

Thoughts from Recent UCSB Physics Graduates

“I felt very comfortable at UCSB. There was always someone to talk to if I had a problem, and the department as a whole really does care about its grad students.”

— *Dr. Colleen Schwartz (PhD '05),
Ab Initio Software Corporation*

“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
(PhD '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
(PhD '02), Wellesley College*



Women in Physics meeting

Why have a Women in Physics brochure?

In physics, women currently account for approximately 22% of Bachelor's degrees awarded, 18% of PhDs awarded, and 5% of full professors at US institutions¹. Quite simply, the higher up you go, the fewer women you see. In a field as demanding as physics, it is important to have role models and community. 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.

¹<http://www.aip.org/statistics/trends/highlite/women05/women05.htm>



Sponsored by Women in Physics

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Women in Physics at UCSB
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Women in Science and Engineering
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Women in Physics at the University of California Santa Barbara



Great location, great people

Clockwise from upper left: Physics building (Broida Hall), Dept. Vice Chair Beth Gwinn, view from the “fishbowl” room at the KITP, Women in Physics meeting, Faculty member Jean Carlson.

Why UCSB?

Our department is first and foremost an out-



Aerial view of UCSB campus

standing research institution. It recently ranked first in the country in research impact as measured by citations per paper and per faculty.

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 has detectors at the Stanford Linear Accelerator Center and conducts research at the Fermi National Accelerator Laboratory, 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, and the vice-chair of the department is female. Most of the faculty have



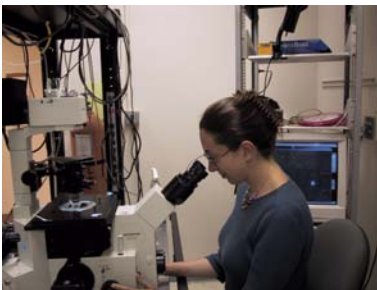
Kavli Institute for Theoretical Physics

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.



Materials Research Laboratory

Spotlight on Faculty



Professor Fygenon in the lab

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

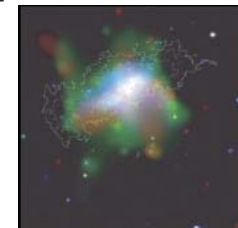
and micromanipulation, complimented by standard tools from biophysical chemistry and molecular biology. The group's studies naturally occurring biological nanofibers known as microtubules, as well as collagen fibrils (in collaboration with Paul Hansma's group).

Jean Carlson studies novel nonlinear phenomena in systems far from equilibrium, including the rupture of earthquake faults, forest fires, evolution and extinction, and interconnected networks such as the internet. She has worked to develop new paradigms for thinking about such complex phenomena, including notions of "Highly Optimized Tolerance" (HOT) and "complexity and robustness".

Beth Gwinn studies hybrid organic-inorganic structures, magnetism in semiconductors, and quantum Hall

physics. Her group uses magneto-transport measurements, magnetometry and surface spectroscopies to investigate how the binding of organic molecules to solid-state materials leads to new electric and magnetic properties at the organic-inorganic interface.

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



Formation of a galactic wind in a dwarf galaxy. The hot, warm, and cold interstellar gases are shown by X-ray emission (green), hydrogen-alpha emission (red), and H I 21-cm contours. The wind carries most of the heavy elements synthesized by the starburst. (C. Martin)

Statistics and Policies

- Number of female graduate students/male students: 21/128
- Number of tenured or tenure-track female/male faculty: 4/50
- 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.
- Compare to other graduate schools at <http://cswp.catlla.com/results.php>



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