

快速通道

学院新闻

通知公告

张东

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1. 基本信息

张东，1981年9月出生，安徽固镇人，博士，教授，博士生导师，国家现代苹果产业技术体系“苗木繁育与栽培方式”岗位科学家，执行专家组成员，“仲英青年学者”，国家苹果改良中心杨凌分中心试验基地首席科学家，国家苹果产业技术体系陇东矮砧示范中心常务副主任，全国苹果矮砧集约高效栽培协作组秘书长。

2004年毕业于安徽农业大学园艺系，获学士学位，2006年在浙江大学获硕士学位。2006-2009年，在淮北师范大学工作。2009-2012年在浙江大学攻读博士学位，期间曾获“浙江大学博士生引领计划一等资助”、“浙江省优秀毕业生”等奖励或称号，2012年6月，获得农学博士学位。2012年7月，到西北农林科技大学工作至今。2013年10月至2017年9月，在职进入西北农林科技大学园艺学博士后流动站工作。2018年7月至2019年7月，美国康涅狄格大学访问学者。

主持国家自然科学基金、国家苹果产业技术体系、国家重点研发计划子课题、中国博士后科学基金特别资助、陕西省留学人员择优资助、教育部博士点基金和陕西省重大专项子课题、陕西省重点研发项目、陕西省自然科学基金等科研项目10余项。先后在《Plant Biotechnology Journal》和《园艺学报》等杂志发表论文100余篇，担任《Horticulture》杂志客座编辑，为《Journal of Experimental Botany》、《Horticulture Research》等20余个国内外杂志审稿。参编专著1部，获授权国家发明专利10余项，获陕西省科学技术进步奖一等奖1项（3/11），华耐园艺科技奖一等奖1项（3/20），陕西省农业技术推广成果奖一等奖1项（9/30）和教育部高等学校科学研究优秀成果奖（科学技术）科技进步奖二等奖1项（10/20）。



2. 研究兴趣

研究方向为：苹果发育生物学与矮砧集约高效栽培技术。主要包括：苹果砧木不定根发生生理分子机理与调控，砧穗互作分子机制、砧穗组合评价筛选与应用，花芽分化生理分子机制与调控；苹果苗木繁育与矮化栽培技术；苹果砧木育种。

3. 教学工作和研究生指导

本科教学：承担本科生果树栽培学、试验设计与分析、果树冬季修剪、园艺学概论等课程。试验设计与分析课程获校在线教学优秀案例。果树栽培学课程档案获园艺学院教学文档评比三等奖，在校青年教师讲课比赛中获二等奖和三等奖各1次，院青年教师讲课比赛中获一等奖3次、二等奖1次。主持校级本科生教研项目2项（其中1项验收为优秀），研究生教改项目1项，作为第一作者发表教研论文3篇，指导大学生科技创新项目11项（国家级1项）。指导本科生获得院级优秀学位论文1人次。获优秀班主任，就业先进个人等奖励或称号。

研究生指导：指导在站博士后2名，在读研究生22名，其中博士生5名，硕士生17名；已培养硕士研究生21名。指导硕士生获得校级优秀学位论文1人次（马小龙），国家奖学金1人次（雷超）。2019~2021年连续三年获园艺学院优秀研究生指导教师。

4. 科研项目

- 1) 国家苹果产业技术体系苗木繁育与栽培方式岗位（CARS-27）2021-2025
- 2) 国家苹果产业技术体系苗木繁育与栽培方式岗位（CARS-27）2018-2020
- 3) 国家自然科学基金面上项目（31872937）2019-2022
- 4) 国家自然科学基金面上项目（31672101）2017-2020
- 5) 国家自然科学基金青年基金项目（31301753）2014-2016
- 6) 国家重点研发计划子课题（2018YFD1000101）2018-2022
- 7) 国家重点研发计划子课题（2019YFD1000803）2019-2022
- 8) 陕西省留学人员科技活动择优资助项目（2020-07）2021-2023
- 9) 中国博士后科学基金第七批特别资助（2014T70939）2014-2017
- 10) 中国博士后科学基金项目（一等资助）（2014M56806）2014-2017
- 11) 陕西省科技重大专项子课题（2020zdzx03-01-04）2020-2025
- 12) 唐仲英基金会项目子课题2020-2025
- 13) “仲英青年学者”项目2017-2020
- 14) 国家星火计划项目（2014GA850002）2014-2015
- 15) 教育部博士点基金（新教师类）（20130204120004）2014-2016
- 16) 陕西省重点研发计划（重点项目）（2017NY0055）2017-2019
- 17) 陕西省自然科学基金(青年人才项目)(2013JQ3005) 2013-2014
- 18) 杨凌示范区科技计划项目（2018NY-08）2018-2020

5. 发表主要论文(*为通讯作者):

(1) 第一或通讯作者（含并列作者）发表文章

- 1) Mao J., Ma D., Niu C., Ma X., Li K., Tahir M. M., Chen S., Liu X., Zhang D.*. 2021. Transcriptome analysis reveals the regulatory mechanism by which MdWOX11 suppresses adventitious shoot formation in apple. Horticulture Research. (re-submitted)

- 2) Chen X., Amandine Cornille, An N., Xing L., Ma J., Zhao C., Wang Y., Han M., Zhang D.*. The Siberian wild apple, *Malus baccata* (L.) Borkh., is an additional contributor to the genomes of cultivated European and Chinese apples doi: <https://doi.org/10.1101/2021.09.19.460969>. *Molecular Evolution*. (under review)
- 3) Citation: Ma, J.; Xie, L.; Zhao, Q.; Sun, Y.; Zhang, D. Cyclanilide Induces Lateral Bud Outgrowth by Modulating Cytokinin Biosynthesis and Signalling Pathways in Apple Identified via Transcriptome Analysis. *Int. J. Mol. Sci.* 2022, 23, 581. <https://doi.org/10.3390/ijms23020581>
- 4) Mao J., Niu C., Chen S., Xu Y., Khan A, Zuo Q., Wang C., Han M., Bao L., Zhang D.*. 2021. Effects of exogenous methyl-jasmonate on the morphology, hormone status, and gene expression of developing lateral roots in *Malus hupehensis*. *Scientia Horticulturae*, 289 (2021)110419. DOI: 10.1016/j.scienta.2021.110419.
- 5) Li K., Tian H., Mao J., Abid Khan, Tahir M. M. , Li S., Chen S., Shao Y., Zhang D.*. 2021. Effect of darkness treatment on the morphology, hormone status and gene expression of developing adventitious root in apple rootstock. *Plant Cell, Tissue and Organ Culture (PCTOC)*.2021:1-16.
- 6) Zhang X., Tahir M. M., Li S., Tang T., Mao J., Li K., Shao Y.,Yang W., Niu J.*, Zhang D.*. 2021. Effect of exogenous abscisic acid (ABA) on the morphology, phytohormones, and related gene expression of developing lateral roots in Qingzhen 1'apple plants. *Plant Cell, Tissue and Organ Culture (PCTOC)*. 2021:1-12.
- 7) Tahir M. M, Lu Z.,Wang C., Shah K., Li S., Zhang X., Mao J., Liu Y., Shalmani A., Li K., Bao L., Zhang D.*. 2021. Nitrate Application Induces Adventitious Root Growth by Regulating Gene Expression Patterns in Apple Rootstocks. *Journal of Plant Growth Regulation*. DOI:10.1007/s00344-021-10527-8.
- 8) Tahir M. M, Zhang X., Shah Kamran, Hayat Faisal, Li S., Mao J., Li K., Liu Y., Shao Y.*, Zhang D.*. 2021. Nitrate application affects root morphology by altering hormonal status and gene expression patterns in B9 apple rootstock nursery plants. *Fruit Research* 2021, 1: 14.
- 9) Zhang X., Tahir M. M., Li S., Mao J., Nawaz Muhammad Azher, Liu Y., Li K., Xing L., Niu J., Zhang D.*. 2021. Transcriptome analysis reveals the inhibitory nature of high nitrate during adventitious roots formation in the apple rootstock. *PhysiologiaPlantarum*. 2021,173(3): 867-882. DOI: 10.1111/ppl.13480.
- 10) Zuo X., Xiang W., Zhang L., Gao C., An N., Xing L., Ma J., Zhao C., Zhang D.*. 2021. Identification of apple TFL1-interacting proteins uncovers an expanded flowering network. *Plant Cell Reports*.2021,40(12):2325-2340. DOI: 10.1007/s00299-021-02770-w
- 11) Tahir M. M., Li S., Mao, J., Liu Y., Li K., Zhang X., Lu X., Ma X., Zhao C., Zhang D.*. 2021. High nitrate inhibited adventitious roots formation in apple rootstock by altering hormonal contents and miRNAs expression profiles. *Scientia Horticulturae*, 286 (2021) 110230. DOI: 10.1016/j.scienta.2021.110230.
- 12) Li K., We Y., Wang R., Mao J., Tian H., Chen S., Li S., Tahir M. M., Zhang D.*. 2021. Mdm-MIR393b-mediated adventitious root formation by targeted regulation of MdTIR1A expression and weakened sensitivity to auxin in apple rootstock. *Plant Science* : 308,110909.DOI: <https://doi.org/10.1016/j.plantsci.2021.110909>
- 13) Yang W., Ma X., Ma D.,Shi J., Hussain S., Han M., Costes, E , Zhang D.*. 2021. Modeling canopy photosynthesis and light interception partitioning among shoots in bi-axis and single-axis apple trees (*Malus domestica* Borkh.). 2021,*Trees*:1-17. DOI: 10.1007/s00468-021-02085-z.

- 14) Zuo X., Wang S., Xiang W., Yang H., Tahir M. M., Zheng S., An N., Han M., Zhao C. and Zhang D.*. 2021. Genome-wide identification of the 14-3-3 gene family and its participation in response to floral transition by interacting with TFL1/FT in Apple. *BMC Genomics*. 2021;22(1), DOI: 10.1186/s12864-020-07330-2.
- 15) Mao J., Niu C., Li K., Chen S., Tahir M. M., Han M., Zhang D.*. 2020. Melatonin promotes adventitious root formation in apple by promoting the function of MdWOX11. *BMC Plant Biology*, 20(1). DOI: 10.1186/s12870-020-02747-z.
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- 17) Mao J., Niu C., Li K., Tahir M. M., Khan A., Wang H., Li S., Liang Y., Li G., Yang Z., Zuo L., Han M., Ren X., An N., Zhang D.*. 2020. Exogenous 6-benzyladenine application affects root morphology by altering hormone status and gene expression of developing lateral roots in *Malus hupehensis*. *Plant Biology*. 2020, 22: 1150-1159. DOI: 10.1111/plb.13154
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- 27) Song C., Zhang D. (Co-first author), Zheng L., Han M.*. 2017. miRNA and Degradome Sequencing Reveal miRNA and Their Target Genes That May Mediate Shoot Growth in Spur Type Mutant "Yanfu 6." *Frontiers in Plant Science*. 8:441. DOI:10.3389/fpls.2017.00441.
- 28) Mao J., Zhang D. (Co-first author), Li K., Liu Z., Liu X., Song C., Li G., Zhao C., Ma J., Han M.*. 2017. Effect of exogenous Brassinolide (BR) application on the morphology, hormone status, and gene expression of developing lateral roots in *Malus hupehensis*. *Plant Growth Regul.* 82(4) :1-11 DOI 10.1007/ s10725-017-0264-5
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- 34) Fan S., Zhang D. (Co-first author), Zhao C., Ma J., Han M.*. 2016. Correlative Proteome by iTRAQ Analysis Reveals Critical Mechanisms in Alternate Bearing *Malus prunifolia*; *Journal of Proteome Research*, 2016, 15(10).
- 35) Zhang S., Zhang D. (Co-first author), Fan S., Du L., Shen Y., Xing L., Li Y., Ma J., Han M.*. 2016. Effect of exogenous GA3 and its inhibitor paclobutrazol on floral formation, endogenous hormones, and flowering-associated genes in 'Fuji' apple (*Malus domestica* Borkh.); *Plant Physiology and Biochemistry*; 2016 107:178-186
- 36) Song C., Zhang D. (Co-first author), Zhang J., Zheng L., Zhao C., Ma J., An N., Han M.*. 2016. Expression analysis of key auxin synthesis, transport, and metabolism genes in different young dwarfing apple trees. *Acta Physiologiae Plantarum*, 2016, 38(2):1-15.DOI:10.1007/s11738-016-2065-2
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- 39) Xing L., Zhang D.(Co-first author), Li Y., Zhao C., Zhang S., Shen Y., An N., Han M.*. 2015. Transcription profiles reveal sugar and hormone signaling pathways mediating flower induction in apple (*Malus domestica* Borkh.). *Plant Cell Physiology*.

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- 40) Xing L, Zhang D.(Co-first author), Li Y., Zhao C., Zhang S., Shen Y., An N., Han M.*. 2014. Genome-wide identification of vegetative phase transition-associated microRNAs and target predictions using degradome sequencing in *Malus hupehensis*. *BMC Genomics*, 15:1125 DOI:10.1186/1471-2164-15-1125
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