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一、个人简介

王友梅，女，1988年02月生，汉族，山东省莒县，博士，山西农业大学农学院校聘副研究员、硕士生导师，山西省后稷实验室，杂粮高产性状的分子基础及其应用团队成员。

二、学习工作经历

学习经历

2007.9 — 2011.6 吉林农业大学 农学院 农学专业 本科

2011.9 — 2018.6 华中农业大学 植物科学技术学院 作物遗传育种专业 硕博连读

工作经历

2018.9 — 2022.8 华中农业大学 生命科学与技术学院 生物学流动站 博士后

2022.9 — 今 山西农业大学后稷实验室 副研究员

三、研究方向

1. 高粱细胞壁生物学和生物质资源利用
2. 杂粮膳食纤维结构组成和功能活性分析

四、教学科研概述

承担本科生《表观遗传学》、《农学概论》等课程

长期从事植物细胞壁生物学方向研究，结合化学、糖化学、生物化学、分子生物学、遗传学和发酵工程等多学科技术手段解析高等植物细胞壁结构组成，鉴定影响作物关键农艺性状的细胞壁结构因子及其遗传基础。参加并主持国家及省级基金多项，以第一作者发表SCI论文4篇，获批国家专利1项。

五、主持科研项目

1. 国家自然科学基金委员会, 专项项目,子课题，谷子和高粱籽粒膳食纤维结构组成及功能活性, 2023-01-01 至 2026-12-31, 在研, 主持。
2. 国家自然科学基金委员会, 青年科学基金项目, 水稻tRNA甲基化修饰Am4参与盐胁迫响应的分子机制, 2021-01-01 至 2023-12-31, 在研, 主持。
3. 山西省科技厅，来晋奖励科研项目，木聚糖侧链修饰对其纳米颗粒自组装和功能活性的影响，2022-12-01 至2024-11-31, 在研，主持。
4. 山西农业大学，科研启动经费，高粱细胞壁结构组成和关键农艺性状分子遗传基础，2023-01-01 至2026-12-31,在研，主持。

六、代表性论文

1. **Youmei Wang#**, Peng Liu#, Guifen Zhang, Qiaomei Yang, Jun Lu, Tao Xia, Liangcai Peng and Yanting Wang*. Cascading of engineered bioenergy plants and fungi sustainable for low-cost bioethanol and high-value biomaterials under green-like biomass processing. Renew Sust Energ Rev. 2021. 137:110586. (1区TOP, IF: 16.79).
2. Meysam Madadi#, **Youmei Wang#**, Chengbao Xu, Peng Liu, Yanting Wang, Tao Xia, Yuanyuan Tu, Xinchun Lin, Bo Song, Xiaoe Yang, Wanbin Zhu, Deqiang Duanmu, Shang-wen Tang*, Liangcai Peng*. Using Amaranthus green proteins as universal biosurfactant and biosorbent for effective enzymatic degradation of diverse lignocellulose residues and efficient multiple trace metals remediation of farming lands. J Hazard Mater. 2021. 406:124727. (1区TOP, IF: 14.03).
3. **Youmei Wang#**, Dongqin Li#, Junbao Gao, Xukai Li, Rui Zhang, Xiaohuan Jin, Zhen Hu, Bo Zheng, Staffan Persson, Peng Chen*. The 2'-O-methyladenosine nucleoside modification gene OsTRM13 positively regulates salt stress tolerance in rice. J Exp Bot. 2017, 68(7):1479-1491. (1区TOP,IF: 7.01).
4. **Youmei Wang**, Chaoqun Pang, Xukai Li, Zhen Hu, Zhengyi Lv, Bo Zheng, Peng Chen*. Identification of tRNA nucleoside modification genes critical for stress response and development in rice and Arabidopsis. BMC Plant Biol. 2018, 18(1):37. (2区, IF: 5.26).

七、参与工作

1. Zhen Hu#, Qian Li#, Yuanyuan Chen, Tianqi Li, **Youmei Wang**, Ran Zhang, Hao Peng, Hailang Wang, Yanting Wang, Jingfeng Tang, Muhammad Nauman Aftab, Liangcai Peng*. Intermitten ultrasound retains cellulases unlock for enhanced cellulosic ethanol with high-porosity biochar for dye adsorption using desirable rice mutant straw. Bioresource Technol. 2023. 369: 128437. (1区TOP, IF: 11.889)
2. Ran Zhang#, Zhen Hu#, Hao Peng, Peng Liu, **Youmei Wang**, Jingyang Li, Jun Lu, Yanting Wang, Tao Xia, Liangcai Peng. High density cellulose nanofibril assembly leads to upgraded enzymatic and chemical catalysis of fermentable sugars, cellulose nanocrystals and cellulase production by precisely engineering cellulose synthase complexes. Green Chem. 2023, 25:1096. (1区TOP, IF: 11.03)
3. Meysam Madadi, **Youmei Wang**, Ran Zhang, Zhen Hu, Hairong Gao, Dan Zhan, Hua Yu, Qiaomei Yang, Yanting Wang, Yuanyuan Tu, Tao Xia, Liangcai Peng*. Integrating mild chemical pretreatments with endogenous protein supplement for complete biomass saccharification to maximize bioethanol production by enhancing cellulases adsorption in novel bioenergy Amaranthus. **Ind Crop Prod**. 2022. 177:114471. (1区TOP, IF: 5.645).
4. Zhen Hu, **Youmei Wang**, Jingyuan Liu, Yuqi Li, Yanting Wang, Jiangfeng Huang, Yuanhang Ai, Peng Chen, Yuqing He, Muhammad Nauman Aftab, Lingqiang Wang*, Liangcai Peng*. Integrated NIRS and QTL assays reveal minor mannose and galactose as contrast lignocellulose factors for biomass enzymatic saccharification in rice. Biotechnol Biofuels. 2021.14:144. (1区TOP, IF: 6.444).
5. Yuanhang Ai, Shengqiu Feng, **Youmei Wang**, Jun Lu, Mengdan Sun, Huizhen Hu, Zhen Hu, Ran Zhang, Peng Liu, Hao Peng, Yanting Wang, Limin Cao, Tao Xia, Liangcai Peng*. Intgrated genetic and chemical modification with rice straw for maximum bioethanol production. **Ind Crop Prod** .2021, 173:114133. (1区TOP, IF: 5.645).
6. Meysam Madadi#, Kanglu Zhao#, **Youmei Wang**, Yanting Wang, Shang-wen Tang, Tao Xia, Nengzhou Jin, Zhijun Xu, Guanhua Li, Zhi Qi, Liangcai Peng, Zhiyong Xiong*. Modified lignocellulose and rich starch for complete saccharification to maximize bioethanol in distinct polyploidy potato straw. Carbohyd Polym. 2021. 265:118070. (1区TOP, IF: 10.18).
7. Peng Liu, Ao Li, **Youmei Wang**, Qiuming Cai, Haizhong Yu, Yuqi Li, Hao Peng, Qian Li, Yanting Wang, Xiaoyang Wei, Ran Zhang, Yuanyuan Tu, Tao Xia，Liangcai Peng*. Distinct Miscanthus lignocellulose improves fungus secretingcellulases and xylanases for consistently enhanced biomass saccharification of diverse bioenergy crops. Renew Energ. 2021. 174:799-809. (1区TOP, IF: 8.27).
8. Guifen Zhang, Lingqiang Wang*, Xukai Li, Shuming Bai, Yali Xue, Zihui Li,Shang-wen Tang, Yanting Wang, **Youmei Wang**, Zhen Hu, Ping Li, Liangcai Peng*. Distinctively altered lignin biosynthesis by site-modification of OsCAD2 for enhanced biomass saccharification in rice. GCB Bioenergy. 2021. 13:305-319. (2区, IF: 6.15).
9. Ran Zhang, Huizhen Hu, **Youmei Wang**, Zhen Hu, Shuangfeng Ren, Jiaying Li, Boyang He, Yanting Wang, Tao Xia, Peng Chen, Guosheng Xie, Liangcai Peng*. A novel rice fragile culm 24 mutant encodes a UDP-glucose epimerase that affects cell wall properties and photosynthesis. J Exp Bot. 2020. 71(10):2956-2969. (1区TOP, IF: 7.01).
10. Aftab Alam, **Youmei Wang**, Fei Liu, Heng Kang, Shang-wen Tang, Yanting Wang, Qiuming Cai, Hailiang Wang, Hao Peng, Qian Li, Yajun Zeng, Yuanyuan Tu, Tao Xia, Liangcai Peng*. Modeling of optimal green liquor pretreatment for enhanced biomass saccharification and delignification by distinct alteration of wall polymer features and biomass porosity in Miscanthus. Renew Energ. 2020. 159:1128-1138. (1区TOP, IF: 8.27).
11. Qiaomei Yang, Wenyue Zhao, Jingyuan Liu, Boyang He, **Youmei Wang**, Tangbin Yang, Guifen Zhang, Mingxiong He, Jun Lu, Liangcai Peng, Yanting Wang*. Quantum dots are conventionally applicable for wide-profiling of wall polymer distribution and destruction in diverse cells of rice. Talanta. 2020. 208:120452. (1区TOP, IF: 5.33).
12. Dan Sun, Qiaomei Yang, Yanting Wang, Hairong Gao, Mingxiong He, Xinchun Lin, Jun Lu, **Youmei Wang**, Heng Kang, Aftab Alam, Yuanyuan Tu, Tao Xia, Liangcai Peng*. Distinct mechanisms of enzymatic saccharification and bioethanol conversion enhancement by three surfactants under steam explosion and mild chemical pretreatments in bioenergy Miscanthus. Ind Crop Prod. 2020. 153:112559. (1区TOP, IF: 8.58).
13. Leiming Wu#, Shengqiu Feng#, Jun Deng, Bin Yu, **Youmei Wang**, Boyang He, Hao Peng, Qian Li, Ruofei Hu*, Liangcai Peng*. Altered carbon assimilation and cellulose accessibility to maximize bioethanol yield under low-cost biomass processing in corn brittle stalk. Green Chem. 2019. 21:4388. (1区TOP, IF: 10.70).
14. Jiangfeng Huang, Tao Xia, Guanhua Li, Xianliang Li, Ying Li, Yanting Wang, **Youmei Wang**, Yuanyuan Chen, Guosheng Xie, Feng-Wu Bai, Liangcai Peng, Lingqiang Wang*. Overproduction of native endo-β-1,4-glucanases leads to largely enhanced biomass saccharification and bioethanol production by specific modification of cellulose features in transgenic rice. Biotechnol Biofuels. 2019. 12:11. (1区TOP, IF: 6.44).
15. Chunfen Fan, Guangya Wang, **Youmei Wang**, Ran Zhang, Yanting Wang, Shengqiu Feng, Keming Luo, Liangcai Peng*. Sucrose synthase enhances hull size and grain weight by regulating cell division and starch accumulation in transgenic rice. Int J Mol Sci. 2019. 20:4971. (2区, IF: 4.65).
16. Yuyang Li#, Jingdi Zhuo#, Peng Liu, Peng Chen, Huizhen Hu, **Youmei Wang**, Shiguang Zhou, Yuanyuan Tu, Liangcai Peng, Yanting Wang*. Distinct wall polymer deconstruction for high biomass digestibility under chemical pretreatment in Miscanthus and rice. Carbohyd Polym. 2018. 192:273-281. (1区TOP, IF: 10.18).
17. Zhen Hu, Guifen Zhang, Ali Muhammad, Rana Abdul Samad, **Youmei Wang**, Jonathan D. Walton, Yuqing He, Liangcai Peng, Lingqiang Wang*. (2018). Genetic loci simultaneously controlling lignin monomers and biomass digestibility of rice straw. Sci Rep. 2018. 8:3636. (3区, IF: 5.578).
18. Zhen Hu, Guifen Zhang, Yuanyuan Chen, **Youmei Wang**, Yuqing He, Liangcai Peng, Lingqiang Wang*.Determination of lignin monomer contents in rice straw using visible and near-infrared reflectance spectroscopy. Bioresources. 2018. 13(2):3284-3299. (4区，IF: 1.614).
19. Huizhen Hu, Ran Zhang, Shengqiu Feng, **Youmei Wang**, Yanting Wang, Chunfen Fan, Ying Li, Zengyu Liu, René Schneider, Tao Xia, Shiyou Ding, Staffan Persson, Liangcai Peng*. Three AtCesA6-like members enhance biomass production by promoting cell growth and secondary wall thickenings in Arabidopsis. Plant Biotechnol J. 2017.16:976-988. (1区TOP, IF: 9.803).
20. Yanting Wang#, Chunfen Fan#, Huizhen Hu, Ying Li, Dan Sun, **Youmei Wang,** Liangcai Peng*. Genetic modification of plant cell walls to enhance biomass yield and biofuel production in bioenergy crops. Biotechnol Adv. 2016. 34(5):997-1017. (1区TOP, IF: 14.277)

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