

# **Pradeep Warikoo, PhD**

**Bethesda IVF/Reproductive Studies Lab Director**

## **EDUCATION:**

### **Undergraduate:**

- University of Delhi, Delhi, India, B.Sc. 1977

### **Graduate/Medical School:**

- University of Kanpur, Kanpur, India, M.Sc. 1979

- National Institute of Health & Family Welfare, University of Delhi, Delhi, India, Ph.D. 1987.

### **Board Certification:**

- Board Certified by American Board of Bioanalysis to direct high complexity laboratory (Andrology & Embryology)

- Licensed by the State Department of Health to direct Andrology & Embryology Laboratory in the State of Tennessee.

### **Postgraduate:**

- Junior Research Fellow, Indian Council of Medical Research New Delhi, India, 1980-1983.

### **Honors:**

- Indian Council of Medical Research, 1980

- Junior Research Fellowship, 1980

## **SOCIETY MEMBERSHIPS:**

- American Fertility Society, 1989

- American Society of Andrology, 1994

- Society for the Study of Reproduction, 1986

- American Society of Primatologists, 1987

- European Society for Human Reproduction and Embryology, 1995

## **PROFESSIONAL EXPERIENCE:**

- Department of Obstetrics & Gynecology, 1994-1998

- University of Tennessee Medical Center, Knoxville, Tennessee

- Assistant Professor, of Embryology and Director of IVF and Andrology Laboratory

- Saginaw General Hospital, North, 1990-1993

- In Vitro Fertilization and Andrology Laboratory, Saginaw, Michigan

- Senior Embryologist

- Southern California Fertility Institute, 1989-1990

- Los Angeles, California

- Director Reproductive Biology Laboratory

- University of Wisconsin, 1986-1989

- Wisconsin Regional Primate Research Center, Madison, Wisconsin

- Research Associate

- National Institute of Health and Family Welfare, 1985-1986

- Department of Reproductive Biomedicine, New Delhi, India

- Assistant Research Officer

- National Institute of Health and Family Welfare, 1983-1985
- Department of Reproductive Biomedicine, New Delhi, India
- Research Assistant

#### **RESEARCH GRANTS (Funded and/or Submitted):**

- Awarded: Studies on "Expression of angiogenic growth factors in preimplantation mouse embryos". Co-Principal Investigator Funded by Physician Medical Education Research Foundation, University of Tennessee Medical Center, Knoxville, Tennessee. \$5,000.00
- Awarded: Studies on "The incidence of antisperm antibody formation in men with active or prior epididymitis". Co-Investigator Funded by Physician Medical Education Research Foundation, University of Tennessee Medical Center, Knoxville, Tennessee. \$5,000.00
- Awarded: Studies on "Improved Technology for Embryo Splitting". Co-Principal Investigator. Department of Health and Human Services, SBIR NIH Grant, HD-33607-01. \$85,000.00
- Awarded: Integrated Semi-Automated System for Single Cell Sorting", Phase II, Responsible for Toxicological Studies, SBIR-NIH, No. 2-R44-CA68913-02. \$746,766.00
- Submitted: Epigenetic Regulator's for Hormonal Embryo Development in vitro. Submitted as Principal Investigator NIH support. \$981,645.00 (4 years).

#### **COMMITTEES AND APPOINTMENTS:**

- Ad Hoc Reviewer:
  - Biology of Reproduction, 1992-Present
  - Journal of Andrology, 1994-Present
- Membership Committee:
  - The Society for the Study of Reproduction 1998-1999
- Membership Committee:
  - Michigan Society of Reproductive Endocrinology, 1991-1993

#### **PUBLICATIONS (BOOKS AND BOOK CHAPTERS):**

- 1) Allag IS, Warikoo PK, Das RP, and Roy S.  
A Technique for studying functional status of ejaculated spermatozoa of bonnet monkey (*Macaca Radiata*). Proceedings on "Use of Primates in Medical Research"  
New Delhi, India. 1986
- 2) Bavister BD, Boatman DE, Morgan PM and Warikoo PK  
Fertilization in the Rhesus Monkey. In: A Comparative Overview of Mammalian Fertilization.  
Eds. B.S. Dunbar and M.G. O'Rand. Plenum Press. 1991

#### **PUBLICATIONS (JOURNALS):**

- 1) Warikoo PK and Das RP  
Fertilizing ability of spermatozoa of rats after treatment with STS-557.  
Archives of Andrology 11:157, 1983.

2) Warikoo PK and Das RP

Role of testosterone in the maintenance of motility and fertilizing ability of spermatozoa in isolated epididymis of castrated rats.

Indian Journal of Experimental Biology 21:237, 1983.

3) Allag IS, Warikoo PK, Das RP and Roy S

Effect of epididymal administration of Freund's complete adjuvant on autoimmune response to spermatozoa.

Indian Journal of Experimental Biology 22:363, 1984.

4) Warikoo PK, Majumdar SS, Allag IS, Das RP and Roy S

Interaction among motility, fertilizing ability and testosterone binding in ejaculated spermatozoa of bonnet monkey (*Macaca radiata*).

Archives of Andrology 16:135, 1986.

5) Misro PM, Warikoo PK, Das Perwin MJ and Roy S

Effect of intrauterine administration of dimethylsulfoxide on fertility of rats.

Indian Journal of Physiology and Pharmacology 30:161, 1986.

6) Morgan PM, Warikoo PK, Erwin MJ and Kraus E

Recovery of oocytes from spontaneously cycling monkeys: timing, follicular steroids and in vitro fertilization.

Biology of Reproduction 36:90, 1987.

7) Warikoo PK and Bavister BD

Hypoxanthine and cyclic adenosine 5' monophosphate maintain meiotic arrest of rhesus monkey oocytes in vitro.

Fertility and Sterility 51:886, 1989.

8) Matteri RL, Warikoo PK and Bavister BD

Biochemical and biological properties of urinary follicle stimulating hormone (FSH) from the rhesus monkey (*Macaca mulatta*).

American Journal of Primatology, 1991.

9) Morgan PM, Warikoo PK and Bavister BD

In vitro maturation of ovarian oocytes from unstimulated rhesus monkeys: assessment of cytoplasmic maturity by embryonic development after in vitro fertilization.

Biology of Reproduction 45:89, 1991.

#### **MANUSCRIPTS IN PREPARATION:**

1) Warikoo PK

"Human Spermatogenesis Sperm Physiology and Sperm Oocyte Interaction in Intrauterine Insemination" edited by G. Allahbadia, M.D. To be published in 1998.

2) Chen TT, Massey PJ, Keenan JA, Rodriguez KM, Warikoo PK, Harris GS, Caudle MR

Dual effects of recombinant human interleukin-12 on progesterone secretion by human granulosa.

Biology of Reproduction, February 1995. (Submitted)

3) Massey PJ, Rodriguez KM., Keenan JA, Warikoo PK, Harris GS, Chen TT, and Caudle MR

Peritoneal fluid from endometriosis patients inhibits ovarian steroidogenesis by human, but not porcine granulosa cells.

- 4) Warikoo PK, Proctor K, Conia J, and Caudle MR  
Developmental Potential of split Blastomeres (demi embryos) to blastocyst for UV-Lasered Mouse Embryo's In Vitro.
- 5) Warikoo PK, Massey PJ, Keenan JA, Harris GS, Proctor K, Yao G, Chen TT, and Caudle MR  
Does Ovarian Stimulation Response Influence Pregnancy Outcome In "ART" Patients?  
June 1996.
- 6) Proctor K, Caudle MR, Warikoo PK  
Collection of Semen Samples by Penile Electrostimulation of Common Marmoset Monkey (*Callithrix Jacchus*).
- 7) Warikoo PK, Proctor K, and Caudle MR  
Recovery of Oocytes from Spontaneously Cycling Common Marmoset Monkey: Timing and In Vitro Fertilization.
- 8) Warikoo PK, Proctor K, and Caudle MR  
Maturation and Fertilization In Vitro of Common Marmoset Monkey (*Callithrix Jacchus*) Oocytes.
- 9) Warikoo PK, Caudle MR  
Effect of Taxol on Mouse Embryo Development In Vitro.
- 10) Warikoo PK and Caudle MR  
Taxol Effects Human Sperm Functions.

**ABSTRACTS:**

- 1) Warikoo PK, Allag IS, Das RP and Roy S  
Isolation and characterization of steroid binding antigens from bonnet monkey (*Macaca radiata*).  
*Journal of Reproductive Immunology* 64, 1986.
- 2) Allag IS, Warikoo PK, Das RP and Roy S  
Immunological aspects of steroids binding sperm antigens on bonnet monkey (*Macaca radiata*).  
*Journal of Reproductive Immunology* 93, 1986.
- 3) Morgan PM, Warikoo PK and Bavister BD  
Maturation and fertilization in vitro of rhesus monkey oocytes.  
Serono Symposium on the Primate Ovary, Oregon, 1987.
- 4) Morgan PM, Kruger GS, Warikoo PK and Bavister BD  
In vitro steroidogenesis activity of granulosa cells recovered from preovulatory follicles of the rhesus monkey.  
*American Journal of Primatology* 12:3, 1987.
- 5) Warikoo PK and Bavister BD  
Hypoxanthine and cAMP maintain meiotic arrest of rhesus monkey oocytes in vitro.  
*Biology of Reproduction* 38:69, 1989.
- 6) Warikoo PK, Matteri RL and Bavister BD  
Biochemical and biological characterization of urinary follicle stimulating hormone (FSH) from the rhesus monkey (*Macaca mulatta*).  
*Biology of Reproduction* 40:104, 1989.

- 7) Karow WG, Warikoo PK, Hsuing C, Gentry WC, Pope AK and Smith DW  
Effect of embryo age on the pregnancy outcome following in vitro fertilized frozen thawed human embryo transfer.  
Endocrinology, 116, 1990
- 8) Fakih MH, Warikoo PK and Khan I  
Follicular fluid (FF) in GIFT: an update.  
Fertility and Sterility 172, 1992.
- 9) Ahmad TA, Warikoo PK, Urich M and Khan I  
Rapid freezing of mouse embryos in adonitol.  
Fertility and Sterility 91, 1993.
- 10) Torry DS, Holt VJ, Keenan JA, Harris GS, Warikoo PK, McKenzie PP, Caudle and Torry RJ  
Expression of Vascular endothelial Growth Factor (VEGF) in Human Endometrium.  
Society for Immunology of Reproduction and the American Society for Reproductive Immunology. Vol 33(6):P210, 1995.
- 11) Chen TT, Massey PJ, Keenan JA, Rodriguez KM, Warikoo PK, Harris GS, Caudle MR  
Dual Effects of Recombinant Human Interleukin-12 on Progesterone Secretion by Human Granulosa.  
Biology of Reproduction, (Suppl) 1:552, P-309, 1995.
- 12) Massey PJ, Rodriguez KM, Keenan JA, Warikoo PK, Harris GS, Chen TT and Caudle MR  
Peritoneal Fluid from Endometriosis Patients Inhibits Ovarian Steroidogenesis by Human but not Porcine Granulosa Cells.  
International Congress of Reproductive Immunology and the American Society for Reproductive Immunology 1995 on July 19-23, 1995. (Accepted February 23, 1995).
- 13) Warikoo PK, Shieh H, Yao G, Caudle MR  
Effect of Taxol on Human Sperm Function.  
Poster Presentation at the American Society of Andrology 20th Anniversary Annual Meeting in Raleigh, N.C., 16 (Suppl):31, March 1995.
- 14) Warikoo PK, Conia J, Proctor K, and Caudle MR  
Use of Non-Contact UV-Laser in Splitting Mouse Two Cell Embryos and Their Developmental Potentials to Blastocyst.  
American Society for Reproductive Medicine, March 1996.
- 15) Chen TT, Massey PJ, Keenan JA, Warikoo PK, Harris GS, and Caudle MR  
Initial Characterization of a Progesterone Stimulator From Human Macrophages.  
Society for the Study of Reproduction, (Suppl) 1:54, )-112, 1996.
- 16) Massey PJ, Keenan JA, Warikoo PK, Harris GS, Chen TT, and Caudle MR  
Taxol Induced Stimulation of Steroid Production by Human Granulosa Cell is Due to a Macrophage-derived Factor.  
American Journal of Reproductive Immunology. P-205, 1996.
- 17) Warikoo PK, Massey PJ, Keenan JA, Harris GS, Chadwell NE, Yao G, Chen TT, and Caudle MR  
Does Ovarian Stimulation Response Influence Pregnancy Outcome In "ART" Patients?  
International Congress of Endocrinology, p3-392, June 1996.
- 18) Warikoo PK, Proctor K, Conia J, Caudle MR  
Developmental Potential of Split Blastomeres (demi embryos) to Blastocyst for UV-Lasered Mouse

Embryo In-Vitro.  
Biology of Reproduction, 1997.

19) Massey PJ, Jordanov JM, Keenan JA, Warikoo P, Harris G, Caudle MR, Chen TT  
Macrophages Secrete a Potent Stimulator(s) of Progesterone Production by the Ovary.  
University of Tennessee Research Day, 1997.

20) Pedigo C, Massey PJ, Rodriguez H, Warikoo P, Keenan JA, Harris G, Caudle MR, Chen TT  
"Una De Gato" (Cat's Claw) - Wonder Herb From The Peruvian Rainforest: How Safe Is It?  
Research Day, 1997.

21) Rodriguez H, Massey PJ, Rodriguez K, Pedigo EC, Keenan JA, Warikoo P, Chen TT  
Inhibition of Steroid Hormone Production by a Nutrition Supplement.  
The Society for the Study of Reproduction, March 1998. (submitted)

**PAPERS PRESENTED:**

- Warikoo PK and Das RP

Role of androgen in development of fertilizing ability of spermatozoa and effect of progestational agent on the fertilizing ability.

XXXVII Joint Annual Conference of the Association of Physicians of India, Vigyan Bhavan, India, 1982.

- Das RP and Warikoo PK

Correlation between motility and fertilizing ability of bonnet monkey (*Macaca radiata*) spermatozoa.

Third International Conference of Andrology, Boston, Massachusetts, 1985.

- Allag IS, Warikoo PK, Das RP and Roy SA

A Technique for studying functional status of ejaculated spermatozoa of bonnet monkey (*Macaca radiata*).

Symposium on "Use of Primates in Medical Research" New Delhi, India, 1986.