

THOMAS BURGESS POOL, Ph.D., HCLD

EDUCATION

<u>INSTITUTION</u>	<u>DEGREE</u>	<u>YEAR</u>
Sam Houston State University	B.S. (Agriculture)	1970
Sam Houston State University	M.A. (Biology)	1973
University of Virginia	Ph. D. (Biology)	1976
University of Texas Health Science Center at San Antonio	Postdoctoral Fellow	1976-1978

CERTIFICATION

High-Complexity Clinical Laboratory Director, 1994 - present

American Board of Bioanalysis
Certificate number 6692

Subspecialties:

Embryology

Andrology

EMPLOYMENT

Scientific Director and Embryologist 1990-present
Fertility Center Laboratory, Inc.
San Antonio, Texas
LAP 3942301 (CAP)
45D0501573 (CLIA)

Director, IVF Laboratory 2011-present
BAMC IVF Laboratory
Department of Ob/Gyn
Brooke Army Medical Center
Fort Sam Houston, Texas
LAP 2142230 (CAP)

Director, IVF Laboratory 2014 - present
Westlake IVF
Austin, Texas

Director, IVF Laboratory United States Air Force 59 th Medical Wing 2200 Bergquist Dr., STE 1 Lackland AFB, Texas	1996 - 2011
Director, The Fertility Program at Methodist Hospital, Southwest Texas Methodist Hospital San Antonio, Texas	1989-1990
Director and Embryologist, Embryology Laboratory Southwest Texas Methodist Hospital San Antonio, Texas	1986-1990
Associate Professor (Tenure), Department of Cellular and Structural Biology, The University of Texas Health Science Center at San Antonio San Antonio, Texas	1984-1986
Assistant Professor, Department of Anatomy The University of Texas Health Science Center at San Antonio San Antonio, Texas	1978-1984
Assistant Instructor, Department of Anatomy The University of Texas Health Science Center at San Antonio San Antonio, Texas	1978
Graduate Teaching Assistant, Department of Biology University of Virginia	1973 -1974
Graduate Teaching Assistant, Department of Biology Sam Houston State University	1970 -1973

TEACHING EXPERIENCE

COURSES TAUGHT

Gross Anatomy and Embryology (Medical)
Gross Anatomy (Physical Therapy)
Gross Anatomy: Regional Anatomy of the Extremities
Microscopic Anatomy (Medical)
Microscopic Anatomy (Dental)
Cell and Quantitative Biology (Graduate)

Colloquium in Cell Biology (Graduate)
 Graduate Cell Biology
 Graduate Colloquium
 Cancer Cell Biology
 Comparative Anatomy and Embryology Laboratory(Undergraduate)
 Cytology Laboratory (Undergraduate)
 Entomology Laboratory (Undergraduate)
 Introductory Biology Laboratory (Undergraduate)

Graduate Supervisory Experience:

Member of Graduate Faculty, The Graduate School of Biomedical
 Science 1978-1986

University of Texas Health Science Center at San Antonio
 San Antonio, Texas

Supervisor, Postdoctoral Fellowships	2
Membership on Ph.D. Supervising Committees	6
Membership on M.S. Supervising Committees	3

CONSULTATIONS

Laboratory Consultant, Jim Thompson, M.D. Albuquerque, New Mexico	1995
Laboratory Consultant, Reproductive Endocrinology Department Gamete Lab of MacGregor Medical Association Houston, Texas	1994
Laboratory Consultant, Haroldo Lopez, M.D. Guatemala City, Guatemala, C.A.	1994
Laboratory Consultant, Carlos Felix, M.D., Roberto Santos, M.D. Manuel Garcia, M.D. Monterrey, Mexico	1993
Program Consultant, IVF Program at Houston Northwest Houston, Texas	1992-1993
Program Consultant, Alvarado Hospital San Diego, California	1992
Embryology Consultant, IVF Program at Harris Methodist Hospital Fort Worth, Texas	1992
Program Consultant, Brandeis Fertility Program, Union Hospital Union, New Jersey	1990
Embryology Consultant, Centro de Salud Reproductiva Buenos Aires, Argentina	1988
Embryology Consultant, Centro de Planejamento Familiar	1988

Sao Paulo, Brazil	
Consultant, Laboratory for In Vitro Fertilization Department of Obstetrics and Gynecology University of Texas Health Science Center at San Antonio San Antonio, Texas	1983-1984
Acting Director, Laboratory for Human In Vitro Fertilization Department of Obstetrics and Gynecology University of Texas Health Science Center at San Antonio San Antonio, Texas	1983

COMMITTEE MEMBERSHIP AND ADMINISTRATIVE EXPERIENCE

Member, Practice Committee, Society for Assisted Reproductive Technology, American Society for Reproductive Medicine	2007-present
Chairperson, College of Reproductive Biology, American Association of Bioanalysts	2000-2001
Chairperson, Southern Region, College of Reproductive Biology, American Association of Bioanalysts	1997-2001
Member, Program Committee, Reproductive Biology Professional Group, American Society of Reproductive Medicine	1996
Member, Practice Committee, Society for Assisted Reproductive Technology, American Society for Reproductive Medicine	1996
Inspector, CAP/AFS Reproductive Laboratory Accreditation Program	1994-present
Member, Scientific Advisory Board, Irvine Scientific, Inc. Santa Ana, CA	1995-1999
Member, Position Placement Committee American Society for Reproductive Medicine	1994-1996
Member, Executive Committee South Central Texas Chapter March of Dimes	1989-1980
<u>Southwest Texas Methodist Hospital:</u> Member, Fertility Program Committee Department of Obstetrics and Gynecology	1990-1991
Member, Institutional Review Board	1986-1990
	1993-1994
Member, Maternal/Child Health Product Line Committee	1987-1988

<u>University of Texas Health Science Center at San Antonio:</u>	
Chairman, Institutional Research Grant Committee	1985-1986
Member, Institutional Research Grant Committee	1984-1986
Chairman, Grant Task Force	1985-1986
Department of Cellular and Structural Biology	
Member, Subcommittee on Graduate Studies	1984-1985
Department of Cellular and Structural Biology	
Member, Committee on Graduate Studies	1978-1986
Department of Anatomy	
Department of Cellular and Structural biology	
Member, Preclinical Promotions Committee	1984-1986
Medical School	
Member, Physical Safety Subcommittee	1983-1984
Institutional Safety Committee	
Member, Graduate Faculty Nominating Committee	1984
Graduate School of biomedical Science	
Member, Faculty Search Committee	1984-1985
Department of Obstetrics and Gynecology	
Member, Graduate Cell Biology Committee	1984-1986
Department of Cellular and Structural biology	
Chairman, Seminar Committee	1983-1984
Department of Cellular and Structural Biology	
Course Director, Colloquium in Cell Biology	
Department of Cellular and Structural biology	
Course Director, Gross Anatomy: Regional Anatomy of the Extremities	
Department of Cellular and Structural Biology	
Course Co-Director, Graduate Colloquium	
Department of Cellular and Structural Biology	
Conference Organizer, IX International Cell Cycle Conference	
San Antonio, Texas	1982

PROFESSIONAL SOCIETY MEMBERSHIP

The American Association of Bioanalysts (Active)
 Chair, College of Reproductive Biology (2000-2001)
 Chair, Southern Region, College of Reproductive
 Biology, American Association of Bioanalysts (1997-99)
The American Society for Reproductive Medicine (Active)
Pacific Coast Fertility Society (Active)
The Texas Assisted Reproductive Technology Society (Active)
The International Cell Cycle Society
The American Society for Cell Biology
The American Association of Anatomists
The American Association for the Advancement of Science

SPECIAL RECOGNITION

Delta Tau Alpha National Honor Society	1968
Beta Beta Beta National Biological Honor Society	1969
Graduate Fellowship, Department of Biology Sam Houston State University	1971-1973
Sigma XI Graduate Student Research Award Sam Houston State University	1973
DuPont Fellowship, Graduate School of Arts and Sciences University of Virginia	1973
Graduate Fellowship, Department of Biology University of Virginia	1973-1974
Predoctoral traineeship, United States Public Health Service National Institute of Child Health and Human Development University of Virginia	1974-1976

CONFERENCES AND SYMPOSIA

Conference Co-organizer

Celebrating 20 Years of ART: From Cells and Techniques to Molecules and Innovation Sponsored by Medical Education Collaborative and Organon, Inc. Chicago, Illinois	1998
Technical and Scientific Aspects of the ART Laboratory Sponsored by the College of Reproductive Biology, AAB and the Texas ART Laboratories San Antonio, Texas	1997
State of the ART Then and Now Sponsored by Medical Education Collaborative and Organon, Inc. Chicago, Illinois	1996
ART in the New Millennium Sponsored by Medical Education Collaborative and Organon, Inc. Chicago, Illinois	1998

Symposium Director:

Mechanisms of Growth Arrest in Mammalian Cells 1982
IX International Cell Cycle Conference
San Antonio, Texas

New Approaches to Cell Cycle Studies with Flow Cytometry 1982
IX International Cell Cycle Conference
San Antonio, Texas

Invited Speaker

Southwest Embryology Summit 2014
Las Vegas, Nevada

Industry Symposium, "Development and Application of the First Embryo 2013
Assessment Test: Time-lapse Enabled Technology, Clinical
Validation and Generalization". ASRM Annual Meeting,
Boston, MA

Auxogyn, Inc. Industry Symposium, ASRM Annual Meeting 2012
San Diego, California

10th Annual Alamo City Cancer Council Breast Cancer Update 2012
San Antonio, Texas

Pacific Coast Fertility Society 60th Annual Meeting 2012
Rancho Mirage, California

Human Embryo Culture and Epigenetics 2012
Culture Media Study Group, Embryology Special Interest
Group, European Society of Human Reproduction
and Embryology, London, England

Fertility Summit: Advancing the Science With a Patient Focused 2011
Vision, Dublin, Ireland

Post Graduate Course: The IVF Laboratory in the 21st Century 2011
Middle East fertility Society
ASRM Annual Meeting, Orlando, FL

24th Annual Update, In Vitro Fertilization and Embryo Transfer 2011
UCLA School of Medicine, Santa Barbara, CA

23rd Annual Update, In Vitro Fertilization and Embryo Transfer 2010
UCLA School of Medicine, Santa Barbara, CA

American Association of Bioanalysis, College of 2010
Reproductive Biology Annual Meeting
Las Vegas, Nevada

Midwest Embryology Summit 2010
Madison, Wisconsin

Master of Science Graduate Program in Clinical Embryology 2010
Jones Institute, Norfolk, Virginia

22 nd Annual Update, In Vitro Fertilization and Embryo Transfer UCLA School of Medicine, Santa Barbara, CA	2009
New England Fertility Society, Annual Meeting Portsmouth, New Hampshire	2009
12 th Annual John W. Betts, M.D. Memorial Lecture Kansas City Gynecological Society Kansas City, Kansas	2008
Pre-Congress Course, Embryology Special interest Group 24 th Annual Meeting, European Society of Human Reproduction and Embryology Barcelona, Spain	2008
American Association of Bioanalysis, College of Reproductive Biology Annual Meeting Las Vegas, Nevada	2008
Southeastern Embryology Society Annual Meeting Charleston, South Carolina	2008
Texas Tech University Health Sciences Center Guest Lecturer, Graduate Student Association, 20 th Annual Student Research Week	2008
14 th World Congress on IVF Montreal, Canada	2007
Post-graduate Course: ART –The Power is in Your Hands. Society for Assisted Reproductive Technology Annual Meeting, ASRM, Washington, D.C.	2007
A Review of Preimplantation Embryology Sponsored by Tyho-Galileo Research Laboratories Rio Grande, Puerto Rico	2007
Smart ART VII: From Physiology to Clinical Success Symposium sponsored by Organon USA Las Vegas, Nevada	2006
Optimizing Culture Media Performance Symposium, Irvine Scientific, Inc. Irvine, CA	2006
ART in the 21 st Century: A Time for Reflections and New Horizons Serono Symposia International Nice, France	2005
Preservation of Fertility Through Cryobiology College of Reproductive Biology, AAB Irvine, CA	2005
Preservation of Fertility Through Cryobiology College of Reproductive Biology, AAB Ft. Lauderdale, FL	2004
German Congress of IVF Hannover, Germany	2004
17 th Annual Update, In Vitro Fertilization and Embryo Transfer	2004

UCLA School of Medicine, Santa Barbara, CA 16 th Annual Update, In Vitro Fertilization and Embryo Transfer UCLA School of Medicine, Santa Barbara, CA	2003
The Second Biennial Review of Preimplantation Embryology Saint Barnabas Medical Center, Department of Graduate Medical Education Cancun, Mexico	2003
Texas ART Society, Austin, Texas	2002
15 th Annual Update, In Vitro Fertilization and Embryo Transfer UCLA School of Medicine, Santa Barbara, CA	2002
Serono Symposium for Nurses in Reproductive Medicine Ft, Meyers, FL	2002
Reproductive Medicine Seminar University of Louisville	2002
Alpha International Symposium on Embryology New York City, NY	2001
14 th Annual Update, In Vitro Fertilization and Embryo Transfer UCLA School of Medicine, Santa Barbara, CA	2001
Department of Obstetrics and Gynecology ART Program, Brigham and Women's Hospital, Harvard University Medical School	2001
Annual Review of Preimplantation Embryology, The Institute for Reproductive Medicine and Science of Saint Barnabas and Alpha - Scientists in Reproductive Medicine, Cancun, Mexico	2001
Fertility Center of New England, Reading, MA	2000
Meeting, Dallas Area Reproductive Endocrinologists Dallas, Texas	2000
13 th Annual Update, In Vitro Fertilization and Embryo Transfer UCLA School of Medicine, Santa Barbara, California	2000
International Symposium on ART and the Human Blastocyst, Serono Symposia Dana Point, CA	2000
The Institute for Reproductive Medicine and Science of Saint Barnabas, West Orange, NJ	1999
The Year 2000 and Beyond: Concepts for Nurses in Reproductive Medicine. Organon Symposium, Montreal, Canada	1999
Blastocyst Conference, Brigham and Women's Hospital and Serono Laboratories, Boston, Massachusetts	1999
12 th Annual Update, In Vitro Fertilization and Embryo Transfer UCLA School of Medicine, Santa Barbara, California	1999

College of Reproductive Biology Symposium American Association of Bioanalysts Annual Meeting, San Diego, California	1999
Fertility Symposium, Keynote Speaker Oita City, Japan	1998
Japanese IVF Symposium, Invited Speaker Osaka, Japan	1998
Tokyo Ob/GYN Society, Invited Speaker Tokyo, Japan	1998
From Genotype to Phenotype: Fertility Across the Reproductive Lifespan. Organon Symposium, Phoenix, AZ	1997
St. Louis Area Embryologists St. Louis, MO	1997
R.E.D. Symposium, IVF Registry of Latin America Cozumel, Mexico	1997
Chicago Area Reproductive Endocrinologists Chicago, IL	1996
University of Southern California School of Medicine Los Angeles, CA	1996
American Association of Bioanalysts 40th Anniversary National Meeting Symposium on Culture Systems for Human Embryos Albuquerque, New Mexico	1996
University of Louisville Embryology Meeting Louisville, Kentucky	1996
Southeast Virginia Embryology Society Williamsburg, Virginia	1996
Twenty-Eighth Annual Postgraduate Program, Annual Meeting of the American Society for Reproductive Medicine, Seattle, Washington	1995
Serono Symposium and Dinner, in conjunction with the Annual Meeting of the American Society for Reproductive Medicine Seattle, Washington	1995
National Advisory Board for Ethics in Reproduction Washington, District of Columbia	1995
South Texas Assisted Reproductive Technology Meeting Houston, Texas	1995
Midwest Embryology Meeting Des Moines, Iowa	1995
North Texas Embryology Group Dallas, Texas	1995
Chicago Area Embryologists Chicago, Illinois	1995

ARTNOW Olympia, Washington	1995
Northern California Association of Reproductive Biologists San Francisco, California	1994
Post Graduate Course: Embryology Update The Pacific Coast Fertility Society Indian Wells, California	1994
Annual Meeting, Florida Society of Embryologists and A.R.T. Technologists Miami Beach, Florida	1994
Immulite Symposia, Hormone Analysis and IVF Diagnostic Products Corporation (Los Angeles, CA) Houston, Texas; Miami, Florida; Memphis, Tennessee	1994
The Conjoint Meeting of the American Fertility Society and the Canadian Fertility and Andrology Society Montreal, Canada	1993
Embryology Laboratory Research Symposium, Co-Sponsored by the Laboratory Technology Special Interest Group of the American Fertility Society and Serono Laboratories, Inc. Boston, Massachusetts	1993
New Horizons in Reproductive Medicine and Fertility Therapy San Diego, California	1992
Dominion Fertility and Endocrinology Institute Arlington, Virginia	1990
Department of Obstetrics and Gynecology, Methodist Hospital San Antonio, Texas	1990
IX International Symposium of Specialists in Human Reproduction Sao Paulo, Brazil	1988
Joint Meeting, Cell Kinetics Society and International Cell Cycle Society Denver, Colorado	1986
Department of Physiology, University of Texas Health Science Center San Antonio, Texas	1985
Department of Biology, St. Mary's University San Antonio, Texas	1985
Department of Biology, Rice University Houston, Texas	1984
Department of Biology, University of Texas San Antonio, Texas	1984
Department of Biology, Incarnate Word University San Antonio, Texas	1983
IX International Cell Cycle Conference San Antonio, Texas	1982
XIII International Cell Cycle Conference	1980

Raleigh-Durham, North Carolina Department of Microbiology, University of Texas Health Science Center San Antonio, Texas	1980
National Institute for General Medical Science, National Institutes of Health Bethesda, Maryland	1979
Department of Biology, Trinity University San Antonio, Texas	1979, 1984
Tri Beta National Biological Honor Society Research Symposium Lake Conroe, Texas	1978
Miami Valley Research Laboratories, Proctor and Gamble Co. Cincinnati, Ohio	1978
Department of Biology, Texas A & M University College Station, Texas	1978
Department of Anatomy, Tulane University School of Medicine New Orleans, Louisiana	1978
Electron Probe X-ray Microanalysis Symposium, TSEM Austin, Texas	1977
Department of Biology, Sam Houston State University	1977, 1979, 1981, 1983, 1992, 2008

INDUSTRIAL AFFILIATIONS

Member, Scientific Advisory Board Irvine Scientific, Incorporated Santa Ana, California	1996-2001
Member, Scientific Advisory Board Humagen Fertility Diagnostics Charlottesville, Virginia	2003-2007
Member, Scientific Advisory Board Incept Biosystems Ann Arbor, Michigan	2006-2010

RESEARCH GRANT SUPPORT

"Development of a Solid-Phase Culture System:", \$2,000.00, Serono Laboratories, Inc., 1995

"Micromanipulation Laboratory for Human Embryology", \$53,267, The Methodist Hospital Foundation, 1990

"Compartments of Growth Arrest During Cellular Aging", \$161,817, National Institute on Aging, N.I.H., Grant R01 AG 03829, 1983-1986 (Principal Investigator).

Research Career Development Award, National Institute on Aging, N.I.H., \$190,000, Grant K04 AG00210, 1984-1986

"Quantitative Changes in Human Fibroblasts During Aging", \$121,000, National Institute on Aging, Grant \$01 AG02212, 1980-1984 (Principal Investigator).

"Analysis and Control of Rapidly Dividing Cell Populations", National Science Foundation, \$99,933, 1981-1983 (Co-principal Investigator).

Institutional Research Grant, UTHSCSA, \$3,800, 1977-1978 (Principal Investigator).

Institutional Research Grant, UTHSCSA, \$5,510, 1983 (Principal Investigator).

State Supported Research Grant, UTHSCSA, \$4,000, 1978-1979 (Principal Investigator).

EDITORIAL EXPERIENCE

Section Editor: Reproductive BioMedicine Online

Former Member, Editorial Board: The Journal of Clinical Embryology

Ad Hoc Reviewer: Fertility and Sterility

Human Reproduction

Human Reproduction Update

Reproduction and Development

Journal of Andrology

Journal of Assisted Reproduction and Genetics

Cell and Tissue Kinetics

Journal of the National Cancer Institute

American Journal of Anatomy

Anatomical Record

Co-editor: The Transformed Cell, Academic Press, Inc. (New York), 1981

Co-editor: Embryo Culture, Methods and Protocols, Humana Press, 2012

Regional Editor: The TSEM Journal, 1979-1980

BIBLIOGRAPHY

Books

Cameron, I.L. and T.B. Pool, 1981. The Transformed Cell, Academic Press., New York.

Smith, G.D., Swain, J.E. and T.B. Pool, 2012. Embryo Culture: Methods and Protocols, Springer-Verlag, New York.

Chapters and Major Review Articles

Cameron, I.L., N.K.R. Smith, T.B. Pool, and R.L. Sparks, 1980. Intracellular concentration of sodium and other elements as related to mitogenesis and oncogenesis in vitro. Cancer Res. 40:1491-1500.

Cameron, I.L., N.K. R. Smith, T.B. Pool, B.G. Grubbs, R.L. Sparks and J.R. Jeter, Jr., 1980. Regulation of cell reproduction in normal and cancer cells: The role of Na, Mg, Cl, K and Ca. In: Nuclear-Cytoplasmic Interactions in the Cell Cycle (G.L. Whitson, ed.) Academic Press, New York.

Cameron, I.L. and T.B. Pool, 1981. The transformed cell; some introductory comments. In: The Transformed Cell (I.L. Cameron and T.B. Pool, eds.) Academic Press.

Pool, T.B., I.L. Cameron, N.K.R. Smith and R.L. Sparks, 1981. Intracellular sodium and growth control: A comparison of normal and transformed cells. In: The Transformed Cell (I.L. Cameron and T.B. Pool, eds.), Academic Press, New York.

Sparks, R.L., T.B. Pool, N.K.R. Smith and I.L. Cameron, 1981. The role of ions, ion fluxes and Na⁺-K⁺-ATPase activity in the control of proliferation, differentiation and transformation. In: Genetic Expression and the Cell Cycle (G.M. Padilla and K.S. McCarthy, Sr., eds.) Academic Press, New York.

Pool, T.B. and J.D. Metter, 1983. Regulation of the lifespan of human diploid fibroblasts in vitro - New ideas and approaches. In: Aging and Cell Structure, Vol.2 (John E. Johnson, ed.), Plenum Press, New York.

Pool, T.B. 1988. An integrated approach to IVF, GIFT and ZIFT from the embryology laboratory. Proceedings of the IX International Symposium of Specialists in Human Reproduction, Sao Paulo, Brazil.

Pool, T.B., S.H. Atiee and J.E. Martin, 1998. Oocyte and embryo culture: Basic concepts and recent advances. In: Infertility and Reproductive Medicine Clinics

of North America 9: 1-23.

Graham, M.C. and T.B. Pool, 1998. The evolution of energy substrates in the culture of human embryos. *Assisted Reproduction Reviews* 8: 65-68.

Pool, T.B. and J.E. Martin, 2000. The production of viable human blastocysts: The evolution of sequential culture systems. In: *Assisted Fertilization and Nuclear Transfer in Mammals*. (Mary Zelinsky-Wooten and Don Wolf, eds.), Humana Press.

Pool, T.B., 2001. Blastocyst development in culture: the role of macromolecules. In: *ART and the Human Blastocyst* (D.K. Gardner and M. Lane, eds.). Springer-Verlag, New York.

Pool, T.B. and V.A. Ord, 2001. Oocyte treatment: from egg retrieval to insemination. In: *Textbook of ART* (D.K. Gardner, C.M. Howles, eds). Martin Dunitz, London.

Gardner D.K., T.B. Pool and M. Lane, 2001. Embryo nutrition and energy metabolism and its relationship to embryo growth, differentiation and viability. In: *Seminars in Reproductive Medicine, Novel Approaches to Assisted Reproduction: In Vitro Maturation of Gametes and Embryos* (D.K. Gardner and Z. Rosenwaks, eds.), Thieme, New York.

Pool, T.B., 2002. Recent advances in the production of viable human embryos in vitro. *Reproductive BioMedicine Online* 4:294-302.

Quinn, P. and T.B. Pool, 2003. Development of modern culture medium. *SIRT* (Australia), in press.

Pool, T.B. 2005. An update on embryo culture for human assisted reproductive technology: Media, performance and safety. In: *Advances in Assisted Reproduction* (K. J. Doody,ed.), *Seminars in Reproductive Medicine* 23:309-318.

Swain JE, Pool TB, Takayama S, Smith GD (2008) Microfluidics in ART: Current Progress and Future Directions. In *Textbook of ART*. Eds: Gardner DK, Howles C, Weissman A, Shoham Z, Informa Publishing, London

Swain JE, Pool TB (2008) ART failure: oocyte contributions to unsuccessful fertilization. *Human Reproduction Update* 14:43`-446.

Swain JE, Pool TB (2008) Microfluidics in ART: Time to go with the flow? *Fertility Magazine* 8: 15-20.

Swain JE, Pool TB, Takayama S, Smith GD. (2008). Microfluidic Technology in

ART: Is it time to go with the flow? *The Journal of Clinical Embryology* 11(2): 5-18.

Pool TB, Schoolfield J, Han D. (2012). Human Embryo Culture Media Comparisons. In: *Embryo Culture: Methods and Protocols*. Eds: Smith GD, Swain JE, Pool, TB. Humana Press, New York.

Pool TB. (2012) Macromolecular Supplementation of Embryo Culture Media. In: *Culture Media, Solutions and Systems in Human ART*. Ed: Quinn, P. Cambridge University Press, Cambridge, England.

Papers:

Pool, T.B. and T.R. Hoage, 1973. The ultrastructure of secretion in the spermatheca of the salamander, *Manculus quadridigitatus* (Holbrook). *Tissue and Cell* 5:303-313.

Pool, T.B. and T.R. Hoage, 1975. Intranuclear and cytoplasmic annulate lamellae in grasshopper spermatocytes (genus *Melanoplus*). *Cell Tiss. Res.* 156:475-482.

Pool, T.B. and J.N. Dent, 1977. The ultrastructure and the hormonal control of product of product synthesis in the hedonic glands of the red-spotted newt. *Notophthalmus viridescens*. *J. Exp. Zool.* 201:177-201.

Pool, T.B., J.N. Dent and K. Kemphues, 1977. Neural regulation of product discharge from the hedonic glands of the red-spotted newt, *Notophthalmus viridescens*. *J. Exp. Zool.* 201:203-219.

Pool, T.B., and I.L. Cameron, 1977. Chromatin fiber difference between condensed and dispersed chromatin: A comparative ultrastructure study. *Cytobios* 19:93-100.

Pool, T.B., I.L. Cameron and N. Hagino, 1978. Functional castration by alpha fetoprotein in hepatoma-bearing female rats. *J. Reprod. Fertil.* 53:39-44.

Smith, N.K.R., R.L. Sparks, T.B. Pool and I.L. Cameron, 1978. Differences in the intracellular concentrations of elements in normal and cancerous liver cells as determined by x-ray microanalysis. *Cancer Res.* 38:1942-1959.

Cameron, I.L., N.K.R. Smith and T.B. Pool, 1978. Increase in the intracellular concentration of Na and Cl as hepatocytes transform from the normal to the neoplastic state: An electron probe microanalysis study. In: *Electron Microscopy 1978*, Microscopical Society of Canada, Toronto, 2:120-121.

Cameron, I.L., N.K.R. Smith and T.B. Pool, 1979. Element concentration changes in mitotically active and postmitotic enterocytes. An x-ray microanalysis study. *J. Cell Biol.* 80:444-450.

Cameron, I.L., T.B. Pool and N.K.R. Smith, 1979. An x-ray microanalysis survey of the concentration of elements in the cytoplasm of different mammalian cell types. *J. Cell. Physiol.* 101:493-501.

Heitman, D.W., T.B. Pool and I.L. Cameron 1980. Changes in proliferation and surface morphology in the rat ileum in response to total parenteral nutrition. *J. Anatomy* 130:603-615.

Pool, T.B., N.K.R. Smith, I.L. Cameron and K.H. Doyle, 1980. Evaluation of a preparative method for x-ray microanalysis of soft tissues. *Cytobios* 28:17-33.

Cameron, I.L., T.B. Pool and N.K.R. Smith, 1980. Intracellular concentration of potassium and other elements in vaginal epithelial cells stimulated by estradiol administration. *J. Cell. physiol.* 104:121-125.

Dung, H.C., T.B. Pool and J. Yu, 1980. Serum protein changes associated with atrophy of lymphoid organs in a mouse mutation. *Develop. Comp. Immunol.* 4:341-355.

Dung, H.C., T.B. Pool and J. Yu, 1981. Changes in serum proteins of mice after splenectomy or immunization. *Develop. Com. Immunol.* 5:337-346.

LaBadie, D.R.L., T.B. Pool, N.K.R. smith and I.L. Cameron, 1981. Elemental content in the nucleus and in yolk and yolk-free cytoplasm of developing *Rana pipiens* oocytes: An x-ray microanalysis study. *J. Cell. Physiol.* 109:91-97.

Pool, T.B., T.O. Heitman and M.A. Buck, 1981. Changes in nuclear shape and mitochondrial structure do not accompany the loss of division potential in human fibroblasts in vitro. *Am. J. Anat.* 162:369-382.

Pool, T.B., T.O. Heitman and M.A. Buck, 1982. Quantitative morphological analysis of proliferating and nonproliferating subpopulations of IMR-90 fibroblasts during aging in vitro. *Am. J. Anat.* 164:255-263.

Pool, T.B., 1982. A comparison of protein synthesis between serum deprived and postmitotic human diploid fibroblasts. *Cell Biol. Int. Reports* 6:658.

Sparks, R.L., T.B. Pool, N.K.R. Smith and I.L. Cameron, 1983. Effects of amiloride on tumor growth and intracellular element content of tumor cells in vivo. *Cancer Res.* 43:73-77.

Balmaceda, J.P., T.B. Pool, J. Arano, T.O. Heitman and R.H. Asch, 1984. Successful in vitro fertilization and embryo transfer in *Macaca fascicularis*. *Fertil Steril* 42:791-795.

Carrillo, A.J., T.B. Pool and Z.D. Sharp, 1985. Vasoactive intestinal peptide increases prolactin mRNA content in GH3 cells. *Endocrinology* 116:202-206.

Balmaceda, J.P., T.O. Heitman, M.R. Garcia, C.J. Pauerstein and T.B. Pool, 1986. Embryo cryopreservation in cynomolgus monkeys. *Fertil Steril* 45:403-406.

Stachniak, J.B., Z.D. Sharp, T.B. Pool and I.L. Cameron, 1988. Impaired proliferation response after PDGF induction in fibroblasts from Hutchinson-Guilford progeria syndrome. *Cell Biol. Int. Reports* 12:621-626.

Pool, T.B., J.E. Martin, L.R. Ellsworth, J.B. Perez and S.H. Atiee, 1990. Zygote intrafallopian transfer with "donor rescue": a new option for severe male factor infertility. *Fertil Steril* 54:166-168.

Pool, T.B., L.R. Ellsworth, J.R. Garza, J.E. Martin, S.S. Miller and S.H. Atiee, 1990. Zygote intrafallopian transfer as a treatment for non-tubal infertility: a 2-year study. *Fertil Steril* 54:482-488.

Pool, T.B., and J.E. Martin, 1994. High continuing pregnancy rates following in vitro fertilization -embryo transfer using medium supplemented with a plasma protein fraction containing a- and B-globulins. *Fertil Steril* 61:714-719.

Atiee S.H., T.B. Pool and J.E. Martin, 1995. A simple approach to intracytoplasmic sperm injection. *Fertil Steril* 63:652-655.

Weathersbee P.S., T.B. Pool and T. Ord, 1995. Synthetic serum substitute (SSS): A globulin-enriched protein supplement for human embryo culture. *J Asst Reprod Genet* 12: 354-359.

Carrillo, A.J., B. Lane, D.D. Pridham, P.P. Risch, T.B. Pool, I.H. Silverman and C.L. Cook, 1997. Improved clinical outcomes for in vitro fertilization with glucose- and phosphate-free media and delaying the embryo transfer from 48 to 72 hours after oocyte retrieval. *Fertil Steril* 69:329-334.

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Thomas "Rusty" Pool, Ph.D. HCLD, Fertility Center of San Antonio Scientific Director, has been involved in the field of reproductive medicine for nearly 40 years. Recently at #ASRM2018 in Denver, Colorado, Dr. Pool was awarded the Society of Reproductive Biologists and Technologists (SRBT) Lifetime Achievement Award. Dr. Pool joins us for this episode of Focus on Fertility to share his thoughts and insights regarding the changes that have taken place during his time in the embryology lab and where he predicts the field will head during the next several years. Learn more about Dr. Poo...