

# YAZHOU CHEN

Gender: Male

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## Education Background and Research Experience

- **October 2020-present**  
Professor at Huazhong Agricultural University
- **May 2014- October 2020**  
Postdoctoral researcher at John Innes Centre, Norwich, UK
- **April 2012-May 2014**  
Postdoctoral researcher at Institute of Plant Physiology and Ecology, Shanghai Institute for Biological Sciences, CAS
- **September 2008-December 2012**  
PhD: Joint education of North East Forestry (China) and University of Florida (USA)
- **September 2005-July 2008:**  
Master: Department of life science, Northeast Forestry University, Harbin, China
- **September 2001-July 2005:**  
Bachelor: Department of life science, Northeast Forestry University, Harbin, China

## Publications

### First and co-first author papers

- [1] **Yazhou Chen\***, Archana Singh\*, Gemy G. Kaithakottill, Thomas C. Mathers, Matteo Gravino, Sam T. Mugford, Cock van Oosterhout, David Swarbreck and Saskia A. Hogenhout. 2020. An aphid RNA transcript migrates systemically within plants and is a virulence factor. **Proceedings of the National Academy of Sciences of the United States of America** 117 (23) 12763-12771. (\*Co-first author)
- [2] Thomas C. Mathers\*, **Yazhou Chen\*** (\*Co-first author), Gemy Kaithakottil, Fabrice Legeai, Sam T. Mugford, Patrice Baa-Puyoulet, Anthony Bretaudeau, Bernardo Clavijo, Stefano Colella, Olivier Collin, Tamas Dalmay, Thomas Derrien, Honglin Feng, Toni Gabaldón, Anna Jordan, Irene Julca, Graeme J. Kettles, Krissana Kowitwanich, Dominique Lavenier, Paolo Lenzi, Sara Lopez-Gomollon, Damian Loska, Daniel Mapleson, Florian Maumus, Simon Moxon, Daniel R. G. Price, Akiko Sugio, Manuella van Munster, Marilyne Uzest, Darren Waite, Georg Jander, Denis Tagu, Alex C. C. Wilson, Cock van Oosterhout, David Swarbreck and Saskia A. Hogenhout 2017. Rapid transcriptional plasticity of duplicated gene clusters enables a clonally reproducing aphid to colonise diverse plant species. **Genome Biology** 18: 27.  
The video abstract produced by Genome Biology is in YouTube:  
[https://www.youtube.com/watch?v=EKy\\_SuaFKMk](https://www.youtube.com/watch?v=EKy_SuaFKMk).
- [3] **Yazhou Chen**, Muwang Li, Iftakher Islam, Lang You, Yueqiang Wang, Zhiqian Li, Lin

- Ling, Baosheng Zeng, Jun Xu, Yongping Huang, Anjiang Tan. 2014. Allelic-specific expression in relation to *Bombyx mori* resistance to Bt toxin. **Insect Biochemistry and Molecular Biology** 54:53-60.
- [4] **Yazhou Chen**, Minghui Fei, Yang Wang, Sixue Chen, Xiufeng Yan. 2013. Proteomic investigation of systemic glucosinolate changes in Arabidopsis rosette leaves to exogenous methyl jasmonate. **Plant Biosystems** DOI:10.1080/ 11263504.2013.819044.
- [5] Jing Guo\*, **Yazhou Chen**\* (\*Co-first author), Lu Shi, Mengsha Li, Xiufeng Yan. 2013. Does MYC2 really play a negative role in jasmonic acid-induced indolic glucosinolate biosynthesis in *Arabidopsis thaliana*? **Russian Journal of Plant Physiology** 60: 100-107.
- [6] **Yazhou Chen**, Qiuying Pang, Yan He, Ning Zhu, Isabel Branstrom, Xiufeng Yan, Sixue Chen. 2012. Proteomics and metabolomics of Arabidopsis responses to perturbation of glucosinolate biosynthesis. **Molecular Plant** 5(5): 1138-1150.
- [7] **Yazhou Chen**, Xiufeng Yan, Sixue Chen. 2011. Bioinformatic analysis of molecular network related to glucosinolate biosynthesis. **Computational Biology and Chemistry** 35: 10-18.
- [8] **Yazhou Chen**\*, Qiuying Pang, Shaojun Dai, Yang Wang, Sixue Chen, Xiufeng Yan. Proteomic Identification of differentially expressed proteins in Arabidopsis in response to methyl jasmonate. **Journal of Plant Physiology** 2011, 168 (10): 995-1008. (\*Co-first author)
- [9] **Yazhou Chen**, Sixue Chen, Xiufeng Yan. Effect of environment on glucosinolate metabolism in plant. **Acta Ecologica Sinica**, 2008, 6: 2828-2834. (in Chinese with English Abstract and Headings)
- [10] **Yazhou Chen**, Xiufeng Yan. The role of glucosinolates in plant-biotic environment interactions. **Acta Ecologica Sinica**, 2007, 6: 2594-2593. (in Chinese with English Abstract and Headings)

#### Co-author papers

- [11] Thomas C Mathers, Sam T Mugford, Lawrence Percival-Alwyn, **Yazhou Chen**, Gemy Kaithakottil, David Swarbreck, Saskia A Hogenhout, Cock van Oosterhout. 2019. Sex-specific changes in the aphid DNA methylation landscape. **Molecular Ecology** 28 (18), 4228-4241.
- [12] Yuping Huang, **Yazhou Chen**, Baosheng Zeng, Yajun Wang, Anthony A James, Geoff M Gurr, Guang Yang, Xijian Lin, Yongping Huang, Minsheng You 2016. CRISPR/Cas9 mediated knockout of the abdominal-A homeotic gene in the global pest, diamondback moth (*Plutella xylostella*). **Insect Biochemistry and Molecular Biology** 75: 98-106.
- [13] Yueqiang Wang, Anjiang Tan, Jun Xu, Zhiqian Li, Baosheng Zeng, Lin Ling, Lang You, **Yazhou Chen**, Anthony A. James, Yongping Huang. 2014. Site-specific, TALENs-mediated transformation of *Bombyx mori*. **Insect Biochemistry and Molecular Biology** 55C:26-30.
- [14] Huizhuan Yan, Mi-Jeong Yoo, Jin Koh, Lihong Liu, **Yazhou Chen**, Dogukan Acikgoz, Qiaomei Wang, Sixue Chen. 2014. Molecular reprogramming of Arabidopsis in response to perturbation of jasmonate signaling. **Journal of Proteome Research** 13(12): 5751-5766.
- [15] Jun Xu, Y Q. Wang, Zhiqian Li, Lin Ling, Baosheng Zeng, Lang You, **Yazhou Chen**, AFM Aslam, Yongping Huang, Anting Tan. 2014. Functional characterization of the vitellogenin promoter in the silkworm, *Bombyx mori*. **Insect Molecular Biology** 2014 23(5): 550-557.
- [16] Zhiqian Li, Jianhao Jiang, **Yazhou Chen**, Lang You, Yongping Huang, Anjiang Tan, Baolong Niu, Zhiqi Meng. 2014. PDP1 regulates energy metabolism through the IIS-TOR pathway in the red flour beetle, *Tribolium castaneum*. **Archives of Insect Biochemistry and Physiology** 85 (3): 127-136.

- [17] Yueqiang Wang, Zhiqian Li, Jun Xu, Baosheng Zeng, Lin Ling, Lang You, **Yazhou Chen**, Yongping Huang, Anjiang Tan. 2013. The CRISPR/Cas System mediates efficient genome engineering in *Bombyx mori*. **Cell Research** 23(12): 1414-1416.
- [18] Qiuying Pang, Jing Guo, Sixue Chen, **Yazhou Chen**, Lei Zhang, Minghui Fei, Shaojing Jin, Mengsha Li, Yang wang, Xiufeng Yan. 2012. Effect of salt treatment on the glucosinolate-myrosinase system in *Thellungiella salsuginea*. **Plant and Soil** 355, (1-2): 363-374.
- [19] Qiuying Pang, Sixue Chen, Shaojun Dai, **Yazhou Chen**, Yang Wang, Xiufeng Yan. Comparative proteomics of salt tolerance in *Arabidopsis thaliana* and *Thellungiella halophila*. **Journal of Proteome Research** 2010, 9 (5):2584-99.
- [20] Xiufeng Yan, Yang Wang, **Yazhou Chen**, Limeng Li, Qiuying Pang. 2010. Advances in ecology of plant secondary metabolism. *Advances in Ecological Sciences* (Volume 5, edited by Changqun Duan), Higher Education Press: 91-124. (in Chinese with English Abstract and Headings, I contributed ideas and most part of writing, and edited the paper)
- [21] Yimeng Li, **Yazhou Chen**, Xiufeng Yan. The relationship of glucosinolate and IAA metabolism. **Plant Physiology Communications**, 2009, 42 (5): 195-201. (in Chinese with English Abstract and Headings) (I contributed ideas, information and edited the paper)
- [22] Wenjia Xu, **Yazhou Chen**, Xiufeng Yan. The role of glucosinolate-myrosinase system in plant defence, growth and development. **Plant Physiology Communications**, 2008, 44 (6): 1189-1196. (in Chinese with English Abstract and Headings, I contributed ideas and most part of writing, and edited the paper)
- [23] Fengyu Zhu, **Yazhou Chen**, Xiufeng Yan. Plant glucosinolate metabolism and sulfur nutrition. **Plant Physiology Communications**, 2007, 6: 1189-1194. (in Chinese with English Abstract and Headings, I contributed ideas, information and edited the paper)
- [24] Haixiu Zhong, **Yazhou Chen**, Xiufeng Yan. Glucosinolate metabolism and transport in Plant. **Biotechnology Bulletin**, 2007, 3: 44-48. (in Chinese with English Abstract and Headings, I contributed ideas, information and edited the paper)

### Conference Abstracts

- [1] **Yazhou Chen**, Saskia Hogenhout. New insights into how effectors target plant processes. TSL Autumn Symposium. 4<sup>th</sup> – 5<sup>th</sup> October 2018 Norwich, UK (Invited speaker).
- [2] **Yazhou Chen**, Thomas Mathers, Sam Mugford, Cock Van Oosterhout, David Swarbreck, Saskia Hogenhout. Aphid-specific expanded gene families are required for *Myzus persicae* colonisation of diverse plant species. The 23rd Biannual International Plant Resistance to Insects Symposium. 7<sup>th</sup> - 9<sup>th</sup> March 2018 Rothamsted Research, UK (Invited speaker).
- [3] **Yazhou Chen**. Power of plasticity: lessons from aphid adaptation. 25<sup>th</sup> Oct 2017 Pint of Science, Norwich, UK (Invited speaker to the public).
- [4] **Yazhou Chen**, Thomas Mathers, Sam Mugford, Cock Van Oosterhout, David Swarbreck, Saskia Hogenhout. Aphid-specific expanded gene families are required for *Myzus persicae* colonisation of diverse plant species. 2<sup>nd</sup> Meeting of the Royal Entomological Society Special Interest Group in Insect Genomics. May 16<sup>th</sup>, 2017. Rothamsted UK (Invited speaker).
- [5] **Yazhou Chen**, Thomas Mathers, Sam Mugford, Cock Van Oosterhout, David Swarbreck, Saskia Hogenhout. Aphid-specific expanded gene families are required for *Myzus persicae* colonisation of diverse plant species. XXV International Congress of Entomology. September 25-30, 2016. Orlando, USA (Invited speaker).
- [6] **Yazhou Chen**. Involvement of DNA methylation in *Myzus persicae* plasticity to hosts. Department seminar talk of John Innes Center Cell Developmental Biology. December 1<sup>st</sup>,

2015 Norwich, UK (Invited speaker).

- [7] **Yazhou Chen**, Thomas Mathers, Sam Mugford, Cock Van Oosterhout, David Swarbreck, Saskia Hogenhout. Specific gene families are involved in *Myzus persicae* response to diverse plant species. UK-France joint meeting on Aphids. November 5-6, 2015 Paris, France (Invited speaker).
- [8] **Yazhou Chen**, Yongping Huang, Qian Wang, Anjiang Tan. 2013. Allelic specific expression in relation to *Bombyx mori* resistance to Bt toxin Cry1Ab. International Chemical Ecology Conference, 2013, Melbourne, Australia (Invited speaker).
- [9] **Yazhou Chen**, Xiufeng Yan, Sixue Chen. Exploration the molecular network of glucosinolate biosynthesis by using bioinformatic tools. The 22<sup>nd</sup> International Conference on Arabidopsis Research. June 22-25, 2011, University of Wisconsin, USA (Poster).
- [10] **Yazhou Chen**, Xiufeng Yan, Sixue Chen. Glucosinolate metabolic network delineated by metabolomic and proteomic analysis. PMCB Annual Workshop. May 6<sup>th</sup> and 7<sup>th</sup>, 2011. University of Florida, USA (Oral Presentation).
- [11] **Yazhou Chen**, Xiufeng Yan, Sixue Chen. Bioinformatic analysis of molecular network related to glucosinolate biosynthesis. NSF Research Day. October 25<sup>th</sup>, 2010, University of Florida, USA (Poster).
- [12] **Yazhou Chen**, Shaojun Dai, Yang Wang, Sixue Chen, Xiufeng Yan. Proteome and glucosinolate changes in leaves of *Arabidopsis thaliana* in response to methyl-jasmonate. The 5<sup>th</sup> Asia Pacific Conference on Chemical Ecology (APACE). October 2009, Honolulu, Hawaii, USA (Poster).
- [13] **Yazhou Chen**, Shaojun Dai, Xiufeng Yan. Glucosinolates changes in leaves of *Arabidopsis thaliana* in response to methyljasmonate. The 7<sup>th</sup> National Symposium on Chemical Ecology. October 2008, Beijing, China (Oral Presentation).
- [14] Shaojun Dai, **Yazhou Chen**, Lixin Li, Sixue Chen, Xiufeng Yan. Proteome and glucosinolate changes in leaves of *Arabidopsis thaliana* in response to methyljasmonate. International Conference on Plant Secondary Metabolism. July 2008, Kunming, China.
- [15] **Yazhou Chen**, Shaojun Dai, Xiufeng Yan. Glucosinolates and plant allelopathy. The 6<sup>th</sup> National Symposium on Chemical Ecology. April 2007, Hangzhou, China.