## RESEARCH SUMMARY: EXTERNAL FUNDING & COLLABORATIVE NETWORKS

**Twelve previous grants at MU that total $7,694,636**
including 9 from National Science Foundation (NSF), 2 from US Department of Agriculture (USDA), and 1 from the US Department of Energy (DOE) (details on next page)

**Current External Grants**
One grant: National Geographic, Pires PI.

1. National Geographic Society – Grant # NGS-59514R-10 "Exploring the Diversity of Mustards: Taxonomy for the 21st Century" ($29,900; 1 year, 08/01/19 – 07/30/22; Pires is PI, co-PIs are students, Makenzie Mabry and Shawn Abrahams)

In addition, Pires is a PI and co-PI on five DOE JGI grants which bring in no direct funding but demonstrate competitive ability to lead international and multi-disciplinary projects:

1. "Brassicales Genome Initiative" (Lead PI is Alex Harkess, Hudson Alpha, Alabama)

2. "Pangenomic comparison of structural variation driving recurrent network evolution in Brassicaceae metabolism" (Lead PI is Dan Kliebenstein, UC-Davis, California)

3. "Leveraging pan-genomes to investigate diel transcriptomic and metabolic responses to abiotic stress in B. rapa and B. napus diversity panels" (Lead PI is Katie Greenham, University of Minnesota)

4. "High quality reference Brassicales Genomes" (Lead PI is Rod Wing, University of Arizona)

5. "Microbial mutualisms with Orchids" (Lead PI is Pires)

**Previous External Grants:**
Twelve previous grants: 9 NSF (6 with Pires as PI), 2 USDA, and 1 DOE (total **$7,694,636**)

1. Department of Energy (DOE), Defense Threat Reduction Agency (DTRA) "Development of Brassica as a low dose radiation sensor" (HDTRA 1-16-1-0048) ($1,031,847 total; 4-5 years, 8/22/16 – 8/21/21; Pires co-PI $343, 920; PI Concannon, U of Florida).

2. National Science Foundation, IOS 1339156 – Plant Genome Research Project. "Polyploidy and plasticity in the crop Brassicas." ($2,179,716; 5 years, 8/1/14 – 7/30/19; Pires lead PI).

3. US Department of Agriculture FY 2016 Crucifer Germplasm Evaluation Proposal. "Genomic and Phenotypic Diversity Among Brassica oleracea Crops" ($13,000; 1 year, 8/1/16 – 7/31/17; Pires was co-PI, PI was JoAnne Labate, Geneva, NY).

4. National Science Foundation, DEB Evolutionary Genetics. "DISSERTATION RESEARCH: C4 Photosynthetic Evolution; Sub-types, Diversity, and Function within the Grass Tribe Paniceae." ($15,329; 1 year, 7/1/15 – 6/31/16; Pires lead PI, Conant & graduate student Jacob Washburn co-PI).

5. National Science Foundation, DEB 1146603 – Phylogenetic systematics."Phylogenomics of polyploidy in the Brassicales." ($468,844; 3 years, 2/1/12 – 1/31/15; Pires sole PI).

6. USDA FY 2014 Crucifer Germplasm Evaluation Proposal. ARS Project No. 1910-21000-024 00D. "Genomic diversity among morphotypes of Brassica rapa vegetable accessions." ($13,240, June 2014 – May 2015; Pires was co-PI, Joanne Labate at USDA Geneva was PI).

7. National Science Foundation, DBI 1110443– Phylogenetic systematics. "DISSERTATION RESEARCH: Systematics of the Order Brassicales and Family Brassicaceae, and comparative genomic analyses (nuclear and organellar genomes): a phylogenomic approach." ($14,951, 24 months, 05/01/11 – 04/30/13; Pires PI with graduate student Patrick Edger).

8. National Science Foundation, DEB 1209137 – Phylogenetic systematics. "DISSERTATION RESEARCH: Phylogeny and evolution of the Brassica crops and wild relatives (tribe Brassiceae, Brassicaceae): morphological diversity and homoplasy." ($14,999; 12 months, 06/01/12 – 05/31/13, Pires PI with graduate student Tatiana Arias).

9. National Science Foundation, DBI 0638536, Plant Genome Comparative Sequencing. 2006 2011. "Toward unraveling the morphological plasticity and genome redundancy of Brassica oleracea". (PI Pires with Co-PIs A. Paterson, U. Georgia and C. Town, TIGR. $1,529,117. With related National Science Foundation DBI 0856388. Supplement Request 2008-2010. $1,641,187)

10. National Science Foundation, DBE 0829849, BIO/EF Assembling the Tree of Life, 2008-2011. "COLLABORATIVE RESEARCH: From Acorus to Zingiber: Assembling the phylogeny of monocots" (Pires was one of several Co-PIs; PI T. Givnish, Wisconsin). (Pires budget was $275,093.)

11. National Science Foundation, DEB 0841008, Population and Evolutionary Processes. 2008 2010. "COLLABORATIVE RESEARCH: Comparative Investigation of Incipient Sex Chromosome Evolution in the genus Asparagus." (Pires collaborative PIs). Received $10,000 for 2009-2010.

12. National Science Foundation, DBI 0501712, Plant Genome. 2005-2011 (one year no cost extension). "Functional genomics of plant polyploids." (Pires was one of several Co-PIs with PI L. Comai UC-Davis). (Pires budget was $1,176,000 of ca. $8 million total.)

**Previous: Internal MU grants**

Four MU grants

1. Mizzou Advantage, 2014-2016. "The evolution of grass photosynthesis: applications for food and sustainable energy" (PI Pires budget was $65,269)

2. MU Research Board, 2014-2015. "The evolution of grass photosynthesis" (PI Pires budget was $24,922)

3. MU Richard Wallace Research Incentive Grant Award, 2008. "Improving phylogenetic thinking in biology undergraduates" (PI Pires budget was $4,000.)

4. MU Research Board, 2010-2011. "Improving DNA barcoding using next-generation sequencing" (PI Pires budget was $30,000.)

## IMPACT OF SCHOLARLY WORK

Track record of publications: citations and scholarly impact. Total career of **186** publications. In 2015 and 2018, I was named a **Thomson Reuters' Highly Cited Researcher**, a prestigious list of the top 1% of researchers as measured by Essential Science Indicators.

H-index of **78**, i10-index of **165**, cited **28,894** times on Google Scholar (as of 30 December 2022); Google Scholar score, Web of Science h-index **61**; Scopus h-index **60** (both as of 02 September 2022)

Full list of publications at end of CV.

## RESEARCH AWARDS

### National and International Awards

- Thomson Reuters' Highly Cited Researchers (2015 and 2018)
- Fellow of the American Association for the Advancement of Science (AAAS) (2017) noted for "distinguished contributions to the fields of plant systematics and evolution, particularly for the study of genome evolution and the consequences of polyploidy.
    - https://www.umsystem.edu/stories/advancing_science_fellows
    - https://decodingscience.missouri.edu/2017/12/11/bond-life-science-investigator-honored-with-two-distinctions/
- Sigma Xi Scientific Research Honor Society Fellow (2018)

### Awards at the University of Missouri

- **Chancellor's Award for Outstanding Research & Creative Activity** (2017)
- **Curators' Distinguished Professor** (2019)
- Presidential Engagement Fellows (2018)

2008

1. Colorado State University, Ft. Collins, Colorado

2007

1. Tyson Research Station, Washington University in St. Louis, Missouri

2006

2. University of Georgia, Athens, Georgia
3. University of Indiana, Bloomington, Indiana
4. RDA NIAB, Suwon, Korea
5. Korea Brassica Genome Project Workshop, Gyeongju, Korea
6. Gyeongsang National University, Korea
7. Purdue University, Lafayette, Indiana

**Conference Presentations**

- **Oral Presentations:** Summary: 80+ oral presentations affiliated with Pires.
- **Poster Presentations**: Summary: 120+ poster presentations affiliated with Pires.

## TEACHING: FORMAL COURSES TAUGHT

I taught at MU as regular faculty from 2005-2017 until becoming Associate Dean in 2018. However, at MU, I continued to give guest lectures to postdoctoral fellows, graduate students and undergraduates. I also co-taught professional development programs for faculty and staff.

Undergraduate and/or postgraduate teaching experience. One of my most rewarding experiences at MU has been my interactions with undergraduates in my research lab, many of which are leading to publications. While postdocs and graduate students walk in with a certain degree of focus and ambition, I have been delighted to witness undergraduates transform from eager and curious freshmen to talented and reliable young scientists. This is particularly true for a class that I taught with my collaborator, Dr. Gavin Conant, a yeast systems biologist, where class projects have resulted in publication (e.g., Decker, J., et al 2009. *PNAS* 106: 18644–18649; Hudson C.M., et al. 2011. *Genome Biology and Evolution* 3: 1369-1380; Taxis, T.M., et al. 2015. *Nucleic Acids Research* 43: 9600-9612, and more coming). I also taught an undergraduate class in Plant Systematics and guest lecture in Advanced Plant Genetics, Bioinformatics, and other courses. In addition, I collaborate with science educators to improve my own teaching and to disseminate our research on teaching to a broader audience (e.g., Halverson, K.L., Pires, J. C. and S.K Abell. 2011. *Science Education 95: 794-823*). Also see mentoring awards below.

### Prior Teaching

Two courses, one seminar, research mentoring, no guest lectures shown

### Plant Systematics BioSci 3210 (Every Spring from 2007-2017)

Undergraduate lecture and lab course that was completely modernized. The lecture portion now has at least one-third of time is devoted to inquiry-driven approaches to teaching in learning. Updating this course was a scholarly activity in collaboration with Dr. Kristy L Daniel (nee Halverson), formerly a Science Education graduate student at MU and currently faculty at the Texas State University.

### Molecular and Network Evolution (with Dr. Gavin Conant, Fall 2010 & Fall 2012 as Animal Science 4434/7434, and Fall 2014 & Fall 2016 at 8000 level)

Graduate course with a lecture/discussion and computer lab component. The course is co-taught with Dr. Gavin Conant. Basic and advanced molecular evolution, phylogenetic, and systems biology skills are taught and the course culminates individual student research projects. This course replaced BioSci 8620 and involves more bioinformatic skill building and the manipulation of next generation sequence data. The course is a mix of undergraduate and graduate students in the life sciences and computer sciences.

Student projects in this class have become publications, such as Decker et al. 2009, Hudson et al. 2011, Taxis et al. 2015, Emery et al. 2018, Hao et al. 2018, and others.

**Seminar: Phylogenetics BioSci** 8187 (every semester, Fall 2006 - Spring 2015)
**Graduate Student Research BioSci** 7990, 8090, 9090 (every semester, Fall 2005 – Fall 2018)
**Graduate Student Research Informatics** 8085, 8088 (every semester, Spring 2009 – Fall 2018)
**Undergraduate Research BioSci/Biochem** 4950, 4952 (every semester, Fall 2006 – Fall 2018)

## MENTORING OF JUNIOR SCIENTISTS AND AWARDS

After becoming an Associate Dean at MU in Spring 2018, my research group remained about the same size (1 postdoc, 3-4 graduate students, and 1-4 undergraduates); however, my role in mentoring junior faculty, mid-career faculty, and staff grew exponentially.

**Evidence of mentoring, developing, and nurturing the next generation of scientists.**
My primary mission at the University of Missouri (MU) was training the next generation of scientists to perform interdisciplinary research, teaching, and outreach. Since Fall 2005, I have mentored six postdocs, ten graduate students, 40 undergraduates, and served on 30 thesis committees. I was frequently invited to other institutions to not only give a formal presentation, but also to mentor graduate students and postdoctoral fellows.

**Evidence of integrity and commitment to diversity and development of junior researchers.**
Having grown up in a rural area with parents that did not have the benefit of a college education, I have made it a priority to recruit students from diverse backgrounds to broaden participation. As a senior faculty member, I now also mentor junior faculty in getting their first grants and recruiting their first postdocs and graduate students. My service is dominated by this activity—from the Strategic Plan and Review Committees for the Office of Undergraduate Research to the Advisory Board for the MU Graduate School's Preparing Future Faculty Program.
**One of my most significant achievements is that many of my former PhD students are currently in research positions or faculty at research-intensive universities or industry. Similarly, many of my undergraduates have gone on to graduate programs or won awards (e.g., Fulbright, NSF Graduate Research Fellowships, Goldwater, Young Botanists of the Year by Botanical Society of America).**

In recognition of my efforts in mentoring, training, and nurturing students, I have received five mentoring awards at MU:

1. Eisenstark Faculty Fellow Mentoring Award, 2017
2. Ann K. Covington Undergraduate Research Mentoring Award, 2016 (student nominated)
3. Advising Shout Out Award, 2013 (student nominated)
4. Undergraduate Research Mentor Award, 2008 and 2013 (twice student nominated)

***Postdoctoral Associates:***

**Former**
*six former postdocs, reverse chronological order*

- **Hong An. Ph.D**. Huazhong Agricultural University. January 2017 – June 2022
  MU Postdoctoral Research Award (and Research Grant, Travel Grant). Current position, Bioinformatics Research Specialist, University of Missouri.
- **Xiong, Zhiyong. Ph. D.** Wuhan University. November 2005-September 2011. Current position, Associate Professor, Inner Mongolia University, China.

- **Kellar** (formerly **Steele**)**, Pamela R. Ph. D.** University of Texas-Austin. August 2009-August 2011. Current position, Associate Professor, University of Nebraska-Omaha, USA.
- **Kinney, Michael S. Ph. D.** Rancho Santa Ana Botanic Garden. Claremont College, March 2006-August 2009. Deceased.
- **Kim, Jung Sun. Ph. D.** SungKyunKwan University of Korea. September 2007-September 2008. Current position: Team Leader, Rural Development Association, Korea.
- **Rehman, Maqsood. Ph. D.** University of Idaho. February 2006 – April 2007. Current position: Director of Plant Breeding at Calyxt.

**Graduate Students advised by Pires** (eleven students: one current and ten former):

**Current**
*one graduate students, reverse chronological order*

- **Thomas, Shawn.** Ph.D. August 2019 – present (co-advised by Dr. Jacob Washburn at MU). Grants and Academic Honors earned at MU: TBA

**Former**
*ten graduate students, reverse chronological order; 8 Ph.D., one M.S.*

- **Abrahams, R. Shawn.** Ph.D. June 2015 – July 2021. Current position: Postdoctoral Researcher Thesis: The power of synteny: Deep evolutionary insights from comparative genomics.
- **Mabry, Makenzie.** Ph.D. August 2015 – July 2020. Current position: Postdoctoral Researcher Thesis: Brassicales to Brassica: Integrating phylogenomics and population genomics
- **Unruh, Sarah.** Ph.D. 2013 – 2018. Current position: Graduate student in library school. Thesis: Phylogenomics of orchids and their mycorrhizal fungi: trees, diversity, and the pursuit off symbiosis.
- **Ravelo, Andrea.** Ph.D. 2013 – 2018. Current position: Self-employed. Thesis: Assessment of the microbiome associated with endangered orchids.
- **Washburn, Jacob.** Ph.D. 2012 – 2017 (co-advised by Dr. Jim Birchler). Current position: USDA-ARS lead scientist, Columbia, Missouri Thesis: C4 photosynthetic evolution: sub-types, diversity, and function in the grass tribe Paniceae.
- **Mayfield, Dustin.** M.S. 2010-2014. Current position: Ph.D. student at the University of Illinois. Thesis: Occurrence and implications of biological network evolution following polyploidy.
- **Arias, Tatiana.** Ph.D. 2007-2013. Current position: Orchid scientist: Selby Botanical Garden. Thesis: Molecular phylogeny, morphological evolution, and biogeography of the tribe Brassiceae.

- **Edger, Patrick.** Ph.D. 2006-2012. Current position: Associate Professor at Michigan State University. Thesis: Phylogenomics of ancient whole genome duplications in the Brassicales.
- **Wheeler, Erica.** Ph.D. 2006-2011. Current position: Collection manager at herbarium within Royal BC Museum, Canada. Thesis: Phylogenetic and phylogenomic studies of wild onions (*Allium*, Amaryllidaceae) at three taxonomic scales.
- **Hertweck, Kate**. Ph.D. 2005-2011. Current position: Program Manager, Chan Zuckerberg Initiative, Seattle, Washington. Thesis: Genome evolution in monocots.

**Graduate Committees**
35 students: 3 current and 32 former students

**Current Graduate Committees (3 students, reverse chronological order):**

- Edwards, Seth. PhD student, Biological Sciences. Dr. Keith Slotkin, advisor.
- Pisias, Michael. PhD student, Plant Sciences. Dr. Bing Yang, advisor.
- Whitt, Lauren. PhD student, Plant Sciences. Dr. Ivan Baxter, advisor.

**Former Graduate Committees (32 students, reverse chronological order):**

- Berik, Aleksandra. PhD student, Plant Sciences. Dr. Blake Meyers, advisor.
- Slaten (Emery), M. PhD student, Biological Sciences. Dr. Ruthie Angelovici, advisor (2021)
- Rowan, Troy. PhD student, Animal Sciences. Dr. Jared Decker, advisor (2020)
- Patil, Rocky. PhD student, Animal Sciences. Dr. Gavin Conant, advisor (2020)
- Hao, Yue. PhD student, North Carolina State University. Dr. Gavin Conant, advisor (2020)
- Petrowski, Paul. MS., Biological Sciences. Dr. Libby King, advisor (2019)
- Zhao, Zixiao. PhD. Animal Sciences. Drs. Chris Elsik & Bruce Hibbard, co-advisors (2019)
- Taylor, Isaiah. PhD. Biological Sciences. Dr. John Walker, advisor (2017)
- Ney, Gideon. PhD. Biological Sciences. Dr. Johannes Schul, advisor (2017)
- Whitacre, Lynsey. PhD. MU Informatics Institute. Dr. Jared Decker, advisor (2017)
- Johnson, Adam. PhD. Biological Sciences. Dr. James Birchler, advisor (2017)
- Karn, Avi. PhD, Plant Sciences. Dr. Sherry Flint-Garcia, advisor (2017)
- Johnson, Eden. MS. Biological Sciences. Dr. Paula McSteen, advisor (2017)
- Reynosa, Daniel. PhD. Plant Sciences. Dr. Robert Sites, advisor (2016)
- Tucker, Mitch. PhD. Biological Sciences. Dr. Carl Gerhardt, advisor (2015)
- Puckett. Emily. PhD. Biological Sciences. Dr. Lori Eggert, advisor (2015)

- Cui, Shiqi. PhD. Statistics. Drs. Marco A.R. Ferreira & Subharup Guha, co-advisors (2014)
- Finch, Tabitha. PhD. Biological Sciences. Dr. Lori Eggert, advisor (2013)
- Hudson, Corey. PhD. MU Informatics Institute. Dr. Gavin Conant, advisor (2013)
- Frederick-Hudson, Katy. PhD. Biological Sciences. Dr. Johannes Schul, advisor (2013)
- Decker, Jared. PhD. Animal Sciences. Dr. Jerry Taylor, advisor (2012)
- Langewisch, Tiffany. PhD. Biological Sciences. Dr. Kathy Newton, advisor (2012)
- Lough, Ashley. PhD. Biological Sciences. Dr. Kathy Newton, advisor (2011)
- Lin, Guan Ning. PhD. Computer Science. Dr. Dong Xu, advisor (2010)
- Fuentes-Soriano, Sarah. PhD. Biological Sciences, UMSL. Dr. Elizabeth Kellogg, advisor (2010)
- Hartsock, Michael. PhD. Philosophy, Dr. Andre Ariew, advisor (2010)
- Daniel (Halverson), Kristy. PhD. Science Education, Drs. Sandi Abell & Pat Friedrichsen (2009)
- Figueroa-Castro, Dulce. PhD. Biological Sciences, Dr. Tim Holtsford, advisor (2008)
- Esmon, C. Alex. PhD. Biological Sciences, Dr. Mannie Liscum, advisor (2006)
- Soule, Jacob. MS. Biological Sciences, Dr. Tim Holtsford, advisor (2006)
- Ketner, Julie. MS. candidate, Biological Sciences, Dr. Tim Holtsford, advisor (ABD)
- Li, Hongyan. PhD. Plant Sciences/Entomology. Dr. Robert Sites, advisor (ABD)

**Undergraduate Research Students:**
40+ total mentored in Pires lab at MU since 2005

- Undergraduates mentored in the Pires lab have received an array of national awards, including
- NSF Graduate Research Fellowships (GRFP; five winners and several honorable mentions);
- Goldwater (one winner and several honorable mentions); Fulbright (one winner);
- American Society for Plant Biology Summer Undergraduate Research Fellowships (one); and
- Botany Society of America Young Botanists Awards (six).

**Current (0 students):**

**Former (25 students of 39+ with known current positions, reverse chronological order):**

- Vanden Hoek, Kathryn. Spring 2021 – Fall 2022. Current position: Undergraduate researcher.
- Ogoti, Tasha. Spring 2021 – Fall 2022. Current position: Undergraduate researcher at MU.
- Kirtley, Lauren. Fall 2020 – Summer 2021. Current position: Undergraduate researcher at MU.
- Gafford, Danielle. Fall 2020 – Spring 2021. Current position: Undergraduate researcher at MU.
- Hall, Garret. Fall 2019 – Fall 2020. Current position: Undergraduate researcher at MU.
- Countee, Liz. Spring 2018 – Fall 2020. Current position: Graduate student in Ohio.
- Vitale, Jessica. Fall 2018 – Summer 2019. BIPPS. Current position: Lab technician.
- Gallagher, Evan. Summer 2017 – Summer 2019. Current position: Graduate student at MiamiU.
- Hurt (Gebken), Sarah. Fall 2015 – Spring 2019. Current position: Graduate student at WashU.
- Grindstaff, Brandin. Fall 2017 – Spring 2018. Current position: Entrepreneur.
- Brose, Julia. Fall 2014 – Summer 2018. Current position: Graduate student at MSU
- Westfall, Daniel. Spring 2016 – Summer 2017. Monsanto Company, St. Louis, MO.
- Bird, Kevin. Summer 2013 – Summer 2016. Current position: Postdoc, UC Davis.
- Dismukes, Wade. Fall 2013 – Summer 2016. Current position: Lecturer, Iowa State.
- Kothapalli, Satya. Fall 2014 – Summer 2016. Current position: Entrepreneur.
- Stumpf, Spencer. Fall 2013 – Spring 2014. Current position: Graduate student Univ. of Georgia.
- Unruh, Sarah. May 2012 – Summer 2013. Current position: Library School.
- Tang, Michelle. August 2008 – Summer 2013. Current position: Postdoc, UW Seattle.
- Pflug, James. August 2009 – 2012. Current position: Research Biologist Oregon State University
- Diebold (Oga), April. August 2008 – 2012. Current position: Technician, MU Research Reactor.
- Ellis, Nate. Sept. 2005 – July 2009. Current position: Bayer Crop Science, Missouri.
- Leroy-Coombs, Jill. May 2007 – Nov 2007. Current position: Bayer Crop Science, Hawaii.
- Matashita, Starr. Summer 2009 and 2010; Current position: Medical Doctor.
- Pallo, Megan. Aug 2007 – May 2008. Current position: Graduate student, MU.
- Wright, Kirsten. Summer 2007. Current position: Graduate student, Wageningen University.

## SERVICE AND LEADERSHIP

### Associate Dean for Research, University of Missouri (MU, 2018-2021).

**Additional Leadership Experience at MU.** I co-led interdisciplinary efforts in areas ranging from "Big Data" to systems biology and coordinated with colleges of Engineering, Medicine, and Agricultural & Natural Resources. I was tasked by the President and Provost to shape the future of MU's top strategic research efforts and was on the COVID-response task force.

**Evidence for leadership in management and multi-disciplinary interactions.**
From 2005-2021 at MU, I served in several leadership roles in the four units to which I belonged:

1. Division of Biological Sciences (DBS)
2. MU Institute for Data Science and Informatics (MU IDSI)
3. Interdisciplinary Plant Group (IPG)
4. Bond Life Sciences Center (LSC)

My roles in these units gave me a strategic viewpoint to see where connections can be made; I also served on cross-campus teams with responsibility over core facilities and informatics:

1. MU DNA Core Facility Scientific Advisory Board
2. MU Informatics Research Core Facility (IRCF) Scientific Advisory Board
3. MU Cyber-Infrastructure Council

We conducted strategic planning and purchases of next-generation sequencing instruments and computational infrastructure. We developed innovative programs that integrated various 'omics platforms (genomics, metabolomics, proteomics), proactively avoided redundancy, and prioritized when to make investments at MU and when to outsource our needs to be more competitive for external funding. Collectively, these leadership experiences not only gave me expertise in the latest techniques in data science, but also allowed me to see how there was a science to "Team Science" that could be applied effectively to program management. I learned to appreciate the commonalities and differences among life scientists, physicists, chemists, engineers, and social scientists as I interacted with researchers in these fields to develop core facilities and cyber-infrastructure to support to emerging technologies (e.g., synthetic biology).

**Evidence for leadership in administration and policy.**
I led or served on several key committees in the Bond LSC that gave me experience with policy and human resource issues.

- I served on the Faculty Advisory Committee (2012-2016) where six representatives of the 30 LSC investigators met every two weeks with the Director and the Senior Manager and other staff. Between the departure of our last Director and hiring of our Interim Director, several of us served as leaders and "Associate Directors" of the Bond LSC.

- I served on the advisory committee of the Life Science and Society Program (LSSP) and have been actively engaged in science outreach and developing student competencies in science communication with faculty in journalism and science education.
- I was elected by my LSC peers to serve on the Policy Committee (2016 – 2020).

In sum, I have leadership experience in developing collaborative networks to enhance interdisciplinary research across colleges and universities. Today's science is a team sport.

**MU Campus Service:** Selected list from 2006-2021

- MU Research Reactor (MURR) Advisory Committee (2020 – 2021)
- MU Equipment Sharing Committee (2020 – 2021)
- MU Informatics Research Core Facility (IRCF) Scientific Advisory Board (2011 – 2021)
- MU Informatics Institute Faculty Membership and Policy Taskforce (2016 – 2021)
- MU Informatics Institute (MUII) Advisor and Core Faculty (2007 – 2021)
- MU Cyber-Infrastructure Council (2017 – 2021)
- MU DNA Core Facility Scientific Advisory Board (2016 – 2021)
- MU ShowMe Renewal Research Committee (COVID19 Task Force) (2020 – 2021)
- MU Compacts Strategic Planning Steering Committee (2019 – 2021)
- MU Academic Health Center (AHC) Strategic Planning Group (2019 – 2021)
- Office of Undergraduate Research Strategic Plan Committee (2013 – 2021)
- MU Next-Generation Precision Health Initiative (NG PHI) Committee (2019 – 2020)
- MU National Center for Genomic Technology and Policy Committee (2019 – 2020)
- Bond LSC Faculty Advisory Committee (2012-2016) and Policy Committee (2016 – 2020)
- Life Science and Society Program Board Member (2009 – 2018)
- MU Graduate School's Preparing Future Faculty Program Advisory Board (2011 – 2013)
- MU Research Boards Grant Proposal Reviewer (2006, 2007, 2013, 2015)
- MU Life Science Week Chair of Pop. Biology/Evolution Poster Judges (2006, 2011, 2013)
- Bond Life Sciences Center Memorandum of Understanding Committee (Co-chair, 2015)
- Search Committees for: Informatics Research Core Facility Director (2020)
    - College of Engineering Associate Dean (2020), Plant Science Division Director (Member 2019-2020)
    - Cross Campus Big Data Initiative (Member 2016-2017)
    - Sub-committee Machine Learning (Member 2016-2017)
    - Sub-Committee BioBigData (Chair 2016-2017)
    - LSC Fiscal Director (2017)
    - Historian of Science (2012)
    - Life Science Center Director Search (2006)
- Evolutionary Studies Program Board Member (2013 – 2014)

- Summer Plant Genome Undergraduate Intern Presenter (2006 – 2011)
- Mizzou Scholars Fellowship Judge (2008 – 2013)
- Interdisciplinary Plant Group Symposium Co-organizer (2011 and 2018)
- Exploring Life Sciences at MU (presentation to high school students) (2011)
- Bond LSC Forum Presenter for Missouri Freshman Elected Representatives (2008)
- Darwin Days co-organizer (2006 – 2009)
- Life Science Week Organizer, Plant Domestication Workshop (2006 – 2007)

**MU Division of Biological Sciences Departmental Service:** Selected list from 2006-2021

- Greenhouse Committee (2006 – 2021)
- Tucker Prairie Committee (2015 – 2018)
- Chair of Systems Biologist Search Committee (2014 – 2015)
- Divisional Council (2014 – 2015)

## PROFESSIONAL ACTIVITIES AND NATIONAL / INTERNATIONAL SERVICE

**Evidence of global leadership in directing and collaborating with international groups.**
I have been extensively involved with several high-impact publications as part of international collaborations (e.g., One thousand plant transcriptomes 2019 in *Nature*), including several *Brassica* genomes (e.g., Chalhoub et al. 2014 *Science*, Liu et al. 2014) and pan-genomes (Golicz et al. 2017, Hurgobin et al. 2018, Bayer et al. 2021). I have also served in leadership roles in my professional societies (Botanical Society of America, Genetics Society of America, American Society of Plant Taxonomy). I was elected to chair the Multinational Brassica Genomics Consortium (2011-2013) and am currently co-chair (2008-present) of the Multinational *Arabidopsis* Steering Committee (MASC) Natural Variation and Comparative Genomics subcommittee. I have served as co-editor of seven special journal issues and review another 12-40 manuscripts per year. I also have led or participated in national and international grant panels and review tenure and promotion dossiers. Since 2005, I have co-organized 21 conferences or symposia; including every aspect of writing proposals, developing programs with a diverse array of speakers, planning a budget, executing the meeting, and working with societies after the conference to get the proceedings published. My global collaborations in these efforts have been in Australia, China, France, Netherlands, Norway, Spain, United Kingdom, and the USA. Collectively, these experience in leadership prepared me for administrative and management leadership roles as I have interacted with a diverse group of researchers from many countries and backgrounds.

**Offices Held in Professional Societies:**

- Natural Variation and Comparative Genomics subcommittee, Multinational Arabidopsis Steering Committee (MASC), Co-chair (2008-present) and member (2006-present).
- Multinational Brassica Genomics Consortium (MBGC), Chair (2011-2013) and member (2006-present).
- Botanical Society of America, Secretary (2021-2022)
- Botanical Society of America Publications Strategic Planning Committee (2020-2022)
- Botanical Society of America Publications Committee (2017-2020)
- Botanical Society of America Committee on Committees (2013-2015)
- Botanical Society of America Early Career Award Committee (2013-2014)
- Botanical Society of America Graduate Student Research Awards Committee (2007-2009)
- American Society of Plant Taxonomy Awards Committee (2013-2014)
- American Society of Plant Taxonomists Nominations Committee (2007-2008)
- Genetics Society of America, Membership Committees (2013-2014)
- International Arabidopsis Informatics Consortium (IAIC) Design Team (2011)
- International Organization of Plant Biosystematists Council Member (2001-2004)

**Journal Editorial Boards:**

- Co-Editor with Yves Van De Peer, special issue on Plant Genome Evolution, *Current Opinion in Plant Biology*, 2012, 2015, and 2017.
- Co-Editor with Michael Barker and Brian Husband, special issue on Polyploidy, *American Journal of Botany,* 2015.
- Co-Editor with Peter Raven and Jon Chase, Special issue on Biodiversity, American Journal of Botany, 2010.
- Co-Editor with James Birchler, Special issue on Plant Cytogenetics, Cytogenetic and Genome Research, 2010.
- Co-Editor, Special issue on Polyploidy, *Biological Journal of the Linnaean Society*, 2004.

**Ad hoc Manuscript Reviewer:** Selected list

*American Journal of Botany, American Naturalist, Annals of Botany*, *Biological Journal of the Linnaean Society, Botanical Journal of the Linnaean Society*, *BMC Biology*, *BMC Plant Biology*, *BMC Genomics*, *Chromosoma, Current Opinion in Genetics & Development, Current Opinion in Plant Biology* (and guest editor in 2012 and 2015 with Y. Van De Peer), *Cytogenetics & Genome Research* (and guest editor of special issue in 2010 with J. Birchler), *eLife, Genetics*, *Genome*, *Genome Biology*, *Genome Research*, *Heredity*, *Molecular Biology and Evolution*, *Molecular Ecology, Molecular Phylogenetics and Evolution, Nature, Nature Communications, Nature Ecology & Evolution, Nature Genetics, Nature Plants, New Phytologist*, *Plant Cell*, *Plant Physiology, Plant Journal*, *Plant Systematics and Evolution*, *PNAS*, *PLOS Comp Bio, PLOS Genetics*, *PLOS One, Systematic Biology*; *Theoretical and Applied Genetics*, *Trends in Genetics, Trends in Plant Science*.

**National Science Foundation Panel Service:**

- IOS: Plant Genome, Washington DC, USA: Summer 2014, Summer 2020.
- BII: Biological Integration Institutes: Summer 2020.
- IOS: Plant and fungal development, Washington DC, USA: Spring 2015.
- DEB: Evolutionary Genetics, Washington DC, USA: Fall 2013.
- MCB: Molecular and Cell Biology, Washington DC, USA: Spring 2011.

**National Science Foundation Site Visits:**

- IOS: Plant Genome, Washington DC, USA: Fall 2008.
- NSF Legume Comparative Genomics, San Diego, CA, USA; Spring 2006, Spring 2007.
- IOS: Plant Genome, Reverse Site Visit to Iowa State, IA, USA; Fall 2005.

**Department of Energy (DOE) Panel Service:**

- DOE Biological and Environmental Research (BER); June 2019.

**Program Reviews**

- Biological Sciences Graduate Program, Washington University in St. Louis (2019)

**Ad hoc Reviewer for Granting Agencies; Tenure and Promotion Reviews**

- Agriculture/Agri-Food Canada (2006, 2007, 2009)
- Australian-China International Science Linkages (2009)
- Austrian Science Fund (2009)
- Biotechnology and Biological Sciences Research Council (BBSRC, UK) (2008),
- Canada Discovery Grant (2010)
- Czech Science Foundation (2009)
- DOE Biological and Environmental Research (BER); June 2019.
- Deutsche Forschungsgemeinschaft (German Research Foundation) (2008)
- French National Research Agency (2009)
- Kansas State University Integrated Genomics Facility Seed Grants (2010)
- International Foundation for Science (2010)
- Israeli Science Foundation (2009, 2012)
- National Geographic (2013, 2015, 2016)
- NERC, United Kingdom, (2013, 2017) NSERC, Canada, (2010)
- External Examiner for Ph.D. Examinations (New Zealand; 2014)
- Ohio Plant Biotechnology Consortium (2014, 2015)
- Research Foundation – Flanders, Belgium, (2012, 2013, 2014)
- South Africa National Research Foundation (2014)
- Swiss National Science Foundation (2020)
- US Department of Energy (2019)
- US National Science Foundation (Every year from 2003-2022)
- Tenure reviews for promotion to Associate Professor (2008, 2011-2013, 2015-2019, 2021, 2022)
- Tenure reviews for promotion to Full Professor (2021, 2022)

**Conference Organization: [30 career total]**

1. Co-Organizer, Plant Genome Evolution 2019 (Sitges, Spain, October 2019).
2. Co-Organizer, Plant & Animal Genome, Brassica session (San Diego, Calif, USA; 2019).
3. Co-Organizer, Botanical Society of America symposium on "Comparative Biochemistry" (Rochester, MN USA. July 2018).
4. Co-Organizer, Plant & Animal Genome, Brassica session (San Diego, Calif, USA; 2018).
5. Co-Organizer, Plant Genome Evolution 2017 (Sitges, Spain, October 2017).
6. Co-Organizer, International Botanical Congress (Shenzen, China, August 2017
7. Co-Organizer, Plant & Animal Genome, Brassica session (San Diego, Calif, USA; 2017).
8. Co-Organizer, Plant & Animal Genome, Brassica session (San Diego, Calif, USA; 2016).
9. Co-Organizer, Plant Genome Evolution 2015 (Amsterdam, Netherlands, September 2015).
10. Co-Organizer, Plant & Animal Genome, Brassica session (San Diego, Calif, USA; 2015).
11. Co-organizer, Society of Systematic Biology Symposium; Phylogenomics, transcriptomics and the evolution of gene expression (Raleigh, North Carolina, June 2014)
12. Co-organizer, 19th Crucifer Genetics Workshop (Wuhan, China, April 2014)
13. Co-Organizer, Plant & Animal Genome, Brassica session (San Diego, Calif, USA; 2014).
14. Co-Organizer, Plant Genome Evolution 2013 (Amsterdam, Netherlands, September 2013).
15. Co-Organizer, Plant & Animal Genome, Brassica session (San Diego, Calif, USA; 2013).
16. Co-Organizer, Plant Genome Evolution 2011 (Amsterdam, Netherlands, September 2011).
17. Co-Organizer, International Botanic Congress 2011, Brassicales session (Melbourne, Australia, August 2011).
18. Co-Organizer, MU IPG Conference 2011, Food for the Future, (Columbia, Missouri, USA: May 2011)
19. Co-Organizer, Plant & Animal Genome, Polyploid session (San Diego, Calif., USA; 2010).
20. Organizer, International Plant Molecular Biology symposium, Speciation session (St, Louis, Missouri, USA; July 2009).
21. Co-Organizer, International Plant Molecular Biology symposium, Epigenetic session (St, Louis, Missouri, USA; July 2009).
22. Organizer, International Chromosome Conference, Polyploidy session (Boone, NC, USA; June 2009
23. Co-Organizer, Plant & Animal Genome, Polyploid session (San Diego, Calif., USA; 2009).
24. Co-Organizer, International Polyploidy Conference (St. Malo, France, May 2009)
25. Co-Organizer, MU Darwin Days Symposium (Columbia, MO, USA, March 2009)

26. Co-Organize, 16th International Brassica Meeting/Crucifer Genetics (Lillehammer, Norway, September 2008).
27. Co-Organizer, Plant & Animal Genome, Polyploid session (San Diego, Calif., USA; 2008).
28. Co-Organizer, Botanical Society of America and American Society of Plant Taxonomy symposium on "Phylogenomics" (Chicago, IL, USA. July 2007).
29. Co-Organizer, International Polyploidy Conference (Beijing, China, May 2007).
30. Co-Organizer, Plant & Animal Genome, Polyploid session (San Diego, Calif., USA; 2007).

**PUBLIC ENGAGEMENT AND EXTENSION**

**Engagement and Outreach Activities**

MU LSC Decoding Science News

- Kathryn Vanden Hoek #IAmScience (2022)
- A feral past may help chart the future for Brassica vegetables (2021)
- Lab explores link between genetic differences and domestication in kale (2021)
- Ph.D. botanist inspired to start African American scientist series (2021)
- Shawn Thomas #IAmScience (2021); Michael Pisias #IAmScience (2021)
- Another Piece of the Pi: Tech gives research automation edge

- Media releases related to Mabry et al. (2021) 'The Evolutionary History of Wild, Domesticated, and Feral *Brassica oleracea* (Brassicaceae)' paper: *New Scientist* (Dec 2022)
- Cornell University lecture (2019) Chris Pires: Impact of Polyploidy and Domestication on Genome and Network Evolution
- Talking Biotech Podcast with Kevin Folta (#068 published on 4 February 2017) *Thirty-minute interview with Pires and two of his graduate students. Over 5,000 downloads*
- DOE JGI Genomics of Energy & Environment Meeting (2017) *Thirty-minute lecture. Over 137 views*
- How Molecular Ecologists Work: J. Chris Pires on mono-tasking, not doing it all yourself, and defining that dream job (2016)
- Science Café Columbia (2015) *Thirty-minute talk to lay audience in Café/Pub setting in Columbia, Missouri* "The Evolution of Flavor" (August 10) 2015
- Media releases related to Edger et al. (2015) 'The butterfly plant arms-race escalated by gene and genome duplication' PNAS paper, received significant media attention. The media release appeared in 184 media outlets including *The Daily Mail, Digital Journal, ScienceDaily*, *Phys.org, Futurity, NPR's "The Salt," the Washington Post, Topix, United Press International, Reddit, Science World Report,* and *Tech Times* which, together, boast more than *108 million unique visitors per month*. Perhaps most importantly, the paper inspired the opening joke on a popular TV show, *The Big Bang Theory* (Series 9, Episode 03).
- Dogs of the Plant World / SciXchange (2014) *Mentored two undergraduate students for three-minute video. Over 1,000 views*
- Darwin's Neglected Idea: How Does Evolution Prune the Family Tree? Saturday Morning Science Seminar (2008) *Fifty-minute talk to lay audience at the University of Missouri*
- Missouri Native Plant Society (2005) Discussion with plant enthusiasts about the Native Plants

## PUBLICATIONS AND IMPACT OF SCHOLARLY WORK

**Track record of publications: citations and scholarly impact.**
Total career of **186** publications.
In 2015 and 2018, I was named a **Thomson Reuters' Highly Cited Researcher**, a prestigious list of the top 1% of researchers as measured by Essential Science Indicators.

H-index of **78**, i10-index of **165**, cited **28,894** times on Google Scholar (as of 30 December 2022); Web of Science h-index **61**; Scopus h-index **60** (both as of 02 September 2022)

NCBI MyBibliography lists 172 articles (via eraCommons or Google): see

*Key*: Highly cited or notable papers indicated by **bold double asterisk (**)** with Google Scholar citation number given if over 59 citations (as of 28 May 2022). For coauthors at MU**: undergraduate students, graduate students, and postdocs in Pires lab and Pires in bold**.

### *2023 (2 Currently in Review)*

1. Hendriks, K.P., Kiefer, C., Al-Shebaz, I.A., Bailey, C.D., van Huysduynen, A.H., Nicolov, L.A., Nauheimer, L., Zuntini, A.R., German, G.A, Franzke A., Koch, M.A., Lysak, M.A., Toro-Nunez, O., Ozudogru, B., Invernon, V.R., Walden, N., Maurin, O., Hay, N.M., Shushkov, P., Mandakova, T., Schranz, M.E., Thulin, M., Windham, M.D., Resetnik, I., Spaniel, S., Ly, E., **Pires, J.C.**, Harkess, A., Neuffer, B., Vogt, R., Brauchler, C., Rainer, H., Janssens, S.B., Schmull, M., Forrest, A., Guggisberg, A., Zmartzy, S., Lepschi, B.J., Scarlett, N., Stauffer, F.W., Schonberger, I., Heenan, P., Baker, W.J., Forest, F., Mummenhoff, K, and Lens, F. 2022. Less is more: Global Brassicaceae phylogeny based on filtering of 1,000 gene dataset. In review. Preprint in 2022: *bioRxiv* doi.org/10.1101/2022.09.01.506188
2. Bird, K.A., **Pires, J.C.**, VanBuren, R., Xiong, Z., and Edger, PP. 2022. Gene balance in allopolyploids: Homoeologous exchanges show signs of dosage constraints and dosage constraint of biased homoeologs differs between subgenomes. In revision. Preprint in 2021: *bioRxiv* doi.org/10.1101/2021.11.16.468838

### *2022 (8 publications)*

1. Timilsena, P.R., Barrett, C.F., Nelson, A.P., Wafula, E.K., Ayyampalayam, S., McNeal, J.R., Yukawa, T., Givnish, T.J., Graham, S.W., **Pires, J.C.,** Davis, J.I., Ané, C., Stevenson, D.W., Leebens-Mack, J., Martínez-Salas, E., Álvarez-Buylla, E.R., and dePamphilis, C.W. 2022. Phylotranscriptomic analyses of mycoheterotrophic monocots show a continuum of evolutionary changes in expressed nuclear genes from three independent nonphotosynthetic lineages. *Genome Biology and Evolution*. Early online
2. **Thomas, S.K.**, **An, H.**, and **Pires, J.C.** 2022. Mangroves and multiplications: Influence of genome duplications on salt tolerance. *Molecular Ecology*. Early online.

3. Timilsina, P.R., Wafula, E.K., Barrett, C.F., Ayyampalayam, S., McNeal, J., Rentsch, J.D., McKain, M.R., Heyduk, K., Harkess, A., Villegente, M., Conran, J.G., Illing, N., Fogliani, B., Ane, C., **Pires, J.C.**, Davis, J., Zomlefer, W.B., Stevenson, D.W., Graham, S.W., Givnish, T.J., Leebens-Mack, J., and dePamphilis, C.W. 2022. Phylogenomic resolution of order-and family-level monocot relationships using 602 single copy nuclear genes and 1375 BUSCO genes. *Frontiers in Plant Science* 13: 876779.
4. **Pisias, M.**, Bakala, H, **Mabry, M.**, McAlvey, A., Birchler, J., Yang, B., and **Pires, J.C**. 2022. Prospects of Feral Crop De Novo Re-Domestication. *Plant & Cell Physiology* pcac072, doi.org/10.1093/pcp/pcac072
5. Yim, W.C., Swain, M.L., Ma, D., An, H., Bird, K.A., Ham, H.D., Curdie, D.D., Wang, S., Ham, H.D., Luzuriaga-Neira, A., Kirkwood, J.S., Hur, M., Solomon, J.K.Q,, Harper, J.F., Kosma, D.K., Alvarez-Ponce, D., Cushman, J.C., Edger, P.P., Mason, A.S., **Pires, J.C.**, Tang, H., and Zhang, X. 2022. The last missing piece of the Triangle of U: the evolution of the tetraploid *Brassica carinata* genome. *Plant Cell*. 34: 4143-4172.
6. Hu, J, Chen, B., Zhao, J., Zhang, F., Xie, T., Xu, K, Gao, G., Yan, G., Li, H., Li, L., Ji., G., **An, H.** Li, H., Huang, Q., Zhang, M., Wu, J., Song, W., Zhang, X., Luo, Y. **Pires, J.C.**, Batley, J., Tian, S., and Wu, X. 2022. Genomic selection and genetic architecture for agronomic traits during modern rapeseed breeding. *Nature Genetics* 54: 694-704.
7. Hao, Y., Fleming, J., Petterson, J., Lyons, E., Edger, P.P, **Pires, J.C.**, Thorne, J.L., and Conant, G. 2022. Convergent evolution of polyploid genomes from across the eukaryotic tree of life. *G3* 12(6): jkac094.
8. **Washburn, J.D.**, **Kothapalli, S., Brose, J.M.**, Covshoff, S., Hibberd, J.M., Conant, G.C., and **Pires, J.C.** 2022. Distinct C4 sub-types and C3 bundle sheath isolation in the Paniceae grasses. *Plant Direct* 5(12): e373. Also *bioRxiv* preprint in 2017.

***2021 (13 publications)***

1. Bayer, P.E., Scheben, A., Golicz, A.A., Yuan, Y., Faure, S., Lee, HT., Chawla, H.S., Anderson, R., Bancroft, I., Raman, H., Lim, Y.P., Robbens, SS., Jiang, L., Liu, S., Barker, M.S., Schranz, M.E., Wang, X., King, G.J., **Pires, J.C.**, Chalhoub, B., Snowdon, R.J., Batley, J., and Edwards, D. 2021. Modelling of gene loss propensity in the pangenomes of three Brassica species suggests different mechanisms between polyploids and diploids. *Plant Biotechnology Journal* 19: 2488 – 2500. doi: 10.1111/pbi.13674
2. Kang, L., Qian, L., Zheng, M., Chen, L., Chen, H., Yang, L., You, L., Yang, B., Yan, M., Gu, Y., Wang, T., Schiessl, S.V., An, H., Blischak, P., Liu, X., Lu, H., Zhang, D., Rao, Y., Jia, D., Zhou, D., Xiao, H., Wang, Y., Xiong, X., Mason, A.S., **Pires, J.C.**, Snowdon, R., Hua, W., and Liu, Z. 2021. Genomic insights into the origin, domestication, and diversification of *Brassica juncea. Nature Genetics* 53: 1392-1402. Preprint in 2020: bioRxiv doi.org/10.1101/2020.06.15.153296
3. **Mabry, M.E.**, **Turner-Hissong, S.D., Gallagher, E.Y.**, McAlvay, A.C., Edger, P.P., Walley, P.G., Teakle, G.R., Hand, P., Pink, D.A.C., Stevens, C., Barker, G., **An, H.** Labate, J., Fuller, D.Q., Allaby, R.G., Decker, J.E., Gore, M., and **Pires, J.C.** 2021. The

evolutionary history of wild and domesticated *Brassica oleracea* (Brassicaceae). *Molecular Biology and Evolution* 38: 4419-4434. doi: 10.1093/molbev/msab183

4. McAlvay, A.C., Ragsdale, A.P., Qi, X., Bird, K., Velasco, P., An, H., **Mabry, M.E.**, **Pires, J.C.**, and Emshwiller, E. 2021. *Brassica rapa* domestication: untangling wild and feral forms and multiple origins of leafy crops. *Molecular Biology and Evolution* 38: 3358-3372.
5. Hao, Y., **Mabry, M.,** Edger, P.P, Jin, L, Chuafuang X, VanBuren, R., Colle, M., An, H., **Abrahams, R.S**., Qi, X, Sankoff, D., Barker, M.S., Lyons, E., **Pires, J.C.**, and Conant, G.C. 2021. The contributions from the progenitor genomes of the mesopolypoid Brassiceae are evolutionarily distinct but functionally compatible. *Genome Research* 31: 799-810. Preprint in 2020: *bioRxiv* doi.org/10.1101/2020.08.10.245258
6. Hendriks, K., Mandakova, T., Hay, N.M., van Huysduynen, A.H., Tamrakar, R., **Thomas, S.K.**, Toro-Nunez, O., **Pires, J.C.**, Nikolov, L.A., Koch, M.A., Windham, M.D., Lysak, M.A., Forest, F., Mumenhoff, K., Baker, W.J., Lens, F., and Bailey, C.D. 2021. The best of both worlds: Combining lineage specific and universal bait sets in target enrichment hybridization reactions. *Applications in Plant Science* 9: e11438.
7. Beric, A., **Mabry, M.E.**, Harkess, A.E., Schranz, M.E., Conant, G.C., Edger, P.P., Meyers, B.C., and **Pires, J.C**. 2021. Surprising amount of stasis in repetitive genome content across the Brassicales. *G3* 11(7), doi: 10.1093/g3journal/jkab140
8. Katz, E., Li, J-J., Jaegle, B., Ashkenazi, H., **Abrahams, R.S.**, Bagaza, C., Holden, S., **Pires, J.C.**, Angelovici, R., and Kliebenstein, D.J. 2021. Genetic variation, environment and demography intersect to shape Arabidopsis defense metabolite variation across Europe. *eLife* 10 : e67784.
9. Xiong, Z., Gaeta, R.T., Edger, P.P., Cao, Y., Zhao, K, Zhang, S., and **Pires, J.C.** 2021. Chromosome inheritance and meiotic stability in allopolyploid *Brassica napus. G3* 11: doi.org/10.1093/g3journal/jkaa011
10. **Mabry, M.E.**, Rowan, T., **Pires, J.C.** and Decker, J. 2021. Feralization: Confronting Complex Biology of Domestication and Evolution. *Trends in Genetics* 37: 302-305. doi.org/10.1016/j.tig.2021.01.005
11. **Arias, T.**, Niederhuth, C., McSteen, P. and **Pires, J.C**. 2021. The molecular basis of Kale domestication: Transcription profiling of developing leaves provides new insights into the evolution of Brassica oleracea vegetative morphotype. *Frontiers in Plant Science* 12: 109. doi.org/10.3389/fpls.2021.637115 Preprint in 2020: *bioRxiv* doi.org.2020.11.25.398347v1
12. Qi, X, **An, H**., Hall, T.E., Di, C., Blischak, P.D., **Pires, J.C.**, and Barker, M.S. 2021. Genes derived from ancient polyploidy have higher genetic diversity and are associated with domestication in Brassica rapa. *New Phytologist* 230: 372-386. doi.org/10.1111/nph.17194. Preprint in 2019: bioRxiv doi:10.1101/842351
13. Bird, K.A., Niederhuth, C., Perez, S., Ou, S., Gehan, M., **Pires, J.C.**, Xiong, Z., VanBuren, R., and Edger, P.P. 2021. Replaying the evolutionary tape to investigate

subgenome dominance in allopolyploid Brassica napus. *New Phytologist* 230: 354-371. doi.org/10.1111/nph.17137. Preprint in 2019: *bioRxiv* doi:10.1101/814491

***2020 (6 publications)***

1. Parry, G., Provart, N.J., Brady, S.M., Uzilday, B & The Multinational Arabidopsis Steering Committee. 2020. Current status of the multinational Arabidopsis community. *Plant Direct* 2020: 4: 1-9. e00248
2. **Mabry, M.E., Brose, J.M.,** Blischak, P.D., Sutherland, B., **Dismukes, W.T.,** Bottoms, C.A., Edger, P.P., Washburn, J.D., **An, H.,** Hall, J.C., McKain, M.R., Al-Shebaz, I., Barker, M.S., Schranz, M.E., Conant, G.C., and **Pires, J.C.** 2020. Phylogeny and multiple independent whole-genome duplication events in the Brassicales. *American Journal of Botany* 107: 1148-1164. Preprint in 2019: *bioRxiv* doi:10.1101/789040
3. **Abrahams, R.S., Pires, J.C.** and Schranz, M.E. 2020. Genomic origin and diversification of the glucosinolate MAM locus. *Frontiers in Plant Science* 11: 711.
4. Gunn, B.F., Murphy, D.J., Walsh, N.G., Conran, J.G., **Pires, J.C.**, MacFarlane, T.D., and Birch, J.L. 2020. Evolution of Lomandroideae: Multiple origins of polyploidy and biome occupancy in Australia. *Molecular Phylogenetics and Evolution* 149: 106836.
5. **Turner-Hissong, S.D., Mabry, M.E.,** Beissinger, T.M., Ross-Ibarra, J. and **Pires, J.C.** 2020. Evolutionary insights into plant breeding. *Current Opinion in Plant Biology* 54: 93-100. Preprint in 2019: *AgRixiv* doi:10.31220/osf.io/akdt8
6. Zust, T., Strickler, S.R., Powell, A.F., **Mabry, M.E., An, H.**, Mirzaei, M., York, T. Holland, C.K., Kumar, P., Erb, M., Petschenka, G., Gomez, J.M., Perfectti, F., Muller, C., **Pires, J.C.**, Mueller, L.A. and Jander, G. 2020. Rapid and independent evolution of ancestral and novel defenses in a genus of toxic plants (*Erysimum*, Brassicaceae). *eLife* 9: e51712 DOI: 10.7554/eLife.51712. Preprint in 2019: *bioRxiv* doi.org/10.1101/761569

***2019 (7 publications and one preprint on bioRxiv)***

1. One Thousand Plant Transcriptomes Initiative. 2019. One thousand plant transcriptomes and phylogenomics of green plants. *Nature* 574: 679-685. *****This paper has been cited over 643 times on Google Scholar;*** **Featured on several news outlets.**
2. **Grindstaff, B., Mabry, M.E.,** Blischak, P.D., Quinn, M., and **Pires, J.C.** 2019. Affordable remote monitoring of plant growth and facilities using raspberry pi computers. *Applications in Plant Science* 7(8): e11280. Preprint 2019 on *bioRxiv* ****Featured on Eureka alert**
3. Osman, E.Y., Bolding, M.R., Villalón, E., Kaifer, K.A., Lorson, Z.C., Tisdale, S., Hao, Y. Conant, G.C., **Pires, J.C.,** Pellizzoni, L., and Lorson, C.L. 2019. Functional characterization of SMN evolution in mouse models of SMA. *Scientific Reports* 9: 9472.
4. **An, H.**, Qi, X., **Gaynor, M.L.,** Hao, Y., **Gebken, S.C., Mabry, M.E.,** McAlvay, A.C., Teakle, G.R., Conant, G.C., Barker, M.S., Fu, T., Yi, B., and **Pires, J.C**. 2019.

Transcriptome and organellar genome sequencing elucidates the origin and diversification of allotetraploid *Brassica napus*. *Nature Communications* 10: 2878.

5. Wilhelmsson, P.K.I., Chandler, J.O., Fernandez-Pozo, N., Graeber, K., Ullrich, K.K., Arshad, W., Khan, S., Hofberger, J.A., Buchta, K., Edger, P.P., **Pires, J.C.,** Schranz, M.E., Leubner-Metzger, G., and Rensing, S.A. 2019. Usability of reference-free transcriptome assemblies for detection of differential expression: a case study on *Aethionema arabicum* dimorphic seeds. *BMC Genomics* 20: 95.
6. Smith, S.D., Angelovici, R., Heyduk, K., Maeda, H.A., Moghe, G.D., **Pires, J.C.**, Widhalm, J.R., and Wiscaver, J.H. 2019. The renaissance of comparative biochemistry. *American Journal of Botany* 106: 3-13.
7. International Arabidopsis Informatics Consortium (Doherty, C., Friesner, J., Gregory, B., Loraine, A., Megraw, M., Meyers, B., Provart, N., Slotkin, R., Town, C., Assmann, S., Axtell, M., Berardini, T., Chen, S., Gehan, M., Huala, E., Jaiswal, P., Larson, S., Li, S., May, S., Michael, T., **Pires, J.C.,** Topp, C., Walley, J., and Wurtele, E). 2019. Arabidopsis Bioinformatics Resources: The Current State, Challenges, and Priorities for the Future. *Plant Direct* 3(1): e00109.
8. **Unruh, S.A., Pires, J.C.,** Zettler, L., Erba, L., Grigoriev, I., Barry, K., Daum, C., Lipzen, A., and Stajich, J.E. 2019. Shallow genome sequencing for phylogenomics of mycorrhizal fungi from endangered orchids. In preparation. Preprint in 2019: *bioRxiv* doi:10.1101/862763

***2018 (12 publications)***

1. McAlvay, A.C., **Bird, K.,** Poulsen, G., **Pires, J.C.,** and Emshwiller, E. 2018. Barriers and prospects for wild crop relative research in *Brassica rapa*. *Acta Horticulturae* 1202: 165-177.
2. Givnish, T.J. Zuluaga, A., Spalink, D., Gomez, M.S., Lam, V.K.Y., Saarela, J.M., Sass, C., Iles, W.J.D., deSousa, D.J.L., Leebens-Mack, J., **Pires, J.C.,** Zomlefer, W.B., Gandolfo, M.A., Davis, J.I., Stevenson, D.W., dePamphilis, C., Specht, C.D., Graham, S.W., Barrett, C.F., and Ane, C. 2018. Monocot plastid phylogenomics, timeline, net rates of species diversification, the power of multi-gene analyses, and a functional model for the origin of monocots. *American Journal of Botany* 105: 1888-1910. *****This paper has been cited over 109 times on Google Scholar;***
3. Blischak, P.D, **Mabry, M.E.,** Conant, G.C., and **Pires, J.C.** 2018. Integrating networks, phylogenomics, and population genomics for the study of polyploidy. *Annual Review of Ecology, Evolution, and Systematics* 49: 253-278.
4. Li, M., **An, H.,** Angelovici, R., Bagaza, C., Batushansky, A., Clark, L., Coneva, V., Donoghue, M.J., Edwards, E., Fajardo, D., Fang, H., Frank, M.H., Gallaher, T., **Gebken, S.,** Hill, T., Jansky, S., Kaur, B., Klahs, P.C., Klein, L.L., Kuraparthy, V., Londo, J., Migicovsky, Z., Miller, A., Mohn, R., Myles, S., Otoni, W.C., **Pires, J.C.**, Riffer, E., Schmerler, S., Spriggs, E., Topp, C.N., Van Deynze, A., Zhang, K., Zhu, L., Zink, B.M., and Chitwood, D.H. 2018. Topological data analysis as a

morphometric method: Using persistent homology to demarcate a leaf morphospace. *Frontiers in Plant Science* 9: 553. Preprint in 2017: *bioRxiv* doi.org/10.1101/151712

5. Van de Peer, Y., and **Pires, J.C.** 2018. Editorial overview: Genome studies and molecular genetics: Treasure troves of evolution. *Current Opinion in Plant Biology* 42: iii-v.
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***2016 (16 publications)***

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***2015 (12 publications)***

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2. Momany, M, Di Pietro, A., Alexander, W.G., Barker, B.M., Harb, O.S., Kamoun, S., Martin, F., **Pires, J.C.**, Stajich, J.E., Thomma, B.P.H.J., and **Unruh, S**. 2015. Meeting Report: Fungal Genomics Meets Social Media: Highlights of the 28th Fungal Genetics Conference at Asilomar. *G3: Genes Genomes Genetics* 5: 2523-2525.
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***2014 (17 publications)***

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15. Henriquez, C.L., **Arias, T., Pires, J.C.**, Croat, T.B., and Schaal, B.A. 2014. Phylogenomics of the plant family Araceae. *Molecular Phylogenetics and Evolution* 75: 91-102. *****This paper has been cited over 99 times on Google Scholar.***
16. **Hertweck, K.,** and **Pires, J.C.** 2014. Systematics and evolution of inflorescence structure in the *Tradescantia* alliance (Commelinaceae). *Systematic Botany* 39: 105-116.
17. **Arias, T.,** Beilstein, M.A., **Tang, M.,** McKain, M.R., and **Pires, J.C.** 2014. Diversification times among *Brassica* crops suggest hybrid formation after twenty million years of divergence. *American Journal of Botany* 101: 86-91. *****This paper has been cited over 81 times on Google Scholar.***

***2013 (5 publications)***

1. Hofberger, J., Lyons, E., **Edger, P.P, Pires, J.C.**, and Schranz, M. E. 2013. Whole genome and tandem duplicate retention facilitated glucosinolate pathway diversification in the mustard family. *Genome Biology and Evolution* 5: 2155-2173. *****This paper has been cited over 74 times on Google Scholar.***
2. Haudry, A., Platts, A.E., Vello, E., Hoen, D., Leclercq, M., Williamson, R., Forczek, E., Joly-Lopez, Z., Steffen, J., Hazzouri, K.M., Dewar, K., Stinchcombe, J.R., Schoen, D.J., Wang, X., Schmutz, J., Town, C.D., **Edger, P.P., Pires, J.C.**, Schumaker, K.S., Jarvis, D.E., Mandakova, T., Lysak, M.A., Schranz, M.E., van den Bergh, E., Harrison, P., Moses, A.M., Bureau, T.E., Wright, S.I., and Blanchette, M. 2013. An atlas of over 90,000 conserved non-coding sequences yields detailed insight into crucifer regulatory regions. *Nature Genetics* 45: 891-900. *****This paper has been cited over 320 times on Google Scholar.***

3. **Wheeler, E.J., Mashayekhi, S.,** McNeal, D.W., Columbus, J.T., and **Pires, J.C.** 2013. Molecular systematics of *Allium* subgenus *Amerallium* (Amaryllidaceae) in North America. *American Journal of Botany* 100: 701-711.
4. **Subramaniam, S.,** Wang, X., Freeling, M. and **Pires, J.C.** 2013. The fate of *Arabidopsis thaliana* homeologous CNSs and their motifs in the paleohexaploid *Brassica rapa*. *Genome Biology and Evolution* 5: 646-660.
5. **Mayfield-Jones, D., Washburn, J.D., Arias, T., Edger, P.P., Pires, J.C.**, and Conant, G.C. 2013. Watching the grin fade: Tracing the effects of polyploidy on different evolutionary time scales. *Seminars in Cell and Developmental Biology* 24: 320-331.

***2012 (15 publications)***

1. Johnson, M.T.J., Carpenter, E.J., Tian, Z., Bruskiewich, R., Burris, J.N., Carrigan, C.T., Chase, M.W., Clarke, N.D., Covshoff, S., dePamphilis, C.W., **Edger, P.P.**, Goh, F., Graham, S., Greiner, S., Hibberd, J.M., Jordon-Thaden, I., Kutchan, T.M., Leebens-Mack, J., Melkonian, M., Miles, N, Myburg, H., Patterson, J., **Pires, J.C.**, Ralph, P., Rolf, M., Sage, R.F., Soltis, D., Soltis, P., Stevenson, D., Stewart, C.N., Surek, B., Thomsen, C.J.M., Villarreal, J.C., Wu, X., Zhang, Y., Deyholos, M.K., and Wong, G.K-S. 2012. Evaluating methods for isolating total RNA and predicting the success of sequencing phylogenetically diverse plant transcriptomes. *PLoS ONE* 7: e50226. *****This paper has been cited over 207 times on Google Scholar.***
2. **Arias, T.** and **Pires, J.C.** 2012. A fully resolved chloroplast phylogeny of the brassica crops and wild relatives (Brassicaceae: Brassiceae): Novel clades and potential taxonomic implications. *Taxon* 61: 980-988. *****This paper has been cited over 59 times on Google Scholar.***
3. **Witzig, S.B**., Freyermuth, S.K., Siegel, M.A., Izci, K., and **Pires, J.C.** 2012. Is DNA alive? A study of conceptual change through targeted instruction. *Research in Science Education* DOI 10.1007/s11165-012-9311-4.
4. Bekaert, M. **Edger, P.P., Hudson, C.M.**, **Pires, J.C.** and Conant, G.C. 2012. Metabolic and evolutionary costs of herbivory defense: systems biology of glucosinolate synthesis. *New Phytologist* 196: 596-605. *****This paper has been cited over 154 times on Google Scholar.***
5. The International Arabidopsis Informatics Consortium. 2012. Taking the next step: Building an Arabidopsis Information Portal. *Plant Cell* 24: 2248-2256.
6. Heneen, W.K., Gelata, M., Brismar, K., **Xiong, Z, Pires, J.C.**, Hasterok, R., Stoute, A.I., Scott, R.J., King, G.J. and Smita, K. 2012. Seed colour loci, homoeology and linkage groups of the C-genome chromosomes revealed in *Brassica rapa – B. oleracea* monosomic alien addition lines. *Annals of Botany* 109: 1227-1242.
7. Schnable, J.C., Wang, X., **Pires, J.C.**, and Freeling, M. 2012. Escape from preferential retention following repeated whole genome duplications in plants. *Frontiers in Plant Science* 3: 94. *****This paper has been cited over 69 times on Google Scholar.***

8. Seberg, O., Petersen, G., Davis, J.I., **Pires, J.C.**, Stevenson, D.W., Chase, M.W., Fay, M.F., Devey, D.S., Jorgensen, T., Sytsma, K.J., and Pillon, Y. 2012. Phylogeny of the Asparagales based on three plastid and two mitochondrial genes. *American Journal of Botany* 99: 875-889. ****This paper has been cited over 88 times on Google Scholar.***
9. Van de Peer, Y., and **Pires, J.C.** 2012. Getting up to speed. *Current Opinion in Plant Biology* 15: 111-114.
10. Reneker, J., Lyons, E., Conant, G.C., **Pires, J.C.**, Freeling, M., Shyu, C-R., and Korkin, D. 2012. Long identical multispecies elements in plant and animal genomes. *Proceedings of the National Academy of Sciences, U.S.A.* 109 (19): E1183-E1191.
11. **Matsushita, S.,** Tyagi, A., **Pires, J.C.**, and Madlung, A. 2012. Allopolyploidization lays the foundation for evolution of distinct populations: evidence from analysis of synthetic *Arabidopsis* allohexaploids. *Genetics* 191: 535-547.
12. Tang, H., Woodhouse, M.R., Cheng, F., Schnable, J.C., Pedersen, B.S., Conant, G., Wang, X., Freeling, M., and **Pires, J.C.** 2012. Altered patterns of fractionation and exon deletions in *Brassica rapa* support a two-step model of paleohexaploidy. *Genetics* 190: 1563-1574. ****This paper has been cited over 158 times on Google Scholar.***
13. Jiao, Y., Leebens-Mack, J., Ayyampalayam, S., Bowers, J.E., McKain, M.R., McNeal, J., Rolf, M., Ruzicka, D.R., Wafula, E., Wickett, N.J., Wu, X., Zhang, Y., Wang, J., Zhang, Y., Carpenter, E.J., Deyholos, M.K., Kutchan, T.M., Chanderbali, A.S., Soltis, P.S., Stevenson, D.W., McCombie, R., **Pires, J.C.**, Wong, G.K-S., Soltis, D.E., and dePamphilis, C.W. 2012. A genome triplication associated with early diversification of the core eudicots. *Genome Biology* 13: art. No R3. ****This paper has been cited over 314 times on Google Scholar.***
14. **Steele, P.R., Hertweck, K.L., Mayfield, D.,** McKain, M.R, Leebens-Mack, J., and **Pires, J.C.** 2012 Quality and quantity of data recovered from massively parallel sequencing: examples in Asparagales and Poaceae. *American Journal of Botany* 99: 330-348. **Invited paper for special issue on "Methods and Applications of Next-Generation Sequencing in Botany."** ****This paper has been cited over 119 times on Google Scholar.***
15. McKain, M.R., Wickett, N.J., Zhang, Y., Ayyampalayam, S, McCombie, W.R., Chase, M.W., **Pires, J.C.**, dePamphilis, C.W., and Leebens-Mack, J. 2012. Phylogenomic analysis of transcriptome data elucidates co-occurrence of a paleopolyploid event and the origin of bimodal karytoypes in Agavoideae (Asparagaceae). *American Journal of Botany* 99: 397-406. **Invited paper for special issue on "Methods and Applications of Next-Generation Sequencing in Botany."** ****This paper has been cited over 83 times on Google Scholar.***

***2011 (15 publications)***

1. Hudson C.M., Puckett, E.E., Bekaert, M., **Pires, J.C.** and Conant, G.C. 2011. Selection for higher gene copy number after different types of plant gene duplications. *Genome Biology and Evolution* 3: 1369-1380.

2. Galbraith, D.W., Bennetzen, J.L., Kellogg, E.A. **Pires, J.C.**, and Soltis, P.S. 2011. The Genomes of All Angiosperms: A Call for a Coordinated Global Census. *Journal of Botany* doi: 10.1155/2011/646198
3. Wang, X., Torres, M.J., Pierce, G., Lemke, C., Nelson, L.K., Yuksel, B., Bowers, J.E., Marler, B., Xiao, Y., Lin, L., Epps, E., Sarazen, H., Rogers, C., Karunakaran, S., Ingles, J., Giattina, E., Mun, J.H., Seol, Y.J., Park, B.S., Amasino, R. M., Quiros, C.F., Osborn, T.C., **Pires, J.C.**, Town, C. and Paterson, A.H. 2011. A physical map of *Brassica oleracea* shows complexity of chromosomal changes following recursive paleopolyploidizations. *BMC Genomics* 12: 740.
4. The *Brassica rapa* Genome Sequencing Project Consortium. 2011. The genome of the mesopolyploid crop species *Brassica rapa*. *Nature Genetics* 43: 1035-1039. *****This paper has been cited over 1855 times on Google Scholar.***
5. Bachtrog, D., Kirkpatrick, M., Mank, J.E., McDaniel, S.F., **Pires, J.C.**, Rice, W., and Valenzuela, N. 2011. Are all sex chromosomes created equal? *Trends in Genetics* 9: 350-357. *****This review paper has been cited over 324 times on Google Scholar.***
6. Bekaert, M. **Edger, P.P.**, **Pires, J.C.** and Conant, G.C. 2011. Two-phase resolution of polyploidy in the Arabidopsis metabolic network gives rise to relative and absolute dosage constraints. *Plant Cell* 23: 1719-1728. *****This paper has been cited over 138 times on Google Scholar.***
7. Zou, J. Fu, D., Gong, H, Qian, W, Xia, W, **Pires, J.C.**, Li, R.Y., Long Y., Mason, A.S. Yang T.J., Lim, Y.P., Park, B.S. and Meng, J. 2011. *De novo* genetic variation associated with retrotransposon activation, genomic rearrangements and trait variation in a recombinant inbred line population of *Brassica napus* derived from interspecific hybridization with *Brassica rapa*. *Plant Journal* 68: 212-224. *****This paper has been cited over 84 times on Google Scholar.***
8. Zuccolo, A., Bowers, J.E., Estill, J.C., **Xiong, Z.,** Luo, M., Sebastian, A., Goicoechea, J.L., Collura, K., Yu, Y., Jiao, Y., Duarte, J., Tang, H., Ayyampalayam, S., Rounsley, S., Kudrna, D., Paterson, A.H., **Pires, J.C.**, Chanderbali, A., Soltis, D.E., Chamala, S., Barbazuk, B., Soltis, P.S., Albert, V.A., Ma, H., Mandoli, D., Banks, J., Carlson, J.E., Tomkins, J. dePamphilis, C.W., Wing, R.A., and Leebens-Mack, J. 2011. A physical map of the *Amborella trichopoda* genome sheds light on the evolution of angiosperm genome structure. *Genome Biology* 12: R48.
9. **Xiong, Z., Gaeta, R.T. and Pires, J.C.** 2011. Homoeologous shuffling and chromosome compensation maintain genome balance in resynthesized allopolyploid *Brassica napus. Proceedings of the National Academy of Sciences, U.S.A.* 108: 7908-7913. *****This paper has been cited over 372 times on Google Scholar.***
10. **Mayfield, D.**, Chen, Z. J. and **Pires, J. C.** 2011. Epigenetic regulation of flowering time in polyploids. *Current Opinion in Plant Biology* 14: 174-178.

11. **Halverson, K.L.**, **Pires, J. C.** and Abell, S.K. 2011. Exploring the complexity of tree thinking expertise in an undergraduate plant systematics course. *Science Education 95: 794-823.* *****This paper has been cited over 81 times on Google Scholar.***
12. Raven, P.H. Chase, J.M., and **Pires, J. C.** 2011. Introduction to special issue on biodiversity. *American Journal of Botany* 98: 333-335.
13. **Steele, P.R., and Pires, J. C.** 2011. Biodiversity assessment: state-of-the-art techniques in phylogenomics and species identification. *American Journal of Botany* 98: 415-425. *****This paper has been cited over 81 times on Google Scholar.***
14. **Xiong, Z., and Pires, J. C.** 2011. Karyotype and identification of all homoeologous chromosomes of allopolyploid *Brassica napus* and its diploid progenitors. *Genetics* 187: 37-49. *****This paper has been cited over 131 times on Google Scholar.***
15. Navabi, K., Stead, K.E, **Pires, J.C.**, **Xiong, Z.,** Sharpe, A.G., Parkin, I.A.P., Rahman, M.H. and Good, A.G. 2011. Analysis of B-genome chromosome introgression in inter-specific hybrids of *Brassica napus x B. carinata. Genetics* 187: 659-673.

***2010 (5 publications)***

1. **Xiong, Z.,** Kim, J. S., and **Pires, J. C.** 2010. Integration of genetic, physical, and cytogenetic maps for *Brassica rapa* chromosome A7. *Cytogenetic and Genome Research* 129: 190-198.
2. **Gaeta, R.T. and Pires, J. C.** 2010. Homoeologous recombination in allopolyploids: the polyploid ratchet. *New Phytologist* 186: 18-28. *****This review paper has been cited over 298 times on Google Scholar.***
3. Givnish, T. J., Ames, M., McNeal, J. R., McKain, M.R., Steele, P. R., dePamphilis, C. W., Graham, S. W., **Pires, J. C.**, Stevenson, D. W., Zomlefer, W. B., Briggs, B. G., Duvall, M. R., Moore, M. J., Heaney, J. M., Soltis, D. E., Soltis, P. S., Thiele, K., and Leebens-Mack, J. H. 2010. Assembling the tree of the monocotyledons: Plastome sequence phylogeny and evolution of Poales. *Annals of the Missouri Botanical Garden* 97: 584-616. *****This paper has been cited over 243 times on Google Scholar.***
4. Navabi, Z.K., Parkin, I.A.P., **Pires, J.C.**, **Xiong, Z.,** Thiagarajah, M.R., Good, A.G., and Rahman, J.M. 2010. Introgression of B-genome chromosomes in a doubled haploid interspecific population of *Brassica napus x B. carinata. Genome* 53: 619-629.
5. **Duarte, J.M**, Wall, P.K., **Edger, P.P.**, Landherr, L.L., Ma, H., **Pires, J.C.**, Leebens-Mack, J. and dePamphilis, C.W. 2010. Identification of shared single copy nuclear genes in *Arabidopsis*, *Populus*, *Vitis* and *Oryza* and their phylogenetic utility across various taxonomic levels. *BMC Evolutionary Biology* 10: 61 doi:10.1186/1471-2148-10-61.*****This paper has been cited over 321 times on Google Scholar.***

***2009 (6 publications)***

1. **Edger, P.P.** and **Pires, J.C.** 2009. Gene and genome duplications: the impact of dosage sensitivity on the fate of nuclear genes. *Chromosome Research* 17: 699-717. *****This paper has been cited over 358 times on Google Scholar.***

2. **Decker, J.**, **Pires, J.C.**, Conant, G.C., McKay, S.D., Heaton, M.P., Chen, K, Cooper, A, Vikki, J., Seabury C.M., Caetano, A.R., Johnson, G.S., Brenneman, R.A., Hanotte, O., Eggert, L., Weiner, P., Kim, J.J., Kim, K.S., Sontegard, T.S., Van Tassell, C.P., Neibergs, H.L., McEwan, J.C., Brauning, R., Coutinho, L.L., Babar, M.E., Wilson, G.A., McClure, M.C., Rolf, M.M, Kim, J-W., Schnabel, R.D. and Taylor, J.F. 2009. Resolving the evolution of extant and extinct ruminants with high-throughput phylogenomics. *Proceedings of the National Academy of Sciences, U.S.A.* 106: 18644–18649. ****This paper, a project in my graduate course, has been cited over 252 times.***
3. Trick, M., Kwon, S.J., Choi, S.R., Fraser, F., Soumpourou, E., Drou, N., Wang, Z., Lee, S.Y., Yang, T.J., Mun, J.H., Paterson, A.H., Town, C.D., **Pires, J.C.**, Lim, Y.P., Park, B.S., and Bancroft, I. 2009. Complexity of genome evolution by segmental rearrangement in *Brassica rapa* revealed by sequence-level analysis. *BMC Genomics* 10: Article number 539. doi:10.1186/1471-2164-10-53.
4. Cheung, F., Trick, M., Drou, N., Lim, Y-P., Park, J-Y., Kwon, S-J., Kim, J-A, Scott, R., **Pires, J.C.**, Paterson, A.H., Town, C., and Bancroft, I. 2009. Comparative Analysis between homoeologous genome segments of *Brassica napus* and its progenitor species reveals extensive sequence-level divergence. *The Plant Cell* 21: 1912-1928. ****This paper has been cited over 190 times on Google Scholar.***
5. **Wright, K.M**., **Pires, J.C.**, and Madlung, A. 2009. Mitotic instability in synthetic and natural polyploids of the genus *Arabidopsis* (Brassicaceae). *American Journal of Botany* 96: 1656-1664.
6. **Gaeta, R.T., Yoo, S-Y., Pires, J.C.**, Doerge, R.W., Chen, Z.J., and Osborn, T.C. 2009. Analysis of gene expression in resynthesized *Brassica napus* allopolyploids using Arabidopsis 70mer oligo microarrays. *PLoS ONE* 4: Article number e4760. ****This paper has been cited over 88 times on Google Scholar.***

***2008 (2 publications)***

1. Lim, K.Y., Soltis, D., Soltis, P., Tate, J., Matyasek, R., Srubarova, H., Kovarik, A., **Pires, J.C.**, Xiong, Z. and Leitch, A.R. 2008. Rapid chromosome evolution in recently formed polyploids in *Tragopogon* (Asteraceae) – implications for species establishment and the generation of genetic diversity. *PLoS ONE 3*: Article number e3353. ****This paper has been cited over 179 times on Google Scholar**.
2. **Pires, J.C.,** and **Hertweck, K.L.** 2008. A renaissance of cytogenetics: studies in polyploidy and chromosomal evolution. *Annals of Missouri Botanical Garden* 95: 275-281.

***2007 (2 publications)***

1. Telgmann-Rauber, A., Jasmari, A., **Kinney, M.S., Pires, J.C.**, and Jung, C. 2007. Genetic and physical maps around the sex-determing M-locus of the dioecious plant asparagus (*Asparagus officinalis*). *Molecular Genetics and Genomics* 278: 221-234.

**Recognized by Faculty of 1000.** ***This paper has been cited over 98 times on Google Scholar.***

2. **Gaeta, R.T., Pires, J.C.**, Iniguez-Luy, F., Leon, E., and Osborn, T.C. 2007. Genomic changes in resynthesized Brassica napus: The effect of genomic changes on gene expression and phenotypic variation. *The Plant Cell* 19: 3403-3417. **Recognized by Faculty of 1000**. ***This paper has been cited over 632 times on Google Scholar.***

***2006 (11 publication)***

1. Leebens-Mack, J., Vision, T., Brenner, E., Bowers, J.E., Cannon, S., Clement, M.J., Cunningham, C.W., dePamphilis, C., deSalle, R., Doyle, J.J., Eisen, J.A., Gu, X., Harshman, J., Jansen, R.K., Kellogg, E.A., Koonin, E.V., Mishler, B.D., Philippe, H., **Pires, J.C.**, Qiu, Y.L., Rhee, S.Y., Sjolander, K., Soltis, D.E., Soltis, P.S., Stevenson, D.W., Wall, K., Warnow, T., and Zmasek, C. 2006. Taking the first steps towards a standard for reporting on phylogenies: minimal information about a phylogenomic analysis (MIAPA). *OMICS A Journal of Integrative Biology* 10: 231-237. ***This paper has been cited over 70 times on Google Scholar.***
2. Paterson, A.H., Bowers, J.E., Estill, J.C., Osborn, T.C., **Pires, J.C.**, Amasino, R., Quiros, C.F. and Farnham, M. 2006. Evolutionary history of the angiosperms and its relevance to Brassica. *Acta Horticulturae* 706:49-55.
3. Lukens, L.N., **Pires, J.C.**, Leon, L., Vogelzang, R.D., Oslach, L. and Osborn, T.C. 2006. Patterns of sequence loss and cytosine methylation within a population of newly resynthesized *Brassica napus*. *Plant Physiology* 140: 336-348. ***This paper has been cited over 287 times on Google Scholar.***
4. **Pires, J.C.**, Maureira, I.J., Givnish, T.J., Sytsma, K.J., Petersen, G., Seberg, O., Asmussen, C., Davis, J.I., Stevenson, D.W., Rudall, P.J., Fay, M.F. and Chase, M.W. 2006. Phylogeny, genome size, and chromosome evolution of the Asparagales. *Aliso* 22: 287-304. ***This paper has been cited over 79 times on Google Scholar.***
5. Bogler, D.J., **Pires, J.C.**, and Francisco-Ortega, J. 2006. Phylogeny of Agavaceae based on *ndhF*, *rbcL*, and ITS rDNA: Implications of molecular data for classification. *Aliso* 22: 313-328. ***This paper has been cited over 75 times on Google Scholar.***
6. Givnish, T.J., **Pires, J.C.**, Graham, S.W., McPherson, M.A., Prince, L.M., Patterson, T.B., Rai, H.S., Roalson, E.S., Evans, T.M., Hahn, W.J., Millam, K.C., Meerow, A.W., Molvray, M., Kores, P.J., O'Brien, H.E., Hall, J.C., Kress, W.J., and Sytsma, K.J. 2006. Phylogenetic relationships of monocots based on the highly informative cpDNA gene *ndh*F: Evidence for widespread concerted convergence. *Aliso* 22: 28-51. ***This paper has been cited over 117 times on Google Scholar.***
7. Graham, S.W., Zgurski, J.M., McPherson, M.A., Cherniawsky, D.M., Saarela, J.M., Horne, E.S.C., Smith, S.Y., Wong, W.A., O'Brien, H.E., Biron, V.L., **Pires, J.C.**, Olmstead, R.G., Chase, M.W., and Rai, H.S. 2006. Robust inference of monocot deep phylogeny using an expanded multigene plastid data set. *Aliso* 22: 3-21. ***This paper has been cited over 158 times on Google Scholar.***

8. Petersen, G., Seberg, O., Davis, J.I., Goldman, D.H., Stevenson, D.W., Campbell, L.M., Michelangeli, F.A., Specht, C.D., Chase, M.W., Fay, M.F., **Pires, J.C.**, Freudenstein, J.V., Hardy, C.R., and Simmons, M.P. 2006. Mitochondrial data in monocot phylogenetics. *Aliso* 22: 52-62.
9. Fay, M.F., Chase, M.W., Ronsted, N., Devey, D.S, Pillon, Y., **Pires, J.C.**, Petersen, G., Seberg, O., and Davis, J.I. 2006. Phylogenetics of Liliales: summarized evidence from combined analysis of five plastid and one mitochondrial loci. *Aliso* 22: 559-565 *****This paper has been cited over 84 times on Google Scholar.***
10. Chase, M.W., Fay, M.F., Devey, D., Maurin, O., Ronsted, N., Davies, J., Pillon, Y., Petersen, G., Tamura, M.N., Seberg, O., Asmussen, C.G., Hilu, K., Borsch, T., Davis, J.I., Stevenson, D.W., **Pires, J.C.**, Givnish, T.J., Sytsma, K.J., McPherson, M.A., Graham, S.W., and Rai, H.S. 2006. Multi-gene analyses of monocot relationships: a summary. *Aliso* 22: 63-75. *****This paper has been cited over 281 times on Google Scholar.***
11. Devey, D.S., Leitch, I.J., Rudall, P.J., **Pires, J.C.**, Pillon, Y., and Chase, M. W. 2006. Systematics of Xanthorrhoeaceae s.l., with an emphasis on *Bulbine*. *Aliso* 22: 345-351.

***2005 (4 publications)***

1. Givnish, T.J., **Pires, J.C.**, Graham, S.W., McPherson, M.A. Prince, L.M., Patterson, T.B., Rai, H.S., Roalson E.H., Evans, T.M., Hahn, W.J., Millam, K.C., Meerow, A.W., Molvray, M., Kores, P.J., O'Brien, H.E., Hall, J.C., Kress, W.J., and Sytsma, K.J. 2005. Repeated evolution of net venation and fleshy fruits among monocots in shaded habitats confirms a priori predictions: evidence from an *ndh*F phylogeny. *Proceedings of the Royal Society B-Biological Sciences* 272: 1481-1490. *****This paper has been cited over 113 times on Google Scholar.***
2. **Pires, J.C.** 2005. Book Review: Plants, Patients and the Historian: (Re)membering in the Age of Genetic Engineering. *Historical Studies in the Physical and Biological Sciences* 35: 378 Part 2.
3. Kovarik, A., **Pires, J.C.**, Leitch, A.R., Lim, K.Y., Sherwood, A., Matyusek, R., Rocca, J., Soltis, D.E., and Soltis, P.S. 2005. Rapid concerted evolution iof nuclear ribosomal DNA in two *Tragopogon* allopolyploids of recent and recurrent origin. *Genetics* 169: 931-944. *****This paper has been cited over 268 times on Google Scholar.***
4. Walling, J.G., **Pires, J.C.**, and Jackson, S.A. 2005. Preparation of samples for comparative studies of plant chromosomes using *in situ* hybridization methods. IN: E.A. Zimmer and E. Roalson (eds.), *Molecular Evolution: Producing the biochemical data, Part B*, 395: 443-460.

***2004 (9 publications)***

1. **Pires, J.C.**, Zhao, J., Schranz, M.E., Leon, E.J., Quijada, P.A., Lukens, L.N., and Osborn, T.C. 2004. Flowering time divergence and genomic rearrangements in

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