

Nicholas Patrick Gladman

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EDUCATION

- 2008-August 2015 University of Wisconsin-Madison, Madison, WI. Graduate Student, Laboratory of Genetics (Ph.D. Genetics).
- 2004-2008 Wittenberg University, Springfield, OH. (BA: Biochemistry and Molecular Biology, Minor in Biology).

RESEARCH WORK EXPERIENCE

- Oct 2017-Present Postdoctoral Fellow, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY 11724
- Independent research. Project focus: Molecularly characterizing *msd* (*multiseed*) and other phenotypic traits from an EMS-mutagenized population of *Sorghum bicolor* in the lab of Dr. Doreen Ware.
 - Sorghum flower fertility development and hormonal control of culm development and cell fate.
 - Method development for single-cell resolution fluorescent RNA sequencing in collaboration with the lab of Jay Lee Hyuk.
- Oct 2015-Oct 2017 Postdoctoral (GS-11) Research Molecular Biologist, Cropping Systems Research Laboratory, USDA-ARS, Lubbock, TX 79414.
- Independent research. Project focus: Molecularly characterizing the *msd* (*multiseed*) and other phenotypic traits from an EMS-mutagenized population of *Sorghum bicolor* in the lab of Dr. Zhanguo Xin.
- Aug 2008-Aug 2015 Graduate Research Assistant, Laboratory of Genetics, University of Wisconsin-Madison, Madison, WI 53706.
- Independent research. Graduate thesis: Characterizing the transcriptional regulation of the *A. thaliana* 26S proteasome during stress in the lab of Dr. Richard Vierstra.
- Jun 2006-Aug 2008 Undergraduate Research Assistant, Comprehensive Cancer Center, The Ohio State University, Columbus, OH 43210.
- Undergraduate research in the lab of Dr. Amanda Toland. Project focus: identifying low penetrance cancer-causing alleles in *M. musculus*.

SKILLS RELEVANT TO PROJECT DUTIES

DNA/RNA extraction, DNA/protein gel work, DNA and RNA sequencing, Sanger sequencing, qRT-PCR, molecular cloning, protein expression and isolation, *Arabidopsis thaliana* and *Sorghum bicolor* crossing and genetic/phenotypic screening, KASP and CAPS molecular marker genotyping, *Agrobacterium*-mediated transformation, tobacco leaf infiltration and transient expression, protoplast isolation and transformation, confocal fluorescent microscopy, bimolecular fluorescence complementation, and yeast 1 and 2-hybrid analysis.

Bioinformatics skills

Github project management, Python and R statistical language familiarity, Linux command line, RNAseq analysis (edgeR—Illumina reads), variant identification and calling, Cytoscape (network analysis), MEME, GO enrichment analysis, and phylogenetic modeling.

ADDITIONAL PROFESSIONAL EXPERIENCE

2018-Present	Postdoc Liaison Committee. Cold Spring Harbor Laboratory
2010-2014	<i>Arabidopsis thaliana</i> Group Meeting Organizer. University of Wisconsin-Madison.
2010-2011	Genetics Admissions Committee Member. University of Wisconsin-Madison.
Jan-May 2010	Teacher Assistant. University of Wisconsin-Madison.
2009-2010	Genetics Retreat Committee Member. University of Wisconsin-Madison.
Sep 2005-May 2008	Biology Lab Assistant, Wittenberg University, Springfield, OH, 45504.

PROFESSIONAL MEMBERSHIPS

Beta Beta Beta National Biology Honorary	Phi Eta Sigma National Honorary
Phi Beta Kappa National Honorary	

GRANTS AND AWARDS

Travel Grant for Invited Speaker. (2016) Plant Molecular Biology Gordon Research Conference. Holderness, NY.

Travel Grant (*competitively-awarded*). (2013) Post-transcriptional Gene Regulation in Plants. American Society of Plant Biologist satellite meeting.

Travel Grant (*competitively-awarded*). (2013) Stone Travel Grant. University of Wisconsin-Madison.

PUBLICATIONS AND PRESENTATIONS

Publications

Yinping Jiao, Young Kyoung Lee, **Nicholas Gladman**, Ratan Chopra, Shawn A. Christensen, Michael Regulski, Gloria Burow, Chad Hayes, John Burke, Doreen Ware, and Zhanguo Xin. (2018). MSD1 regulates pedicellate spikelet fertility in sorghum through the jasmonic acid pathway. *Nat. Comm.* 9:822.

Yinping Jiao, Gloria Burow, **Nicholas Gladman**, Veronica Acosta-Martinez, Junping Chen, John Burke, Doreen Ware, and Zhanguo Xin. (2018) Efficient Identification of Causal Mutations through Sequencing of Bulk F₂ from Two Allelic Bloomless Mutants of Sorghum Bicolor. *Front. Plant Sci.* 8:2267

Ratan Chopra, Gloria Burrow, John J. Burke, **Nicholas Gladman**, and Zhanguo Xin. (2017) Genome-wide association analysis of seedling traits in diverse Sorghum germplasm under thermal stress. *BMC Plant Biol.* 17:12.

Nicholas P. Gladman, Richard S. Marshall, Kwang-Hee Lee, Richard D. Vierstra. (2016) The Proteasome Stress Regulon Is Controlled by a Pair of NAC Transcription Factors in *Arabidopsis*. *The Plant Cell.* 28: 1279-1296.

Adam J. Book, **Nicholas P. Gladman**, Sang-Sook Lee, Mark Scalf, Lloyd M. Smith, and Richard D. Vierstra. (2010) Affinity Purification of the *Arabidopsis* 26S proteasome reveals a diverse array of plant proteolytic complexes. *J. Biol. Chem.* 285.33: 25554-25569.

Kimberly L. Mahler, Amy M. Dworkin, **Nicholas P. Gladman**, Hee-Yeon Cho, Jian-Hua Mao, Allan Balmain, Amanda E. Toland. (2008) Sequence divergence of *Mus spretus* and *Mus musculus* across a skin cancer susceptibility locus. *BMC Genomics*, 9:626-637.

Presentations

Gordon Research Conference for Plant Molecular Biology (*invited talk*). (2016) The Proteasome Stress Regulon is Controlled by a Pair of NAC Transcription Factors in *Arabidopsis*. Holderness, NH.

American Society of Plant Biology, Gene Regulation Mini-symposium (*invited talk*). (2013) Defining the *Arabidopsis* proteasome-stress regulon. Providence, RI.

Arabidopsis thaliana Group. (2013) Campus-wide plant researchers group weekly colloquium. Madison, WI.

Genetics Colloquium. (2010-2011) Yearly talk for graduate students supported by the NIH Genetics Training Grant. Madison, WI.

Meeting Abstracts

Yingping Jiao, Young Kyoung Lee, **Nicholas Gladman**, Ratan Chopra, Gloria Burrow, John Burke, Zhanguo Xin, Doreen Ware. (2017) Mutations in the TCP Transcription Factor *MSD1* Modify Flower and Panicle Development in Sorghum. International Plant and Animal Genome (PAG) XXV. San Diego, CA.

Nicholas P. Gladman, Richard S. Marshall, Kwang-Hee Lee, Richard D. Vierstra. (2016) The Proteasome Stress Regulon Is Controlled by a Pair of NAC Transcription Factors in *Arabidopsis*. Gordon Research Conference for Plant Molecular Biology. Holderness, NH.

Richard D. Vierstra, Richard S. Marshall, David C. Gemperline, **Nicholas P. Gladman**, Kwang-Hee-Lee, Adam J. Book, Mark Scalf, and Lloyd M. Smith. (2014) Defining the Assembly, Organization, and Turnover of the *Arabidopsis* 26S Proteasome. DOE Basic Energy Science Program Meeting, Washington, DC.

Nicholas P. Gladman, Kwang-Hee Lee, Richard D. Vierstra. (2013) Defining the *Arabidopsis* Proteasome-Stress Regulon. American Society of Plant Biologists, Providence, RI.

Alexander Silvis and **Nicholas P. Gladman**. (2007) Preliminary Sequencing and Analysis of a Genomic DNA Amplification Product from a Population of Wall Lizards (*Podarcis muralis*) Near Cincinnati, Ohio. Ohio Academy of Science, Cleveland, OH.

Kimberly L. Mahler, Amy M. Dworkin, **Nicholas P. Gladman**, Jian-Hua Mao, Allan Balmain, Amanda E. Toland. (2007) Integrated approaches to identify Aurora-A interacting susceptibility genes. AACR Molecular Epidemiology Working Group-Approaches to Complex Pathways in Molecular Epidemiology. Albuquerque, NM.

Amanda E. Toland, Kimberly L. Cooper, Amy M. Dworkin, **Nicholas P. Gladman**, Hee-Yeon Cho, Jian-Hua Mao, Allan Balmain. (2006) Sequence divergence between *Mus spretus* and *Mus musculus* across a 13Mb region on chromosome 12. American Society of Human Genetics. Abstract #1074. New Orleans, LA.