

**CHRISTOPHER D. GRANT, PH.D., P.E.**

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**EDUCATION**

**Ph.D.**, School of Civil and Environmental Engineering, Georgia Institute of Technology, 1998

**Master of Engineering**, School of Civil Engineering, University of Louisville, May 1993

**Bachelor of Science in Engineering Science**, University of Louisville, May 1992

**ACADEMIC EXPERIENCE**

**Associate Provost for Academic Support**, Embry-Riddle Aeronautical University, Daytona Beach, Florida. 2015 to 2023.

- Daytona Beach campus offers 28 undergraduate degrees, 75 combined degrees, 19 masters degrees, and 7 doctoral degrees, a growth 10 degrees since 2015 and continual assessment of programs and opportunities for new degrees to match the needs and mission of the university.
- Undergraduate enrollment has grown by 41% since 2015 with an UG enrollment of 7551 in Fall 2023, while increasing GPA of incoming class from 3.66 to 3.99 (FA23). Graduate enrollment increased 47% over the same period. Total enrollment at Daytona Beach campus is estimated at 8347 for Fall 2023, up from 5806 in 2015. First-year retention currently is 85.5% for the Fall 2022 cohort.
- Transitioned during 2018 from a campus Chancellor organization to a University Provost Office organization. Additional university level duties were added including Gaetz Aerospace Institute, Accreditation and Assessment, and Summer/K12 programs. Two new departments created to support student success, Office of Undergraduate Advising and Office of Prestigious Scholarships and Fellowships.
- Responsible for campus academics: curriculum process, academic exceptions, credentialing of faculty to meet SACS requirements and documentation, faculty contracts, adjunct payment processing, graduate student assistantship contracts, electronic dissertation and thesis submission.
- Coordination with other ERAU campuses on academic policies, credentialing, accreditation and assessment, library, general education, and prestigious awards.

*Direct Reports*

- Registrar
- Disability Support Services (DSS)
- Honors Program
- Undergraduate Research
- Hunt Library for Daytona Beach and Worldwide campuses
- Center of Teaching and Learning Excellence (CTLE)
- Gaetz Aerospace Institute
- Academic Assessment and Accreditation for the university
- K-12 Education Outreach
- Undergraduate Advising

- Prestigious Scholarships and Fellowships, all campuses
- Academic Performance Studies
- Credentialing for Daytona Beach and Prescott campuses
- Retention and Parent/Student Programs
- ErnieCentral, the campus one-stop registration and financial services station

#### *Student Success*

- Daytona campus added a 'one-stop' shop in Fall 2018 that required a re-visioning of the Registrar Office, Bursar, and Financial Aid. Student walk-up transactional items shifted away from the three offices to the one-stop and duties in the office were reviewed and revised. Over the past three years nearly all forms have been converted to electronic and workflow are being implemented for many current processes, allowing students access to registration functions virtually via computer or phone.
  - Over 12,000 cases closed per year
  - Approximately 50/50 split in walk-up and online origination
- Created Office of Undergraduate Advising in 2019 with a mission of providing professional academic advising to all undergraduate students. Office has grown to 22 professional advisors with target of 350 students/advisor. First-year retention increased every year since, improving first-year retention by 7.9%.
- Retention initiatives and student persistence:
  - ALEKS math placement, 78% students who remediated improved at least 1 math level, and reduced placement in developmental math from 25% of incoming students to 6.9%
  - Implemented automated IFS appeals process for < 2.5 GPA students
  - Provost's Success Grants to assist at-risk student to remain at ERAU
  - Peer mentoring and coaching in 101 classes
  - Summer program for first generation students to acclimate to university campus, retention rate exceeds general population
  - Parent programs, including specific Facebook pages for Flight students, parent-to-parent connections, family weekends, and orientation activities
- Disability support services (DSS) usage has grown tremendously with needs of students, over 500 active students on Daytona Beach campus. Expanded the DSS area to allow more testing spaces, monitoring, and services needed by students. Updated the Policies and Procedures manual and moved the DSS office to work better with students and faculty for the unique needs of each student.
- Honors program new students are between 5 to 7% of incoming class, which has grown the program to over 500 students currently. First year retention rates of Honors cohort averaged 94% for past 5 cohorts and 83% five-year graduation rate.
- Created the Office of Prestigious Scholarships and Fellowships as a university level office in 2019, works with all campuses in expanding student experiences and opportunities. Awards include Goldwater Scholarship, Boren Scholarship, Brook Owens Fellowship, DoD SMART Scholarship, Gilman Scholarship, IBUILD Fellowship, Matthew Isakowitz Fellowship, NASA Space Life Sciences, NSF GRFP, Patti Grace Smith Fellowship, Critical Language Scholarship, Aviation Week's 20 Twenties, and Project Global Officers.

#### *Faculty Development and Academic Program Development*

- University level electronic campus curriculum process to improve the campus-to-campus communication for curriculum proposals impacting courses/degrees shared among

campuses that allowed proposals to be implemented without delays, reviews of proposals impacting multiple campuses (Courseleaf).

- CTLE (Center for Teaching and Learning Excellence) is an award-winning department that uses an imbedded model, where Associate Directors are housed within each College providing a closer connection with the faculty, department, and college needs. CTLE led faculty to pivot online during Spring 2020, and worked with faculty to restart classes in Summer term leading into full Fall semester opening. Typical activities of department:
  - New faculty orientation, a 3-day event with sessions on the student experience, effective student feedback, inclusive teaching, student-centered syllabi, effective first day, and others.
  - Graduate teaching assistant training and orientation, online for all TAs on practical aspects of teaching, student success, empathy for student experience, and best practices in classroom. Serves 100+ GTAs each year.
  - Weekly workshops (closing opportunity gap, supporting underprepared students, student workload, etc) and short courses (better exams, student engagement, etc).
  - Teaching partners, programs that pairs faculty to provide substantive feedback and strategies for improvement.
- Early alert and midterm grading emphasized to provide advisors information on student progress; decreased missing grades by 50% and implemented Advisor Alerts within CS to connect instructor with professional advisors.

#### *Outreach and Development*

- SACS QEP grew undergraduate research on the Daytona campus, with programs to support knowledge discovery where faculty can mentor students. Metrics on student and faculty involvement have grown year-over-year.
- Gaetz Aerospace Institute is in 38 districts and 140 schools in FL and 4 other states (AY23), growing from 11 districts/29 schools since AY14. Offers aviation, engineering and aerospace courses through concurrent enrollment model for HS students for college preparation. 8087 secondary students impacted, 202 secondary STEM teachers are trained and participated.
- Connecting Philanthropy/Development with the Honors Program and Library to identify areas of support in operations.
- Summer programs supports scholarships for K-12 students through Boeing, Gates Academy, Gulfstream, and other partners for aviation and women in STEM.
  - On campus day, overnight, and Air Force Private Pilot summer camps
  - 45 scholarships to day campers
  - Summer and holiday STEM activity kits
  - During academic year activities including Girl Scout Cookie University, Women in Aviation Day, STEM Day, and school field trips to the campus

#### *Scholarly Engagement*

- Open educational resources (OER), to identify no cost textbooks for classes at DB and WW to lower the cost to students, as 65% of students indicated they did not purchase because of high prices. Through AY23, program has saved students over \$2 million. Expanded program with assistance from CTLE to collaborate with selected faculty on textbook design to bring OER for additional courses through Bepress software.
- Library on the Daytona Beach campus supports both the Daytona Beach and Worldwide campuses, providing support to residential students as well as the online Worldwide students located across the country and beyond.

- Scholarly Commons (commons.erau.edu), a digital archive of ERAU faculty and student publications is housed within library to promote research, publications, and expertise at ERAU. Increased downloads by 21% in past AY to over 1 million.
- Leads monthly meetings with undergraduate program coordinators to identify issues which impact students, updating of policies/procedures, connection of staff with key academic areas such as ErnieCentral, Registrar, and academic advisors. Meets with the graduate program coordinators as part of Faculty Senate committee on similar items impacting graduate programs.

#### *Accreditation and Policy*

- Credentialing of all teaching faculty, including maintaining records as needed for SACS and meeting teaching requirements for both residential campuses. Also credentials Gaetz Aerospace Institute faculty teaching in high school classrooms. Provides quick turnaround on approvals to allow faculty timely access to Canvas for class preparation.
- POC for students seeking exceptions to policies. Works with program coordinators on issues affecting undergraduate and graduate programs such as modifying campus or academic policies, required program reviews, assessment of general education.
- Daytona campus representative on university-wide general education assessment. Worked with CAOs and faculty from other ERAU campuses on program assessment and revision of the general education competencies resulting in recommendations to strengthen and improve the general education received by ERAU students. Funding and support provided and recommendations are being implemented.
- Updates academic policies, working across the university for input and updating out of date policies. Most policies are university level that impacts both residential campuses as well the Worldwide campus requiring coordination with multiple departments and individuals. Policies added to support strategic needs of university such as Grade Forgiveness (retention), policies modified to meet NCAA requirements, and updated as a result of SACS review.
- SACSCOC reaffirmation submitted in 2022, program accreditations through ABET, AABI (Aviation Accreditation Board International), FAA, ACBSP, CEA (Commission for English Language Program Accreditation).

#### *Strategic Finance*

- Open Educational Resources initiative started in 2019, replacing textbooks for students and reducing costs on residential campus and with Worldwide campus.
- Expanding services of reporting units due to enrollment growth with budget reviews (base budget, zero-base budgeting) and strategic initiative funding.
- Oversight of the master faculty roster that tracks available funding in faculty lines by department and college. Use of unfilled faculty lines, sabbatical savings, phased retirement lines, and new positions tracked for support of hiring of new faculty and visiting faculty in both permanent and temporary lines.

#### *Technology and Efficiency*

- Implemented electronic payment workflow for adjuncts and graduate assistantships to reduce time spent preparing, reviewing, and user input errors.
- Created and oversight for electronic Faculty Payment Voucher workflow for adjunct, overload, special circumstances, and summer pay for faculty. New workflow eliminated manual entry spreadsheets and reduced time of preparation and approval.
- Electronic workflow completed for annual faculty contracts to 450+ full-time faculty that replaces paper copies of contracts distributed to faculty.

- Electronic syllabus project connected CS course information to create syllabi meeting academic policy requirements and curriculum management system workflow integrating CS and catalog system.
- Faculty activity reporting application implementation (Watermark) for all campuses, to integrate with the electronic Promotion and Tenure application, Scholarly Commons, student evaluations, and other ERAU systems.
- Degree planner (CIVITAS) into CS, provides students overview of degree plan, availability of courses, impact on program changes, and academic departments can use to project course needs.
- CRM use by academic advisor, ErnieCentral staff, financial services, and other support services on student activity and notations.

**Associate Dean, College of Engineering,** Embry-Riddle Aeronautical University, Daytona Beach, Florida. 2003 to 2015.

- College grew from 1500 students in 2003 to 2300 students in 2015, includes 6 undergraduate degrees and 5 graduate degrees. Lab, classroom and office expansion to handle growth occurred in the College.
- Planning of labs, equipment needs for new engineering research building (subsequently named MicaPlex), working with faculty to identify facility needs for strategic areas of research.
- Budget planning and allocation for the 5 departments and faculty in the College of Engineering. Prioritization of the faculty and operational strategic budget needs of the different departments within the college.
- Coordinates department course scheduling, faculty assignments, equitable workload distribution and coordination within the College of Engineering related to all undergraduate issues.
- Lead for ABET visits and college contact for SACS preparation. ABET accreditation visits participated were three for Civil Engineering (NGR for each visit), two College general reviews, and two new program accreditation visits (both programs accredited).
- Primary contact for any engineering student requiring academic waivers, including review of engineering students placed on academic suspension.
- Developed Sophomore advising office in the College to transition students from the University's First-Year office to the department level faculty advising improving student access to advising, questions about degrees, forced entries, course scheduling, and other student issues.
- Manage the College lab facilities, including staff that maintains labs and equipment, scheduling, upgrades, planning as well as the daily operations, upgrades, safety, and materials issues. College facility needs have grown with growth of faculty in the College and expansion of research, and led space allocation and planning on expansion of facilities for the College of Engineering.
- Assessing and monitoring of statistics, trends, and critical measures of success for College of Engineering. The data is used to assess the retention by degree and class and enrollment growth in programs that can be used for resource allocation.
- Led the creation the Engineering Scholars Program at Embry-Riddle (ESPER), a program for high-achieving high school students that introduces them to engineering and provides dual college-high school credits. Started in 2007 and on-going, coordinated through university administration and Volusia County (FL) school district to develop the partnership.
- Lead contact for the SECME (Southeastern Consortium for Minorities in Engineering) to host competitions for local K-12 schools, and ERAU hosted two Annual Meeting. Coordinated presentations to counselors, K-12 teachers, and students that highlighted engineering, engineering careers, and engineering at ERAU.

**Chair of the Freshman Engineering Department,** College of Engineering, Embry-Riddle Aeronautical University, Daytona Beach, Florida. 2004 to 2013.

- The Freshman Engineering Department provides instruction, advising, and mentoring for the 500+ first-year engineering students with a focus on retention, student success, and degree diversity. College retention of first-year engineering students increased since 2004 to 76% in 2013.
- Led the departments to develop commonality of the freshman curriculum among all engineering degrees to broaden enrollments in underrepresented degrees. Transfers between engineering degrees has increased since formation of the College, allowing the smaller programs to grow through existing students.
- Assessment of student satisfaction and success parameters for the engineering student success course, including arranging a multi-disciplinary team to develop and maintain the curriculum and creation of text for use in the introductory course; creation and participation in a Freshman Engineering student advisory board to provide feedback on issues affecting engineering students.
- During time as Chair, the Freshman Department grew to nine full-time faculty, and multiple adjuncts. The Freshmen faculty are assigned to teach freshmen engineering courses, including Introduction to Engineering, Introduction to Programming for Engineers, and Graphical Communications. All faculty are evaluated annually as well as monitored for class success throughout the semester.
- Freshmen Department was the most diverse in the College, 5 of the 9 faculty are women. Women in engineering initiatives have been started to increase retention and participation in college activities, including pairing upper-level students with incoming women engineering students.

**Interim Dean, College of Engineering,** Embry-Riddle Aeronautical University, Daytona Beach, Florida. August 2007 to October 2007.

- Served in Dean's position during transition to new leadership. Assumed Dean's role for orientation activities of incoming undergraduates, graduate students, new faculty, and parents.

**Associate Chair of Civil Engineering Department,** Embry-Riddle Aeronautical University, Civil Engineering Department, Daytona Beach, Florida. 2000 to 2003.

- Developed recruiting plan for the 2000-2001 AY, implemented to increase enrollment in Civil Engineering program working with Recruiting office (157% increase)
- Modified Civil Engineering budget, curriculum, and course offerings to fit within the current faculty environment. Matching recruiting goals with departmental budget and faculty workload.
- Civil Engineering Department formed, separating faculty and budget from Aerospace Engineering Department starting in 2000 AY.
- Curriculum coordination, semester course scheduling, and program coordinator for Civil Department.
- Developed and maintained departmental strategic plan and departmental assessment plan.
- Coordinated with University on SACS re-accreditation, departmental ABET re-accreditation in Fall 2001.

## **TEACHING AND OTHER EXPERIENCE**

**Consultant,** Ghyabi Consulting & Management, Ormond Beach, Florida. 2021 to present.

**Professor of Civil Engineering**, Embry-Riddle Aeronautical University, College of Engineering, Daytona Beach, Florida. 2008 to present.

**Associate Professor of Civil Engineering**, 2002 to 2008.

**Assistant Professor of Civil Engineering**, 1998 to 2002.

Teaching Activities:

- Led all courses dealing with transportation, supporting teaching in general engineering/civil engineering classes.
- Instructor in the following classes:
  - *Introduction to Transportation Engineering*
  - *Intermodal Transportation*
  - *Computer Applications in Transportation*
  - *Current Issues in Airport Environmental Analysis*
  - *Engineering Measurements and Lab*
  - *Geometric Design of Roadways*
  - *Airport Planning and Design I and II*
  - *Traffic Engineering*
  - *Construction Engineering*
  - *The Civil Engineering Profession (Senior Seminar)*
  - *Statics*
  - *Introduction to Engineering*
- Independent studies professor, multiple semesters for Civil Engineering students.
- MS in Civil Engineering started in 2015, serves on thesis committees and thesis advisor.
- Innovative Teaching Methods:
  - Web based teaching and Modern Methods– Use of Canvas, Blackboard and faculty account for posting of information. Sites contain updated student grades and confidential class information. All classes taught during the year had intro material, syllabus, and homework assignments posted, Fall 2020 courses provided online option to cover COVID protocols.
  - Representative student projects:
    - Survey of buildings on campus and drawing of topo map (Eng. Measurements)
    - Traffic simulation of future land use/roads in Port Orange, FL (Comp. Apps. In Trans.)
    - Traffic signalization plan of roadway corridor in Daytona (Comp. Apps. In Trans.)
    - Air quality analysis of transportation facilities (Comp. Apps. In Trans.)
    - Design-build project for foundation of proposed building on campus (Construction Eng.)
    - Improvement of bicycle and pedestrian facilities at ERAU (Construction Eng.)
    - Air quality modeling sensitivity analysis of DAB airport (Current Issues in Airport Environ Analysis)
    - Noise modeling of DAB airport (Current Issues in Airport Environ Analysis)

Selected University Service as Faculty, outside Associate Dean/Chair duties:

- Student Information System summer registration modifications
- Quality Enhancement Plan, curriculum implementation
- Search Committee, Dean of the College of Business
- Chair of the Electrical, Computer, Software, and Systems Engineering Department Chair search committee
- University Space Committee
- Web Action Group
- Program Assessment Committee

- Computer and Software Engineering Department Chair Search Committee
- Aerospace Engineering Department Chair Search Committee
- Chair of Engineering Dean Search Committee
- Faculty Senate representative for Civil Engineering Department
- Civil Engineering program coordinator
- Past Department webmaster, including webpage design and maintenance
- Advising 1/3 of civil engineering students
- Fall & Spring prospective student University fairs
- Surveying Lab equipment manager, Airport Design Lab computer manager

**Adjunct Professor**, University of Central Florida, School of Civil and Environmental Engineering. May 2000 to 2002.

**Engineer I**, HNTB Corporation, Nashville, Tennessee. April 1993 to August 1994.

- Produced plans and specifications for airport facilities at Nashville International Airport, including an apron expansion for the new international terminal and a taxiway to alleviate airplane congestion near the terminal.
- Began redesign of two state routes for the Tennessee Department of Transportation, using EaglePoint software on AutoCad. Developed preliminary geometric layout, drainage design, coordinated design with TnDOT standards, and was contact for TnDOT personnel .
- Primary resident construction inspector for installation of a new electrical vault and fast-track construction of the International Apron at Nashville Airport.
- Assisted in construction inspection on the airfield signage upgrade, which replaced over 200 airfield guidance signs and lighting on two taxiways. Assisted in the construction inspection of the grading phase of the outer connector taxiway.

## **PUBLICATIONS / PRESENTATIONS**

“Inquiry-Guided Learning (IGL) in Graphical Communications Course”; Lulu Sun, and Christopher Grant; ASEE Annual Conference; Atlanta, GA; June, 2013.

"Hybrid Course Design: Leading a New Direction in Learning Programming Languages"; Sun, L., Kindy, M., Liron, C., Grant, C., & Waterhouse, S.; ASEE Annual Conference; San Antonio, TX; June, 2012.

“Teaching Higher on Bloom’s Taxonomy: Experience in Introduction to Graphical Communications Course”; Lulu Sun and Christopher Grant; ASEE Southeast Section Conference; Starkville, MS; April 2012.

“Open-Ended Project Learning Experience in Graphical Communications”; Lulu Sun and Christopher Grant; ASEE Engineering Design Graphics Division, 66<sup>th</sup> Mid Year Conference; Galveston, TX; January 2012.

“Remote Airfield Lighting System – Development, Testing, Implementation”; Christopher Grant; Center for General Aviation Annual Meeting; Fairbanks, AK; June 2010.



“Adding New Functions to the Remote Airfield Lighting System”; Jianhua Liu, Christopher Grant, and Don Gallagher; Proceedings of the IEEE SoutheastCon 2010; Concord, NC; March 2010.

“Field Testing of a Remote Airfield Lighting System”; Christopher Grant; *Proceedings of the 2009 IES Aviation Lighting Committee Conference*; Illuminating Engineering Society; Las Vegas, NV; October, 2009.

“Remote Airfield Lighting Systems”; Christopher Grant; Center for General Aviation Annual Meeting; Grand Forks, ND; June 2009.

“Airfield Lighting Systems, Field Testing”; Christopher Grant, Michael Inman, and Andrew Bierman; *Proceedings of the 2008 IES Aviation Lighting Committee Conference*; Illuminating Engineering Society; Memphis, TN; October, 2008.

“Utilizing Programming Projects in a Freshmen Programming Course”; Steven Lehr and Christopher Grant; ASEE Annual Meeting, Honolulu, HI; June 2007.

“Aerospace-Focused Multidisciplinary Project-Based Introductory Engineering Course”; Timothy Wilson, Lisa Davids, Charles Eastlake, James Ladesic, Farahzad Behi, Mark Fugler, Paul Quinn, Steven Lehr and Christopher Grant; ASEE SE Section Annual Conference, Tuscaloosa, AL; April 2006.

“Comparison of Operating Speed Differences Between Cars, LDTs, and Vans for Emissions Modeling”; Shauna Hallmark, Keith Knapp, Christopher Grant; *Journal of Transportation Engineering*; American Society of Civil Engineers; Volume 130, Issue 6, pp. 814-817 (November/December 2004).

“Improving Urban Air Quality Requires Multimodal Measures”; Christopher Grant; *TRNews*; Transportation Research Board of the National Academies; Number 227, July-August 2003; pp. 22-25.

“Collection of Vehicle Activity Data by Video Detection for Use in Transportation Planning”; Christopher Grant, Randall Guensler, Bret Gillis; *ITS Journal*; Volume 5, Number 4. pp. 343-361. 2000.

“Uncertainty of Airport Ground Service Equipment Activity and Forecasting Methodologies.” Presentation and Panel Discussion; Session 155, *Airport Air Quality Impacts: Science and Policy*; Transportation Research Board Annual Meeting, Washington, D.C., January 2000.

"Development of a Comprehensive Vehicle Instrumentation Package for Monitoring Individual Tripmaking Behavior – Final Report" (GTI-R-99005); Jean Wolf, Randall Guensler, Simon Washington, Wayne Sarasua, Chris Grant, Shauna Hallmark, Marcelo Oliveira, Maxim Koutsak, Ranganathan Thittai, Robert Funk, Jeffrey Hsu. Georgia Transportation Institute; Georgia Institute of Technology; Atlanta, GA; April, 1999.

"Development of a Comprehensive Vehicle Instrumentation Package for Monitoring Individual Tripmaking Behavior - Test Plans and Results" (GTI-R-99004); Jean Wolf, Randall Guensler, Simon Washington, Wayne Sarasua, Chris Grant, Shauna Hallmark, Marcelo Oliveira, Maxim Koutsak, Ranganathan Thittai, Robert Funk, Jeffrey Hsu. Georgia Transportation Institute; Georgia Institute of Technology; Atlanta, GA; March, 1999.

"Development of a Comprehensive Vehicle Instrumentation Package for Monitoring Individual Tripmaking Behavior - Technical Specifications and Analysis" (GTI-R-99003); Jean Wolf, Randall Guensler, Simon Washington, Wayne Sarasua, Chris Grant, Shauna Hallmark, Marcelo Oliveira, Maxim Koutsak, Ranganathan Thittai, Robert Funk, Jeffrey Hsu. Georgia Transportation Institute; Georgia Institute of Technology; Atlanta, GA; February, 1999.

"Development of a Comprehensive Vehicle Instrumentation Package for Monitoring Individual Tripmaking Behavior - Project Overview and Functional Specifications" (GTI-R-99002); Jean Wolf, Randall Guensler, Simon Washington, Wayne Sarasua, Chris Grant, Shauna Hallmark, Marcelo Oliveira, Maxim Koutsak, Ranganathan Thittai, Robert Funk, Jeffrey Hsu. Georgia Transportation Institute; Georgia Institute of Technology; Atlanta, GA; February, 1999.

"Development of a Comprehensive Vehicle Instrumentation Package for Monitoring Individual Tripmaking Behavior - Literature Review" (GTI-R-99001); Jean Wolf, Randall Guensler, Simon Washington, Wayne Sarasua, Chris Grant, Shauna Hallmark, Marcelo Oliveira, Maxim Koutsak, Ranganathan Thittai, Robert Funk, Jeffrey Hsu. Georgia Transportation Institute; Georgia Institute of Technology; Atlanta, GA; February, 1999.

"Representative Vehicle Operating Mode Frequencies: Measurement and Prediction of Vehicle Specific Freeway Modal Activity"; Dissertation Submitted as Partial Fulfillment of the Degree Doctor of Philosophy; Georgia Institute of Technology; Atlanta, GA; September, 1998.

"Comparison of Remote versus On-board Instrumentation for Collection of Modal Activity in Mobile Emissions Modeling"; Christopher Grant and Craig Roberts; *Proceedings of the Air and Waste Management Association's Annual Meeting and Exhibition*. Air and Waste Management Association, Pittsburgh, PA, USA; June, 1998. 14pp 98-TP4D.02.

"Collection of Vehicle Activity Data by Video Detection." Presentation to the Committee on Information Systems and Technology (A5003); Transportation Research Board Annual Meeting, Washington, D.C., January, 1998.

"Use of Video Detection Systems for Collection of Vehicle Activity Data"; Christopher D. Grant, Randall Guensler, and Jess Billmeyer; *Proceedings of the Seventh CRC On-Road Vehicle Emissions Workshop*; Coordinating Research Council; Atlanta, GA; April, 1997.

"Investigation of Modal Activity on the Atlanta Interstates." Presentation at the 1996 ITE Summer Conference; ITE, Georgia Section; Oct. 1996.

"Variability of Heavy-Duty Vehicle Operating Mode Frequencies for Prediction of Mobile Emissions"; Christopher D. Grant, Randall Guensler, and Michael D. Meyer; *Proceedings of the Air and Waste Management Association's Annual Meeting and Exhibition*. Air and Waste Management Association; Pittsburgh, PA, USA; June, 1996. 15pp 96-RA108A.05.

"Legal Implications of Transportation/Air Quality Conformity Regulations: Litigation and Legislation"; Christopher D. Grant and J. Allan Cobb; *National Association of Environmental Professionals 21<sup>st</sup> Annual Meeting Proceedings*; Houston, TX; June, 1996.

"Cross Validation of Vehicle Modal Activity Data Using Remote and On-board Instrumentation"; Christopher D. Grant, Randall Guensler, Simon Washington, and Wayne Sarasua; *Proceedings of the Sixth CRC On-Road Vehicle Emissions Workshop*; Coordinating Research Council; Atlanta, GA; April, 1996.

“Application of GPS in a Mobile Emissions Inventory.” Poster presentation at The Emission Inventory: Programs and Progress, an Air and Waste Management Association Specialty Conference; Research Triangle Park, NC; November, 1995.

“Heavy Duty Vehicle Activity Research in Atlanta”; Michael Meyer, Dike Ahanotu, Todd Bettger, Randall Guensler, and Chris Grant; *The Emission Inventory: Programs and Progress; Proceedings of the 1995 Air and Waste Management Association and USEPA Specialty Conference*; Air and Waste Management Association; Pittsburgh, PA; October, 1995.

“Using the STAMINA 2.0 Computer Program to Calculate Contours of One-Hour-Average Sound Levels from Highway Traffic Noise”; Roswell A. Harris, Louis F. Cohn, and Christopher D. Grant; *Noise Control Engineering Journal*; Volume 43, Number 5; September-October, 1995; p 173-179.  
“Integration of a Computerized Noise Level Contouring Routine into Stamina 2.0”; Christopher D. Grant; Thesis Submitted as Partial Fulfillment of Master of Engineering; University of Louisville; Louisville, KY; May, 1993.

## **AWARDS**

2008 ABET President’s Awards for Diversity awarded to the College of Engineering and the Office of Diversity Initiatives at Embry Riddle Aeronautical University, Daytona Beach, FL, Joanne Detore-Nakamura, Heidi Steinhauer, Lisa Davids, Darris White, and Christopher Grant. ABET, Inc., October 2008.

Department Faculty Teaching Award from the Fall 2000 Graduating Class. Embry-Riddle Aeronautical University. December, 2000.

1999 Eisenhower Faculty Fellowship. Dwight David Eisenhower Transportation Fellowship Program, National Highway Institute, January 1999.

Student Research Award, 1996; National Association of Environmental Professionals; NAEP 21<sup>st</sup> Annual Conference; Houston, TX; June, 1996.

Student Travel Grant Award, 1996; For paper presentation at Air and Waste Management Association 89<sup>th</sup> Annual Meeting; Southern Section AWMA; July, 1996.

## **RESEARCH**

“Research Experience for Teachers: Aviation and Aerospace”, National Science Foundation. Principal Investigator. On-campus summer experience for K-12 teachers to work with ERAU researchers and to develop K-12 curriculum modules to enhance STEM education. 2009-2012, \$499,000.

“Key Spaceport Planning and Design Requirements Study”, Federal Aviation Administration. This study deals with the physical requirements associated with the spaceport and its operating environment, including runways and their associated environments, airport/runway/taxiway lighting, markings/signage, and runway and taxiway control and airport facility control (ATC) along with ICAO recommendations for best use for spaceport planning. 2010, \$85,000

“Long Term Evaluation and Testing of Remote Lighting”, Federal Aviation Administration, Center for General Aviation Research. Principal Investigator. Research into alternative power and environmental testing of lighting systems for remote airfields, including field testing and flight testing. 2009-2011, \$120,000.

“Flight Testing”, Federal Aviation Administration, Airfield setup and flight tests of low-power lighting technologies. March to December 2008. Principal Investigator. \$61,000.

“Remote Airfield Lighting, Phase 3”, Federal Aviation Administration, Center for General Aviation Research, 2006 to 2007. Principal Investigator. Continued lab testing, limited field testing of prototypes, power analysis. \$80,000.

“Remote Airfield Lighting, Phase 2”, Federal Aviation Administration, Center for General Aviation Research, 2005 to 2006. Co-investigator in four university consortium. Prototype development, concepts, lab testing, cost estimations. \$199,500; ERAU share \$55,000.

“Remote Airfield Lighting, Phase 1”, Federal Aviation Administration, Center for General Aviation Research, 2005 to 2006. Co-investigator in four university consortium. Background research, experimental design, lighting technologies, and environmental restrictions. \$315,000; ERAU share \$40,000.

“Development of an Electronic Educational Resource for Environmental Analysis of Airports”, Embry-Riddle Aeronautical University, Dean of Academics Office. May-June, 2001.

“Mobile Emissions Impact of Ramp Meters from Changes in Vehicle Operating Modes”, Georgia Department of Transportation and The Georgia Institute of Technology, School of Civil and Environmental Engineering. June-September, 1999.

“Critical Review of Uncertainty Surrounding Airport Ground Service Equipment Activity, Forecasting Methodologies, and Emission Factors used in the State Implementation Plans”, Embry-Riddle Aeronautical University, Office of Sponsored Research. May-June, 1999.

*Grant Proposal Development*, Aerospace Engineering Department, Embry-Riddle Aeronautical University. Summer 1999.

## **PROFESSIONAL ACTIVITIES**

Engineering Scholars Program at Embry-Riddle. A free seven-week summer program for selected Volusia County high school students designed to help students focus on science, engineering, mathematics and physics coursework while in high school. Summer 2007 to present.

Advisory Board Member for the Academy of Scientific Inquiry at Mainland High School, Volusia County Florida.

Industry Participant, Next Generation Air Transportation System (NGATS) in the Airports Integrated Product Team. The NGATS Institute was established between the National Center for Advanced Technologies (NCAT) and the Federal Aviation Administration (FAA) to access world-class private sector expertise, tools, and facilities for application to NGATS activities and tasks.

Peer Review, “For Greener Skies: Reducing Environmental Impacts of Aviation”; The National Academies; The National Research Council; Washington, D.C.; December 2001.

Panel Reviewer, “NSF/DOT Partnership for Exploratory Basic Research in Information and Communication Systems in Surface Transportation”; National Academy of Sciences, National Science Foundation; Washington, D.C.; July 2001.

### **PROFESSIONAL AFFILIATIONS**

Transportation Research Board

- Committee on Environmental Impacts of Aviation, AV030
- Committee on Transportation and Air Quality, ADC20

American Society of Civil Engineers

American Society for Engineering Education

American Association of Airport Executives

### **PROFESSIONAL REGISTRATIONS**

Professional Engineer, State of Florida, #55388