Research at UC Davis

Innovation & collaboration

Harris Lewin
Vice Chancellor for Research

May 12, 2015
A comprehensive Land Grant university

- 4 colleges
- 6 professional schools
- 102 undergraduate majors
- 90 graduate programs
- >35,000 students & >1,400 faculty
- 5,300 acres - largest UC campus
- Health System serves 6 million people
- Top-ranked veterinary school - Veterinary Medical Teaching Hospital treats 47,800 small & large animals annually
- Nearly $1 billion endowment through the UC Davis Foundation via philanthropic contributions

http://www.ucdavis.edu/about/facts/index.html
Research statistics

Excellence in education & research impact

- 1st worldwide for teaching and research in agriculture & forestry (QS rankings)
- 1st worldwide in Veterinary Science (QS rankings)
- Ranked 9th among U.S. public research universities & 14th in research funding
- Over $704 million in external annual research funding (as of FY 2013-14)
Innovating to address some of the world’s most critical issues

Interdisciplinary impact

Food | Water | Society | Health | Energy | Environment | Transportation | Materials
Energy & Transportation

Driving new inventions and services from the lab to the marketplace

- Energy Efficiency Center
  - 1st university based center in US

- Biological & Agricultural Engineering

- Civil & Environmental Engineering

- California Renewable Energy Center

- Institute of Transportation Studies
  - Partnerships with global auto leaders

- Plug-in Hybrid & Electric Vehicle Research Center

...and many more!

- Geothermal
- Solar
- Biomass
- Small Hydro
- Wind

One UC Davis
Sustainability

Top-ranked “green” university in U.S. and 4th worldwide (UI GreenMetric World University Ranking)

West Village

- Largest planned zero-net energy community in U.S.
- Privately financed for $280 million on university land
- Houses approximately 2,000 students, staff, & faculty
- Adjacent biodigester turns organic waste into bio-gas energy
- Produces 4 MW of energy returned to grid
- Honda Smart Home (working residence) powered by renewable energy
Advancing science, protection, and policy

UC Davis
College of Agricultural and Environmental Sciences
1st in U.S. for publications in agriculture, food science & nutrition, plant & animal science, entomology, soil science, environment / ecology

UC Davis
John Muir Institute of the Environment
10 centers including the Center for Health & the Environment, UC Natural Reserve System

UC Davis
Coastal and Marine Sciences Institute

UC Davis
Center for Water-Energy Efficiency

UC Davis
Bodega Marine Laboratory

UC Davis
Center for Watershed Sciences

Climate Change, Water, and Society IGERT
Agriculture, Food, & Health

State-of-the-art research programs tackling emerging issues

- Food safety & security
- Health, wellness, & nutrition
- Integration with ecological & environmental issues
- Resource economics

UC Davis Ranked No. 1 In World For Ag

Apr 29, 2015 — For the third year in a row, UC Davis tops global list of agriculture and forestry.

UC Davis leads four Innovation Labs with funds from USAID, in support of the U.S. government's global hunger and food security initiative.
Physical Sciences

Understanding the natural world & the universe

- Developing and applying novel materials in environmental & agricultural technology
- Study of Earth & planetary sciences
- Nanotechnologies
- Neutrino & dark matter studies
- Innovation for industrial & consumer pursuits
Cancer Research & Treatment

Cutting edge breakthroughs for top-notch care

- Comprehensive Cancer Center (one of only 41 nationally accredited)
- Access to personalized medicine
- Multiple clinical trials of new treatments & breakthrough technologies
- World class imaging facilities
- Connecting community, researchers, & clinicians
Neurosciences

Navigating the nervous system & treating the brain

• Collaboration between research centers, School of Medicine, Medical Center, and undergraduate / graduate education programs
• Exploring cells & signaling, development & plasticity, systems, cognition
• Understanding the causes of disease & neurodevelopmental disorders
• Memory, language, and audio-visual integration studies
• Improving traumatic brain injury treatment
• Multi-species *in vivo* modeling
• Advanced multimodal imaging

**NEWS | October 1, 2014**

Research Center for Behavioral Health launched at UC Davis
Sacramento campus receives $7.5 million for new leading-edge research hub

UC DAVIS CENTER FOR MIND AND BRAIN
UC DAVIS MIND INSTITUTE
UC DAVIS CENTER FOR NEUROSCIENCE
UC Davis Grand Challenges Initiative

RISE
Research Investments in Science and Engineering

IFHA
Interdisciplinary Frontiers in the Humanities and Arts
RISE Dimensions

• 13 RISE themes – each one is truly unique

• Focused in areas of:
  • Agriculture
  • Health
  • Energy
  • Data Science and Security

• A deeply collaborative approach:
  • 81 Faculty
  • 36 Departments
  • 9 Schools/Colleges
  • 126 Students
Some impacts to date - funding

1 year ago:
- $108M apps
- 2 grants
- $2.6M awards

Now:
- $226M apps
- 21 grants
- $69M awards

7x return on $10.8M committed

$141 M in 41 pending proposals
ECONOMIC IMPACT

$6.9 BILLION
IN UC DAVIS-GENERATED ANNUAL ECONOMIC ACTIVITY

41 START-UP COMPANIES
LAUNCHED AT UC DAVIS SINCE 2004

$1.2 BILLION ANNUALLY
IN SERVICES AND GOODS DIRECTLY SUPPORTED IN THE SACRAMENTO REGION
Celebrating collaboration & innovation

Obrigado!!!
FAPESP-UC Davis Collaborative Research Program: Seed Grants in the Sciences and Engineering

- New program to stimulate collaborative research between UC Davis and universities in São Paulo

- Builds on a successful program for the humanities and social sciences

- Focus areas will be in the physical sciences, engineering, biomedical sciences and agriculture, with emphasis on interdisciplinary approaches

- Will award up to 10 co-funded projects at $20,000 $USD/year for 2 years ($40,000 total).

- Call for proposals: Fall 2015