



Department: School of Chemistry & Molecular Engineering

Professional field: Analytical Chemistry

E-mail: yipingdu@ecust.edu.cn

Profile

Professor Yiping Du obtained his PHD degree in 2002 from Hunan University when he started to study chemometric algorithm. From 2002 to 2003 he worked in Ozaki group, Kwansei Gakuin University, Japan as a post-doctor fellow, and started to investigate analytical methods in near infrared spectroscopy field. In about 2008 he opened a new research field of Raman spectroscopy and surface enhanced Raman scattering. These three fields are his main research interests. In professor Du's group, there are about 15 PHD, master students who work to develop fast determination methods with spectroscopic analytical tools including near infrared spectroscopy, Raman spectroscopy, fluorescence spectroscopy. The main goal of the studies is to investigate novel techniques to detection analytes in samples of chemical industry, food, environment, medicine and clinic fields.

Research Field

Chemometrics and near infrared spectroscopic analysis: multivariate calibration, multivariate resolution, pattern recognition, modeling with near infrared spectra.

Solid phase extraction spectroscopy: combination of solid phase extraction and solid phase spectrum measurement to improve sensitivity and selectivity of spectroscopic analysis method.

Raman Spectroscopy and surface enhanced Raman scattering: development of rapid and nondestructive detection methods based on Raman spectra.

Research results and selected published papers

More than 200 papers have been published, more than 20 Chinese patents have been applied for and more than 10 have been issued. The followings are some typical published papers.

1. Wanchao Chen, Yinran Xiong, Wenming Wang, Ting Wu, Long Li, Qidi Kang, Yiping Du*, Assembly of a UV-LED induced fluorescence system for rapid determination of amiloride in pharmaceutical tablet and human serum, *Talanta*, 203 (1), 2019, 77-82
2. Long Li, Jibran Iqbal, Hui Li, Yuan Zhang, Lin Sun, Ying Zhu, Wanchao Chen, Yongqing Xi, Ting Wu, Yiping Du *, On-chip solid phase extraction and in situ optical detection, *Talanta*, 197 (2019) , 299-303, 15 May 2019
3. Ruoqiu Zhang, Feiyu Zhang, Wanchao Chen, Qin Xiong, Zengkai Chen, Heming Yao, Jiong Ge, Yun Hu, Yiping Du*, A variable informative criterion based on weighted voting strategy combined with LASSO for variable selection in multivariate calibration. *Chemometrics and Intelligent Laboratory Systems*, 184 (2019) 132-141
4. Yan Kang, Ting Wu, Wanchao Chen, Long Li, Yiping Du*, A novel metastable state nanoparticle-enhanced Raman spectroscopy coupled with thin layer chromatography for determination of multiple pesticides, *Food Chemistry*, 270, 494-501, 2019