

## BIOGRAPHICAL SKETCH

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NAME Ian M. Bird, PhD		POSITION TITLE Professor	
eRA COMMONS USER NAME imbird			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Birmingham University, Birmingham, U.K.	BSc(Hons)	1984	Medical Biochemistry (2.i)
Middlesex Hospital Medical School, Univ London U.K. Dept Biochem/Clinical Chem, Univ Edinburgh, UK	PhD Postdoc 1	1987 1988-1991	Biochemistry Biochemistry
Green Center, UT Southwestern, Dallas TX	Postdoc 2	1991-1993	Biochemistry/Mol Biology

**A. Personal Statement:** Dr. Ian M Bird Ph.D. is a PhD Research tenured Professor in the Dept. of OB/Gyn and has an extensive track record of publication and grant funding. He has been an active researcher in molecular endocrinology for 20 years and has published more than 131 peer-reviewed publications. Dr. Bird was recruited to the UW Dept. of OB/Gyn in 1994 on the basis of his molecular endocrinology experience and achieved tenure and the rank of full Professor in just 9 years. In that time on UW faculty he has held multiple research and training grants from both the NIH and USDA and is an integral member of the ongoing Program Project award (See support). He currently reviews grant applications for USDA, NIH, MRC and CIHR Canada and Wellcome Trust UK. Dr. Bird runs an active laboratory with graduate students, postdoctoral scientists and residents and MD Fellows. His Predoctoral students have successfully competed for American Heart Association (AHA) Pre and Postdoctoral Fellowship awards. His graduate students have frequently been selected for oral presentations at SGI, Society for Study of Reproduction (SSR) and Endocrine Society meetings and his Postdoctoral/Scientist Trainees are funded by NIH and received Presidents Presenters awards from the SGI. He is a trainer in the MSTP Program and a member of more than a dozen student committees in ERP. Currently, Dr Bird serves as the Secretary Treasurer for the Perinatal Research Society and is PI of its associated R13 grant. Dr. Bird has trained in five of the top twenty-five research universities in the world as well as with the World Health Organization and as such has been exposed to a wide range of teaching, training and management styles. He has been a member of the ERP Program since 1996 and became Director of the ERP Program in 1999. The ERP Training Grant Steering Committee was set up on his initiative and became the ERP Program's current steering committee. In 2004, under Dr Bird's leadership, the ERP Program was funded by a T32 Predoctoral training grant for PhD Trainees. This was renewed in May 2009 on first resubmission. In 2006, Dr. Bird worked extensively with the Dean's of the Graduate School and School of Medicine and Public Health to achieve the ERP Program's realignment to the Medical School, and at the same time, Dr Bird worked with Dr Shah to establish the new degree fellowship track for MD Fellows from the Dept of OB/GYN to train in the ERP program, and this is also currently seeking T32 support. In all these activities and beyond, Dr Bird has also been an active recruiter and trainer of URM students to both the ERP Program and indeed campus of UW Madison, working closely with the Associate Director Diversity Initiatives Dr T Duello. Indeed this past year their combined efforts working with the Graduate School resulted in a new initiative of inter program initiatives to jointly promote URM recruitment to the UW Madison campus both by on campus events and outreach visits to URM campuses and associated Bridge programs.

## **B. Positions and Honors**

### **Positions and Employment:**

**1993 - 1994** Assistant Instructor, University of Texas Southwestern Medical Center at Dallas

- 1994 - 1999** Assistant Professor of OB/GYN, University of Wisconsin-Madison (7/1/94).  
**1999 - 2003** Associate Professor of OB/GYN, University of Wisconsin-Madison (7/1/94).  
**2000-Current:** **Director/Chair Endocrinology Reproductive Physiology Graduate Program, UW Madison.**  
**2003-Current** **Professor of OB/GYN, University of Wisconsin-Madison.**

**Other Experience and Professional Membership:**

- **Editorial Board Member**, Medical Biochemistry (from Journal setup in 1996-2003), JSOI 2004-current, J Endocrinology 2004-2006.
- **Senior Editorial Board Member** . J Endocrinology 2006-Current.
- **Ad Hoc Reviewer** for Molecular & Cellular Endocrinology, Endocrine, Endocrinology, Hypertension, American Journal Physiology, Journal Clinical Endocrinology & Metabolism.
- **Reviewer for USDA** (Enhancing Reproductive Efficiency Program **1997, 1998, 1999, 2000, 2001**), **Welcome Trust, UK. 1997, 2010, MRC (Canada) 1998, and NIH 1999, 2001, 2002, 2003, 2004, 2006, 2008, 2009, 2010. CIHR (Canada) 2006.**
- **Society Gynecologic Investigation** Member 1996-Current
- **Perinatal Research Society** Member 1997-Current

**Honors:**

- **1984-1987** Science and Engineering Research Council/CASE Postgraduate Studentship
- **1986:** Attendance of 26th Harden Conference, Wye college (1 of 100 competitive places achieved on merit, from Biochemical Society UK).
- **1988-1989:** Post-Doctoral Research Fellowship Awarded by Faculty of Medicine, University of Edinburgh.
- **1990:** Sir Stanley and Lady Davidson Lectureship and Research Award (Faculty of Medicine, University of Edinburgh- First ever awarded to a PhD).
- **1991:** Sir Stanley and Lady Davidson Lectureship and Research Award (Faculty of Medicine, University of Edinburgh). *Continued for one year on the basis of outstanding productivity.*
- **1991-1994:** Post doctoral Fellowship/Assistant Instructorship with JI Mason funded from NIH T32 Postdoctoral Training Grant (Cecil and Ida Green Center UTSW Medical center, Dallas TX).
- **1996:** Invited Young Investigator Travel Grant Recipient Perinatal Research Society (NICHD R13 travel award).
- **2004:** SGI Presidents presenters award and NICHD competitive Travel stipend to FuXian Yi, Postdoctoral Trainee.
- **2007-2009** Perinatal Research Society: Council Member Basic Science.
- **2010-2014** Perinatal Research Society, Secretary Treasurer.

**C. Selected Peer-Reviewed Publications**

**PUBLICATIONS** – (Of 133 Total).

**Most recent:**

1. Sullivan JA, Grummer MA, Yi FX, **Bird IM (2006)**. Pregnancy Enhanced eNOS Activation in Uterine Artery Endothelial Cells Shows Altered Sensitivity to Ca<sup>2+</sup>, U0126 and Wortmannin but not LY294002 – Evidence that Pregnancy Adaptation of eNOS Activation Occurs at Multiple Levels of Cell Signaling. *Endocrinology*. 147(5):2442-57. PMID: Journal provides Free Access.
2. Gifford SM, Yi FX, **Bird IM. (2006)**. Pregnancy Enhanced Ca<sup>2+</sup> Responses to ATP in Uterine Artery Endothelial Cells is Due to Greater Capacitative Ca<sup>2+</sup> Entry Rather Than Altered Receptor Coupling. *J Endocrinology*. 190(2):373-84. PMID: Journal provides Free Access

3. Gifford SM, Yi FX, **Bird IM. (2006)**. Pregnancy Enhanced Store-Operated Ca<sup>2+</sup> Channel Function in Uterine Artery Endothelial Cells is Associated with Enhanced Agonist Specific TRPC3-IP3R2 Interaction. *J Endocrinology*. 190(2):385-95. PMID: Journal provides Free Access
4. Cale JM, **Bird IM. (2006)**. MEK/ERK1/2 Inhibition Alters Endothelial Nitric Oxide Synthase Activity In An Agonist-Dependent Manner. *Biochem J*. 398(2):279-88. PMID: PMC1550315
5. Pattison JC, Saltzman W, Abbott DH, Hogan BK, Nguyen AD, Husen B, Einspanier A, Conley AJ, and **Bird IM. (2007)**. Gender and Gonadal Status Differences in Zona Reticularis Expression in Marmoset Monkey Adrenals: Cytochrome b5 Localization With Respect To Cytochrome P450 17,20-Lyase Activity. *Mol Cell Endocrinol*. 265-266; 93-101. PMID: PMC1839875
6. Zhou R, Bruns CM, **Bird IM**, Kemnitz JW, Goodfriend TL, Dumesic DA, Abbott DH. **(2007)**. Pioglitazone improves insulin action and normalizes menstrual cycles in a majority of prenatally androgenized female rhesus monkeys. *Reproductive Toxicology*. 23(3):438-48. PMID: PMC2705750
7. Abbott DH, Zhou R, **Bird IM**, Dumesic DA, Conley AJ **(2008)**. Fetal programming of adrenal androgen excess: lessons from a nonhuman primate model of polycystic ovary syndrome. *Endocr Dev*. 13:145-58. PMID: PMC2531212
8. Kessel JM, Cale JM Verbrick E, Parker CR Jr, Carlton DP and **Bird IM (2008)**. Antenatal Betamethasone Depresses Maternal and Fetal Aldosterone Levels. *Reproductive Sciences*. In Press. PMID: In Process - Journal Submits.
9. Abbott DH and **Bird IM (2009)**. Nonhuman Primates as models for human adrenal androgen production: function and dysfunction. *Reviews in Endocrine and Metabolic Disorders*. 10(1):33-42. PMID: PMC2653599
10. Pattison JC, Abbott DH, Saltzman W, Conley AJ & **Bird IM (2009)**. Plasticity of the Zona Reticularis in the Adult Marmoset Adrenal Cortex: Voyages of Discovery in the New World. *J Endocrinology*. 203(3):313-26. PMID: Review - Journal provides free access.
11. Grummer MA, Sullivan JA, Magness RR, and **Bird IM (2009)**. Vascular Endothelial Growth Factor acts through novel, pregnancy-enhanced receptor signaling pathways to stimulate eNOS activity in uterine artery endothelial cells. *Biochem J*. 417(2):501-11. PMID: PMC2680709
12. Nguyen AD, Corbin CJ, Pattison JC, **Bird IM** and Conley AJ **(2009)**. Increases in 17,20-lyase activity associated with Adrenarche are driven primarily by cytochrome b5 Induction, not decreased 3B-hydroxysteroid dehydrogenase in neonatal Rhesus Macaques. *Endocrinology*. 150(4):1748-56. PMID: PMC2732332
13. Yi FX, Boeldt DS, Gifford SM, Sullivan JA, Grummer MA, Magness RR, and **Bird IM (2010)**. Pregnancy Enhances Sustained Ca<sup>2+</sup> Bursts and eNOS Activation in Ovine Uterine Artery Endothelial Cells Through Increased Connexin 43 Function. *Biology of Reproduction*. 82(1):66-75. (PMCID In Process – publisher submits).
14. Yi FX, Boeldt DS and **Bird IM (2010)**. Pregnancy Induced Reprogramming of Endothelial Function in Response to ATP: Evidence for Post Receptor Ca<sup>2+</sup> Signaling Plasticity. In: *Extracellular ATP and adenosine as the regulators of endothelial cell function*. Ch 11, pp197-213. Eds Evgenia Gerasimovskaya & Elzbieta Kaczmarek. Springer Publications (In Press). *No PMID required (review chapter)*.
15. Yi FX, Boeldt DS, Magness RR and **Bird IM (2010)**. [Ca<sup>2+</sup>]<sub>i</sub> Signaling vs eNOS Expression as Determinants of NO Output In Uterine Artery Endothelium: Relative roles in pregnancy adaptation and reversal by VEGF165. *AJP-In Press*. PMID In process - publisher submits.

#### **D. Research Support:**

<b>Current Awards: PI</b>	<b>AGENCY/NUMBER</b>	<b>EFFECTIVE DATES</b>	<b>TITLE OF PROJECT</b>
<b>Ian M. Bird (PI)</b> RR Magness (CoI) FuXian Yi (CoI)	NIH-HED1 HL079020 RO1	(04/01/07-03/31/11) <b>RENEWED</b> 04/01/11-03/31/16	Pregnancy/NO Induced Changes in UAE Ca <sup>2+</sup> signaling. Funded
The purpose of this proposal is to investigate in detail the mechanism by which ATP induces Ca <sup>2+</sup> influx via TrpC channels and how this is enhanced during pregnancy by cell-cell communication via GAP junctions. In addition to Ca <sup>2+</sup> imaging this study also examines how this relates to eNOS activation.			
<b>PO1: R Magness PI.</b> <b>Project 1 PI Ian M. Bird and Core C CoPI</b> <b>IMBird</b>	NIH-HED1PPG, HD 38843	05/01/07-04/30/12	Positive vs Negative Effects of VEGF on UA Endothelial Function During Pregnancy. Funded .

This renewed application for Project 1 is intended to investigate the relative roles of VEGF isoforms and associated VEGF receptors/ signal transduction in the differential control of nitric oxide production by cultured uterine artery and subsequent effects on Ca<sup>2+</sup>/NO responses to ATP stimulation.

**Former Related Awards: PI**

<b>Ian M. Bird (PI)</b> DB Chen (Col) S Tsoi (Col)	NIH-HED1 HL64601 RO1	02/01/01-01/31/05	Pregnancy induced changes in UAEC signaling pathways.
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This application is intended to investigate the relative roles of AKT and ERK-1/2 signal in the differential control of prostacyclin and nitric oxide production by cultured uterine artery endothelial cells in response to ATP, angiotensin II bFGF and VEGF.

<b>PO1 R Magness PI.</b> <b>Project 1: PI Ian M Bird</b> <b>Core B: Ian M Bird</b>	NIH PO1 HD 38843	07/01/01-06/30/06	Signaling mechanisms controlling NO production and mitogenesis in UAEC and OFPAEC: Bird-PI Molecular Core Laboratory- Bird –PI
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**Project 1:** is intended to investigate the relative roles of AKT and ERK-1/2 signal ubordinate in the differential control of prostacyclin and nitric oxide production by cultured uterine artery and ovine fetoplacental artery endothelial cells in response to ATP, angiotensin II, bFGF and VEGF. **Core B** is the protein/molecular Core of the PPG.

<b>Ian M. Bird (PI)</b> RR Magness (Col) FuXian Yi (Col)	NIH-HED1 HL079020 RO1	04/01/07-03/31/11	Pregnancy/NO Induced Changes in UAE Ca <sup>2+</sup> signaling. Funded
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The purpose of this proposal is to investigate in detail the mechanism by which ATP induces Ca<sup>2+</sup> influx via TrpC channels and how this is enhanced during pregnancy by cell-cell communication via GAP junctions. In addition to Ca<sup>2+</sup> imaging this study also examines how this relates to eNOS activation.

**As Col**

<b>FX Yi PI,</b> <b>IM Bird Col</b>	NIH RO3 HD050578	07/01/05-06/30/07	Pregnancy induced resistance to UAE dysfunction.
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This application investigates the mechanisms of ROS generation in UAEC treated with TNF alpha and mechanisms by which UAEC resist these reactive oxygen species during pregnancy.

<b>R Magness (PI)</b> <b>Ian M Bird (Col)</b>	NIH RO1 HL49210	01/01/2007-12/31/2011	Endothelial-Derived Vasodilators in Pregnancy
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To provide the first mechanistic framework for understanding the interactions between shear stress and estrogen to regulate UAEC NO production and the signaling mechanisms that regulate ATP-induced Ca<sup>+</sup> burst associated eNOS activation.

**Training Awards (T32)**

<b>Ian M. Bird (PI)</b>	NIH T32 HD41921	05/01/04-04/30/09 Renewed 05/01/09-04/30/14	Endocrinology reproductive Physiology Training Grant (Predoctoral) –4 Fellowships. <b>This Grant has just been renewed 2009-2014.</b>
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The purpose of this proposal is to provide funding for training of predoctoral students in the field of Endocrinology Reproductive Physiology.

<b>Molly Carnes PI</b> <b>Ian M Bird Col</b>	NIH-R25	02/01/08-01/31/12	<b>Training and Education to Advance Minorities in Science (TEAM-Science). Awarded.</b>
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This application supports the recruitment of and support/mentoring of underrepresented minorities to the UW campus. This is a combined initiative of ERP (I Bird Director) with the Womens Health Center (M Carnes Director).

<b>Ian M Bird PI</b>	NIH-R13	04/01/2010-06/30/2014	<b>Perinatal Research Society Annual Meeting</b>
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This application supports the Annual meeting of the Perinatal Research Society (Ian Bird Secretary Treasurer) – Young Investigators and Speaker Funds.