CURRICULUM VITAE

DATE: June 3, 2014

NAME: NATHAN R. TREFF, PH.D.

PRESENT TITLE: Associate Professor of Obstetrics Gynecology and Reproductive Sciences
Rutgers-Robert Wood Johnson Medical School

OFFICE ADDRESS: 140 Allen Road
Basking Ridge, NJ 07920

CITIZENSHIP: United States of America

EDUCATION:

Undergraduate Graduate and Professional
Eastern Washington University (EWU)
Cheney, WA
Magna Cum Laude BS/Honors Biology *1999*

Graduate and Professional
Washington State University (WSU)
Pullman, WA
Doctor of Philosophy/Biochemistry *2003*

POSTGRADUATE TRAINING:

Serono Reproductive Biology Institute
Rockland, MA
NIH Sponsored Internship/Molecular Biosciences
Summer 2002

University of Wisconsin (UW)-Madison
Madison, WI
Postdoctoral training-Stem Cell Biology
2004-2005

Serono Research Institute
Rockland, MA
Postdoctoral fellowship-Reproductive Biology
2005-2006

ACADEMIC APPOINTMENTS

Department of Obstetrics, Gynecology, and Reproductive Sciences
Rutgers-Robert Wood Johnson Medical School
Associate Professor *July/2012-Present*

Department of Obstetrics, Gynecology, and Reproductive Sciences
Rutgers-Robert Wood Johnson Medical School
Assistant Professor *2007-June/2012*

Department of Genetics
Rutgers University
Adjunct Faculty *November 2010-Present*

Graduate School of Biomedical Sciences
Rutgers-NJMS
Adjunct Faculty *2009-Present*

Microbiology and Molecular Genetics Program
Rutgers-Robert Wood Johnson Medical School
Faculty Member *2009-Present*

OTHER EMPLOYMENT:

Reproductive Medicine Associates of New Jersey (RMANJ)
Director of Molecular Biology Research
April/2006-Present

MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES:

European Society of Human Reproduction and Embryology (ESHRE)
Member 2011-Present

American Society for Reproductive Medicine (ASRM)
Member 2006-Present

Society for the Study of Reproduction (SSR)
Member 2006-Present

International Society for Stem Cell Research (ISSCR)
Member 2004-2012

NIH Biotechnology Training Program Student Organization (WSU)
President 2001-2002

Phi Sigma Biology National Honors Society (EWU)
Member 1998-1999

American Association for the Advancement of Science (EWU)
Member 1997-1999

Eagle Ambassador (EWU)
1997-1998

Phi Eta Sigma Freshmen National Honors Society (EWU)
Vice President 1995-1996

HONORS AND AWARDS:

ASRM Ira and Ester Rosenwaks New Investigator Award
October 13th, 2013

Scientific Achievement Award
Bonei Olam
January 9, 2012

General Program Prize Paper Candidate
"Cleavage stage embryo biopsy significantly impairs embryonic reproductive potential while blastocyst biopsy does not: a novel paired analysis of cotransferred biopsied and non-biopsied sibling embryos."
67th Annual ASRM Meeting 2011

General Program Prize Paper Award
"A prospective randomized controlled trial demonstrating significantly increased clinical pregnancy rates following 24 chromosome aneuploidy screening: biopsy and analysis on day 5 with fresh transfer."
66th Annual ASRM Meeting 2010

SART Prize Paper Award
"A subset of the cumulus cell transcriptome is predictive of euploid human oocyte reproductive potential." 66th Annual ASRM Meeting 2010

SART Prize Paper Award
"Validation of embryo DNA fingerprinting from maternal circulation at 9 weeks gestation"
65th Annual ASRM Meeting 2009

General Program Prize Paper Award
"Accurate 23 chromosome aneuploidy screening in human blastomeres using single nucleotide polymorphism (SNP) microarrays."
63rd Annual ASRM Meeting 2007

NIH Postdoctoral Fellowship
UW-Madison School of Medicine 2004-2005

NIH Beta Cell Biology Consortium Travel Scholarship
NIH BCBC 2004

Graduate Student Travel Award
WSU 2003

NIH Biotechnology Travel Award
WSU 2003

School of Molecular Biosciences Travel Award
WSU 2002

NIH Predoctoral Fellowship
WSU 1999-2001

Charles Glenn King Scholarship
WSU 1999-2000

Departmental and University Honors Award
EWU 1999

Biology Memorial Scholarship
EWU 1998-1999

Honors Assistantship Award
EWU 1995-1997

SERVICE ON MAJOR COMMITTEES:

B. National

Trisomy 18 Foundation
Board Member 2013-Present

ASRM Preimplantation Genetic Diagnosis Special Interest Group (PGDSIG)
Board Member 2012-Present

ASRM Annual meeting abstract review committee for the Society for Reproductive Biologists and Lab Technologists
Committee member 2011

ASRM Annual meeting abstract review committee for the PGDSIG
Committee member 2011

ASRM Annual meeting PGDSIG scientific session
Co-chair 2011

ASRM Annual meeting PGDSIG scientific session
Co-chair 2010

ASRM Annual meeting PGDSIG scientific session
Co-chair 2010

ASRM Annual meeting abstract review committee for the Reproductive Biology Professional Group
Committee Member 2009

ASRM Annual meeting Reproductive Biology Professional Group scientific session
Co-chair 2009

F. Journal Editorial Positions

Senior Editor
Journal of Assisted Reproduction and Genetics
2014-Present

Associate Editor
Journal of Assisted Reproduction and Genetics
2013-2014

Editorial Board Member
Fertility and Sterility
2013-Present

Editorial Board Member
Journal of Assisted Reproduction and Genetics
2012-2013

G. *AdHoc* Reviewer

Nature
Science Translational Medicine
Fertility & Sterility
Journal of Assisted Reproduction and Genetics
Biology of Reproduction
PLoS One

European Journal of Obstetrics & Gynecology and Reproductive Biology
Reproductive BioMedicine Online
Human Reproduction (Top Reviewer Award 2011)
European Journal of Human Genetics
Journal of Biomedicine and Biotechnology
Molecular Human Reproduction (Top Reviewer Award 2011)

SERVICE ON GRADUATE SCHOOL COMMITTEES:

Thesis Advisory Committee (TAC) Member and Advisor for Jessyca Campos, M.S., 2009-2010
"Preclinical validation of preimplantation genetic diagnosis (PGD) of mitochondrial encephalomyopathy, lactic acidosis with stroke-like episodes (MELAS)"
Graduate School of Biomedical Sciences
UMDNJ-NJMS

Thesis Advisory Committee (TAC) Member and Advisor for Agnieszka Lonczak, M.S., 2012
***"**Association of pluripotency gene promoter methylation with the chromosomal status of products of conception"*
Graduate School of Biology, Rutgers University

Ph.D. Committee Member for Jessica Fellmeth, Ph.D. Student, 2013-Present "Development of a Mouse Oocyte Model for study of human Aurora Kinase C Mutations"
Graduate Program in Microbiology & Molecular Genetics, Rutgers University

SERVICE TO THE COMMUNITY:

Board of Education for Chester Schools, Chester NJ
Board Member 2013-Present

SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:

Jessyca Campos, M.S., Biomedical Sciences, UMDNJ-NJMS, 2009-2010
Anastasia M. Fedick, Ph.D. graduate, Microbiology & Molecular Genetics, Rutgers, 2011-2014

SPONSORSHIP OF POSTDOCTORAL FELLOWS:

Lesley Northrop, Ph.D., 2007-2011

TEACHING RESPONSIBILITIES:

WSU, Graduate Teaching Assistant, Genetics and Cell Biology Laboratory, 2003
WSU, Graduate Teaching Assistant, General Biology Laboratory, 2001-2003
UMDNJ-RWJMS, Mentored Students, 2007-Present
Rutgers University 447:481 Topics in Human Genetics Course Lecture on "Preimplantation Genetic Diagnosis," 2012

GRADUATE STUDENTS:

Jessyca Campos, M.S., Biomedical Sciences, UMDNJ-NJMS, 2009-2010
Michael D'Ecclessis, Ph.D. student, Cell Biology & Neuroscience, Rutgers University, completed Treff Lab research rotation, 2010-2011
Anastasia M. Fedick, Ph.D. candidate, Microbiology & Molecular Genetics, Rutgers, 2011-2014
Katharine E. Thompson, M.S., RWJMS Graduate School of Biomedical Sciences, completed Capstone Project, 2011-2012
Patrick Nosker, Ph.D. student, Cell Biology & Neuroscience, Rutgers University, completed Treff Lab research rotation, 2012
Bola Olayanju, Ph.D. student, Microbiology & Molecular Genetics, UMDNJ, completed Treff Lab research rotation, 2013
Ilija Melentijevic, Ph.D. student, Microbiology & Molecular Genetics, Rutgers University, completed Treff Lab research rotation, 2013
Jennifer Sabogal-Agudelo, Ph.D. student, Microbiology & Molecular Genetics, Rutgers

University, completed Treff Lab research rotation, 2014

MEDICAL STUDENTS:

George Patounakis, MD, Ph.D., Fall 2008
Eric Bergh, Summer 2008, current status resident Mount Sinai Medical School
Raffaella DeMartino, Summer 2008
Christine Salvaggio, Summer 2012
Shereen Singer, Summer 2012
Adina Schwartz, Summer 2013

MEDICAL RESIDENTS:

Maryam Hedayatzadeh, M.D., Fall 2008, current status: practicing Ob/Gyn physician
Ndeye-Aicha Gueye, M.D., Fall 2009, Winter 2011, current status: practicing Ob/Gyn physician
Pamela Schultz, M.D., Fall 2009, current status: practicing Ob/Gyn physician Christina Manu, M.D., Fall 2009, current status: practicing Ob/Gyn physician
Aliona Aculov, M.D., Winter 2009, current status: practicing Ob/Gyn physician

REPRODUCTIVE ENDOCRINE FELLOWS:

Eric Forman, M.D., 2010-2013
Kathleen Hong, M.D., 2011-Present
Marie Werner, M.D., 2012-Present
Jason M. Franasiak, M.D., 2013-Present

UNDERGRADUATES:

Debora Ohevshalom, Summer 2008
Jack Pike, Summer 2008/Winter 2009, current status: Ph.D. student University of Delaware
Julia Kim, Summer/Winter 2008, current status: M.D. student Brown University
Ana Maria Olivares, Summer 2009
Michael Bachmann, Summer 2009-2010, current status: graduate Harvard University
Ryan Cristelli, Summer 2010, current status: M.D. student UMDNJ School of Osteopathic Medicine
Jacki Rosenzweig, Summer 2010, current status: M.D. student Miami
Greg Baglione, Winter/Summer 2009-2011, current status: graduate Lehigh University
Richard Scott III, Summer 2009-2011, Summer 2013, current status: undergraduate Wake Forest University
Russell Pepe, Fall/Winter 2010-2012, current status: graduate Rutgers University, Dept. of Cell Biology & Neuroscience, received honors credits for Treff Lab research
Erin Torpey, Summer 2012-Present, current status: undergraduate Rutgers University, Dept. of Cell Biology & Neuroscience
Christian Robins, Summer 2013, current status: accepted into the Loma Linda School of Medicine

GRANT SUPPORT:

A. Principle Investigator

1. *Foundation for Advanced Reproductive Science, Single cell gene expression analysis of the human blastomere, 2006-2008, $400,000*
2. *Foundation for Advanced Reproductive Science, Single cell genetic identification of the human blastomere, 2006-2008, $400,000*

B. Co-Investigator

1. *Charles and Johanna Busch Memorial Fund, 2013-2015, $30,000*
2. *Richard T. Scott Jr., MD, EMD Serono Pharmaceuticals, Evaluation of the relationship of polymorphisms in Anti-Mullerian Hormone and the Anti-Mullerian Hormone receptor and rates of follicular loss, ovarian responsiveness, ovarian reserve, and pregnancy rates in infertile women, 2008, $200,000*

3. *Richard T. Scott Jr., MD, EMD Serono Pharmaceuticals, Polymorphisms of the Esterogen, Progesterone, FSH, and LH Receptors, Clinical Performance and ART Outcome, 2008, $200,000*
4. *Richard T. Scott Jr., MD, EMD Serono Pharmaceuticals, Evaluation of the impact of biopsy on embryonic reproductive competence (clinical trial), 2008, $252,000*
5. *Richard T. Scott Jr., MD, Organon Pharmaceuticals, Characterization of the relationships between 23 chromosome aneuploidy screening using a SNP based microarray platform and human embryonic implantation potential (clinical trial), 2007-2009, $169,050*
6. *Richard T. Scott Jr., MD, EMD Serono Pharmaceuticals, Longitudinal Evaluation of Microarray Based Preimplantation Genetic Diagnosis (clinical trial), 2008-2009, $200,000*
7. *Richard T. Scott Jr., MD, Foundation for Advanced Reproductive Science, Creation of a DNA Bank from Fertile and Infertile Couples, 2006, $50,000*
8. *Richard T. Scott Jr., MD, Ferring Pharmaceuticals, Genes and gene polymorphisms associated with infertility: Utilization of DNA characteristics to better understand reproductive competence, 2007, $100,000*
9. *Richard T. Scott Jr., MD, Organon Pharmaceuticals, Validation of the accuracy of DNA fingerprinting using polar bodies and embryonic cells, 2007-2008, $200,000*

PUBLICATIONS:

A. **Refereed Original Article in Journal**

1. *Gueye, N. A., Devkota, B., Taylor, D., Pfundt, R., Scott, R. T., Jr. and* ***Treff, N. R.*** *Uniparental disomy in the human blastocyst is exceedingly rare. Fertil Steril, 101(1):232-6, 2014*
2. *Edvardson, S., Ashikov, A., Jalas, C., Sturiale, L., Shaag, A., Fedick, A.,* ***Treff, N. R.****, Garozzo, D., Gerardy-Schahn, R. and Elpeleg, O. Mutations in SLC35A3 cause autism spectrum disorder, epilepsy and arthrogryposis. Journal of Medical Genetics, 50(11):733-9,2013*
3. *Scott, R. T., Jr., Forman, E. J. and* ***Treff, N. R.*** *Letter to the Editor: Blastocyst biopsy with comprehensive chromosomal screening and fresh embryo transfer significantly increases IVF implantation and delivery rates: a randomized clinical trial. Fertil Steril,100(2):e7-8, 2013*
4. *Fedick A., Jalas C., Abeliovich D., Krakinovsky Y., Ekstein J., Ekstein A.,* ***Treff N.R.*** *Carrier frequency of two BBS2 mutations in the Askenazi population. Clin Genet, In Press, 2013*
5. *Scott R. T., Jr., Forman E. J., Zhao, T, Upham, K. M.,* ***Treff N. R.*** *Cleavage stage biopsy significantly impairs human embryonic implantation potential while blastocyst biopsy does not: A randomized and paired clinical trial. Fertil Steril, 100(3):624-630, 2013*
6. *Scott, R. T., Jr., Upham, K. M., Forman, E. J., Hong, K. H., Scott, K. L., Taylor, D., Tao, X. and* ***Treff, N. R.*** *Blastocyst biopsy with comprehensive chromosome screening and fresh embryo transfer significantly increases in vitro fertilization implantation and delivery rates: a randomized controlled trial. Fertil Steril, 100(3):697-703, 2013*
7. *Forman, E. J., Upham, K. M., Cheng, M. Z., Zhao, T., Hong, K. H.,* ***Treff, N. R.*** *and Scott, R. T., Jr. Comprehensive chromosome screening alters traditional morphology-based embryo selection: a prospective study of 100 consecutive cycles of planned fresh euploid blastocyst transfer. Fertil Steril. 100(3):718-724, 2013*
8. ***Treff, N. R****., Forman, E. J., Katz-Jaffe, M. G., Schoolcraft, W. B., Levy, B. and Scott, R. T., Jr. Incidental identification of balanced translocation carrier patients through comprehensive chromosome screening of IVF-derived blastocysts. Journal of assisted reproduction and genetics, 30(6):787-91, 2013*
9. *Forman, E. J., Hong, K. H., Ferry, K. M., Tao, X., Taylor, D., Levy, B.,* ***Treff, N. R.*** *and Scott, R. T., Jr. In vitro fertilization with single euploid blastocyst transfer: a randomized controlled trial. Fertil Steril, 100(1):100-107e1, 2013*
10. *Fedick, A., Jalas, C.,* ***Treff, N.R.*** *A deleterious mutation in the PEX2 gene causes Zellweger Syndrome in individuals of Ashkenazi Jewish descent. Clinical Genetics, In Press, 2013*
11. ***Treff, N.R.****, Forman, E.J., Scott, R.T. Next-generation sequencing for preimplantation genetic diagnosis. Fertil Steril, 99(6):e17-e18, 2013*

12. *Forman, E. J., Treff,* ***N. R.****, Stevens, J. M., Garnsey, H. M., Katz-Jaffe, M. G., Scott, R. T., Jr. and Schoolcraft, W. B. Embryos whose polar bodies contain isolated reciprocal chromosome aneuploidy are almost always euploid. Human reproduction (Oxford, England), 28:502-508, 2013*
13. *Fedick, A., Su, J., Jalas, C., Northrop, L., Devkota, B., Ekstein, J. and* ***Treff, N. R.*** *High-Throughput Carrier Screening Using TaqMan Allelic Discrimination. PloS one, 8:1-9, 2013*
14. ***Treff, N. R.****, Fedick, A., Tao, X., Devkota, B., Taylor, D. and Scott, R. T., Jr. Evaluation of targeted next-generation sequencing-based preimplantation genetic diagnosis of monogenic disease. Fertil Steril, 99:1377-1384, 2013*
15. ***Treff, N. R.*** *and Scott, R. T., Jr. Four-hour quantitative real-time polymerase chain reaction-based comprehensive chromosome screening and accumulating evidence of accuracy, safety, predictive value, and clinical efficacy. Fertil Steril, 99:1049-1053, 2013*
16. *Paull, D., Emmanuele, V., Weiss, K. A.,* ***Treff, N.****, Stewart, L., Hua, H., Zimmer, M., Kahler, D. J., Goland, R. S., Noggle, S. A. et al. Nuclear genome transfer in human oocytes eliminates mitochondrial DNA variants. Nature, 493:632-637, 2013*
17. *Fedick, A., Jing, S., Jalas, C.,* ***Treff, N.R.*** *High-throughput real-time PCR based genotyping without DNA purification. BMC Research Notes, 5:573, 2012*
18. ***Treff, N.R.*** *Tao, X., Campos, J., Su, J., Ferry, K.M., Levy, B., Scott, R.T. Blastocyst preimplantation genetic diagnosis of a mitochondrial DNA disorder. Fertil Steril, 98:1236-1240, 2012*
19. ***Treff, N.R.*** *Genome-wide analysis of human preimplantation aneuploidy. Semin Reprod Med, 30(4):283-288, 2012*
20. *Forman, E.J., Hong, K.H.,* ***Treff, N.R.,*** *Scott, R.T. Comprehensive chromosome screening and embryo selection: moving toward single euploid blastocyst transfer. Semin Reprod Med, 30(3): 236-42, 2012*
21. *Forman, E.J., Li, X., Ferry, K.M., Scott, K.,* ***Treff, N.R.*** *Oocyte vitrification does not increase the risk of embryonic aneuploidy or diminish the implantation potential of blastocysts created after ICSI: a novel, paired randomized controlled trial using DNA fingerprinting. Fertil Steril, 98:644-9, 2012*
22. *Scott, R.T.,* ***Treff, N.R.,*** *Stevens, J., Forman, E.J., Hong, K.H., Katz-Jaffe, M., Schoolcraft, W. Delivery of a chromosomally normal child from an oocyte with reciprocal aneuploid polar bodies. J Assist Reprod Genet, 29(6):533-7, 2012*
23. ***Treff, N.R.****, Scott, R.T. Jr. Methods for comprehensive chromosome screening of oocytes and embryos: capabilities, limitations, and evidence of validity. J Assist Reprod Genet, 29(5):381-90, 2012*
24. *Scott, R.T., Ferry, K., Su, J., Tao, X., Scott, K.,* ***Treff, N.R.*** *Comprehensive chromosome screening is highly predictive of the reproductive potential of human embryos: a prospective, blinded, nonselection study. Fertil Steril, 97:870-875, 2012*
25. ***Treff, N.R.****, Tao, X., Ferry, K.M., Su, J., Taylor, D., Scott, R.T. Development and Validation of an Accurate Quantitative Real-Time PCR Based Assay for Human Blastocyst Comprehensive Chromosomal Aneuploidy Screening. Fertil Steril, 97:819-824, 2012*
26. *Forman, E.J., Tao, X., Ferry, K.M., Taylor, D.,* ***Treff, N.R.****, Scott, R.T. Single Embryo Transfer with Comprehensive Chromosome Screening Results in Improved Ongoing Pregnancy Rates and Decreased Miscarriage Rates. Human Reproduction, 27(4):1217-22, 2012*
27. *Fedick, A., Su, J.,* ***Treff, N.R.*** *Development of TaqMan allelic discrimination based genotyping of large DNA deletions. Genomics, 99(3):127-31, 2012*
28. ***Treff, N.R.,*** *Scott, R.T., Su, J., Campos, J., Stevens, J., Schoolcraft, W., Katz-Jaffe, M. Polar body morphology is not predictive of its cell division origin. Journal of Assisted Reproduction and Genetics, 29(2):137-9, 2012*
29. *Forman, E.J.,* ***Treff, N.R.****, Scott, R.T. Fertility after age 45: From natural conception to Assisted Reproductive Technology and beyond. Maturitas, 70(3):216-21, 2011*

30. *Schoolcraft, W., **Treff, N.R.,** Stevens, J., Ferry, K.M., Katz-Jaffe, M., Scott, R.T. Live birth outcome with trophectoderm biopsy, blastocyst vitrification and single nucleotide polymorphism microarray based comprehensive chromosome screening in infertile patients. Fertil Steril, 96(3):638-40, 2011*
31. ***Treff, N.R.,** Su, J., Taylor, D., Scott, R.T. Telomere DNA deficiency is associated with development of human embryonic aneuploidy. PLoS Genetics, 7(6):e1002161, 2011*
32. ***Treff, N.R.,** Tao, X., Schillings,W.J., Bergh, P.A., Scott, R.T., Levy, B. Use of single nucleotide polymorphism microarrays to distinguish between balanced and normal chromosomes in embryos from a translocation carrier. Fertil Steril, 96(1):e58-65, 2011*
33. ***Treff, N.R.,** Tao, X., Su, J., Lonczak, A., Northrop, L.E., Ruiz, A.A., Scott, R.T. Tracking embryo implantation using cell-free fetal DNA enriched from maternal circulation at 9 weeks gestation. Molecular Human Reproduction, 17(7):434-8, 2011*
34. ***Treff, N.R.**, Su, J., Tao, X., Northrop, L.E., and Scott, R.T. Single Cell Whole Genome Amplification Technique Impacts the Accuracy of SNP Microarray Based Genotyping and Copy Number Analyses. Molecular Human Reproduction, 17(6):335-43, 2011*
35. ***Treff, N.R.**, Northrop, L.E., Kasabwala, K., Su, J., Levy, B., and Scott, R.T. SNP Microarray Based Concurrent Screening of 24 Chromosome Aneuploidy and Unbalanced Translocations in Preimplantation Human Embryos. Fertil Steril, 95(5):1606-1612.e2, 2011*
36. *Kahan, B., Magliocca, J., Merriam, F., **Treff, N.R.**, Budde, M., Nelson, J., Browning, V., Ziehr, B., and Odorico, J. Elimination of tumorigenic stem cells from differentiated progeny and selection of definitive endoderm reveals a Pdx1+ foregut endoderm stem cell lineage. Stem Cell Research, 6(2):143-157, 2011*
37. ***Treff, N.R.**, Su, J., Tao, X., Levy, B., and Scott, R.T. Accurate Single Cell 24 Chromosome Aneuploidy Screening using Whole Genome Amplification and Single Nucleotide Polymorphism Microarrays. Fertil Steril, 94(6):2017-21, 2010*
38. *Scott, R.T. and **Treff, N.R.** Assessing the reproductive competence of individual embryos: a proposal for the validation of new "-omics" technologies. Fertil Steril, 94(3):791-794, 2010*
39. ***Treff, N.R.,** Levy, B., Su, J., Northrop, L.E., Tao, X., and Scott, R.T. SNP microarray based 24 chromosome aneuploidy screening is significantly more consistent than FISH. Molecular Human Reproduction, 16(8):583-9, 2010*
40. *Northrop L.E., **Treff, N.R.,** Levy, B., and Scott, R.T. SNP microarray based 24 chromosome aneuploidy screening demonstrates that cleavage stage FISH poorly predicts aneuploidy in embryos that develop to morphologically normal blastocysts. Molecular Human Reproduction, 16(8):590-600, 2010*
41. ***Treff, N.R.**, Su, J., Tao, X., Miller, K.A., Levy, B., and Scott, R.T. A Novel Single Cell DNA Fingerprinting Method Successfully Distinguishes Sibling Human Embryos. Fertil Steril, 94:477-484, 2010*
42. ***Treff, N.R.,** Su, J., Kasabwala, N., Tao, X., Miller, K.A., and Scott, R.T. Robust embryo identification using first polar body single nucleotide polymorphism (SNP) microarray-based DNA fingerprinting. Fertil Steril, 93:2453-5, 2010*
43. *Patounakis, G., **Treff, N.R.**, Tao, X., Lonczak, A., Scott, R.T., and Frattarelli, J.L. The p53 codon 72 single nucleotide polymorphism lacks a significant effect on implantation rate in fresh in vitro fertilization cycles: an analysis of 1,056 patients. Fertil Steril, 92:1290-6, 2009*
44. *Chung, Y., Bishop, C.E., **Treff, N.R.**, Walker, S.J., Sandler, V.M., Becker, S., Klimanskaya, I., Wun, W.S., Dunn, R., Hall, R.M., Su, J., Lu, S.J., Maserati, M., Choi, Y.H., Scott, RT., Atala, A., Dittman, R., and Lanza, R. Reprogramming of Human Somatic Cells Using Human and Animal Oocytes. Cloning Stem Cells, 11(2):213-223, 2009*
45. *Oertling, W.A., Cornellison, C.D., **Treff, N.R.**, Watanabe, J., Pressler, M.A., and Small, J.R. Photoacoustic characterization of protein dynamics following CO photodetachment from fully reduced bovine cytochrome c oxidase. J Inorg Biochem, 101(4):635-43, 2007*
46. *Vincent, R., **Treff, N.R.**, Budde, M., Kastenberg, Z., and Odorico, J. Generation and characterization of novel tetracycline-inducible pancreatic transcription factor-expressing murine embryonic stem cell lines. Stem Cells Dev, 15(6):953-62, 2006*

47. ***Treff, N.R.**, Vincent, R.K., Budde, M.L., Browning, V.L., Magliocca, J.F., Kapur, V., and Odorico, J.S. Differentiation of Embryonic Stem Cells Conditionally Expressing Neurogenin 3. Stem Cells, 24(11):2529-37, 2006*
48. *Xu, X., Kahan, B., Forgianna, A., Jing, P., Jacobsen, L., Browning, V., **Treff, N.R.**, and Odorico, J. Endoderm and pancreatic islet lineage differentiation from human embryonic stem cells. Cloning Stem Cells, 8(2):96-107, 2006*
49. *Cruz, J.A., Kanazawa, A., **Treff, N.R.**, and Kramer, D.M. Storage of light-driven transthylakoid proton motive force as an electric field (Delta psi) under steady-state conditions in intact cells of Chlamydomonas reinhardtii. Photosynth Res, 85:221-33, 2005*
50. *Dement, G.A., **Treff, N.R.**, Magnuson, N.S., Franceschi, V., and Reeves**,** R. Dynamic mitochondrial localization of nuclear transcription factor HMGA1. Exp Cell Res, 307:388-401, 2005*
51. ***Treff, N.R.**, Dement, G.A., Adair, J.E., Britt, R.L., Nie, R., Shima, J., Taylor, W.E., and Reeves, R. Human KIT ligand promoter is positively regulated by HMGA1 in breast and ovarian cancer cells. Oncogene, 23:8557-62, 2004*
52. ***Treff, N.R.**, Pouchnik, D., Dement, G.A., Britt, R.L., and Reeves, R. High Mobility Group A1a protein regulates Ras/ERK signaling in MCF-7 human breast cancer cells. Oncogene, 23:777-85, 2004*
53. *Park, H.J., Yang, C., **Treff, N.R.**, Satterlee, J.D., and Kang, C. Crystal structures of unligated and CN-ligated Glycera dibranchiata monomer ferric hemoglobin components III and IV. Proteins, 49:49-60, 2002*
54. *Pedulla, M.L., **Treff, N.R.**, Resar, L.M., and Reeves, R. Sequence and analysis of the murine Hmgiy (Hmga1) gene locus. Gene, 271**:**51-8, 2001*

B. Books, Monographs and Chapters

1. *Lu, C. W., Seita, Y., **Treff, N.,** Roth, M. J. Ethnic Differences in Fertility and Assisted Reproduction: Ethnic Disparity in Stem Cell Availability and Research. In Ethnic Differences in Fertility and Assisted Reproduction. pp 213-226, 2013.*

2. *Treff, N. R. Quantitative SNP Array and Real-Time PCR-Based Human Preimplantation Embryo Aneuploidy Screening. In Gardner, D. K., Sakkas, D., Seli, E. and Wells, D. (eds), Human Gametes and Preimplantation Embryos. Springer New York, 2013.*

3. ***Treff, N.R.** HMGA1 and Cancer Progression. Lambert Academic Publishing. ISBN 978-3838315065. September 22nd, 2009.*

C. Patents Held

1. *Method for relative quantitation of chromosomal DNA copy number in single of few cells, U.S. Patent Application No. 12/802,738, Publication No. 20100317916, December 16th, 2010, Scott, R.T. Jr., **Treff, N.R.***
2. *Method for determining chromosomal defects in an IVF embryo, U.S. Patent Application No. 12/690,665, Publication No. 20100206316, August 19, 2010, Scott, R.T. Jr., **Treff, N.R.***
3. *In Vitro Fertilization, Patent Application No. 12/587,406, Publication No. 20100160717, June 24th, 2010, Scott, R.T. Jr., **Treff, N.R.***
4. *Differentiation of Stem Cells to Endoderm and Pancreatic Lineage., U.S. Patent No. 7,585,672, Sept 8th, 2009, Odorico, J.S., Kahan, B.W., **Treff, N.R**.*

D. Abstracts

1. *Jalas C., Fedick A., Ballew B. J., Alter B. P., Giri N., Boulton S., Offit K., Petrini J., **Treff N.,** Savage, S. A. Higher Than Expected Carrier Frequency Of The Dyskeratosis Congenita RTEL1 p.Arg1264His recessive Founder In Individuals Of Ashkenazi Jewish Ancestry. Blood October 2013;122(21):1228*.
2. *Bohrer C.L., Tao X., Torpey E.L., Taylor D., Scott R.T., **Treff N.R.** Detection of contamination by quantitative real-time (q)PCR. Fertility and Sterility September 2013; 100(3):S206.*

3. *Tao X., Devkota B., Lonczak A., Lebiedzinski M., Scott R.T.,* ***Treff N.R.*** *Characterization of trophectoderm (TE) biopsy cell number. Fertility and Sterility September 2013;100(3):S196-S197.*
4. ***Treff N.R.,*** *Tao X., Taylor D., Hong K.H., Forman E.J., Scott R.T. Development and validation of a next-generation sequencing (NGS)-based 24-chromosome aneuploidy screening system. Fertility and Sterility September 2013;100(3):S82.*
5. *Lonczak A., Tao X., Garnsey H.M.,* ***Treff N.R****., Scott R.T. Enhanced sensitivity provided by single cell SNP array analysis allows detection of clinically significant villous mosaicism not detected by conventional cytogenetics. Fertility and Sterility September 2013;100(3):S325.*
6. *Gueye N.-A., Bendarsky O., Devkota B., Pfundt R.,* ***Treff N.R****., Scott R.T. Uniparental disomy (UPD) in the human blastocyst is exceedingly rare. Fertility and Sterility September 2013;100(3):S132.*
7. *Forman E.J., Salvaggio C.N., Katz-Jaffe M.G., Scott R.T.,* ***Treff N.R.,*** *Schoolcraft W.B. SNP array intensity analysis of the 1st polar body (PB1) can reliably identify premature separation of sister chromatids (PSSC) in meiosis I (MI): a blinded validation study. Fertility and Sterility September 2013;100(3):S207-S208.*
8. *Forman E.J., Taylor D., Devkota B., Tao X.,* ***Treff N.R.****, Scott R.T. Targeted deep sequencing of maternal cohesin genes as putative biomarkers for increased risk of embryonic aneuploidy. Fertility and Sterility September 2013;100(3):S53.*
9. *Pepe R.J., Forman E.J., Taylor D., Devkota B.,* ***Treff N.R.****, Scott R.T. Creation of a DNA bank from patients with infertility: a powerful resource for advancing the biology of reproduction. Fertility and Sterility September 2013;100(3):S484-S485.*
10. *Garnsey H.M., Tao X., Taylor D., Pfau S.J., Duncan F.,* ***Treff N.R.*** *Development of a SNP array based methodology for mouse single cell comprehensive chromosomal aneuploidy screening. Fertility and Sterility September 2013;100(3):S133.*
11. *Hong K.H., Forman E.J., Prodoehl A., Upham K.M.,* ***Treff N.R****., Scott R.T. Early times to cavitation are associated with a reduced prevalence of aneuploidy in embryos cultured to the blastocyst stage: a prospective blinded morphokinetic study. Fertility and Sterility September 2013;100(3):S382.*
12. *Hong K.H., Forman E.J., Lee H., Upham K.M.,* ***Treff N.R.****, Scott R.T. Optimizing the temperature of embryo culture in IVF: a randomized controlled trial. Fertility and Sterility September 2013;100(3):S26.*
13. *Forman E.J., Salvaggio C.N., Garnsey H.M.,* ***Treff N.R.****, Scott R.T. Polar body (PB) based aneuploidy screening is significantly less predictive of the reproductive potential of embryos than embryo biopsy based techniques. Fertility and Sterility September 2013;100(3):S199-S200.*
14. *Capalbo A., Ubaldi F.M., Rienzi L., Tao X.,* ***Treff N.R.****, Scott R.T. Comparison of quantitative real-time (q)PCR and array comparative genomic hybridization (aCGH) based 24 chromosome aneuploidy screening in human blastocysts. Fertility and Sterility September 2013;100(3):S2.*
15. ***Treff, N.R.*** qPCR-based CCS *Reproductive BioMedicine Online* 2013;26:S5.
16. ***Treff, N.R.****, Tao, X., Campos, J., Ferry, K.M., Levy, B., Scott, R.T. Trophectoderm is predictive of inner cell mass and newborn mitochondrial DNA mutation load. Fertility and Sterility September 2012;98:S58.*
17. *Forman, E.J., Hong, K.H., Ferry, K.M., Tao, X.,* ***Treff, N.R****., Scott, R.T. Blastocyst euploid selective transfer (BEST): an RCT of comprehensive chromosome screening- single embryo transfer (CCS-SET) vs double embryo transfer (DET)- equivalent pregnancy rates, eliminates twins. Fertility and Sterility September 2012;98:S49.*
18. *Mitchell, S., Linden, M., Young, D.,* ***Treff, N.R.****, Schoolcraft, W., Katz-Jaffe, M. The incidence of chromosome errors differs at the preimplantation stage from that observed in later pregnancy. Fertility and Sterility September 2012;98:S11.*
19. *Shastri, S.M., Werner, M., Devkota, B., Taylor, D.M.,* ***Treff, N.R.****, Scott, R.T. Comparison of clinical outcomes between genetically similar groups of in vitro fertilization patients. Fertility and Sterility September 2012;98:S26.*

20. *Stevens, J., Rawlins, M., Janesch, A., Treff, N.R., Schoolcraft, W.B., Katz-Jaffe, M.G. Time lapse observation of embryo development identifies later stage morphology based parameters associated with blastocyst quality but not chromosome constitution. Fertility and Sterility September 2012;98:S30.*
21. *Fedick, A., Tao, X., Devkota, B., Taylor, D., Scott, R.T., **Treff, N.R.** Development and validation of next-generation sequencing (NGS) based PGD. Fertility and Sterility September 2012;98:S54.*
22. *Hong, K.H., Taylor, D.M., Forman, E.J., Tao, X., **Treff, N.R.**, Scott Jr., R.T. Development of a novel next-gen sequencing (NGS) methodology for accurate characterization of genome-wide mitochondrial heteroplasmy in human embryos. Fertility and Sterility September 2012;98:S58-S59.*
23. *Forman, E.J., Stevens, J.M., Katz-Jaffe, M., Schoolcraft, W., **Treff, N.R.**, Scott, R.T. Embryos whose polar bodies had a reciprocal chromosomal abnormality are almost always euploid: a result of correction of premature separation of sister chromatids (PSSC). Fertility and Sterility September 2012;98:S61.*
24. *Forman, E.J., Su, J., Taylor, D., Devkota, B., **Treff, N.R.**, Scott, R.T. Oocyte vitrification does not result in a decrement in mitochondrial DNA (mtDNA) copy number in resulting embryos: a paired randomized controlled trial (RCT). Fertility and Sterility September 2012;98:S89.*
25. *Garnsey, H.M., Forman, E.J., Ruiz, A.A., Lonczak, A., Treff, N.R., Scott, R.T., Analysis of the earliest appearance of cell free fetal DNA in maternal circulation. Fertility and Sterility Sepetember 2012;98:S111.*
26. *Olcha, M., Ferry, K.M., Forman, E.J., Hong, K., **Treff, N.R.**, Scott, R.T., Trophectoderm (TE) biopsy for aneuploidy screening results in lower initial hCG levels with altered predictive values: low initial levels still have high delivery rates and normal pregnancy outcomes. Fertility and Sterility September 2012;98:S112.*
27. *Werner, M.D., Campos, J., Forman, E., Hong, K., **Treff, N.R.**, Scott, R.T. Single nucleotide polymorphism (SNP) microarrays (MA) may be valuable in detecting small genomic imbalances and distinguishing balanced from normal embryos for carriers of reciprocal translocations. Fertility and Sterility September 2012;98:S131.*
28. *Pepe, R., Tao, X., Su, J., Stevens, J., **Treff, N.R.**, Scott, R.T., Development of a 4 hour protocol for simultaneous single gene disorder (SGD) and comprehensive chromosomal aneuploidy screening (CCS) from a single trophectoderm (TE) biopsy. Fertility and Sterility September 2012;98:S133.*
29. *Forman, E.J., Ferry, K., Katz-Jaffe, M., Schoolcraft, W., **Treff, N.R.**, Scott, R.T. Trophectoderm (TE) biopsy, blastocyst vitrification, and simultaneous single gene disorder (SGD) and comprehensive chromosome screening (CCS) results in excellent ongoing pregnancy rates. Fertility and Sterility September 2012;98:S134.*
30. *Tao, X., Scott III, R.T., Su, J., Forman, E., Taylor, D., **Treff, N.R.** Quantitative real-time (q)PCR based embryonic DNA fingerprinting successfully distinguishes sibling human embryos: a practical tool for biomarker development. Fertility and Sterility September 2012; 98: S140.*
31. *Gueye, N.A., Su, J., Scott III, R.T., Lebiedzinksi, M., **Treff, N.R.**, Scott, R.T. Telomere DNA length is not predictive of embryonic reproductive potential. Fertility and Sterility September 2012;98:S163.*
32. *Hong, K.H., Forman, E.J., Lee, H., Ferry, K.M., **Treff, N.R.**, Scott, R.T. Optimizing the temperature for embryo culture in IVF: a randomized controlled trial (RCT) comparing standard culture temperature of 37C to the reduced more physiologic temperature of 36C. Fertility and Sterility September 2012;98:S167.*
33. *Hong, K.H., Devkota, B., Forman, E., Bendarksy, O., **Treff, N.R.**, Scott, R.T., FMR1 gene CGG repeat number variation within the normal range is not predictive of embryonic aneuploidy rate (AR) in IVF. Fertility and Sterility September 2012;98:S207.*
34. *Hong, K.H., Molinaro, T.A., Forman, E., **Treff, N.R.**, Scott, R.T. Cohort aneuploidy rates are not predictive of sustained implantation rate of euploid blastocysts: give that blastocyst a chance! Fertility and Sterility September 2012;98:S282-283.*

35. *Werner, M., Forman, E., Hong, K.,* ***Treff, N.R.****, Scott, R.T. Body mass index (BMI) does not impact endometrial receptivity in fresh IVF cycles: evaluation of implantation rates (IR) and ongoing pregnancy rates (PR) following the transfer of euploid blastocysts. Fertility and Sterility September 2012;98:S286-S287.*
36. ***Treff, N.R.,*** *Ferry, K.M., Zhao, T., Su, J., Forman, E.J., Scott, R.T. Cleavage stage embryo biopsy significantly impairs embryonic reproductive potential while blastocyst biopsy does not: a novel paired analysis of cotransferred biopsied and non-biopsied sibling embryos. Fertility and Sterility September 2011;96:S2.*
37. *Taylor, D.M., Bergh, C., Bendarsky, O., Lonczak, A.,* ***Treff, N.R.,*** *Scott, R.T. Genome-wide DNA based patient ethnicity assignment is more reliable than self-reporting. Fertility and Sterility September 2011;96:S218-S219.*
38. *Su, J., Campos, J., McCormick, S., Rawlins, M., Smith, R.,* ***Treff, N.R.*** *Polar body morphology is not predictive of its cell division origin. Fertility and Sterility September 2011; 96: S61.*
39. *Tao, X., Su, J., Pepe, R., Northrop, L.E., Ferry, K.M.,* ***Treff, N.R.*** *PGD for monogenic disease by direct mutation analysis alone in 2 or more cells is more reliable than multiple marker analysis in single cells. Fertility and Sterility September 2011;96:S21.*
40. *Forman, E.J., Ferry, K.M., Benson, M.R., Campos, J.,* ***Treff, N.R.,*** *Scott, R.T. Embryos derived from vitrified oocytes are not at an increased risk of aneuploidy and demonstrate excellent implantation rates: a paired, randomized controlled trial (RCT) in an infertile population. Fertility and Sterility September 2011;96:S44.*
41. *Forman, E.J.,* ***Treff, N.R.,*** *Tao, X., Ferry, K.M., Taylor, D., Scott, R.T. Comprehensive chromosome screening (CCS) results in significantly higher pregnancy rates and lower loss rates from single embryo transfer (SET) in a poor prognosis population. Fertility and Sterility September 2011;96:S17.*
42. ***Treff, N.R****., Tao, X., Taylor, D., Levy, B., Ferry, K.M., Scott R.T. Significantly increased implantation and clinical pregnancy rates following PGS: a prospective randomized controlled trial of 24 chromosome aneuploidy screening. ESHRE Annual Meeting, Stockholm, Sweden, July 3rd, 2011.*
43. *Levy, B.,* ***Treff, N.R.****, Scott, R.T. The Changing Face of Preimplantation Genetic Screening (PGS) in the Genomics Era: New Technologies, New Promises. American College of Medical Genetics Annual Clinical Genetics Meeting, Vancouver, British Columbia, Canada, March 19th, 2011.*
44. *Scott, R.T., Tao, X., Taylor, D., Ferry, K.,* ***Treff, N.R.*** *A prospective randomized controlled trial demonstrating significantly increased clinical pregnancy rates following 24 chromosome aneuploidy screening: biopsy and analysis on day 5 with fresh transfer. Fertility and Sterility September 2010;94:S2.*
45. ***Treff, N.R.,*** *Levy, B., Kasabwala, K., Su, J., Garnsey, H., Scott, R.T. First babies born after preimplantation microarray analysis (PMA) for chromosome translocation carriers. Fertility and Sterility September 2010;94:S79.*
46. ***Treff, N.R.,*** *Tao, X., Taylor, D., Ferry, K., Scott, R.T. First pregnancies after blastocyst biopsy and rapid 24 chromosome aneuploidy screening allowing a fresh transfer within four hours of biopsy. Fertility and Sterility September 2010;94:S126-S127.*
47. ***Treff, N.R.,*** *Su, J., Lonczak, A., Taylor, D., Scott, R.T. A subset of the cumulus cell transcriptome is predictive of euploid human oocyte reproductive potential. Fertility and Sterility September 2010;94:S34-S35.*
48. ***Treff, N.R.,*** *Su, J., Taylor, D., Molinaro, T., Scott, R.T. Telomere DNA is significantly reduced in aneuploid human oocytes and embryos. Fertility and Sterility September 2010;94: S9.*
49. *Su, J., Tao, X., Baglione, G.,* ***Treff, N.R.,*** *Scott, R.T. Mitochondrial DNA is significantly increased in aneuploid human embryos. Fertility and Sterility September 2010;94:S88-S89.*
50. *Schoolcraft, W.B.,* ***Treff, N.R.,*** *Ferry, K., Stevens, J.M., Katz-Jaffe, M.G., Scott, R.T. First clinical application of SNP microarray based 24 chromosome aneuploidy screening of human blastocysts. Fertility and Sterility September 2010;94:S23-S24.*

51. *Loper, R., **Treff, N.R.**, Parks, J.C., Scott, R.T., Schoolcraft, W.B., Katz-Jaffe, M.G. Alterations of mitotic checkpoint genes play a role in embryonic chromosome mosaicism. Fertility and Sterility September 2010;94:S148.*
52. *Scott, K.L., Taylor, D., Ferry, K., **Treff, N.R.**, Scott, R.T. Characterizing the relationship between morphologic embryonic development and ploidy status as assessed by 24 chromosome microarray PGD. Fertility and Sterility September 2010;94:S122-S123.*
53. *Northrop, L.E., **Treff, N.R.**, Taylor, D., Scott, R.T. Premature separation of sister chromatids (PSSC) associated chromosome recombination rates are not significantly different from normally segregated chromosomes. Fertility and Sterility September 2010;94:S137.*
54. *Tao, X., Campos, J., Ferry, K., Levy, B., **Treff, N.R.**, Scott, R.T. First clinical application of simultaneous preimplantation mitochondrial DNA mutation load and 24 chromosome aneuploidy screening. Fertility and Sterility September 2010;94:S126.*
55. *Northrop, L.E., Taylor, D., **Treff, N.R.**, Scott, R.T. Recombination rates are significantly higher in IVF children from women older than 35 years of age. Fertility and Sterility September 2010;94:S181.*
56. *Taylor, D., Pike, J.W., Kasabwala, K., Northrop, L.E., **Treff, N.R.**, Scott, R.T. A genome-wide association scan identifies several maternal susceptibility loci for embryo aneuploidy. Fertility and Sterility September 2010;94:S183.*
57. ***Treff, N.R.**, Su, J., Taylor, D., Scott, R.T. Aneuploid Human Oocytes and Embryos Possess Significantly Reduced Quantities of Telomere DNA. Society for the Study of Reproduction Annual Meeting, Milwaukee, WI, July 31st, 2010*
58. ***Treff, N.R.**, Su, J., Baglione, G., Scott, R.T. Mitochondrial DNA copy number is significantly increased in aneuploid relative to euploid human embryos. 2010 College of Reproductive Biology and American Association of Bioanalysts Annual Meeting. Las Vegas, Nevada. May 15th, 2010.*
59. *Levy, B., Northrop, L.E., **Treff, N.R.**, Scott, R.T. SNP Microarray Analysis offers New Insights into the Accuracy of FISH Diagnostics in Preimplantation Embryos. American Cytogenetics Conference, May 13-16, 2010 in Niagara Falls, Ontario, Canada*
60. *Schultz, P., Gueye , N.-A., Azim, A., Miller, K., **Treff, N.R.**, Scott, R.T. The Age Related Diminution in Implantation Rates is not Due Solely to an Increase in the Prevalence of Aneuploidy. Fertility and Sterility September 2009;92:S7.*
61. ***Treff, N.R.**, Su, J., Tao, X., Miller, K., Scott, R.T. First IVF babies born after rapid 24 chromosome embryo aneuploidy screening and fresh embryo transfer. Fertility and Sterility September 2009;92:S49.*
62. *Gueye , N.-A., Schultz, P., Azim, A., Miller, K., **Treff, N.R.**, Scott, R.T. SNP Day 3 FSH Levels are not Correlated with the Prevalence of Embryonic Aneuploidy in Embryos Transferred to Patients or Cryopreserved Following IVF. Fertility and Sterility September 2009;92:S81.*
63. *Stevens, J., McCormick, S., **Treff, N.R.**, Scott, R.T., Schoolcraft, W.B., Katz-Jaffe, M.G. Maternal age related effects on chromosome error in human oocytes Fertility and Sterility September 2009;92:S216.*
64. *Lonczak, A., Tao, X., Miller, K., Scott, R.T., **Treff, N.R**. Dynamics of the human oocyte microRNA transcriptome during maturation. Fertility and Sterility September 2009;92:S218.*
65. *Miller, K., Ferry, K., Olivares, R., Su, J., **Treff, N.R.**, Scott, R.T. Efficacy of Thaw, Trophectoderm Biopsy, Re-Cryopreservation, and Pre-Implantation Genetic Screening on Previously Frozen Blastocyst Embryos. Fertility and Sterility September 2009;92:S185.*
66. ***Treff, N.R.**, Su, J., Tao, X., Katz-Jaffe, M.G., Schoolcraft, W.B., Scott, R.T. Characterizing the Nature of Meiotic Errors: PSSC is the Principal Meiotic Error in Human Oocytes and May Correct During the 2nd Meiotic Division and Result in the Birth of a Healthy Infant. Fertility and Sterility September 2009;92:S25.*
67. *Tao, X., Lonczak, A., Ruiz, A., Su, J., **Treff**, N.R., Scott, R.T. Validation of embryo DNA fingerprinting from maternal circulation at 9 weeks gestation. Fertility and Sterility September 2009;92:S5.*
68. ***Treff, N.R.**, Tao, X., Lonczak, A., Su, J., Taylor, D., Scott, R.T. Four hour 24 chromosome aneuploidy screening using high throughput PCR SNP allele ratio analyses. Fertility and Sterility September 2009;92:S49-S50.*

69. *Northrop, L.E., Kim, J., Taylor, D., Bergh, P., **Treff, N.R.**, Scott, R.T. A Single SNP is not Sufficient to Capture Genetic Diversity of the AMHR2 Gene in an IVF Population. Fertility and Sterility September 2009;92:S98-S99.*
70. *McCormick, S., Stevens, J., **Treff, N.R.**, Scott, R.T., Schoolcraft, W.B., Katz-Jaffe, M.G. Is there a preferential day for trophectoderm biopsy of human blastocysts? Fertility and Sterility September 2009;92:S226.*
71. *Taylor, D., Tao, X., Lonczak, A., Pike, J., **Treff, N.R.**, Scott, R.T. A Recessive PTEN Haplotype is Associated with Fewer Mature Follicles in IVF Patients. Fertility and Sterility September 2009;92:S94.*
72. ***Treff, N.R.**, Tao, X., Northrop, L.E., Bergh, P., Levy, B., Scott, R.T. Development and validation of comprehensive triple factor PGD: simultaneous 24 chromosome aneuploidy, translocation derivative, and single gene disorder screening from a single biopsy. Fertility and Sterility September 2009;92:S200-S201.*
73. ***Treff, N.R.,** Tao, X., Su, J., Northrop, L.E., Kamani, M., Bergh, P., Miller, K., Levy, B., Scott, R.T. SNP Microarray Based Concurrent Screening of 24 Chromosome Aneuploidy, Unbalanced Translocations, and Single Gene Disorders in Human Embryos: First Application of Comprehensive Triple Factor PGD. Biol Reprod July 2009;81:188.*
74. *Levy, B., Nahum, O., Kamani, M., Miller, K., Su, J., **Treff, N.R.**, Scott, R.T. Preimplantation Microarray Analysis (PMA) is a Robust technique that allows for Aneuploidy Screening of all 24 chromosomes with a lower misdiagnosis rate than FISH based methodologies. [Abstract Program # 735] Presented at the annual meeting of The American Society of Human Genetics, Nov 13th, 2008, Philadelphia, Pennsylvania*
75. *Hedayatzadeh, M., Tao, X., Northrop, L.E., Bergh, E., **Treff, N.R.,** Scott, R.T. Carriers of the minor alleles for follicle stimulating hormone (FSH) receptor I (G_G) and II (C_C) have increased basal FSH levels but no difference in ovarian responsiveness or clinical outcomes. Fertility and Sterility September 2008;90:S8.*
76. *Tao, X., Su, J., Nahum, O., Levy, B., Scott, R.T., **Treff, N.R.** Fetal DNA fingerprinting of DNA isolated from the peripheral maternal circulation at 9 gestational weeks allows precise identification of which embryos implanted following multiple embryo transfer. Fertility and Sterility September 2008;90:S81.*
77. *Su, J., Tao, X., Kasabwala, N., Miller, K., Scott, R.T., **Treff, N.R.** Robust embryo identification using first polar body (1st PB) single nucleotide polymorphism (SNP) microarray-based DNA fingerprinting. Fertility and Sterility September 2008;90:S82-S83.*
78. *Miller, K., Olivares, R., Craig, C., Su, J., **Treff, N.R.**, Scott, R.T. Poor progression of day 3 embryos to blastocyst stage of development may be related to a paternal origin of anueploidy. A case report. Fertility and Sterility September 2008;90:S429.*
79. *Miller, K., Li, X., Lambrese, K., Su, J., **Treff, N.R.**, Scott, R.T. Blastocyst formation rates in chromosomally normal versus abnormal embryos as analyzed by 24 chromosome microarray-based anueploidy screening (mPGD). Fertility and Sterility September 2008;90:S346.*
80. *Budrys, N.M., Frattarelli, J.L., Miller, B.T., **Treff, N.R.**, Tao, X., Scott, R.T. The heterozygous genotype for the estrogen receptor-alpha polymorphisms PvuII and XbaI results in increased blastocyst formation and improved implantation rates. Fertility and Sterility September 2008; 90:S70.*
81. *Katz-Jaffe, M.G., McCallie, B.R., **Treff, N.R.**, Miller, K., Scott, R.T., Schoolcraft, W.B. A novel profile of cumulus cell transcripts is associated with oocyte aneuploidy. Fertility and Sterility September 2008;90:S36.*
82. *Levy, B., **Treff, N.R.**, Nahum, O., Su, J., Tao, X., Scott, R.T. The accuracy and consistency of whole genome preimplantation genetic diagnosis (PGD): a comparison of two independent methods – microarray PGD (mPGD) and comparative genomic hybridization (CGH). Fertility and Sterility September 2008;90:S305.*
83. *Miller, K., Northrop, L.E., Frattarelli, J.L., Su, J., **Treff, N.R.**, Scott, R.T. Reanalysis of day 3 fish PGD (fPGD) abnormal embryos which fully blastulated: 24 chromosome microarray PGD (mPGD) demonstrates a high rate of genetic normality and low rate of mosaicism. Fertility and Sterility September 2008;90:S48.*

84. *Frattarelli, J.L., Patounakis, G., **Treff, N.R.**, Tao, X., Lonczak, A., Scott, R.T. The p53 codon 72 single nucleotide polymorphism lacks a significant effect on implantation and outcome rates in fresh IVF cycles: an analysis of 1056 patients. Fertility and Sterility September 2008; 90:S58-S59.*
85. *Scott, R.T., Miller, K., Olivares, R., Su, J., Fratterelli, J.L., **Treff, N.R.** Microarray based 24 chromosome preimplantation genetic diagnosis (mPGD) is highly predictive of the reproductive potential of human embryos: a prospective blinded non-selection trial. Fertility and Sterility September 2008;90:S22-S23.*
86. ***Treff, N.R.**, Su, J., Tao, X., Frattarelli, J.L., Miller, K., Scott, R.T. Characterization of the source of human embryonic aneuploidy using microarray-based 24 chromosome preimplantation genetic diagnosis (mPGD) and aneuploid chromosome fingerprinting. Fertility and Sterility September 2008;90:S37.*
87. *Scott, R.T., Miller, K., Su, J., Kamani, M., Levy, B., **Treff, N.R.** Prospective, randomized, blinded, and paired analysis of 24 chromosome microarray PGD (mPGD) vs 9 chromosome fish PGD (fPGD) in dispersed cleavage stage human embryos: mPGD has superior consistency. Fertility and Sterility September 2008;90:S306*
88. *Denis, D., Nataraja, S., Tran, C.A., Kagan, D., **Treff, N.R.**, Palmer, S. Global Gene Expression Analysis in Human Uterine Stromal Cells for the Identification of Novel Targets for Implantation. Biol Reprod May 2008;78:90.*
89. *Denis, D., **Treff, N.R.**, Tran, C.A., Kagan, D., Fazleabas, A., Strakova, Z., Nataraja, S., Palmer, S. Genome-wide expression analysis of human endometrial stromal cells following in vitro decidualization with IL1beta, PGE2, PGD2 or butaprost treatment. Biol Reprod May 2008;78:37a*
90. ***Treff, N.R.**, Su, J., Mavrianos, J., Bergh, P.A., Miller, K., Scott, R.T. Accurate 23 chromosome aneuploidy screening in human blastomeres using single nucleotide polymorphism (SNP) microarrays. Fertility and Sterility September 2007;88:S1.*
91. ***Treff, N.R.**, Scott, R.T. Genome-wide chromosome aneuploidy assessment on single cells using two types of arrays – SNP based arrays are more accurate and less variable than BAC arrays. Fertility and Sterility September 2007; 88: S87-S88.*
92. ***Treff, N.R.**, Su, J., Tao, X., Mavrianos, J., Scott, R.T. Single cell whole genome amplification technique significantly impacts the accuracy and precision of microarray based 23 chromosome aneuploidy screening Fertility and Sterility September 2007;88:S231.*
93. ***Treff, N.R.**, Su, J., Bergh, E.P., Levy, B., Miller, K., Scott, R.T. Single-blastomere whole-genome DNA fingerprinting results in unequivocal embryo identification – a powerful new clinical and diagnostic tool. Fertility and Sterility September 2007;88:S3-S4.*
94. ***Treff, N.R.**, Miller, K., De Matos, D.G., Scott, R.T., Palmer, S. The Human Blastomere Transcriptome. P-16, Serono Symposia: "The First Seven Days", Tampa, FL, April 26th-28th, 2006.*
95. ***Treff, N.R.**, Tran, C.A., Miller, K., De Matos, D.G., Palmer, S., Scott, R.T. The human blastomere transcriptome and candidate noninvasive molecular prognostics of preimplantation embryo reproductive competence. Fertility and Sterility September 2006;86: S217.*
96. *Tran, C., **Treff, N.R.**, Kagan, D., Fazleabas, A., Nataraja, S., Palmer, S. O-185: Genome-wide expression analysis of human uterine fibroblast cells following in vitro decidualization with IL1β, prostaglandin E2, or butaprost treatment. Fertility and Sterility September 2006; 86:S79.*
97. *Carlberg, K.A., Vanhoose, A.M., Shaffer, M., **Treff, N.R.** Restraint stress does not alter placental androstenedione secretion in pregnant rats. Medicine and Science in Sports and Exercise 1999; 31(5):S389.*

PRESENTATIONS:

A. Scientific:

1. *Targeted next-generation sequencing (NGS) based comprehensive chromosome screening (CCS) in preimplantation human embryos. Advances in Genome Biology and Technology (AGBT). Marco Island, FL. February, 2014*

2. *Next-generation sequencing based preimplantation genetic testing of 24-chromosome aneuploidy and monogenic disorders. American Society of Human Genetics Annual Meeting (ASHG). Boston, MA. October, 2013*
3. *Comprehensive Chromosome Screening: Successes and Future Challenges. Auxogyn Scientific Symposium at IFFS/ASRM. Boston, MA. October, 2013*
4. *Characterizing the Human Embryo with Semiconductor Sequencing. Life Technologies Seminar. Princeton, NJ. October, 2013*
5. *New Technologies for Preimplantation Genetics Testing. DSMOME Symposium. Copenhagen, Netherlands. October, 2013*
6. *Debate: Is it Time to Introduce PGS into Daily Practice and if so for Whom? 2013 Fertility Scientific Symposium. Prague, Czech Republic. September, 2013*
7. *Different Techniques for PGD and PGS: Capabilities, Limitations, Interpretation and Validity. 2013 Fertility Scientific Symposium. Prague, Czech Republic. September, 2013*
8. *Human Embryo Comprehensive Chromosome Screening. NorthShore University Health System. Chicago, IL. September, 2013*
9. *Comprehensive Chromosome Screening in the Human Embryo. Bioconference Live Webcase. August, 2013*
10. *Telomere DNA & CCS Lecture. Mexican Society for Reproductive Medicine Meeting. Cancun, Mexico. July, 2013*
11. *Emerging Methods for Comprehensive Chromosome Screening in Human ART. Egg Quality Summer Summit. Chicago, IL. June, 2013*
12. *qPCR-based CCS. PGDIS: 12th International Conference on Preimplantation Genetic Diagnosis. Istanbul, Turkey. May, 2013*
13. *Debate Format: PGS: What Works and What Does Not Work. Best of ESHRE and ASRM. Atlantis, Paradise Islands, Bahamas. March, 2013*
14. *Directed evolution and translation of human embryonic aneuploidy screening technology to improve the treatment of infertility. Washington State University (WSU-CRB). Pullman, WA. November, 2012*
15. *Moderator: The Basics of Comprehensive Chromosome Screening: what we all need to know for our practice. ASRM Annual Meeting. San Diego, CA. October, 2012*
16. *Real time PCR for rapid aneuploidy detection. PGDIS: 11th International Conference on Preimplantation Genetic Diagnosis. Bregenz, Austria. May, 2012*
17. *Four hour 24 chromosome aneuploidy screening and class I evidence of safety, predictive value, and clinical efficacy. Biomarker Meeting in Reproductive Medicine 1st. Valencia, Spain. March, 2012*
18. *Preimplantation Genetic Testing: Current Technology and Global Experience - When should it be done and by what technique(s)' The best of ASRM and ESHRE: where we are and where we are going. Cortina d'Ampezzo, Italy. February, 2012*
19. *Genetic Screening Applications of the QuantStudio 12K Flex. Life Technologies. Berlin, Germany. February, 2012*
20. *Development, Safety, Predictive Value, and Clinical Efficacy of Comprehensive Chromosome Screening in Human Embryos: New Technologies, New Promises. NIH/NICHD. Bethesda, MD. February, 2012*
21. *Enhanced sensitivity of fetal gender prediction using the circulating nucleic acid kit on maternal peripheral blood at 9 weeks gestation. Qiagen Webinar. December, 2011*
22. *Preimplantation Genetic Screening (PGS) in the Genomics ERA. ASRM Annual Meeting Postgraduate Course. Orlando, FL. October, 2011*
23. *PGS in the genomics era: new technologies, new promises. JSAR 14th annual congress of the Japan Society of Assisted Reproduction. Tokyo, Japan. October, 2011*
24. *Platform Session: (Treff #79) Successful Application of Preimplantation Genetic Diagnosis to Reduce the Risk of Transmitting a Mitochondrial DNA Disorder to the Second and Third Generation. SSR. Portland, OR. July, 2011*
25. *ESHRE 27th Annual Meeting. Stockholm, Sweden. July, 2011*
26. *NuGEN. San Francisco, CA. April, 2011*

27. *Preimplantation Genetic Diagnosis. Frontiers in Reproductive Endocrinology: A comprehensive review and update, Arlington, VA. March 4th, 2011*
28. *First Clinical Validation of Preimplantation Genetic Diagnosis and a Maternal Genome Wide Association Study of Embryonic 24 Chromosome Aneuploidy. Rutgers University, Department of Genetics Seminar, Piscataway, NJ November 22nd, 2010*
29. *Emerging Molecular Biology Methods in ART. ASRM Annual Meeting Roundtable. Denver, CO. October 2010*
30. *Predicting the reproductive potential of human embryos in the -omics era. Penn State University, Department of Dairy and Animal Science, State College, PA, September 24th, 2010*
31. *PGD past and present: from FISH to microarrays and PCR. 2010 College of Reproductive Biology and American Association of Bioanalysts Annual Meeting. Las Vegas, Nevada. May 15th, 2010*
32. *Optimal Embryo Selection. 2010 Texas ART Society Southwest Fertility Forum. San Antonio, Texas. May 1st, 2010*
33. *24 chromosome aneuploidy screening in human preimplantation stage embryos using SNP array based copy number analyses. Rutgers W.M. Keck Center for Collaborative Neuroscience and Stem Cell Research Center, Piscataway, NJ. Nov. 18, 2009*
34. *Clinical Application of 24 Chromosome Aneuploidy Screening. ASRM Annual Meeting Roundtable RTW26 Atlanta, Georgia. October 2009*
35. *Molecular Genetic Characterization and Directed Differentiation of Trisomy 21 Induced Pluripotent Stem (iPS) Cells. 2009 New Jersey Stem Cell Research Symposium. September 24th, 2009*
36. *Gene expression analysis of pluripotency in the human embryo. Mayo Clinic, Department of Biochemistry and Molecular Biology, Tuesday, October 14, 2008*
37. *Microarray based aneuploidy screening in human embryos is highly predictive of reproductive potential. Mayo Clinic, Department of Laboratory Medicine and Pathology, October 13th, 2008*
38. *Microarray based aneuploidy screening in human embryos is highly predictive of reproductive potential. Signature Genomics, Spokane, WA, August 27th, 2008*
39. *Microarray based aneuploidy screening in human embryos is highly predictive of reproductive potential. Washington State University, School of Molecular Biosciences Seminar Series, August 26th, 2008*
40. *Development of Molecular Genetic Diagnostics for Assisted Reproduction. Applied Biosystems Molecular and Cellular Biology Quarterly Business Update, Foster City, CA, August 8th, 2008*
41. *Gene expression analysis of pluripotency in the human embryo. 2008 New Jersey Stem Cell Research Symposium, Piscataway, NJ*
42. *Emerging Molecular Biology Methods in ART. ASRM Annual Meeting Roundtable M46. Washington, DC. September 2007*
43. *Stem cell gene expression analysis of lineage specification in the human blastomere. 2007 New Jersey Stem Cell Technology Symposium*
44. *Robust Human Embryo DNA Fingerprinting from a Single Blastomere. Serono Research Institute, 2007*
45. *The Oocyte and Blastomere Transcriptome: Global Molecular Changes during Early Human Preimplantation Embryonic Development. GeneGO US User Group Meeting, Boston, MA March 16th, 2006*