Dr. Tilahun Abebe
Professor

Curriculum vitae

Department of Biology
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Education:

1) ***PhD in Cellular & Molecular Plant Science*** – May 2001, Oklahoma State University, Stillwater, Oklahoma. Dissertation title: Enhancing the resistance of wheat to water deficit stress through genetic engineering.
2) ***MPhil in Plant Physiology*** – October 1990, University College of North Wales, Bangor, UK. Thesis title: The effect of high root temperature and mild water stress on the partitioning of carbon in barley.
3) ***BS in Biology*** *(honors)* – November 1985, Asmara University, Asmara, Eritrea (a former province of Ethiopia).

Employment history:

1) ***Professor***. University of Northern Iowa, Cedar Falls, IA, August 2004 – present.
   ***Duties and accomplishments*:**

   a. ***Current research***
      - Changes in the transcriptome (using next-generation sequencing and microarrays), proteome, and metabolome of barley in response to drought stress.
      - Enhancing resistance of barley to scab disease (caused by the fungus *Fusarium graminearum)* using an antifungal *gastrodianin* gene.

   b. ***Teaching*** - teach/taught the following undergraduate and graduate courses: Genetic Technologies in Medicine (BIOL 4159/5159, new course), Genomics (BIOL 4129/5129), Genetics (3140), Plant Biotechnology (BIOL 4121/5121, Advanced Cellular & Molecular Biology (BIOL 6240), Advanced Analytical Techniques (840:280), Cell Structure & Function lab (BIOL 2052), and Life: Continuity & Change lab (BIOL 1015).

   c. ***Graduate student advising***
      - Mohammed Al Slamh – *Analysis of the barley proteome during drought using shotgun proteomics. Mohammed joined the graduate program in the spring 2019.*
      - Jordan Hein – *Metabolic responses of barley to drought stress.*
      - Casey Durnan – *A proteomic analysis of drought tolerance in barley at the reproductive stage. Casey has not defended his thesis yet.*
      - Joshua Mauldin – *Functional analysis of drought tolerance genes in barley using virus-induced gene silencing. Did not complete his MS. Joined a graduate program at Iowa State University.*
      - Aaron Walck – *Response of the barley proteome to drought stress.*

- Eng-Hwa Ng – *Engineering barley with anti-fungal gene gastrodianin for resistance to Fusarium head blight (scab).*

d. ***Curriculum development:***
- Designed upper level Genetic Technologies in Medicine (BIOL 4159/5159), Genomics (4129/5129), and Plant Biotechnology (BIOL BIOL 4121/5121) courses.
- Developed accompanying lab manuals for Genetic Technologies in Medicine (BIOL 4159/5159), Genomics (4129/5129), and Plant Biotechnology (BIOL BIOL 4121/5121)

e. ***Committees and other services***
- Member of the 2023 Iowa Academy of Science (IAS) Annual Meeting Committee.
- Member of the search committee for the Director of Inaugural Director of the UNI Data Science Hub that was advertised on February 10, 2023.
- Coordinator of the Professional Science Master's (PSM) Program in Biotechnology (2013-2014).
- Member of the Professional Science Master's (PSM) program in Biotechnology committee.
- Member of the Graduate College Curriculum Committee (GCCC), 2015 – 2018.
- Member of the Professional Development Assignment (PDA) Committee, 2014 – 2017.
- Alternate member of faculty senate, fall 2013.
- Standing Committee, Office of Research and Sponsored Programs, fall 2016.
- Served as chairman/member of Greenhouse Committee.
- Served as member of the Biology Preserves Committee.
- Member of the Biology Graduate Committee.
- Served as member of the Biology Safety Committee.
- Chairman/member of many graduate student thesis committees.
- Served as a member of the Grow Iowa Values Fund applied research grant review committee of the University of Northern Iowa.
- Served in graduation convocations.
- Served in summer freshman student orientations.
- Served in various search committees to hire faculty in the Department of Biology.

1) ***Postdoctoral Research Fellow.*** University of Wisconsin, Madison, WI, January 2001 – July 2004.

Duties and accomplishments:

- Worked for Dr. Ronald W. Skadsen, USDA-ARS Cereal Crops Research Unit, Madison, WI and Professor Heidi Kaeppler, Department of Agronomy, University of Wisconsin, Madison.
- Constructed tissue-specific (lemma/palea) subtracted cDNA libraries from barley spikes.
- Determined identity and tissue-specific expression of cDNA clones by sequencing, nucleic acid and protein database searches, filter array, and northern hybridization (Crop Sci 44: 942-950, 2004).
- Cloned the full-length cDNA of a spike-specific lectin-like *Lem2* multigene family.
- Cloned two promoters of the *Lem2* gene (*Lem2*a and *Lem2*b) and verified tissue- and

organ-specific expression using transient assays and transgenic barley plants expressing *Lem2::gfp* (Planta. 2005. 221:170-183 and Plant Biotechnology Journal. 2006. 4:35–44).
- Evaluated tissue-specific activity of another spike-specific promoter of barley (*Lem1*) using *Lem1::gfp* constructs (Plant Molecular Biology. 2002. 49:545-555).

2) ***Graduate Research Assistant and Fellow of the Fulbright Foundation***. Studied under Dr. Arron C. Guenzi and Dr. Bjorn Martin, Department of Plant and Soil Sciences, Oklahoma State University, Stillwater, August 1995 – December 2000.

Duties and accomplishments:
- Made expression vectors containing the maize ubiquitin promoter and a mannitol dehydrogenase gene (*mtlD*) of *E. coli* for biosynthesis of mannitol during water deficit and salt stress in wheat.
- Characterized transgenic wheat plants for resistance to water deficit and salt stress (Plant Physiology. 2003. 131:1748-1755)**.**
- Assisted in teaching genetics for undergraduate agronomy students.
- Set up demonstrations for high school students visiting the Plant Transformation Facility at Oklahoma State University, Stillwater, OK.

3) ***International work experience***

a. ***Senior Lecturer***. Mekelle University College, Ethiopia, January 1, 1994 -July 30, 1995.
   - Established a research program to develop drought resistant sorghum for northern Ethiopia.
   - Taught plant ecophysiology, genetics, and botany for undergraduate crop science students.

b. ***Lecturer***. Alemaya University, Ethiopia, September 1991-December 1993.
   - Worked on a research program to develop drought resistant corn and sorghum varieties for drought-prone areas of eastern Ethiopia.
   - Taught plant physiology, genetics, and ecology for plant science majors.

c. ***Assistant Lecturer***. Asmara University, Ethiopia, September 1985 - August 1988.
   - Conducted laboratory classes in plant physiology, genetics, botany, and microbiology for biology majors.

Awards and honors:

a. Gerald O. Mott Meritorious Graduate Student Award. In recognition of outstanding achievement and contribution while working toward a graduate degree in crop science (2002), the Crop Science Society of America.
b. Williams Outstanding Thesis Award (2001), Division of Agricultural Sciences and Natural Resources, Oklahoma State University, Stillwater, OK.
c. Fellow of the Fulbright Foundation (1995–2000).
d. Dale Weibel Memorial Scholarship (1997), Agronomy Department, Oklahoma State University, Stillwater, OK.
e. Certificate of Membership in recognition of high scholarship (1997), The Honor Society of Agriculture, Gamma Sigma Delta, Oklahoma State University, Stillwater, OK
f. Dale Weibel Memorial Scholarship (1996), Agronomy Department, Oklahoma State University, Stillwater, OK.

Grant activity:

- **Abebe T**. 2022. Improving the response of cereal crops to environmental stress. Submitted to the UNI Graduate College for Professional Development Assignment (PDA). The proposal was accepted and I have been granted an Assignment for the Spring Semester 2024.
- **Abebe T**. 2022. Evaluation of the cereal crop tef (*Eragrostis tef*) for adaptation to Iowa conditions. Submitted to the UNI Graduate College for June - July, 2023 Summer Fellowship. The fellowship was approved for a salary stipend of $3,800.
- Poleksic A, Lukashev P, Tabei A, **Abebe T**, Walter M, Radunzel J, Kirmani S, Somodi M, Mupasiri D, Goonesekere N, Klostermann N, Callaghan P, Jones W, and Clayton M. Introducing High Performance Computing into the University of Northern Iowa Undergraduate Curricula. Submitted to Roy J. Carver Charitable Trust on August 16, 2021. Amount requested: $363,676.00. Status: awarded on October 22, 2021 (Grant #22-5572).
- Strauss L, Manfredi K, **Abebe T**, Walter M, Rodriguez N, and Shen X. Acquiring an LC-MS for Multidisciplinary Undergraduate Education in Mass Spectrometry. Submitted to Roy J. Carver Charitable Trust on February 28, 2020. Amount requested: $375,000.00. Status: awarded on April 17, 2020 (Grant # 20-5394).
- **Abebe T**, Berendzen P, Clayton M, Jackson J, and Spradling T. Enhancing Genetics and Genomics Teaching. Submitted to Roy J. Carver Charitable Trust on August 28, 2019. Amount requested: $239,825.00. Status: awarded on October 18, 2019 (Grant #20-5332).
- **Abebe T**, Elgersma K, Manfredi K, Mersha T, and Sherrard M. Integrative omics analysis of drought tolerance in barley at the reproductive stage. Submitted to NIFA-USDA on July 17, 2019. Amount requested: $498,820.00. Status: denied.
- **Abebe T**. Analysis of proteome data from barley plants exposed to drought. Submitted to the UNI Graduate College for May 13, 2019 - July 5, 2019 Summer Fellowship. Amount Requested: $7,200.00. Status: awarded.
- **Abebe T**, Elgersma K, Manfredi K, Sherrard M, and Wen A. Drought tolerance of the spike organs and regulation of stem reserve mobilization in barley. Submitted to the USDA-AFRI Physiology of Agricultural Plants Program, July, 24, 2018. Requested amount: $499,905. Decision: denied.
- **Abebe T**. Shotgun proteomics to identify proteins for drought tolerance in barley. Submitted to the UNI 2017-2018 Capacity Building Grant Competition on November 11, 2017. Amount requested: $8,300. Funded: $6,600.
- **Abebe T** and Jurgenson J. Host-induced CRISPR/Cas9-editing of Fusarium graminearum genes. Submitted to the U.S. Wheat and Scab initiative (USWBSI) on September 15, 2017. Amount requested: $137,814. Status: not funded.
- **Abebe T**. Changes in the protein content of barley during drought at the reproductive stage. College of Humanities, Arts, and Sciences Faculty Research/Creative Activity Grant, UNI. February 6, 2017. Awarded $1,250.
- **Abebe T**, Manfredi K, and Sherrard M. Changes in the proteome and metabolome of barley during drought stress. Submitted to OSP, UNI on 11/14/2014 for $14,800, declined.
- **Abebe T**, Manfredi K, and Sherrard M. Metabolic profiling of drought tolerance in barley. Submitted to OSP, UNI on 1/15/2014 for $12,861, declined.
- Berendzen P and **Abebe T**. Evolutionary significance of whole-genome duplication in the catostomidae, a group of tetraploid fishes (Family Catostomidae). Submitted to OSP, UNI on 1/15/2014 for $13,155. Awarded.
- **Abebe T**, Manfredi K, and Sherrard M. Changes in the proteome and metabolome of barley during

drought at the reproductive stage. Submitted to the UNI 2014-2015 Capacity Building Grant Competition on November 14, 2014. Amount requested: $14,800. Status: not funded.

- **Abebe T** and Manfredi K. Metabolic profiling of drought tolerance in barley. Proposal submitted to the Iowa Science Foundation on January 31, 2014. Budget requested: $5000. Status: not funded
- Berendzen P, **Abebe T**, and Simons A. Preliminary Proposal: RUI: Genome Duplication and Evolution in Fishes (Family Catostomidae). Submitted to NSF on January 22, 2014. Not invited.
- Thurman C, **Abebe T**, J, McNamara and Berendzen P. Preliminary Proposal: RUI: Molecular Basis of Genetic and Phenotypic Diversity in Fiddler Crabs from the Western Atlantic. Submitted to NSF on January 22, 2014. Not invited.
- **Abebe T** and Manfredi K. Metabolic profiling of drought tolerance in barley. Submitted to the Iowa Academy of Science on 1/31/2014. $5,000. Denied.
- **Abebe T** and Thurman C. Is there a connection between gene expression and osmoregulation in fiddler crabs? Submitted to the UNI 2012-2013 Capacity Building Grant Competition on January 1, 2013. Amount requested: $10,800. Status: not funded.
- Thurman C, **Abebe T**, McNamara J and, Berendzen P. Preliminary proposal: molecular basis of genetic and phenotypic diversity in fiddler crab from the Western Atllantic. Submitted to NSF on January 22, 2013. Not invited.
- Manfredi K, Weeks C, **Abebe T**, Chin R, Hanson C. MRI: Acquisition of a GC-MS for research, teaching and community outreach at the University of Northern Iowa. Submitted to NSF on January 25, 2012. Amount requested: $137,153. Decision: declined.
- Thurman C, **Abebe T**, J, McNamara and Berendzen P. Preliminary Proposal: RUI: An integrative approach to examine the impact of presumed connectivity on intertidal populations of fiddler crabs in the Western Atlantic Ocean. Submitted to NSF on January 9, 2012. Not invited.
- **Abebe T**. Analysis of high-throughput sequence data generated from drought-stressed barley. Summer Research Fellowship, Graduate College, UNI. Submitted on 10/25/2012. Requested: $6,442. Awarded.
- **Abebe T**. Summer Research Fellowship, University of Northern Iowa (2011), awarded: $6,087.00.
- **Abebe T**. U.S. Wheat & Barley Scab Initiative (May 1, 2008 – April 30, 2011), awarded: $12,819.
- **Abebe T**. Summer Research Fellowship, University of Northern Iowa (2008), awarded: $5,600.
- **Abebe T**. Board of Regents, State of Iowa (July 1, 2006 – June 30, 2010), awarded: $184,997.
- **Abebe T**. U.S. Wheat & Barley Scab Initiative (May 1, 2006 – April 30, 2007), awarded: $33,481.
- **Abebe T**. US Barley Genome Project (September, 2006 – August 30, 2007), awarded: $4,000.
- **Abebe T**. U.S. Wheat & Barley Scab Initiative (May 1, 2005 – April 30, 2006), awarded: $14,702.
- **Abebe T**. Summer Research Fellowship, University of Northern Iowa (2005), awarded: $5,222.

Grant awards for student research in Abebe's lab:

i. Graduate Research Award for Student Projects (GRASP)

a. Shahela Yesmine (2/21/2024). Changes in the lipid profile of barley during drought. Requested: $750. Status: awarded.
b. Erik Sorensen (9/8/2022). Changes in the lipid profile of barley during drought. Amount requested: $750. Status: awarded.
c. Erik Sorensen (2/22/2022). Changes in the lipid profile of barley during drought. Amount requested: $737. Status: awarded.
d. Mohammed Al Slamh (9/13/2019). Analysis of the response of the proteome in the stem of barley during drought. Amount requested: $750. Status: awarded.
e. Casey Durnan (9/17/2013). Proteome analysis of drought tolerance in barley at the

reproductive stage. Amount requested: $750. Status: awarded.

f. Jordan Hein (9/17/2013). Metabolic response to drought stress in barley. Amount requested: $750. Status: awarded.
g. Casy Durnan (9/17/2013). A proteomic analysis of drought tolerance in barley at the reproductive stage. Amount requested: $750. Status: awarded.
h. Casey Durnan (9/14/2012). Analysis of microRNAs in Barley. Amount requested: $750. Status: awarded. Casey initially agreed to work on bioinformatics analysis of small RNAs in barley. After one year, he felt that he was not comfortable with bioinformatics and wanted to work on a different project. Then, he worked on 2D-PAGE to analyze changes in the proteome of barley during drought.
i. Sanjana Gurrala (9/19/2011). Amount requested: $750. Status: awarded. This was a Special Problems (BIOL 6230) project. Sanjana worked on optimization of the GC-MS instrument in Chemistry & Biochemistry for metabolite analysis. This project helped me develop a graduate thesis project for Jordan Hein.
j. Josh Mauldin (9/19/2011). Functional analysis of drought-induced genes in barley using virus induced gene silencing (VIGS), fall 2010. Amount requested: $750. Status: awarded.
k. Tina Khoury (9/16/2010). Gas exchange in the flag leaf and the reproductive structures of drought-stressed barley, fall 2010. This project was designed to optimize gas exchange measurements in flag leaf and spike organs (awn) of barley. This project helped Jordan Hein to include gas exchange measurements in his MS thesis project. Amount requested: $750. Status: awarded.

ii. Student Opportunities for Academic Research (SOAR)

a. James Matthews. February 21, 2024. Project: Suppression of GABA accumulation in barley and its effect on drought tolerance. Amount awarded: $725.
b. Eliana Wulfekuhle. September 29, 2023. Project: Response of tef to temperature stress. Amount awarded: $459.
c. Maddy Waters and Tatianna Barriga. September 29, 2023. Project: Editing the *F. graminearum* genome with CRISPR/Cas9. Amount awarded: $750.
d. Grace Sack (9/13/2019). Requested $708. Awarded.
e. Rebekah Akers (9/18/2017). Requested $750. Awarded.
f. Mohammed Al Slamh (9/18/2017). Requested $705. Awarded.
g. Natalie Martin (9/12/2014). Requested $750. Awarded.
h. Nicholas Dettbarn (9/19/2011). Requested $750. Awarded.
i. Joshua Mauldin (Fall 2010). Requested $750. Awarded.

iii. Dr. Alan R. Orr Undergraduate Research Award

a. Tatianna Barriga. Februaray 13, 2024. Project: Editing the *MGV1* gene of the fungal pathogen Fusarium graminearum. Awarded: $615.
b. Paige Pitts. Fall 2020-spring 2021. Project: Construct RNAi vector to silence glutamate decarboxylase (GAD) in barley. Awarded: $500.
c. Sami Haberman. Fall 2020-spring 2021. Project: Construction of a VIGS vector to silence expression of spermidine synthase gene in barley. Awarded: $500.

iv. Drs. David and Cathy Swanson Genetics Research Award

a. Eliana Wulfekuhle. Project: temperature response of tef crop. Amount awarded: $400.
b. Samira Haberman. Fall 2021. Silencing Expression of Spermidine Synthase (SPDS) Gene in

Barley. Requested: $500. Awarded.

c. Caleb Kruse and Mohammed Al Slamh. Fall 2015. Developing CRISPR/Cas-based gene editing vectors for barley. Requested: $500. Awarded.

v. Intercollegiate Academics Fund (IAF)

a. Shahela Yesmine. February 1, 2024. Changes in the lipid profile of barley during drought. Requested: $664.24. Awarded: $664.24.
b. Erik Sorensen. August 30, 2022. Changes in the lipid profile of barley during drought. Requested $613. Awarded.
c. Casey Durnan. March 2012. Analysis of microRNAs in Barley. Requested $750. Awarded.

Review of manuscripts and research proposals:

a. Reviewed manuscripts for the following journals:
   - Agronomy (MDPI)
   - Crop Science
   - International Journal of Plant sciences
   - Physiology and Molecular Biology of Plants (PMBP)
   - Peer J
   - Planta
   - PLOS ONE
   - The American Journal of Undergraduate Research
   - Theoretical and Applied Genetics
   - USDA-ARS internal review

b. Reviewed research proposals for the following funding agencies:
   - California Department of Food and Agriculture (CDFA).
   - German Research Foundation (DFG)
   - Iowa Academy of Science Foundation
   - National Science Foundation (NSF)

Manuscript in preparation

- Al Slamh M, Sherrard ME, Walter M, and Abebe T. Dynamics of the barley stem proteome during drought at the grain filling stage.

Peer reviewed publications:

- Gautam Y, Afanador Y, **Abebe T**, López JE, and Mersha1 TB. 2019. Genome-wide analysis revealed sex-specific gene expression in asthmatics. Human Molecular Genetics. Human Molecular Genetics 28(15): 2600–2614.
- Hein JA, Sherrard ME, Manfredi KP, **Abebe T**. 2016. The fifth leaf and spike organs of barley (Hordeum vulgare L.) display different physiological and metabolic responses to drought stress. BMC Plant Biol 16(1):248.
- Mersha TB and **Abebe T**. 2015. Self-reported race/ethnicity in the age of genomics research: its potential impact on understanding health disparities. Human Genomics 9(1):1. doi: 10.1186/s40246-014-0023-x.
- Ding L, **Abebe T**, Beyene J, Wilke RA, Goldberg A, Woo JG, Martin LJ, Rothenberg ME, Rao M, Hershey GKK, Chakraborty R, and Mersha TB. Rank based genome wide analysis

reveals association of ryanodine receptor-2 gene variants with childhood asthma among human populations. Human Genomics. 2013; 7(1): 16. Published online Jul 5, 2013. doi: 10.1186/1479-7364-7-16.

- Ding L, Wiener H, **Abebe T**, Altaye M, Go RCP, Kercsmar K, Grabowski G, Martin L, Khurana GKK, Chakorborty R, Baye TM. 2011. Comparison of measures of marker informativeness for ancestry and admixture mapping. BMC Genomics, 12:622. doi: 10.1186/1471-2164-12-622.
- Baye MT, **Abebe T**, and Wilke RA. 2011. Genotype-environment interaction and its translational implications. *Personalized Medicine* 8:59-70.
- **Abebe T**, Melmaiee K, Berg V, and Wise RP. 2010. Drought response in the spikes of barley: gene expression in the lemma, palea, awn, and seed. *Functional & Integrative Genomics* 10:191-205.
- **Abebe T**, Wise RP, and Skadsen SW. 2009. Transcriptional profiling established the awn as the major photosynthetic organ of the barley spike while the lemma and the palea primarily protect the seed. *Plant Genome* 2:247-259.
- **Abebe** T, Skadsen R, Patel M, and Kaeppler H. 2006. The *Lem2* gene promoter of barley directs cell and development-specific expression of *gfp* in transgenic plants. *Plant Biotechnology Journal* 4: 35–44.
- **Abebe T**, Skadsen RW, and Kaeppler HF. 2005. A Proximal upstream sequence controls tissue-specific expression of *Lem2*, a salicylate-inducible barley lectin-like gene. *Planta* 221:170-183.
- **Abebe** T, Skadsen RW, and Kaeppler HF. 2004. Cloning and identification of highly expressed genes in barley lemma and palea. *Crop Science* 44: 942-950.
- **Abebe** T, Guenzi AC, Martin B, and Cushman JC. 2003. Tolerance of mannitol-accumulating transgenic wheat to water stress and salinity. *Plant Physiology* 131: 1748–1755.
- Skadsen RW, Sathish P, Federico ML, **Abebe T**, Fu J, and Kaeppler HF. 2002. Cloning of the promoter for a novel barley gene, *Lem1*, and its organ-specific promotion of *gfp* expression in lemma and palea. *Plant Molecular Biology* 49:545-555.

Publications in preparation/under review:

- Sertse D, Habtewold JZ, **Abebe T**, and Mersha TB. Ethiopian genomic diversity is shaped by migration, admixture, and adaptation to local environments but not by linguistic affiliations. Submitted to the Journal of Human Genetics on January 16, 2022.

Conference proceedings, abstracts and presentations:

- **Abebe T**. 2018. Response of the proteome of the lemma of barley to drought. Annual Meeting of the American Society of Plant Biologists, July 14-18, 2018 Montreal, Canada.
- **Abebe T**. 2016. Analysis of the barley transcriptome during drought stress at the reproductive stage. *12th International Barley Genetics Symposium*, 26 - 30 June 2016, Minneapolis-St. Paul, MN (Poster # 1).

- **Abebe T** and Mersha TB. 2011. Next generation sequencing analysis of the barley transcriptome in response to drought stress. Annual Meeting of the American Society of Plant Biologists, August 6 - 10, 2011, Minneapolis, MN (Abstract # P13040).
- Ng E-H, **Abebe A**, Jurgenson JE, Dill-Macky R, Dahleen L, and Skadsen R. 2010. Greenhouse evaluation of transgenic barley expressing *gastrodianin* for resistance to Fusarium head blight, National Fusarium Head Blight Forum Proceedings, December 7-9, 2010, Hyatt Regency Milwaukee, WI, p 28-32.
- Dill-Macky R, Elakkad AM, Dahleen LS, Skadsen RW, and **Abebe T.** 2010.Testing transgenic spring barley lines for reaction to Fusarium head blight: 2010 field nursery report. National Fusarium Head Blight Forum Proceedings, p 16.
- Dahleen LS, Dill-Macky R, Shah J, Muehlbauer G, Skadsen RW, Manoharan M, **Abebe T**., Jurgenson J. 2009. Transgenic field trials for fhb resistance and related research in wheat and barley. In: Ouellet T and Leger D (eds). Proceedings of the 6th Canadian Workshop on Fusarium Head Blight. Nov. 1-4, 2009. Ottawa, ON, Canada. Page 38.
- Skadsen RW, Patel M, Federico ML and **Abebe T**. 2009. Fusarium-resistant barley through genetic transformation. Proceedings of the 37th Barley Improvement Conference. January 6-7, 2009, San Diego, California. p. 10.
- Vijayendran D and **Abebe T**. 2008. Cloning and sequencing small RNAs from barley. Poster presented at the University of Northern Iowa Summer Undergraduate Research Symposium, Cedar Falls, IA, August 1, 2008.
- Ng E, **Abebe T**, Skadsen R, Jurgenson JE. 2008. Engineering barley with *gastrodianin* for resistance to scab disease. Poster presented at the American Phytopathological Society centennial meeting, July 26-30, 2008, Minneapolis, MN.
- **Abebe T**, Ng E-H, Skadsen R and Jurgenson JE. 2008. Progress in engineering barley with *gastrodian* for resistance to scab disease. Presentation given at the Barley Coordinated project Meeting, Ft. Collins, CO, June 3, 2008.
- Vijayendran D and **Abebe T**. 2008. Cloning small RNAs from barley. Poster presented at the Sigma XI annual student research conference, University of Northern Iowa, Cedar Falls, IA, April 2008.
- Eng-Hwa Ng, Tilahun Abebe, James E. Jurgenson and Ronald W. Skadsen. Engineering Barley with *Gastrodianin* for Resistance to *Fusarium* Head Blight. Poster presented at the 2007 National Fusarium Head Blight Forum, December 2-4, 2007, Kansas City, Mo.
- Walck, A, Melmaiee, K, **Abebe, T.** Response of the barley proteome to drought stress. Plant Biology 2007, Annual Meeting of the American Society of Plant Biologists, July 7 - 11, 2007, Chicago, IL (Abstract # 2290).
- Walck A and **Abebe T**. Gene expression in the reproductive structures of barley during drought stress. University of Northern Iowa Summer Research Symposium, July 29, 2005, University of Northern Iowa, Cedar Falls, IA
- Skadsen RW, Federico ML, **Abebe T**, Patel M. 2005. Fighting *Fusarium* head blight of barley with members of the thionin gene family. Proceedings of the 39th Annual Conference on Gene Families and Isozymes. p. 26.
- Federico M, **Abebe T**, Puthigae S, Kaeppler H, Skadsen RW. 2005. Barley promoters for organs susceptible to *Fusarium graminearum*. Plant Biology 2005, Annual Meeting of the

American Society of Plant Biologists, July 16 - 20, 2005, Seattle, Washington (abstract # 1105).

- Skadsen RW, Federico ML, **Abebe T**, Kaeppler HF. 2004. Development of tissue-specific gene promoters for targeting anti-*Fusarium* gene expression in barley. Proceedings of the International Barley Genetics Symposium (Abstract # 157).
- **Abebe T**, Skadsen RW and Kaeppler HF. 2003. *Lem2*: a novel Jacalin-related, lemma- and palea-specific gene of barley. Plant Biology 2003, Annual Meeting of the American Society of Plant Biologists, July 25-30, 2003, Honolulu, Hawaii (Abstract # 787).
- **Abebe T**, Fu J, Federico M, Skadsen RW and Kaeppler HF. 2002. Cloning the lemma- and palea-specific Lem2 gene in barley. Plant Biology 2002, Annual Meeting of the American Society of Plant Biologists, Aug 3 – 7, 2002, Denver, CO (Abstract # 61).
- **Abebe T**, Federico M, Fu J, Skadsen RW and Kaeppler HF. 2002. Cloning lemma- and palea-specific promoters in barley. The 10th IAPTC&B Congress: Plant Biotechnology 2002 and Beyond, June 23-28, 2002, Orland, FL (Abstract # P-1072).
- Fu J, **Abebe T**, Federico M, Kaeppler HF and Skadsen RW. 2002. Expression of a seed-specific antifungal protein hordothionin gene is inhibited in the leaves of transgenic barley and oat at the pre- and post-translational levels. Plant Biology 2002, Annual Meeting of the American Society of Plant Biologists, Aug 3 – 7, 2002, Denver, CO (Abstract # 155).
- Fu J, **Abebe T**, Federico M, Kaeppler HF and Skadsen RW. 2002. Transformation and expression of an altered antifungal protein hordothionin gene in transgenic barley and oat. The 10th IAPTC&B Congress: Plant Biotechnology 2002 and Beyond, June 23-28, 2002, Orlando, FL (Abstract # S-82).
- **Abebe T**, Guenzi AC, Martin BC, Cushman JC. 2000. Engineering wheat for tolerance to water deficit stress. Poster presented at the Molecular Plant Biology Conference. Organized by the Samuel Roberts Noble Foundation, Oklahoma State University and University of Oklahoma. October 7, 2000, Myriad Convention Center, Oklahoma City, OK.
- **Abebe T**, Guenzi AC, Martin BC, Cushman JC. 2000. Engineering wheat for drought tolerance. Abstract presented at the conference on the Impact of Molecular Biology on Crop Production & Crop Protection, Cambridge Healthtech Institute, August 21-23, 2000, Minneapolis, MN.
- **Abebe T**, Guenzi AC, Martin BC, Cushman JC. 2000. Engineering wheat for improved resistance to water deficit stress. Plant Biology 2000, Annual Meeting of the American Society of Plant Physiologists, July 15-19, 2000, San Diego, CA (Abstract # 352).