

GT-AIAA: Fostering Critical Thinking and Real-World Connections

Ethan Traub¹ and Rishita Mhatre²

Georgia Institute of Technology, Atlanta, GA, 30332, United States of America

I. Summary

As the student population growth at Georgia Tech has accelerated over the last few years, aided by new online learning technologies, students have a growing desire for new opportunities characterized by smaller group settings, solving problems, and connecting with their peers and the industry. As the world and industry evolve, GT-AIAA has focused on addressing these changes through new programs aimed at tackling students' desire to become better problem solvers and collaborators. Building upon popular events from past years, the AIAA branch at Georgia Tech has worked to provide students with the smaller group settings that they have been missing, primarily through expanding our case study series alongside other event offerings. The case study initiative allows our members to solve real-world problems, brought to them by engineers working at various companies. Students have the chance to use their expertise and skills to develop a creative and comprehensive solution, and present this solution to peers and Lockheed Martin Engineers; thereby developing crucial collaboration and critical thinking skills, while becoming better engineers and communicators overall.

The first case study event was led by a group of Lockheed Martin engineers in recognition of Engineers Week. After providing a company overview and a brief game of "Guess the Lockheed Vehicle", students were divided into groups of five and provided with the problem statement. In this year's iteration, teams were tasked with developing the optimal flight profile to fight a fire in a hypothetical emergency. The event was made accessible to all students, regardless of academic year, by providing them with the necessary background knowledge. Using the data provided for each fire location, locations for stations to refill planes with fire retardant, and the amount of resources found at each location, each team developed a mission to contain as much of the fire as possible. Once students formulated their plan they had the opportunity to defend their process in front of the Lockheed Martin team. Many of the participants left the event feeling more confident in their problem-solving capabilities and credited the event with teaching them about the importance of critical thinking over straight-up textbook knowledge. Due to the success of the Lockheed Martin Case Study event, GT-AIAA has also expanded the case study series to include companies like The Aerospace Corporation and Joby Aviation, hoping to expand topic areas to include a variety of aerospace specialties, utilizing improved online learning technologies to host events with companies across the country.

The case study events mark only a few of the many successful career development initiatives the GT-AIAA board undertook this year. After all, the board's mission is to maximize the opportunities available to our membership. Therefore, this past year also featured guest speakers and company informational sessions. For instance, one of our flagship events consisted of a resume review by GE Aerospace. Participants were able to bring in their resumes and talk to recruiters who could offer a better perspective on tailoring one's resume. Similarly, another event undertaken by the board was a Delta Tech Ops Tour. Here attendees had the opportunity to gain a more real-world perspective and visualize how their more technical knowledge could be translated into hands-on work. Participants of this highly popular event gained a better understanding of aircraft maintenance and logistics.

GT-AIAA has time and time again proven its commitment to its members and its mission to strengthen our connection with the aerospace industry and help prepare members both technically and professionally. Nevertheless, our efforts don't stop here, as GT-AIAA seeks to continue evolving and giving back to our community by building upon past successes and introducing new initiatives.

¹ Undergraduate Student, Department of Aerospace Engineering, AIAA Student Member, 1314751

² Undergraduate Student, Department of Aerospace Engineering, AIAA Student Member, 1537138