

# Julian Bermudez

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## ABOUT ME

I am passionate for building, designing and creating mechanical systems, solving problems and applying my creativity in the Aerospace Industry. Through my experiences in Science and Engineering, I have developed a passion for learning, investigating and teaching. I hope to convey this passion to others in order to create a better future for mankind.

## AREAS OF EXPERTISE

- Propulsion & Combustion
- Theoretical & Experimental Fluid Mechanics
- Computational Fluid Dynamics
- Aerodynamics & Wind Energy
- Structural Analysis & Machine Design
- Manufacturing Processes
- Patents & Intellectual Property

## SKILLS

### COMPUTER

HYPERWORKS	★★★★☆
INSPIRE	★★★★☆
MATLAB	★★★★☆
LATEX	★★★★★
INVENTOR	★★★★☆
CRISTAL BALL	★★★★☆
SOLID EDGE	★★★★☆
ANSYS	★★★★☆
FLUENT	★★★★☆
AUTOCAD	★★★★☆
PYTHON	★★★☆☆
VBA	★★★☆☆

## LEADERSHIP/MANAGEMENT

### STUDENT COUNCIL MEMBER

2012 - 2013 | Physics department

### STUDENT CHAPTER PRESIDENT

2010 - 2012 | Mechanical

Engineering department

American Society of Mechanical Engineers (ASME)

## INTERPERSONAL ACTIVITIES

Sailing	Photography
Swimming	RC Model Aircraft
Volleyball	Amateur Rocketry
Tennis	Guitar Songwriting
Basketball	Music Recording

## EXPERIENCE

### AIR FREIGHT OPERATIONS MANAGER | PACER AIR FREIGHT

2017 | Toronto, Canada

- Checked import/export documentation to determine cargo contents and classify goods including appropriate documentation.
- Determined method of shipment, prepared bills of lading, invoices and other shipping documents.
- Liaised with Airlines and LTL/TL carriers to provide transportation solutions to customers, including quotations, track shipments and follow up on arrangements as well as final proof of delivery.
- Acted as a point of contact for customers and carriers.
- Assisted in resolving customer issues relating Air freight transportation.
- Managed a team drivers and coworkers to assign delivery duties as well as on time paperwork guided by specific deadlines.
- Ensured accurate recording of arrival and departure times.
- Managed carrier portfolio, including developing strong relationships and operational understandings, helping match carrier preferred lanes with freight, and work with carriers as determined by the company.

### AIRPORT RAMP AGENT | PORTER AIRLINES

2017 | Toronto, Canada

- Marshall aircraft on the ramp: directed, assisted and parked all arriving and departing aircraft.
- Maintained paperwork and documentation on weights and loads of aircraft.
- Observed safe ground-handling procedures and maintenance of ground service equipment including the performance of equipment checks.
- Communicated with Porter pilots, Ground Control and Operations for a safe push towards the taxiway.
- Assisted on the operations of towing of the Q400 Aircraft from the cockpit.

### LABORATORY ENGINEER | CUTTER LAB - UNIVERSITY OF TORONTO

2016 - 2017 | Toronto, Canada

- Performed thorough inspection of laboratory equipment and provided maintenance to those that didn't operate under the required standards.
- Configured and Characterized the performance curve of the incubator due to faulty internal temperature readings.
- Participated and assisted in the research of Genetics of reproductive isolation with Cutter's Research Group.
- Photographed and documented the *Caenorhabditis* species under microscopic fluorescence.

### PATENT ENGINEER | CAVELIER ABOGADOS

2014 - 2017 | Bogota, Colombia

- Provided thorough inspection, analysis and advice to domestic and foreign clients with their inventions and patent applications regarding forms, rules and regulations.
- Became familiar with the availability of possible solutions and technical assistance on intellectual property litigation to particular patentability objections made by the Examiner.
- Performed intensive preliminary patent research of prior art using specialized databases in order to determine and surpass the novelty and inventive step qualifications of new inventions.

## TOPICS OF SPECIALTY IN AEROSPACE ENGINEERING

Wind Power  
Sustainable Aviation  
Materials for Clean Energy

Theoretical Fluid Mechanics  
Special Topics in Fluid Mechanics  
Experimental Fluid Mechanics

Fundamentals of CFD  
Applied CFD  
Unmanned Aerial Vehicles

Fundamentals of Combustion  
Modern Aerospace Propulsion

Turbulence  
Modern Flow Control

Advanced Aerospace Structures  
Topology Optimization  
Computer Integrated Manufacturing

## LANGUAGE

English ★★★★★  
Spanish ★★★★★

## EDUCATION

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### MASTER OF ENGINEERING IN AEROSPACE STUDIES, M.ENG.

UNIVERSITY OF TORONTO | INSTITUTE FOR AEROSPACE STUDIES, UTIAS  
Sep. 2015 - May 2017 | Toronto, Canada  
Project: "The Effect of the Bubble Separation at Low Reynolds Number"

### MECHANICAL ENGINEERING, B.SC.

UNIVERSIDAD DE LOS ANDES  
2010 - 2014 | Bogota, Colombia  
Thesis: "Cofiring of Coal and Biomass: Coffee Husks"

### PHYSICS, B.SC.

UNIVERSIDAD DE LOS ANDES  
2008 - 2012 | Bogota, Colombia  
Thesis: "Quantum Hall Effect and its Relationship with Two Dimensional Two Component Plasma"

## ACADEMIC HONORS

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### TEACHING ASSISTANT

2012 - 2014 | CLINIC FOR PROBLEM SOLVING  
2012 - 2014 | PHYSICS 2  
2013 - 2014 | ELECTROMAGNETISM  
2012 - 2013 | THERMODYNAMICS

Worked under the supervision and guidance of senior teaching staff to provide efficient and personalized teaching assistance to students who needed extra help or instruction in the Physics courses. Also, aided and assisted with the development of the problem-solving workshops by providing personal academic support and mentoring for groups of students.

## WORKSHOPS AND LECTURES

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### ONTARIO CENTRES OF EXCELLENCE: DISCOVERY

2017 | Exhibitor Booth: The Centre for Aerial Robotics Research and Education (CARRE) - University of Toronto

### THE WELSH LECTURES IN PHYSICS

2017 | University of Toronto

### PROJECT MANAGEMENT WORKSHOP

2016 | University of Toronto Institute for Aerospace Studies (UTIAS)

### THE WELSH LECTURES IN PHYSICS

2016 | University of Toronto

### CREATIVITY, INNOVATION AND ENTREPRENEURSHIP

2015 | Cavelier Abogados

### STUDENT PROFESSIONAL DEVELOPMENT CONFERENCE (SPDC)

2012 | Universidad de los Andes