



School of Dentistry

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SUSAN FISHER NAMED 2004 SCHOOL OF DENTISTRY FACULTY RESEARCH WINNER

Susan Fisher, Professor in the Department of Stomatology, has been named recipient of the 2004 School of Dentistry Faculty Researcher Lecturer Award for her outstanding research contributions. Fisher will deliver her presentation, "Salivating Over Reproduction" at the school's Research Day, Wednesday March 3.

Past winners of the award are: Ernest Newbrun, John Greenspan, Rajendra Bhatnagar, Sheldon Baumrind, Grayson Marshall, Caroline Damsky, Sally Marshall, Jon Levine, Rik Derynck and John Featherstone.

Fisher's research spans several disciplines. With regard to chemistry, the Fisher lab studies the role of salivary carbohydrate units in bacterial adherence by solving their structures using mass spectrometry. During the last decade, principal findings have included their discovery that a subset of these oligosaccharides also mediate leukocyte tethering.

In biology, the work of the Fisher lab has been instrumental in furthering the understanding of mechanisms of placentation in normal pregnancy and in pregnancy complications such as preeclampsia. Principal findings include the group's discovery that trophoblasts are a novel endothelial cell type, the development of which is regulated by oxygen tension. Fisher's lab identified the first molecular step that allows a week-old human embryo to attach to the uterus. Their finding is expected to provide a new tool to diagnose and treat infertility and early pregnancy loss. The researchers found convincing evidence that a molecular sticking process stops the embryo's journey along the uterine wall and starts attaching it to the wall – the first stage of implantation. Failure of the embryo to implant causes about three-fourths of lost pregnancies.

Finally, recent studies by the Fisher Lab joined the chemical and biological methodologies of the group as they showed that the same carbohydrate-based mechanisms that coordinate bacterial and leukocyte adhesion in the oral cavity play an important role in initiating embryo implantation.

"Susan is an extraordinarily versatile scientist, the theme of whose work (carbohydrate biology) is applied in diverse areas of science that cross traditional boundaries," said John Greenspan, dean for research. "She is a mentor and role model, and we in the school are enormously proud of her contributions," Greenspan continued.

World-Class Presenters

Dean David Kessler of the UCSF School of Medicine and Associate Professor David Relman of Stanford University will join Susan Fisher as the featured speakers at Research Day, Wednesday, March 3, 2004.

As commissioner of the Food and Drug Administration (1990 to 1997), Kessler became well known for taking on the tobacco industry. He instituted a program to regulate the marketing and sale of tobacco products to children, and spearheaded a major investigation that led to the revelation that the tobacco companies not only had known for 50

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years that nicotine was an addictive drug but that the companies had manipulated the levels of nicotine in cigarettes.

Relman's laboratory research focuses on the development and application of molecular methods to identify previously unrecognized microbial pathogens. Relman, in a collaborative study at UCSF with Gary Armitage, Professor in the Stomatology department, is using the results of this research to study the oral microflora in periodontally diseased pockets for the presence of previously unidentified pathogenic microorganisms.

Research Day will include oral and poster presentations by postdoctoral students, graduate students, dental students and faculty, highlighting some of the school's latest research results. School of Dentistry classes will be cancelled, and most clinics and laboratories in the school will close for the day.

For more information on Research Day, go to:

<http://dentistry.ucsf.edu/research/researchday.html>.