

# LOUIS CACERES MARTINEZ

## PURDUE GRADUATE STUDENT

Major: Ph.D. Engineering Technology

Home Country: Colombia

### Briefly describe your research.

My research focuses on the chemical and physical characterization of aviation fuels, especially through gas chromatography and mass spectrometry, for the development of sustainable alternatives aiming to reduce life cycle GHG emissions compared to conventional jet fuel.

### Why did you choose Purdue?

Purdue is characterized by its excellence and innovation, not only in the US but also worldwide. Purdue offers an outstanding multicultural environment with well recognized programs that are characterized by the development of first-class research, boosted by impressive human talent, instrumentation, and multidisciplinary programs.

### How did you decide what to study?

Mechanical engineering encompasses multiple topics. I was amazed when I was a teenager with topics like design, materials, fluid power, and thermal sciences. By the end of my bachelors thermal sciences captivated my mind, due to vast opportunities to develop alternative and green solutions for generating electricity, heat, and power. Thus, I decided to explore research projects to transform solid organic residues into syngas during my master studies in Colombia. I was part of the Biomass and Optimization of Thermal Processes research group. Later, my interest turned to liquid fuels, finding analytical chemistry an invaluable science to complement my scientific passion to understand, characterize, and develop alternative fuels that can power our lives with minimal environmental impact.

### What was your process for selecting a graduate school?

I explored multiple alternatives, taking into account my professional background, the academic potential of the institutions, and funding opportunities. I found the School of Engineering Technology at Purdue Polytechnic through the Fuel Laboratory of Renewable Energy. It was the perfect fit for doing applied research on biofuels in a multidisciplinary environment while getting funded for completing my studies.



### What is your favorite fact about Purdue?

Purdue is home to Indiana's first and only nuclear reactor.

### What does your typical day look like?

During winter, I drive for around 10 min to the university. During summer, I love to ride my bike, which takes me about 15 - 20 min. I usually work at the lab, collecting and analyzing data. I take lunch at the Pharmacy Building. Then, I go back to the lab or go to a library to study. I return home in the evening for cooking, listening to music, and catching-up with my family.

### What's the biggest difference between your home country Colombia and Purdue?

I would say that the biggest difference is the weather. Colombia is a tropical country with no seasons. I don't like the short and freezing days during January - February.

### Where do you spend most of your time on campus?

I spend most of my time in the lab at POTR. However, I also enjoy studying at WALC, KNOY and, in the Pharmacy buildings.

### How do you de-stress in your free time?

I enjoy spending time with my girlfriend and my dog walking around Lafayette and West Lafayette, enjoying the nature and beautiful landscapes that these cities offer. I also enjoy biking, playing soccer, and hanging around with friends in restaurants.

### What are you hoping to do after you graduate from Purdue?

I imagine myself in a research position in industry.

# EXPLORE YOUR OPTIONS

## PURDUE GRADUATE PROGRAMS

### COLLEGE OF AGRICULTURE

Agricultural and Biological Engineering  
Agricultural Economics  
Agricultural Sciences Education  
and Communication  
Agronomy  
Animal Sciences  
Biochemistry  
Botany and Plant Pathology  
Entomology  
Food Science  
Forestry and Natural Resources  
Horticulture

### COLLEGE OF EDUCATION

Curriculum and Instruction  
Educational Studies

### COLLEGE OF ENGINEERING

Aeronautics and Astronautics  
Biomedical Engineering  
Chemical Engineering  
Civil Engineering  
Electrical and Computer Engineering  
Engineering Education  
Engineering Management  
Environmental and Ecological  
Engineering  
Industrial Engineering  
Interdisciplinary Engineering  
Materials Engineering  
Mechanical Engineering  
Nuclear Engineering

### INTERDISCIPLINARY PROGRAMS

Defense Engineering and Technology  
Biomedical Sciences  
Ecological Sciences and Engineering  
Information Security  
Life Science

### COLLEGE OF HEALTH AND HUMAN SCIENCES

Consumer Science  
Health and Kinesiology  
Health Sciences  
Hospitality and Tourism Management  
Human Development and Family  
Studies  
Nursing  
Nutrition  
Psychological Sciences  
Public Health  
Speech, Language, and Hearing  
Sciences

View full list of Grad Majors  
[Purdue.link/GradPrograms](https://Purdue.link/GradPrograms)

### COLLEGE OF LIBERAL ARTS

American Studies  
Anthropology  
Art  
Communication  
Comparative Literature  
Design  
English  
History  
Languages and Cultures  
Linguistics  
Philosophy  
Political Sciences  
Sociology  
Theatre  
Visual and Performing Arts

### KRANNERT SCHOOL OF MANAGEMENT

Business Analytics and Information  
Management  
Economics  
Finance  
Global Supply Chain Management  
Human Resource Management  
Management  
Marketing  
Organizational Behavior and Human  
Resource Management

### COLLEGE OF PHARMACY

Industrial and Physical  
Pharmacy  
Medicinal Chemistry and  
Molecular Pharmacology  
Pharmacy Practice

### PURDUE POLYTECHNIC INSTITUTE

Aviation Technology and  
Management  
Computer and Information  
Technology  
Computer Graphics Technology  
Construction Management  
Technology  
Engineering Technology  
Technology  
Technology, Leadership, and  
Innovation

### COLLEGE OF SCIENCE

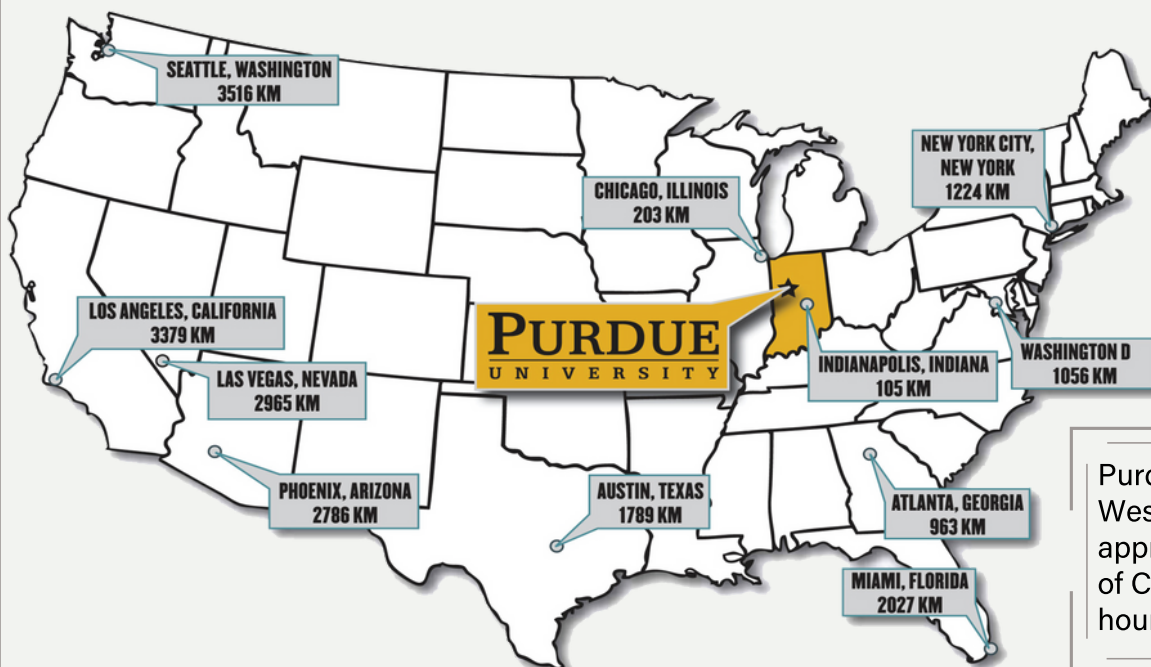
Biological Sciences  
Chemistry  
Computer Science  
Earth, Atmospheric, and Planetary  
Sciences  
Mathematics  
Physics  
Statistics

### COLLEGE OF VETERINARY MEDICINE

Basic Medical Sciences  
Comparative Pathobiology  
Veterinary Clinical Sciences

## HOW TO APPLY TO PURDUE

[purdue.edu/gradschool/admissions/how-to-apply/index.html](https://purdue.edu/gradschool/admissions/how-to-apply/index.html)



Purdue is centrally located in West Lafayette, Indiana - approximately two hours south of Chicago, Illinois and one hour north of Indianapolis, IN.

Questions? Email [gradinfo@purdue.edu](mailto:gradinfo@purdue.edu)

