



Rachel West, PhD

Rachel received her B.S. in Animal and Dairy Science from the University of Georgia in 2011. She remained at University of Georgia for her M.S. in Animal Science where she characterized avian induced pluripotent stem cells and primordial germ cells. In 2013, she moved to Colorado to begin her PhD studies in Biomedical Sciences at Colorado State University. Her work at CSU focused on early placental development and the molecular regulation of placental cell proliferation and differentiation. Rachel began working at CCRM in 2018 and her primary research interest is how the early placenta forms and contributes to implantation. During her spare time, you can find Rachel skiing, hiking, or searching for her next favorite taco spot.

Rachel C. West, Ph.D.

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EDUCATION

<i>Colorado State University</i>	Fort Collins, CO
Doctorate of Philosophy in Biomedical Sciences	2014-2018
<i>University of Georgia</i>	Athens, GA
Master of Science in Animal and Dairy Science	2011-2013
<i>University of Georgia</i>	Athens, GA
Bachelor of Science in Animal and Dairy Science	2009-2011
Certificate in International Agriculture	
<i>Abraham Baldwin Agricultural College (ABAC)</i>	Tifton, GA
Core Curriculum	2007-2009

Professional Experience

Research Experience

Postdoctoral Research Associate, Colorado Center for Reproductive Medicine

March 2018-Present, Lone Tree, CO

Research Supervisor: Dr. Ye Yuan

- Characterizing the placental cells of IVF-derived human and mouse embryos grown in extended embryo culture
- Developing a 3D culture system from human embryonic stem cells to model the IVF-derived human embryo outgrowth
- Assisting with a team effort to develop a stem cell based quality assurance system to ensure all plastics that enter the IVF lab are safe for embryo culture

Ph.D. Studies

Research and Teaching Assistant, Department of Biomedical Sciences,

January 2014-2018, Colorado State University, Fort Collins, CO

Research Mentors: Dr. Quinton Winger and Dr. Gerrit Bouma

Dissertation Title: Oncofetal proteins regulate proliferation and differentiation in placental cells

- Studied the role of the oncofetal proteins LIN28 and HMGA2 and tumor suppressor BRCA1 in early human and sheep placental development

- Used siRNA and CRISPR-Cas9 technologies to knock down gene function in human trophoblast cell lines and sheep embryos
- Coordinated the collection of D15, D50, and D135 elongated sheep conceptuses or D50 and D135 sheep fetuses, fetal liver, maternal liver, sheep placental cotyledons and caruncles
- Supervised the research projects of 7 undergraduate, veterinary, and non-thesis masters students
- Technical skills include: RNA, DNA, and protein extraction, PCR, RT-PCR, qRT-PCR, Western blotting, Immunoprecipitation, Co-immunoprecipitation, chromatin precipitation, immortalized cell culture, lentivirus generation and transduction, plasmid transfection, embryo culture, confocal microscopy, immunofluorescence, immunohistochemistry, enzyme-linked immunosorbent assay, and cell invasion and migration assays
- Animal skills include: animal handling and restraint, administering intravenous, intramuscular, and subcutaneous vaccines/medications, blood collection, intubation, administering anesthesia, uterine flushing, embryo collection, assisting in surgical embryo transfer and fetectomies in the sheep

M.S. Studies

Graduate Research Assistant, Department of Animal and Dairy Science, 2011- 2013, University of Georgia, Athens, GA

Research Mentor: Dr. Steven Stice

Thesis Title: The Lectin Binding Profiles of Chicken Primordial Germ Cells

- Collaborated with primary investigators and post-doctoral fellows to create a Newcastle Disease resistant-chicken through the use of induced pluripotent stem cells
- Studied the integration and migration patterns of human neural progenitor cells when injected into the chick embryo
- Analyzed and compared the lectin binding profiles of chicken induced pluripotent stem cells and primordial germ cells to determine if the carbohydrate surface of the cell contributes to migratory behavior
- Technical skills include: Human, mouse, pig, and chicken pluripotent cell culture, avian germ cell culture, transduction, transfection, immunocytochemistry, confocal microscopy, flow cytometry

Teaching Experience

Guest Lecturer, 2017

Reproductive Physiology and Endocrinology (BMS 640), Colorado State University, Fort Collins, CO

- Lectured to graduate students on non-coding RNA synthesis, function, and role in human reproduction

Guest Lecturer, 2015-2017

Research Techniques for Gamete and Embryos (BMS 642), Colorado State University, Fort Collins CO

- Lecture for one class per semester on primary, pluripotent, and immortalized cell culture
- Teach one lab per semester on culturing of human embryonic kidney (HEK293) cells

Graduate Teaching Assistant, 2014-2016

LIFE 102, Biology Department, Colorado State University, Fort Collins CO

- Taught 2-3 introductory biology lab sections per week, meeting for 3 hours a lab. Each lab consisted of a 30-60 minute lecture followed by 2 hours of lab
- Created and graded weekly quizzes
- Assigned and graded group poster presentations and individual lab reports

Graduate Student Mentor, August 2015-Spring 2016

Department of Biomedical Sciences, Colorado State University, Fort Collins CO

- Mentored incoming graduate students
- Provided information and assisted with registering for classes
- Facilitated introductions between new graduate students and faculty members
- Attended mentor/mentee events

Leadership and Outreach Experience

Trainee Representative, SSR Board of Directors 2020-2022

Society for the Study of Reproduction

- Elected by fellow trainees to serve as a trainee representative for the SSR Board of Directors
- Assists in the coordination of the SSR annual conference
- Coordinates trainee development programs

Coordinator for SSR Trainee-Travel Fund 2018-2019

Society for the Study of Reproduction

- Coordinating a team of 3 Trainees to interact with the SSR business office to provide travel awards for the highest performing trainee abstracts

Vice President for Research Fellow, May 2017-May 2018

Colorado State University, Fort Collins CO

- Competed in a 3 Minute Thesis Competition
 - [Video of 3 Minute Thesis](#)
- Represents the Office of the Vice President for Research
- Attends monthly professional development series with other fellows as well as prominent members of Colorado's academic, industrial, and government fields

K-12 Science Outreach, 2017-2018

Colorado State University, Fort Collins CO

- Judged the Colorado Science and Engineering Fair for Senior Animal Sciences division
- Interviewed with high school students in a biotechnology class about my research and path to graduate school
- Spoke with visiting middle school and high school students visiting during sheep surgery days about animal models and reproductive physiology of the sheep vs. the human
- Gave tours to visiting high school students on using CRISPR-Cas9 in a large animal model

Graduate Teaching Assistant Mentor, January 2016-May 2017

LIFE 102, Biology Department, Colorado State University, Fort Collins CO

- Selected as a mentor to new graduate teaching assistants
- Taught biology lectures and ran labs while new teaching assistants observed weekly
- Answered questions and gave advice on how to teach science to undergraduate students
- Led a round table discussion for new graduate teaching assistants on appropriate teaching methods to reach all levels of student
- Worked with biology coordinator and two other graduate student mentors to update the curriculum for LIFE 102 labs

Research Mentor, 2014-2018

Colorado State University, Fort Collins CO

- Mentored three undergraduate, one veterinary, and three non-thesis masters students
- Designed independent research projects for each student
- Served as the primary contact for each intern for day-to-day labwork
- Trained each student to work independently to perform basic lab techniques. Each student was responsible for presenting their data as their own at weekly lab meetings and were expected to present research at college-wide research symposia

Frontiers in Biomedical Research Committee Member, August 2016-May 2018

Colorado State University, Fort Collins CO

- Recruits outstanding scientists of international stature to give seminars at CSU
- Coordinates the schedules of speakers during their time at CSU
- Assists with hosting of speakers during their time at CSU
- Sponsored Dr. Theresa Woodruff at a seminar given at CSU

Professional Societies and Service

Society for the Study of Reproduction, 2014-Present

- Member
- Presented 1 talk, 2 flash talks, and 4 posters at national SSR conference
- Served as co-chair session on DNA Damage and Meiosis at 2017 conference
- Volunteered as a trainee volunteer during 2016 conference
- Currently serving as SSR-Trainee Travel Fund coordinator
- Newly elected to serve as the 2020-2022 Trainee Representative for the Board of Directors

Honors and Affiliations

2017

Vice President for Research Fellow, CSU

Lisa Marie Craft Memorial Teaching Scholarship

Satisfactory Plus Teaching Evaluation

Larry Ewing Memorial Trainee Travel Award

2016

Great Minds in Research – Honorable Mention, Graduate Student Showcase, CSU

1st Place Team, International Animal Welfare Judging and Assessment Contest

3rd Place High Individual, International Animal Welfare Judging and Assessment Contest,

Larry Ewing Memorial Trainee Travel Award

2015

Best of College of Veterinary Medicine and Biomedical Sciences Poster

1st Place Team, International Animal Welfare Judging and Assessment Contest

2nd Place High Individual, International Animal Welfare Judging and Assessment Contest

Graduate Teaching Assistant Mentor Position

2014

Program of Research and Scholarly Excellence Fellowship, 2014

Publications and Manuscripts

Refereed Manuscripts

1. **R.C. West**, H. Ming, D.M. Logsdon, J. Sun, S.K. Rajput, et al. Dynamics of trophoblast differentiation in peri-implantation stage human embryos. In review for Science.
2. **R.C. West**, G.J. Bouma, Q.A. Winger. 2018. Altered BRCA1 expression drives enhanced HMGA2 during early placental development. In review for Molecular Reproduction and Development.

3. E.S. McWhorter, **R.C. West**, Q.A. Winger, G.J. Bouma. 2018. Lin28B regulates androgen receptor through let-7c in human trophoblast cells. In review for Molecular Reproduction and Development.
4. S. Zhang, T. Chen, N. Chen, D. Gao, B. Shi, **R.C. West**, et al. 2019. Implantation initiation of self-assembled embryo-like structures generated using three types of mouse blastocyst-derived stem cells. Nature Communications. 10(496). <https://doi.org/10.1038/s41467-019-08378-9>.
5. **R.C. West**, E.S. McWhorter, A.Ali, L.N. Goetzman, J.E. Russ, C.L. Gonzalez-Berrios, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2018. HMGA2 is regulated by LIN28 and BRCA1 in human placental cells. Biology of Reproduction, 100(1): 227-238.
6. **R.C. West**, G.J. Bouma, Q.A. Winger. 2018. Shifting perspectives: From “oncofetal” to oncofetal proteins; how these factors drive early placental development. Reproductive Biology and Endocrinology 16:101.
7. E.R. Cleys, J.L. Halleran, V.A. Enriquez, J.C. da Silveira, **R.C. West**, et al. 2015. Androgen Receptor and Histone Lysine Demethylases in Ovine Placenta. PLoS ONE 10(2): e0117472. <https://doi.org/10.1371/journal.pone.0117472>.
8. A. Gallegos-Cardenas, R. Webb, E. Jordan, **R.C. West**, F. West, et al. 2015. Pig Induced Pluripotent Stem Cell-Derived Neural Rosettes Developmentally Mimic Human Pluripotent Stem Cell Neural Differentiation. Stem Cells Dev. 24(16): 1901-11.
9. Y. Lu, F.D. West, B.J. Jordan, E.T. Jordan, **R.C. West**, et al. 2014. Induced pluripotency in chicken embryonic fibroblasts results in a germ cell fate. Stem Cells Dev. 23(15):1755-64.

Genbank Submissions

1. **R.C. West**, E.S. McWhorter, G.J. Bouma, Q.A. Winger. 2015. *Ovis aries* high mobility access group AT-hook 2 (HMGA2) mRNA, complete cds. GenBank Accession Number: KR349494

Talks and Posters

Invited Talks

1. **Rachel West**. Oncofetal proteins drive cell proliferation and differentiation in human trophoblast cells. September 7, 2018. University of Northern Colorado. Greeley, CO.
2. **Rachel West**. Journey to the Center of the Womb: Debunking Pregnancy Myths. 2017. Science on Tap. Fort Collins, CO.

Platform Talks and Flash Talks

1. **Rachel C. West**, Deirdre Logsdon, Sandeep Rajput, William Schoolcraft, Rebecca Krisher, Ye Yuan. Single Cell RNA-sequencing reveals critical role of interferon signaling in human

peri-implantation stage embryos. 2019. Society for the Study of Reproduction Annual Conference. San Jose, CA.

2. **Rachel C. West**, Deirdre Logsdon, Sandeep Rajput, William Schoolcraft, Rebecca Krisher, Ye Yuan. Single Cell RNA-sequencing reveals critical role of interferon signaling in human peri-implantation stage embryos. 2019. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
3. **Rachel West**, Natascha Heise, Gerrit Bouma, Quinton Winger. 2018. BRCA1 regulates cell death and differentiation in human placental cells. Society for the Study of Reproduction Annual Meeting. New Orleans.
4. **Rachel West**, Erin McWhorter, Gerrit Bouma, Quinton Winger. 2017. miR-182 Targets BRCA1 During Early Human Placental Development. Society for the Study of Reproduction Annual Meeting. Washington D.C.
5. **R.C. West**, E.S. McWhorter, G.J. Bouma, Q.A. Winger. 2017. How Oncogenes Regulate Placental Development: the Role of the LIN28-let-7-HMGA2 axis in Trophoblast Cell Proliferation. College of Veterinary Medicine and Biomedical Sciences Research Day. Fort Collins, CO.
6. **R.C. West**, E.S. McWhorter, A.E. Zale, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2016. The Interaction between BRCA1 and HMGA2 in Human Trophoblast cells. Society for the Study of Reproduction. San Diego, CA.
7. **R.C. West**, E.S. McWhorter, G.J. Bouma, Q.A. Winger. 2016. The LIN28B-Let-7-HMGA2 Axis Regulates Human Trophoblast Cell Differentiation. College of Veterinary Medicine and Biomedical Sciences Research Day. Fort Collins, CO.
8. **R.C. West**, E.S. McWhorter, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2014. Investigating the Role of Lin28B in Sheep and Human Trophoblast Regulation. Biomedical Sciences Research Retreat. Estes Park, CO.

Posters

1. **Rachel West**, Natascha Heise, Gerrit Bouma, Quinton Winger. 2018. BRCA1 regulates cell death and differentiation in human placental cells. 2018. Society for the Study of Reproduction Annual Conference. New Orleans, LA.
2. Erin S. McWhorter, **Rachel C. West**, Jennifer E. Russ, Quinton A. Winger, Gerrit J. Bouma. Presence and potential function of GPRC6a in human trophoblast cells. 2018. Society for the Study of Reproduction Annual Conference. New Orleans, LA.
3. Gerrit J. Bouma, Asghar Ali, Erin S. McWhorter, Amelia R. Tanner, **Rachel C. West**, and Quinton A. Winger. KDM1A regulates sex steroid receptor levels in trophoblast cells and is

possibly involved in placental development. 2018. Society for the Study of Reproduction Annual Conference. New Orleans, LA.

4. **Rachel West**, Erin McWhorter, Gerrit Bouma, Quinton Winger. 2017. Characterization of miR-182 and BRCA1 in the human placenta. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
5. **R.C. West**, E.S. McWhorter, G.J. Bouma, Q.A. Winger. 2016. Rethinking Oncogenes: A Role for LIN28-Let-7-HMGA2 in Placental Development. CSU Graduate Student Showcase. Fort Collins, CO
6. **R.C. West**, E.S. McWhorter, A.E. Zale, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2016. Investigating the Role of miR-182 and BRCA1 in Early Placental Development. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
7. **R.C. West**, E.S. McWhorter, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2015. LIN28B Regulation of Mammalian Trophoblast Cells. CSU Graduate Student Showcase. Fort Collins, CO
8. **R.C. West**, E.S. McWhorter, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2015. LIN28B Regulation of Trophoblast Cell Differentiation. Society for the Study of Reproduction. San Juan, Puerto Rico.
9. **R.C. West**, E.S. McWhorter, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2015. LIN28B Regulation of Human and Ovine Trophoblast Cells. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
10. **R.C. West**, E.S. McWhorter, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2015. Investigating the Role of LIN28B in Sheep and Human Trophoblast Regulation. College of Veterinary Medicine Research Day. Fort Collins, CO.
11. **R.C. West**, Y. Lu, R.L. Webb, E.T. Jordan, F.D. West, S.L. Stice. 2014. Terminal B-galactose moieties as a marker of migratory potential for chicken primordial germ cells. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.

Abstracts

1. **Rachel C. West**, Deirdre Logsdon, Sandeep Rajput, William Schoolcraft, Rebecca Krisher, Ye Yuan. Single Cell RNA-sequencing reveals critical role of interferon signaling in human peri-implantation stage embryos. 2019. Society for the Study of Reproduction Annual Conference. San Jose, CA.
2. Sandeep K. Rajput, **Rachel C. West**, Hao Ming, Deirdre M. Logsdon, Rebecca A. Kile, et al. Human embryos cease cell proliferation and increase metabolism to prioritize important

cellular events for implantation. 2019. Society for the Study of Reproduction Annual Conference. San Jose, CA.

3. **Rachel West**, Natascha Heise, Gerrit Bouma, Quinton Winger. 2018. BRCA1 regulates cell death and differentiation in human placental cells. 2018. Society for the Study of Reproduction Annual Conference. New Orleans, LA.
4. Erin S. McWhorter, **Rachel C. West**, Jennifer E. Russ, Quinton A. Winger, Gerrit J. Bouma. Presence and potential function of GPRC6a in human trophoblast cells. 2018. Society for the Study of Reproduction Annual Conference. New Orleans, LA.
5. Gerrit J. Bouma, Asghar Ali, Erin S. McWhorter, Amelia R. Tanner, **Rachel C. West**, and Quinton A. Winger. KDM1A regulates sex steroid receptor levels in trophoblast cells and is possibly involved in placental development. 2018. Society for the Study of Reproduction Annual Conference. New Orleans, LA.
6. **Rachel West**, Erin McWhorter, Gerrit Bouma, Quinton Winger. 2017. miR-182 targets BRCA1 during early human placental development. Society for the Study of Reproduction Annual Conference. Washington D.C.
7. **Rachel West**, Erin McWhorter, Gerrit Bouma, Quinton Winger. 2017. Characterization of miR-182 and BRCA1 in the human placenta. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
8. Natascha Heise, Jenn Russ, **Rachel West**, Erin McWhorter, Quint Winger, Tod Clapp, Jerry Bouma. 2017. GPRC6A and AR in Sheep Placenta. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
9. H. Garrett, **R.C. West**, E.S. McWhorter, C.E. Roselli, Q.A. Winger, G.J. Bouma. 2017. AR and KDM1A in Ovine Placenta. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
10. **R.C. West**, E.S. McWhorter, G.J. Bouma, Q.A. Winger. 2016. Rethinking Oncogenes: A Role for LIN28-Let-7-HMGA2 in Placental Development. CSU Graduate Student Showcase. Fort Collins, CO
11. **R.C. West**, E.S. McWhorter, A.E. Zale, R.V. Anthony, et al. 2016. The Interaction between BRCA1 and HMGA2 in Human Trophoblast cells. Society for the Study of Reproduction. San Diego, CA.
12. E.S. McWhorter, **R.C. West**, G.J. Bouma, Q.A. Winger. 2016. Regulation of Trophoblast Differentiation by LIN28 and AR. Society for the Study of Reproduction. San Diego, CA.

13. A. Ali, K. Jeckel, E. McWhorter, **R. West**, G. Bouma, Q. Winger. 2016. Lin28A and Lin28B Double Knockout using CRISPR/Cas9-based Genome Editing to Investigate Human Trophoblast Cell Differentiation. Society for the Study of Reproduction
14. **R.C. West**, E.S. McWhorter, A.E. Zale, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2016. Investigating the Role of miR-182 and BRCA1 in Early Placental Development. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
15. E.S. McWhorter, **R.C. West**, Winger Q.A., Bouma G.J. 2016. The Interaction Between LIN28B and AR in the Placenta. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
16. A. Ali, E. McWhorter, **R.C. West**, G.J. Bouma, Q.A. Winger. 2016. CRISPR/Cas-9 Genome Editing is an Efficient Tool to Create Knockout of Multiple Genes in Human Trophoblast Stem Cells. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
17. A. Kvinta, **R.C. West**, E.S. McWhorter, C.E. Roselli, Q.A. Winger, G.J. Bouma. 2016. Androgen Receptor Expression in Full Term Ovine Placenta. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
18. **R.C. West**, E.S. McWhorter, G.J. Bouma, Q.A. Winger. 2016. The LIN28B-Let-7-HMGA2 Axis Regulates Human Trophoblast Cell Differentiation. College of Veterinary Medicine and Biomedical Sciences Research Day. Fort Collins, CO.
19. E.S. McWhorter, **R.C. West**, Q.A. Winger, G.J. Bouma. 2016. LIN28 Regulates Androgen Receptor in the Placenta. College of Veterinary Medicine and Biomedical Sciences Research Day. Fort Collins, CO.
20. A. Ali, K.M. Jeckel, E.S. McWhorter, **R.C. West**, G.J. Bouma, Q.A. Winger. 2016. CRISPR/Cas9-based Genome Editing to Investigate the Role of Lin28A and Lin28B in Regulation of Human Trophoblast Cell Differentiation.
21. **R.C. West**, E.S. McWhorter, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2015. LIN28B Regulation of Mammalian Trophoblast Cells. CSU Graduate Student Showcase. Fort Collins, CO.
22. **R.C. West**, E.S. McWhorter, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2015. LIN28B Regulation of Trophoblast Cell Differentiation. Society for the Study of Reproduction. San Juan, Puerto Rico.
23. **R.C. West**, E.S. McWhorter, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2015. LIN28B Regulation of Human and Ovine Trophoblast Cells. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.

24. E.S. McWhorter, **R.C. West**, T. Andrzejewski, Q.A. Winger, G.J. Bouma. 2015. Androgen Receptor and GPRC6A in the placenta. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
25. K.M. Jeckel, C.M. Baker, V. Abushaban, S. Power, A. Boyarko, **R. West**, et al. 2015. Placental Lactogen Deficiency on Fetal and Placental Development During Early Gestation. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
26. **R.C. West**, E.S. McWhorter, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2015. Investigating the Role of LIN28B in Sheep and Human Trophoblast Regulation. College of Veterinary Medicine Research Day. Fort Collins, CO.
27. **R.C. West**, Y. Lu, R.L. Webb, E.T. Jordan, F.D. West, S.L. Stice. 2014. Terminal B-galactose moieties as a marker of migratory potential for chicken primordial germ cells. Rocky Mountain Reproductive Sciences Symposium. Fort Collins, CO.
28. **R.C. West**, E.S. McWhorter, R.V. Anthony, G.J. Bouma, Q.A. Winger. 2014. Investigating the Role of Lin28B in Sheep and Human Trophoblast Regulation. Biomedical Sciences Research Retreat. Estes Park, CO.
29. Yangqing, L., West, F., Afonso, C., Susta, L., Yu, P., **West, R.**, Jordan, E., Stice, S. 2012 "Animal induced pluripotent stem cells: a new cell source for vaccine production", International Congress on Animal Reproduction, Vancouver, British Columbia, Canada.
30. Gallegos-Cardenas, A., **West, R.**, West, F., Yang, J., Stice, S. 2012. "Advancing Translational Neural Regenerative Medicine Using Pig Induced Pluripotent Stem Cells", Georgia Life Sciences Summit, Atlanta, Georgia.
31. Chilton, J., Hodges, K., McCabe, J., Galland, K., Mumaw, J., Jordan, E., Levy, N., **West, R.**, Raines, A., Stice, S. 2011. "Osteo/Chondrogenic Progenitors Derived from Human Induced Pluripotent Stem Cells", Hilton Head Workshop on Regenerative Medicine, Hilton Head, South Carolina.