

Analytical Seminar

Thursday, April 26, 2012

12:15 p.m.

Seminar Hall - Room 1315

A Chemistry Job of Olympic Proportions

Caroline K. Hatton, Ph.D.

Sports Anti-Doping Science Consultant

Former Associate Director, UCLA Olympic Laboratory

Author, The Night Olympic Team

Caroline Hatton will share how she got a job at the 1984 Olympics in Los Angeles, testing athletes' samples for performance-enhancing drugs, and how she has worked as a sport anti-doping scientist ever since. These drugs are prohibited in sports because their use is unfair, can be harmful to health, and is contrary to the spirit of sport. The prohibited list includes fifteen classes of substances and methods. Doping-control labs look for a few hundred target analytes in urine and blood samples, using over a dozen analytical approaches. Anabolic steroid use is detected by GC-MS, LC-MS-MS, and isotope ratio mass spectrometry. Blood boosting with recombinant erythropoietic peptide hormones is screened for using isoelectric focusing. Because new doping behaviors are constantly emerging, some of which abuse therapeutic advances, new analytical methods are constantly needed. Anti-doping organizations offer opportunities in research and in K-12 education.