California-Catalonia Program
Balsells Fellowship
Mobility and Graduate School in California

Presenter

Professor Roger Rangel

November 2022
What to do after graduation?

- Get a job
- Learn more, become an expert and leader in your field
Historical Perspective

• The Balsells Fellowship (1996-2022)

Pete Balsells
(1928-2022)

• The Generalitat de Catalunya participated in the program until 2018
Peter 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)
- Died in Orange County, California in 2022
The Balsells Effect

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

https://www.youtube.com/watch?v=9v65Udt8r2c
Student Opportunities

Where?
Samueli School of Engineering
Bren School of Information and Computer Science

1) Mobility Program
Short-term visits 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) Graduate Studies
Long-term visits to obtain Master’s degree and/or PhD degree
Balsells Fellowships 1996-2022

UC Irvine
159 MS and PhD fellows
15 post-doctoral fellows
88 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
- 8th among all U.S. public universities (USNews&WR 2022)
Nobel Laureates

Rose

Reines

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
Donald Bren School of Information & Computer Sciences

Figures:
- 3,300 Undergraduates
- 830 Graduate students
- 100 Faculty Members

Departments:
- Computer Science
- Informatics
- Statistics

www.ics.uci.edu
Donald Bren School of Information & Computer Sciences

GRADUATE PROGRAMS

Computer Science
Software Engineering
Informatics
Networked Systems
Statistics
Data Science
Embedded and Cyber-Physical Systems
Human-Computer Interaction and Design

HIGHLIGHTS

Computer Science is UCI’s 2nd-largest undergraduate major. Top 15 Computer Science Graduate Program among public universities, as ranked by U.S. News & World Report. Software engineering research is ranked #2 and HCI research is ranked #8 by CSRankings.org. Game design program is ranked 3rd among public institutions by Animation Career Review. Statistics received 2 of the 13 NSF Graduate Research Fellowships awarded to statistics students nationwide in 2019.
DEPARTMENTS

- Biomedical Engineering
- Chemical & Biomolecular Engineering
- Civil and Environmental Engineering
- Electrical Engineering and Computer Science
- Materials Science & Engineering
- Mechanical and Aerospace Engineering
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
- Aeracoustics
- Aeroelasticity
- Biomedical Flows
- Combustion Theory
- Computational Fluid Dynamics
- Electrosprays
- Jet & Rocket Propulsion
- Multiphase Flow
- Turbomachinery

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 (CAUMIM)
- Institute for Design and Manufacturing Innovation (IDMI)
- Integrated Nanosystems Research Facility (INFRF)
- National Fuel Cell Research Center (NFCRC)
- UCI Combustion Laboratory

https://engineering.uci.edu/dept/mae/research
Mobility Program

- Undergraduates or master’s students
- Undertake final project or master’s thesis typically for one term (6 months) at UC Irvine
- UC Irvine: Balsells Mobility
- Partial funding provided $7,200
- Approximately 3-5 positions per year
- Significant preference given to those students who want to continue as graduate students at UCI after the mobility visit.
Students interested in the Mobility Program should:

• Be strongly interested in applying for the graduate 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
Graduate Programs

Master’s: 1.5 years with thesis
- Courses
- Research
- Thesis

Ph.D.: 3-4 additional years
- Courses
- Preliminary Exam.
- Qualifying Exam.
- Research
- Thesis

Outcomes:
- Industry
- Government
- Academia
Graduate Program (MS/PhD)

The support includes:

• Monthly stipend: $2,500 per month ($30,000 per year)
• Tuition, Fees & Insurance: $34,000 per year
• Travel stipend: $1,000 first year
• Total value: $65,000 per year
• Balsells Fellowship available for MS and PhD for up to 2 years
• Research & teaching assistantships available for the PhD
• 5-7 new fellowships each year
• Priority to students who apply for the PhD or the MS/PhD
Balsells Eligibility

Who can apply?

Spanish citizens who are residents of Catalonia; speak English, Catalan and Spanish; and are graduates from Catalan university majoring in engineering or related fields.
Requirements for admission to any of the graduate programs:

• Undergraduate transcripts (original and English translation)
• GRE scores (several programs waiving 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 4th year or M.S. students in their final year (finishing this year)

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>This presentation</td>
<td>Oct 2022</td>
</tr>
<tr>
<td>Take GRE and TOEFL or IELTS exams</td>
<td>Dec 2022</td>
</tr>
<tr>
<td>Complete graduate application</td>
<td>Dec 2022 / Jan 2023</td>
</tr>
<tr>
<td>Admissions decision by the university</td>
<td>Mar 2023</td>
</tr>
<tr>
<td>Decisions on funding announced</td>
<td>May 2023</td>
</tr>
<tr>
<td>Fall term of graduate school starts</td>
<td>Sep 2023</td>
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</tbody>
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# Timeline for Mobility and Graduate Application

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

<table>
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<tr>
<th>What</th>
<th>When</th>
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</thead>
<tbody>
<tr>
<td>This presentation</td>
<td>Oct 2022</td>
</tr>
<tr>
<td>Apply for Mobility</td>
<td>Feb 2023</td>
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<tr>
<td>Start Mobility</td>
<td>Fall 2023 or Spring 2024</td>
</tr>
<tr>
<td>Take GRE and TOEFL or IELTS exams</td>
<td>Dec 2023</td>
</tr>
<tr>
<td>Complete graduate application</td>
<td>Dec 2023</td>
</tr>
<tr>
<td>Admissions decision by the university</td>
<td>Mar 2024</td>
</tr>
<tr>
<td>Decisions on financial support announced</td>
<td>Apr 2024</td>
</tr>
<tr>
<td>Fall term of graduate school starts</td>
<td>Sep 2024</td>
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</tbody>
</table>
Application and Exam Websites

Information on GRE, TOEFL & IELTS exams:

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