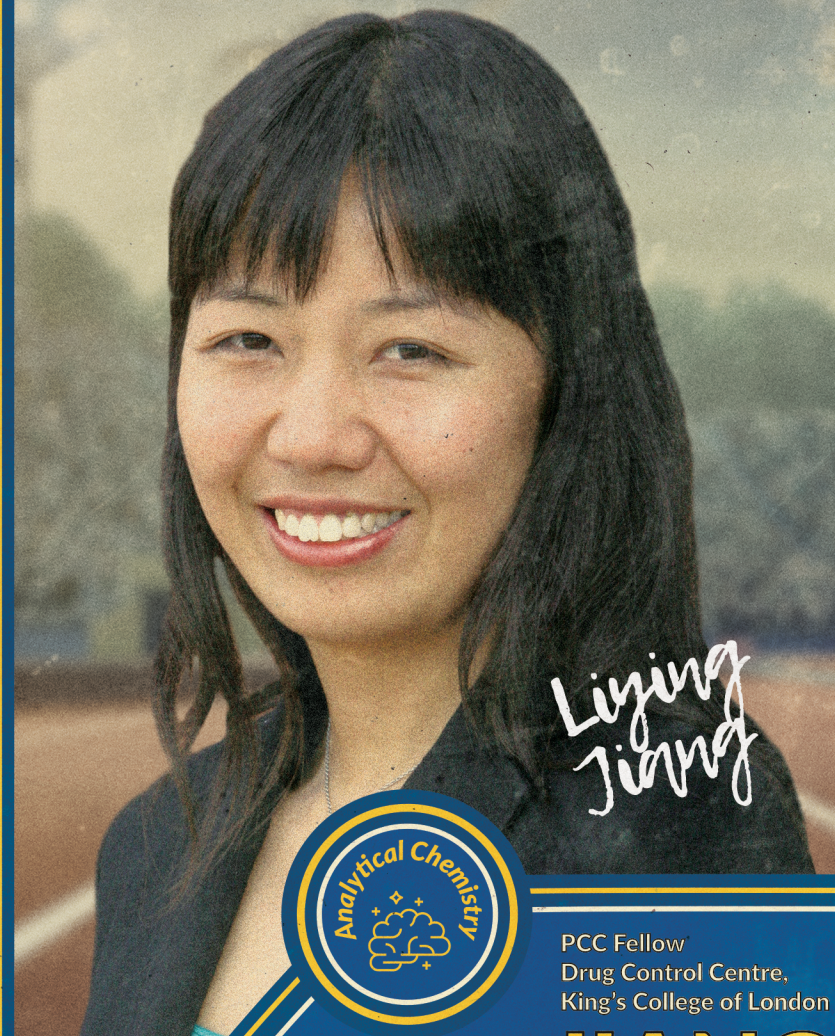




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PCC Fellow
Drug Control Centre,
King's College of London

LIYING JIANG

ACS PROGRAM-IN-A-BOX

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DR. LIYING JIANG



EDUCATION: PhD in Analytical Chemistry from Stockholm University in 2015.

RECOGNITION: Honorable mention for the Phabian Award from the Swedish Pharmaceutical Society for her PhD thesis.

POSITION: Partnership for Clean Competition (PCC) Fellow under Dr. David A. Cowan at King's College London's Drug Control Centre.

TALKIN' CHEMISTRY

WHAT EXPERIENCES HELPED PREPARE YOU FOR YOUR JOB?

My PhD research focused on mass spectrometry-based analytical method development and application towards screening popular seafood for neurotoxins. I used different mass spectrometers to analyze both small molecules, such as amino acids, and larger molecules like peptides and proteins. Since doping covers diverse compounds with a wide range of molecular weights, my work was excellent preparation for research in this field.

WHAT DO YOUNGER CHEMISTS INTERESTED IN RESEARCHING BLOOD DOPING NEED TO KNOW?

Anti-doping researchers work with numerous doping agents with wide physiochemical properties and dynamic ranges in biofluids. Tests must be highly reliable and withstand challenges by third parties while also being cost-effective, practical, efficient, and reproducible. Analytical methods have to be consistent and comparable among all 34 World Anti-Doping Agency (WADA)-accredited laboratories so that variations among testing results are minimized. This is the only way programs like the Athlete Biological Passport can survive.

WHAT CHALLENGES IN THE BLOOD DOPING FIELD DO YOU HOPE TO SOLVE?

My long and short term research priorities include reducing the cost of doping analysis and developing analytical methods to detect the latest drugs designed for competitive advantages in sport. In particular, I will focus on the development of a unified platform using an electrospray and photoionization dual ion source to improve ionization, and thus detection coverage of a wide range of compounds.

WHAT CHEMISTS DO

BY THE AMERICAN CHEMICAL SOCIETY

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