SF-Rocks students on a field trip to Bryce Canyon, Utah.

Photo courtesy of Lisa White
A WISE Leader Inspires Women at SF State

by Reyna P. Menjivar

“I consider my pathway to science to have been very interesting and unusual,”

says Dr. Lisa White, who until recently was a geosciences professor at San Francisco State University as well as Associate Dean of the College of Science & Engineering (COSE). Dr. White is now Director of Education and Outreach at the UC Museum of Paleontology in Berkeley. One branch of her unusual “pathway” led to the directorship of Women in Science and Engineering (WISE), a faculty-run organization at SF State. As director, White is helping steer WISE in its mission: inspiring women to major in—and stay in—the sciences. Women now earn 60 percent of non-science bachelor’s degrees nationwide. According to a recent report, however, only 28 percent of women earn B.A.s in science, technology, engineering, and mathematics [STEM] subjects compared to 38 percent of men. White hopes that WISE can help address this gap. “I’d love to continue to engage more people, more students,” she says, both here and on other campuses.
White’s own history provides part of the inspiration for other women. White was an undergraduate at SF State starting in 1978. At the time, she was a declared art major with an emphasis in photography. She developed an interest in the geosciences through photographing landscapes, however, and switched majors. In her junior year she worked as an intern with the U.S. Geological Survey in Menlo Park. An African American woman, White noticed stares of curiosity, even disbelief, when people discovered she was an aspiring geoscientist. She also recalls how few other women enrolled in geosciences classes, and decided, even then, to encourage other women to enter and stay in science. She finished her Ph.D. at UC Santa Cruz and returned as an SF State faculty member in 1990. Not long after, she extended her mentoring to minority girls and boys from urban communities, urging them to explore and excel in the geosciences.

White helps lead two projects to advance her goal of providing science opportunities to urban youth: One, called SF-ROCKS (Reaching Out to Communities and Kids with Science in San Francisco), was founded in 2001 with grants from the National Science Foundation (NSF). The other, METALS (Minority Education through Traveling and Learning in the Sciences) is a subgroup of SF-ROCKS begun in 2010 in collaboration with SF State, Purdue University, the University of New Orleans, and the University of Texas at El Paso. White added WISE to her busy schedule of teaching, administrative duties, and community work in 2009. At that time, SF State biology professor Jan Randall (now emeritus) shared her concerns about the shortage of female faculty members in science. A year later, White joined Randall and others in starting an official chapter of WISE at SF-State.

In her graduate program during the late 60s and early 70s, recalls Randall, “I had a number of issues which I hope women these days aren’t having. I became really sensitized to being a minority in an area where it was mainly men.” When Randall arrived at SF State in 1987, WISE met once a month during lunch but the group lacked leadership and financial support. Following its “rebirth” in 2010, the group garnered strong continuing support from Provost Sue Rosser, COSE Dean Sheldon Axler, and biology department chair Michael Goldman. Adds Randall, “We also have a person who can coordinate and organize, in the form of Lisa White, plus a web site and some donors to back up the activities of the organization with money.”

Randall approached science and engineering faculty members in the Fall of 2009, to discuss issues facing women in these fields. Her timing was lucky: That year, Rosser became Provost and strongly supported the organization. Drs. Randall and Rosser both contributed personal funds to launch WISE officially in 2010. Observes White, “WISE is now comprised of 40 female faculty members in the College of Science & Engineering who meet once a month because they want to raise their profile.” It’s rare “that women faculty get to work across disciplines,” White adds. “Having an organization with the purpose of discussing issues surrounding women in science was reason enough to start a forum.”

Rosser’s and Randall’s seed funding allowed WISE members to start a seminar series on the SF State campus. WISE organizers have invited women scientists from several other universities to help engage campus faculty and students in discussions about women in science. For example, on March 8, 2011, to celebrate the 100th anniversary of International Women’s Day, Dr. Zuleyma Tang-Martinez, a biology professor at University of Missouri, St. Louis, spoke about animal behavior and how males generally initiate mating and sexual selection. Good scientists such as Tang-Martinez make good role models, says Randall. “The whole idea of this is to bring women in as role models and also as of support for women faculty.”

WISE seminars like these stimulate discussions on the historically male-centered nature of most science professions. No one is certain why men have so dominated science fields, but a common assumption is that women put their science educations and/or careers on hold to start and raise families. As a student assistant in the WISE organization, this writer worked with Dr. White to create a website that showcases upcoming events and commemorates women in science. The website highlights the strides that women are making in science despite their personal choices and career paths.

While working as a student assistant, this writer also re-
searched student-driven WISE organizations at the California State Universities in Chico, Los Angeles, and San Jose State, and presented findings to WISE members at SF State. After considering these groups operating with little faculty involvement and guidance, the SF State chapter concluded that it would be more powerful and inspiring if the women faculty here run the organization and build a sense of community with female students. With their working budget for seminars and brown-bag lunches, WISE members are now able to incorporate female students. These are intended to inspire diversity and retention in STEM fields as well as to facilitate discussions about frustrations common to both students and their female professors.

Lisa White notes that while other science programs have lower percentages, the SF State biology department now has about equal numbers of female and male students. She speculates that popular career applications such as medicine and nursing contribute, but notes that the biology department has “led the way not only in gender diversity but ethnic diversity as well.” It is no accident that a biology professor reached out to other women science professors and Randall did so, says White, because faculty members in other departments “are really fragmented.” White adds that the “issue of women in science could not have been better approached without communicating with other women faculty in COSE.”

Beyond initiating a speaker series and including students, WISE is providing a forum for interdisciplinary faculty discussions. “Some of the issues we’ve discussed,” White says, include salary discrepancies and how to recruit in a way that may bring more women applicants into the pool.” In order for WISE to recruit women applicants into COSE positions,” White adds, “advance grants are needed.” Comments another WISE member, Leticia Márquez-Magaña, the first Latina professor hired by the Biology Department at SF-State, “Open discussion about differences in pay and mechanisms to remediate disparate situations” should help break down the barriers to equal pay between female and male professors. Márquez-Magaña hopes to see WISE fund more opportunities for professional development and student/faculty collaborations. “It is necessary that women and minorities pursue careers in science to ensure scientific innovation,” she says, “because diversity drives creativity.” WISE is and should be “an organization that provides community, greater sense of belonging in science, and access to top administrators,” Márquez-Magaña concludes.

White observes that, “It is too early to evaluate the progress of WISE... It is not a good idea to judge it too harshly because WISE members are still figuring out their direction.” Fundamental questions remain, she says, about “design, direction and studies;” which groups WISE should and will serve; and “how science is perceived when you have more diversity and more inclusion in science, especially by women.”

Carmen Domingo, a WISE member and professor of biology, comments, “There’s definitely a desire to reach out and incorporate the students.” Because the organization is so new, “the faculty needs to iron out which topics will work well with students or will work well with just faculty.” This gives current WISE leaders and members an opportunity to mold the organization. Adds Domingo, “It’s really great to have [Dr. White’s] leadership because as the associate dean and also a woman of color, she’s positioned in a way to bring all the departments together collectively to think about issues of women. I’m really appreciative she took this on, top of everything else that she does.”

In her office in Thornton Hall, White had an enormous bookshelf crammed from floor to ceiling with books and files. Conversations often start with some discussion of her recent activities. “I do not recommend this [amount of work] for everybody,” she jokes. But she sees still more opportunity for effort through WISE despite the increasing numbers of women majoring in science today. White would love for WISE to help students connect with courses that attract them to enter and stay in science. “As a faculty group,” she says, “WISE can look for ways to better help the women majors we do have to enter the profession and think about advance degrees and career tracks that would lead them into leadership positions.” The organization’s path is not yet fixed, adds Jan Randall, “But there seems to be much enthusiasm in WISE by the women faculty in COSE. All of these changes are a very positive sign that the organization will grow and flourish now.” And Lisa White will be there to trailblaze.