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

Presentation for ESEIAAT

Presenter

Professor Roger Rangel

19 October 2022
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)
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.
UCI Samueli
School of Engineering

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

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

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

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

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

Affiliated Centers
- Advanced Power and Energy Program (APEP)
- Center for Advanced Design and Manufacturing of Integrated Microfluidics (CADIMI)
- Institute for Design and Manufacturing Innovation (IDMI)
- Integrated Nanosystems Research Facility (INRF)
- 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.**
How to Apply for the Mobility Program

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

Industry
Government

Ph.D.: 3-4 additional years

Courses → Preliminary Exam. → Qualifying Exam. → Research → Thesis

Industry
Government
Academia
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
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>
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</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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# Timeline for Mobility and Graduate Application

For undergraduate students currently in their 3\textsuperscript{rd} year or MS students in their first year (finishing next 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>Apply for Mobility</td>
<td>Feb 2023</td>
</tr>
<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</td>
<td>Apr 2024</td>
</tr>
<tr>
<td>Fall term of graduate school starts</td>
<td>Sep 2024</td>
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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/