

California State University, Fresno
Department of Chemistry

The San Joaquin Valley Section
American Chemical Society

Presents

Doping in Sports: How Chemists Catch the “Cheaters” (sometimes)

by

Dr. Tom Werner
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of Physical Sciences Emeritus
Union College

Monday, September 14, 2009
6:00 p.m.
S2-109

Abstract:

Doping is to sport what criminality is to society, and there will always be criminality in society.

- Jacques Rogge, President, International Olympic Committee

The alleged use of performance-enhancing drugs is increasingly tainting athletic accomplishment. Examples of this sports “doping” problem appear almost daily in the news: pro cycling is brought to its knees by doping allegations, resulting in the loss of sponsorship, the BALCO case and the Mitchell Report pummel Major League Baseball with evidence of steroid use and drug testing concerns become a higher profile issue at the Olympics. The talk will focus on the methods that chemists use to detect sports doping with substances such as amphetamine, steroids, human growth hormone and EPO. Limitations of these methods will be discussed, along with a listing of some of the enormous challenges facing chemists as newer doping substances and methods become available. The talk is based on a course entitled *Chemistry and Athletic Performance*, which was developed by the speaker with the aid of Dr. Don Catlin and staff at the UCLA Olympic Analytical Laboratory and Anti-Doping Research, Inc.

Biographical Sketch:

Tom Werner received a B.S. in chemistry from Juniata College and a Ph.D. in analytical chemistry from MIT. After postdocs at Harvard and Tufts Medical Schools, he taught for 36 years at Union College (Schenectady, NY), retiring as Florence B. Sherwood Professor of Physical Sciences Emeritus in December, 2007. Werner has served as Principal Investigator on several external grants awarded for the support of undergraduate research including funding from Petroleum Research Fund, Research Corporation, NSF-ILI, NSF-AIRE and the Camille and Henry Dreyfus Foundation. Werner served as Chair of the Board of Governors of the National Conference on Undergraduate Research (NCUR), as Director of the NCUR/LANCY Initiative and as a NCUR Board Member. In 2002, he received the American Chemical Society Award for Research at an Undergraduate Institution. Over the past several years, he has developed a course entitled "Chemistry and Athletic Performance" that combines his expertise in analytical chemistry and interest in sports with the goal to teach chemistry from a more socially relevant perspective. The course syllabus was developed with input from Dr. Don Catlin and his staff at the UCLA Olympic Analytical Lab and Anti-Doping Research, Inc.

Dinner/Parking:

Dinner: Will be after the presentation at a location announced after the seminar.

Campus Parking: You may purchase a parking permit from the campus parking permit dispenser for \$3.00. This will allow you to park in the student (**green**) parking. Please call the Parking Office at 559-278-2950 if you have any questions. A campus map can be found at: <http://www.csufresno.edu/univrelations/map/>.