

**Dr. Melvin R. Duvall**  
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Northern Illinois University  
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## **Education**

Ph.D., University of Minnesota, 1987.  
Major: Systematic Botany

M.S., University of Iowa, 1980.  
Major: Computer Science

B.A., Westmar College, 1977.  
Majors: Biology, Computer Science, and Natural Science

## **Professional Positions**

### **Academic - Post-Secondary**

Professor and Assistant Herbarium Curator, Department of Biological Sciences, Northern Illinois University. (August 2010 - Present) and Associate Professor (August 1999 - July 2010).

Plant Molecular and Bioinformatics Center (2012 – present); Plant Molecular Biology Center, Northern Illinois University. (2001 – 2011).

Associate Professor, Department of Biology, South Dakota State University. (August 1997 - July 1999) and Assistant Professor (January 1994 - June 1997).

Associate Scientist, Biotechnology Office, and Adjunct Assistant Professor of Botany, Iowa State University. (March 1993 - December 1993).

Postdoctoral Fellow (National Science Foundation), Botany and Plant Sciences, University of California, Riverside (Michael Clegg, collaborator). (January 1991 - February 1993).

Visiting Assistant Professor, Botany, Iowa State University, Ames, IA. (August 1988 - December 1989).

Visiting Scientist, Smithsonian Institution (Paul Peterson and Alan Christensen, collaborators), Botany, National Museum of Natural History, (January 1990 - December 1990).

Postdoctoral Assistant, Botany, University of Minnesota, St. Paul (John Doebley, collaborator). (January 1988 - July 1988).

## **Professional Membership**

Botanical Society of America.

## RESEARCH

### Published Intellectual Contributions

#### Chapters in Scholarly Books

- 2013 Davis, J. I., McNeal, J. R., Barrett, C. F., Chase, M. W., Cohen, J. I., Duvall, M. R., Givnish, T. J., Graham, S. W., Petersen, G., Pires, J. C., Seberg, O., Stevenson, D. W., Leebens-Mack, J. In Wilkin, Paul and Mayo, Simon J. (Eds.), "*Contrasting patterns of support among plastid genes and genomes for major clades of the Monocotyledons*" In *Early events in monocot evolution*, pp. 315 - 349). Cambridge University Press: Proceedings of the Linnean Society.
- 2010 Duvall, M. R., Leseberg, C. R., Grennan, C. P., Morris, L. M. In O. Seberg, G. Petersen, A.S. Barfod, J.I. Davis (Eds.), "*Molecular evolution and phylogenetics of complete chloroplast genomes in Poaceae*" In "*Diversity, phylogeny, and evolution in the monocotyledons*" (pp. pp. 437-450).
- 2000 Duvall, M. R. In K. Wilson and D. Morrison (Ed.), "*Seeking the dicot sister group of the monocots*" In "*Monocots, Systematics and Evolution*" (pp. pp. 25-32). Melbourne: CSIRO.
- 1995 Duvall, M. R., Chase, M., Soltis, D., Clegg, M. In P. Hoch and A. Stephenson (Eds.), "*A phylogeny of seed plants resulting from analysis of DNA sequence variation among the rbcL loci of 499 species with particular emphasis on alliances among monocotyledons*" IN "*Experimental and Molecular Approaches to Plant Biosystematics*" (pp. pp. 27-40). St. Louis, MO: Missouri Botanical Garden.
- 1995 Chase, M., Duvall, M. R., Hills, H., Conran, J., Cox, A., Eguiarte, L., Hartwell, J., Fay, M., Caddeick, L., Cameron, K., Hoot, S. "*Molecular phylogenetics of Liliae*," In P. Rudall, P. Cribb, D. Cutler, C. Humphries (Eds.), "*Monocotyledons: Systematics and Evolution*" (pp. 109-137).
- 1995 Hackett, P., Dalton, M., Johnson, D., Duvall, M. In C.A. Pickover (Ed.), "*Visualization of open reading frames in mRNAs*" IN "*The Visual Display of Biological Information*," World Publishing Co., Singapore.
- 1994 Duvall, M. R. "*Wild rice (Zizania palustris)*" In J. Williams (Ed.), "*Cereals and Pseudocereals*" (pp. 261-271). New York, NY: Chapman & Hall.

#### Conference Proceedings

- 2003 Wusterbarth, T. L., King, R., Duvall, M. R., Grayburn, W. S. *Multiple paternity in the Plains garter snake, Thamnophis radix* (vol. 96, pp. 46). Transactions of the Illinois State Academy of Science.
- 2000 Barker, N., Clark, L., Davis, J., Duvall, M. R., Guala, G., Hsiao, C., Kellogg, E., Linder, H. P., Mason-Gamer, R., Mathews, S., Soreng, R., Spangler, R. *A phylogeny of the grass family (Poaceae) as inferred from eight character sets* (pp. pp. 3-7). Melbourne: Proceedings of the Monocots II and Grasses III Conference. CSIRO.

## Journal Articles, Academic Journals, Refereed

- In review* Burke, S. V., M. C. Ungerer and M. R. Duvall. Investigation of large mitochondrial sequences in the *Paspalum* lineage (Panicoideae; Poaceae). *BMC Plant Biology*.
- 2018 Saarela, J. M. S. V. Burke, William P. Wysocki, M. D. Barrett, L. G. Clark, J. M. Craine, P. M. Peterson, R. J. Soreng, M. S. Vorontsova and M. R. Duvall. (2018). A 250 plastome phylogeny of the grass family (Poaceae): topological support under different data partitions. *PeerJ. In press*.
- 2017 Duvall, M. R., S. R. Yadav, S. V. Burke, and W. P. Wysocki. Grass plastomes reveal unexpected paralogy with endemic species of Micrairoideae from India and new haplotype markers in Arundinoideae. *American Journal of Botany* 104(2): 286-295. DOI: 10.3732/ajb.1600285.
- 2017 Orton, L. M., S. V. Burke, W. P. Wysocki, and M. R. Duvall. Plastid phylogenomic study of species within the genus *Zea*: rates and patterns of three classes of microstructural changes. *Current Genetics* 2017: 1-13. <http://dx.doi.org/10.1007/s00294-016-0637-8>
- 2016 Burke S. V., C.-S. Lin, W. P. Wysocki, L. G. Clark and M. R. Duvall. Phylogenomics and plastome evolution of tropical forest grasses (*Leptaspis*, *Streptochaeta*: Poaceae). *Frontiers in Plant Science* 7:1993. <http://journal.frontiersin.org/article/10.3389/fpls.2016.01993/full>
- 2016 Wysocki, W. P., S. V. Burke, W. D. Swingley and M. R. Duvall. The first complete plastid genome from Joinvilleaceae (*J. ascendens*; Poales) shows unique and unpredicted rearrangements. *PLoS one* 11.9. <http://dx.doi.org/10.1371/journal.pone.0163218>
- 2016 DiGiovanni, J. P., W. P. Wysocki, S. V. Burke, M. R. Duvall, and N. A. Barber. The role of hemiparasitic plants: influencing tallgrass prairie quality, diversity and structure. *Restoration Ecology* 2016. <http://dx.doi.org/10.1111/rec.12446>
- 2016 Burke, S. V., W. P. Wysocki, F. O. Zuloaga, J. M. Craine, J. C. Pires, P. P. Edger, D. Mayfield-Jones, L. G. Clark, S. A. Kelchner and M. R. Duvall. Evolutionary Relationships in Panicoid Grasses Based on Plastome Phylogenomics (Panicoideae; Poaceae). *BMC Plant Biology* 16(1): 140. <http://dx.doi.org/10.1186/s12870-016-0823-3>
- 2016 Attigala, Lakshmi, W. P. Wysocki, M. R. Duvall and L. G. Clark. Phylogenetic estimation and morphological evolution of Arundinarieae (Bambusoideae: Poaceae) based on plastome phylogenomic analysis. *Molecular Phylogenetics and Evolution* 101: 111-121. <http://dx.doi.org/10.1016/j.ympev.2016.05.008>
- 2016 Wysocki, W. P., Eduardo Ruiz-Sanchez, Lynn G. Clark and M. R. Duvall. The floral transcriptomes of four bamboo species (Bambusoideae; Poaceae). *BMC genomics* 17: 384. <http://dx.doi.org/10.1186/s12864-016-2707-1>
- 2016 Duvall, M. R., Amanda E. Fisher, J. Travis Columbus, Amanda L. Ingram, William P. Wysocki, Sean V. Burke, Lynn G. Clark, and Scot A. Kelchner. Phylogenomics and plastome evolution of the chloridoideae grasses (Chloridoideae: Poaceae). *International Journal of Plant Sciences* 177(3):1-12. <http://dx.doi.org/10.1086/684526>
- 2016 Barber, N., Jones, H., Duvall, M., Wysocki, W. P., Hansen, M. J., Gibson, D. J. Phylogenetic diversity is maintained despite richness losses in restored tallgrass prairie plant communities. *Journal of Applied Ecology* <http://dx.doi.org/10.1111/1365-2664.12639>

- 2016 Jaeger, C. P., M. R. Duvall, et al. Microsatellite and major histocompatibility complex variation in an endangered rattlesnake, the Eastern Massasauga (*Sistrurus catenatus*) *Ecology and Evolution* 6(12): 3991– 4003.
- 2015 Cotton, J. L., Wysocki, W. P., Clark, L. G., Kelchner, S. A., Pires, J. C., Edger, P. P., Mayfield-Jones, D., and Duvall, M. R. Resolving deep relationships of PACMAD grasses: a phylogenomic approach. *BMC Plant Biology*. 15(1): 178.
- 2015 Saarela, Jeffery M., William P. Wysocki, Craig F. Barrett, Robert J. Soreng, Jerrold I. Davis, Lynn G. Clark, Scot A. Kelchner, J. Chris Pires, Patrick P. Edger, Dustin R. Mayfield, Melvin R. Duvall. Plastid phylogenomics of the cool-season grass subfamily: clarification of relationships among early-diverging tribes. *AoB plants: plv046*  
<https://doi.org/10.1093/aobpla/plv046>
- 2015 Wysocki W. P., Clark, L. G., Attigala L., Ruiz-Sanchez, E., Duvall, M. R. Evolution of the bamboos (Bambusoideae; Poaceae): A full plastome phylogenomic analysis. *BMC Evolutionary Biology* 15 (1): 50.
- 2014 Burke, S. V., Clark, L. G., Triplett, J. K., Grennan, C. P., Duvall, M. R. Biogeography and Phylogenomics of New World Bambusoideae (Poaceae), revisited. *American Journal of Botany*, 101: 886-891.
- 2014 Dertien, J. R., Duvall, M. R. Perspectives on the systematics and phylogenetics of *Guaiacum* (Zygophyllaceae): complexities to conservation of a genus of endangered hardwoods. *Revista Mexicana de Biodiversidad* 85(3): 808-822.
- 2014 Jaeger, C. P., King, R. B., Duvall, M. R. initial characterization of major histocompatibility complex (MHC) class IIB exon 2 in an endangered rattlesnake, the eastern massasauga (*Sistrurus catenatus*). *The Journal of North American Herpetology*, 2014: 98-104.
- 2014 Jones, S. S., Burke, S. V., Duvall, M. R. Phylogenomics, molecular evolution, and estimated ages of lineages from the deep phylogeny of Poaceae. *Plant Systematics and Evolution*, 300: 1421-1436.
- 2014 Wysocki, W. P., Clark, L. G., Kelchner, S. A., Burke, S. V., Pires J. C., Edger, P. P., Mayfield, D. R., Triplett, J. K., Columbus, J. T., Ingram, A., L., Duvall, M. R. A multi-step comparison of short-read full plastome sequence assembly methods in grasses. *Taxon* 63(4): 899-910.
- 2013 Ray, J. W., King, R., Duvall, M. R., Robinson, J. W., Jaeger, C. P., Dreslik, M. J., Swanson, B. J., Mulkerin, D. Genetic analysis and captive breeding program design for the Eastern Massasauga *Sistrurus catenatus catenatus*. *Journal of Fish and Wildlife Management*, 4: 104-113; Supporting information online at: <http://www.fwspubs.org/toc/fwma/0/0>
- 2012 Burke, S. V., Grennan, C. P., Duvall, M. R. Plastome sequences of two New World bamboos—*Arundinaria gigantea* and *Cryptochloa strictiflora* (Poaceae)—extend phylogenomic understanding of Bambusoideae. *American Journal of Botany*, 99: 1951-1961.
- 2012 Myung, K., Zitomer, N. C., Duvall, M. R., Glenn, A. E., Riley, R. T., Calvo, A. (2012). The conserved global regulator VeA is necessary for symptom production and mycotoxin synthesis in maize seedlings by *Fusarium verticillioides*. *Plant Pathology*, 61, 152-160.
- 2012 Aliscioni, S., Bell, H. L., Besnard, G., Christin, P.-A., Columbus, J. T., Duvall, M. R., Edwards, E. J., Guissani, L., Hasenstab-Lehman, K., Hilu, K. W., Hodkinson, T. R., Ingram, A. L., Kellogg, E. A., Mashayekhi, S., Morrone, O., Osborne, C. P., Salamin, N., Schaefer, H., Spriggs, E.,

- Smith, S. A., Zuloaga, F. New grass phylogeny resolves deep evolutionary relationships and discovers C<sub>4</sub> origins. *New Phytologist*, 193, 304-312.
- 2010 Givnish, T., Sevillano, M., McNeal, J., McKain, M., Steele, P. R., dePamphilis, C., Graham, S., Pires, J. C., Stevenson, D., Zomlefer, W., Briggs, B., Duvall, M. R., Moore, M., Soltis, D., Soltis, P., Thiele, K., Leebens-Mack, J. Assembling the tree of the monocotyledons: plastome sequence phylogeny and evolution of Poales. *Annals of the Missouri Botanical Garden*, 97, 584-616.
- 2010 Wusterbarth, T. L., King, R., Duvall, M. R., Grayburn, W. S., Burghardt, G. M. Phylogenetically Widespread Multiple Paternity in New World Natricine Snakes. *Herpetological Conservation Biology*, 5, 86-93.
- 2010 Morris, L. M., Duvall, M. R. The chloroplast genome of *Anomochloa marantoidea* (Anomochlooideae; Poaceae) comprises a mixture of grass-like and unique features. *American Journal of Botany*, 97, 1-8.
- 2010 Wu, F.-H., Chan, M.-T., Liao, D.-C., Hsu, C.-T., Lee, Y.-W., Duvall, M. R., Daniell, H., Lin, C.-S. The complete chloroplast genome of *Oncidium* Gower Ramsey and evaluation of the chloroplast region for plant identification and breeding. *BMC Plant Biology*, 10, 1-12.
- 2010 Edwards, E. J., Osborne, C. P., Stromberg, C. A. E., Smith, S. A., Bond, W. J., Christin, P.-A., Cousins, A. B., Duvall, M. R., Fox, D. L., Freckleton, R. P., Ghannoum, O., Hartwell, J., Huang, Y., Janis, C. M., Keeley, J. E., Kellogg, E. A., Knapp, A. K., Leakey, A. D. B., Nelson, D. M., Passey, B. H., Saarela, J. M., Sage, R. F., Sala, O. E., Salamin, N., Still, C. J., Tipple, B. The evolutionary origins of C<sub>4</sub> grasslands. *Science*, 328, 587-591.
- 2009 Dertien, J. R., Duvall, M. R. Biogeography and divergence in a tropical hardwood (*Guaiaecum sanctum*) revealed in chloroplast DNA: implications for conservation in the Florida Keys. *Biotropica—The Journal of Tropical Biology and Conservation*, 41, 120-127, 10.1111/j.1744-7429.2008.00453.x.
- 2009 Leseberg, C. H., Duvall, M. R. The complete chloroplast genome of *Coix lacryma-jobi* and a comparative molecular evolutionary analysis of plastomes in cereals. *Journal of Molecular Evolution*, 69, 311-318.
- 2008 Leseberg, C., Eissler, C., Wang, X., Johns, M., Duvall, M. R., Mao, L. Interaction study of MADS domain proteins in tomato. *Journal of Experimental Botany*, 59, 2253-2265. 10.1093/jxb/ern094.
- 2008 Christin, P.-A., Besnard, G., Samaritani, E., Duvall, M. R., Hodkinson, T. R., Savolainen, V., Salamin, N. Oligocene CO<sub>2</sub> Decline Promoted C<sub>4</sub> Photosynthesis in Grasses. *Current Biology*, 18, 37-43. www.current-biology.com
- 2008 Duvall, M. R., Robinson, J. W., Mattson, J. G., Moore, A. Phylogenetic analyses of two mitochondrial metabolic genes sampled in parallel from angiosperms find fundamental interlocus incongruence. *American Journal of Botany*, 95, 871-884.
- 2007 Christin, P.-A., Salamin, N., Savolainen, V., Duvall, M. R., Besnard, G. C<sub>4</sub> Photosynthesis evolved in grasses via parallel adaptive genetic changes. *Current Biology*, 17, 1241-1247. www.current-biology.com/content/issue?volume=17&issue=14# cover\_caption
- 2007 Duvall, M. R., Davis, J. I., Clark, L. G., Noll, J. D., Goldman, D. H., Sánchez-Ken, J. G. Phylogeny of the grasses (Poaceae) revisited. *Aliso, Journal of the Rancho Santa Ana Botanic Garden*, 23, 237-247.

- 2006 Leseberg, C. H., Li, A., Kang, H., Duvall, M. R., Mao, L. Genome-wide analysis of the MADS-box gene family in *Populus trichocarpa*. *Gene*, 378, 84-94.
- 2006 Duvall, M. R., Mathews, S., Mohammad, N., Russell, T. Placing the monocots; conflicting signal from trigenomic analyses. *Aliso, Journal of the Rancho Santa Ana Botanic Garden*, 22, 77-88.
- 2003 Duvall, M. R., Bricker Ervin, A. J. 18S Gene Trees are positively misleading for monocot/dicot phylogenetics. *Molecular Phylogenetics and Evolution*, 30, 97-106.
- 2003 Duvall, M. R., Saar, D., Grayburn, W. S., Holbrook, G. Complex transitions between C<sub>3</sub> and C<sub>4</sub> photosynthesis during the evolution of Paniceae: a phylogenetic case study emphasizing the position of *Steinchisma hians* (Poaceae), a C<sub>3</sub> - C<sub>4</sub> intermediate. *International Journal of Plant Sciences*, 164, 949-958.
- 2001 Duvall, M. R. An anatomical study of anther development in *Acorus* L.: phylogenetic implications. *Plant Systematics and Evolution*, 228, 143-152.
- 2001 Saar, D., Polans, N., Sorensen, P., Duvall, M. Angiosperm DNA contamination by endophytic. *Plant Molecular Biology Reporter*, 19, 249-260.
- 2001 Duvall, M. R., Noll, J. D., Minn, A. H. Phylogenetics of Paniceae (Poaceae). *American Journal of Botany*, 88, 1988-1992.
- 2001 Barker, N., Clark, L., Davis, J., Duvall, M. R., Guala, G., Hsiao, C., Kellogg, E., Linder, H. P., Mason-Gamer, R., Mathews, S., Soreng, R., Spangler, R. Phylogeny and subfamilial classification of the grasses (Poaceae). *Annals of the Missouri Botanical Garden*, 88, 373-457.
- 2000 Duvall, M. R., Noll, J. D., Larson, G. E. Disjunct populations of *Trifolium beckwithii* (Fabaceae) in eastern South Dakota: Vicariance or recent long-distance dispersal? A preliminary analysis. *Madroño*, 46, 199-204.
- 1997 Terrell, E., Peterson, P., Reveal, J., Duvall, M. Taxonomy of North American *Zizania* (Poaceae). *SIDA*, 17, 533-549.
- 1996 Mayfield, J., Duvall, M. Anomalous phylogenies based on bacterial catalase gene sequences. *Journal of Molecular Evolution*. *Journal of Molecular Evolution*, 42, 469-471.
- 1996 Duvall, M. R., Morton, B. R. Molecular phylogenetics of Poaceae: an expanded analysis of *rbcl* sequence data. *Molecular Phylogenetics and Evolution*, 5, 352-358.
- 1995 Artiushin, S., Duvall, M. R., Minion, F. C. Phylogenetic analysis of mycoplasma strain ISM1499 and its assignment as *Acholeplasma oculi* strain cluster. *International Journal of Systematic Bacteriology*, 45, 104-109.
- 1994 Duvall, M. R., Peterson, P., Christensen, A. Alliances of *Muhlenbergia* (Poaceae) in New World Eragrostideae are identified by phylogenetic analysis of mapped restriction sites. *American Journal of Botany*, 81, 622-629.
- 1994 Eguiarte, L., Duvall, M. R., Leam, G., Clegg, M. The systematic status of the Agavaceae and Nolinaceae and related Asparagales in the Monocotyledons: an analysis based on the *rbcl* gene sequence. *Boletín de la Sociedad Botánica de México*, 54, 35-36.
- 1993 Peterson, P., Duvall, M. R., Christensen, A. Allozyme differentiation among *Bealia mexicana*, *Muhlenbergia argentea*, and *M. lucida* (Poaceae: Eragrostideae). *Madroño*, 40, 148-160.

- 1993 Clegg, M., Gaut, B., Duvall, M. R., Davis, J. Inferring plant evolutionary history from molecular data. *New Zealand Journal of Botany*, 31, 307-316.
- 1993 Duvall, M. R., Learn, Jr., G. E., Eguiarte, L. E., Clegg, M. T. Phylogenetic analysis of *rbcl* sequences identifies *Acorus calamus* as the primal extant monocotyledon. *Proceedings of the National Academy of Sciences, U.S.A.*, 90, 4641-4644.
- 1993 Duvall, M. R., Clegg, M., Chase, M., Clark, W. D., Kress, W. J., Hills, H., Eguiarte, L., Smith, J., Gaut, B., Zimmer, E., Learn, G. Phylogenetic hypotheses for the Monocotyledons constructed from *rbcl* sequence data. *Annals of the Missouri Botanical Garden*, 80, 607-619.
- 1993 Clark, W. D., Gaut, B., Duvall, M. R., Clegg, M. Phylogenetic relationships of the Bromeliiflorae-Commeliniflorae-Zingiberiflorae complex of monocots based on *rbcl* sequence comparisons. *Annals of the Missouri Botanical Garden*, 80, 987-998.
- 1993 Chase, M., Soltis, D., Olmstead, R., Morgan, D., Les, D., Mishler, B., Duvall, M. R., Price, R., Hills, H., Qiu, Y. L., Kron, K., Rettig, J., Conti, E., Palmer, J., Manhart, J., Sytsma, K., Michaels, H., Kress, W. J., Donoghue, M., Clark, W. D., Hedren, M., Gaut, B., Jansen, R., Kim, K. J., Wimpee, C., Smith, J., Furnier, G., Straus, S., Xiang, Q. Y., Plunkett, G., Soltis, P., Swensen, S., Eguiarte, L., Learn, Jr., G., Barrett, S., Graham, S., Dayanandan, S., Albert, V. Phylogenetics of seed plants: an analysis of nucleotide sequences from the plastid gene *rbcl*. *Annals of the Missouri Botanical Garden*, 80, 528-580.
- 1992 Wilson, H., Doebley, J., Duvall, M. Chloroplast DNA diversity among wild and cultivated members of *Cucurbita* (Cucurbitaceae). *Theoretical and Applied Genetics*, 84, 859-865.
- 1990 Duvall, M. R., Doebley, J. Restriction site variation in the chloroplast genome of *Sorghum* (Poaceae). *Systematic Botany*, 15, 472-480.
- 1989 Duvall, M. R., Biesboer, D. Isoelectric protein profiles and their systematic implications in North American *Zizania*. *Biochemical Systematics and Ecology*, 17, 39-43.
- 1988 Duvall, M. Anatomical distinctions between the pistillate spikelets of species of wild-rice (*Zizania*, Poaceae). *American Journal of Botany*, 75, 157-159.
- 1988 Galloway, E. M., Duvall, M. Extraction and analysis of DNA from recalcitrant plant leaf. *Proceedings of the South Dakota Academy of Sciences*, 77, 123-128.
- 1988 Duvall, M. R., Biesboer, D. Nonreciprocal hybridization failure in crosses between annual wild-rice species (*Zizania palustris* X *Z. aquatica*; Poaceae). *Systematic Botany*, 13, 229-334.

## Presentations

### Invited

- Duvall, M. R. 2016. Inferring plant evolution in the high-throughput sequencing era. Washington State University, Pullman, WA (22 April 2016).
- Duvall, M. R. 2014. Phylogenetics of grasses. Academia Sinica seminar series, Taipei, Taiwan (27 June 2014).
- Duvall, M. R. 2014. Science education in America—a 25-year perspective. Second Global Educational Forum, Miaoli County, Taiwan. (25 June 2014).

- Duvall, M. R. 2014. Phylogenomics of crown grasses (Poaceae). Rancho Santa Ana Botanical Gardens seminar series (12 Sept. 2014).
- Duvall, M. R., Clark, L. G., Kelchner, S. A., Burke, S. V., Columbus, J. T., Edger, P. P., Ingram, A. L., Mayfield, D. R., Saarela, J. C., Attigala, L., Wysocki, W. P., Zuloaga, F. O., Fifth international conference on comparative biology of the Monocotyledons, "Phylogenomics of crown Poaceae," New York Botanical Garden, Bronx, New York. (July 2013).
- Duvall, M. R., Columbus, J. T., Ingram, A., Jones, S. S., XVIII International Botanical Congress, "Plastome-scale phylogenetics and the evolution of Poaceae: Molecular evolution and phylogenetics of complete chloroplast genomes in Poaceae." International Botanical Congress, Melbourne, Australia. (25 July 2011).
- Duvall, M. R., Leseberg, C., Grennan, C., Morris, L., Grasses V/Monocots IV, Systematics and Evolution, "Molecular evolution and phylogenetics of complete chloroplast genomes in Poaceae." Copenhagen, Denmark. (August 2008).
- Duvall, M. R., Genomics Workshop, "Molecular Evolution of Genomes," Northern Illinois University, DeKalb, IL. (April 2007).
- Duvall, M. R., Ecology and Evolution seminar series, "Repeated adaptive transitions characterize the evolution of panic grasses," University of Illinois at Chicago, Chicago, IL. (2006).
- Duvall, M. R., Mathews, S., Mohammad, N. A., Wolford, T. J., Monocots III and Grasses IV, Systematics and Evolution, "Placing Monocots Among Paleoherbs; A Robust Trigenomic Phylogeny," Ontario, CA. (2003).
- Duvall, M. R., Department of Biological Sciences Seminar Series, "Deciphering plant evolution: studies of three genomes," Northern Illinois University, DeKalb, IL. (March 1999).
- Duvall, M. R., Sewrey Colloquium, "Reading DNA to decipher a botanical saga," South Dakota State University. (March 1999).
- Duvall, M. R., Department of Biology seminar series, "Deciphering the saga of monocot evolution," University of Akron, Akron, OH. (February 1999).
- Duvall, M. R., Division of Biology seminar series, "Deciphering the saga of monocot evolution," Kansas State University, Manhattan, KS. (January 1999).
- Duvall, M. R., Monocots II and Grasses III International Conference, "Seeking the sister group of the monocots," Sydney, Australia. (1998).
- Duvall, M. R., Augustana College Biology Seminar Series, "Exploring plant evolution using DNA," Sioux Falls, SD. (1996).
- Duvall, M. R., "Phylogenetic reconstructions of monocots based on *rbcL* data: applications and limitations," Washington State University, Pullman, WA. (1993).
- Duvall, M. R., Department of Nematology Seminar Series, "Phylogenetic reconstructions in higher plants as inferred from studies of the plastid genome," University of California, Riverside, CA. (1992).
- Duvall, M. R., Chase, M., Soltis, D., Clegg, M., International Organization of Plant Biosystematists Symposium, "A phylogeny of seed plants resulting from analysis of DNA sequence variation among the *rbcL* loci of 475 species with particular emphasis on alliances among monocotyledons," St. Louis, MO. (1992).

- Duvall, M. R., "Molecular phylogenetics of the Monocotyledons: an analysis of *rbcl* loci from 110 species," University of Connecticut, Storrs, CT. (1992).
- Duvall, M. R., Rancho Santa Ana Botanic Garden Seminar Series, "DNA sequence analysis and the phylogenetics of the monocotyledons," Claremont, CA. (1992).
- Duvall, M. R., Department of Botany and Plant Sciences 1991 Seminar Series, "Restriction site variation in the plastid genome of Sorghum," University of California, Riverside. (1991).
- Duvall, M. R., Department of Biology 1990 Seminar Series, "The use of plastid DNA in phylogenetic reconstructions," George Mason University, Fairfax, VA. (1990).
- Duvall, M. R., Biesboer, D., Department of Botany 1988 Seminar Series, "A systematic study of wild-rice, the genus *Zizania* (Poaceae)," Iowa State University, Ames, IA. (1988).

### Contributed

- Gallaher, T. (presenter), Klahs, P., Wysocki, W., Attigala, L., Burke, S. and Duvall, M. R. The effect of light regime, climate and photosynthetic pathway on the distribution of vascular bundles in the grasses. Botany 2017, Fort Worth, TX. (June 2017).
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- Wysocki W. P. (presenter), Clark L. G., Kelchner S. A., Burke S. V., Pires J. C., Edger P. P., Mayfield D. R., Triplett J. K., Columbus J. T., Ingram A. L., & Duvall M. R. (July, 2014) A multi-step comparison of short-read full plastome sequence assembly methods in grasses. Botany 2014, Boise, Idaho.
- Wysocki W. P. (presenter), Clark L. G., Kelchner S. A., Attigala L., Ruiz-Sanchez E., & Duvall M. R. (July, 2014) A full-plastome phylogenomic study on the tropical bamboo lineages. Botany 2014, Boise, Idaho.
- Jaeger, C. P. (presenter), King, R., Duvall, M. R., World Congress of Herpetology, "Initial Characterization of MHC Class IIB Variation in the Eastern Massasauga (*Sistrurus catenatus catenatus*)," Vancouver, BC. ( 2012).
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- Moore, A., Lenczewski, M., Perry, E. C., Duvall, M. R., Geological Society of America's national meeting, "Metagenomic analysis of microbial communities in deep karst sinkholes in Yucatán peninsula, Mexico," Portland, OR. (19 Oct. 2009).
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- Moore, A., Duvall, M. R., Monocots IV, Systematics and Evolution, "Horizontal gene transfer between Acoraceae and Liliaceae," Copenhagen, Denmark. (August 2008).
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- Dertien, J., Duvall, M. , Plant Biology/Botany 2007 Joint Congress, "Systematics and molecular conservation genetics of endangered trees of the dry neotropics (*Guaiaicum*; Zygophyllaceae)," Chicago, IL. (2007).
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- Duvall, M. R., Chase, M., Clark, W. D., Clegg, M., Hills, H., American Institute of Biological Sciences (AIBS) Meetings, "DNA sequence analysis and the phylogeny of the Monocotyledons." (1991).
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- Chase, M., Duvall, M. R., Hills, H., Clegg, M., Albert, V., Epiphyte Symposium, "DNA sequences and phylogenetics of the Orchidaceae and other Lilioid Monocots," Selby Botanic Gardens. (1991).
- Duvall, M. R., Symposium on Grass Systematics and Evolution, "Storage proteins and their systematic implications in *Zizania* (Poaceae). Poster.," Washington, DC. (1986).

## Grants and Sponsored Research

### Extramural Grants

- Duvall, M. R. (Co-PI), Morgan, T., Nippert, J., Ungerer, M. (PI), Still, C., Clark, L., "Dimensions NASA: Collaborative Research: The biogeography and evolution of drought tolerance in

- grasses," National Science Foundation USA, Dimensions of Biodiversity/National Aeronautics and Space Administration, \$196,258.00. (Jan. 2014 – July 2018).
- Duvall, M. R. (PI), "Research experience for undergraduates," National Science Foundation USA, Division of Environmental Biology, \$7,497.00.
- Duvall, M. R. (lead PI), Clark, L., Kelchner, S., "Ecological diversification and molecular evolution of grasses (Poaceae)," National Science Foundation USA, \$171,904.00. (July 15, 2011 - 2017).
- Duvall, M. R. (PI), Travel grant, National Evolutionary Synthesis Center, National Science Foundation, USA, \$5,000.00. ( 2010 - 2012).
- Duvall, M. R. (PI), "Research Experiences for Undergraduates, Supplements," National Science Foundation USA, \$6,000.00. (2002 - 2004).
- Duvall, M. R. (PI), "Seeking the phylogenetic root of monocots: a study of paleoherb genomes," National Science Foundation USA, \$137,900.00. (1999 - 2004).
- Duvall, M. R. (PI), "Research Experiences for Undergraduates, Supplements," National Science Foundation USA, \$5,000.00. (2000 - 2002).
- Duvall, M. R. (Supporting), Kellogg, E. (PI), "Phylogeny and development of the panicoid grasses," National Science Foundation, \$14,000.00. (1999 - 2002).
- Duvall, M. R. (PI), "Seed grant: a study of three paleoherb genomes," National Science Foundation USA/South Dakota EPSCoR Program, \$31,134.00. (1998 - 1999).
- Duvall, M. R., "Grass Phylogeny Working Group Travel Grant," National Science Foundation USA, \$1,333.00. (1998).

### **Intramural grants**

- Duvall, M. (PI), Northern Illinois University Foundation Venture Grant Program, Northern Illinois University, \$10,000.00. ( 2010).
- Lenczewski, M. (Co-PI), Duvall, M. R. (Co-PI), "Collaborative Research: Impact of Wastewater Disposal in the Yucatan Peninsula," NIU Foundation Venture Grant, Northern Illinois University, \$12,000.00. (2009 - 2010).
- Duvall, M. R. (PI), Northern Illinois University Graduate School Research and Artistry Program, Northern Illinois University, \$8,197.00. (2007).
- Duvall, M. R. (PI), NIU Foundation Venture Grant Program, Northern Illinois University, \$8,000.00. (2006).
- Duvall, M. R. (PI), Northern Illinois University Graduate School Research and Artistry Program, Northern Illinois University, \$5,280.00. (2003).
- Duvall, M. R. (PI), Northern Illinois University Graduate School Research and Artistry Program, Northern Illinois University, \$6,500.00. (2001).

## SERVICE

### Professional Service

International outreach ambassador

Second Global Educational Forum, Miaoli County, Taiwan, 23-27 June 2014.

Panel Member, National Science Foundation USA, Division of Environmental Biology, Systematic Biology and Biodiversity Inventories Cluster (2012).

Panel Member, National Science Foundation USA, Doctoral Dissertation Improvement Grant. (2000 and 2002).

Reviewer (ad hoc), Grant Proposals, 2013 - 2018.

- National Science Foundation, Dimensions of Biodiversity Program

Reviewer (ad hoc), Manuscripts, (last five years).

- Annals of Botany, Leicester, UK (30 Apr. 2013)
- BMC Genomics (12 June 2017)
- BMC Plant Biology, UK (18 Aug. 2017)
- Cladistics (20 July 2015)
- Gene (28 July 2017)
- Genome (8 Dec. 2016)
- Genome Biology and Evolution (9 Oct. 2015)
- Journal of Biogeography (11 Mar. 2015)
- Journal of Experimental Botany (25 Jan. 2018)
- Molecular Phylogenetics and Evolution (19 May 2014)
- New Phytologist, Lancaster, UK (27 Jan. 2017)
- PhytoTaxa, New Zealand (22 Dec. 2013)
- Plant Genome (12 May 2016)
- Plant Systematics and Evolution (19 Sep. 2014)
- PLoS One (31 Jan. 2018)
- Systematic Biology (18 Dec. 2013)
- Systematic Botany (13 Feb. 2014)
- Telopea (16 Aug. 2016)
- Journal of Zhejiang University SCIENCE B (13 June 2017)