

Chemistry Department Colloquium: Spring, 2012

Friday, April 27; 3:30
Seminar Hall (room 1315 Chemistry)

The Analytical Olympics

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At every Olympic Games, there is an anti-doping laboratory team testing athletes' urine and blood samples for prohibited performance-enhancing drugs. A few thousand samples, which come over two weeks, must be screened for a few hundred analytes and reported overnight. The screens are based on more than a dozen analytical approaches.

For example, recombinant growth hormone use is detected by current and upcoming tests based on immunoassays. To help detect designer drugs and target tests, "biological passport" programs monitor blood and urine variables year-round. Lab work realities include regulatory requirements and potential legal scrutiny.

Anti-doping scientists can be called upon to explain analytical chemistry and pharmacokinetics to sports administrators, lawyers, and the public, including children. Some risks for athletes - such as contamination in dietary supplements - also affect the general public.



After earning a Pharmacy degree from the University of Paris and a Ph.D. in Chemistry from UCLA, Caroline Hatton took a job at the 1984 Los Angeles Olympics, and subsequently became Associate Director of the UCLA Olympic Laboratory, a position she held for more than a decade. She was on the team that developed the carbon isotope ratio anti-doping test and cracked mystery designer steroid THG in the BALCO investigation.

Dr. Hatton consults for organizations that fight doping in sports; she translates science books from French into English; and she writes for children. Her newest book for ages 10-110, *The Night Olympic Team*, is a scientific adventure that recounts how she and her lab mates found the prohibited blood booster darbepoetin alfa (Aranesp) in athletes' samples during the 2002 Winter Olympics in Salt Lake City.

Please stay for refreshments at about 4:30 in the Charter Street Atrium