陈孝敬(瓯江特聘教授) 简介

一、个人基本情况：

姓　　名：陈孝敬

性　　别：　男

出生年份：1978

民　　族：汉

职称职务：　教授（副院长）

政治面貌：九三学社

最后学历、学位：博士

工作单位：温州大学电气与电子工程学院

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二、从事研究的专业领域及主要研究方向

研究的专业领域：

信息处理与检测技术

主要研究方向：

光电信息与检测技术

三、主要工作经历及业绩

2009 至今　温州大学任教

2006/9-2009/6，厦门大学，研究方向为光检测与信息处理，博士

四、近年主持的主要教学科研项目

主持的科研项目：

1) 目标类食品的高维光谱快速检测关键问题研究（62275199），国家自然科学基金面上项目，2023.01-2026.12.

2) 荧光成像技术在小肠组织血流检测应用的开发（HZWZ-WZDX20211206），杭州市唯赞科技有限公司,2022.1.2025.12.

3) 图像光谱融合技术在术中快速诊断肠坏死的研究与应用（ZY2021027），温州市重大科技创新攻关社会发展项目，2022.1-2024.12.

4) 贝类重金属污染的激光诱导击穿光谱开集检测关键问题研究（LY21C200001），浙江省科学自然基金，2021.01-2013.12.

5) 贝类重金属污染的多模态融合光谱开集检测及不确定度研究 (31571920),国家自然科学基金面上项目，2016.01-2019.12.

6) 茶叶数字化品控技术研究与装备开发,科技部重点研发计划项目（2017YFD0400805），2017.12-2021.06.

7) 重金属污染泥蚶的红外光谱快速识别方法研究（2015F50057），浙江科技厅开展协同创新项目. 2015.01-2017.12.

8) 基于多源振动光谱融合技术的贝类重金属富集信息快速检测方法与机理研究(31201355),国家青年科学基金项目，2013.01-2015.12.

9) 基于混合谱技术的鱼油ω3-PUFAs含量快速检测机理与方法研究（Y3110289），浙江省科学自然基金，2011.01-2012.12.

10) 智能低压电器关键元器件的老化分析研究（2012R10006-3），浙江省科技厅，2011.01-2014.12.

11) 紫菜综合品质信息快速检测系统研制,温州市科技局,2010.9-2012.8.

五 主要科研成果

1. 论文 (第一作者和通讯作者*)

1) Y Xie，YX Zhang, J Shao, L Dong, YB Zhang, DH Zhu, XJ Chen, Q Xia, Position effect of laser beam waist in quartz-enhanced photoacoustic spectroscopy, *Infrared Physics & Technology*, 125(2022):104271.

2) ZH Xie, XA Feng*, **XJ Chen***, Subsampling for partial least-squares regression via an influence function, *knowledge-based systems*, 245(2022): 108661

3) **XJ Chen**, XX Huang, SL Chen, S Ali, X Chen, LM Yuan, W Shi, GZ Huang, Alkali hydrolysis and Lewis acids assisted enhancement based highly sensitive and quantitative detection of malathion in tea using SERS and multivariate analysis，*Sensors and Actuators B: Chemical*, 359(2022):131584.

4) X Chen, LM Yuan, Guofeng Yi，GZ Huang，W Shi，**XJ Chen***, A rapid automatic spectroscopic identification method of environmental microplastics，*Chemometrics and Intelligent Laboratory Systems*, 222(2022):04511.

5) GZ Huang，**XJ Chen***，W Shi, X Chen，X Chen, A one-class feature extraction method based on space decomposition, *Soft Computing*, 26(2022):5553-5561.

6) GZ Huang，LM Yuan, W Shi，X Chen, **XJ Chen***，Using one-class autoencoder for adulteration detection of milk powder by infrared spectrum，*Food Chemistry*, 372 (2022) 131219.

7) X Chen, S Ali, LM Yuan, Fengyi Guo, GZ Huang, W Shi, **XJ Chen***, Characterization and source analysis of heavy metals contamination in microplastics by Laser-Induced Breakdown Spectroscopy, *Chemosphere*, 287 (2021) 132172.

8) S Ali, X Chen, W Shi, GZ Huang, LM Yuan, LW Meng, SL Chen, Zhhonghao Xie, **XJ Chen***, Recent Advances in Silver and Gold Nanoparticles-Based Colorimetric Sensors for Heavy Metal Ions Detection: A Review, *Critical Reviews in Analytical Chemistry*, 2021, DOI:10.1080/10408347.2021.1973886.

9) YL Xu, LW Meng, XJ Chen，X Chen, LJ Su, LM Yuan, W Shi, GZ Huang, A strategy to significantly improve the classification accuracy of LIBS data: application for the determination of heavy metals in Tegillarca granosa, *Plasma Science. Technology*, 23 (2021) 085503.

10) SL Chen, LW Meng, LT Wang, XX Huang, S Ali, **XJ Chen***, ME Yu, LM Li, X Chen, LM Yuan, W Shi, GZ Huang, SERS-based lateral flow immunoassay for sensitive and simultaneous detection of anti-SARS-CoV-2 IgM and IgG antibodies by using gap-enhanced Raman nanotags, *Sensors and Actuators B: Chemical*, 311(2021):127924.

11) LJ Su, W Shi*, **XJ Chen***, LW Meng, LM Yuan, X Chen, GZ Huang, Simultaneously and quantitatively analyze the heavy metals in Sargassum fusiforme by laser-induced breakdown spectroscopy, *Food Chemistry*, 338 (2021) 127797.

12) ZH Xie, XA Feng*, **XJ Chen***, GZ Huang and M Yi, Optimizing a vector of shrinkage factors for continuum regression, *Chemometrics and Intelligent Laboratory Systems*, 206 （2020）104141.

13) DH Zhu, LJ Xu, **XJ Chen*, LM Yuan***, GZ Huang, LM, Li, X Chen, W, Shi, Synthetic spectra generated by boundary equilibrium generative adversarial networks and their applications with consensus algorithms, *Optic Express*, 28(2020), 17186.

14) LM Yuan*, F Mao, **XJ Chen***, GZ Huang, D Wu, SJ, Li, XQ, Zhou, QJ, Jiang, DP, Lin, RY, He, Models fused with successive CARS-PLS for measurement of the soluble solids content of Chinese bayberry by vis-NIRS technology, *Postharvest Biology and Technology*, 169(2020),111308.

15) ZH Xie, LW Meng, XA Feng*, **XJ Chen***, Xi Chen, LM Yuan, W Shi, GZ Huang and M Yi, Identification of heavy metal-contaminated *Tegillarca granosa* using laser-induced breakdown spectroscopy and linear regression for classification, *Plasma Science. Technology*, 22 (2020) 085503.

16) GZ Huang，**XJ Chen***，LM Li, X Chen，LM Yuan，W Shi，Domain adaptive partial least squares regression，*Chemometrics and Intelligent Laboratory Systems*, 201（2020）103985.

17) **XJ Chen,** YL Xu, LW* Meng, X Chen, LM Yuan, QB Cai, W Shi, GZ Huang, Non-parametric partial least squares–discriminant analysis model based on sum of ranking difference algorithm for tea grade identification using electronic tongue data, *Sensors and Actuators B: Chemical*, 311 (2020) 127924.

18) LJ Xu, DH Zhu*, **XJ Chen***, LM Li, GZ Huang, LM Yuan, Combination of one-dimensional convolutional neural network and negative correlation learning on spectral calibration, *Chemometrics and Intelligent Laboratory Systems*, 199 (2020):103954.

19) LW Meng, **XJ Chen***, X Chen, LM Yuan, W Shi, QB Cai, GZ Huang, Linear and nonlinear classification models for tea grade identification based on the elemental profile, *Microchemical Journal*,153 (2020) 104512.

20) LM Yuan, F Mao, **XJ Chen***, LM Li*, GZ Huang, Non-invasive measurements of 'Yunhe' pears by vis-NIRS technology coupled with deviation fusion modeling approach, *Postharvest Biology and Technology*, 160 (2020) 111067.

21) XY HU，NN Liu，HS Yang，F Wu，X Chen，CP Li*, **XJ Chen***, A reversible ion transportation switch of ON–OFF–ON type by a ligand-gated calix[6]arene channel, ***Chemical Communications***, 55(2019):20.

22) MP Nie，LW Meng, **XJ Chen***, XY Hu, LM Li, LM Yuan, W Shi, Tuning parameter identification for variable selection algorithm using the sum of ranking differences algorithm, ***Journal of Chemmometrics***, 33(2019):e3113.

23) Z Xu, **XJ Chen***，LW Meng, ME Yu, LM Li, W Shi, Sample Consensus Model and Unsupervised Variable Consensus Model for Improving the Accuracy of a Calibration Model, ***Applied Spectroscopy***, 73(2019):747-758.

24) **XJ Chen**, HH Ding, LM Yuan*, JR Cai*, Y Lin, New approach of simultaneous, multi-perspective imaging for quantitative assessment of the compactness of grape bunches: Simultaneous multi-perspective imaging of bunches, ***Astralian Journal of Grape and Wine Research***, 24(2018):413.

25) LM Yuan, **XJ Chen***, YJ Lai, X Chen, YJ Shi, DH Zhu*, et al, A Novel Strategy of Clustering Informative Variables for Quantitative Analysis of Potential Toxics Element in Tegillarca Granosa Using Laser-Induced Breakdown Spectroscopy, ***Food Analytical Methods***, 11(2018):1405-1416.

26) X Chen. LM Yuan, **XJ Chen***, YJ Shi, DH Zhu, A strategy for rapid identification of healthy Tegillarca granosa from among those contaminated with unspecified heavy metals using infrared spectroscopy, ***Anaytical Methods***, 9(2017):4447-4454.

27) **XJ Chen***, YJ Lai, X Chen, YJ Shi, DH Zhu, A novel spectral multivariate calibration approach based on a multiple fitting method, ***Analyst***, 141(2016): 5759-5766.

28) MH Hu, **XJ Chen***, PC Ye, X Chen, YJ Shi, GT Zhai, XK Yang, Combination of multiple model population analysis and mid-infrared technology for the estimation of copper content in *Tegillarca granosa,* ***Infrared Physics & Technology***, 79(2016):198-204.

29) K Liu, **XJ Chen***, LM Li, HL Chen, XK Ruan, WB Liu, A consensus successive projections algorithm - multiple linear regression method for analyzing near infrared spectra, ***Analytica Chimica Acta***, 858(2015): 16-23.

30) GL Ji, GZ Huang, ZJ Yang, XH Wu, **XJ Chen*,** MS Yuan, Using consensus interval partial least square in near infrared spectra analysis, ***Chemometrics and an intelligent laboratory***

system, 144(2015), 54-62.

31) **XJ Chen**，K Liu, JB Cai, DH Zhu, HL Chen*, Identification of heavy metal-contaminated Tegillarca granosa using infrared spectroscopy, *Analytical Methods*，7(2015): 2172-2181.

32) GZ Huang, XK Ruan*, **XJ Chen***, DX Lin, WB Liu, A Segmented PLS Method Based on Genetic Algorithm，*Analytical Methods*，6(2014): 2900-2098.

33) **XJ Chen**, D Wu, XC Guan*, B Liu, G Liu*, MC Yan, HL Chen, Feasibility of infrared and Raman spectroscopies for detection of heavy metals in juvenileblack seabream (Sparusmacrocephalus), *Journal of Agricultural and Food Chemistry*, 61(2013): 12429-12435.

34) G Liu., **XJ Chen***, Multivariate Analysis of High Resolution Nuclear Magnetic Resonance Spectra in Discrete Fourier Transform Domain，*Analytical Methods*, 5(2013):3700-3708.

35) XO Zhu, GZ Huang, SQ Luo, XC Guan, **XJ Chen***, Rapid determination of enantiomeric excess of Boc-protected amino acids based on infrared spectra technique with optimal wavelet transform packet decomposition frequency band. *Analytical Letters*, 46(2013): 671-681.

36) XO Zhu, J Jiang, XX Lei, **XJ Chen***, Rapid determination of enantiomeric excess of protected amino acids by catalytic amounts of chiral reagent. *Analytical Methods*, 4(2012):1920-1923.

37) **XJ Chen**, D Wu, Y He*, XL Li, S Liu, Non-destructive differentiation of panax species using visible and short-wave near-infrared spectroscopy. *Food and Bioprocess Technology*, 4(2011):753-761.

38) D Wu, **XJ Chen***, XO Zhu, XC Guan, GC Wu, Uninformative variable elimination for improvement of successive projections algorithm on spectral multivariable selection with different calibration algorithms for the rapid and non-destructive determination of protein content in dried laver, *Analytical Methods*, 3(2011): 1790-1796, 2011.

39) **XJ Chen**, D Wu, Y He*, An integration of modified uninformative variable elimination and wavelet packet transform for variable selection, *Spectroscopy*, 26(2011):42-47, 2011.

40) **XJ Chen***, H Li, D Wu, XX Lei, XO Zhu, AJ Zhang, Application of a hybrid variable selection method for the classification of rapeseed oils based on 1H Nmr spectral analysis. *European Food Research and Technology*, 230(2010)：981-988, 2010.

41) **XJ Chen***, XX Lei, Application of a hybrid variable selection method for the determination of the carbohydrate content in soy milk powder using visible and near infrared spectroscopy. *Journal of Agricultural and Food Chemistry*, 57(2009):334-340, 2009.

42) **XJ Chen,** D Wu, Y He*, S Liu**,** Detecting the quality of glycerol monolaurate: A method for using Fourier transform infrared spectroscopy with wavelet transform and modified uninformative variable elimination. *Analytica Chimica Acta*, 638(2009):16-22, 2009.

43) **XJ Chen**, D Wu, Y He*, S Liu, Study on Application of Multi-Spectral Image Texture to Discriminating Rice Categories Based on Wavelet Packet and Support Vector Machine, *Spectroscopy and Spectral Analysis* 29(2009): 222-225.

44) **XJ Chen**, D Wu, Y He*, XL Li, S Liu, Study on Discrimination of Tea Based on Color of Multispectral Image, *Spectroscopy and Spectral Analysis,* 28(2008): 2527-2530, 2008**.**

2、专利

1) 一种基于遗传算法自适应选择分段点的鱼油红外光谱 PLS 识别方法,发明专利,排第 1；

2) 一种红外光谱数据 PLS 建模方法，发明专利，排第 1；

3) 一种基于多元高斯拟合的近红外光谱建模方法，发明专利，排第 1；

4) 一种具有自校准功能的反射光谱测量系统，发明专利，排第 1；

5) 一种鉴别紫菜收割期的近红外光谱系统，实用新型专利，排第 1；

6) 一种光通量可控投射探头，实用新型专利，排第 1；

3、人才称号和获取奖项：

1) 《一种具有自校准功能得反射光谱测量系统》荣获 2021 中国专利优秀奖。（排第 1）

2) 《海产品告知化利用和质量控制设备研究与应用》荣获 2020 年度中国仪器仪表学会科学技术奖三等奖（排第 1）

3) 《贝类及养殖水体中重金属检测关键技术研究与应用》荣获 2019 年度中国商业联合会科学技术奖二等奖（排第 1）

4) 入选 2013 年浙江省高等学校中青年学科带头人

5) 入选 2013 年浙江省 151 第三层次人才计划（优先资助）