



Thomas Guido

Data Analyst/PI at Embry-Riddle Aeronautical University
Macungie, Pennsylvania (Allentown, Pennsylvania Area) | Aviation & Aerospace

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Thomas Guido's Overview

Current Data Analyst/PI at Embry-Riddle Aeronautical University
Education Embry Riddle Aeronautical University
Emmaus High School
Connections 40 connections

Thomas Guido's Experience

Data Analyst/PI

Embry-Riddle Aeronautical University

Educational Institution; 1001-5000 employees; Higher Education industry
February 2011 – Present (2 years 11 months)

Element of the DARPA Brioche campaign to find the resonant frequency of the magnetosphere by triggering ionospheric feedback instabilities. Research includes gathering magnetometer data from satellites and ground stations, and applying Fourier analysis to filter background frequencies. Analyzing the environment before allotted times and sending the corresponding suspected frequencies to HAARP to heat the ionosphere is the main method of experimentation.

Thomas Guido's Projects

The Boeing 737-800 Stability & Control Analysis And Flight Simulation

March 2013 to Present

Team Members: Thomas Guido, Thomas Gribben

The determination of stability and control coefficients of a Boeing 737-800 aircraft by utilizing the 1976 United States Air Force Stability and Control Digital DATCOM for stability coefficients and the Athena Vortex Lattice Method Software. The Coefficients calculated from the different programs were then compared against each other and also compared against strip theory results calculated by hand. After comparison corroborated the results for one flight condition, the Coefficients were calculated at 7 different Mach numbers and varied by angle of attack, sideslip angle, and control surface deflection. These were then used in a Simulink Flight Model to simulate the flight of the Boeing 737-800 and provided outputs to both instrument gauges and a 3D flight visualization employing the FlightGear program. (Specialization in Simulink programming and Digital DATCOM configuration and troubleshooting)

Design and Fabrication of a Heavy Lift Aircraft

August 2011 to Present

Team Members: Thomas Guido, Nick Ramos, Adam Tahir

Group Design of an aircraft designed to lift a static payload while dropping a humanitarian aid package on a target from an altitude of 100 feet. This requires maximizing the structural strength and aerodynamic stability for the Society of Automotive Engineers Aeronautical Competition. (Specialization in Avionics/Aircraft Electronics.)

Design of a Hall Effect Ion Thruster

August 2011 to Present

Team Members: Thomas Guido, Adam Tahir

Undergraduate Design and construction of a 4.50 kW Hall Effect Thruster utilizing Xenon gas for the Experimental Rocket Propulsion Lab. Reference to graduate papers and scientific studies aid in design parameters for the engine designed.

Satellite Power System Design

August 2010 to Present

Team Members: Thomas Guido, Nick Ramos, Aaron Ghent, Milton Marwa, Lee McCarthy

Contract winning Group design of a geosynchronous reconnaissance satellite utilizing a radioisotope thermoelectric generator to power the camera and positioning systems while weighing less than the competitor's satellite designs.

Thomas Guido's Languages

- English (Native or bilingual proficiency)
- German (Professional working proficiency)

Thomas Guido's Skills & Expertise

- Data Analysis
- Matlab
- C++
- Fortran 95
- Flight Simulation
- Catia
- Visual Basic
- Microsoft Office
- Hand Tools
- Power Tools
- Arduino
- Simulink
- Analysis

Thomas Guido's Education

Embry Riddle Aeronautical University

Bachelor of Science (B.S.), Aerospace, Aeronautical and Astronautical Engineering
2010 – 2014 (expected)

Emmaus High School

High School Diploma
2006 – 2010

Thomas Guido's Courses

Bachelor of Science (B.S.), Aerospace, Aeronautical and Astronautical Engineering Embry Riddle Aeronautical University

- Aerodynamics II (AE302)
- Space Mechanics (AE313)
- Airplane Stability & Control (AE413)
- Electrical Engineering I (EE336)
- Aerodynamics I (AE301)
- Aerospace Engineering Materials (AE316)
- Aerospace Structures I (AE318)
- Thermodynamics (ES305)
- Solid Mechanics (ES302)
- Dynamics (ES204)
- Fluid Mechanics (ES206)
- Technical Report Writing (COM221)
- General Chemistry I (PS105)
- Differential Equations and Matrix Methods (MA345)
- Math Methods for Engineering and Physics I (MA441)

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