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# Curriculum Vitae

## Personal Data

**Name:** Wanneng Yang

**Gender:** Male

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**Institution:** National Key Laboratory of Crop Genetic Improvement and National Center of Plant Gene Research, Huazhong Agricultural University.

**Address:** No.1, Shizishan Rd., Wuhan 430070, P. R.China

**Date and Place of Birth:** October 1, 1984, Hubei, China



## Education

9, 2002 - 7, 2006 Bachelor degree, Biomedical Engineering, Huazhong University of Science and Technology, China.

9, 2006 - 6, 2011 Ph. D. degree, Biomedical Engineering, Huazhong University of Science and Technology, China.

## Position held

7, 2011- 12, 2013 Lecturer, Huazhong Agricultural University.

1, 2014- Associated professor, Huazhong Agricultural University.

## Current research interest

The major interest in recent years is rice phenomics and agricultural photonics. The research areas include high-throughput rice phenotyping techniques, optical imaging, and computers in agriculture.

## Current Research Programs

Project name: The digital acquisition and analytic techniques of rice phenotypic traits (National Program on High Technology Development)

ID: 2013AA102403

Duration: 01, 2013-12, 2017

My duties: Project major participant. System design of high-throughput rice phenotyping facility and image analysis of rice aboveground phenotypic traits.

Project name: Extraction of rice tiller related traits equipped with X-ray micro computed tomography (National Natural Science Foundation of China)

ID: 31200274

Duration: 01, 2013-12, 2015

My duties: Project leader. System design of high-throughput micro-CT, image reconstruction using FBP algorithm, image analysis for extraction of tiller traits

## Membership in Academic Societies

International Plant Phenotyping Network (IPPN)

Chinese Optical Society

Chinese Society of Agricultural Engineering

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## Methodological Competences

Digital image analysis based on LabVIEW and C program

Statistical analysis using SPSS (Statistical Product and Service Solutions)

Automatic control design using Omron PLC (Programmable logic controller)

Engineering drawing using UG (Siemens Product Lifecycle Management Software Inc.)

## Published papers (\*corresponding author)

### 2016:

1. Xiuying Liang, Ke Wang, Chenglong Huang, Xuehai Zhang, Jianbing Yan, **Wanneng Yang\***. A high-throughput maize kernel traits scorer based on line-scan imaging. *Measurement*, 2016, 90: 453-460.
2. Wei Fang, Hui Feng, **Wanneng Yang**, Lingfeng Duan, Guoxing Chen, Lizhong Xiong and Qian Liu\*. High-throughput volumetric reconstruction for 3D wheat plant architecture studies. *Journal of Innovative Optical Health Sciences*, 2016, 9(5): 1650037.

### 2015:

3. **Wanneng Yang**, Zilong Guo, Chenglong Huang, Ke Wang, Ni Jiang, Hui Feng, Guoxing Chen, Qian Liu and Lizhong Xiong\*. Genome-wide association study of rice (*Oryza sativa* L.) leaf traits with a high-throughput leaf scorer. *Journal of Experimental Botany*, 2015, 66: 5605-5615.
4. Ni Jiang, **Wanneng Yang**, Lingfeng Duan, Guoxing Chen, Wei Fang, Lizhong Xiong and Qian Liu\*. A nondestructive method for estimating the total green leaf area of individual rice plants using multi-angle color images. *Journal of Innovative Optical Health Sciences*, 2015, 8, 1550002.
5. Lingfeng Duan, Chenglong Huang, Guoxing Chen, Lizhong Xiong, Qian Liu, **Wanneng Yang\***. High-throughput estimation of yield for individual rice plant using multi-angle RGB imaging, CCTA 2014, IFIP AICT 452, pp. 1–12, 2015.
6. Lingfeng Duan, Chenglong Huang, Guoxing Chen, Lizhong Xiong, Qian Liu, **Wanneng Yang\***. Determination of rice panicle numbers during heading by multi-angle imaging. *The crop journal*, 2015, 3, 211-219.

### 2014:

7. **Wanneng Yang**, Zilong Guo, Chenglong Huang, Lingfeng Duan, Guoxing Chen, Ni Jiang, Wei Fang, Hui Feng, Weibo Xie, Xingming Lian, et al: Combining high-throughput phenotyping and genome-wide association studies to reveal natural genetic variation in rice. *Nature Communications* 2014, 5: 5087.
8. Hu Zhao, Wen Yao, Yidan Ouyang, **Wanneng Yang**, Gongwei Wang, Xingming Lian, Yongzhong Xing, Lingling Chen and Weibo Xie\*. RiceVarMap: a comprehensive database of rice genomic variations. *Nucleic Acids Research*, 2015, 43: D1018-D1022.

### 2013:

9. **Wanneng Yang**, Lingfeng Duan, Guoxing Chen, Lizhong Xiong\* and Qian Liu\*. Plant phenomics and high-throughput phenotyping: accelerating the cereal plant functional genomics with multidisciplinary technologies, *Current Opinion in Plant Biology*, 2013, 16, 180-187.

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10. Chenglong Huang, Qian Liu, **Wanneng yang\***. Development of whole-feeding and automatic rice thresher for single plant, *Mathematical and Computer Modelling*, 2013, 58, 684-690.
  11. Chenglong Huang, **Wanneng Yang**, Lingfeng Duan, Ni Jiang, Guoxing Chen, Lizhong Xiong, Qian Liu\*. Rice panicle length measuring system based on dual-camera imaging, *Computers and Electronics in Agriculture*, 2013, 98, 158–165.
  12. Hui Feng, Ni Jiang, Chenglong Huang, Wei Fang, **Wanneng Yang**, Guoxing Chen, Lizhong Xiong, and Qian Liu\*. Hyperspectral imaging system for an accurate prediction of the above-ground biomass of individual rice plants, *Review of Scientific Instruments*, 2013, 84, 095107.

**2012:**

13. **Wanneng Yang**, Chenglong Huang, and Qian Liu\*. Development of an automatic control system for pot-grown rice inspection based on programmable logic controller, In proceedings of the 5th international federation for information processing TC 5/special interest group 5.1 conference, 2012: 112-118.
14. Ni Jiang, **Wanneng Yang**, Lingfeng Duan, Xiaochun Xu, Chenglong Huang, Qian Liu\*. Acceleration of CT reconstruction for wheat tiller inspection based on adaptive minimum enclosing rectangle, *Computers and Electronics in Agriculture*, 2012, 85, 123–133.

**2011:**

15. **Wanneng Yang**, Xiaochun Xu, Lingfeng Duan, Qingming Luo, Shangbin Chen, Shaoqun Zeng, Qian Liu\*. High-throughput measurement of rice tillers using a conveyor equipped with X-ray computed tomography, *Review of Scientific Instruments*, 2011, 82(2).
16. **Wanneng Yang**, Xiaochun Xu, Kun Bi, Shaoqun Zeng, Qian Liu and Shangbin Chen\*. Adaptive region of interest method for analytical micro-CT reconstruction, *Journal of X-ray Science and Technology*, 2011, 19(1): 23-33.
17. Lingfeng Duan, **Wanneng Yang**, Chenglong Huang and Qian Liu\*. A novel machine-vision-based facility for the automatic evaluation of yield-related traits in rice, *Plant Methods*, 2011, 7: 44.
18. Lingfeng Duan, **Wanneng Yang**, Kun Bi, Shangbin Chen, Qingming Luo, Qian Liu\*. Fast discrimination and counting of filled/unfilled rice spikelets based on bi-modal imaging, *Computers and Electronics in Agriculture*, 2011, 75, 196–203.