CURRICULUM VITAE

Changbin Chen, Ph.D.
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APPOINTMENT

60% Teaching, 40% Research

RESEARCH

My research focuses on understanding plant meiosis using genomic and cytogenetic tools and applying novel findings in plant breeding practices. Our goals are to address the regulatory mechanisms of meiotic gene expression, homologous DNA recombination, and the transitions between gametophytic and sporophytic development in plant life cycle. Recent progresses of our research include: 1) profiling gene expression during meiosis and its correlation to the distribution of homologous recombination events; 2) elucidating the regulatory mechanisms of gene expression during plant meiosis entry, process, and exit; 3) unveiling the role of a plant-specific protein FEHLSTART during meiosis entry and synchronization; and 4) altering plant growth and development through chromosome rearrangement to breed novel tomato varieties.

EDUCATION

1999-2006	Post-doc, Plant Biology, Pennsylvania State University (1999-2000, 2003-2006) & University of Pennsylvania (2000-2002).
1999	Ph.D., Plant Biology/Plant Molecular Genetics; Chinese Academy of Sciences Shanghai Institute of Plant Physiology & Ecology joint East China Normal University (ECNU), China.
1992	M.Sc. Plant Biology/Plant Systematics, East China Normal University, China.
1989	B.S. Biology, Hubei University, China.

PROFESSIONAL POSITIONS

2012-	Assistant Professor, Horticultural Science, University of Minnesota.
2010-2012	Research Assistant Professor, Horticultural Science, University of Minnesota.
2006-2010	Research Associate (working title: Research Assistant Professor), Horticultural Science, University of Minnesota.
1998-1999	Associate Professor, Department of Biology, ECNU, Shanghai, China.
1994-1998	Lecturer, Department of Biology, ECNU, Shanghai, China.

1992-1994 Assistant Lecturer, Department of Biology, ECNU, Shanghai, China.

HONORS AND AWARDS

- Outstanding faculty mentor for summer undergraduate research STEM program, North Dakota State University, Equity Diversity Global Outreach, 2011.

TEACHING

Current Courses

- HORT 5058 - Plant Cytogenetics, Lectures (Spring, annually)
- HORT 5059 - Plant Cytogenetics, Lab (Spring, annually)
- HORT 5011 - Medicinal plants: Identification, Classification, and Application (Fall, odd-numbered years)
- HORT 5012 - Medicinal plants: Growing and Processing (Fall, even-numbered years)

Other Courses (since 2006)

- HORT 4015 - Chinese Herbs and Human Health

GRADUATE STUDENT ADVISING

- *Current advisees*: 1 PBS PhD
- *Co-advisees: 2 APS* MS
- *Committee member: 6* (*4* PhD, 2 MS)
- *Completed M.Sc. since 2012*: N/A
- *Completed Ph.D. since 2012*: N/A

EXTENSION AND OUTREACH

Number of presentations since 2012: 30

Number of publications (non-referred) since 2012: 1

Non-credit teaching activity (guest lectures)
HORT 5007 Advanced Plant Propagation
HORT 4401 Plant Genetics and Breeding

PUBLIC SERVICES

Associate Editor: BMC genomics, Frontiers in Plant Science.

PUBLICATIONS

Refereed Journal Articles (since 2012): 13

Select Publications (limit 10)

Dukowic-Schulze S, Sundararajan A, Ramaraj T, Kianian S, Pawlowski WP, Mudge J, **Chen C** (2016). Novel meiotic miRNAs and indications for role of phasiRNAs in meiosis. *Front. Plant Sci.* Doi: 10.3389/fpls.2016.00762.

Liberatore LK, Dukowic-Schulze S, Miller M, **Chen C**, Kianian SF (2016). The role of mitochondria in plant development and stress tolerance. *Free Radical Biology and Medicine*. Doi: 10.1016/j.freeradibiomed.2016.03.033.

Dabney C, Ostergaard J, Watkins E, and **Chen C** (2016). A novel method to characterize silica bodies in grasses. *Plant Methods* 12:3. Doi: 10.1186/s13007-016-0108-8.

Dukowic-Schulze S, Harris A, **Chen C** (2016). Immunolocalization on whole anther chromosome spreads for male meiosis.*Methods Mol Biol*. Doi: 10.1007/978-1-4939-3622-9_13

Li J, Dukowic-Schulze S, Lindquist IE, Farmer AD, Kelly B, Li T, Smith AG, Retzel EF, Mudge J, **Chen C** (2015). The plant-specific protein FEHLSTART controls male meiotic entry, initializing meiotic synchronization in Arabidopsis. *Plant J*. Doi: 10.1111/tpj.13026.

Xiao Y, Sun Q, Kang X, **Chen C,** Nin M (2015). SHORT HYPOCOTYL UNDER BLUE1 or HAIKU2 mixexpression alters canola and Arabidopsis seed development. *New Phytologist*. DOI: 10.1111/nph.13632.

Dukowic-Schulze S, **Chen C** (2014). The meiotic transcriptome architecture of plants. *Front. Plant. Sci.,* 5: 220.Doi:10.3389/fpls.2014.00220.

Dukowic-Schulze S, Sundararajan A, Mudge J, Ramaraj T, Farmer AD, Wang M, Sun Q, Pillardy J, Kianian S, Retzel EF, Pawlowski WP, **Chen C** (2014). The transcriptome landscape of early maize meiosis. *BMC Plant Biol*. 14:118. Doi:10.1186/1471-2229-14-118.

Dukowic-Schulze S, Sundararajan A, Ramaraj T, Mudge J, **Chen C** (2014). Sequencing-based largescale genomics approaches with small numbers of isolated maize meiocytes. *Front. Plant. Sci.*, 5:57. Doi: 10.3389/fpls.2014.00057.

Dukowic-Schulze S, Harris A, Li J, Sundararajan A, Mudge J, Retzel EF, Pawlowski WP, **Chen C** (2013). Comparative transcriptomics of early meiosis in Arabidopsis and maize. *J Genet. Gen.* 41 (3): 139-152. Doi: 10.1016/j.jgg.2013.11.007.

GRANTS

- New sponsored funding since 2012: $4,823,956 (my share = $2,370,413)
- New non sponsored funding (since 2012): $64,890

New Funding since 2012:

Years	Funding source	Project title	PI	CoPI(s)	Amount	My share
2016-2020	NSF-IOS	RESEARCH-PGR: Understanding recombination in maize	Pawlowski, W. (Cornell University)	Chen,C., Kianian, P., Pillardy, J., Kianian, S.	$4,449,199	$2,120,296
2016-2018	MDA Specialty Crop Block Grant	Breeding short season tomato varieties for Minnesota growers	Chen, C.		$50,000	$50,000
2016-2018	MDA Specialty Crop Block Grant	Assessment of production and harvest potential of urban grown Ginkgo biloba seeds	Chen, C.	Johnson, G., Giblin, C.	$25,000	$25,000
2016	Grant in Aid	The regulatory mechanisms of homologous recombination in maize	Chen, C.		$29,938	$29,938
2014-2017	NSF-IOS-EAGER	Developing stress tolerant plants through cytoplasmic modification	Kianian, S.	Chen, C.	$299,757	$175,117
2013	Grant in Aid	Investigating biogenesis and dynamics of the G-body using correlative microscopy	Chen, C.		$34,952	$34,952