

2011 Snapshot

Jacobs School Stats



Faculty 192

| | |
|-----------------------------------|-----|
| Full-Time Faculty | 182 |
| Part-Time Faculty | 10 |
| Members of the National Academies | 20 |
| Endowed Chair Professors | 31 |

Graduate Students

| | |
|-------------------------|-------|
| Degrees Conferred, 2011 | 477 |
| Enrollment | 1,493 |

Undergraduate Students

| | |
|-------------------------|-------|
| Degrees Conferred, 2011 | 789 |
| Enrollment | 4,878 |

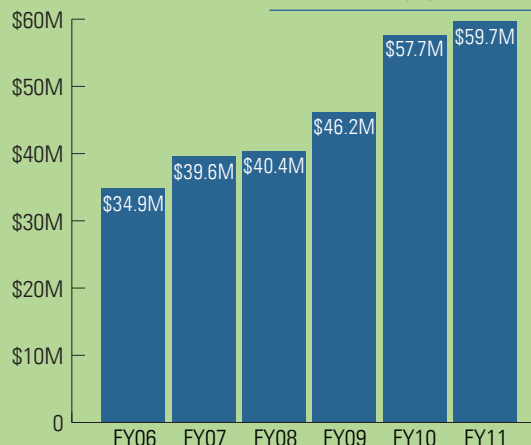
Total Expenditures FY 2011 \$214M

| | |
|--|----------|
| State-Funded Operations/Instruction | \$66.9M |
| Research Expenditures | \$146.4M |
| Government-Sponsored Research | \$86.7M |
| Industry-Sponsored Research/ Income from Gifts/Endowments | \$59.7M |
| Research/Full-Time Faculty Member* | \$805K |

*182 full-time faculty in Fall 2010

Research Expenditures from Industry / Private Funding

In FY11, 41% of research expenditures came from industry / private funding



Strategic Focus

Engineering in Medicine

Information Technology & Applications

Energy, Environment & Sustainability

Academic Departments

BIOENGINEERING

22 Faculty • 732 Undergraduate Students • 208 Graduate Students

A leader in systems biology, regenerative medicine, and multi-scale bioengineering focused on understanding, diagnosis and treatment of human disease.



COMPUTER SCIENCE & ENGINEERING

48 Faculty • 1,202 Undergraduate Students • 361 Graduate Students

Strengths include machine learning, databases, graphics and vision, systems and networking, security and cryptography, software engineering, bioinformatics, computer architecture, embedded systems, and theoretical computer science.



ELECTRICAL & COMPUTER ENGINEERING

46 Faculty • 668 Undergraduate Students • 428 Graduate Students

A leader in information technology and communications, as well as network infrastructure, embedded systems, electronic circuits and systems, photonic devices and systems, electromagnetics, electronic devices and materials, nano-electronics/nano-photonics, signal processing and intelligent systems, bionanotechnology, energy generation and conversion, and magnetic and optical storage.



MECHANICAL & AEROSPACE ENGINEERING

40 Faculty • 1,144 Undergraduate Students • 344 Graduate Students

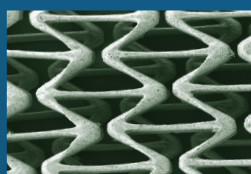
This interdisciplinary department covers mechanical, aerospace and environmental engineering. Faculty are leaders in fluid mechanics, solid mechanics and materials as well as systems and controls. Their research addresses technological challenges in diverse areas, such as energy, the environment, defense and medicine.



NANOENGINEERING

14 Faculty • 535 Undergraduate Students • 38 Graduate Students

Research related to materials science for the 21st century, in a broad range of topics, with particular focus on biomedical nanotechnology, nanotechnologies for energy storage and conversion, molecular and nanomaterials synthesis, and computational materials science and nanotechnology.



STRUCTURAL ENGINEERING

22 Faculty • 597 Undergraduate Students • 114 Graduate Students

A leader in large-scale testing research, programs cover multi-hazard mitigation including earthquakes and blast, earthquake engineering and infrastructural renewal, structural health monitoring, composite and nano-materials and lightweight structural systems, and risk engineering.



New Faculty



CHRISTINE ALVARADO

Lecturer with Security of Employment,
Computer Science and Engineering

The conjunction of artificial intelligence and human-computer interaction; the technical challenges of building intelligent interfaces; the challenges of evaluating the effect and utility of these interfaces, and how these interfaces might provide a platform on which to enrich computer science education.

Ph.D. 2004 Massachusetts Institute of Technology

Most recently: Associate Professor of Computer Science, Harvey Mudd College, Claremont, Calif.



CARLOS F. COIMBRA

Associate Professor, Mechanical & Aerospace Engineering

Solar energy, intelligent energy systems, stochastic modeling and forecasting, fractional and variable order methods, evolutionary methods, and multiphase flows/unsteady flow phenomena.

Ph.D. 1998 University of California, Irvine

Most recently: Associate Professor and founding Chairman of the Mechanical Engineering and Applied Mechanics graduate program at UC Merced



TODD COLEMAN

Associate Professor, Bioengineering

A primary goal is to use tools from information theory, neuroscience, machine learning and bioelectronics to understand, and control, interacting systems with biological and computer parts. Projects include development of multi-functional, flexible bio-electronics as well as brain-machine interface research.

Ph.D. 2005 Massachusetts Institute of Technology

Most recently: Asst. professor, Depts of Electrical and Computer Engineering and Neuroscience, U. of Illinois at Urbana-Champaign



CHRISTIAN METALLO

Assistant Professor, Bioengineering

Systems biology approaches to the study of metabolic pathways in mammalian cells, with a focus on understanding metabolic regulation in cancer cells and stem cells. Goals include the identification of therapeutic targets for intervention in cancer and other diseases.

Ph.D. 2008 University of Wisconsin-Madison

Most Recently: Postdoctoral Fellow, Chemical Engineering, Massachusetts Institute of Technology



GILBERTO MOSQUEDA

Associate Professor, Structural Engineering

Structural dynamics and earthquake engineering; experimental evaluation of large-scale structural systems under extreme loads using hybrid simulation; seismic fragility of nonstructural components and building content, seismic isolation and energy dissipation devices.

Ph.D. 2003 University of California, Berkeley

Most recently: Associate Prof., Dept. of Civil, Structural and Environmental Engineering, State U. of New York at Buffalo



GENO PAWLAK

Associate Professor, Mechanical & Aerospace Engineering

Environmental fluid mechanics and coastal hydrodynamics, fluid flow over complex boundaries, generation and interaction of vortical structure in oscillatory flow across rough boundaries, near-shore water quality and its relation to physical forcing, coastal mixing processes, stratified flows and basic fluid dynamics.

Ph.D. 1997, University of California, San Diego

Most recently: Associate Professor and director, Kilo Nalu Coastal Observatory, University of Hawaii at Manoa

IDEA STUDENT CENTER

The mission of the IDEA Student Center is to promote Inclusion, Diversity, Excellence and Advancement among students, faculty and staff across the Jacobs School of Engineering. With a focus on outreach, recruitment, retention and research, the center supports the mission of the Jacobs School by fostering the growth of diverse innovative technology leaders for today's global society.

RETENTION AND ACADEMIC ENRICHMENT PROGRAMS

- **JUMP Pyramid Mentoring** Graduate students mentor seniors and juniors, who mentor freshman and sophomores.
- **Summer PrEP** Intensive academic preparation, community building and orientation for selected incoming undergraduates.
- **IDEA Scholars** A cohort of Jacobs School freshmen receives comprehensive academic, personal and professional support aimed at improving graduation rates, in particular among traditionally underrepresented groups in engineering.

GET INVOLVED WITH THE IDEA STUDENT CENTER

- Work directly with student organizations or mentor individual students.
- Sponsor a program or a scholarship.

For more information contact

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