

Ann Anderson Kiessling Curriculum Vitae

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Foundation Address: Bedford Research Foundation
Somerville, MA 02144
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Place of Birth: Baker, Oregon

Education:

1964	BS	University of Virginia (Nursing)
1966	BS	Central Washington University (Chemistry)
1967	MS	Central Washington University (Organic Chemistry)
1971	PhD	Oregon State University (Biochemistry/Biophysics)

Postdoctoral Training:

1971	Research Associate	School of Medicine, Division of Oncology, University of Washington, Seattle (Laboratory of Dr. Paul Neiman)
1971-1973	Research Fellow	Memorial Sloan-Kettering Institute for Cancer Research (Laboratory of Dr. Lloyd Old)
1973-1976	Postdoctoral Scholar	Department of Medicine, University of California, San Diego (Laboratory of Dr. Mehran Goulian)

Licensure:

1991-	CLIA licensed Clinical Laboratory Director
1993-	American Association of Bioanalysts Licensed Laboratory Director in Andrology and Embryology

Academic Appointments:

1977-1981	Assistant Professor of Anatomy	Oregon Health Sciences University
1981-1985	Associate Professor of Anatomy	Oregon Health Sciences University
1983-1985	Associate Professor of Obstetrics and Gynecology	Oregon Health Sciences University
1985-1990	Associate Professor of Obstetrics, Gynecology and Reproductive Biology	Harvard Medical School
1990-	Associate Professor of Surgery	Harvard Medical School

Hospital Appointments:

1982-1985	Director, Laboratory for Assisted Reproduction	Oregon Health Sciences University
1985-1990	IVF Laboratory Director	Brigham and Women's Hospital
1990-1995	Director of Reproductive Biology	Faulkner Hospital

Major Committee/Review Board Assignments:

1981-1983	Promotion and Tenure Committee	Oregon Health Sciences University
1983-1984	Institutional Review Task Force	Oregon Health Sciences University
1982-1983	Medical Student Admissions	Oregon Health Sciences University
1986-1990	Animal Care and Use Committee	Harvard Medical School
1990-1995	Ethics Advisory Board	Faulkner Centre for Reproductive Medicine
1996-	Aids and Related Research IRBs	National Institutes of Health
2005-	Scientific and Medical Accountability Standards Working Group, California Institute for Regenerative Medicine	
2005-	Chair, Pre-clinical Stem Cell Research Standards, California Institute for Regenerative Medicine	
2005-	Embryonic Stem Cell Research Oversight Committee	Children's Hospital, Boston
2006-	Contributing Editor, ChemTracts In Brief, Biochemistry	
2006-	Embryonic Stem Cell Research Oversight Committee	Joslin Diabetes Research
2006-	Embryonic Stem Cell Research Oversight Committee	Harvard University
2006-	Stem Cell Advisory Board, Connecticut Stem Cell Research Initiative	Department of Public Health
2006-	Ethics Advisory Subcommittee, Stem Cell Advisory Board, Connecticut	
2007-	Chair, ZRG1 AARR-C special Emphasis Panel	

Professional Societies:

1976-	American Association for the Advancement of Science
1980-	The New York Academy of Sciences
1981-	The American Society for Cell Biology
1982-	The American Fertility Society
1983-	The American Society for Microbiology
1989-	American Society for Biochemistry and Molecular Biology
2005-	International Society for Stem Cell Research
2006-	British Andrology Society

Narrative of Research, Teaching and Clinical Contributions

Research: My graduate work focussed on replication of avian myeloblastosis virus, resulting in some of the earliest papers describing the characteristics of retroviruses. My first postdoctoral experience was with Dr. Paul Neiman in Dr. E. Donnall Thomas's bone marrow transfer group, now at the Hutchinson Cancer Center in Seattle, Washington. Since understanding the immune system seemed so important to understanding why cancer cells were not immune-rejected, I did a rotation with Dr. Lloyd Old and Ted Boyse at Memorial Sloan-Kettering Cancer Center in New York. While there, it became clear that one of the mysteries about cancer cells was the fact they were "de-differentiated" like early embryo cells. While a postdoctoral fellow in the laboratory of Mehran Goulian, I detected reverse transcriptase

activity in "normal" human cells, including placenta, leading to the first report that reverse transcriptase activity was not restricted to malignant and/or retrovirus infected cells. This led to a series of experiments with early cleaving mouse embryos in collaboration with Dr. Harry Weitlauf, Oregon Health Sciences University. During the course of that work, two unexpected findings were revealed: 1) early cleaving mouse embryos contain readily detectable levels of enzyme activity with characteristics of reverse transcriptase, and 2) the mouse epididymis expresses remarkably high levels of both endogenous and exogenous retroviruses, both as partial genome transcripts and as whole virus particles. Subsequently, experiments were conducted in goat embryos which led to the first large series of goat embryo transfers in the early 80's.

In 1982-1983, two medical developments thrust my research interests into the forefront of clinical interest: human in vitro fertilization became standard of care for couples with infertility, and AIDS was recognized as a semen-transmitted infection. I started the first In Vitro Fertilization laboratory in Oregon, one of the first in the U.S., and conducted the earliest experiments to detect virus in the seminal plasma of men with HIV disease. I was recruited to Harvard Medical School in 1985 to head up the IVF laboratory at Brigham and Women's Hospital and to continue my research in both early embryo development and semen transmission of HIV. My laboratory was the first to measure HIV in semen and to establish that HIV in semen is genetically and quantitatively separate from HIV in the blood of infected men. Thus, semen producing organs are a separate, isolated reservoir of HIV infection. Current work is directed at discovering the tissue and/or organ sources of semen HIV with emphasis on cell types infected and evolution of the quasispecies of virus present in semen relative to blood species.

Work in my lab has also led to several discoveries about egg activation and early embryo development. Current research emphasis (in Bedford Stem Cell Research foundation laboratories) is developing reliable systems for parthenogenetic activation of mammalian eggs, including human, investigating the role of endogenous reverse transcriptase in pluripotent stem cell differentiation, and developing strategies for maturing oocytes from human embryonic stem cells. The latter goals have necessitated the design of an infrastructure within a Massachusetts public charity to support ethical, human subjects research, and fund-raising needs.

Teaching Experience:

1979	Lecturer on "Reverse Transcriptase Activity in Nonmalignant Cells," Department of Biochemistry Symposium, Oregon Health Sciences University
1982-1985	Director, Developmental Biology Course (Human Embryology for freshman medical students), Oregon Health Sciences University
1984	Invited Lecturer on "In Vitro Fertilization," Grand Rounds, Department of Obstetrics and Gynecology, Oregon Health Sciences University
1985	Invited Speaker on "Retrovirus Expression in the Reproductive Tract of Mice," LHRRB Seminar Series, Harvard Medical School
1985	Symposium Director, "Embryo Transfer in Large Animals," Pan American Congress, Sao Paulo, Brazil, 1985.
1986	Lecturer on "Fertilization and Early Embryo Development," Fertility and Endocrine Resident Conference
1986	Invited Lecturer on "Retroviruses in the Male Reproductive System," American Gynecologic Travel Club, Boston
1987-1988	Lecturer on "Fertilization," Reproductive Endocrinology Postgraduate Course, Harvard Medical School
1988	Invited Lecturer on "Fertilization in the 90's" Grand Rounds, Department of Obstetrics, Gynecology and Reproductive Biology, Harvard Medical School
1988	Invited Lecturer on "Retrovirus expression in the male

- reproductive tract", UCLA Spring Seminar Series, UCLA, Los Angeles, Calif.
- 1988 Invited Lecturer on "Retrovirus expression in the male reproductive tract", LHRRB Seminar Series, Boston, Massachusetts
- 1988 Invited Lecturer, "Normal Sexual Differentiation: Pseudohermaphroditism," IV European Congress on Pediatric and Adolescent Gynecology, Rhodes Island, Greece
- 1988 Invited Lecturer, "Regulation of Oocyte Maturation" Satellite Workshop on In Vitro Fertilization Embryo Transfer and GIFT, Rodos Palace Hotel, Rhodes Island, Greece.
- 1989 Invited Lecturer on "Oocyte Maturation" Grand Rounds, Department of Obstetrics and Gynecology and Reproductive Biology, Brigham and Women's Hospital
- 1990 Invited Lecturer, "Reproductive Tract Retroviruses", Department Seminar Series, Department of Anatomy and Cell Biology, Tufts Medical School
- 1990 Course Co-Director, "Technological Advances in Infertility Treatment", Harvard Medical School, Department of Continuing Education, Cambridge MA
- 1990 Course Lecture "The Expression of Oncogenes in Mammalian Gametes and Embryos," Cambridge, MA
- 1990 Course Lecture "The Role of the Embryo in Prenatal Diagnosis," Cambridge, MA
- 1990 Invited Speaker, "The Role of Assisted Reproductive Technologies in Producing HIV-free offspring from HIV-Infected Parents," and Session chairman, The First International Symposium on AIDS and Reproduction, Dec., 1990, Genoa, Italy
- 1990 Invited Lecturer, "Reproductive Tract Retroviruses," AIDS Research Group Seminar Series, Children's Hospital, Boston, Ma.
- 1991 Invited Faculty, American College of Obstetrics and Gynecology, October 1991, "What the Obstetrician/Gynecologist should know about AIDS," Quebec City, Quebec, Canada.
- 1991 Invited Lecturer, "New Horizons in Human Fertilization," Museum of Science, "Two of Every Sort," Exhibition, Boston, MA,
- 1992 Invited Lecturer, "Purine-induced Blockade of Early Cleaving Mouse Embryos," Spring Lecture Series, Northeastern University, Boston
- 1992 Invited Lecturer, "Retrovirus Expression in Male Reproductive Tract Tissues" Division of AIDS, Department of Hematology/oncology, Albany Medical College, Albany, New York
- 1993 Invited Lecturer, "New Horizons in Human Fertilization," National Association of Biology Teachers 1993 National Convention, Boston, MA, Nov., 1993.
- 1994 Invited Faculty, Assisted Reproductive Technology Forum, "The First Three Cell Cycles of the Mammalian Embryo," Toyama, Japan
- 1994 Invited Speaker, "Can an HIV-free pregnancy be achieved?" Department of Medicine, Grand Rounds, Cambridge Hospital, Cambridge MA, December
- 1995 Invited Lecturer, "Cell Cycle Controls during Early Human Development", Mitera Hospital, Athens, Greece March, 1995
- 1995 Invited Lecturer, "The First Three Cell Cycles of the Mammalian Embryo," Centre for Reproduction and Early Human Development, Monash University, Melbourne Australia, March, 1995

- 1995 Invited Lecturer, "The First Three Cell Cycles of the Mammalian Embryo," Department of Veterinary Science, University of Massachusetts, Amherst MA, May, 1995
- 1995 Invited Lecturer, "Cell Cycle Controls during Early Human Development," Department of Obstetrics and Gynecology, New England Medical Center, Boston, MA, September, 1995
- 1996 Invited Faculty, National Institutes of Health Workshop on Semen Transmission of HIV, National Library of Medicine, Bethesda, MD, February, 1996
- 1996 Director, World Aids Foundation Workshop to Train Health Care Professionals, Nadi, Fiji
Lectures: "HIV Disease and the Immune System" and "Maternal-Fetal Transmission of HIV Infection."
- 1997 Invited Faculty, Hellenic National Congress of Obstetrics and Gynecology, Crete, May, 1997 "AIDS and Reproduction"
- 1997 Invited Faculty, Sienna Symposium, HIV and Gametes, Sienna, Italy, October, 1997
Lecture: "HIV LTR Driven Gene Expression in Mouse and Human Fertilized Eggs"
- 1998 Invited Speaker, University of San Francisco, "Semen Transmission of HIV"
- 1999 Invited Speaker, Tufts School of Medicine, Division of Infectious Disease, "Semen: an isolated reservoir of HIV infection"
- 1999 Invited Speaker, Northwestern University School of Medicine, "Semen: an isolated reservoir of HIV infection"
- 2000 Invited Speaker, National Institutes of Health, Laboratory of Dr. Tony Fauci, "HIV infection in the male genital tract"
- 2000 Invited Speaker, 2000 TALA National Meeting, "Challenges and Options for Living with HIV Disease" Boca Raton, FL
- 2000 Invited Speaker, Department of Biology, Boston University, "Biology of Human Immunodeficiency Virus and Risks of Sexual Transmission"
- 2000 Invited Speaker, Brandeis University, Department of Biology, "Reproductive concerns and sexually transmitted diseases"
- 2001 Invited Speaker, New England Medical Center, Division of Reproductive Endocrinology, "Reproductive options for couples living with HIV Disease"
- 2001 Invited Speaker, Brandeis University, Department of Biology, "Reproductive concerns and sexually transmitted diseases"
- 2002 Invited Speaker, Department of Medicine, Travis Hospital, "Stem Cells and their potential therapeutic uses"
- 2002 Invited Speaker, Department of Obstetrics and Gynecology, University of Virginia School of Medicine "Risks of Sexual Transmission of HIV disease"
- 2002 Invited Speaker, Brandeis University, Department of Biology, "Reproductive concerns and sexually transmitted diseases"
- 2002 Keynote Address,: Fourth International Conference on Transgenic Animals, Shanghai, China "Human Embryonic Stem Cells: The Present and the Future"
- 2003 Invited Dinner Speaker, Society for Women's Health, Winston-Salem, North Carolina, "Human Eggs for Stem Cell Research"
- 2003 Keynote Address, Endocrinology and Reproductive Biology Program Annual Symposium, University of Wisconsin, Madison, WI: "Stem Cells to Gametes: The Cycle of Life"

2003	Invited Speaker, Grand Rounds, Department of Obstetrics and Gynecology, University of South Carolina School of Medicine "Human Embryonic Stem Cells: The Present and the Future"
2003	Invited Speaker, Division of Infectious Diseases Teaching Conference, University of South Carolina School of Medicine, "Semen Transmission of HIV disease"
2004	Invited Speaker, Grand Rounds, Department of Obstetrics and Gynecology, "Human Embryonic Stem Cells: The Present and the Future" Cedars-Sinai Hospital, Los Angeles, CA, July
2004	Invited Speaker, Grand Rounds, Department of Internal Medicine, "Human Embryonic Stem Cells: The Present and the Future" Methodist Hospital, Los Angeles, CA, July
2005	Invited Faculty, Organon Experts Meeting, "Human Pluripotent Stem Cells, the Present and the Future"
2005	Invited Faculty, Meharry Medical College Symposium, "Sexual Transmission of HIV has Changed the World "
2005	Keynote Speaker, James Symposium, "Human Pluripotent Stem Cells: the Present and the Future" Meharry Medical College
2005	Peter Kiewitt Distinguished Lectureship in Medicine, "Human Pluripotent Stem Cells: the Present and the Future" Eisenhower Medical Center, Rancho Mirage, CA
2006	Keynote Speaker, "Stem Cell Research, the Present and the Future," American Association of Bioanalysts
2006	Invited Faculty, British Andrology Society Annual Meeting, Leeds, England, " Endogenous Retrovirus Expression in Testis and Epididymis"
2007	Invited speaker, "Semen is infected with HIV from multiple reservoirs variably controlled by therapy," California Fertility Partners, Los Angeles California
2007	Invited speaker, "The Latest in Stem Cell Research," Day of Hope for Diabetes Conference, Eisenhower Medical Center, Rancho Mirage, CA
2007	Invited speaker, New England Association of Reproductive Biologists, "Risks and Management during ART of Couples living with Sexually Transmitted Viruses", Waltham, MA
2007	Invited Panelist, "HIV and Social Activism," National Association for the Advancement of Women in Science, Harvard University

Original Reports

1. Weber GH, Kiessling AA, Beaudreau GS. DNA polymerase activity associated with strain MC29 tumor virus. *J Virol.* 1971; 7:214-20.
2. Kiessling AA, Weber GH, Deeney AO, Possehl EA, Beaudreau GS. DNA polymerase activity associated with a plasma particulate fraction from a patient with CLL. *J Virol.* 1971; 17:221-6.
3. Weber GH, Kiessling AA, Beaudreau GS. DNA polymerase activity in homogenates of cells infected with MC29 virus. *Biochem Biophys Res Commun.* 1971; 6:993-9.
4. Kiessling AA, Deeney AO, Beaudreau GS. DNA and RNA from AMV as templates for viral DNA polymerase. *Fed Eur Bio Soc Lett.* 1972; 20:57-60.

5. Kiessling AA, Neiman PE. RNA tumor virus DNA polymerase: activity with exogenous primers. *Biochim Biophys Acta* 1972; 272:147-55.
6. Kiessling AA, Goulian M. A comparison of the enzymatic responses of the DNA polymerases from four RNA tumor viruses. *Biochem Biophys Res Commun.* 1976; 71:1069-77.
7. Kiessling AA, Goulian M. Detection of reverse transcriptase activity in human cells. *Cancer Res.* 1979; 39:2062-9.
8. Kiessling AA, Weitlauf HM. DNA polymerase activity in preimplantation mouse embryos. *J Exp Zool.* 1979; 208:347-54.
9. Weitlauf HM, Kiessling AA, Buschman R. Comparison of DNA polymerase activity and cell division in normal and delayed-implanting mouse embryos. *J Exp Zool.* 1979; 209:467-72.
10. Weitlauf HM, Kiessling AA. Comparison of overall rates of RNA synthesis in implanting and delayed implanting mouse blastocysts in vitro. *Dev Biol.* 1980; 77:116-29.
11. Kiessling AA, Weitlauf HM. Poly(A):oligo(dT)-stimulated DNA polymerase activity in preimplantation mouse embryos. *J Exp Zool.* 1981; 215:117-20.
12. Weitlauf HM, Kiessling AA. Activation of 'delayed implanting' mouse embryos in vitro *J. Reprod Fertil.* 1981; 29:191-202.
13. Ruta M, Bestwick R, Kiessling AA, Faust C, Linemeyer D, Scolnick E, Kabat D. Genetic structure of Rauscher spleen focus forming virus. *J Virol.* 45:1217-22.
14. Kiessling AA. Evidence that reverse transcriptase is a component of murine epididymal fluid. *Proc Soc Exp Biol Med.* 1984; 176:175-82.
15. Kiessling AA, Hughes WH, Blankevoort MR. Superovulation and embryo transfer in the dairy goat. *J Am Vet Med Assoc.* 1986; 188:829-32.
16. Loutradis D, John D, Kiessling AA. Hypoxanthine causes a 2-cell block in random bred mouse embryos. *Biology Reproduction.* 1987; 37:311-316.
17. Goldman DS, Kiessling AA, Millette CF, Cooper GM. Expression of c-mos RNA in germ cells of male and female mice. *Proc Natl Acad Sci USA* 1987; 84:4509-4513.
18. Kiessling AA, Crowell RC, Connell RS. Sperm-associated retroviruses in the mouse epididymis. *Proc Natl Acad Sci USA.* 1987; 84:8667-8671.
19. John D, Kiessling AA. Improved Pronuclear Mouse embryo development over an extended pH range in Ham's F-10 Medium without protein. *Fertil and Steril.* 1988; 49:150-155.
20. Patton PE, Burry KA, Wolf DP, Kiessling AA, and Craemer MJ. The use of oral Contraceptives to regulate oocyte retrieval. *Fertil and Steril.* 1988; 49:716-718.
21. Han H-D, Kiessling AA. In vivo development of transferred mouse embryos conceived in vitro in simple and complex media. *Fertil. and Steril.* 1988; 50:159-163.

22. Montgomery V, Loutradis D, Tulchinski D, Kiessling AA. Follicle stimulating hormone-induced ovulation in intact and hypophysectomized female mice. *J Repro and Fertil.* 1988; 84:1-6.
23. Goldman D, Kiessling AA, Cooper G. Post-transcriptional processing suggests that *cmos* functions as a maternal message in mouse eggs. *Oncogene* 1988; 3:159-163.
24. Trune DR, and Kiessling AA. Decreased protein synthesis in cochlear nucleus following developmental auditory deprivation. *Hearing Research* 1988; 35:259-264.
25. Borzy MS, Connell RS, Kiessling AA. Detection of HIV in cell free seminal fluid. *J Acquired Immune Def Synd.* 1988; 1:419-424.
26. Jackson KV, and Kiessling AA. Fertilization and cleavage of mouse oocytes exposed to the conditions of human oocyte retrieval for in vitro fertilization. *Fertil and Steril.* 1989; 51:675-681.
27. Kiessling AA, Crowell RC, Fox C. Epididymis is a principal site of retroviral expression in the mouse. *Proc Nat'l Acad Sci.* 1989; 86:5109-5113.
28. O'Keefe SJ, Wolfes H, Kiessling AA and Cooper GM. Microinjection of Antisense *c-mos* Oligonucleotides Prevents Meiosis II in the Maturing Mouse Egg. *Proc Nat'l Acad Sci.* 1989; 86:7038-7042.
29. Fissore R, Jackson KV and Kiessling AA. Mouse Zygote Development in Medium without Protein in Presence of Ethylenediaminetetraacetic Acid. *Biol of Repro.* 1989; 41:835-841 .
30. Nureddin A, Epsaro E and Kiessling AA. Purines Inhibit the Development of Mouse Embryos In Vitro. *J. Repro. and Fertil.* 1990; 90: 455-464.
31. Mehta T and Kiessling, AA. Developmental Potential of Mouse Embryos conceived in vitro and Cultured in Ethylenediaminetetraacetic Acid with or without Amino Acids or Serum. *Biol. of Reproduction* 1990; 43:600-606.
32. O'Keefe SA, Kiessling AA , and Cooper GM. The *cmos* gene product is required for cyclin b accumulation during meiosis of mouse egg. *Proc. Nat'l Acad. Sci.* 1991 88:7869-7872.
33. Pal, SA, SS Zinkel, AA Kiessling and GM Cooper. *c-mos* Expression in Mouse Oocytes is Controlled by Initiator-Related Sequences Immediately Downstream of the Transcription Initiation Site. 1991. *Molec. and Cell. Biol.* 11: 5190-5196.
34. Lawitts JA, Butler JE, Kiessling AA and Biggers JD. Growth and DNA Replication in Rabbit Blastocysts. *Molec. Reproduction and Dev.* 1991; 30:320-329.
35. Kiessling AA, Davis HW, Williams CS, Sauter RW, Harrison LW. Development and DNA Polymerase Activities in Cultured Preimplantation Mouse Embryos: Comparison with Embryos Developed In Vivo. *J Exper Zool.* 1991;258:34-47.
36. Fissore R, O'Keefe S, Kiessling AA. The Purine-Induced Block to Mouse Embryo Cleavage is Reversed by Compounds that Elevate Cyclic-Adenosine Monophosphate. *Biol. Reprod.* 1992;47:1105-1112.

37. Loutradis D, Kallianidis K, Drakakis P, Michalas S, Milingos S, Bletsas R, Aravantinos L, Creatsas G, Kiessling AA. Successful pregnancy in human IVF using BSA as a protein source in the transfer medium. 1992. ARTA 3: 233-238.
38. Pal SK, Crowell RC, Kiessling AA, Cooper GM. Expression of proto-oncogenes in mouse eggs and preimplantation embryos. Mol Reprod Dev. 1993;35:8-15.
39. Kiessling AA, Crowell RC, Brettler D, Forsberg A, Wolf B. HIV detection and differential leukocyte counts are accurate and safer with formaldehyde-fixed blood. Blood 1993;81:864-865.
40. Kiessling AA, Yin HZ, Purohit A, Kowal M, Wolf B. Formaldehyde-fixed semen is suitable and safer for leukocyte detection and DNA amplification. Fertil Steril. 1993;60:576-581.
41. Fitzgerald LM, Yin H, Kiessling AA. PCR amplification of HIV and cellular DNA sequences in formaldehyde-fixed, immunoreactive peripheral white blood cells. BioTechniques. 1993;15:128-133.
42. Mehta TS, Kiessling AA. The developmental potential of mouse embryos conceived in Ham's F-10 medium containing ethylenediaminetetraacetic acid. Fertil Steril. 1993;60:1088-1093.
43. Loutradis D, Kiessling AA, Kallianidis K, Siskos K, Creatsas G, Michalas S, Aravantinos D. A preliminary trial of human zygote culture in Ham's F-10 without hypoxanthine. J Assist Reprod Genet. 1993;10:271-275.
44. Pal SK, Torry D, Serta R, Crowell RC, Seibel MM, Cooper GM, Kiessling AA. Expression and potential function of the c-mos protooncogene in human eggs. Fertil Steril. 1994;61:496-503.
45. Yamauchi N, Kiessling AA, Cooper GM. The Ras/Raf signaling pathway is required for progression of mouse embryos through the two cell stage. Molecular and Cellular Biology 1994; 10: 6655-6662.
46. Loutradis D, Drakakis P, Michalas S, Hatzaki C, Kallianidis K, Aravantinos D and Kiessling AA. The effect of compounds altering the cAMP level on reversing the 2-cell block induced by hypoxanthine in mouse embryos in vitro. Euro J Ob Gyn Reprod Biol. 1995 (In Press).
47. Seibel MM, Kearnan M, Kiessling AA. Parameters predicting success for natural cycle IVF. Fertil Steril. 1995; 63: 1251-4.
48. Kiessling AA, Lamparelli N, Yin H-Z, Seibel MM, Eyre RC. Semen leukocytes: Friends or Foes? Fertil Steril. 1995; 64: 195-197.
49. Serta RS, Michalopoulos J, Seibel MM and Kiessling AA. Developmental potential of mouse oocytes matured in serum free culture. Human Reproduction. 1995; 10: 1810-1815.
50. Drakakis P, Loutradis D, Milingos S, Michalas S, Kallianidis K, Bletsas R, Aravantinos D and Kiessling AA. A preliminary study of the effect of growth

- hormone on mouse preimplantation embryo development in vitro. *Gynecol Obstet Invest* 1995; 40: 222-226.
51. Kiessling AA, Michalopoulos J and Serta R. Immature oocyte development. *Human Reproduction*. 1996, 11:2336.
 52. Pierce, K, Kiessling AA, Fitzgerald LM, Silberstein M, Seibel, M. An improved method of preimplantation embryo biopsy" *Human Reproduction*. 1997, 13:1889.
 53. Byrn RA, Zhang D, Eyre R, McGowan K, Kiessling AA. HIV-1 in semen: an isolated virus reservoir. *The Lancet*. 1997; 350: 1141.
 54. Kiessling AA, Zhang D, Chhay H, Fitzgerald LI, Brettler D, Eyre RC, Steinberg J, McGowan K Byrn RA. Human Immunodeficiency Virus in semen arises from a genetically distinct virus reservoir. *AIDS Research and Human Retroviruses* 1998, 14: 33-41.
 55. Byrn RA and Kiessling AA. Analysis of HIV in semen: indications of a genetically distinct virus reservoir. *J. of Reproductive Immunology*, 1998, 14: 161-176.
 56. Kiessling AA. Expression of HIV LTR-coupled genes in early cleaving embryos. *Journal of Reproductive Immunology*, 1998, 41: 95-104.
 57. Eyre RC, Yin H-Z and Kiessling, AA. Prostate specific antigen is detectable in formalin-fixed semen. *British Journal of Urology*. 1999, 83: 622-688.
 58. Eyre RC, Zheng G and AA Kiessling. Multiple drug resistance mutations in human immunodeficiency virus in semen but not blood of a man on antiretroviral therapy. *Urology*. 2000, 55: 591-594.
 59. Kiessling AA and S Markoulaki. Interaction of gametes with exogenous genes: possible opportunities for incorporation into embryonic genome. *Molecular Reproduction and Development*. 2000, 56: 271-274.
 60. Cibelli JB, AA Kiessling, K Cunniff, C Richards, RP Lanza, MD West. Somatic Cell Nuclear Transfer in Humans: Pronuclear and Early Embryonic Development. *J of Regenerative Medicine* 2001, 2: 25-31.
 61. Okamoto M, R. Byrn, RC Eyre, T Mullen, P Church and AA Kiessling. Seminal plasma induces programmed cell death in cultured peripheral blood mononuclear cells. *AIDS Research and Human Retroviruses*, 2002, 18: 797-803.
 62. Green RM, DeVries KP, Bernstein J, Goodman KW, Kaufmann R, Kiessling AA, Levin SR, Moss SL, Tauer CA. Overseeing research on therapeutic cloning: a private ethics board responds to its critics. *Hastings Center Report*, 2002, 32: 27-33.
 63. Mullen T, Kiessling RL, Kiessling AA. Distinct populations of leukocytes in semen producing organs of the normal, hemicastrated and vasectomized mouse. *AIDS Research and Human Retroviruses*, 2003, 19: 235-243.
 64. Crowell RC, and Kiessling, AA. Endogenous retrovirus expression in testis and epididymis. *British Society Transactions* 2007 (In Press).

65. Kiessling, AA, Desmarais, B, Yin, H-Z, Loverde, J, Eyre, RC Detection and identification of bacterial DNA in semen. *Fertility and Sterility* (In Press)
66. Polak de Fried E, Ross P, Zeng G, Divita A, Cunniff K, Denaday F, Solamone D, Kiessling A, Cibelli J. Parthenogenetic blastocysts from frozen oocytes (In press, *Fertility and Sterility*)
67. Kiessling, AA, Neville, N, Desmarais, B, Dunfee, R, Mullen, T, Chiavegato, D, Loverde J. CEM15-induced mutations may contribute to HIV-1 disease progression and resistance to anti-retroviral therapy (Submitted)
68. Fitzgerald LM, Newmark J, Warner C, Spadafora C, Kiessling AA. MERV-L Expression in Mouse Embryonic Stem Cells (submitted)

Reviews, Books, Monographs

1. Weitlauf HM, Kiessling AA. Activity of RNA and DNA polymerases in delayed implanting mouse embryos. In: Glasser SR, Bullock DW, eds. *Cellular and molecular aspects of implantation*. New York: Plenum Publishing Co., 1981:125-36.
2. Kiessling AA, Blankevoort M. Effect of low temperature storage on the viability of transferred goat embryos. *Dairy Goat J.* 1981; 59:58-60.
3. Kiessling AA, Blankevoort M. Embryo transplants. *Dairy Goat J.* 1983; 61:96-8.
4. Blankevoort M, Kiessling AA, Skinner N. Success of direct and delayed transfer of goat embryos. *Dairy Goat J.* 1983; 61:1019-21.
6. Cooper GM, Goldman DS, Kiessling AA, and Millette CF. The Expression of Oncogenes in Germ Cells. In: Haseltine F, ed. *Meiotic Inhibition: Molecular Control of Meiosis*. New York: Alan R. Liss, Inc. 1988:275-289.
7. Kiessling AA, Loutradis D, McShane PM, and Jackson KV. Fertilization in Trypsin-treated oocytes. In: *In Vitro Fertilization and other Assisted Reproduction*, Annals of The New York Academy of Sciences. 1988; 541:614-620.
8. Kiessling AA, and Cooper GM. The Expression of Oncogenes in Mammalian Embryogenesis. In: Rosenblum IY, and Heyner S. Chapter in *Regulation of Growth and Development*, CRC Press. 1989.
9. Kiessling AA. Retroviruses and Reproduction. *Fertil and Steril.* 1989. 51:756-758.
10. Kiessling AA. The Role of Assisted Reproductive Technologies in Yielding HIV-Free Offspring of HIV-Infected Parents. In: Mellica F, ed. *AIDS and Human Reproduction*, S. Karger AG, Basel Switzerland. 1992:139-144.
11. Kiessling AA. Semen transmission of human immunodeficiency virus. Letter, *Fertil Steril.* 1992;58:667-669.
12. Kiessling AA. HIV in semen. Letter, *JAMA.* 1992;268:2651.
13. Kiessling AA. Detection of human immunodeficiency virus in blood or semen by polymerase chain reaction. Reply, *Fertil Steril.* 1993;59:1143-1144.

14. Seibel MM, Kiessling AA. Compensating egg donors: equal pay for equal time? *Letter, New Engl J Med.* 1993;328:737.
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