

Carlos de la Camara Castillo

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Education



Georgia Institute of Technology – Atlanta & Georgia Tech Lorraine - Metz

- Master of Science in Mechanical Engineering, GPA 3.75 Fall 2019 – Fall 2020
 - Master's thesis at Spray Physics and Engine Research Lab
 - Courses in Inelastic Deformation of Solids, Technology Ventures, Financial Data Analysis, Principles of Management for Engineers
 - Grader for ME 4011: Internal Combustion Engines



ICAI School of Engineering, Comillas – Madrid, Spain

- Master of Science in Industrial Engineering Fall 2018 – Fall 2020
 - Dual Degree program with Georgia Tech
 - Courses in Energy Engineering, Machine Technology, Production and Manufacturing Systems, Financial and Cost Analysis, Supply Chain
- Bachelor of Science in Electromechanical Engineering Fall 2014 – Spring 2018
 - Concentration in Mechanical Engineering
 - Courses in Automotive Engines, Manufacturing Technologies, Fluid mechanics, Heat Transfer, Engineering and Sustainable Development, Electric Machines, HVAC
 - Diploma in Communication Skills and Studies in a Foreign Language
 - Diploma in Professional Skills: Teamwork, Persuasive Communication, Engineering and Communication

Research



Graduate Research Assistant

Spray Physics and Engine Research Lab – Georgia Institute of Technology Spring 2020 – Fall 2020

Thesis in *“Reconstruction of Planar Fuel Concentration Measurements in a Diesel Spray from Line-Of-Sight Diffuse Back Illumination Imaging”*

- Acquired and processed data from the constant pressure combustion vessel, aimed to be reconstructed to a planar fuel concentration map
- Developed a statistical analysis of the data to determine sensitivities, fluctuations, and asymmetries.
- Performed the Abel inverse transformation to the data using Matlab and compared it with other data to validate the method
- Assisted in several research projects for development and laboratory-related tasks. For example: designed and tested the cooling system for another project
- Weekly meetings to present progress and results



Coauthor Research paper

Spray Physics and Engine Research Lab – Georgia Institute of Technology Summer 2020

“A multi-wavelength extinction imaging diagnostic for quantifying diesel spray mixing at engine-relevant conditions”

- Performed the data filtering and ensemble average analysis in Matlab for the paper



Senior Design Project

Energy and environmental engineering dept – ICAI School of Engineering Spring 2017 – Fall 2018

“Design and sizing of the pumping and energy recovery equipment of a reverse osmosis desalination plant”

- Identified and analyzed water needs and shortages of different areas in Spain to select a location for a new desalination plant
- Designed the pumping and energy recovery equipment for the location to minimize water shortages
- Developed a cost analysis of the equipment and price of the desalinated water to evaluate the feasibility of the plant
- Evaluated the environmental impact and possible solutions to reduce the environmental impact

Projects



Personal project

Restoring classical motorcycles

2017 - 2019

- Assembled, disassembled, and repaired classical motorcycles
- Employed acquired skills: facing failure, self-learning, problem-solving, cooperation
- Identified problems, proposed solutions, dealt with suppliers



College of Business Georgia Institute of Technology – Technology Ventures

Business plan for a potential start-up

Spring 2020

- Proposed a new product, analyzed the target market and competitive landscape to understand the feasibility of the product
- Targeted a customer segment and developed a marketing plan for it
- Estimated manufacturing costs, personnel, expenses, sales for a four-year financial plan



Mechanical Department Comillas – Integrated Design and Manufacturing

Design and manufacture

Spring 2018

- Acquired knowledge and experience with the lathe, milling machine, welding, casting and molding, sheet metal forming, CNC programming with Sinutrain and Creo software
- Designed and manufactured a capstone project using sheet metal forming and welding to apply the acquired skills

Skills



Languages

- | | |
|-----------|--------|
| ▪ Spanish | Native |
| ▪ English | Fluent |



Software

- | | |
|--|--|
| ▪ Programming | Matlab, Python, R, Sinutrain |
| ▪ CAD | Solidworks, Solid Edge, Autocad, Creo |
| ▪ Manufacturing and Lifecycle management | WindChill, Arena |
| ▪ Additional software | MS Word, MS Excel, MS Powerpoint, Mendeley, Adobe Premiere Pro |



Essential skills

- Writing technical reports, collaborating in groups with people from different disciplines, stress management, leadership

Publications



Graduate Research paper - Coauthor

C. Godbold, F. Poursadegh, O. Bibik, C. de la Camara Castillo, C. Genzale. (2020). A Multi-wavelength extinction imaging diagnostic for quantifying diesel spray mixing at engine-relevant conditions. ASME 2020, ICEF2020-2972



Senior Design Project

C. de la Camara Castillo. (2018). Design and sizing of the pumping and energy recovery equipment of a reverse osmosis desalination plant. Comillas repository