

Thoughts from Recent UCSB Physics Graduates

“My advisors and mentors created a positive environment for performing research and encouraged me to develop a broad skill set across several disciplines. Their support gave me the confidence I needed to succeed as a physicist, and my interdisciplinary experiences at UCSB have helped me immensely at my current job.”

— Professor. Lisa Manning, (Ph.D. '08), Syracuse University

“My grad life at UCSB was absolutely wonderful... my mentors and peers really helped me grow a lot. I truly treasure the exposure I had to science, the people, the friendships and Nature.”

— Professor. Smitha Vishveshwara, (Ph.D. '02) University of Illinois at Urbana-Champaign

“Personally, I was happy to see other women in the graduate program and in leadership positions in the department and I appreciated having a chance to talk with them about how they had gotten there and what their lives were like.”

— Professor. Courtney Lannert, (Ph.D. '02) Smith College



Women in Physics Group

In physics, women currently account for approximately 22% of Bachelor's degrees awarded, 18% of PhDs awarded, and 13% of physics faculty at US institutions; 22% of new faculty hires are women. While women are still in the minority, the number of women at higher levels in physics continues to increase. Here at UCSB, we have an active Women in Physics group with the goal of fostering community among women and the department as a whole. We meet regularly to exchange ideas, organize events for graduate students, and meet with visiting women scientists and women speakers. The group also works to recruit and retain female graduate students.

UCSB also has an active chapter of Women in Science and Engineering (WISE), which provides contact with women scientists and engineers across all disciplines, through weekly coffee hours with invited guests (often female faculty) and professional development workshops for graduate and undergraduate students.



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Women in Physics at UCSB



Why UCSB?



Our department is first and foremost an outstanding research institution.

Currently housing host of award winning faculty,

including 3 Nobel prize winners, UC Santa Barbara's relatively small Physics Department is now ranked among the top five graduate programs in the Nation.

The many research centers on campus, including the California Nanosystems Institute, the Materials Research and Engineering Laboratory and the Institute for Collaborative Biotechnologies, reflect the lively interplay between faculty and graduate students in physics and in materials science, biology, chemistry and engineering. The Physics Department's Institute for Research at Particle Accelerators conducts research at the LHC in CERN, while astrophysics graduate students and faculty have access to the Keck Observatories in Hawaii. Theoretical physics at UCSB brings

graduate students into contact with eminent scientists from around the world, through the programs of the Kavli Institute for



Theoretical Physics (KITP). With approximately 300 visitors per year, the KITP provides unique opportunities for our graduate students to meet and hear from leaders in Physics.

The intellectual community in the Physics Department is welcoming towards female faculty and graduate students alike. Most of the faculty have families and understand the need to balance work with personal interests, including those stimulated by the beautiful California coast and mountains that are just outside the Physics building.



In addition, the UCSB campus has world-class fabrication and characterization facilities. The Nanofabrication Laboratory provides 12,000 square feet of class 100/1000 cleanroom space filled

with lithographic and thin film processing equipment. The ground floor of Elings Hall is dedicated to advanced microscopy and surface characterization tools, supplemented by facilities available at the Materials Research Laboratory.

Statistics and Policies

- **17% female graduate students**
- **13% female faculty**
- **19% female postdocs**
- **Family Leave Policy:** UCSB graduate division grants leave for pregnancy or parenting needs during the first 12 months after child's birth/placement in the home, for up to 3 academic quarters.

Spotlight on Faculty

Jean Carlson studies novel nonlinear phenomena in systems far from equilibrium, including earthquake faults, forest fires, evolution and extinction, and interconnected networks such as the internet.

Deborah Fygenson's group works on mechanics and dynamics of macromolecular assemblies. Her group performs experiments using techniques of light and electron microscopy and micromanipulation.

Beth Gwinn studies hybrid organic-inorganic structures, magnetism in semiconductors, and quantum Hall physics. Her group investigates how the binding of organic molecules to solid-state materials leads to new electric and magnetic properties.

Ania Jayich's group studies quantum effects on the nanoscale, focusing on nanoscale imaging of spin and charge in condensed matter systems, with an eye on applications in quantum and classical computing.

Crystal Martin's research focuses on galaxy formation and evolution, trying to understand why the star formation rate varies widely among galaxies.

Ruth Murray-Clay studies the formation and evolution of planetary systems, including planetary dynamics, planet formation, evolution of planetary atmospheres, the solar system's Kuiper belt, and the structure of disks orbiting young stars.

Joan-Emma Shea's research focuses on developing and applying the techniques of statistical and computational physics to the study of biological problems. Current work involves the investigation of cellular processes including in-vivo protein folding and protein aggregation.