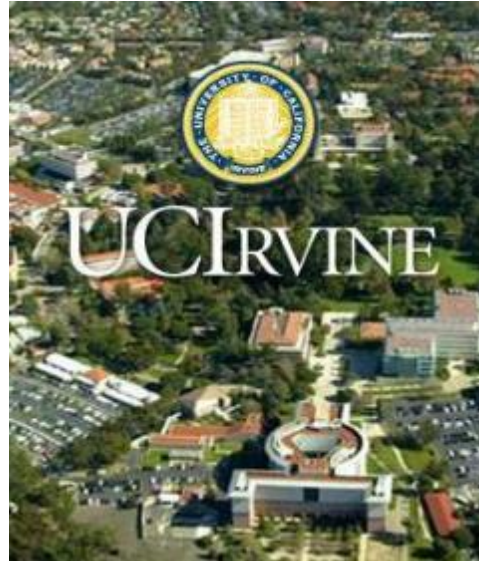


**California-Catalonia Program**  
**Balsells Fellowship**  
**Mobility and PhD Studies in California**



**Presenter**

**Professor Jamina Casals**  
**ESEIAAT**

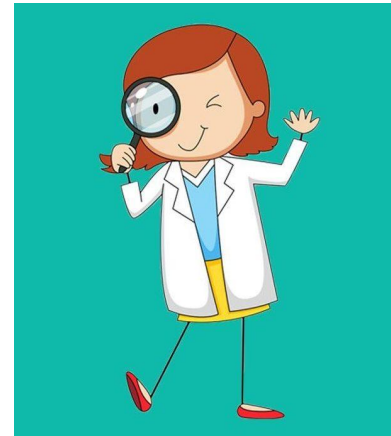
**November 2023**

# What to do after graduation?

- Get a job

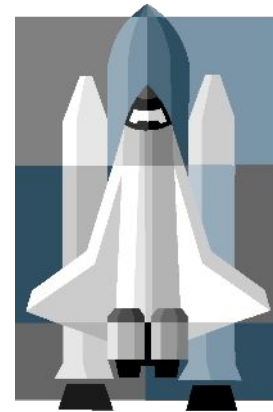
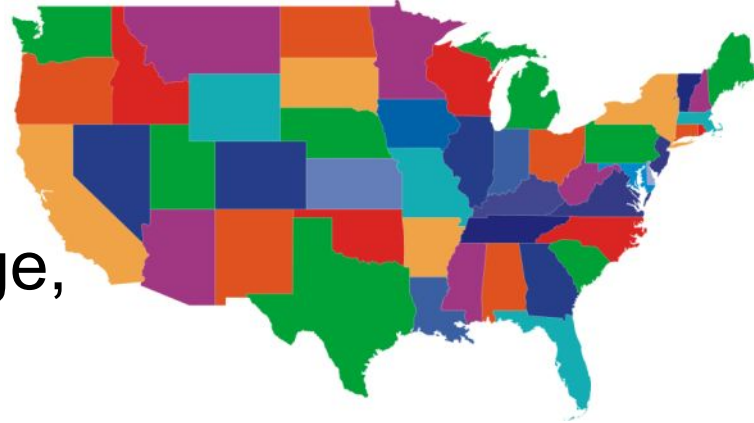


- Learn more, become an expert and **leader** in your field



# Why Graduate School in the USA?

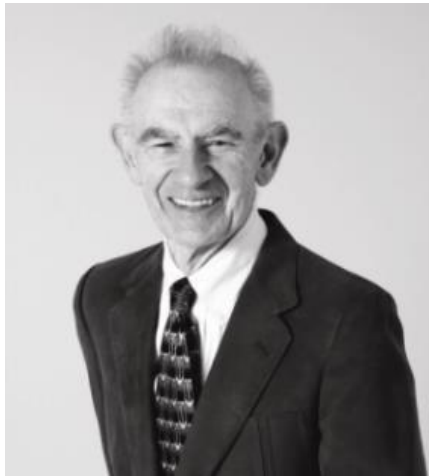
- Deepen your knowledge, improve yourself, and benefit society
- Live in California
- Expand your career options
- Achieve better positions and salaries



# Historical Perspective

- The Balsells Fellowship began in 1996

Established by  
Pete Balsells  
(1928-2022)



# Peter (Pere) J. Balsells

- Born in Barcelona in 1928
- Moved to United States at age 18
- Graduated from CU Boulder in 1952
  - B.S. degree in Mechanical Engineering
- Started **Bal Seal Engineering Company** in California in 1958 with his wife, Joan
- Started the Balsells Fellowship Program at UCI in 1996
- Francesc Macia Medal in 2003
- Premi Nacional de Recerca, Categoria Mecenatge in 2012
- Creu de Sant Jordi in 2013
- Honorary doctorates from CU Boulder (2014) and UdG (2016)



# The Balsells Effect

Recommended video to watch now or later:  
A history of Bal Seal Engineering and the Balsells Fellowship

<https://www.youtube.com/watch?v=9v65Udt8r2c>

# Student Opportunities

**Where? University of California, Irvine**

## **1) Mobility Program**

Short-term stays of 6 months to carry out final thesis for Bachelor's or Master's degree and to explore possibility of returning to the U.S. graduate school (M.S. and PhD)

## **2) PhD Studies**

Long-term stays to obtain a PhD degree (and an M.S. degree along the way)



# Balsells Fellowships 1996-2023

## **UC Irvine**

**169 MS and PhD fellows**

**15 post-doctoral fellows**

**90 mobility fellows**

**Catalan Universities:**

**UAB, UB, UdG, UdL, UPC, UPF, URL, URV**



# Irvine - California





# Irvine - Orange County - Southern California

- Pop: 267,000 (Irvine)  
3.2 Million (Orange Co.)
- 60 km south of Los Angeles
- A hub of high tech companies
- Surrounded by beach, mountains, arts, and entertainment

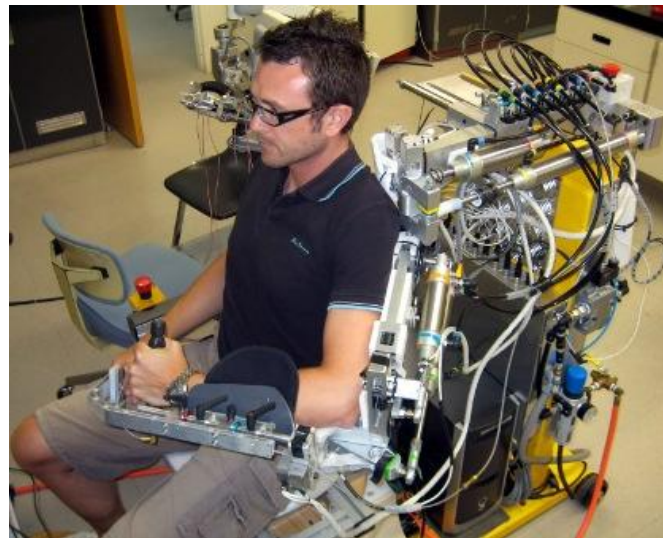




# University of California, Irvine Snapshot



- [www.uci.edu](http://www.uci.edu)
- 37,000 students
- 15 schools and programs
- 2,800 teaching faculty members
- 8<sup>th</sup> among all U.S. public universities (USNews&WR 2022)





UCI

FREDERICK REINES HALL

3



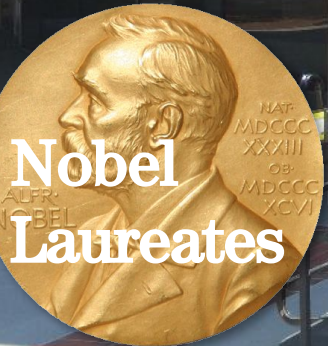
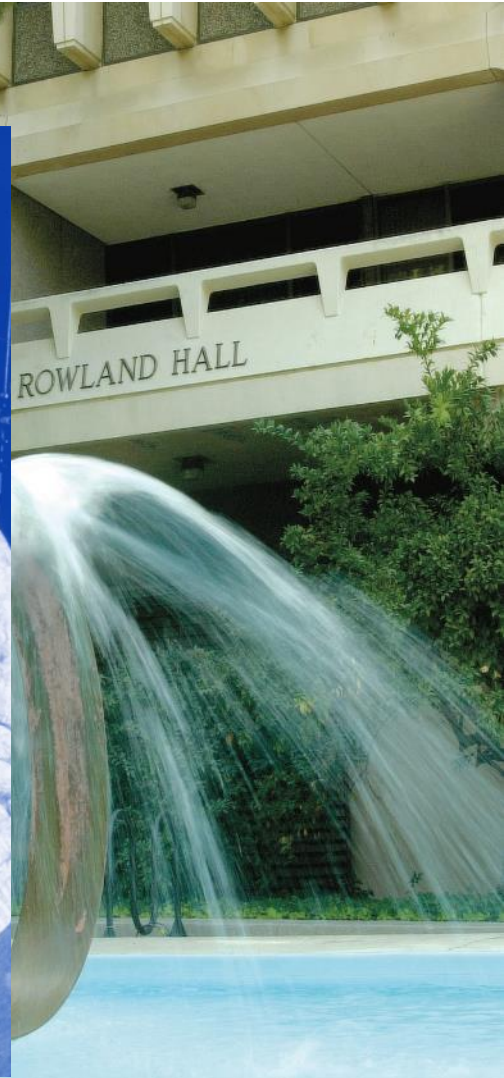
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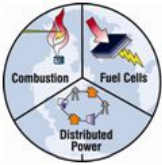


Rowland





# Research Centers and Institutes



Advanced Power  
and Energy  
Program



Beckman Laser  
Institute and  
Medical Clinic



Center for Advanced  
Design & Manufacturing  
of Integrated  
Microfluidics



Integrated  
Nanosystems  
Research Facility  
The Edwards  
Lifesciences Center for  
Advanced  
Cardiovascular  
Technology



California Institute for  
Telecommunications  
and Information  
Technology  
Center for Embedded  
Systems and  
Cyber-Physical  
Systems



Irvine Materials  
Research Institute



Center for Pervasive  
Communications and  
Computing



Center for  
Hydrometeorology and  
Remote Sensing



Institute for Design  
and Manufacturing  
Innovation



National Fuel Cell  
Research Center



UCI Combustion  
Laboratory



Water-Energy  
Nexus Center



Institute of  
Transportation  
Studies



# Henry Samueli School of Engineering

4,000 Undergraduates  
1,000 Graduate  
students  
150 Faculty Members

[www.eng.uci.edu](http://www.eng.uci.edu)







# UCI Samueli

School of Engineering

## DEPARTMENTS

HENRY SAMUELI SCHOOL OF ENGINEERING

MCDONNELL  
DOUGLAS  
ENGINEERING  
AUDITORIUM

- Biomedical Engineering
- Chemical & Biomolecular Engineering
- Civil and Environmental Engineering
- Electrical Engineering and Computer Science
- Materials Science & Engineering
- Mechanical and Aerospace Engineering



# Some of Our Graduate Programs

## GRADUATE PROGRAM Biomedical Engineering

<http://engineering.uci.edu/dept/bme/graduate>



## GRADUATE PROGRAM Chemical and Biochemical Engineering

<http://engineering.uci.edu/dept/chems/graduate>



## GRADUATE PROGRAM Civil Engineering

<http://engineering.uci.edu/dept/cee/graduate>



## GRADUATE PROGRAM Electrical and Computer Engineering

<http://engineering.uci.edu/dept/eecs/graduate>



## GRADUATE PROGRAM Engineering with a Concentration in Environmental Engineering

<http://engineering.uci.edu/dept/cee/graduate/programs/environmental>



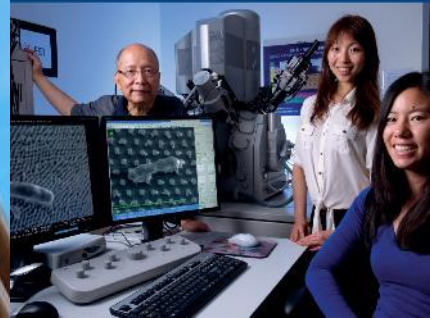
## GRADUATE PROGRAM Mechanical and Aerospace Engineering

<http://engineering.uci.edu/dept/mae/graduate>



## GRADUATE PROGRAM Materials Science and Engineering

<http://engineering.uci.edu/dept/chems/graduate>



## GRADUATE PROGRAM Embedded and Cyber-Physical Systems

<http://mecps.uci.edu>





# Department of Mechanical and Aerospace Engineering

## Research

### RESEARCH THRUSTS

#### Dynamics and Controls

- Control Theory and Algorithms
- Autonomous and Distributed systems
- Navigation and Flight Systems
- Machine Learning

#### Fluid Dynamics and Propulsion

- Aeroacoustics
- Aeroelasticity
- Biomedical Flows
- Combustion Theory
- Computational Fluid Dynamics
- Electrosprays
- Jet & Rocket Propulsion
- Multiphase Flow
- Turbomachinery

#### Thermal and Transport Sciences

- Combustion and Emissions
- Fuel Cell Technologies
- Advanced Energy Systems
- Renewable Energy
- Heat Transfer
- Atomization and Sprays
- Reaction Kinetics
- Nanomaterials

#### Mechanics of Materials and Structures

- Active Materials
- Advanced Manufacturing
- Composites
- Defect Formation/Propagation
- Deformation and Failure
- Machine Learning
- Morphing Structures
- Nanoscale Mechanics
- Uncertainty Quantification

#### Systems and Design

- Design and Control of MEMS
- Machine Information Systems Integration
- Computer Aided Design
- Robotics including Microrobotics
- Biomechanics
- Carbon and Magnetic MEMS
- CD-Based Fluidics
- Rehabilitation, Prosthetics and Exoskeletons
- Kinematics of Spatial Motion
- Design of Mechanical Systems
- Modeling of Global Air Pollution
- Aerospace Systems

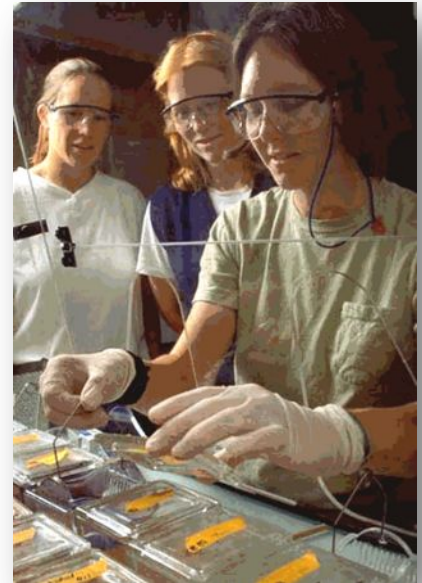
### AFFILIATED CENTERS

- Advanced Power and Energy Program (APEP)
- [Center for Advanced Design and Manufacturing of Integrated Microfluidics \(CADMIM\)](#)
- Institute for Design and Manufacturing Innovation (IDMI)
- Integrated Nanosystems Research Facility (INRF)
- National Fuel Cell Research Center (NFCRC)
- UCI Combustion Laboratory



# Balsells Mobility Program

- Carry out B.S. or M.S. project or thesis
- 6 months at UC Irvine
- Partial funding provided \$7,800
- Approximately 3-4 positions per year
- **Significant preference given to those students who want to continue as graduate students at UCI after the mobility visit.**



# How to Apply for the Mobility Program

## Students interested in the Mobility Program should:

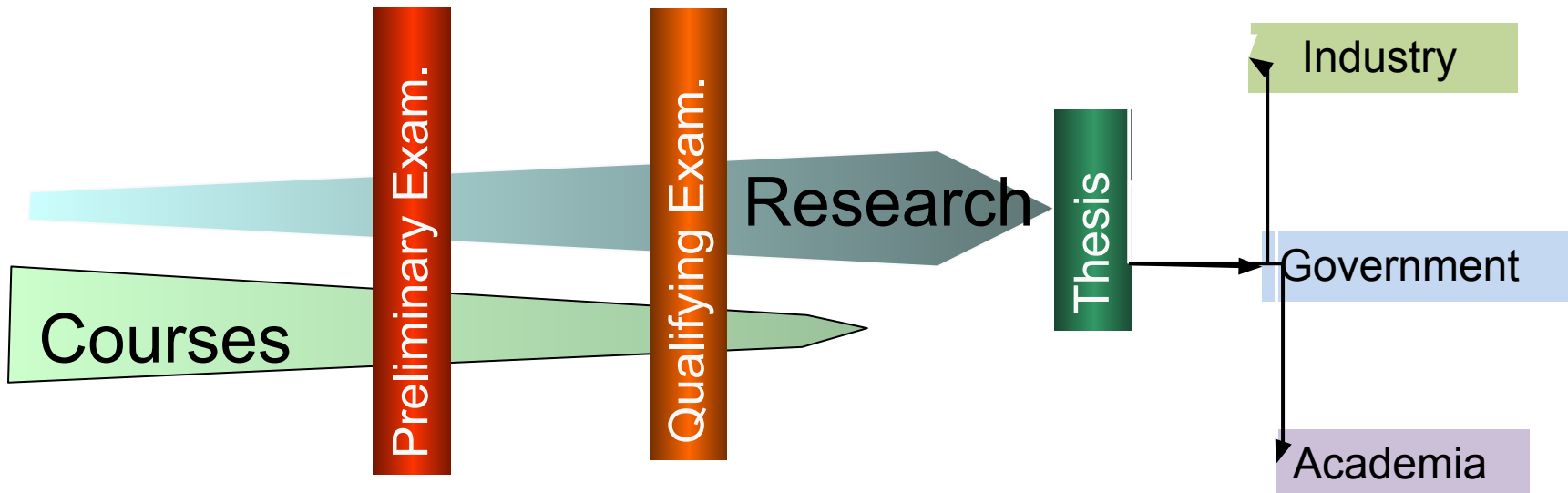
- Be strongly interested in applying for the PhD program
- Have a strong academic record and at least intermediate English proficiency
- Provide letter of interest, curriculum vita, and academic transcript (all in English) to:
  - **UC Irvine:** Balsells Fellowship Program at [balsells@uci.edu](mailto:balsells@uci.edu)
  - <https://balsells.eng.uci.edu/balsells-mobility-program/> for more information.

# Graduate Programs

## Master's: 1.5 years with thesis



## Ph.D.: 3-4 additional years





# Graduate Program (MS/PhD)

## The support includes:

- Monthly stipend: ~**\$2,700 per month (~\$32,000 per year)**
- Tuition, Fees & Insurance: **\$35,000 per year**
- Travel stipend: **\$1,000 first year**
- Total value: **Admitted PhD students have 5 years of support (all sources)**
- Bellsells Fellowship available for first year
- Research & teaching assistantships available for subsequent years
- 2-3 new fellowships each year
- **Students may apply for the M.S. only but receive no financial support**



# Balsells Eligibility

## Who can apply?

Spanish citizens who are residents of Catalonia; who speak English, Catalan and Spanish; and are graduates from Catalan university majoring in engineering or related fields.



# Graduate Admissions—How To Apply

## Requirements for admission to any of the graduate programs:

- Undergraduate transcripts (original and English translation)
- GRE scores (**many programs have waived the GRE**)
- TOEFL/IELTS scores
- 3 Letters of recommendation
  - Highlighting your potential for performing independent, thoughtful research, and ability to think beyond formal course assignments
- Candidate statement (Statement of Purpose)
  - How you prepared for the graduate degree (courses, experiences)
  - Interests and career goals (why you want to pursue this degree)
  - Fit (why you are a good match for the program)
  - Your personal history that helped you decide to pursue this degree

# Timeline for Graduate (MS/PhD) Application

For undergraduate students currently in their 4<sup>th</sup> year or M.S. students in their final year (finishing this year)

What	When
This presentation .....	Nov 2023
Take GRE and TOEFL or IELTS exams .....	Dec 2023
Complete graduate application.....	Dec 2023 / Jan 2024
Admissions decision by the university.....	Mar 2024
Decisions on funding announced.....	May 2024
Fall term of graduate school starts.....	Sep 2024



# Timeline for Mobility and Graduate Application

For undergraduate students currently in their 3<sup>rd</sup> year or MS students in their first year (finishing next year)

What	When
This presentation .....	Nov 2023
Apply for Mobility .....	Feb 2024
Start Mobility.....	Fall 2024 or Spring 2025
Take GRE and TOEFL or IELTS exams .....	Dec 2024
Complete graduate application.....	Dec 2024
Admissions decision by the university.....	Mar 2025
Decisions on financial support announced.....	Apr 2025
Fall term of graduate school starts.....	Sep 2025

# Application and Exam Websites

Information on GRE, TOEFL & IELTS exams:

[www.gre.org](http://www.gre.org), [www.toefl.org](http://www.toefl.org), [www.ielts.org](http://www.ielts.org)

Information on applying to UC Irvine:

<http://www.grad.uci.edu/admissions/applying-to-uci/>



# Thank you! Any questions?

***For additional information please contact:***

**University of California, Irvine**

[balsells@uci.edu](mailto:balsells@uci.edu)

<https://balsells.eng.uci.edu/>

