Gunduz, “Software integration for automated stability analysis and design optimization of a bearingless rotor

blade”, Daniel Guggenheim school of Aerospace Engineering, Georgia Institute of Technology, March 30th, 2010, Atlanta, GA.

- *Facility Tours (Field Trips)*
 - Organized two site visits to Lockheed Martin, Marietta facility for all the school of engineering students, October 2018, Total Participants: 50+
 - Organized a site visit to Lockheed Martin, Marietta facility for all the school of engineering students, April 23rd, 2013, Total Participants: 45
 - Arranged and managed site visit to Delta TechOps facility for the SYE 3802 ‘Aircraft Design and Performance’ class and other Systems Engineering students, March 29th, 2013
 - Arranged and managed site visit to Epps Aviation facility at the Peach Tree Dekalb Airport for the North Cobb High School summer campers, July 10th, 2012
 - Arranged and managed site visit to Delta TechOps facility for the SYE 3802 ‘Aircraft Design and Performance’ class, April 4th, 2012
 - Arranged and managed site visit to Lockheed Martin Assembly plant for the SYE 3802 ‘Aircraft Design and Performance’ class, February 23rd, 2012

E. Service to the Community

- *Science Olympiad*
 - Served as a judge in the Glider and helicopter events during the State wide Science Olympiad held at Kennesaw State University (Southern Polytechnic State University), March, 2011 – 2018
- *Georgia First Robotics*
 - Served as a volunteer in the Georgia First Robotics competition, hosted by Kennesaw State University, 2015 – 2017
- *Marietta Center for Advanced Academics, Family Engineering Night*
 - Served as a judge for the 3rd grade cotton-ball launcher design competition. The session was attended by 100 students and their parents, November 11th, 2013
- *Real World Design Challenge, Fall 2013*
 - Participated in the design team to create the Real World Design Challenge (RWDC) 2013-14 – a high school student competition to design an aircraft to help aid the farmer detect pest in the fields
- *North Hall High School, Gainesville, GA., - Aerospace Workshop*
 - Performed a half day Aerospace Engineering workshop for North Hall High School students. The workshop included flight simulations, paper plane competitions, and RC aircraft flight demonstrations amongst other activities. Total participants: 15, September 7th, 2013

- *Rocket Design – Marietta Center for Advanced Academics*
 - Designed a CAD model of a 10foot rocket installed on a chimney of Marietta Center for Advanced Academics (MCAA), with the help of SPSU students, Fall 2013
- *Summer Academy Still Waters Learning Center – SPSU Campus Tour*
 - Gave a tour to 25 students to the Aerospace facilities (wind tunnel and simulation laboratories) at SPSU, to encourage Aerospace Engineering, Aug 2nd, 2013
- *Aerospace Engineering Summer Camps*
 - Started, coordinated and directed 14 Aerospace Engineering summer camps for middle and high school students on SPSU campus since summer 2010, <http://www.spsu.edu/aerospace/>
- *Aerospace in Elementary School*
 - Introduced Aerospace Engineering at the Southern Polytechnic State University to elementary school students via Skype as part of Dr. Hussain Abaza's PSLSAMP project, September 27th, 2012
- *Future City Competition*
 - Served as a Panel Judge in the 2014 Georgia Regional Future City competition at Southern Polytechnic State University, held on January 25th, 2014
 - Served as a Judge and special award (DOE) Judge in the 2012 Georgia Regional Future City competition at Southern Polytechnic State University, held on January 21st, 2012
 - Served as a Judge and special award (DOE) Judge in the 2011 Georgia Regional Future City competition at Southern Polytechnic State University, held on January 22nd, 2011
- *Georgia Best Robotics*
 - Served as a volunteer in the Georgia Best Robotics competition, Bugs – Boosting Engineering, Science, and Technology, hosted by Southern Polytechnic State University, 2011 – 2015
- *Georgia FIRST Robotics*
 - Served as a judge in the FIRST Robotics competition hosted by Southern Polytechnic State University, 2011 – 2016
- *Children of Promise Aerospace Camp*
 - Conducted the Aerospace Engineering demonstrations of the Southern Polytechnic State University Field trip for Children of Promise Enrichment Camp, Friday, July 8th, 2011