Computational Science Research Center & ACSESS

(Applied Computational Science and Engineering Student Support)

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Computational Science Research Center

San Diego State University

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Agenda

SAN DIEGO STATE UNIVERSITY

- About SDSU
- Computational Science Research Center (CSRC)
- Basic Skills set
- Curriculum Core Areas
- Multi-disciplinary/Interdisciplinary Training
- PhD Program in Numbers
- Summary

About SDSU

SAN DIEGO STATE UNIVERSITY

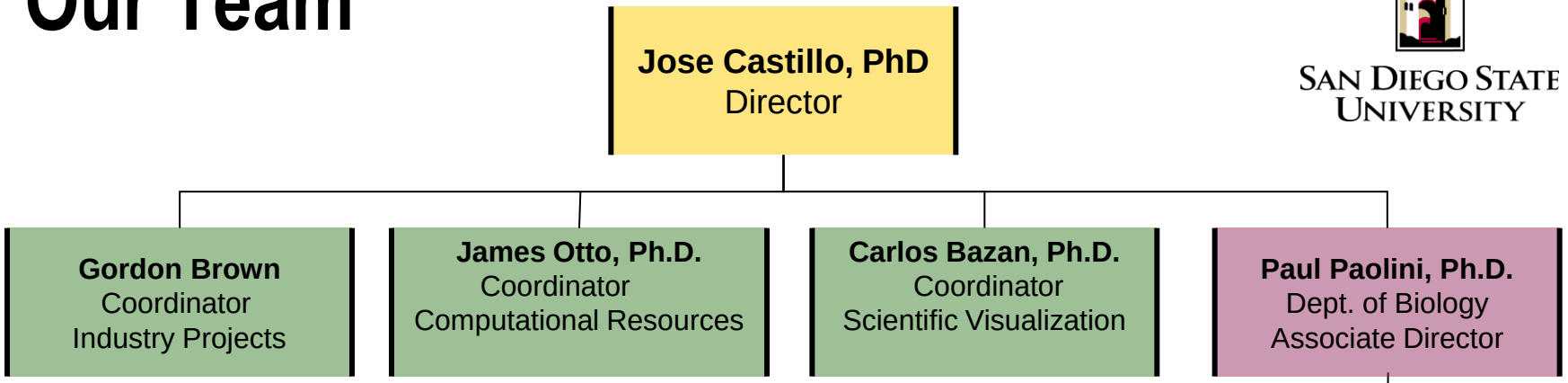
- San Diego State University: (29K+ students), 1 of 23 campuses in the California State University system, founded in 1897
- Designated a Doctoral/Research Intensive University by the Carnegie Foundation
- Since 2000, SDSU faculty and staff have attracted **more than $1 billion in grants and contracts** for research and program administration.
- 4,615 current masters and doctoral students

Computational Science Research Center (CSRC)

SAN DIEGO STATE UNIVERSITY

- Established in 1999 to address growing need for interdisciplinary and computational research.
- Interdisciplinary mechanism for the Computational Science & Engineering Graduate programs
- First Computational Science PhD program in California
- The CSRC represents a consortium of key faculty from Engineering and Science Colleges, with access to faculty throughout the campus

Our Team



Scientific Advisory Board:

Steve F. Ashby, Ph.D.
Pacific Northwest National Laboratory
Victor Pereyra, Ph.D.
Weidlinger Associates
Antonio Redondo, Ph.D.
Los Alamos National Laboratory
Horst Simon, Ph.D.
Lawrence Berkeley National Laboratory

In addition to the many SDSU faculty and administrators contributing on various levels and capacities to the CSRC effort, we have **58** research affiliated faculty from industry, the national labs and other universities that support our goals.

Degree Programs

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- **Master of Science Program**
- **Master of Science with a Concentration in Professional Studies**
- **PhD Program in Computational Science**
- **PhD in Computational Science/Statistics**

Areas of Research

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- Fluid Dynamics
- Materials Science
- Biophysics
- Nonlinear Dynamics
- Environmental Science
- Scientific Databases & Data Mining
- Bioinformatics
- Computational Algebra
- Nuclear Physics
- Astrophysics
- Scientific Visualization
- Image Processing
- Structural Mechanics
- … and more

The Numbers

SAN DIEGO STATE UNIVERSITY

Ph.D.

# of students: **49**
Female: **18**
Male: **31**

 # graduated: 14

 # graduating this year: 2

Master of Science

# of students: 6

Female: **1**
Male: **5**

 # graduated: 20

Professional Master of Science

# of students: 15
Female: 4
Male: **11**

Number of scientific publications by students: more than 100

Basic Skills Set

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- Team Projects
- Interdisciplinary
- Scientific Computing
- Software
- Planning
- Communications

Curriculum Core Areas

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- Numerical Analysis
- Mathematical Modeling
- Statistics
- Scientific Visualization
- High Performance Computing
- Scientific Data Base Techniques

Multi-disciplinary/Interdisciplinary Training

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- Discovery Teams
- Science Driven
- Faculty/Postdocts/PhD/MS/BS
- COMP 670 Problems in Computational Science

Industry Interaction

- ACSESS
- Curriculum Forum
- Poster Session

ACSESS

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- Applied Computational Science & Engineering Student Support
  - Collaboration between Industry and Academia
  - Benefits for Industry
    - Qualified & trained student employee
    - Specialized faculty mentor and advisors
    - Utilization of CSRC resources
    - Joint grant submissions
  - Benefits for CSRC & Students
    - Real-world experience
    - Education funding

Summary

SAN DIEGO STATE UNIVERSITY

We are training the next generation of Computational Scientist of the 21st Century and we need your help providing real world problems for our students