

Tomás Emilio Rojas Carvajal

Education

Rensselaer Polytechnic Institute (RPI), Troy, NY. Expected May 2023
PhD. In Aeronautical Engineering
Advisor: Michael Amitay, PhD.
Center for Fluid Physics and Control

Rensselaer Polytechnic Institute (RPI), Troy, NY. May 2020
MEng. In Aeronautical Engineering
Advisor: Fotis Kopsaftopoulos, PhD.
Intelligent Structural Systems Laboratory

Central University of Venezuela (UCV), Caracas, Venezuela. Class of December 2013. Mechanical Engineering (BSc/License).
Advisor: Johane Bracamonte, MSc.
Heat Transfer Laboratory.
“Honourable mention for quality of research” award. Faculty of Engineering, Central University of Venezuela, 2013.

Skills

Modelling and Analysis: MATLAB, Solidworks, LOGOSoft, RSLogix 5000, LabVIEW, NX, xfoil, ASWing, AVL.
Other software and tools: Microsoft Office, VBA for Excel, Audacity.
Hands-on: Experimental Setup and Design, Certified car mechanic (2011).
Ample experience with tools.

Work experience

Research Assistant at RPI (June 2020-Present). Center for Fluid Physics and Control. Project: Flow Control for Improved Tailless Vehicle Aerodynamics During Takeoff and Landing via LE Vortex Manipulation.

Teaching Assistant at RPI (Fall 2017-May 2020). Assignments: IEA (Fall 2017, 10 hours), Inventor’s Studio 1,2 and 3 (Fall 2017 10 hours, Spring 2018-2020 20 hours).

Full-time Instructor at School of Mechanical Engineering, Faculty of Engineering, Central University of Venezuela (FI-UCV), Department of Design. Taught subjects: Machine design II (5 Semesters), Solid Mechanics I (1 Semester), Solid Mechanics II (1 Semester).
Administrative functions: Solid Mechanics Lab Supervisor (3 Semesters). 2014-2017.

Solid Mechanics Undergraduate Teacher’s Assistant at School of Mechanical Engineering, Faculty of Engineering, Central University of Venezuela (FI-UCV), Department of Design. 2011-2013.

Racing engineering intern at Race Car Technology, Castellón de la Plana, Spain: August to October, 2013. Internship Project: “Creation of advanced spreadsheets for racing applications”. Industrial Advisor Eng. Timoteo Briet Blanes, PhD and Academic advisor Crisanto Villalobos, PhD.

Presentations

“A performance analysis of simple solar stills according to their geometric characteristics through an experimental study”. 2014 Faculty of Engineering research week (JIFI 2014). Faculty of Engineering, Central University of Venezuela.

Other interests/activities

- Team Formula SAE-UCV Member, powertrain division. 2007-2008 and 2010-2012. Team Captain 2011-2012.
- Collaborator representing Team Formula SAE-UCV with “Mercado de Dinero” (*Money Market*) newspaper, print and digital versions. Three (3) published articles. 2011.
- Volunteer work: Phone operator, Election observation NGO “Red de Observación Electoral Asamblea de Educacion”. 2010-2011.
- Volunteer work: Member of the technical team, Election observation NGO “Red de Observación Electoral Asamblea de Educacion”. Since 2012.
- United States State Department Alumnus. Project: Transparency and Accountability in Government, a Project for Venezuela. International Visitor Leadership Program, United States Department of State, Bureau of Cultural Affairs. May 15th-June 3rd, 2017.