

CURRICULUM VITAE

MARLANE JEAN ANGLE, Ph.D., HCLD

PRESENT APPOINTMENT: Laboratory Director
BUSINESS ADDRESS: UAMS Fertility Center
5800 West 10th Street
Little Rock, AR 72204
BUSINESS PHONE NUMBER: (501) 296 1745 x 1233
HOME ADDRESS: 26 Plantation Acres Dr
Little Rock, AR 72210
CELL NUMBER: (206) 607 7797
PLACE OF BIRTH: US

EDUCATION:

1976 B.S. Montana State University at Billings, Major in Biology,
Minor in Chemistry/Math.
1979 M.S. University of Idaho, Major in Zoology
Thesis Title: *The Source of Progesterone in the
Preimplantation Rabbit Embryo.*
1983 Ph.D. Auburn University, Major in Reproductive Physiology
Dissertation Title: *Immunosuppressive Factors in
Seminal Plasma: Specific Inhibition of Canine
Polymorphonuclear Leukocyte Phagocytosis and
Chemiluminescence.*

PROFESSIONAL TRAINING, POSITIONS AND APPOINTMENTS:

April 2007-present **Adjunct Faculty**, Eastern Virginia Medical School and Jones
Institute; MS program in Clinical Embryology
July 2006-present **Director**, UAMS Fertility Center Laboratories,
Associate Professor, Department of Ob/Gyn,
University of Arkansas for Medical Sciences, Little Rock, AR
2003-present **Guest Faculty**, University of Kentucky, Division of Clinical Lab-
oratory Sciences.
2005-present **Embryologist/Consultant**, Irvine Scientific, Santa
Ana, CA
1992-2005 **Director**, Fertility Laboratories, Fertility and Reproductive
Endocrine Center, Virginia Mason Medical Center, Seattle, WA.
1997-Present College of American Pathologists inspector.
1990-1992 **Director**, IVF Laboratories, Fertility Center, Las Vegas, NV.
1988-1990 **Co-Director**, IVF Program, and **Assistant Research Professor**,
Department of OB/GYN and Reproductive Sciences, University of
California, San Francisco, San Francisco, Ca.

- 1985-1988 **Postdoctoral Fellow**, Green Center for Reproductive Biology Sciences, The University of Texas Southwestern Medical School, Dallas, TX.
- 1983-1985 **Postdoctoral Fellow**, Department of Pathology, The University of Texas Health Science Center at San Antonio, San Antonio, TX.
- 1979-1980 **Research Associate**, Wild Horse Project, Department of Biological Sciences, Eastern Montana College, Billings, MT.
- 1975 **Research Assistant**, Biological and Medical Division, Argonne National Laboratories, Argonne, IL.

TEACHING EXPERIENCE:

- 2007-present **Adjunct Faculty**, Eastern Virginia Medical School and Jones Institute; MS program in Clinical Embryology
- 2005-Present **Workshops on Embryo and Oocyte Vitrification**
International:
Copenhagen, Denmark; Toronto, Canada; Athens, Greece;
Barcelona, Spain; Tel Aviv, Israel; London, UK; Brussels,
Belgium; Guadalajara, Mexico; Catania, Naples, Pisa, L'Aquila,
Milan, Florence, and Bologna, Italy; Prague, Czech Republic
Domestic:
Atlanta, Boston, Chicago, Charlotte, Dallas, Farmington, Irvine,
Little Rock, Madison, Newark, Norfolk, Orlando, Philadelphia,
Pittsburg, Portland, Providence, San Francisco, Tampa.
- Laboratory Media QC Workshops/Lectures**
Eastern Virginia Medical School
Birmingham Woman's Hospital, Birmingham, England
Endoscopikia, Athens, Greece
- 2003-present **Guest Faculty**, University of Kentucky, Department of Clinical Laboratory Sciences.
- 2000-2003 **Developer and Leader**, Stress Management Classes, Fertility Center, VMMC.
- 2003 **Teaching Assistant**, Fiction Course, University of Washington.
- 1980-1983 **Graduate Teaching Assistant**, Veterinary Physiology, Auburn University.
- 1980 **Instructor**, Microbiology, Department of Biological Sciences, Eastern Montana College.
- 1979-1980 **Instructor**, Anatomy and Physiology, Department of Radiology, Saint Vincent's Hospital, Billings, MT.
- 1976-1978 **Teaching Assistant**, Biology for Non-majors and Biology for Majors, Department of Biological Sciences, University of Idaho.

INVITED SPEAKER:

1. Second European Congress on Prostaglandins in Reproduction. April 30-May 3, 1991, The Hague, The Netherlands. *Modulation of gamete development and function by platelet-activating factor.*

2. RESOLVE Infertility Conference, March 1993, Seattle, WA. From Egg to Embryo: *What Happens in the IVF Laboratory?*
3. RESOLVE Infertility Conference, March 1994, Seattle, WA. From Egg to Embryo: *What Happens in the IVF Laboratory?*
4. RESOLVE Infertility Conference, March 1995, Seattle, WA. *New developments in the IVF Laboratory.*
5. RESOLVE Infertility Conference, March 1996, Seattle, WA. From Egg to Embryo: *What Happens in the IVF Laboratory?*
6. Northwest IVF Nurses Association, April 1999, Seattle, WA. *What's new in the IVF Laboratory?*
7. RESOLVE Infertility Conference, March 2003, Seattle, WA. *The Mind/Body Connection and Fertility.*
8. Guest Faculty, University of Kentucky Division of Clinical Laboratory Sciences, *Embryology Training Course.*
9. ASRM Postgraduate Course, October 2005, Montreal, Canada. *Why use only one sequential media system?*
10. Genetics and Cryobiology Workshop, November 11-12, 2005. University of Kentucky. *Vitrification.*
11. New York Fertility Society, New York, New York, February 2006. *IVF Laboratory QC.*
12. Embryology Summit, Madison, Wisconsin, May, 2006, University of Wisconsin. *Vitrification of Human Oocytes.*
13. Embryology Course, AAB, Santa Ana, May 2006, Organizer and speaker. *IVF Media QC.*
14. Guest lecturer, May 2007, Jones Institute, Eastern Virginia Medical School, Norfolk, VA, *Media pH and Temperature QC in an IVF Laboratory.*
15. Guest lecture, May 2007 Jones Institute, Eastern Virginia Medical School, Norfolk, VA, *Vitrification.*

SOCIETY MEMBERSHIPS:

American Society for Reproductive Medicine

Electronic Communication Committee 2005-2007

Task Force Chair, Development of CME Modules for
Laboratory Education

Society for Assisted Reproductive Technology

Task Force, Development of Regional Postgraduate
Courses

Reproductive Biology Professional Group

Membership Chair 1994-1998

Abstract Committee 2007

Reproductive Laboratory Professional Group

Information Officer 2002-2003

Program Officer 2003-2004

Vice Chair 2005

Chair 2006

Women's Council

Member at Large 1998-1999

American Society of Andrology
Pacific Coast Fertility Society
ART Northwest
Society for the Study of Reproduction
Northern California Association Reproductive Biologist
Secretary 1989

CERTIFICATIONS, AWARDS, HONORS

2003 Certificate of Completion, Publishing Fiction Course, University of Washington Extension Program.
2002 Certificate of Completion, Fiction Writing Course, UW Extension Program.
1998 Certificate of Completion, Nonfiction Editing, University of San Francisco Extension Program.
1995 Certified, High Complexity Laboratory Director, American Board of Bioanalysts.
1990 Serono Award, Pacific Coast Fertility Society Annual Meeting
1987 Chilton Fellow, Green Center, Southwestern Medical Center
1986 Welch Foundation Fellow, Green Center, Southwestern Med. Ctr.
1986 NIH Postdoctoral Fellow, PHS Institutional Training Grant
1984 Phi Kappa Phi Graduate National Honor Society
1984 NIH Postdoctoral Fellow, PHS Institutional Training Grant
1981 Graduate Student Council Representative
1975 Undergraduate Honors Research Program, Argonne National Laboratories

GRANTS:

1989 Research Evaluation and Allocation Committee, UCSF: The role of Platelet Activating Factor in normal and abnormal sperm function; \$9,940.
1978 University of Idaho Research Council: The source of progesterone in the preimplantation rabbit embryo; \$6,000.

PUBLICATIONS

Scientific papers:

1. Kirkpatrick JF, Wiesner L, Baker CB, **Angle M** (1977) Diurnal variation of plasma corticoids in the wild horse stallion. *Comp Biochem Physiol* 57A:179-181.
2. Rutledge JT, **Angle M** (1977) Persistence of circadian activity rhythms in pinealectomized European starlings (*Sturnus vulgaris*). *J Exp Zool* 202:333-338.
3. **Angle M**, Mead RA (1979) The source of progesterone in preimplantation rabbit blastocysts. *Steroids* 33:623-637.

4. **Angle MJ**, Swaim S, Turner JW, Kenney RM, Ganjam VK and Kirkpatrick JF (1979) Androgens in feral stallions. In: *Symposium on the Ecology and Behavior of Wild and Feral Equids*, pp. 31-38.
5. **Angle MJ**, Klesius PH (1983) Luminol-dependent chemiluminescence analysis of the phagocytic response by canine granulocytes. *Vet Immunol Immunopathol* 4:333-344.
6. **Angle MJ**, McManus LM, Pinckard RN (1986) Age-dependent differential development of leukotactic and vasoactive responsiveness to acute inflammatory mediators. *Lab Invest* 55:616-621.
7. **Angle MJ**, Pinckard RN, McManus LM (1987) Ontogeny of physiologic responsiveness to intravenous infusion of acetyl glyceryl ether phosphoryl choline (AGEPC) in the rabbit. *Lab Invest* 57:321-328.
8. **Angle MJ**, Jones MA, Pinckard RN, McManus LM, Harper MJK (1988) Platelet-activating factor in the rabbit uterus during early pregnancy. *J Reprod Fertil* 83:711-722.
9. Hoffman DR, White RG, **Angle MJ**, Maki N, Johnston JM (1988) Platelet-activating factor induces glycogen degradation in fetal rabbit lung in utero. *J Biol Chem* 263:9316-9319.
10. **Angle, MJ**, Paltauf F, Johnston JM (1988) Selective hydrolysis of 1-O-alkyl-2-arachidonoyl-glycerophospholipids by phospholipase A₂ in rabbit fetal lung. *Biochem Biophys Acta* 962:234-240.
11. Punjabi U, Vereecken A, Delbeke L, **Angle MJ**, Gielis M, Depestel Ch, Peeters K, Gerris J, Baytaert Ph, Johnston JM (1990) Assessment of embryo quality and viability through embryo-derived platelet activating factor. *J Vitro Fert Embryo Transfer* 7:321-326.
12. Rabinovici J, Dandekar P, **Angle MJ**, Rosenthal S, Martin MC (1990) Insulin-like growth factor-1 (IGF-1) levels in follicular fluid from human preovulatory follicles: correlation with serum IGF-1 levels. *Fertil Steril* 54:428-433.
13. **Angle MJ**, Tom R, Khoo D, McClure RD (1991) Platelet activating factor (PAF) in sperm from fertile and subfertile men. *Fertil Steril* 56:314-318.
14. Rabinovici J, **Angle MJ** (1991) Platelet-activating factor (PAF) induces progesterone secretion and changes in morphological appearance in human luteinized granulosa cells in vitro. *Fertil Steril* 55:1106-1112.
15. **Angle MJ**, Tom R, Jarvi K, McClure RD (1993) Effect of platelet-activating factor (PAF) on human spermatozoa-oocyte interactions. *J Reprod Fertil* 98:541-548.
16. Letterie GS, Marshall L, **Angle M**. (1999) A new coaxial catheter system with an echodense tip for ultrasonographically guided embryo transfer. [Clinical Trial. Journal Article] *Fertility & Sterility*. 72(2):266-8.
17. Letterie, GS, Marshall L, **Angle M** (2003) Impact of intrauterine reflux of media during cervical irrigation at embryo transfer. *Fertil Steril*. 79:1444-1446.
18. **Angle, M** (2006) Using Two Concurrent Media Systems Improves Pregnancy Outcomes, *Clinical Embryologist*, Volume 9, Issue 1, Spring

Book Chapters:

1. **Angle MJ**, Maki N, Johnston JM (1989) Bioactive metabolites of glycerophospholipid metabolism in relation to parturition. In: *Workshop of Cellular and Integrative Mechanisms in the Onset of Labor: What are the Research Priorities?* (D McNellis J Challis, P MacDonald, P Nathanielsz, J Roberts, eds) Perinatology Press (Ithaca, NY), pp. 125-138.
2. Johnston JM, Maki N, **Angle MJ**, Hoffman DR (1990) Regulation of the arachidonic acid cascade and PAF metabolism in reproductive tissues. In: *Eicosanoids in Reproduction*. (MJ Mitchell, ed) CRC Press, Inc (Boston), pp 5-37.
3. **Angle MJ**, Johnston JM (1990) Fetal membranes in the initiation of human parturition. In: *The Cellular Basis of Uterine Function* (M Carsten, ed) Plenum Press (New York).
4. **Angle MJ**, Tom R, Morse K, Marshall L, Letterie G (1997) Correlation between elevated levels of single-stranded DNA in inseminating sperm population and failure to conceive during ICSI. In: *In Vitro Fertilization and Assisted Reproduction: Proceeding of the 10th World Congress of In Vitro Fertilization and Assisted Reproduction*. (V Gomel and PCK Leung, eds) Monduzzi Editore (Bologna, Italy) pg 575-579.
5. Letterie G, **Angle M**, Marshall L (1997) Beneficial effect of assisted hatching for poor prognosis alone and in conjunction with intracytoplasmic sperm injection for both poor prognosis and severe male factor candidates. In: *In Vitro Fertilization and Assisted Reproduction: Proceeding of the 10th World Congress of In Vitro Fertilization and Assisted Reproduction*. (V Gomel and PCK Leung, eds) Monduzzi Editore (Bologna, Italy) pg 695-697.

Abstracts:

1. Young DW, **Angle MJ**, Ganjam VK (1981) 5-Alpha reductase in rat caput epididymis maintained in culture. *Ala Acad Sci* 52:113.
2. **Angle MJ**, Klesius PH (1983) Antiphagocytic factor in seminal plasma: Suppression of neutrophil phagocytosis of sperm. *Animal Disease Workers Annual Meeting*, Abstract 69.
3. **Angle MJ**, McManus LM, Pinckard RN (1985) Depressed physiologic responsiveness to acetyl glyceryl ether phosphorylcholine in the neonatal rabbit. *Fed Proc* 44: 7440.
4. **Angle, MJ**, Jones MA, Pinckard RN, McManus LM, Harper MJK (1985) Platelet-activating factor (PAF) in the rabbit uterus during early pregnancy. *Biol Reprod Supp 1* 32:143.
5. **Angle MJ**, Pinckard RN, McManus LM (1985) Age-dependent development of cutaneous vascular responsiveness to inflammatory autacoids. *New Horizons in Platelet Activating Factor Research*, October, 1985.
6. **Angle MJ**, Johnston JM (1986) Phospholipase A₂: Calcium-dependent production of 1-alkyl-2-lysoglycerophosphocholine. *Second International Conference on Platelet Activating Factor and Structurally Related Alkyl Ether Lipids*. pp 47.

7. **Angle MJ**, Paultauf F, Johnston JM (1988) Selective hydrolysis of alkyl-arachidonoyl-glycerophospholipids by phospholipase A₂ (PLA₂) in rabbit lung. *FASEB Journal* 2:A543.
8. Hoffman DR, White RG, **Angle MJ**, Maki N, Johnston JM (1988) Induction of glycogenolysis in fetal rabbit lung by platelet-activating factor. *FASEB Journal* 2 A:1377.
9. **Angle MJ**, Byrd W, Johnston JM (1988) Embryonic production of platelet activating factor in culture. *American Fertility Society 44th Annual Mtg.* Abst P-158.
10. **Angle MJ**, Librach CL, Tom R, McClure D (1989) The effect of platelet activating factor on sperm-mucus interactions. *American Fertility Society, 45th Annual Mtg.* Abst P-091 pp. S98.
11. **Angle MJ**, Tom RA, McClure RD (1989) The effect of platelet activating factor on sperm-egg interactions. *American Fertility Society, 45th Annual Mtg.* pp S46.
12. Tom RA, McClure RD, Nunes L, Dandekar P, Martin M, Glass R, **Angle MJ** (1989) Improving the prognostic value of the SPA. *American Fertility Society 45th Annual Mtg.* pp S30.
13. Punjabi U, Vereecken A, Delbeke L, **Angle MJ**, Gielis M, Depestel CH, Peeters K, Gerris J, Bayaert Ph (1989) Assessment of embryo quality and viability through embryo-derived platelet activating factor. *VI World Congress In Vitro Fertilization and Alternate Assisted Reproduction.* pp 42.
14. Rabinovici J, **Angle MJ**, Jaffe RB (1990) Platelet activating factor (PAF) induces progesterone secretion and changes in morphological appearance in human luteinized granulosa cells in vitro. *Soc Gynecol Investigation Annual Meeting.*
15. **Angle MJ**, Tom RA, Jarvi K, McClure RD (1990) PAF enhancement of the acrosome reaction and hamster egg penetration by human sperm: modulation by calcium. *The American Fertility Society 46th Annual Mtg.,* pp S33.
16. Tom RA, **Angle MJ**, McClure RD (1991) Trypsin inhibitors prevent platelet activating factor (PAF) induced acrosome reaction (AR) in the human sperm. *The American Fertility Society, 47th Annual Meeting* pp S98.
17. McClure RD, **Angle MJ**, Letterie GS, Marshall LA. (1995) New hope for severe male factor infertility: intracytoplasmic sperm injection (ICSI). Western Section American Urological Association.
18. Letterie GS, Marshall LA, Matteri RK, **Angle MJ** (1997) Ovarian Response vs Age as a Predictor of Success in Iv Vitro Fertilization (IVF). *The American Fertility Society, 53rd Annual Meeting. Fertil. Steril. 67 (Supplement 1)* p S211-212.
19. Letterie GS, Marshall LA, Matteri RK, **Angle MJ** (1997) A "Coasting Period to Prevent Ovarian Hyperstimulation Syndrome (OHSS) in At Risk Hyperstimulated Cycles for In Vitro Fertilization (IVF). *The American Fertility Society, 53rd Annual Meeting. Fertil. Steril. (Supplement 1)* p S212.
20. Letterie GS, Marshall LA, Matteri RK, **Angle MJ** (1997) Gestational Sac Discrepancy as a Predictor of Outcome in Twin Pregnancies after In Vitro Fertilization (IVF). *The American Fertility Society, 53rd Annual Meeting. Fertil. Steril. (Supplement 1)* p S212-213.

21. Letterie GS, Marshall L, **Angle M**, McClure D. (1998) Relationship of serum estradiol concentrations to multiple pregnancies after in vitro fertilization. Pacific Coast Fertility Society, Indian Wells, CA.
22. Letterie GS, Marshall L, **Angle M** (1998) A new coaxial catheter system with an echodense tip for ultrasound-guided embryo transfer. 16th World Congress on Fertility and Sterility and 54th Annual Meeting of the American Society for Reproductive Medicine, San Francisco, CA.
23. Letterie GS, Marshall LA, **Angle M** (1999) Prediction of multiple pregnancy using serum estradiol during in vitro fertilization. Pacific Coast Fertility Society, Los Angeles.
24. Letterie GS, Marshall L, **Angle M** (2000) Selection criteria for identifying embryos with a high probability of progressing to blastocyst formation, pregnancy and implantation. *Fertil Steril.* 73 (Supplement 1), p S12-13
25. Letterie GS, Marshall L, **Angle M** (2000) Does blastocyst transfer really impact clinical outcome? *Fertil Steril.* 73 (Supplement 1), p S12.
26. Marshall L, Letterie GS, **Angle M**, McClure RD (2000) Does the introduction of a blastocyst transfer decrease the efficiency of an ovum donor program? *Fertil. Steril.* 73 (Supplement 1), p S19
27. Letterie GS, Marshall L, **Angle M** (2001) Impact of intrauterine reflux of media during cervical irrigation at embryo transfer. 57th Annual Meeting of the American Society for Reproductive Medicine, Orlando, FL.
28. Letterie GS, Marshall L, **Angle M** (2002) Influence of number of embryos transferred on rates of pregnancy and multiple gestation. 58th Annual Meeting of the American Society for Reproductive Medicine, Seattle, WA.
29. Letterie GS, Marshall L, **Angle M** (2003) What is the lower threshold of clinical response for donor cycle cancellation? Relationship of clinical response, oocyte number and success in donor cycles. 59th Annual Meeting of the American Society of Reproductive Medicine, San Antonio, Texas. *Fertil. Steril.* 80 (Suppl. 3) p 154-155.
30. **Angle, M**, Alibadi, J, Patrick C, Congdon J, Marshall L (2005) Simultaneous culture of embryos in two separate sequential media systems improves pregnancy outcomes. 61st Annual Meeting of the American Society of Reproductive Medicine, Montreal, Canada. *Fertil. Steril.* 84 (Supplement 1), p. S457-458.
31. **Angle M**, Hwan SF, Es-Slami S and Gilbert R (2006) Addition of Amino Acids (AA) to Early Cleavage Medium (ECMTM) Fails to Improve Mouse Embryo Development. 62nd Annual Meeting of the American Society of Reproductive Medicine, New Orleans, LA. *Fertil Steril.* 86 (Issue 3), p. S233
32. **Angle, M** (2007) Survival and Re-Expansion of Mouse Blastocysts following Vitriification in Two FDA-Approved Closed Devices with and without Assisted Shrinkage. Submitted to: ASRM, 63rd Annual Meeting, Washington, DC.