Curriculum Vitae

A. Identifying Data

Name:	Mylene W. M. Yao
Date of Birth:	October 7, 1969
Social Security No.:	available upon request
California Medical License:	available upon request
Citizenship:	Canadian
Immigration Status:	U.S. permanent resident

B. Academic History:

1. Post-Secondary Education

1987-89 Undergraduate studies in General Science, Faculty of Arts & Science, University of Toronto, Toronto, Ontario, Canada.

1993 Doctor of Medicine, Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada.

2. Scholarships and Honors

1988 Faculty Scholar Certificate awarded by the Faculty of Arts and Science, University of Toronto, for High Distinction in academic work

1989 Faculty Scholar Certificate awarded by the Faculty of Arts and Science, University of Toronto, for High Distinction in academic work

1996 Jane and Eric Molson Research Prize, Department of Obstetrics & Gynecology, McGill University

1996 Best Resident Paper Award, The Canadian Fertility and Andrology Society Annual Meeting, Lake Louise, Alberta

1997 Award of Excellence, Obstetrics and Gynecology Research Day, University of Montreal, Montreal, Quebec

1997 First Prize, Residents' Day, The Association of Obstetricians and Gynecologists of Quebec Annual Meeting, Pointe-au-Pic, Quebec

1998 Award of Excellence in Research, Dept. of Ob/Gyn, McGill University

1998 Jane and Eric Molson Research Prize, Department of Obstetrics & Gynecology, McGill University

3. Postdoctoral And Residency Training

7/93 – 6/98 Obstetrics & Gynecology Residency Program (five-year program), Dept. Ob/Gyn, McGill University, Montreal, Quebec

7/97 – 6/98 Chief Resident, Obstetrics & Gynecology, McGill University, Montreal, Quebec

7/98 – 6/01 Clinical and Research Fellow in Reproductive Endocrinology/Infertility (REI), Dept. Of Ob/Gyn, Brigham and Women's Hospital, Harvard Medical School, Boston, MA

7/01 – 1/02 Research Fellow in Reproductive Endocrinology/Infertility (REI), Dept. Of Ob/Gyn, Brigham and Women's Hospital, Harvard Medical School, Boston, MA. Fellowship thesis: *"The function of Hoxa-10 in the murine peri-implantation uterus"*.
Scientific Advisor: Richard L. Maas, M.D., Ph.D.

4. Board Eligibility, Licensure And Certification

1995-present Licentiate of the Medical Council of Canada

1997 United States Medical Licensing Examination Steps 1, 2, and 3

1998-present Fellow of the Royal College of Physicians and Surgeons of Canada

1998 Certification in the Specialty of Obstetrics & Gynecology, College des Medecins du Quebec (Inactive status)

1998-2006 Commonwealth of Massachusetts Board of Registration in Medicine #153650
2003-present Medical Board of California License for Physicians & Surgeons #A85431
2005-present Board Certified, The American Board of Obstetrics & Gynecology (General Obstetrics and Gynecology)

C. Employment History:

02/02-09/03 Assistant Professor, Department of Ob/Gyn, Columbia University College of and Surgeons, NY.
10/03-03/04 Clinical Assistant Professor, Division of Reproductive Endocrinology and Infertility, Dept. of Ob/Gyn, Stanford University, Stanford, CA.
4/1/04-8/24/09 Assistant Professor in the University Tenure Line (UTL), Division of Reproductive Endocrinology and Infertility, Dept. of Obstetrics and Gynecology, Stanford, University, Stanford, CA.

D. Public and Professional Service:

1. Major Committee Assignments

National and Regional
1995-6 American College of Obstetricians and Gynecologists (ACOG) District I Junior Fellow Advisory Council (Section Vice-Chair)
1996-7 ACOG District I Junior Fellow Advisory Council (Section Chair)

McGill University
1995-8 Residency Research Committee, Dept. of Ob/Gyn, McGill University
1996-8 Obstetrics & Gynecology Residency Education Committee, McGill University
1997-8 Cesarean Section Review Committee, Royal Victoria Hospital, Montreal

Stanford University School of Medicine
2003-2005 Women's Health Scholarly Concentration Medical Student Research Review Committee
2006 Women's Health at Stanford Vice-Provost Undergraduate Education (VPUE) Selection Committee

2. Formal Teaching
2000, 2001 "Reproductive Physiology", Reproductive Epidemiology Course, Harvard School of Public Health, Boston, MA.
2000, 2001 "The Molecular Genetic Basis of Reproductive Tract Anatomy and Function", *Genes and Anatomy Correlation* lecture series in the Functional Human Anatomy Course (HST-010), Harvard Medical School, Boston, MA.
2001 Supervised research rotation of Anna Farago (M.D./Ph.D. program, Harvard Medical School) on *"Time series progesterone response of genes in the mouse uterus"*.
2004- 2007 Give lectures to clerkship students in their Ob/Gyn rotation, Stanford University School of Medicine.
2005- 2007 Give lectures to Ob/Gyn residents, Stanford University School of Medicine.
2006 "Eggs, Embryos, and Assisted Reproductive Technologies (ART)", *The Stem Cell* (Human Biology 157), Stanford University.
2006 "Hot Topics In Embryo Research", *Current Controversies in Obstetrics & Gynecology* (CME course), Stanford University.
2007 Discussion group leader for Graduate Cell Biology Course, BioSci 214/Bioc224, Stanford University.
2007 Discussion group leader for Gynecology Laboratory in Human Health and Disease Course for second year medical students.
2008 Discussion group leader for Gynecology Laboratory in Human Health and Disease Course for second year medical students.

3. Other Teaching Activities

2005-2007 Vice-Provost Undergraduate Education (VPUE) advisor for undergraduate student, Phuong Tram
2005-2007 REI Fellowship research thesis advisor for Richard O. Burney, M.D.
2006-2008 REI Fellowship research thesis advisor for Sunny Jun, M.D.
2007-present REI Fellowship research thesis advisor for Lora Shahine, M.D.
2007-present VPUE advisor for undergraduate student, Zena Kharsa
2008-present REI Fellowship research thesis advisor for Kate O'Leary, M.D.
2008-present Graduate committee member and co-advisor for Ph.D. candidate Bokyung Choi (Department of Physics)

4. Editorial Board

2005- present Peer reviewer on the Editorial Board of *The Journal of Clinical Endocrinology and Metabolism*
2006- present Ad hoc reviewer for the *Journal of the Society for Gynecologic Investigation*
2006- present Ad hoc reviewer for *Reproduction*
2007- present Ad hoc reviewer for *Stem Cells*
2007- present Ad hoc reviewer for *International Journal of Gynecologic Cancer*

E. Post-degree Honors, Awards and Professional Memberships:

1. Honors And Awards

1999 General Program Prize Paper, Conjoint Annual Meeting of the ASRM and the Canadian Fertility and Andrology Society, Toronto, Ont.
2000 American College of Obstetrics and Gynecology (ACOG)/Ortho-McNeil Pharmaceutical Academic Training Fellowship Award in Ob/Gyn
2002 American Society for Reproductive Medicine (ASRM)/NICHD/Reproductive Scientist Development Program (RSDP) Research Award
2003 American Society for Reproductive Medicine (ASRM)/Organon Research Award

2. Professional Memberships

1993-2007 Junior Fellow, American College of Obstetricians and Gynecologists
1993-2001 Junior Fellow, Society of Obstetricians and Gynecologists of Canada
1995-2001 Junior Fellow, Canadian Fertility and Andrology Society
1998-present Associate Member, The American Society for Reproductive Medicine
1998-present Member, The Society for Reproductive Endocrinology and Infertility
2005-2008 Trainee Member, The Society for Gynecologic Investigations
2006-present Associate Member, Stanford Comprehensive Cancer Center
2008-present Member, Society for Developmental Biology
2008-present Member, Society for the Study of Reproduction
2009-present Trainee Member, The Society for Gynecologic Investigations

F. Bibliography:

1. **Yao M**, Jamieson C, Blend R. (1993). Magnetic Resonance Imaging in Preoperative Localization of Diseased Parathyroid Glands: A Comparison with Isotope Scanning and Ultrasonography. *Canadian Journal of Surgery* **36**(3), 241.
2. **Yao M**, Tulandi T, Falcone T. (1996). Treatment of ectopic pregnancy by systemic methotrexate, transvaginal methotrexate, and operative laparoscopy. *International Journal of Fertility* **41**(5), 470-475.
3. **Yao M**, Tulandi T. Current status of surgical and nonsurgical management of ectopic pregnancy. In: The IX world congress on human reproduction. U.K.: Parthenon Publishing, 1996.
4. **Yao M**, Tulandi T, Kaplow M, Smith AP. (1996). A comparison of methotrexate versus

laparoscopic surgery for the treatment of ectopic pregnancy: a cost analysis. *Human Reproduction* **11**(12), 2762-2766.

5. Saxon D, Falcone T, Mascha EJ, Marino T, **Yao M**, Tulandi T. (1997). A study of ruptured tubal ectopic pregnancy. *Obstet Gynecol* **90**, 46-9.
6. **Yao M**, Tulandi T. (1997). Current status of surgical and nonsurgical management of ectopic pregnancy. *Fertility and Sterility* **67**, 421-33.
7. **Yao M**, Tulandi T. (1998). Surgical and medical management of tubal and non-tubal ectopic pregnancies. *Curr Opin Obstet Gynecol* **10**, 371-374.
8. Ma L, **Yao M**, Maas RL. (1999). Genetic control of uterine receptivity during implantation. *Seminars in Reproductive Endocrinology* **17**(3), 205-216.
9. **Yao M**, Hill JA. Vaginal bleeding in early pregnancy. In: K Carlson and SA Eisenstat (eds). The primary care of women. Mosby-Yearbook Medical Publisher, 2000.
10. **Yao M** and Schust DJ. Infertility. In: JS Berek, EY Adashi, and PA Hillard (eds). Novak's Gynecology. 13th Edition. Williams & Wilkins, 2000.
11. **Yao MW**, Lim H, Schust DJ, Choe SE, Farago A, Ding Y, Michaud S, Church GM, Maas RL. (2003). Gene expression profiling reveals progesterone-mediated cell cycle and immunoregulatory roles of *Hoxa-10* in the pre-implantation uterus. *Molecular Endocrinology* **17**, 610-627.
12. Polan ML and **Yao M.** (2004). Uterine stem cell transfer: the chicken teaches the egg. *JAMA,* **292**(1), 104-5.
13. **Yao MWM** and Batchu K. Oogenesis. In: T Falcone and WW Hurd (eds). Clinical Reproductive Medicine and Surgery. 1st Edition. Elsevier, 2006.
14. Burney R, Schust DJ, **Yao MWM**. Infertility. In: JS Berek (ed). Berek and Novak's Gynecology. 14th Edition. Williams & Wilkins, 2006.
15. Burney, R.**,** Lee, A., Leong, D., Hahn, A., Jones, J., Meyer, T., **Yao, M.W.M.** (2007). A transgenic mouse model for high content, cell cycle phenotype screening. *Cell Cycle* **6**(18), 2276-83.
16. Jun*, S., Choi*, B., Westphal, L., Behr, B., Reijo Pera, R.A., Wong, W.H., **Yao, M.W.M**. (2008). Defining human embryo phenotypes by cohort-specific prognostic factors. *PLoS ONE* 3(7), e2562. doi:10.1371/journal.pone.0002562
17. Foygel, K., Jun, S., Leong, D., Choi, B., Lee, A., Kharsa, Z., Khee, R., Reijo Pera, R.A., Wong, W.H., **Yao, M.W.M.** (2008). A novel and critical role for Oct4 as a regulator of the maternal-embryonic transition. *PLoS ONE* 3(12), e4109. doi:10.1371/journal.pone.0004109
18. Melin*, J., Lee*, A. I., Foygel, K., Leong, D. E., Quake, S. R., **Yao, M.W.M.** (2009). *In vitro* embryo development in defined, sub-microliter volumes. *Dev Dyn* 238:950-955
19. Leong, D. E., Hahn-Windgassen, A., Foygel, K., Jun, S., Behr, B., **Yao, M.W.M.** Morpholino-mediated gene knockdown in the early mouse embryo. (2009). *Protocols Network*
    http://www.natureprotocols.com/2009/06/05/morpholinomediated_gene_knockd.php

**Shared first co-authorship*

IV. Abstracts (selected)

1. Burney RO, Leong DE, Hahn A, Jones JT, Meyer T, **Yao MWM**. A transgenic mouse model for the *in vivo* monitoring of the cell cycle. Presented and awarded the President's Presenter's Award at The Society for Gynecologic Investigations Annual Conference, Toronto, 2006.
2. Burney RO, Lee A, Leong DE, Hahn A, Jones JT, Meyer T, **Yao MWM**. A transgenic mouse model for studying mitosis in the preimplantation mouse embryo. Gordon Research Conference on Mammalian Gametogenesis & Embryogenesis, New London, CT. 2006.
3. Foygel KM, Jun SH, Leong DE, Choi B, Wong WH, **Yao MWM**. Embryonic stem cell (ESC) Pluripotency regulators have novel and critical roles in pre-blastocyst development. American Society for Reproductive Medicine Annual Meeting, San Francisco, CA. Nov., 2008.
4. Melin JE, Lee A, Foygel KM, Leong DE, Quake SR, **Yao MWM.** Investigating the physical

and biological requirements of *in vitro* mammalian embryo culture: an interdisciplinary approach. American Society for Reproductive Medicine Annual Meeting, San Francisco, CA. November, 2008

5. Foygel KM, Choi B, Leong DE, Jun S, Wong WH, **Yao MWM**. Deconstructing the dynamic gene network in the early embryo. The Society for Gynecologic Investigations, Glasgow, U.K., 2009.

V. Invited Presentations.

2003 "Gene expression profiling reveals progesterone-mediated cell cycle and immuno-regulatory roles of *Hoxa-10*", Dept. Ob/Gyn, Stanford University School of Medicine, Stanford, CA.

2003 "Gene expression profiling reveals progesterone-mediated cell cycle and immuno-regulatory roles of *Hoxa-10*", Dept. Ob/Gyn, Yale University, New Haven, CT.

2003 "Gene expression profiling reveals progesterone-mediated cell cycle and immunoregulatory roles of *Hoxa-10* in the pre-implantation uterus", RSDP Research Retreat, Santa Fe, New Mexico.

2005 "The role of cdk2 in the mouse embryo", Reproductive Research Day, Stanford University

2006 "Cell cycle regulation in the mammalian embryo", RSDP Research Retreat, Santa Fe, New Mexico.

2007 "Probing the mammalian gene regulatory network at the cusp of embryonic genome activation", Developmental Biology Faculty Seminar, Stanford University.

2007 "Early mammalian embryo development", RSDP Research Retreat, Boulders, Colorado.

2008 "Gene regulation in the mammalian embryo", Stem Cell and Regenerative Medicine Seminar, Stanford University

2008 "Novel and Critical Roles of Pluripotency Regulators in Reprogramming the Early Embryo", Germ Cells Meeting, Cold Spring Harbor Laboratories, New York

2008 "Physical Requirements of *In Vitro* Embryo Culture", 2008 Beckman Translational Research Symposium, Beckman Center, Stanford University, CA

2008 "Gene regulation at the maternal-embryonic transition", Department of Reproductive Medicine, University of California, San Diego

2009 "The dynamic gene regulatory network and reprogramming in the early embryo", Keystone Meeting: Frontiers in Reproductive Biology and Regulation of Fertility, Santa Fe, NM.

2009 "Embryo development: The bench-to-bedside paradigm in action", Maternal Fetal Medicine Research Seminar, Dept. Ob/Gyn, Stanford University, CA

2009 "Understanding reprogramming in the early embryo: A new chapter in the Oct4 story", Wellcome Trust/Cancer Research UK and Gurdon Institute, University of Cambridge, Cambridge, U.K.

2009 "A Portal to the Gene Regulatory Network in the Early Embryo", Biostatistics Workshop, Stanford University, Stanford, CA

2009 "The Role of Single-Cell Analysis in Deconstructing the Gene Network in the Early Embryo", Single Cell Techniques Workshop, Cold Spring Harbor Laboratory, NY

VI. Popular Press (Selected)

www.time.com; "Predicting In Vitro Success" by Alice Park; July 1, 2008: http://www.time.com/time/health/article/0,8599,1819524,00.html

National Public Radio, "Predicting In Vitro Success Made Easier" by Joe Palca in *All Things Considered*; aired July 3, 2008: http://www.npr.org/templates/story/story.php?storyId=92204512

Reuters; New method may help predict IVF success: study by Julie Steenhuysen: http://www.reuters.com/article/scienceNews/idUSN0125903720080702

The Guardian; "Fertility: Doctors find test to predict chances of IVF success" by Ian Sample; July 2, 2008: http://www.guardian.co.uk/science/2008/jul/02/medicalresearch.health

U.S. News & World Report; "New Method Better Predictor of In Vitro Fertilization Success"; July 1, 2008: http://health.usnews.com/articles/health/healthday/2008/07/01/new-method-better-predictor-of-in-vitro.html

G. Completed Research Support:

The Function of *Hoxa-10* in the Murine Peri-implantation Uterus
PI: M. Yao; Advisor: R. Maas
Funding agency: American College of Obstetrics and Gynecology (ACOG)/Ortho-McNeil
Funding period: 07/01/2001-12/1/2002
Goal: To investigate the mechanism by which *Hoxa-10* mediates implantation in the uterus.

The Function of Cyclin A2 in Meiosis of the Murine Oocyte
PI: M. Yao
Funding agency: American Society for Reproductive Medicine (ASRM)-NICHD Reproductive Scientist Development Program Research Award
Funding period: 02/01/2002-06/30/2004
Goal: To investigate the role of cyclin A2 in mouse oocyte maturation and early embryo development.

Degradation of Cyclin A2 in Meiotic Progression of the Mouse Oocyte
PI: M. Yao
Funding agency: ASRM/Organon Research Grant in Reproduction
Funding period: 07/01/2003- 08/30/2006
Goal: To investigate the role of cyclin A2 degradation in the mouse oocyte and early embryo.

Live-cell Monitoring of Meiosis in the Mammalian Oocyte
PI: M. Yao
Funding agency: Office of Technology and Licensing (OTL), Stanford University
Funding period: 07/1/2004-08/30/2006
Goal: To provide proof-of-concept for a live, phenotype readout for meiosis and mitosis.

Pilot Project: Forward Chemical Genetics for the Mammalian Oocyte
PI of U54: L. Giudice; PI of pilot project: M. Yao
Funding agency: NIH-NICHD U54 HD31398 (CRWHR)
Funding period: 04/01/2004-03/31/2007
Goal: To develop a live-, fluorescence readout for oocyte and embryo developmental phenotypes.

Development of a High Throughput Experimental System for the Mammalian Oocyte and Embryo
Co-PIs: M. Yao and S. Quake
Funding agency: Beckman Center for Molecular and Genetic Medicine, and Stanford School of Medicine
Funding period: 11/15/2005-11/15/2008
Goal: To develop a microfluidics-based experimental and culture system for highly parallel chemical and genetic manipulation and testing of mouse oocytes and embryos.

H. Ongoing Research Support:

Novel Roles of Pluripotency Regulators in the Early Mouse Embryo
PI: M. Yao
Funding agency: NIH-NICHD (R01)
Funding period: 04/07/2008 - 04/06/2013

Goal: To determine the function of pluripotency regulators, such as Oct4, in reprogramming the early embryo.

A Microsystems-based High Throughput Experimental System for the Mammalian Oocyte
PI of this subproject: M. Yao; advisor: S. Quake
PI of the K12 grant: J. S. Berek
Funding agency: NIH K12 HD01249 (WRHR)
Funding period: 07/01/2005-06/30/2009
Goal: To develop a microfluidics-based experimental and culture system for highly parallel chemical and genetic manipulation and testing of mouse oocytes and embryos.

A Novel Prognostic Tool for Clinical Infertility
Co-I: M. Yao, S. Quake, W.H. Wong
Funding agency: Coulter Translational Research Program, Stanford University
Proposed funding period: 04/01/09-10/31/09, with potential for continued funding for 1-2 years, pending progress
Goal: To develop prognostic tools in IVF.
OVERLAP There is no content overlap with the pre-existing R01.