

Optimization of Amphibious Aircraft for Amazon Rainforest Operation – Mechanical Engineering

Tamy Guimarães, Ph.D.

- Experimental fluid mechanics and Aerodynamics
- Aerodynamics, Amazon Rainforest, Amphibious aircraft



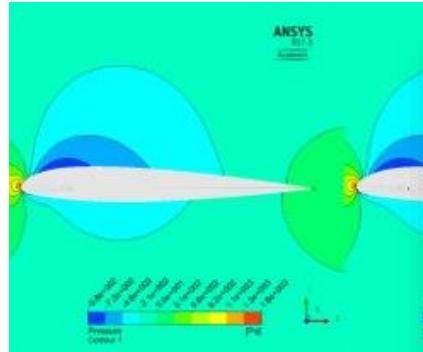
PennState Global

Main goal of your 100K project

- Establish an international research partnership in the field of aerodynamics of amphibious aircraft
- Provide students with the opportunity to visit another country, learn and improve their language skills, and experience the differences in work culture in different parts of the world.

Key activities and mobility impact

- Research partnership: phased approach to aerodynamics research including computational and experimental goals



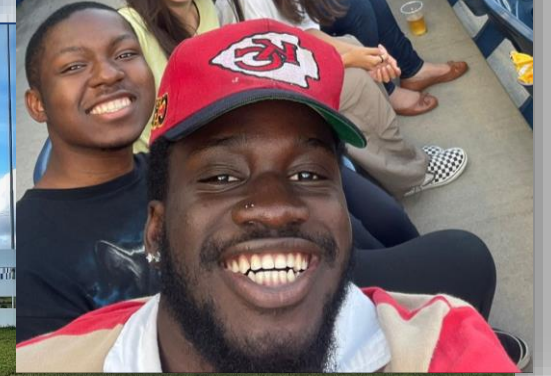
Computational
Dynamics Research
(CFD) – SENAI CIMA

PSU – State College, PA



UFMG – Belo Horizonte, MG

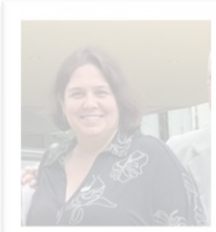
Embassy of Brazil - Washington, DC



Partner institution and Stakeholders

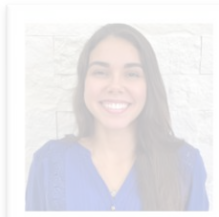
SENAI
CIMATEC

PROFESSORS

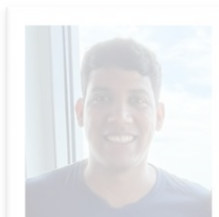


Dr. Luzia
Tofaneli

STUDENTS



Gisele Sá
Mechanic



Tarcísio F
Masters in
Engineering

Amphibious Aircraft Team at PSU



F m G

PROFESSOR

Dr. Eduardo
Bauzer

STUDENTS

Ana Carolina
Aerospace Eng.

Igor Paes
Aerospace Eng.

Funding structure

- 100K budget: \$34,250 (reduced F&A: total \$27,400)
 - Covered: travels (tickets, accommodation, cultural visits, networking events, meals)
- Matching funds
 - Cost-share from PSU: ~\$29,000
 - AY salary, materials from my start-up, wind tunnel time, donations from GEE and Global Programs, unrecovered F&A
 - UFMG: \$35,000
 - AY salary, materials, wind tunnel time, workshop time and labor
 - SENAI CIMATEC: \$20,600
 - AY salary, materials, workshop time and labor

Total Combined (100K Grant \$34,250 + Cost-Share \$84,346)
\$118,596

Recommendations for a successful proposal

- Find a relevant topic for you and for the partnering country that fits the RFP
- Find partners that are excited to work on this project and are willing to put in the work needed
- Provide as much detail as possible on the student exchange and cultural portions of the program
- Define and elaborate on the student activities throughout the program
- Detail how participating students will be selected
- Present a sustainability plan (how this project could continue after the one year of initial grant funding)