

## CURRICULUM VITAE

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**Russell C. Schwarte**

### **Office Address:**

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Marion, IN 46953  
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### **Education:**

1992 B.S., Biology, Indiana Wesleyan University, Marion, IN  
Summa Cum Laude

2006 Ph.D., Biomedical Sciences,  
Eastern Virginia Medical School, Norfolk, VA  
Advisor: Dr. Earl Godfrey

### **Work Experience:**

1992-1999 Research Assistant, Dept. of Pathology and Anatomy,  
Eastern Virginia Medical School, Norfolk, VA

- Studied the effects of microgravity on the development of graviceptors of the jellyfish, *Aurelia aurita*, as part of the Second International Microgravity Laboratory (IML-2) aboard the Space Shuttle Columbia
- Studied the roles of both thyroxine and nitric oxide in jellyfish development and behavior using immunofluorescence microscopy (standard and confocal), immunohistochemistry, and electron microscopy (SEM and TEM)

1995-2000 Teacher, OakTree Academy

- Physics lecture and lab
- Chemistry lecture and lab

1999-2000 Research Assistant, T. R. Lee Center for Ocular  
Pharmacology,  
Eastern Virginia Medical School, Norfolk, VA

- Studied the effect of various pharmaceuticals on the rejection rate of rat corneal transplants
- Assisted in corneal transplant surgery
- Imaged corneal endothelial cells using scanning electron microscopy (SEM)
- Performed *in vivo* examination of rabbit and human cornea using a corneal confocal microscope (ASL 1000)

2000-2006 Graduate Student, Dept. of Pathology and Anatomy,  
Eastern Virginia Medical School, Norfolk, VA

- Studied the role of the NO/cGMP pathway in agrin-signaling at the neuromuscular junction

2006-2008      Research Fellow  
Wake Forest University Baptist Medical Center, Winston Salem, NC

- Studied the role of COX-1 dependent PGE2 production in postoperative pain
- Investigated the regulation of PGE2 production and phosphorylation of cPLA2 by P38 and ERK MAP Kinase signaling in activated microglia

2008-present    Assistant Professor  
Indiana Wesleyan University, Marion, IN

**Awards, Honors:**

2002      Best Neuroscience Poster Award, Research Day,  
Eastern Virginia Medical School

**Teaching Experience:**

1988-92    Biology Laboratory; Chemistry Laboratory; Microbiology Laboratory;  
Anatomy Laboratory  
Department of Biology, Indiana Wesleyan University

1993    Instructed NASA astronauts in experimental procedures required for IML-2  
mission  
NASA's Marshall Space Flight Center

1995-2000    Chemistry Lecture/Lab; Physics Lecture/Lab  
Oaktree Academy

2008-present    Anatomy & Physiology Lecture, Zoology Lecture/Lab, Physiology  
Lecture/Lab  
Indiana Wesleyan University

**Invited Seminars:**

2005      The role of nitric oxide signaling in the formation of the  
neuromuscular junction.  
Dept. of Anesthesiology, Wake Forest University

**Publications**

1. Spangenberg D, Lattanzio F, Philput C, **Schwarte R**, Coccaro E, Lowe B, and Philput J. (1997). Effects of weightlessness on budding and ephyra development in *Aurelia aurita* (Linnaeus, 1758) (Scyphozoa: Semaestomeae). In: Proceedings of the 6<sup>th</sup> International Conference on Coelenterate Biology, pp. 447-453.

2. Spangenberg D, Coccaro E, **Schwarte R**, and Lowe B, Philput J. (1996) Touch-plate and statolith formation in graviceptors of ephyrae which developed while weightless in space. *Scanning Microscopy*, **10**:875-888.

3. Godfrey, E.W. and **Schwarte, R.C.** (2003). The role of nitric oxide signaling in the formation of the neuromuscular junction. *J. Neurocytology* 32:591-602.
4. **Schwarte, R.C.**, and Godfrey, E.W. (2004). Nitric oxide synthase activity is required for postsynaptic differentiation of the embryonic neuromuscular junction. *Devel. Biol.* 273: 276-284.
5. **Schwarte, R.C.**, and Godfrey, E.W. (2010). Nitric Oxide and Cyclic GMP Regulate Early Events in Agrin Signaling in Skeletal Muscle Cells. *Experimental Cell Research*. To be published.

### **Abstracts**

1. Schwarte, R.C., and Godfrey, E.W. Overexpression of nitric oxide synthase increases acetylcholine receptor aggregation at embryonic neuromuscular junctions. *Soc. Neurosci. Abstr.* 27:694.9, 2001.
2. Godfrey, E.W., and Schwarte, R.C. Overexpression of nitric oxide synthase increases acetylcholine receptor aggregation at embryonic neuromuscular junctions. *Soc. Devel. Biol. Mid-Atlantic Regional Meeting*, 2002.
3. Godfrey, E.W., Schwarte, R.C., and Sanders, G.E. The effect of water hardness on egg quality and embryo development in *Xenopus*. 9<sup>th</sup> International *Xenopus* Conference, 2002.
4. Godfrey, E.W., Schwarte, R.C., Longacher, M.W., and Nieswender, H.K. The nitric oxide-cyclic GMP signaling pathway mediates agrin-induced acetylcholine receptor aggregation at the embryonic neuromuscular junction. *Soc. Neurosci. Abstracts* 29:36.3, 2003.
5. Schwarte, R.C., Parasa, M.N., Orlova, E., Peunova, N., Scheinker, V., and Godfrey, E.W. Expression of a dominant negative nitric oxide synthase (NOS) in *Xenopus* embryos inhibits formation of neuromuscular junctions. *Soc. Neurosci. Abstr.* 30:385.16, 2004.
6. Schwarte, R.C. and Godfrey, E. W. Nitric oxide is critical for Rac activation, an early event in agrin signaling in muscle cells. *Soc. Neurosci. Abstr.* 31, 2005
7. Godfrey, E. W, Schwarte, R.C, Parasa, M., Balinger, C.L. Activity of nitric oxide synthase and guanylate cyclase is required for agrin-induced Rac activation, but not for acetylcholine receptor aggregation in mouse myotubes. *Soc. Neurosci. Abstr.* 32, 2008