

CURRICULUM VITAE

Steven L. Stice

**Professor University of Georgia
Georgia Research Alliance Eminent Scholar
Director of the Regenerative Bioscience Center**

Education

1983 B.S. Agricultural Sciences, University of Illinois Urbana-Champaign, IL
1985 M.S. Dept. of Animal Science, Iowa State University Ames, IA
1989 Ph.D. Dept. of Animal Science, University of Massachusetts Amherst, MA

Academic and Professional Positions

2004-present	Director of the Regenerative Bioscience Center (RBC)	University of Georgia
2014-present	Director Regenerative Engineering and Medicine (REM)	Emory, Georgia Tech, UGA
2001-Present	Professor and Senior Research Scientist	University of Georgia
2003-Present	Chief Scientific Officer	Aruna Biomedical Inc.
2000-2002	Vice President of Stem cell Research	BresaGen, Inc.
1998-2003	Chief Scientific Officer	ProLinia Inc.
1998-2001	Associate Professor and Senior Research Scientist	University of Georgia
1997-1998	Chief Scientific Officer / Interim President	Advanced Cell Technology, Inc.
1996-1997	Vice President of Research and Development	Advanced Cell Technology, Inc.
1994-1996	ES Cell Project Leader	Advanced Cell Technology, Inc.
1994-1998	Adjunct Assistant Professor	University of Massachusetts
1993-1994	Manager of Cloning and Stem Cell Research	American Breeders Service
1992-1993	Acting manager of the cloning laboratory	American Breeders Service
1989-1993	Research Scientist	American Breeders Service
1988-1989	Research Scientist	TSI Inc.

Innovations

- Produced world's first cloned rabbit (1989)
- Produced world's first clones bovine embryos from an embryonic stem cell lines (1992)
- First bovine cell therapy for Parkinson's success in preclinical model. (1997)
- Produced world's first cloned transgenic calf (1998)
- Produced world's first chimeric transgenic calves (1998)
- Produced world's first chimeric animal derived from cloned stem cells (any species, 1998)
- Produced world's first chimeric transgenic pig (1998)
- Granted world's first patent on therapeutic cloning from adult cells (1999)

- Granted world's first patent on chimeric pigs and cattle using stem cells (1999)
- Produced world's first human embryonic stem cells derived from discarded embryos (2001)
- Produced world's first cloned calf from a killed cow (2001)
- Produced first cloned pigs from adult cells (2003)
- Granted a patent on efficient animal cloning techniques (2003)
- Produced the first motor neurons derived from human embryonic stem cells (2005)
- First human embryonic stem cell product commercialized (neural stem cells, 2007)
- First chimeric pig from induced pluripotent stem cells (2009)
- First germline chimeric pig derived from any type of stem cells (2010)
- First avian induced pluripotent stem cells and chimeras (2011)
- New toxicant detection tool published in *Toxicological Sciences* (2012)
- Creation of fracture putty, biological treatment used to regenerate tissue (2012)
- First rapid toxicity test for industrial compounds (2014)
- First exosome stroke therapy successfully treating rodent and pig models (2017)

Publications

Refereed Book Chapters

- Stice, S.L.** (1985), Mechanism of action of steroid hormones in altering uterine blood flow in the pig. MS thesis, Iowa State University, Ames.
- Stice, S.L.** (1989) Characterization of a factor in mammalian sperm which activates mature oocyte. Ph.D. dissertation, University of Massachusetts, Amherst.
- Pinkert C.A., **Stice, S.L.** Embryonic stem cell strategies: beyond the mouse model. Strategies in Transgenic Animal Science. G. M. Monastersky and J. M. Robl (eds.), AMS Press. Washington, D.C.: 73-88.
- Stice, S.L.**, Strelchenko, N.S. (1996) Domestic animal embryonic stem cells: progress towards germline contribution. Biotechnology's Role in the Genetic Improvement of Farm Animals. R. H. Miller, V. G. Pursel and H.D. Norman (eds.) American Soc. Animal Sci.: 189-201.
- Stice, S.L.** (1998) Opportunities and challenges in domestic animal embryonic stem cell research. Animal Breeding Technology for the 21st Century. A.J. Clark (ed.) Harwood Academic Publishers. Chur, Switzerland: 63-74.
- Robl, J.M., Cibelli, J.B., Golueke, P.G., Kane, J.J., Blackwell C., Jerry, J. Dickerson E., Ponce de Leon, F.A., **Stice, S.L.** (1998) ES cell chimera and somatic cell nuclear transplantation for production of transgenic cattle In: Murray J.D., Anderson G.B., McGloughlin M.M., Oberbauer A.M. (eds.), Transgenic animals in Agriculture. CAB International, Wallingford, UK.:79-86.
- Stice, S.L.** (2002) Current applications of cloning in research and industry. Principles of Cloning. M. West, R. Lanza, and J. Cibelli, K. Campbel (eds.) Wiley Press. New York, NY: 210-218.
- Miyoshi, K. and **Stice, S.L.** (2005) Methods in Cell cycle control of donor nuclei. Methods of Cloning.
- McCloskey K.E, **Stice, S.L.**, Nerem R.M. (2006) In Vitro Derivation and Expansion of Endothelial Cells from Embryonic Stem Cells. In: Embryonic Stem Cells-II: Methods and Protocols (Kursad Turksen, K., (ed.) Methods in Molecular Biology Series. Humana, Totowa, NJ: 287-302.

- Rao R.R., Venable Johnson A., **Stice, S.L.** (2007) Cell Surface Markers in Human Embryonic Stem Cells. In Stem Cell Assays. Mohan Vemuri, (ed.) Methods in Molecular Biology Series. Humana Press, Totowa, NJ: 51-62.
- Bosch P., **Stice, S.L.** (2007) Adenoviral Transduction of Mesenchymal Stem Cells. In Stem Cell Assays. Mohan Vemuri (ed.) Methods in Molecular Biology Series. Humana Press, Totowa, NJ: 265-274.
- Bosch P, **Stice, S.L.** (2008) Mesenchymal stem cells: applications in cell and gene therapy. In Frontiers of Cord Blood Science, Bhattacharya, Niranjan; Stubblefield, Phillip Springer, (Eds.).
- Young, **Stice, S.L.** (2011) Dopaminergic neurons derived from human embryonic stem cell derived neural progenitors: Biological relevance and application. Embryonic Stem Cells: The Hormonal Regulation of Pluripotency and Embryogenesis. Craig Atwood (ed.) In Tech.
- Stice, S.L.** and David Fabor (2013) Current applications of cloning in research and industry. Principles of Cloning. M. West, R. Lanza, and J Cibelli (2nd ed.), K Campbell (ed.) Wiley Press. New York. 317-328.
- Chilton, J.M., and **Stice, S.L.** (2014). Genetic Modification of Pluripotent Stem Cell Derived Human Neural Progenitor Cells. *Neural Stem Cell Assays*: 167-178.
- West, Franklin, Terlouw, Steve, Dobrinsky, John, Lu, Yangqing, Jordan, Erin, and **Stice, S.L.** (2015) Book Section 978-1-4939-2847-7, Cell Reprogramming 1330 Methods in Molecular Biology. Verma, Paul J. E Sumer, Huseyin R, 10.1007/978-1-4939-2848-4_14 Generation of Chimeras from Porcine Induced Pluripotent Stem Cells. Humana Press+ Springer.
- Lu, Yangqing, Franklin D. West, Brian J. Jordan, Robert B. Beckstead, Erin T. Jordan, and **Stice, S.L.** (2015) "Generation of Avian Induced Pluripotent Stem Cells." *Cell Reprogramming: Methods and Protocols*: 89-99.
- Lau, Vivian W., Simon R. Platt, **Stice, S.L.**, and Franklin D. West. (2015) "Induced Pluripotent Stem-Cell-Derived Neural Cell Types in Treatment of Stroke." In *Cell Therapy for Brain Injury*, 147-172. Springer International Publishing.
- Logun M, **Stice, S.L.**, Karumbaiah L. (2016) Design considerations for 3D tissue culture models of glioblastoma multiforme. *Engineering 3D Tissue Test Systems*. Taylor & Francis, Editors: Karen J.L. Burg, Timothy C. Burg, Didier Dréau.
- Swetenburg R.L., **Stice, S.L.**, Karumbaiah L. (2016) Molecular and extracellular cues in motor neuron specification and differentiation. *Molecular and Cellular Therapies for Motor Neuron Diseases*. Elsevier, Donsante, A., O'Conner, D., Boulis, N., (Eds.).

Annual Reports

- Stice, S.L.**, J. Gibbons, Rzucidlo, S.J. and Baile, C.A.. (1999). Improvements in nuclear transfer procedures will increase commercial utilization of animal cloning. CAES Dept. of Animal and Dairy Science Annual report. 62-69.
- Stice, S.L.**, Rzucidlo, S.J. (2000). Gene Expression in Manipulated Embryos. CAES Dept. of Animal and Dairy Science Annual report. 53-60.

- Venable, A. and **Stice, S.L.** (2002) Research and development issues facing embryonic stem cell therapies. CAES Dept of Animal and Dairy Science Annual report.
- Gibbons J., Arat, A., Rzucidlo, S.J., Miyoshi, K., Waltenburg, R., Respass, D., Venable, A., and **Stice, S.L.** (2002) Cloned calves derived from roscovitine treated adult cells. CAES Dept. of Animal and Dairy Science Annual report.
- Bosch P., Hodges, C.A., and **Stice, S.L.** (2004) Generation of transgenic livestock by somatic cell nuclear transfer. CAES Dept. of Animal and Dairy Science Annual report.
- Rao, R.R., Rekaya, R. and **Stice, S.L.** (2004) Profiling of Embryonic Stem Cells Leads to Greater Understanding of Pluripotency and Early Developmental Events. CAES Dept. of Animal and Dairy Science Annual report.
- Lu, Y., West, F.D., Jordan, B.J., Mumaw, J.L., Jordan, E.T., Gallegos-Cardenas, A., Beckstead, R.B., and **Stice, S.L.** (2012) Avian-induced pluripotent stem cells derived using human reprogramming factors. Animal and Dairy Science Departmental report.
- West, F.D., Uhl, E.W., Liu, Y., Stowe, H., Lu, Y., Yu, P., Gallegos-Cardenas, A., Pratt, S.L., and **Stice, S.L.** (2012), Chimeric pigs produced from induced pluripotent stem cells demonstrate germline transmission and no evidence of tumor formation in young pigs. Animal and Dairy Science departmental report.
- Dodla, M.C., Young, A., Venable, A., Hasneen, K, Rao, R.R., Machacek, D.W., and **Stice, S.L.** (2012), Differing lectin binding profiles among human embryonic stem cells and derivatives aid in the isolation of neural progenitor cells. Animal and Dairy Science departmental report.
- West, F.D., J.L. Mumaw, A. Gallegos-Cardenas, A. Young, and **Stice, S.L.** (2012), Human haploid cells differentiated from meiotic competent clonal germ cell lines that originated from embryonic stem cells. Animal and Dairy Science departmental report.
- Gerwe, B.A., P.M. Angel, F.D. West, K. Hasneen, A. Young, R. Orlando, and **Stice, S.L.** (2012), Membrane proteomic signatures of karyotypically normal and abnormal human embryonic stem cell lines and derivatives. Animal and Dairy Science departmental report.
- Boyd, N.L., S.S. Nunes, J.D. Jokinen, L. Krishnan, Y. Chen, K.H. Smith, **Stice, S.L.**, and J.B. Hoying. (2012), Microvascular mural cell functionality of human embryonic stem cell-derived mesenchymal cells. Animal and Dairy Science departmental report.
- West, F.D., S.L. Terlouw, Dae Jin Kwon, J.L. Mumaw, S.K. Dhara, K. Hasneen, J.R. Dobrinsky, and **Stice, S.L.** (2012). Porcine induced pluripotent stem cells produce chimeric offspring. Animal and Dairy Science departmental report.
- West, F., and **Stice, S.L.** (2012), Progress toward generating informative porcine biomedical models using induced pluripotent stem cells. Animal and Dairy Science departmental report.
- Mumaw, J., E.T. Jordan, C. Sonnet, R.M. Olabisi, E.A. Olmsted-Davis, A.R. Davis, J.F. Peroni, J.L. West, F. West, Y. Lu, and **Stice, S.L.** (2012), Rapid Heterotrophic Ossification with Cryopreserved Poly(ethylene glycol-) Microencapsulated BMP2-Expressing MSCs. Animal and Dairy Science departmental report.
- Jones, K.E., S.R. Platt, K.J. Duberstein, C.R. Dove, **Stice, S.L.**, and F.D. West. (2012), Development and Characterization of a Novel Middle Cerebral Artery Porcine Stroke Model. Animal and Dairy Science departmental report.
- Goodfellow, F., and **Stice, S.L.** (2012), Differentiating C2C12 myoblast cells in environments suitable

- for motor neuron growth. Animal and Dairy Science departmental report.
- Wang, K., and **Stice, S.L.** (2012), Neural differentiation and derivation of neural rosettes from pig induced pluripotent stem cells. Animal and Dairy Science Departmental report.
- Y. Liu, J.Y. Yang, Y. Lu, P. Yu, C. R. Dove, J.M. Hutcheson, J.L. Mumaw, **Stice S.L.**, and F.D. West (2013). α -1,3 Galactosyltransferase Knockout Pig Induced Pluripotent Stem Cells: A Cell Source for the Production of Xenotransplant Pigs.
- J.Y. Yang, Y. Liu, P. Yu, Y. Lu, J.M. Hutcheson, V.W. Lau, C.R. Dove, **Stice, S.L.** and F.D. West (2014). Culture of Pig Induced Pluripotent Stem Cells without Direct Feeder Contact in Serum Free Media. [http://www.caes.uga.edu/content/dam/caes-website/departments/animal-and-dairy-science/documents/departmental-reports/2014-departmental-reports/Culture of Pig Induced Pluripotent Stem Cells without.pdf](http://www.caes.uga.edu/content/dam/caes-website/departments/animal-and-dairy-science/documents/departmental-reports/2014-departmental-reports/Culture%20of%20Pig%20Induced%20Pluripotent%20Stem%20Cells%20without.pdf)
- Jessica M. Hutcheson, Leonardo Susta, **Stice, S.L.**, Claudio Afonso and Franklin D. West (2015), Delayed Newcastle Disease Virus Replication Using RNA Interference to Target the Nucleoprotein. [http://www.caes.uga.edu/content/dam/caes-website/departments/animal-and-dairy-science/documents/departmental-reports/2015-departmental-reports/Delayed Newcastle disease virus replication.pdf](http://www.caes.uga.edu/content/dam/caes-website/departments/animal-and-dairy-science/documents/departmental-reports/2015-departmental-reports/Delayed%20Newcastle%20disease%20virus%20replication.pdf)
- Amalia Gallegos-Cardenas, Robin Webb, Erin Jordan, Rachel West, Franklin D. West, Jeong-Yeh Yang, Kai Wang and **Stice, S.L.** (2015), Pig Induced Pluripotent Stem Cell-Derived Neural Rosettes Developmentally Mimic Human Pluripotent Stem Cell Neural Differentiation [http://www.caes.uga.edu/content/dam/caes-website/departments/animal-and-dairy-science/documents/departmental-reports/2015-departmental-reports/Pig Induced Pluripotent Stem Cell-Derived Neural Rosettes.pdf](http://www.caes.uga.edu/content/dam/caes-website/departments/animal-and-dairy-science/documents/departmental-reports/2015-departmental-reports/Pig%20Induced%20Pluripotent%20Stem%20Cell-Derived%20Neural%20Rosettes.pdf)
- Ismaila Shittu, Ziyang Zhu, Yangqing Lu, Jessica M. Hutcheson, **Stice, S.L.**, Franklin D. West, Meritxell Donadeu, Baptiste Dungu, Aly M. Fadly, Guillermo Zavala, Naola Ferguson-Noel, Claudio L. Alfonso (2016), Development, Characterization and Optimization of a New Suspension Chicken-Induced Pluripotent Cell Line for the Production of Newcastle Disease Vaccine <http://www.caes.uga.edu/content/dam/caes-website/departments/animal-and-dairy-science/documents/departmental-reports/2016-departmental-reports/development-characterization-and-optimization-of-a-new-suspension.pdf>

Refereed Journal Articles

1. Ford, S.P. and **Stice, S.L.** (1985). Effects of the ovary and the conceptus on controlling uterine blood flow in pigs. J. Reprod. Fert. Suppl. 33:83. (invited review paper)
2. **Stice, S.L.**, S.P. Ford, J.P. Rosazza and D.E. Van Orden. (1987). Interaction of 4-B hydroxylate estradiol and potential sensitive Ca channels in altering uterine blood flow during the estrous cycle and early pregnancy in gilts. Biol. Reprod. 36:369.
3. **Stice, S.L.**, S.P. Ford, J.P. Rosazza and D.E. Van Orden. (1987). Role of 4-B hydroxylated estradiol in reducing Ca uptake of uterine arterial smooth muscle cells through potential sensitive channels. Biol. Reprod. 36:367.
4. **Stice, S.L.**, and J.M. Robl. (1988). Nuclear reprogramming in nuclear transplant rabbit embryos. Biol. Reprod. 39:657.

5. **Stice, S.L.** and J.M. Robl. (1989). Current successes in cloning mammalian embryos. *AGE* 12:83. (invited review paper)
6. Robl, J.M. and **Stice, S.L.** (1989). Prospects for the commercial cloning of animals by nuclear transplantation. *Theriogen.* 31:75. (invited review paper)
7. **Stice, S.L.** and J.M. Robl. (1990). Activation of mammalian oocytes by a factor obtained from rabbit sperm. *Mol Reprod. Dev.* 25:272.
8. Reddy, V.B., J.A. Vitale, C. Wei, M. Montaga-Zavala, **Stice, S.L.**, J. Balise and J.M. Robl. (1991). Expression of human growth hormone in the milk of transgenic mice. 2:15.
9. **Stice, S.L.** (1992). Multiple generation bovine embryo cloning. Proceedings from the Symposium on Cloning Mammals by Nuclear Transplantation Ft. Collins, CO. (invited review).
10. Keefer, C.L., **Stice, S.L.** and J. Dobrinsky. (1993). Effect of FSH and LH during bovine in vitro maturation on development following in vitro fertilization and nuclear transfer. *Mol. Reprod. Dev.* 36:469.
11. Keefer, C. L., **Stice, S.L.**, and Matthews, D.L. (1993). Bovine inner cell mass cells as donor nuclei in the production of nuclear transfer embryos and calves. *Biol. Reprod.* 50:935.
12. **Stice, S.L.**, N.L. First. (1993). Progress towards efficient commercial embryo cloning. *Animal Reprod. Science.* 33:83. (invited review)
13. **Stice, S.L.**, C.L. Keefer. (1993). Multiple generational bovine embryo cloning. *Biol. Reprod.* 48:715.
14. Keefer, C.L., **Stice, S.L.**, A.M. Paprocki, P. Golueke. (1994). In vitro culture of bovine IVM-IVF embryos: Cooperative interaction among embryos and role of growth factors. *Theriogen.* 41:1325.
15. **Stice, S.L.**, C.L. Keefer, L. Matthews. (1994). Bovine nuclear transfer embryos: oocyte activation prior to blastomere fusion. *Mol. Reprod. Dev.* 31:61.
16. **Stice, S.L.**, N.S. Strelchenko, C.L. Keefer, and L. Matthews. (1996). Pluripotent bovine embryonic cell lines direct embryonic development following nuclear transfer. *Biol. Reprod.* 54:100.
17. **Stice, S.L.** (1997). Production of Transgenic Animals Using Embryonic Stem Cells and Cloning. Forty-Sixth Annual National Breeders Roundtable Proceedings. May,15-21 (invited review paper)
18. Cibelli, J.B., **Stice, S.L.**, Golueke, P.G., Kane, J.J., Jerry, J., Blackwell, C., Ponce de Leon, F.A., Robl, J.M. (1998). Cloned transgenic calves produced from non-quiescent fetal fibroblasts. *Science* 280:1256.
19. Cibelli, J.B., **Stice, S.L.**, Golueke, P.J., Kane, J.J., Jerry, J., Blackwell, C., Ponce de Leon, F.A., Robl, J.M. (1998). Transgenic Bovine chimeric offspring produced from somatic cell-derived stem-like cells. *Nature. Biotech.* 16:642.

20. Zawada, W.M., Cibelli, J.B., Choi, P.K., Clarkson E.D., Golueke, P.G., Witta, S.E., Bell, K.P., Kane, J., Ponce de Leon, F.A., Jerry, D.J., Robl, J.M., Freed, C.R., **Stice, S.L.** (1998). Somatic cell cloned-bovine neurons for transplantation in parkinsonian rats. *Nature Med.* 4:569.
21. **Stice, S.L.** and Cibelli J.B. (1998). Cattle cloning in 1998: Current and future opportunities. *Proceedings of the American Embryo Transfer Association.* San Antonio, TX. 83-90 (invited review).
22. **Stice, S.L.** and Cibelli, J.B., (1998). New developments in nuclear transfer technology. In: *New Directions in Animal Production Systems.* Editors, R. Blair, R. Rajamahendran, M. Mohen, L.S. Stephens and M.Y. Yang. *Proceedings of the Annual Meeting Canadian Society of Animal Science, Vancouver BC.* 166-173. (Invited review)
23. **Stice, S.L.,**Robl J.M., Ponce de Leon, F.A., Jerry, J., Golueke, P.G., Cibelli, J.B., Kane, J.J. (1998). Cloning: New breakthroughs leading to commercial opportunities. *Theriogen.* 49:129 (invited review)
24. Robl, J.M.; Jerry, J.; **Stice, S.L.**; Cibelli, J.B. (1998). Quiescence in nuclear transfer. *Response. Science, Washington, D. C:* 281(5383):1611.
25. **Stice, S.L.** (1999). Producing transgenic cattle using nuclear transfer technology. *Proceedings from the International Workshop on Embryogenesis and Implantation.* 32-37. (Invited review)
26. Hill, J.R., Rousell, A.J., Cibelli, J.B., Edwards, J.F., Hooper, N.L., Miller, M.W., Thompson, J.A., Looney, C.R., Robl, J.M., and **Stice, S.L.** (1999). Clinical features of cloned transgenic calves (8 cases: 1997-1998) *Theriogen.* 51:1451.
27. **Stice, S.L.,** J. Gibbons, S.J. Rzucidlo and C. A. Baile. (2000). Improvements in nuclear transfer procedures will increase commercial utilization of animal cloning. *Asian-Aus. J. Anim. Sci.* 13:856-860. (Invited review)
28. **Stice, S.L.,** and J. Gibbons. (2000). Future commercial utilization of animal cloning. *Proceeding of the Beef Improvement Federation.* 16-21
29. Rzucidlo, S.J., Gibbons, J. and **Stice, S.L.** (2001). Comparison by restriction fragment differential display RT-PCR of gene expression pattern in bovine oocytes matured in the presence or absence of fetal calf serum. *Molecular Reproduction and Development* 59: 90-96.
30. Arat, S., Rzucidlo S.J., Gibbons, J., Miyoshi, K. and **Stice, S.L.** (2001). Production of transgenic bovine embryos by transfer of transfected granulosa cells into enucleated oocytes. *Molecular Reproduction and Development.* 60:20-26.
31. Miyoshi, K., Rzucidlo, S.J., Gibbons, J.R., Arat, S. and **Stice, S.L.** (2001). Development of porcine embryos reconstituted with somatic cells and enucleated metaphase I and II oocytes matured in a protein-free medium. *BMC Developmental Biology,* 1:12-17.
32. **Stice, S.L.,** and S.J. Rzucidlo. (2001). Progress Towards Understanding Gene Expression in Manipulated Embryos. *J. Animal Science* 79 (ESuppl):E285-E289.

33. Venable, A. and **Stice, S.L.**, (2001). The Stem Cell Controversy. Points to ponder. In vitro Report an official publication of the Society for in vitro biology. 35:7-8.
34. Arat, S., Gibbons, J., Rzucidlo, S.J., Respass, D.S., Tumlin M., and **Stice, S.L.** (2002). In vitro development of bovine nuclear transfer embryos from transgenic clonal lines of adult and Fetal Fibroblast Cells of the Same Genotype. Biol. Reprod. 66:1768-1774.
35. Gibbons, J., Arat, S., Rzucidlo, S.J., Respass, D.S., Tumlin M., and **Stice, S.L.** (2002). Improved cloned calf survival using Roscovitine. Biol. Reprod. 66:895-900.
36. Miyoshi K., Rzucidlo S.J., Gibbons J.R., Pratt S., and **Stice, S.L.** (2002). Utility of rapidly matured oocytes as recipients for production of cloned embryos from somatic cells in the pig. Biol Reprod.67:540-545.
37. Miyoshi K., Rzucidlo S.J., Pratt S., and **Stice, S.L.** (2003). Improvements in cloning efficiencies may be possible by increasing uniformity in recipient oocytes and donor cells. Biol. Reprod. 68:079-1086.
38. Calhoun J.D. Lambert N. Mitilapova M.M., Noggle S., Lyons I., Condie, B., and **Stice, S.L.** (2003). Differentiation of rhesus embryonic stem cells to neural progenitors and neurons. Biochemical and Biophysical Research Communications. 306:191-197.
39. Mitalipova M, Calhoun J., Shin S. Winger D., Shulz T., Lyons I., Robins A., and **Stice, S.L.** (2003). Human embryonic stem cell lines derived from discarded embryos. Stem Cells. 21:521-526.
40. Hodges C.A., **Stice, S.L.** (2003). Generation of bovine transgenics using somatic cell nuclear transfer. Reproductive Biology and Endocrinology 1:81-88.
41. Arat, S., Rzucidlo, S.J. and **Stice, S.L.** (2003). Gene expression and in vitro development of inter species nuclear transfer embryos. Molecular Reproduction and Development. 66:334-342.
42. McCloskey K.E., Lyons, I. Rao, R.R., **Stice, S.L.**, and R.M. Nerem. (2003). Purified and Proliferating Endothelial Cells Derived and Expanded In Vitro from Embryonic Stem Cells. Endothelium. 10:329-336.
43. Bosch P., Hodges C. A., and **Stice, S.L.** (2004). Generation of transgenic livestock by somatic cell nuclear transfer. Biotecnología Aplicada, 21(3):128-136.
44. Rao, R.R., Calhoun, J., Qin, X., Rekaya, R., Clark, J., and **S.L. Stice.** (2004).Comparative transcriptional profiling of two human embryonic stem cell lines. Biotechnology and Bioengineering. 88(3):273-286.
45. Rao, R.R., Calhoun, J., Warrenfeltz, S., Rekaya, R., Dalton, S., McDonald, J., and **S.L. Stice.** (2004). Transcriptional profiling of initial differentiation events in human embryonic stem cells. Biochemical and Biophysical Research Communications. 323(2):453-464.
46. Rao, R. R., and **Stice, S.L.**, (2004). Gene Expression Profiling of Embryonic Stem Cells Leads to Greater Understanding of Pluripotency and Early Developmental Events. Biology of Reproduction

71(6):1772-1778.

47. Mitalipova, M.M., Rao, R.R., Hoyer, Deborah M., Johnson, Julie A., Meisner, Lorraine F., Jones, Karen L., Dalton, Stephen, **Stice, S. L.** (2005). Preserving the genetic integrity of human embryonic stem cells. *Nature Biotechnology* 23(1):19-20.
48. Shin, S., Dalton, S, **Stice, S.L.** (2005). Human motor neuron differentiation from human embryonic stem cells. *Stem Cells and Dev.* 14(3):266-9.
49. Venable, A.M., Mitalipova, M.M., Lyons, I., Jones, K., Shin, S., Pierce, M. **Stice, S.L.** (2005) Lectin binding profiles of SSEA-4 enriched, pluripotent human embryonic stem cell surfaces. *BMC Developmental Biology* 5(15).
50. Adams, A.M., Pratt S.L., **Stice S.L.** (2005). Knockdown of the Dnmt1s Transcript Using Small Interfering RNA in Primary Murine and Bovine Fibroblast Cells. *Molecular Reproduction and Development* 72:311–319.
51. Bosch, P., Fouletier-Dilling, C.M., Davis, A.R., Shafer, J.A., **Stice, S.L.**, Gugala, Z., Gannon, F.H. Olmsted-Davis, E.A. (2005). Novel Compound Enables High-Level Adenovirus Transduction in the Absence of an Adenovirus-Specific Receptor. *Human Gene Therapy.* 16(11):1287-97.
52. Bosch, P., Pratt, S.L., **Stice S.L.** (2006). Isolation, Characterization, Gene Modification and Nuclear Reprogramming of Porcine Mesenchymal Stem Cells. *Biology of Reproduction.* 74(1):46-57
53. Shin, S. Mitalipova, M., Noggle, S., Tibbitts, D., Venable, A., Rao, R.R. **Stice, S.L.** (2006). Long term proliferation of human embryonic stem cell-derived neuroepithelial cells using defined adherent culture conditions. *Stem Cells.* 24: 125-38.
54. Pratt, S.L., Sherrer, E.S, Reeves, D.E, **Stice, S.L.** (2006). Factors influencing the commercialization of cloning in the pork industry. *Reproduction supplement.* 62: 303-316.
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- Majumder, A., Dhara, S.K., Mithani, M., and **Stice, S.L.** (2011, June). Astrocytic differentiation of neural progenitors derived from human Embryonic stem cells using a small molecule approach. NSF-EBICS Annual Retreat. Atlanta, GA.
- Majumder, A., Dhara, S.K., and **Stice, S.L.** (2011, June). Azacytidine Induced DNA Demethylation Promotes Astrocytic Differentiation of Neural Progenitors Derived from Human Embryonic Stem Cells. International Society for Stem Cell Research 9th Annual Meeting. Toronto, Canada.
- Majumder, A., Dhara, S.K., Jordan E., Mithani, M., and **Stice, S.L.** (2011, June). Derivation of astrocytes from human neural progenitor cells. 2nd Annual Scientific Research Day, University of Georgia. Athens, GA.
- Powe, A.C., K.S., Chilton, J.M., Gehler, S, Herber, R.L., Hulkower, K.I., and **Stice, S.L.** (2011, March). Identification of stimulators and inhibitors of cell migration in human embryonic stem cell derived neural progenitors using a novel, high throughput amenable assay platform. Society of Toxicology Annual Meeting. Washington, DC.
- Majumder, A., Dhara, S.K., **Stice, S.L.** (2011, November). Astrocytic differentiation of neural progenitors derived from human embryonic stem cells using small molecules. Society for Neuroscience Annual Meeting. Washington, DC.
- Clemmons E., Jordan E., Mumaw J., **Stice S.L.** (2011, August 4-6). Effect of Physiologic Hypoxia on Human Neural Progenitor Cells. Poster session presented at: Meril-NIH National Veterinary Scholars Symposium. Orlando, FL.
- West, R., Jordan, E., and **Stice, S.L.** (2011). Synthemax coating and neural progenitor proliferation. College of Agriculture and Environmental Science Research Days, University of Georgia. Athens, GA.
- West, Franklin D., Yubing Liu, Ping Yu, Yangqing Lu, Brian J. Jordan, Jeong-Yeh Yang, Robert B. Beckstead, and **Stice, S.L.** (2012, October). Expansion and Plasticity of Domestic Livestock Species Induced Pluripotent Stem Cells. ISSCR-Roddenberry International Symposium on Cellular Reprogramming. San Francisco, CA.
- Gallegos-Cardenas, Amalia, Rachel West, Jeong-Yeh Yang, Franklin D. West and **Stice, S.L.** (2012, October). Advancing Translational Neural Regenerative Medicine by Using Pig Induced Pluripotent Stem Cells. Georgia Life Sciences Summit. Atlanta, GA.
- Lu, Yangqing, Franklin D. West, Claudio L. Afonso, Leonardo Susta, Ping Yu, Erin T. Jordan, and **Stice, S.L.** (2012, July). Animal induced pluripotent stem cells: a new cell source for vaccine production. 2nd Infectious Diseases World Summit. San Francisco, CA.
- Orteta, N.M., Benítez, S.B., Barrionuevo, B.E., Nicotra, M.F., Alessio, A.P., Fili, A.E, Forcato, D.O., and **Stice, S.L.** (2012, December). Bosch Pg. 46 Meganuclease I-Scei Enhances Stable Transgene Integration In Cultured Bovine Fetal Fibroblasts. *Reprod Fertil Dev.* (1):170-1
- Chilton, J.M., Galland, K.L., McCabe, J.A., and **Stice, S.L.** (2012). Derivation of scalable, NURR1 expressing dopaminergic progenitor cells from human embryonic stem cells. The 42nd Annual Meeting of the Society for Neuroscience (SfN).
- Singh, A., Suri, S., Lee, T.T., Chilton, J.M., **Stice, S.L.**, Lu, H., McDevitt, T.C., and García, A.J. (2012).

- Adhesive signature-based, label-free isolation of human pluripotent stem cells. The American Society of Mechanical Engineering 2012 Summer Conference (SBC2012).
- Sirenko, O., Powe, A.C., Hesley, J., Cromwell, E.F., Chilton, J.M., and **Stice, S.L.** (2012). High Content Image Analysis of Neurogenesis Using Human Embryonic Stem Cell Derived Neural Cells. The 51st Annual Meeting of the Society of Toxicology (SOT).
- Gallegos-Cardenas, A., Wang, K., Jordan, E.T., West, R., West, F.D., Yang, J.Y., **Stice, S.L.** (2013, December). Robust generation of neural stem cells from pig induced pluripotent stem cells for translational neural regenerative medicine. *Reprod Fertil Dev.*; 26(1):210.
- West, Franklin D, Jeong-yeh Yang, Kylee Jo Duberstein, Shannon P. Holmes, M. Jamie, **Stice, S.L.**, William D. Hill, David C. Hess, and Simon R. Platt. (2013). Induced Pluripotent Stem Cell Derived Neural Progenitor Therapy for Treatment in a MCAO Ischemic Brain Injury Pig Model. International Stroke Conference.
- Lau, Vivian, Simon R. Platt, Shannon P. Holmes, Kylee Jo J. Duberstein, Elizabeth Howerth, Lisa Reno, **Stice, S.L.**, David C. Hess, William D. Hill, and Franklin D. West. (2013). Magnetic Resonance Imaging and Functional Analysis of a Novel Middle Cerebral Artery Ischemic Stroke Pig Model. Southern Translational Education and Research Conference.
- Stice, S.L.**, Lu, Kun, Smith, Mary Alice, Zhao, Qun. (2014, March). Human neural stem cell metabolomics, cellular and organ level adverse outcome pathway relationships for endocrine active compounds. EPA Society of Toxicology Annual meeting.
- Xian Wu, **Stice, S.L.**, Mary Alice Smith, and Erin T. Jordin. (2014, June). Toxicants Differentially Effect Human Neuron Maturation, Outgrowth and Metabolome. Conference co-organized by CAAT, the European Commission's Centre for the Validation of Alternative Methods (ECVAM), and the US Environmental Agency (EPA). Philadelphia, PA.
- Sriram, K., Jordan, E.J., Webb, R.L., and **Stice, S.L.** (2014, January). Bone Fracture Putty: a combined lentiviral and stem cell approach. Harvard National Collegiate Research Conference. Cambridge, MA.
- Susta, Leonardo, Ying He, Jessica McCabe, Yangqing Lu, Franklin D. West, **Stice, S.L.**, Ping Yu, and Claudio L. Afonso. (2014, January). Derivation of partially-resistant iPSCs to Newcastle disease virus through multiple rounds of infection. Southern Conference on Avian Diseases. Atlanta, GA.
- Swetenburg, R.L., White, D.E., Kemp, M.L., McDevitt, T.C., and **Stice, S.L.** (2014, January). Evidence-based Computational Modeling of Motor Neuron Derivation from Pluripotent Stem Cells. Proceedings of the Society for Toxicology FutureTox II: Pathways to Prediction Meeting Chapel Hill, NC.
- Xian Wu, Erin T. Jordan, Jamie M. Chilton, Jason O'Donnell, and **Stice, S.L.** (2014, January). Quantification of neuron maturation and neurite outgrowth in vitro using human neural progenitor cells. *FutureTox II: In Vitro Data and In Silico Models for Predictive Toxicology*. Chapel Hill, NC.
- Hotop, K., Xian, W., **Stice, S.L.**, Smith, M.A. (2014, January). In Vitro Intra- and Extra-Cellular Metabolomic Response of Neural Progenitor Cells Exposed to Bisphenol-A. *FutureTox II: In Vitro Data and In Silico Models for Predictive Toxicology*. Chapel Hill, NC.
- Jordan, Brian J., Yangqing Lu, Rachel C. West, Franklin D. West, **Stice, S.L.**, and Mark W. Jackwood. (2014, January). Evaluation of chicken induced pluripotent stem cells as an in-vitro system for avian infectious bronchitis virus. Southern Conference on Avian Diseases. Atlanta, GA.
- Meng, Qingying, Luning Wang, Forrest Goodfellow, **Stice, S.L.**, and, Qun Zhao. (2014, February). Non-invasive Monitoring of Chick Embryo Brain Development Using a 7T MRI System. SEC MRI/fMRI Mini-Conference. Athens, GA.
- Goodfellow, Forrest, Qingying Meng, Qin Zhao, **Stice, S.L.** (2014, February). Assessing the potential

- for iron nanoparticle labeling for human neural progenitor stem cells in vivo. SEC MRI/fMRI Mini-Conference. Athens, GA.
- Lu, Yangqing, Franklin D. West, Brian J. Jordan, Erin T. Jordan, Rachel West, Ping Yu, Ying He, Miguel A. Barrios, Ziyang Zhu, James N. Petite, Robert B. Beckstead and, **Stice, S.L.** (2014, March). Derivation of PGC-like Cells from Chicken Embryonic Fibroblast by Cellular Reprogramming. Avian Model Systems Meeting. Cold Spring Harbor, NY.
- Majumder, Anirban, Wu Xian, **Stice, S.L.** (2014, March). Human stem cell derived neuron and astrocyte co-cultures in a developmental neurotoxicity screening assay. SOT 53rd Annual Meeting and ToxExpoTM. Phoenix, AZ.
- Xian Wu, Erin T. Jordan, Jamie M. Chilton, Jason O'Donnell, and **Stice, S.L.** (2014, March). Quantification of neuron maturation and neurite outgrowth in vitro using human neural progenitor cells. SOT 53rd Annual Meeting and ToxExpo. Phoenix, AZ.
- Le, Jane, Jamie Chilton, Anirban Majumder, Xian Wu, and **Stice, S.L.** (2014, March). Live cell based assay using GFP+ human stem cell derived neurons. SOT 53rd Annual Meeting and ToxExpoTM. Phoenix, AZ.
- Stice, S.L.**, Lu, K., Smith, M. A., Zhao, Q. (2014, March). Human neural stem cell metabolomics, cellular and organ level adverse outcome pathway relationships for endocrine active compounds. EPA Society of Toxicology Annual meeting.
- Xian Wu, Erin T. Jordan, Jamie M. Chilton, Jason O'Donnell, **Stice, S.L.** (2014, April). Quantification of neuron maturation and neurite outgrowth in vitro using human neural progenitor cells. Interdisciplinary Toxicology Program Annual Retreat, University of Georgia. Athens, GA.
- Xian Wu, Kun Lu, Erin T. Jordan, Mary A. Smith, Anirban Majumder, Shelley Wallace, and **Stice, S.L.** (2014, May). Toxicants Differentially Effect Human Neuron Maturation, Outgrowth and Metabolome. Fourth International Conference on Alternatives for Developmental Neurotoxicity Testing (DNT). Philadelphia, PA.
- Grant, C., Jordan, E.J., Webb, R.L., Thorensen, M., West, R. Peroni, J.F., **Stice, S.L.** (2014, July). Osteogenic Differentiation of Human Mesenchymal Stem Cells (MSCs) Containing BMP-2. Meril-NIH Veterinary Scholars Symposium, Cornell University. Ithaca, NY.
- West, Franklin D. Liya Wang, Hui Mao, Shannon P. Holmes, Simon R. Platt, Harrison Grace, Vivian Lau, Elizabeth W. Howerth, Trinh Nguyen, Lisa R. Reno, Amalia Gallegos-Cardenas, Jeong Yeh Yang, Kylee Jo Duberstein and **Stice, S.L.** (2014, August). Longitudinal MRI and MRS Assessment of iPSC Neural Stem Cell Treatment in White Brain Matter. Regenerative Engineering and Medicine Retreat. Athens, GA.
- Qingying Meng, Luning Wang, Forrest Goodfellow, **Stice, S.L.**, Qun Zhao. (2014, August). Non-invasive Monitoring of Chick Embryo Brain Development using a 7T MRI System. Regenerative Engineering and Medicine Retreat. Athens, GA.
- Goodfellow, Forrest, Qingying Meng, Erin Jordan, Qin Zhao, and **Stice, S.L.** (2014, August). Steps towards tracking human neural progenitor stem cells with MRI contrast agents. Regenerative 26 Engineering and Medicine retreat. Athens, GA.
- Swetenburg, R.L., White, D.E., Kemp, M.L., McDevitt, T.C., and **Stice, S.L.** (2014, August). A Computational Modeling Approach to Investigate the Glial Switch Using Pluripotent Stem Cells. *Proceedings of the Regenerative Engineering and Medicine Annual Retreat*. Athens, GA.
- Webb, R.L., Jordan, E.T., Thorensen, M., Mumaw, J.L., Gannon, F.H., Peroni, J.F., and **Stice, S.L.** (2014, August). Fracture Putty: the bonified solution to nonunion fracture repair (2014). The Regenerative Engineering and Medicine Retreat. Athens, GA.
- Xian, Wu, Kun, Lu, Erin, T., Jordan, Mary A. Smith, Anirban Majumder, Shelley Wallace, **Stice, S.L.** (2014, August). Toxicants Differentially Effect Human Neuron Maturation, Outgrowth and Metabolome. Regenerative Engineering and Medicine Fall Meeting. Athens, GA.

- Franklin D. West, Liya Wang, Hui Mao, Shannon P. Holmes, Simon R. Platt, Harrison Grace, Vivian Lau, Elizabeth W. Howerth, Trinh Nguyen, Lisa R. Reno, Amalia Gallegos-Cardenas, Jeong Yeh Yang, Kylee Jo Duberstein and **Stice, S.L.** (2014, August). Longitudinal MRI and MRS Assessment of iPSC Neural Stem Cell Treatment in White Brain Matter. Regenerative Engineering and Medicine Conference. Athens, GA.
- Yangqing Lu, Franklin D. West and **Stice, S.L.** (2014, November). Induced Pluripotency in Avian Embryonic Fibroblast. Asian Reproductive Biotechnology Society Conference. Bangkok, Thailand.
- Franklin D. West, Liya Wang, Shannon P. Holmes, Simon R. Platt, Harrison Grace, Vivian Lau, Elizabeth W. Howerth, Trinh Nguyen, Amalia Gallegos-Cardenas, Jeong Yeh Yang, Kylee Jo Duberstein, **Stice, S.L.** and Hui Mao. (2015, August). Regenerative Neural Stem Cell Therapy in a Pig Stroke Model. Regenerative Medicine and Cellular Therapy Research Symposium. Augusta, GA.
- Xian Wu, Anirban Majumder, **Stice, S.L.** (2015, April 15). Bisphenol-A effects on in vitro Human Neural Development was Window of Susceptibility dependent. Interdisciplinary Toxicology Program Annual Retreat, University of Georgia. Athens, GA.
- Harrison Grace, W. Matthew Henderson, Vivian Lau, Trinh Nguyen, Simon R. Platt, Shannon P. Holmes, Elizabeth W. Howerth, Lisa R. Reno, Kylee Jo Duberstein, **Stice, S.L.** and Franklin D. West. (2015, April). Gray and White Matter Brain Metabolomic Profiling in a Porcine Model of Stroke with Human Induced Neural Stem Cell Treatment. American Physician Scientist Association. Chicago, IL
- Franklin D. West, Liya Wang, Shannon P. Holmes, Simon R. Platt, Harrison Grace, Vivian Lau, Elizabeth W. Howerth, Trinh Nguyen, Amalia Gallegos-Cardenas, Jeong Yeh Yang, Kylee Jo Duberstein, **Stice, S.L.** and Hui Mao. (2015, April). Regenerative Neural Stem Cell Therapy in a Pig Stroke Model. Regenerative Medicine and Cellular Therapy Research Symposium. Augusta, GA.
- West, F.D., Y. Lu, A. Gallegos-Cardenas, P. Yu, Y. Liu, J. Y. Yang and **Stice, S.L.** (2015, August). Developmental Plasticity of Porcine and Avian Induced Pluripotent Stem Cells. Transgenic Animal Research Conference TARC X. Tahoe City, CA.
- West, F.D., Liya Wang, Hui Mao, Shannon P. Holmes, Simon R. Platt, Harrison Grace, Vivian Lau, Elizabeth W. Howerth, Trinh Nguyen, Lisa R. Reno, Amalia Gallegos-Cardenas, Jeong Yeh Yang, Kylee Jo Duberstein and **Stice, S.L.** (2015, August). Longitudinal MRI and MRS Assessment of iPSC Neural Stem Cell Treatment in White Brain Matter. Regenerative Engineering and Medicine Conference. Atlanta, GA.
- Webb, R.L., Reiss, H.M., Jordan, E.T., Goodfellow, F., and **Stice, S.L.** (2015, September 24-25). Exosomes with cell signaling capabilities can be isolated from neuronal cells. Southern Translational Education and Research Conference. Athens, GA. Award for best postdoctoral poster.
- Swetenburg, R.L., White, D.E., Kemp, M.L., McDevitt, T.C., and **Stice, S.L.** (2015, September 24-25). Combined computational and empirical techniques reveal novel mechanisms governing progenitor fate decisions in a pluripotent stem cell model of spinal cord development. *Proceedings of the Southern Translational Education and Research Conference*. Athens, GA.
- Swetenburg, R.L., White, D.E., Kemp, M.L., McDevitt, T.C., **Stice, S.L.** (2015, October 7-11). Computational Modeling Reveals Novel Determinants of Neural Progenitor Cell Fate Decisions. *Proceedings of the 2015 Cold Spring Harbor Laboratory Meeting on Stem Cell Biology*. Cold Spring Harbor, NY. Pg. 125.
- Andrews, S.H., Cheng, A., Webb, R.D., Stevens, H., Guldberg, R., and **Stice, S.L.** 2015. Healing of Critical-Sized Bone Defects by BMP-2 over-expressing MSCs in CS-GAG hydrogel [Abstract]. Proceedings from the World Stem Cell Summit. Dec. 10-12. Atlanta, GA. Abstract no. 140069.
- Webb, R.L., Scoville, S.L., Stice, T., **Stice, S.L.** 2015. Exosomes derived from neural stem cell types

- confer neuroprotective benefits in vitro [Abstract]. Proceedings from the World Stem Cell Summit. Dec. 10-12. Atlanta, GA. Abstract no. 141871.
- Xian, Wu, Anirban Majumder, **Stice, S.L.** (2015, December 10-12). Human pluripotent stem cell derived astrocytes metabolize chlorpyrifos through Cytochrome P₄₅₀ and protect neuron neurite outgrowth inhibition. World Stem Cell Summit. Atlanta, GA.
- Goodfellow, Forrest, Tarun Daniel, **Stice, S.L.** 2015. Comparative Analysis of Neural Network Ontogeny with Microelectrode Arrays [Abstract]. World Stem Cell Summit. Dec. 10-12, 2015, Atlanta, GA. Abstract. No. 139361.
- West, F.D., Liya Wang, Hui Mao, Shannon P. Holmes, Simon R. Platt, Harrison Grace, Vivian W. Lau, Emily W. Baker, Elizabeth W. Howerth, Lisa R. Reno, Kylee Jo Duberstein and **Stice, S.L.** (2015, December). Longitudinal MRI and MRS Assessment of iPSC Neural Stem Cell Treatment in White Brain Matter. World Stem Cell Summit. Atlanta, GA.
- Kaiser, Erin E., Kylee Jo Duberstein, Simon R. Platt, Vivian W. Lau, Emily W. Baker, Harrison E. Grace, Elizabeth W. Howerth, Shannon P. Holmes, Liya Wang, **Stice, S.L.**, Hui Mao and Franklin D. West. (2015, December). Quantitative Gait Analysis Demonstrates Significant Changes in Motor Function Post-Ischemic Stroke and Simulated Intraparenchymal Therapeutic Delivery in a Porcine Model. World Stem Cell Summit. Atlanta, GA.
- Kaiser, Erin E., Kylee Jo Duberstein, Simon R. Platt, Vivian W. Lau, Emily W. Baker, Harrison E. Grace, Elizabeth W. Howerth, Shannon P. Holmes, Liya Wang, **Stice, S.L.**, Hui Mao and Franklin D. West. (2016, February). Quantitative Gait Analysis Demonstrates Significant Changes in Motor Function Post-Ischemic Stroke and Simulated Intraparenchymal Therapeutic Delivery in a Porcine Model. International Stroke Conference. Los Angeles, CA.
- West, Franklin D., Simon R. Platt, Shannon P. Holmes, Liya Wang, Vivian W. Lau, Emily W. Baker, Harrison E. Grace, Elizabeth W. Howerth, Kylee Jo Duberstein, **Stice, S.L.**, David C. Hess and Hui Mao. (2016, February). Induced Neural Stem Cell Treated Stroke Pigs Show Improved White Matter Integrity and Brain Metabolism Post-Ischemic Stroke. International Stroke Conference. Los Angeles, CA. Goodfellow, F.T., G. Simchick, Q. Zhao, and **Stice, S.L.** (2016, March 22-26). In vitro and in vivo characterization and functional analysis of neural network ontogeny with MR imaging and electrophysiology. Society of Toxicology 55th Annual Meeting and ToxExpo™. San Diego, CA.
- Yeshi, T., Majumder, A., Crawford, J., **Stice, S.L.**, and Chengelis C. (2016). GFP plus Human Stem Cell-Derived Neurons Amenable to High-Content and High-Throughput Assays. *International Journal of Toxicology*. Sage Publications Inc. 2455 Teller Road, Thousand Oaks, CA. 35: 72-72. (Proceedings of conference (published)).
- Passaro, Austin, Brian Jurgielewicz, Jordan Whisler, Roger Kamm, and **Stice, S.L.** (2016, August). Neurovascular interactions and co-differentiation. EBICS Annual Retreat. St. Charles, IL.
- Goodfellow, F.T., B. Tesla, G. Simchick, T. Hodge, Q. Zhao, M.A. Brindley and **Stice, S.L.** (2016, September 24). Zika Virus Induced Mortality and Microcephaly in Chicken Embryos. Southeastern Translational Research Conference. Athens, GA. Goodfellow, F. T., B. Tesla, G. Simchick, T. Hodge, Q. Zhao, M. A. Brindley and **Stice, S.L.** (2016, October 6-7). Zika Virus Induced Mortality and Microcephaly in Chicken Embryos. Southeastern Society of Toxicology Annual Meeting. Athens, GA.
- Andrews, S. Albert Cheng, Robin Webb, Hazel Stevens, Robert Guldberg, Lohitash Karumbaiah, **Stice, S.L.** 2016. BMP-2 Overexpressing Mesenchymal Stem Cells in CS hydrogels for healing of Critical Bone Defects [Abstract]. Biomedical Engineering Society Annual Meeting 2016. October 5-7. Abstract #677.
- McKenzie, M., Amosu, M., Wu, X., Wallace, S., Henderson, M., Bian, X., Lu, K., **Stice, S.L.**, and Smith, M.A. (2016). Determining Developmental Neurotoxicity of Pesticides Utilizing Metabolomic

- Profile from Neural Progenitor Cells. *Birth Defects Research Part A-Clinical and Molecular Teratology*. 106(5), 387.
- West, Franklin D., and **Stice, S.L.** (2016, November). Saving the Sumatran Tiger and Clouded Leopard: Developing the Technology to Create Sperm from Endangered Species Skin Cells. University of Nebraska and Nebraska Coalition for Lifesaving Cures. Omaha, NB.
- Baker, Emily K., Holly A. Kinder, Simon R. Platt, Shannon P. Holmes, Liya Wang, Vivian W. Lau, Harrison E. Grace, Elizabeth W. Howerth, Kylee Jo Duberstein, **Stice, S.L.**, David C. Hess, Hui Mao, and Franklin D. West. (2016, December). Transplanted induced neural stem cells lead to improved brain tissue metabolism in a porcine ischemic stroke model. World Stem Cell Summit. West Palm Beach, FL.
- Kinder, Holly, Emily W. Baker, Simon R. Platt, Shannon P. Holmes, Liya Wang, Vivian W. Lau, Harrison E. Grace, Elizabeth W. Howerth, Kylee Jo Duberstein, **Stice, S.L.**, David C. Hess, Hui Mao, and Franklin D. West. (2016, December). Transplanted induced neural stem cells promote neuron survival, reduce microglia activity, and stimulate endogenous neuroblast migration to the site of injury in a porcine MCAO stroke model. World Stem Cell Summit. West Palm Beach, FL.
- West, F. D., Platt, S. R., Holmes, S. P., Wang, L., Lau, V. W., Baker, E. W., . . . **Stice, S. L.** 2016. Induced Neural Stem Cell Treated Stroke Pigs Show Improved White Matter Integrity and Brain Metabolism Post-ischemic Stroke. Am Heart Association International Stroke Conference Stroke, 47(Suppl 1), A130-A130.

Other publications (Patents)

- Stice, S.L.** (1994). Synchronized donor cells for nuclear transfer Canadian Patent #2,092,258.
- Strelchenko N. and **Stice, S.L.** 1994. Ungulate preblastocyst derived embryonic stem cells and use thereof to produce cloned transgenic and chimeric ungulates. WO 95/16770 (patent application).
- Stice, S.L.** Strelchenko,N., Betthausen, J. Scott, B., and Jurgella, G. (1994). Embryonic stem cells as nuclear donors and nuclear transfer techniques to produce chimeric and transgenic animals. WO 95/17500 (patent application).
- Stice, S.L.** (1995). Maturation procedure of the recipient oocytes for multiplying bovine embryos. European Patent #559307.
- Susko- Parrish, J.L., Northey, D.L., Leibfried-Rutledge, M.L., and **Stice, S.L.** (1996). US patent #5,496,720. Parthenogenic oocyte activation.
- Stice, S.L.**, Golueke, P., Cibelli, J., Robl, J. M., Ponce De Leon, F. A., and J. Jerry, (1997). Cultured inner cell mass cell lines derived from ungulate embryos WO 97/22308 patent application) continuation in part.
- Ponce de Leon, F.A., Blackwell, C., Gao, X., Robl, J.M., **Stice, S.L.**, and J. Jerry, (1997). Culturing primordial germ cells to produce chimeric chickens. US Patent # 6156569.
- Ponce de Leon, F.A., Robl, J.M., **Stice, S.L.**, and J. Jerry, (1997). Avian primordial germ cells. (patent application).
- Robl, J.M., Cibelli, J., and **Stice, S.L.** (1997). Embryonic or stem-like cell lines produced by cross species nuclear transplantation (WO 98/07841 patent application).
- Susko- Parrish, J.L., Northey, D.L., Leibfried-Rutledge, M.L., and **Stice, S.L.** (1998). US patent #5,876,320. Parthenogenic oocyte activation and nuclear transfer.
- Robl, J.M., Cibelli, J., and **Stice, S.L.** (1998). Embryonic or stem-like cell lines produced by cross species nuclear transplantation. (WO 98/07841 patent application) continuation in part.
- Stice, S.L.**, and Golueke, P. (1999). Cultured inner cell mass cell lines derived from ungulate embryos. US patent # 5,905,042.

- Stice, S.L.,** Cibelli, J.B., Robl, J.M. Golueke, P., Ponce de Leon, A.F, Jerry J. (1999). Production of Chimeric bovine or porcine animals using cultured inner cell mass cells. US patent #5994619.
- Stice, S.L.,** Cibelli, J.B., Robl, J.M., Golueke, P., Ponce de Leon, A.F, Jerry J. (1999). Cloning using nuclei from proliferating somatic cells. US Patent #5,945,577.
- Susko- Parrish, J.L., Northey, D.L., Leibfried-Rutledge, M.L., and **Stice, S.L.** (2000). US patent #6,077,710. Parthenogenic oocyte activation.
- Ponce de Leon, F.A., Blackwell, C., Gao, X., Robl, J., **Stice, S.L.**, and Jerry, D.J. (2000). Prolonged culturing of avian primordial germ cells (PGCs) using specific growth factors, use thereof to produce chimeric avian. US patent #6156569.
- Stice, S.L.,** Robl, J.M., and P. Golueke. (2001). Cloning pigs using donor nuclei from non-quiescent differentiated cells. US patent number 6,235,969.
- Stice, S.L.,** Robl, J.M., P. Golueke and J. Jerry. (2001). Cloning using donor nuclei from non-quiescent somatic cells. US patent number 6,215,041.
- Stice, S.L.,** Cibelli, J., Robl J., Golueke, P., Ponce de Leon; F.A. (2001). CICM cells and non-human mammalian embryos prepared by nuclear transfer of a proliferating differentiated cell or its nucleus US patent number 6235970.
- Stice, S.L.;** Cibelli, Jose; Robl, James M. (2002.) Cloned ungulate embryos and animals, use of cells, tissues and organs thereof for transplantation therapies including Parkinson's disease. U.S. Pat. Appl. Publ.
- Stice, S.L.,** Calhoun, John, Lyons, Ian, Mitalipova, Maisam, Robins, Allan. (2003). Compositions and methods for primate neural cell production. PCT Int. Appl. 36 pp.
- Susko-Parrish, Joan L.; Northey, David L.; Leibfried-Rutledge, M. Lorraine; **Stice, S.L.,** (2004). In vitro activation of mammalian oocytes. U.S. 16 pp., Cont.-in-part of U.S. Ser. No. 176,395.
- Stice, S.L.,** (2005). Effective Nuclear Reprogramming in mammals using CDK2 inhibitors. USP # 6,906,238.
- Stice, S.L.,** Robl J. M., and P. Goluek, (2007). Cloning pigs using non quiescent differentiated donor cells or nuclei. US patent number 7,291,746.
- Stice, S.L.,** Sujoy Dhara, and Soojung Shi, (2009). Feeder free derivation of human neural progenitor cells. Granted USP # 7,531,354
- Stice, S.L.,** (2009). Metaphase donor Cells for effective nuclear reprogramming in mammals. USP # 7,547,818 B2.
- Stice, S.L.,** Gibbons, John, Respass, Donald, (2006). Production of cloned animal offspring from cooled carcasses by nuclear transfer. USP Application #0294609 A1.
- Stice, S.L.,** J. Mumaw, and J. Peron, (2012). Fracture Putty (provisional patent application).
- Stice, S.L.,** John F. Peroni, and Jennifer Mumaw, (2015). Ossification-inducing Compositions and Methods of us thereof. USP 20,150,320,833, issued November 12, 2015.
- Stice, S.L.,** Franklin West, and Yangqing Lu. Avian, (2016). Induced Pluripotent Stem Cells and Their Use. USP Application No. 15/164,618. 2016
- Stice, S.L.,** F. West, and Y. Lu. Patent Filled on; Discovering a potential new therapeutic for stroke and other neurological disorders 2016

Invited Presentations

- 1988 "Animal biotechnology." TECH EX trade fair technology seminar. Toronto, Canada.
- 1988 "Nuclear transplantation in mammals". Annual Symposium of the American Association of Aging. Berkeley, CA,
- 1992 "Multiple generation bovine embryo cloning." International Embryo Transfer Satellite

- Symposium on Cloning Mammals by Nuclear Transplantation. Ft. Collins, CO.
- 1994 "Nuclear transplantation and embryonic stem cells." Cornell University Seminar Series on Reproductive Biology. Ithaca, NY.
- 1995 "Pluripotent properties of domestic animal embryonic cell lines". Food for the 21st Century seminar series. University of Missouri, Columbia, MO.
- 1995 "Uses of cattle embryonic stem cells." Symposium on Early Embryonic Development. Department of Animal Science. Ames, IA.
- 1995 "Embryonic stem cells for farm animals." Beltsville Symposium XX, Biotechnology's Role in the Genetic Improvement of Farm Animals. Beltsville, MD.
- 1995 "Transgenic animals using embryonic stem cells." Genzyme Transgenics Inc., Symposium on Transgenic Animals. Princeton NJ.
- 1996 "Pluripotent properties of domestic animal embryonic cell lines." Center for Reproductive Research seminar series, Tufts Univ. Boston, MA.
- 1997 "Production of Transgenic Animals Using Embryonic Stem Cells and Cloning." Forty-Sixth Annual National Breeders Roundtable proceedings. St. Louis, MI.
- 1997 "Cloning: The Potential Applications for Xenotransplantation." Biotechnology Industry Organization International meeting. Houston, TX.
- 1997 "Cloning cattle and pigs for use in xenotransplantation." International Business Conference on Xenotransplantation. Boston, MA.
- 1998 "Ethics of Cloning Farm Animals." Danish Board of Technology: Developing policy guidance on biotechnology for the Danish government.
- 1998 "New developments in cloning cattle." Royal Veterinary and Agricultural School seminar series. Copenhagen, Denmark.
- 1998 "Cloning and its importance to transgenically sourced biopharmaceuticals." Biotechnology Industry Organization international meeting. New York, NY.
- 1998 "Cloning and transgenic cattle and pigs." Conference on Transgenics and Cloning: Commercial Opportunities. Washington, DC.
- 1998 "Cloning technology in biomedicine." Massachusetts Biotechnology Association Annual Symposium. Boston MA.
- 1998 "Combining cloning and transgenic technologies to produce pharmaceutical proteins in cattle." CHI's - Transgenic Production of Human Therapeutics. Waltham, MA
- 1998 "Enhancing the use of transgenic farm animals in biomedicine." International Business Conference on Cloning and Transgenics – Animal-Derived Therapeutics. San Francisco, CA.
- 1998 "Gene targeting in pigs using nuclear transfer (cloning) technology." International Business Conference on Xenotransplantation. Boston, MA.
- 1998 "Cloning cattle: Is the technology ready for commercial use?" Annual Meeting of the American Embryo Transfer Society. San Antonio, TX.
- 1998 "Oocyte age and cell cycle: implications for nuclear transfer." World Congress on Fertility and Sterility. San Francisco, CA.
- 1998 "New developments in nuclear transfer technology." Annual Meeting Canadian Society of Animal Science. Vancouver, BC.
- 1998 "Cloning cattle and pigs: commercial opportunities." Veterinary School seminar series, Melbourne University. Melbourne, Australia.
- 1998 "Cloning cattle and pigs: commercial opportunities." Department of Biochemistry seminar, Adelaide University. Adelaide, Australia,
- 1998 "Cloning Cattle and Pigs." University Biotechnology Center seminar, University of Georgia. Athens, GA.
- 1998 "Cloning and transgenic technologies combined offer new products for the biomedical and

- agricultural industries". Annual meeting of the International Embryo Transfer Society. Boston, MA.
- 1998 "Cloning farm animals." Massachusetts Society for Medical Research Symposium for High School Teachers, Auburn, MA.
- 1999 "Nuclear Transfer and Cloning in Cattle." International Workshop on Embryogenesis and Implantation. Hawaii, HI.
- 1999 "Combining cloning and transgenic technologies for use in biomedicine and agriculture." Proceedings from the Annual Meeting of the Society for the Study of Reproduction. Pullman, WA.
- 1999 "Cloning Animals." Executive Round Table: A student, faculty industry organization of Georgia Technical Institute. Atlanta, GA.
- 1999 "Cloning Farm Animals for Biomedicine." Southeastern Reproductive Medicine Association Meeting. Atlanta, GA.
- 1999 "Cloning Cattle and Pigs." University of Nebraska, Biotechnology Seminar Series. University of Nebraska. Lincoln, NE.
- 1999 "Cloning cattle: from bioreactors to placental deficiencies." Georgia Medical School and Institute for Molecular Medicine and Genetics. Augusta, GA.
- 1999 "Cloning animals for industry and academia." Distinguished Scientist seminar series. Oregon Regional Primate Research Center. Beaverton, OR.
- 1999 "Ethics and future of mammalian cloning." Interdisciplinary Science colloquium. Kennesaw State University. Kennesaw, GA.
- 1999 "Nuclear transplantation in cattle". National Livestock Breeding Center. Odakura, Japan.
- 1999 "Transgenic cattle using nuclear transfer technology." Invited speaker at the Japanese Animal Reproduction Society meetings. Sendai, Japan.
- 1999 "Cloning and transgenics in cattle." Azabu University. Tokyo, Japan.
- 1999 "Nuclear transplantation and transgenics in farm animals." Miji University. Tokyo, Japan.
- 1999 "Ethical use of cloning technology." Monmouth Associates meeting. Monmouth, IL.
- 1999 "Cloning animals for the beef industry." Georgia Simmental Field Day. Athens, GA.
- 1999 "Brave new world of cloning." Georgia Magazine, Board of Directors. Athens, GA.
- 1999 "Cloning uses in scientific endeavors." Freshman-Sophomore Colloquium. Monmouth College, Monmouth. IL.
- 1999 "Cloning animals for agriculture." Leadership Georgia. Tifton, GA.
- 1999 "Cloning animals." UGA CAES Alumni Association. University of Georgia. Athens, GA.
- 2000 "A new era in medicine and agriculture". North Kentucky University. Newport, KY.
- 2000 "Cloning and stem cell use in tissue transplantation." Suddith symposium. Georgia Technical Institute. Atlanta, GA
- 2000 "Animal genomics: cloning and transgenics." University of Georgia Genomics Symposium, University of Georgia. Athens, GA.
- 2000 "Stem cell technology: where is it going: Bioethics and policy in biotechnology." Georgia Technical Institute. Atlanta, GA.
- 2000 "Advancing the livestock industry through cloning: a unique public-private ownership." National symposium on the Future of American Agriculture. University of Georgia. Athens, GA.
- 2000 "Cloning and transgenics: cattle and pigs." Animal and Dairy Science annual meeting. Baltimore, Maryland.
- 2000 "Progress in cloning cattle." Beef Improvement Federation. Wichita, KS.
- 2000 "Gene expression in cattle." 46th International Congress of Meat Sciences. Buenos Aires, Argentina.
- 2000 "Cloning animals for humankind." University Women's Club. University of Georgia. Athens, GA.

- 2000 "Cloning animals for the beef industry". NCBA Region II meeting. University of Georgia. Athens, GA.
- 2000 "Cloning animals for agricultural production." UGA CAES Alumni Association Advisory Council. Atlanta, GA
- 2000 "Cloning and genetic engineering in animals: How will it impact society?" Leadership Athens meeting. Athens, GA.
- 2000 "Cloning cattle for agricultural applications". Southeastern Cattlemen's Symposium. Athens, GA
- 2001 "Innovations in cloning and stem cell research". Georgia Life Sciences Summit, Keynote Speaker. Atlanta, GA.
- 2001 "What have we learned from cloning cattle?" The Future of Biotechnology. Georgia Technical Institute. Atlanta, GA.
- 2001 "The implications of cloning on the future of human beings". Center for Humanities and Arts seminar series. University of Georgia. Athens, GA.
- 2001 "Cloning for animal agriculture." Red Clay Conference. University of Georgia. Athens, GA.
- 2001 "Cloning and Genetic Engineering." Dept. of Poultry Science seminar series. University of Georgia. Athens, GA
- 2001 "Cloning and stem cells." Beta Beta Beta Biological initiation. University of Georgia. Athens, GA.
- 2001 "Cloning and the Environment." The Environmental Health Science Club. University of Georgia. Athens, GA.
- 2001 "Cloning and Genetic Engineering." GA Vet Scholars Journal Club. University of Georgia. Athens, GA.
- 2001 "Embryonic stem cells". Tissue Engineering Tool Box Symposium. Hilton Head, SC.
- 2001 "Cloning and Genetic Engineering." Earth Fair 2001. Emory University, Atlanta, GA.
- 2001 "Cloning. Biotech Media Day." University of Georgia. Athens, GA.
- 2001 "How embryonic stem cells will be used to treat Parkinson's disease." Biochemistry Undergraduate Club. University of Georgia. Athens, GA.
- 2001 "Embryonic Stem Cells." Georgia State, Biology Dept. Atlanta, GA.
- 2001 "Adult and Embryonic stem cells." King and Spaulding seminar series. Atlanta, GA
- 2001 "Farm Animal Cloning and Genetic Engineering." Merial Scientific Symposium. Leone, France.
- 2001 "Reproductive Cloning of farm animals." 38th Annual Veterinary Conference. University of Georgia. Athens GA.
- 2001 "Cloning and stem cells technologies." Terry Third Thursday Lecture. UGA Alumni Club, Atlanta, GA.
- 2001 "How will cloning and embryonic stem cells be used?" Licensing Executive Society monthly meeting. Newark, NJ.
- 2001 "Cloning cattle for genetic improvement." National Piedmontese Meeting. Athens, GA.
- 2001 "Embryonic stem cells for neurodegenerative diseases." Emory University Forum: Stem Cell Research: Everything You Always Wanted To Know. Atlanta, GA.
- 2001 "Careers in Cloning and Stem Cell Research". Georgia Junior Science and Humanities Symposium. University of Georgia. Athens, GA.
- 2002 "Cloning Cattle and Pigs." Livestock Improvement Symposium. Havana, Cuba.
- 2002 "Epigenetic events in cloning." PEW Initiative on Animal Biotechnology Symposium. Dallas, TX.
- 2002 "Stem Cells and Cloning Animals." Convocation Monmouth College. Monmouth, IL.
- 2002 "Neural Differentiation in Human and Primate Embryonic Stem Cells." Stem cells and Organogenesis seminar series. Vanderbilt University. Nashville, TN.

- 2002 "Advances in Stem Cell Research." Sixth Annual Biochemistry, Cell, and Molecular Biology Symposium. Atlanta, GA.
- 2002 "Current and Future uses of SCNTE in Animals." Cloned Embryos in Reproduction and Therapy. Copenhagen, Denmark.
- 2002 "Cloning and Stem Cells." Symposium on Pluripotency: From oocyte to embryonic stem cell. Brono, Czechoslovakia.
- 2002 "Human Embryonic Stem Uses in Medicine." Keynote Speaker at Medical College of Georgia Graduate Student Research Days. Augusta, GA.
- 2003 "Commercial Livestock Cloning." Venezuela National Biotechnology Symposium. Caracas, Venezuela.
- 2003 "Cloning Issues for Cattle and Pigs." Venezuela National Biotechnology Symposium. Caracas, Venezuela
- 2003 "Adult and Embryonic Stem Cells." UGA Symposium on Biotechnology Opportunities. Bangalore, India.
- 2003 "Cloning and Stem Cells." Bangalore Agricultural and Biomedical seminar. Bangalore, India.
- 2003 "Cloning truths and misconceptions: Raelians or Real Science." Goegenhiemmer Lecture ANS Award. Georgia Technical Institute. Atlanta, GA.
- 2003 "Normal events in cloning." BIO Animal Biotechnology Symposium. Washington, D.C.
- 2003 "Stem Cells and Cloning Animals" Convocation Monmouth College, Monmouth, IL.
- 2003 "Cloning Regulatory Issues for Cattle and Pigs." American Meat Institute Keynote Speaker. American Meat Institute Annual Meeting. Chicago, IL.
- 2003 "Cardiovascular Cell Differentiation in Human and Primate Embryonic Stem Cells. " Seventh Annual Hilton Head Toolbox: Stem Cells. Hilton Head, SC.
- 2003 "Differentiation of human embryonic stem cells." Developmental Issues Stem Cells. Baylor Medical School Center for Gene and Stem Cell Therapy. Houston, TX.
- 2003 "Genetic and proteomic characterization of human embryonic stem cells undergoing Differentiation." Annual meeting of the Society for the Study of Reproduction. Cincinnati, OH.
- 2003 "Animal Stem Cells and Cloning." Animal Science Symposium, Champaign, IL.
- 2004 "Cloning as part of the GMO debate." Emory University Annual Symposium on GMO Ethics. Atlanta, GA.
- 2004 "Human Embryonic Stem Cell Differentiation towards Endothelial Cells." India-US Exchange, Sponsored by the National Science Foundation. Trivendrum, India.
- 2004 "Neural cell differentiation using Human Embryonic Stem Cells." NSF site visit to GTEC. Atlanta, GA.
- 2004 "Human ESC differentiation." Morehouse School of Medicine. Atlanta, GA.
- 2004 Georgia Regenerative Medicine Research. G-8 Economic Summit. Sea Island, GA.
- 2004 Human Embryonic Stem Cell Toolbox Workshop. National Institute of Health. Bethesda, Maryland.
- 2004 "Cloning opportunities for Industry." MiniTube Inc., Madison, WI.
- 2004 "Differentiation of human embryonic stem cells into motor neurons." Emory Department of Cell Biology. Atlanta GA
- 2004 "Issues facing Cloning technology." American Meat Institute. Nashville, TN.
- 2004 "Human Embryonic Stem Cell Culture and Differentiation." Chemicon, Inc. San Diego, CA.
- 2004 "Genetic analysis of human embryonic stem cells." Applied Biosystems Genomic Symposium. Atlanta, GA.
- 2004 "Stem Cell Controversy." UGA Sigma Xi Seminar. Athens, GA.
- 2005 "Differentiation of human embryonic stem cells." Keynote speaker, Texas Technical Institute, Medical School graduate student annual symposium. Lubbock, TX.

- 2005 "Cloning Farm Animals." Alpha Gamma Rho Leadership Program. Atlanta, GA
- 2005 "Stem Cell Cures for Spinal Cord Injuries." Shepard Center. Atlanta, GA.
- 2005 "Human Embryonic Stem Cell Unique Characteristics." University of California- Irvine. Irvine, CA.
- 2005 "Human motoneurons in SMA assays." SMA planning meeting. Washington, DC.
- 2005 "Maintaining the Genetic Integrity of Human Embryonic Stem Cells". International Regenerate meeting. Atlanta, GA.
- 2005 Human Embryonic Stem Cell Toolbox Workshop. NIH preconference meeting of the International Society for Stem Cell Research. San Francisco, CA.
- 2005 "Differentiation of human embryonic stem cells into motor neurons." National Institute of Health. M. Rao Symposium. Baltimore, MD.
- 2005 "Neural Cell Therapies." Low Country Huntington Society. Savannah, GA.
- 2005 "The future of animal biotechnology." Leadership Georgia Meeting. Perry, GA
- 2005 "Cloning and Human Embryonic Stem Cell Therapies." California's Univ. of Georgia Alumni meeting, Beverly Hills, CA.
- 2005 "Human Stem Cell uses in Drug Discover." Annual Life Science summit. Atlanta, GA.
- 2005 "Neural Networks." NIH NINDS Center for Review and Program Managers. Bethesda, MD.
- 2006 "Human Embryonic Stem Cells: Challenges and Opportunities." International Embryo Transfer Society speaker. Orlando, FL.
- 2006 "Applications for Human Embryonic Stem Cell in Tissue Engineering." US-Egyptian Partnership for Tissue Engineering. Cairo, Egypt
- 2006 "Applications for Mesenchymal Adult Stem Cell in Tissue Engineering." US-Egyptian Partnership for Tissue Engineering. Cairo, Egypt
- 2006 "Human Embryonic Stem Cell Unique Characteristics." Systems Biology Summit. Richmond, VA.
- 2006 Human Embryonic Stem Cell Toolbox Workshop. NIH preconference meeting of the International Society for Stem Cell Research. Toronto, Canada.
- 2006 "Human Stem Cell uses in neural development." UGA Genetics Departmental Seminar. Athens, GA.
- 2006 "Stem Cells and Cell Therapy." International Biomaterials Meeting. Pittsburgh, PA.
- 2006 "Pig mesenchymal stem cells." Veterinary School of Medicine. Texas A&M University. College Station, TX.
- 2006 "Neural Progenitors." CHI Conference on High Throughput and High Content Assays. San Francisco, CA.
- 2006 "Differentiation of human embryonic stem cells into motor neurons." Center for Neurodegenerative Disease, Emory University. Atlanta, GA.
- 2006 Georgia Research Successes. Iowa Biotechnology Association. Cedar Rapids, IA.
- 2006 "Differentiation on Embryonic Stem Cells to neural cells." First Latin American Conference on Regenerative Medicine. Buenos Aries, Argentina.
- 2006 "Cloning opportunities and Challenges". University of Concepcion. Concepcion, Chile.
- 2006 "Neural Cells Derived from Human Embryonic Stem Cells." Center for Regenerative Medicine. Univ. of Connecticut, Storrs, CT.
- 2006 "Commercial Opportunities in Neural Cell Therapy." MIT Enterprise Forum. Atlanta, GA.
- 2007 "Human Embryonic Stem Cells Derive Neural Progenitor Cells." International PGD Conference. Belize City, Belize.
- 2007 "Stem Cell for Human Medicine." Valdosta State University. Valdosta, GA.
- 2007 "Endothelial cells derived from ESC." Emory University, GTEC Cardiovascular retreat. Atlanta, GA.

- 2007 "Neural Networks derived from human embryonic stem cells." Morehouse School of Medicine. Atlanta, GA.
- 2007 Training Stem Cell Biologist at the HEST workshop. NIH. Bethesda, MD.
- 2007 "Adult stem Cells derived from embryonic stem cells." Georgia Stem Cell Initiative meeting. Georgia Technical Institute. Atlanta, GA.
- 2007 "Stem Cells the possibility for cures." Kennesaw State University. Kennesaw, GA.
- 2007 "Embryonic Stem Cells for cell therapy." Philadelphia Osteopathic Medical School. Atlanta, GA.
- 2007 "Human Neural Stem Cells Used in Drug Discovery." Center for Drug Discovery, University of Georgia. Athens, GA.
- 2007 "Human Neural Stem Cells Used in Drug Discovery." Department of Pharmacology, Emory University. Atlanta, GA.
- 2007 "Embryonic Stem cells used in regenerative medicine." Activated Egg Symposium. Boston, MA.
- 2007 "Human Neural Cells for Research." Virginia Commonwealth University. Richmond, VA.
- 2008 "Pluripotent and Neural Stem Cells." University of Norway. Oslo, Norway.
- 2008 "Cloning Animal and Pluripotent Stem Cells." University of Nanjing. Nanjing, China.
- 2008 "Human Embryonic Stem Cells Business Opportunities." University of Georgia Atlanta Business School. Atlanta, GA
- 2008 "Livestock Mesenchymal Stem Cells." Veterinary School, Large Animal Seminar Series. University of Georgia. Athens, GA.
- 2008 "Comparison between Fetal and Embryonic Stem cell derived Stem Cells." Hilton Head Tissue Engineering Conference. Hilton Head, SC
- 2008 "Neural Networks derived from human embryonic stem cells." World Stem Cell Congress. San Francisco CA.
- 2008 Training Stem Cell Biologist at the HEST workshop. NIH Workshop. Philadelphia, PA.
- 2008 "Human Neural Stem Cells Used in Drug Discovery." International Society for Stem Cell Research. Philadelphia, PA.
- 2008 "Commercializing NIH funding." National Small Business Innovation Research Symposium. Atlanta, GA.
- 2008 "Human Neural Cells for Research." Virginia Commonwealth University, Richmond, VA.
- 2008 "Spinal Cord Regeneration Symposium." Neural stem cells generated from Embryonic Stem Cells. Athens, GA.
- 2008 "Southeastern Stem Cell meeting." Early Differentiation of Human Embryonic Stem Cells. Athens, GA.
- 2008 "Human Neural Stem Cells Used in Drug Discovery Toxicology". Safety Pharmaceutical Society, Madison, WI.
- 2009 "Genetic Modification of Sheep Mesenchymal Stem Cells." DARPA Invited Lecture Fracture Putty meeting. Key West, FL.
- 2009 "Human Embryonic Stem cell derived Mesenchymal Stem Cells." Invited Lecture, Dept. of Cardiology. Emory University. Atlanta, GA.
- 2009 "Human Embryonic Stem Cells for Drug Discovery." Invited Lecture, Stem Cell summit. New York, NY.
- 2009 "Livestock Mesenchymal Stem Cells." Veterinary School, Large Animal seminar series. University of Georgia, Athens, GA.
- 2009 "Neural Networks as BioSensors." Invited Lecture, Office of Navy Research. Denver, CO.
- 2009 "Efficient Induced Pluripotent Stem Cells." International Society for Stem Cell Research, Invited Lecture. Barcelona, Spain.
- 2009 "Bone formation using Sheep Mesenchymal Stem Cells." Invited speaker, DARP. New York, NY.
- 2009 "Animal Cloning and Stem Cells." Invited Speaker, Food and Drug Administration. Washington,

- DC.
- 2009 "Human and Animal Stem Cells (iPSC)." Invited Speaker, Wake Forrest Institute for Regenerative Medicine. Winston Salem, NC.
- 2009 "Human Neural Cells for Research." Invited Grand Rounds, Medical College of Georgia. Augusta, GA.
- 2010 "Genetic Modification of Sheep Mesenchymal Stem Cells." DARPA, Invited Lecture, Fracture Putty meeting. New York, NY.
- 2010 "Human Embryonic Stem cell derived Neural Stem Cells." Invited Lecture, International Spinal Cord Injury Regenerative Medicine. Taipei, Taiwan.
- 2010 "Human Embryonic Stem Cells for Drug Discovery." Invited Lecture, Stem Cell summit. New York, NY.
- 2010 "Livestock induced pluripotent stem cells." Veterinary School, Reproductive Physiology. Colorado State University. Fort Collins, CO.
- 2010 "Neural Networks as BioSensors." Invited Lecture, Office of Navy Research. Bethesda, MD.
- 2010 "Human Neural Cells for Drug Toxicity." International Stem Cell Congress, Invited Speaker. Philadelphia, PA.
- 2010 "Use of stem cells to detect environmental toxins." Invited Speaker, EPA. Research Triangle, NC.
- 2010 "Animal Cloning and Stem Cells". National Veterinary Scholars Symposium, From Cage to Bed. Athens, GA.
- 2010 "Human and Animal Stem Cells (iPSC) in animal medicine." Invited Speake, American Veterinary Medicine Association. Atlanta, GA.
- 2010 "Livestock induced pluripotent Stem Cells." Invited Speaker, National Veterinary Medicine Conference. Concepcion, Chile.
- 2011 "Stem cells in large animal Models for Drug Discovery." Invited Speaker, New York Academy of Science Animal Models Conference. New York, NY.
- 2011 "Stem cells in Biomedical Regenerative Medicine and drug discovery." Keynote address, Institute of Biological Engineering Conference. Atlanta, GA.
- 2011 "Use of Human Progenitor Stem Cells for Toxicity Testing." Teratology Society, Invited speaker. San Diego, CA.
- 2011 "Stem Cells in Swine animal modeling." Swine in Biomedical Research, Invited Speaker. Chicago, IL.
- 2011 "Regenerative Medicine Using Adult Cells." Merial Inc. Invited Speaker. Atlanta, GA.
- 2011 "Human Pluripotent Stem Cell Differentiation in Adherent Cell Cultures." GEM4, Invited Lecture. Atlanta, GA.
- 2011 "Stem cells in vascular biology." Vasculata, Invited Speaker. Atlanta, GA.
- 2011 "Vulnerability of Neural Stem Cell to Toxins." Scholar Lecture. MIT, University of Illinois and Georgia Technical Institute webinar.
- 2011 "Animal Stem Cells." Bill and Melinda Gates Foundation. Seattle, WA.
- 2011 "Neural stem for Research Purposes." Stem Cell Bio Manufacturing. Atlanta, GA.
- 2011 Stem cells for K-12 education, Georgia Science Teachers Association Keynote Address. Atlanta, GA.
- 2012 "Stem cells and Biological Machines." EBICS SF at MIT meeting. Boston, MA.
- 2012 "Neural stem cells in Assay Development." Molecular Devices Inc. (Webinar).
- 2012 "Developing avian stem cells for vaccine production." Vaccine Development Congress. San Francisco, CA.
- 2012 "Neural stem cells in toxicant screening." Society of Toxicology Annual Meeting. San Francisco, CA.

- 2012 "Pluripotent stem cell derived neural progenitors." NIH BioTrac Stem Cell Development Symposium. Bethesda, MD.
- 2012 "Disease resistant Chickens." Bill and Melinda Gates Livestock Grantee Conference. Entebbe, Uganda.
- 2012 "Livestock uses of stem cell technology." Georgia Farm Bureau Annual meeting. Savannah, GA.
- 2012 "Neural Circuits." EBICS Annual Meeting. Champaign, IL.
- 2012 "Neural Stem Cells in Regenerative Medicine." ACVIM Neuroscience conference. Athens, GA.
- 2012 "Livestock Induced Pluripotent Stem Cells." International Congress on Animal Reproduction (Plenary address).
- 2012 "New company startups at the University of Georgia." Georgia Bio Annual Meeting. Atlanta, GA.
- 2012 "Human Neural Progenitor Cells and Neurons." Georgia Tech Bioprocessing Symposium. Atlanta, GA.
- 2012 "Use of Neural Progenitor Cells in Research." Millipore bioprocessing meeting. Boston, MA
- 2012 "Regenerative Medicine in Georgia." Clinical Research in Georgia. Atlanta, GA.
- 2013 "Neural Cells Derived From Human Embryonic Stem Cell." Society of Toxicology. Invited Speaker. San Antonio, TX.
- 2013 "Using human pluripotent stem cells to probe vulnerability of the developing human neural system to environmental insults." 3rd Stem Cells for Drug Developers. Invited speaker for a session. Boston, MA.
- 2013 "Human pluripotent stem cells Derived Neural Stem Cells for Developmental Neurotoxicity." International Neurotoxicity Association 14. Invited presentation. Egmond aan Zee, Netherlands.
- 2013 "Using Differentiated Cell Types from Pluripotent Stem Cells in Cell Based Assays." Termis-AM. Invited Speaker. Atlanta, GA.
- 2013 "Advancing Translational Neural Regenerative Medicine by using Pig Induced Pluripotent Stem Cells." ISSCR-11th Annual Meeting. Boston, MA.
- 2013 "Quantitation of neural outgrowth and maturation of neural cells derived from human embryonic stem cells." Southeast Society of Toxicology. Atlanta, GA.
- 2013 "Advancing Translational Neural Regenerative Medicine by using Pig Induced Pluripotent Stem Cells." The Graduate Students and Postdocs in Science (GSPS)-5th Annual Research Day. Athens, GA.
- 2013 "Robust Generation of Neural Stem Cells from Pig Induced Pluripotent Stem Cells for Translational Neural Regenerative Medicine." Termis-AM. Atlanta, GA.
- 2013 "HTS/HCI- Amenable NURR-1 Expressing Dopaminergic Progenitor Cells Derived From Human Embryonic Stem Cell" Society of Toxicology. San Antonio, TX.
- 2013 "Stem cells and Biological Machines." EBICS SF at MIT meeting. Invited speaker. Boston, MA.
- 2013 REM Annual Retreat Organizer and Invited Speaker. Atlanta, GA.
- 2013 "Robust Generation of Neural Stem Cells from Pig Induced Pluripotent Stem Cells for Translational Neural Regenerative Medicine." Termis-AM. Atlanta, GA. (*Paper Given at Meeting*)
- 2013 "Towards a Model for Motor Neuron Derivation from Pluripotent Stem Cells." Termis-AM. Atlanta, GA. (*Paper Given at Meeting*)
- 2013 "Pre-Clinical Middle Cerebral Artery Occlusion Ischemic Stroke Pig Model." Termis-AM. Atlanta, GA.
- 2013 "ADC Quantification a Middle Cerebral Artery Occlusion Ischemic Pig Model: Correlation to Cortical Atrophy." American College of Veterinary Radiology Annual Scientific Meeting. Savannah, GA.

- 2013 "Magnetic Resonance Imaging and Functional Analysis of a Novel Middle Cerebral Artery Ischemic Stroke Model" 6th Annual Science of Veterinary Medicine Symposium. Athens, GA
- 2013 "Brain Injury: Pathways to Recovery Magnetic Resonance Imaging and Functional Analysis of a Novel Middle Cerebral Artery Ischemic Stroke Model." 4th Annual Southern Translational Education and Research (STaR) Conference. Augusta, GA
- 2013 "Development of a Novel Porcine Stroke Model for Stem Cell and Other Therapies." Regenerative Engineering and Medicine Conference. Atlanta, GA.
- 2013 "Induced Pluripotent Stem Cell Derived Neural Progenitor Therapy for Treatment in a MCAO Ischemic Brain Injury Pig Model." International Stroke Conference 2013. Honolulu, HI.
- 2013 "Localization of Stereotaxic Injections of Human iNP cells, One Week Post-MCAL Stroke, is Critical in Reducing Stroke Lesion Injury." International Stroke Conference 2013. Honolulu, HI.
- 2014 "Human neural stem cell metabolomics, cellular and organ level adverse outcome pathway relationships for endocrine active compounds." Society of Toxicology Annual meeting.
- 2014 "Toxicants Differentially Effect Human Neuron Maturation, Outgrowth and Metabolome." DNT₄ CAAT, John Hopkins University.
- 2014 "Stem cell source for biological machines." EBICS SF at MIT Meeting. Champaign, IL.
- 2014 "Drug discovery and environmental toxicology." Webinar for New Scientist. Athens, GA.
- 2014 "Research and Commercial Opportunities in Stem Cells and Cloning." Jun Wu Lecture. Guangxi, China.
- 2015 "Large animal models for military medicine research." Military Medicine Symposium. Atlanta, GA.
- 2015 "Opportunities in translational Regenerative medicine in Animals and Humans." Regenerative Medicine Symposium at GRU. Augusta, GA.
- 2015 "Translation Regenerative Medicine." Invited Keynote Speaker, Regenerative Medicine Symposium, University of Nebraska. Omaha, NE.
- 2015 "Neural Stem cell High Content Assays for drug toxicity and screening." Invited Presentation, World Stem Cell Congress. Boston, MA.
- 2015 "The Business of Regenerative Medicine: Cells at Work." Cord Blood and NSC Therapies. Atlanta, GA.
- 2015 "Neural Circuits using Stem Cells." Atlanta, GA.
- 2015 "New developments in bone fracture repair." Medical School of Georgia Orthopedic Resident Symposium. Augusta, GA.
- 2015 "Developing the Technology to Create Sperm from Endangered Species Skin Cells." World Stem Cell Summit. Atlanta, GA.
- 2015 "The Power of Gene Editing — Implications for the Future of Medicine" World Stem Cell Summit. Atlanta, GA.
- 2015 "Progress in Disease Modeling." World Stem Cell Summit. Atlanta, GA.
- 2016 "Neural Stem cells for developmental neurotoxicity." EPA Virtual Tissues and Embryo Seminar
- 2016 "The Future of Stem Cells and Cloning." UGA Regenerative Medicine Panel for Georgia Bio.
- 2016 "Cloning and Stem Cell Research". Berry College, Invited Speaker at Undergraduate Research Banquet. Berry, GA.
- 2016 "NPEX Therapies for Stroke." GTC Bio Stem Cells Summit. Boston, MA.
- 2016 "Cloning History and Lessons Learned in Public Perception." Merial. Athens, GA.
- 2016 "Research careers in STEM." GS LEAD program: NSF-funded Summer Leadership Academy for Entering Ph.D. Students in STEM fields. Invited Speaker. Athens, GA
- 2016 "Neural Circuits for Biobots." EBICS Annual Retreat. Chicago, IL.
- 2016 "Neural Stem Cells as Sensors." Workshop for Engineered Living Systems. Chicago, IL.
- 2016 "Careers Opportunities for Livestock Graduate Students." Keynote Speaker for Poultry Science

- Graduate Student Symposium. Athens, GA.
- 2016 "Biotech Industry in Athens." Bioscience Panel with Athens-Clarke County Economic Development. Athens, GA.
- 2016 Panel Discussion on concussion research. Shepherd Center. Atlanta, GA.
- 2016 "Therapy for Stroke". Georgia Bio Annual Meeting. Atlanta, GA.

Grants, Contracts and Gifts Received

Date	Proposal Title	Submitted To	Amount	Role
1989	Genetically identical WHHL rabbits	Dept. of Health and Human Services Small Business Innovation Research Phase I Grant	\$49,000	PI
1989	Cryopreservation of transgenic embryos	Dept. Of Health and Human Services Small Business Innovation Research Phase I Grant	\$49,500	PI
1993	Cloning Cattle (SABIT)	US Department of Commerce	\$6,000	PI
1994	Genetic modification of poultry, cattle, and pigs using ES cell technology	Avian Farms International Industry Grant to University of Massachusetts	\$600,000	Co-PI
1997	Produce cloned transgenic cattle for pharmaceutical protein production	Genzyme Transgenics Corp. Industry Contract Grant	\$10,000,000	PI
1998	PrP knock out cattle	Dept. Of Health and Human Services Small Business Innovation Research Phase I Grant	\$49,000	PI
1999	Cloning and Transgenic Cattle and Pigs	ProLinia Sponsored Research Grant to University of Georgia	\$1,082,985	PI
1999	GRA Equipment Grant	Georgia Research Alliance as Part of ES Position	\$400,000	N/A
1999	Cattle Embryo Transfer Unit	Vice president of Research, Georgia Research Alliance Business Development Grant	\$50,000	PI

1999	Reproductive Technology	University of Georgia Research Foundation, Georgia Research Alliance Endowment, ProLinia, Inc.	\$1,500,000	NA
2000	Producing Cloned Pigs for Biomedicine	NIH SBIR	\$99,900	PI
2000	Parkinson's research	Minnesota Foundation	\$100,000	PI
2000	Cell Therapies for Parkinson's disease	Cytogenesis grant	\$56,500	PI
2000	Stem Cells for Parkinson's Disease	TDP from Georgia Research Alliance	\$50,000	PI
2000	Animal model for AT disease	Children's AT Foundation	\$375,000	PI
2001	Cell Therapies for Parkinson's disease	BresaGen grant	\$100,375	PI
2001	ES cell derived Endothelial cells	GTEC (NSF)	\$156,630	PI
2002	Parkinson's research	Minnesota Foundation	\$30,000	PI
2002	ES cell derived Endothelial cells	GTEC (NSF)	\$79,850	PI
2003	ES cell derived Endothelial cells	GTEC (NSF)	\$85,000	PI
2003	Directed neural differentiation of primate ES cells	NIH NINDS	\$337,500	PI
2003	Human Embryonic Stem Cell Toolbox Workshop	NIH NHLBI	\$485,000	PI
2003	Human ES cell differentiation to motor neurons	NIH NINDS	\$47,000	PI
2004	Nuclear reprogramming in NT embryos	ViaGen	\$191,000	PI
2004-2005	Serum free culture of hES Cells;	Serologicals Inc Sponsored Research Grant	\$28,500	PI
2004-2005	GRA Industry match	GRA	\$28,500	PI
2004-	GRA Challenge grant	GRA	\$50,000	PI (35,000)

2005				
2004	Chemicon gift	Chemicon	\$11,000	PI
2004	Cook BioTech gift	Cook	\$10,000	PI
2004	ES cell derived Endothelial	GTEC (NSF)	\$130,000	PI
2004-2005	Human ES cell model for SMA	SAIC (NIH-NINDS subcontract)	\$450,000	PI \$380,000
2005-2006	Neural stem cells for cell assays	NIH R43	\$290,000	PI
2005-2006	GRA Industry Match		\$90,000	PI
2005-2006	ES cell derived Endothelial	GTEC (NSF)	\$70,000	PI
2006-2009	Human Embryonic Stem Cell Toolbox Workshop	NIH NHLBI	\$605,000	PI
2006-2007	ES cell derived Endothelial	GTEC (NSF)	\$50,000	PI
2006-2007	GRA Challenge grant	GRA	\$50,000	PI \$18,000
2007-2008	GRA Challenge grant	GRA	\$50,000	PI \$23,000
2007-2009	neural stem cell biosensors	DOD	\$1,200,000	PI \$861,350
2007-2008	Neural stem cell research	Aruna Biomedical sponsored research	\$80,000	PI
2007-2008	GRA Industry Match	GRA	\$80,000	PI
2007-2008	ES cell derived Endothelial	GTEC (NSF)	\$37,000	PI
2008-2010	ES cell derived Mesenchymal stem cells	NIH R42	\$230,000	Co PI \$100,000

2008-2009	Porcine and Islet stem cells	GRA	\$100,000	Co PI \$50,000
2008-2009	Nuclear transfer in plants	GRA	\$50,000	Co PI \$25,000
2009-2011	Fracture Putty	DOD DARPA	\$4,500,000	Co PI \$700,000
2010-2012	Neural Stem Cell Biosensors	BAA DOD	\$1,100,000	PI
2009-2010	Porcine and Islet stem cells	GRA	\$100,000	Co PI \$25,000
2011-2013	Neural Stem Cell Biosensors	BAA DOD	\$1,100,000	PI
2009-2010	Disease Resistant Livestock	Gates Foundation	\$125,000	PI
2009-2015	Science and Technology Center	National Science Foundation	\$25,000,000	co-PI \$695,000
2011-2014	Disease Resistant Livestock	Gates Foundation	\$1,500,000	Co PI
2012-2014	Label Free Isolation of Neural cells	NIH SBIR	\$680,000	Co-PI
2012-2013	Piggy Bac labeled human neural progenitors	NSF SBIR	\$150,000	Co-PI
2012-2013	Advancing Fracture Putty	GRA	\$25,000	PI
2013-2014	Fracture Putty	DOD DARPA	\$1,200,000	Co PI
2013-2014	Advancing Fracture Putty	GRA	\$25,000	PI
2013-2016	Endocrine active compounds in Developmental Neural toxicity	EPA-Star	\$900,000	PI
2012-2013	Generating Porcine Stem Cells from Lung Tissue for the Production of Viral Vaccine	Merial	\$69,824	Co-PI 1,500

	West/ Stice				
2013	Astrocytes in neurotoxin screens	EPA		\$80,000	Co-PI
2013-2014	Metabolomics in pluripotent Stem cell derive Neural cells	NIH SBIR (ArunA)		\$225,000	Co-PI
2014-2019	Human Neural and Osteochondrogenic Developmental Screens for Testing Toxicity of Environmental Chemicals/2012	EPA (ArunA)		\$10,500,000	PI
2014-2016	Astrocytes in neurotoxin screens	EPA (ArunA)		\$300,000	Co-PI
2016-2020	Science and Technology Center	National Science Foundation		\$25,000,000	co-PI \$750,000
2010-2020	Science and Technology Center	National Science Foundation		\$50,000,000	co-PI \$1,395,000
2013-2017	Endocrine active compounds in Developmental Neural toxicity	EPA-Star		\$900,000	PI
2014-2019	Human Neural and Osteochondrogenic Developmental Screens for Testing Toxicity of Environmental Chemicals/2012	EPA (ArunA)		Up to \$10,500,000	PI
2014-2016	Astrocytes in neurotoxin screens	EPA (ArunA)		\$300,000	Co-PI
2016-2018	SBIR Phase II: Quantitative Phase Imaging for Life Sciences - Small Business/Engineering	NSF		\$74,000	PI

Total Directed Research Budgets:

1993	Cloning at ABS (Budget)	W.R. Grace	Yes	\$400,000	PI
1997	Cloning at ACT (Budget)	Avian Farms	Yes	\$400,000	PI
1998	Cloning at ACT (Budget)	Avian Farms	Yes	\$300,000	PI

Total Funded Grant and Contract Amount Committed

>\$38,000,000

Total Additional Research Funds Authorized

\$1,100,000

Recognition of Achievements

- Alpha Zeta Honorary
- Nominated for Biotechnology's Outstanding Young Researcher by Massachusetts Biotechnology
- Association member (Fienstein Kein Partners) in 1999.
- Nominated for Grand Presidents Award, Alpha Gamma Rho fraternity (1998).
- Consultant to AviGenics scientific advisory board (1999)
- Georgia Research Alliance Eminent Scholar (1999)
- Membership in the Executive Round Table Leadership Society (1999)
- Top 40 entrepreneurs under 40 in the state of Georgia (Georgia Trends, 2000)
- Grand Presidents Award, Alpha Gamma Rho fraternity (2000).
- Outstanding Service to Young Scholars Research program (2000)
- Leadership in Agriculture award. College of Agriculture, University of Illinois (2001)
- AAAS stem cell grant reviewer (2001)
- Keynote speaker first Georgia Life Science Summit (2001)
- One of 100 most Influential Georgians (Georgia Trends, 2002)
- Chairmen of the GRA Applied Genomics Cluster (2002)
- Emtech Bio Scientific Advisory Board member(2002)
- Harold W. Gegenheimer Innovation Award (2003)
- BIO Industry Speaker (2003)
- American Meat Institute Keynote Speaker (2003)
- Society for the Study of Reproduction Mini-symposium Speaker (2003)
- CURO Advisory Board, the University of Georgia undergraduate research program (2001-present)
- Editorial board of Domestic Animal Endocrinology (2003- 2005)
- Editorial board of Journal of Animal Reproduction (2002-2006)
- Hoag Award (2004)
- AGR Brothers of the Century Award (2004)
- Editorial board of *Stem Cells* (2005)
- Inventor of the Year at the University of Georgia (2005)
- Editorial Board of *Experimental Biology and Medicine* (2006)
- Governor of Georgia appointee to the Cord Blood Stem Cell Commission (2006)
- Georgia Biomedical Partnership Award for Community Service (2007)
- The University of Georgia Center for Undergraduate Research Opportunities
- Excellence in Undergraduate Research Mentoring Early Career Faculty Award (2007)
- BIO Guidance on Animal Biotechnology Stewardship (2009)
- Scientific Advisory Board for NIH Roadmap project on Mapping the Human Epigenome (2009)
- Most Influential Georgians notable (Georgia Trends, 2010)
- Most Influential Georgians notable (Georgia Trends, 2011)
- Most Influential Georgians notable (Georgia Trends, 2012)

- D.W. Brooks Distinguished Professor Award from the University of Georgia, College of Agricultural and Environmental Sciences (2013)
- Academic Entrepreneur of the Year (2015)
- Distinguished American Award UGA chapter National Football Foundation (NFF)(2016)
- Scientific Advisory Board for FDA (2016)
- Industry Growth Award, Georgia Bio (2017)

Business Development:

- First scientist for **ABS Global**; built a research staff of 12 technician, left in 1994.
- Co-Founder of **Advanced Cell Technology**; 10 employees and cash value of \$6 million in 1998. Company is public and in human clinical trials.
- Co-Founder of **ProLinia (ViaCyte)** having a combined 16 employees and students, the company sold for a profit in 2003 to **Exeter Inc.**
- Co-Founder of **CytoGenesis Inc.**; help raise \$3 million seed funding. Acquired by **BresaGen, Inc.** Built a research group of 18 people. Left in 2003.
- Co-Founder of **Aruna BioMedical Inc.** Started in 2003. Raised over \$3.5 million thus far.
- Co-Founder of **SciStem**. Started in 2012 to commercialize Fracture Putty.
- Recruitment facilitator for **VICapsys, Inc.** into the UGA BioBusiness Center. 2015.
- Launch of **ArunA Therapeutics**, raised \$3.5 million. An exosome therapeutic for stroke