

## **Christopher Peter Ford, Ph.D.**

Assistant Professor

Department of Physiology and Biophysics

& Department of Neurosciences

Case Western Reserve University

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### **EDUCATION AND TRAINING**

1994 - 1998	University of Alberta Edmonton, Canada	B.Sc. Biological Sciences
1998 - 2003	University of Alberta Edmonton, Canada	Ph.D. Neuroscience
2004 - 2010	Vollum Institute, Oregon Health & Science University. Portland, OR	Post- Doctoral Fellow. Neuroscience

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### **APPOINTMENTS AND POSITIONS**

2011 - present	Case Western Reserve University School of Medicine Dept. of Physiology & Biophysics Cleveland, OH	Assistant Professor (Primary Appointment)
2011 - present	Case Western Reserve University School of Medicine Dept. of Neurosciences Cleveland, OH	Assistant Professor (Secondary Appointment)

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### **HONORS**

Province of Alberta. Studentship	1999
Alberta Heritage Foundation for Medical Research. Studentship	2000 - 2003
Neuroscience Canada. Studentship	2001 - 2003
Alberta Heritage Foundation for Medical Research. Fellowship	2004
Alberta Heritage Foundation for Medical Research. Incentive award	2004 - 2007
Life Sciences Research Foundation. Post-Doctoral Grant	2004 - 2007
NIH/NIDA - K99/R00. Pathway to Independence Award	2009 - 2013
NARSAD Young Investigator	2011
Case Western Reserve University Mt. Sinai Foundation Scholar	2011

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### **TEACHING**

#### *CWRU Medical Courses*

Spring 2011	Block 4, WR2 medical curriculum. Action Potential Lab
Summer 2011	Block 2, WR1 medical curriculum, Cell Physiology
Spring 2012	Block 4 Homeostasis – Cell Physiology and Cardiovascular Physiology

#### *CWRU Graduate Courses*

Spring 2011	Physiology 476 Cell Biophysics
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## PUBLICATIONS

### Refereed Peer Reviewed Publications:

- 1) **FORD CP**, Ivanoff AY, Smith PA (2000). Interaction of vasomotor and exocrine neurons in bullfrog paravertebral sympathetic ganglia. *Canadian Journal of Physiology and Pharmacology*. 78(8):636-644.
- 2) Stemkowski PL, Tse FW, Peuckmann V, **FORD CP**, Colmers WF, Smith PA (2002). ATP-inhibition of M current in frog sympathetic neurons involves phospholipase C but not Ins P(3), Ca(2+), PKC, or Ras. *Journal of Neurophysiology* 88(1):277-288.
- 3) **FORD CP**, Stemkowski PL, Light PE, Smith PA (2003). Experiments to Test the Role of Phosphatidylinositol-4,5,-Bisphosphate in Neurotransmitter-Induced M-channel Closure in Bullfrog Sympathetic Neurons. *Journal of Neuroscience* 23 (12): 4931-4941
- 4) **FORD CP**, Dryden WF, Smith PA (2003). Neurotrophic Regulation of Calcium Channels by the Peptide Neurotransmitter Luteinizing Hormone Releasing Hormone. *Journal of Neuroscience*. (23) 18: 7169—7175.
- 5) **FORD CP**, Stemkowski PL, Smith PA (2004) Possible role of phosphatidylinositol 4,5 bisphosphate in luteinizing hormone releasing hormone-mediated M-current inhibition in bullfrog sympathetic neurons. *European Journal of Neuroscience*. 20 (11):2990-2998.
- 6) **FORD CP**, Mark GP, Williams JT (2006). Properties and opioid inhibition of mesolimbic dopamine neurons vary according to target location. *Journal of Neuroscience*. 26 (10): 2788-2797.
- 7) **FORD CP**, Beckstead MJ, Williams JT (2007). Kappa opioid inhibition of somatodendritic dopamine inhibitory post synaptic currents. *Journal of Neurophysiology*. 97 (1): 883-891.
- 8) Beckstead MJ, **FORD CP**, Phillips PE, Williams JT (2007). Presynaptic regulation of dendrodendritic dopamine transmission. *European Journal of Neuroscience*. 26 (6): 1479-1488.
- 9) **FORD CP**, Wong KV, Posse De Chaves E, Smith PA (2008). Differential neurotrophic regulation of sodium and calcium channels in an adult sympathetic neuron. *Journal of Neurophysiology*. 99 (3): 1319-1332.
- 10) **FORD CP** & Williams JT (2008). Mesoprefrontal dopamine neurons distinguish themselves. *Neuron*. 57 (5): 631-632.
- 11) Beckstead MJ, Gantz S, **FORD CP**, Stenzel-Poore MP, Phillips PE, Mark, GP, Williams JT (2009). CRF enhancement of GIRK channel-mediated transmission in dopamine neurons. *Neuropsychopharmacology*. 34 (8): 1926-1935.
- 12) **FORD CP**, Phillips PE, Williams JT. The time course of dopamine transmission in the ventral tegmental area (2009). *Journal of Neuroscience*. 29 (42): 13344-1335.
- 13) Bender KJ, **FORD CP**, Trussell LO (2010). Dopaminergic modulation of axon initial segment calcium channels regulates action potential initiation. *Neuron*. 68 (3), 500-511.
- 14) **FORD CP**, Gantz SC, Phillips PE, Williams JT (2010). Control of extracellular dopamine at dendrite and axon terminals. *Journal of Neuroscience*. 30 (20): 6975-6983.
- 15) Gantz SC, **FORD CP**, Neve KA, Williams JT (2011). Loss of Mecp2 in substantia nigra dopamine neurons compromises the nigrostriatal pathway. *Journal of Neuroscience*. 31 (35), 12629-12637
- 16) Courtney NA, Mamaligas AA, **FORD CP** (2012) Species differences in somatodendritic dopamine transmission determine D2-autoreceptor mediated inhibition of ventral tegmental area neuron firing. *Journal of Neuroscience*. In press

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## SERVICE

### Journal Reviewer:

Journal of Neuroscience, Journal of Neurochemistry, Journal of Neurophysiology, Journal of Physiology

### Grant Reviewer:

French National Research Agency: Program Blanc

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## RESEARCH GRANT FUNDING

### 1. Current Support

R00-DA026417	Mechanisms of dopamine transmission in the VTA	2011-2014	NIH (NIDA)
Research Grant	Actions of antipsychotics at an identified dopamine synapse	2011-2013	NARSAD

### 2. Previous Support

K99-DA026417	Mechanisms of dopamine transmission in the VTA	2009-2010	NIH (NIDA)
Research Fellowship Grant	Opioid modulation of dopamine neurons	2004-2007	Life Sciences Research Foundation

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## SEMINARS AND INVITED LECTURES

2003	International Society for Autonomic Neuroscience. Calgary, AB
2006	Life Sciences Research Foundation. Washington, DC
2007	Dopamine 50 years, Goteborg, Sweden
2008	Winter Conference on Brain Research. Snowbird, UT
2009	CWRU, Department of Physiology and Biophysics. Cleveland, OH
2010	University of Texas, Department of Biology. San Antonio, TX
2010	University of Calgary, Hotchkiss Brain Institute. Calgary, AB
2010	Winter Conference on Brain Research, Breckenridge, CO
2011	International Narcotics Research Conference, Hollywood, FL
2011	CWRU, Department of Neuroscience. Cleveland, OH
2012	University of Alberta, Department of Neurosciences, Edmonton, AB
2012	Washington University, Department of Anesthesiology. St. Louis, MO
2012	Case Western Reserve University, Department of Pharmacology. Cleveland, OH

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## TRAINING RECORD

### Current PhD students

Nicholas Courtney	Fall 2011- present	PhD Student	Physiology CWRU
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### Graduate Rotation Students

Kate Fu	Spring 2011	PhD Student	Dept of Physiology CWRU
Nick Courtney	Summer 2011	PhD Student	Dept of Physiology CWRU
Jeff Blair	Summer 2011	PhD Student	BSTP CWRU
Oheneba Amponsah	Summer 2011	PhD Student	Dept of Physiology CWRU
Aphroditi Mamaligas	Spring 2012	PhD Student	BSTP CWRU
Pamela Marcott	Summer 2012	MD/PhD Student	MSTP CWRU
Samantha Barclay	Summer 2012	MD Student	CCLCM Cleveland Clinic

### Summer Undergraduate Students

Samantha Barclay	2011		BS Student, Cedarville
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**Thesis Committees (in addition to primary advisees)**

Ahlam Salameh	PhD student	Walter Boron	Physiology & Biophysics	Member
Ken Gresham	PhD student	Chris Wilson	Physiology & Biophysics	Member
Sheela Toprani	PhD student	Dominic Durand	Physiology & Biophysics	Member
Isaac Youngstrom	PhD student	Ben Strowbridge	Neurosciences	Member

**Qualifying Examination Committees**

Isaac Youngstrom	PhD student	Ben Strowbridge	Neurosciences	Member
Nicolaus Schmandt	PhD Student	Roberto Galan	Neurosciences	Member

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