

## CURRICULUM VITAE

**Robert Michael DePhilip**

(Updated 8/1/00)

### PRESENT ADDRESS:

Department of Anatomy & Medical Education  
The Ohio State University  
3184 Graves Hall  
333 West Tenth Avenue  
Columbus, Ohio 43210  
(614) 292-4769 (Office)  
(614) 292-9777 (Laboratory)  
(614) 292-7659 (FAX)  
dephilip.1@osu.edu (e-mail)

### ACADEMIC POSITIONS:

**Assistant Professor**, Department of Cell Biology, Neurobiology & Anatomy, The Ohio State University (1983-1998).  
**Associate Professor**, Department of Cell Biology, Neurobiology & Anatomy, The Ohio State University. (1998-1999)  
**Associate Professor**, Department of Anatomy & Medical Education, The Ohio State University (1999-present)  
**Interim Chair**, Department of Cell Biology, Neurobiology & Anatomy, The Ohio State University (1998-1999)  
**Interim Chair**, Department of Anatomy & Medical Education, The Ohio State University (1999-present).

### EDUCATION:

**B.S.**, Chemistry, Duquesne University, 1971.  
**Ph.D.**, Anatomy and Cell Biology, University of Pittsburgh, 1980, Irving Lieberman, adviser.  
Thesis: *The effect of insulin on ribosome synthesis in cultured chick embryo fibroblasts.*  
**Postdoctoral Fellow**, Department of Anatomy and the Laboratories for Reproductive Biology, University of North Carolina (1979-1983). Abraham L. Kierszenbaum, adviser.

### MAJOR RESEARCH INTEREST:

The regulation and function of the cadherins, calcium-dependent cell adhesion molecules, in gonadogenesis and in cancer.

**GRANT HISTORY:** (As principal investigator unless noted otherwise.)

Starter grant #715726 from The Ohio State University American Cancer Society Institution Grant, *Effect of Extracellular Matrix on Sertoli Cell Function*. \$3,500, 1983-84.

Bremer Foundation Grant #540101, *Sertoli Cell-Spermatogenic Cell Surface Protein Interactions During Spermatogenesis*. \$5,000, 1984-85.

Ohio State University Seed Grant #221584, *Sertoli Cell-Spermatogenic Cell Surface Protein Interactions During Spermatogenesis*. \$12,000, 1984-85.

NIH Award R23-HD 19735, *Sertoli Cell-Germ Cell Surface Membrane Interactions*. \$102,874, 7/1/85-6/30/88.

NIH Award R01-HD 19735, *Sertoli Cell-Germ Cell Surface Membrane Interactions*. \$207,455, 3/1/89-2/29/92.

Bremer Foundation Grant, *Generation and characterization of an antiserum against rat E-cadherin*. \$4,910, 1993-94.

NIH Award, *Growth inhibitory effect of gossypol on canine and human benign prostatic hyperplasia*. Young C. Lin, P.I., Robert M. DePhilip, Co-Investigator; 10% effort \$522,000, 9/30/92-9/29/95.

American Cancer Society, Ohio Division, Inc. *E-cadherin promoter activity in human breast cancer*, \$20,000, 11/1/95-10/31/96.

Program Development Grant from The Ohio State University Comprehensive Cancer Center. *E-cadherin promoter activity in human breast cancer*. \$82,500, 7/1/95-6/30/97.

NIH Award, *Antisense DNA strategies to suppress preterm labor*. Douglas A. Kniss, P.I.; Robert M. DePhilip, Co-Investigator; 5% effort; \$399,570, 3/1/96 – 5/31/98.

Ohio State University OAA/UTS Faculty Innovator Grant for Instructional Technology. *Human Anatomy & QTVR – Teaching a Classic Discipline in the new Millennium*. \$800, 1999-2000.

DxR Development Group, Inc. *USMLE Step 1 Gross Anatomy Test Bank Development*, Consultant, \$1500, 1999-2000.

#### **MEMBERSHIPS IN PROFESSIONAL SOCIETIES:**

American Association of Anatomists  
American Society for Cell Biology  
American Association of Clinical Anatomists  
International Association of Medical Science Educators

#### **PROFESSIONAL SERVICE:**

**Ad hoc Reviewer** for *Endocrinology*, *Biology of Reproduction*, *Endocrine Journal*, *J. of Histochemistry and Cytochemistry*, and *J. of Andrology*.

### **MAJOR TEACHING RESPONSIBILITIES:**

Anatomy 805, *Techniques in Cell Biology*, **Course Director**. This five credit lecture/laboratory course explores techniques used in contemporary cell biology. (1985-87; 1990; 1992; 1994)

Med Coll 662, *Medical Gross Anatomy*, **Instructor**. A team-taught course involving lecture and laboratory dissection. (1985-94; 1996-99)

Anatomy 911.06, *Advanced Topics in Cell Biology*, **Lecturer**. A team-taught lecture course dealing with advanced topics in cell biology. (1989 - 5 lectures; 1991 - 5 lectures; 1992 - 1 lecture; 1993 - 2 lectures; 1994 - 2 lectures)

Med Coll 662, *Medical Cell Biology*, **Lecturer**. A team-taught lecture course covering topics in medical cell biology given to first-year medical students. (1989 - 2 lectures; 1990 - 12 lectures; 1991 - 12 lectures; 1992 - 12 lectures; 1993 - 12 lectures)

Anatomy 850, *Graduate Seminar in Cell Biology, Neurobiology & Anatomy*, **Course Director** (1989, 1991, 1993)

Med Coll MedPath Program, *Post-Baccalaureate Cell Biology*, **Course Director**. A lecture-computer lab course given in Summer quarter to prepare post-baccalaureate students for medical school. (1993, 1994)

Med Coll Problem-Based Learning Pathway. **Group Facilitator**. (Fall, 1999).

### **AWARDS AND RECOGNITIONS:**

Invited Speaker, Gordon Research Conference on Mammalian Gametogenesis and Embryogenesis, 1982.

Ohio State University College of Medicine Award for Outstanding Teaching, Class of 1990.

Ohio State University College of Medicine Award for Excellence in Teaching, Class of 1997.

Ohio State University College of Medicine Award for Outstanding Teaching, Class of 1998.

Invited Speaker, Med I Family/Parent's Weekend, 1991, 1993, 1994, 1995.

Ohio State University, College of Medicine and Public Health, Professor of the Year, Class of 1998.

### **STUDENTS ADVISEMENT:**

#### **Ph.D. Students**

Daniel G. Danahey, 1984-1990. Awarded Ph.D., 1990.

Christopher W. Gregory, 1988-1993. Awarded Ph.D., 1993.

Jiahn-Chun Wu, 1988-1994. Awarded Ph.D., 1994.

Li-Hsien Lin, 1991-1996. Awarded Ph.D., 1996.  
Roger A. Dashner, 1999-present.

### **M.S. Student**

Biao Li, 1996 - 98. Awarded M.S., 1998. Molecular, Cellular & Developmental Biology Graduate Program

### **Roessler Medical Research Fellows**

Robert M. Letscher, 1985.  
Jon A. Elias, 1986.  
Michael McLeod, 1992.  
K. Scott Miller, 1995

### **Undergraduate Summer Research Fellows**

Kimberly Kluge, 1985.  
Donna M. Albert, 1988.  
Melicia R. Cottrill, 1998.

## **ACADEMIC SERVICE:**

Graduate Studies Committee, Department of Cell Biology, Neurobiology & Anatomy, 1984-1988.  
Student Seminar Committee, Department of Cell Biology, Neurobiology & Anatomy, 1988-present.  
Student Review Committee, Medical Independent Study Program, 1988-present.  
Faculty Search Committee, Department of Cell Biology, Neurobiology & Anatomy, 1989.  
LCME Accreditation Self-Study Task Force, Subcommittee on Governance and Administration, 1990-1991.  
Reviewer, OSU Interdisciplinary Research Grant Program, 1991; 1994.  
Reviewer, OSU Seed Grant Program, 1993, 1995  
Reviewer, Children's Hospital Research Foundation, Columbus, OH 1995, 1996.  
Reviewer, OSU Department of Surgery Research Committee, 1996.  
College of Medicine and Public Health Library Committee, 1993-present; chair, 1997-present.  
University Senate, Alternate, 1997-00.  
Faculty Representative, Medical Student Honor Board, 1997-present.  
Med I L/D Academic Program Committee, 1997-present.  
2006 Initiative Task Force on the Preclinical Curriculum; Co-chair, 1999-present.  
College of Medicine and Public Health Classroom Technology Advisory Committee; Chair, 1999-present.

## **PUBLICATIONS:**

### **Journal Articles**

DePhilip, R.M., Lynch, W.E. and Lieberman, I. (1977) Nuclear DNA polymerases of human carcinomas. *Cancer Research* 37, 702-704.

DePhilip, R.M., Chadwick, D.E., Ignatz, R.A., Lynch, W.E. and Lieberman, I. (1979) Rapid stimulation by insulin of ribosome synthesis in cultured chick embryo fibroblasts. *Biochemistry* 18, 4812-4817.

- Foley, T.P., Jr., DePhilip, R.M., Perricelli, A. and Miller, A. (1980) Low somatomedin activity in cord serum from infants with intrauterine growth retardation. *Journal of Pediatrics* 96, 605-610.
- DePhilip, R.M., Rudert, W.A. and Lieberman, I. (1980) Preferential stimulation of ribosomal protein synthesis by insulin and in the absence of ribosomal and messenger ribonucleic acid formation. *Biochemistry* 19, 1662-1669.
- Ignotz, G.G., Hoker, S., DePhilip, R.M., Tsukada, K. and Lieberman, I. (1981) Lodish model and regulation of ribosomal protein synthesis by insulin-deficient chick embryo fibroblasts. *Biochemistry* 20, 2550-2558.
- DePhilip, R.M. and Kierszenbaum, A.L. (1982) Hormonal regulation of protein synthesis, secretion and phosphorylation in cultured rat Sertoli cells. *Proc. Natl. Acad. Sci. USA* 79, 6551-6555.
- DePhilip, R.M., Tres, L.L. and Kierszenbaum, A.L. (1982) Stage-specific protein synthesis during rat spermatogenesis. *Exp. Cell Res.* 142, 489-494.
- Kierszenbaum, A.L., DePhilip, R.M. Spruill, W.A. and Takenaka, I. (1983) Isolation and culture of rat seminal vesicle epithelial cells. The use of the secretory protein SVS IV as a functional probe. *Exp. Cell Res.* 145, 293-304.
- Shabanowitz, R.B., DePhilip, R.M., Crowell, J.A., Tres, L.L. and Kierszenbaum, A.L. (1986) Temporal appearance and cyclic behavior of Sertoli cell-specific secretory proteins during the development of the rat seminiferous tubule. *Biol. of Reprod.* 35, 745-760.
- Kierszenbaum, A.L., Crowell, J.A., Shabanowitz, R.B., DePhilip, R.M. and Tres, L.L. (1986) Protein secretory patterns of rat Sertoli and peritubular cells are influenced by culture conditions. *Biol. of Reprod.* 35, 239-251.
- DePhilip, R.M. and Danahey, D.G. (1987) Germ cell binding to rat Sertoli cells in vitro. *Biol. of Reprod.* 37, 1271-1282.
- Turner, S., Sucheston, M.E., DePhilip, R.M. and Paulson, R.B. (1990) Teratogenic effects on the neuroepithelium of the CD-1 mouse embryo exposed in utero to the anticonvulsant drug sodium valproate. *Teratology* 41, 421-442.
- Gregory, C.W. and DePhilip, R.M. (1992) Follicle-stimulating hormone-regulated Sertoli cell proteins SCc1 and SCc2 are phosphorylated and mitochondrially-associated. *Endocrinology* 131, 2103-2112.
- Metsger, D.S., DePhilip, R.M. and Hayes, T.G. (1993) An autoradiographic study of calcium phosphate ceramic bone implants in turkeys. *Clinical Orthopaedics and Related Research* 291, 283-294.
- Wu, J.-C., Gregory, C.W. and DePhilip, R.M. (1993) Expression of E-cadherin in immature rat and mouse testis and in rat Sertoli cell cultures. *Biol. of Reprod.* 49, 1353-1361.
- Wu, J.-C., Gregory, C.W. and DePhilip, R.M. (1993) P-cadherin and E-cadherin are co-expressed in MDCK cells. *Biochem. and Biophys. Res. Comm.* 195, 1329-1335.

- Danahey, D.G. Wu, J.-C., Lin, L.-H. and DePhilip, R.M. (1995) A monoclonal antibody generated against Sertoli cell proteins recognizes a distinct epithelial cell population in tissues of urogenital origin. *J. Urology*. 154, 2190-2196.
- Lin, L.-H. and DePhilip, R.M. (1996) Differential expression of placental (P)-cadherin in Sertoli cells and peritubular myoid cells during postnatal development of the mouse testis. *Anat. Rec.* 244, 155-164.
- Lin, L.-H. and DePhilip, R.M. (1996) Sex-dependent expression of placental (P)-cadherin during mouse gonadogenesis. *Anat. Rec.* 246, 535-544.
- Gregory, C.W. and DePhilip, R.M. (1998) Detection of steroidogenic acute regulatory protein (StAR) in mitochondria of cultured rat Sertoli cells incubated with follicle-stimulating hormone. *Biol. of Reprod.* 58, 470-474.
- Lou, P.-J., Chen, W.-P., Lin, C.-T., DePhilip, R.M. and Wu, J.-C. (1999) E-, P- and N-cadherin are co-expressed in the nasopharyngeal carcinoma cell line TW-039. *J. Cell. Biochemistry* 76, 161-172.
- Wu, J.-C., Chao, C.-C. and DePhilip, R.M. (1999) Localization of neural (N)-cadherin and catenins at Sertoli cell contact sites in the developing rat testes. (In revision)

### **Book Chapter**

- DePhilip, R.M., Feldman, M., Spruill, W.A., French, F.S. and Kierszenbaum, A.L. (1982) The secretion of androgen-binding protein and other proteins by rat Sertoli cells in culture: A structural and electrophoretic study. *Annals of the New York Academy of Sciences* 383, 360-371.

### **Abstracts**

- DePhilip, R.M., Tres, L.L. and Kierszenbaum, A.L. (1980) FSH-regulated secretion of proteins by rat Sertoli cells in culture. *J. Cell Biol.* 87, 149a.
- DePhilip, R.M., Tres, L.L. and Kierszenbaum, A.L. (1982) Biochemical and ultrastructural study of stage-specific protein synthesis in isolated rat seminiferous tubules. *The Anatomical Record* 202, 43a.
- DePhilip, R.M. (1985) The effect of laminin on Sertoli cell morphology and protein synthesis in vitro. *The Ohio Journal of Science*, 85, 33.
- DePhilip, R.M. (1985) A quantitative assay for spermatogenic cell binding to Sertoli cells in vitro. *The Anatomical Record* 211, 51a.
- DePhilip, R.M. (1985) Germ cell binding to rat Sertoli cells in vitro. *J. Cell Biol.* 101, 373a.
- Danahey, D.G., Letscher, R.L. and DePhilip, R.M. (1986) Evidence for the functional polarity of rat Sertoli cells in vitro. *J. Cell Biol.* 103, 484a.
- Danahey, D.G., Gregory, C.W., Albert, D.M. and DePhilip, R.M. (1988) Characteristics of two

- monoclonal antibodies generated against Sertoli cell plasma membranes. *J. Cell Biol.* 107, 170a.
- DePhilip, R.M. (1988) Transepithelial electrical resistance of rat Sertoli cell in vitro. *J. Cell Biol.* 107, 170a.
- Turner, S., Sucheston, M.E., DePhilip, R.M. and Paulson, R.B. (1989) Teratogenic effects on the neuroepithelium of the CD-1 mouse embryo exposed in utero to the anticonvulsant drug sodium valproate. *Teratology* 39, 486-487.
- Metsger, D.S., DePhilip, R.M. and Hayes, T.G. (1990) A calcium phosphate autoradiographic study in turkeys. Presented at the 16th Annual Meeting of the Society for Biomaterials, May 20-23, 1990 Charleston, SC.
- Gregory, C.W. and DePhilip, R.M. (1990) Specific FSH-dependent protein synthesis in testis and in ovary. *J. Cell Biol.* 111, 362a.
- DePhilip, R.M. and Wu, J.-C. (1991) Uvomorulin immunoreactivity in rat testis. Presented at the XIth North American Testis Workshop, Montreal, Canada, April 24-27, 1991.
- Wu, J.-C. and DePhilip, R.M. (1991) Evidence that uvomorulin (E-cadherin) is present in the testis. *J. Cell Biol.* 115, 144a.
- Gregory, C.W. and DePhilip, R.M. (1991) Sertoli cell proteins SCc1 and SCc2 are phosphoproteins and may be involved in FSH-regulated steroid metabolism. *J. Cell Biol.* 115, 142a.
- Gregory, C.W. and DePhilip, R.M. (1992) Hormonally-regulated Sertoli cell phosphoproteins SCc1 and SCc2 are mitochondrially-associated. *Mol. Biol. Cell.* 3, 10a.
- Wu, J.-C. and DePhilip, R.M. (1993) E-cadherin (uvomorulin) is associated with migrating germ cells during early postnatal development of the rat testis. *Mol. Biol. Cell* 4, 28a.
- Lin, L.-H., Gregory, C.W., and DePhilip, R.M. (1993) Identification of P-cadherin in spermatogenic cells of immature and adult rats. *Mol. Biol. Cell* 4, 31a.
- Wu, J.-C., Lin, L.-H., Wheelock, M.J., Johnson, K.R. and DePhilip, R.M. (1994) Epithelial(E)- and neural(N)-cadherin expression in the developing rat testis and ovary. *Mol. Biol Cell* 5, 219a.
- Gregory, C.W. and DePhilip, R.M. (1995) Induction of the steroidogenic acute regulatory (StAR) protein in rat Sertoli cells by follicle-stimulating hormone (FSH). *Mol. Biol. Cell* 6, 315a.
- Li, B. and DePhilip, R.M. (1997) DNA methylation and the early development of breast cancer. Presented at the FASEB Summer Research Conference on Biological Methylation, Saxtons River, VT., June 14-19, 1997.
- DePhilip, R.M. and Cain, T.J. (1999) Evolution of a web-based practical examination in human gross anatomy. 16<sup>th</sup> Annual Meeting of the American Association of Clinical Anatomists, Iowa City, IA, Jun. 8-11, 1999.
- Wu, J.-C., Chao, C.-C. and DePhilip, R.M. (2000) Localization of neural (N)-cadherin to Sertoli cells in the postnatal rat testis. Annual Meeting of American Association of Anatomists at

Experimental Biology 2000. San Diego, CA, Apr. 15-18, 2000.

Mazzuro, J.D., Cain, T.J., Way, D.P. and DePhilip, R.M.(2000) Correlation between selected preclinical pathway in the medical curriculum and student usage of computer pretests in the gross anatomy course. Third Joint Meeting of the American and British Associations of Clinical Anatomists. University of Cambridge, July 19-22, 2000.