

## William Ogle

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### CURRENT POSITION

2005- Assistant Professor, Department of Biomedical Engineering, McKnight Brain Institute, and Institute on Aging, University of Florida

### EDUCATION

1993-1998 The University of Chicago, Ph.D. in Biochemistry and Molecular Biology.  
1991-1993 The University of Chicago, S.M. in Biochemistry and Molecular Biology.  
1986-1989 California State University, Hayward, B.Sc. in Chemistry and Biological Sciences.

### RESEARCH EXPERIENCE

#### *Postdoctoral Research:*

1999-2005 Department of Biological Sciences, Stanford University Medical School.  
Advisor: Robert Sapolsky.

#### *Research Assistant Professor:*

1998-1999 Department of Molecular Genetics and Cell Biology, The University of Chicago.

#### *Doctoral Research:*

1993-1998 Department of Biochemistry and Molecular Biology, The University of Chicago. Advisor: Bernard Roizman.

#### *Research Associate:*

1989-1990 Cetus Corporation, PCR Division, Emeryville, California.

#### *Undergraduate Research:*

1987-1989 Department of Biological Sciences, California State University, Hayward  
Advisor: Edward Lyke.

### RESEARCH GRANTS

2009-2010 National Natural Science Foundation of China, Co-PI  
2006-2010 Ellison Medical Foundation. Research Grant. PI  
2001-2004 NIH NRSA Post-Doctoral Award. PI

### AWARDS

2006-2010. Ellison Medical Foundation, New Scholar in Aging.  
2004 Certificate of Recognition Undergraduate Mentor, Stanford University, CA  
2003 Travel Grant Award, Okinawa International Symposium, Bankoku  
Sinryokan, Okinawa, Japan.

2002	Travel Grant Award, Winter School on Complex Systems, Ecole Normale Supérieure, Lyon, France.
2002	Ellison Medical Foundation Fellowship, Mol. Biol. of Aging Summer Course, Woods Hole, Massachusetts.
2002	Travel Grant Award, American Society of Gene Therapy 5 <sup>th</sup> Annual Meeting.
2001	NIH Ruth L. Kirschstein National Research Service Award.
2001	Fellowship Complex Systems Summer School: Santa Fe Institute, NM
1999-2001	Adler Foundation Postdoctoral Fellow
1989	University Presidents' Service Award, Cal. State Univ. Hayward, CA
1988	Commendation for Outstanding Service to the University, Cal. State Univ. Hayward, CA
1988	Honorable Discharge, U.S. Marine Corps (Reserve), USMC(R)
	Honorable Discharge, U.S. Marine Corps, USMC
	Certificate of Achievement for Academic Excellence, USMC
	Meritorious Promotion
	Cold War Recognition Certificate

## JOURNAL PUBLICATIONS

- 1) Xu Y, Li S, Shyamala SG, Barish PA, Vernon MM, Pan J, and **Ogle WO**. (2009) Antidepressant like effect of low molecular proanthocyanidin in mice: involvement of the monoaminergic system. *Pharmacology, Biochemistry and Behavior*. In Press.
- 2) Xu Y, Lin D, Li S, Li G, Shyamala SG, Barish BA, Vernon, MM, Pan J, and **Ogle WO**. (2009) Curcumin reverses impaired cognition and neuronal plasticity induced by chronic stress. *Neuropharmacology* 57:463-71.
- 3) Xu Y, Ku B, Cui L, Li X, Barish PA, Foster TC, and **Ogle WO**. (2007) Curcumin reverses impairment of hippocampal neurogenesis, serotonin receptor 1A mRNA and brain-derived neurotrophic factor expression in chronically stressed rats. *Brain Research* 8:9-18.
- 4) Kaufer D\*, **Ogle WO\***, Pincus, ZS\*, Clark KL, Nicholas AC, Dinkel KM, Dumas TC, Ferguson D, Lee AL, Winters, MA, and Sapolsky, RM. (2004) Restructuring the neuronal stress response with anti-glucocorticoid gene delivery. *Nature Neurosci* 7:947-953.  
Accompanied by: *News&Views: From neurotoxin to neurotrophin*. Mirescu C, Gould E. *Nature Neurosci* 7:899-900.  
Faculty of 1000 Biology evaluation: (F1000 factor 9.0 Exceptional.)  
<http://www.f1000biology.com/article/id/1027944/evaluation>
- 5) Poon AP, **Ogle WO**, and Roizman B. (2000). Post-translational processing of infected cell protein 22 mediated by viral protein kinases is sensitive to amino acid substitution at distant sites and can be cell-type specific. *J. Virol.* 74:11210-11214.
- 6) **Ogle WO**, and Roizman B. (1999). The functional anatomy of the herpes simplex virus overlapping genes encoding the infected cell protein 22 and US1.5 protein. *J. Virol.* 73:4305-4315.
- 7) Bruni R, Fineschi B, **Ogle WO**, and Roizman B. (1999) A novel cellular, p60, interacts with herpes simplex virus 1 regulatory proteins ICP22 and ICP0 and is modified in a cell type-specific manner and recruited to the nucleus upon infection. *J. Virol.* 73: 3810-3817.
- 8) Ng TI, **Ogle WO**, and Roizman B. (1998) UL13 protein kinase of herpes simplex virus 1 complexes with glycoprotein E and mediates the phosphorylation of the viral Fc receptor Glycoproteins E and I. *Virology* 241: 37-48.
- 9) **Ogle WO**, Ng TI, Carter KL, and Roizman B. (1997) The UL13 protein kinase and the infected cell type are determinants of posttranslational modifications of ICP0. *Virology* 235: 406-413.
- 10) Leopardi R, Ward PL, **Ogle WO**, and Roizman B. (1997) Association of herpes simplex virus regulatory protein ICP22 with transcriptional complexes containing EAP, ICP4, RNA polymerase II, and viral DNA requires posttranslational modification of the UL13 protein kinase. *J. Virol.* 71: 1133-1139.

- 11) Ward PL, **Ogle WO**, and Roizman B. (1996) Assemblons: Nuclear structures defined by aggregation of immature capsids and some tegument proteins of herpes simplex virus 1. *J. Virol.* 70:4623-4631.
- 12) Purves FC, **Ogle WO**, and Roizman B. (1993) Processing of the herpes simplex virus regulatory protein alpha22 mediated by the UL13 protein kinase determines the accumulation of a subset of beta and gamma mRNAs and proteins in infected cells. *Proc. Natl. Acad. Sci. USA* 90: 6701-6705.

## REVIEWS

- 13) Dinkel K, **Ogle WO**, and Sapolsky RM. (2003) Glucocorticoids and CNS inflammation. *J. NeuroVir.* 8:513-28.
- 14) Lee AL, **Ogle WO**, and Sapolsky RM. (2002) Stress and Depression: Possible links to neuron death in the hippocampus. *Bipolar Disorders* 4: 117-128.
- 15) **Ogle WO**, and Sapolsky RM. (2001) Gene Therapy and the Aging Nervous System; Strategies for regulating transgenes in the aged brain. *Mechanisms of Ageing and Development* 122: 1555-1563.
- 16) **Ogle WO**. (2000) Intellectual Property Rights. *Science* 288: 1173-1174 (correspondence).

## CHAPTERS

- 17) Barish B, Kantorovich S, Carney P, **Ogle, WO**. (2010) Decoding Neural Circuitry with Optogenetics: Applications for Epilepsy In: *From the Hallowed Halls of Herpesvirology*. Ed: JA Blaho and JD Baines. World Scientific Publishing/Imperial College Press. *In Press*.
- 18) **Ogle, WO**. (2009) Contributing author in B. Hazelton: *Dads Matter* Four Forty Four Press, Corvallis.
- 19) **Ogle, WO**. (2005) Interventions against cellular senescence using gene therapy and protein engineering; problems and possibilities. In: *Extending the Lifespan; Biotechnical, Gerontological, and Social Problems*. Ed: K. Sames, S. Sethe, and A. Stolzing. LIT Verlag Berlin-Hamburg-Münster. pp: 161-166.

## MANUSCRIPTS SUBMITTED AND IN PREPARATION

- 20) Xu Y, Zhang X, You W, Liu Y, Li S, Vernon MM, Du X, Li G, Barish PA, Pan J, **Ogle WO**. (2009) Anitdressant like effect of *trans*-resveratrol: involvement of serotonin and noradrenalin system. Submitted.
- 21) Zeier Z, Madorsky I, Xu Y, **Ogle WO**, Notterpek L, Foster TC. (2009) Regionally Specific Gene Expression in the Hippocampus; Effect of Aging and Caloric Restriction. Submitted.
- 22) Boykin ER and **Ogle WO**. (2009) A robust computational model of the Sonic Hedgehog signaling pathway. In preparation.
- 23) Xu Y, Li S, Vernon MM, Zhou J, Barish PA, Zhang C, Shyamala SG, Boykin ER, Pan J, **Ogle WO**. (2009) Curcumin modulates neuronal plasticity against corticosterone neurotoxicity through a 5-HT dependent pathway in rat cortical neurons. In preparation.
- 24) Xu Y, Zhang C, Shyamala SG, Li S, Vernon MM, Barish PA, Boykin ER, **Ogle WO**. (2009) Corticosterone-induced alterations in dendritic morphology of hippocampal and amygdala neurons are associated with 5-HT7 receptor mediated synaptic protein expression. In Preparation.

## PROFESSIONAL ACTIVITIES

*Ad-hoc* Journal Reviewer:

Brain Research  
 Neurochemical Research  
 Neuropharmacology

Psychoneuroendocrinology  
Pharmacology, Biochemistry and Behavior  
Computers in Biology and Medicine

*Ad-hoc* Grant Reviewer: Army Research Laboratory / Office (ARL/ARO) (2009)  
UF Pepper Pilot Grant Review (2009)

Study section for granting agencies: NIH Aging Systems and Geriatrics Study Section, 2006-  
2007 (6 meetings).  
NIH Special Emphasis Panel Mar. 2007 (1 meeting).

Memberships: American Society of Gene Therapy  
Society for Mathematical Biology  
Society for Neuroscience  
Biomedical Engineering Society

## TEACHING

### *University of Florida:*

2009-Fall Graduate course "Molecular Biomedical Engineering."  
2009-Spring Graduate course "Genetic and Protein Engineering."  
2008-Fall Graduate course "Molecular Biomedical Engineering."  
2008-Fall Graduate course "Biomedical Engineering Seminar."  
2008-Spring Graduate course "Biomedical Engineering Seminar."  
2007-Fall Graduate course "Problem Based Learning."  
2007-Fall Graduate course "Biomedical Engineering Seminar."  
2007-Fall Undergraduate course "Introduction to Biomedical Engineering" (50  
students).  
2006-Spring Graduate course "Problem Based Learning."  
2006-Spring Graduate course "Biomedical Engineering Seminar."  
2006-Fall Graduate course "Protein and Genetic Engineering."  
2006-Fall Graduate course "Biomedical Engineering Seminar."

### *Columbia College, Chicago:*

1998-Fall Instructor: Human Biology.

### *The University of Chicago:*

1993-Spring Teaching assistant: undergraduate course "Biophysics."  
1993-Fall Teaching assistant: undergraduate course "Honors Genetics."

## STUDENT MENTORING

### **University of Florida**

#### **Current:**

#### **Graduate students:**

**Philip Barish** – PhD candidate in Biomedical Engineering.

Awarded Alumni Fellowship.

Thesis: Quantitative analysis of regulated transgene expression in hippocampal neurons.

**Mathew Vernon** – PhD candidate in Biomedical Engineering.

Awarded Alumni Fellowship.

Thesis: Hormonal control of plasticity and neurogenesis.

**Erin Taylor** – PhD candidate in Electrical and Computer Engineering.

Awarded NSF Graduate Research Fellowship and Alumni Fellowship.

Thesis: Dynamic modeling of gene regulatory networks.

**Post-doctoral students:**

**Ying Xu, Phd** – Post-doctoral researcher.

Research: Pharmacological interventions to prevent stress and age related cognitive decline.

**Undergraduate Students:**

**Vaishnavi Purusothaman** – 3<sup>rd</sup> year Neurological Science student. Undergraduate research. HHMI Science for Life Award and University Scholars Award.

**Past:****University of Florida****Graduate students:**

**Shyamala Subramaniam** – MS in Biomedical Engineering 2008.

**Undergraduate Students:**

**Mallory McManamon** – BS in Mathematics 2009. Undergraduate research project 2006-2008. HHMI Science for Life Award.

**Michael Guilbeault** – BS in Biological Engineering 2007. Undergraduate research project 2006-2007. (Current position: Research Associate at Scripps Florida)

**Matthew Sines** – BS in Chemical Engineering 2006. Undergraduate research project 2005-2006. (Current position: PhD candidate at University of Florida)

**Stanford University****Undergraduate Students:**

**Zachary Pincus** – Undergraduate research project 2001-2004. Research: Using Gene Therapy to Remodel the Neuronal Stress Response. Received Honor Thesis Award for the project. (Current position: Post-doctoral fellow Yale University)

**Branden Tarlow** – Undergraduate research project 2003-2005. Research: Construction of cell-type specific viral vector tools. (Current position: Research Associate at Genentech, Ca).

**Kelsey Clark** – Undergraduate research project 2003-2005. Gene therapy in the brain – targeting neuronal loss in an epilepsy model in the rat brain. (Current position: PhD candidate at Stanford University)

**University of Chicago****Undergraduate Student:**

**William Stein IV** – Undergraduate research project 1997-1998. Research: Packaging of UL13 Protein Kinase and Glycoprotein E in Herpes Simplex Virus 1 Capsid-Tegument Structures. (Current position: MD post-doctoral fellow Stanford University)

**INVITED LECTURES AND SEMINARS**

1. Integrating convergent signals: Modeling the Sonic Hedgehog Pathway. Invited Seminar at A Scientific Symposium for Dr. Bernard Roizman. University of Chicago, 2009.
2. Stress and the neurobiology of age related disorders. Invited Seminar Dept. of Neurology, Beijing Hospital, Beijing, China 2008.
3. Stress, aging, and memory. Seminar for Science for Life Undergraduates, University of Florida 2008.
4. Hormonal control of plasticity. Invited seminar Data mining, systems analysis and optimization in Biomedicine, University of Florida 2007.
5. The gene dynamics of memory. Seminar in the Quantitative Neuroscience series, University of Florida 2006.
6. Re-engineering stress: Genetic modulation of stress in the brain. Seminar for the Biomedical Engineering Students Society, University of Florida 2005.
7. Gene regulation in the study and repair of neurological injury. Seminar at UC Davis, CA 2005.

8. Gene regulation in the study and repair of neurological injury. Seminar at University of Florida, 2005.
9. Interventions against cellular senescence using gene therapy and protein engineering. Invited speaker at DGGG meeting, Hamburg, Germany 2003.
10. Genetic strategies to increase neuronal survival following neurological insults. Invited speaker at ASGT meeting. Boston, MA 2002.
11. Functional anatomy of the Herpes Simplex Virus 1 immediate early (ICP22) gene regulator. Seminar at Stanford University, Stanford CA 1999.
12. The regulatory matrix of the Herpes Simplex Virus 1 UL13 protein kinase. Seminar at Stanford University, Stanford CA 1998.

## MEETING PRESENTATIONS

1. Xu Y, Li S, Barish P, Shyamala M, Vernon M, Zhang C, Boykin E, Pan J and **Ogle WO**. Curcumin modulates neuronal plasticity against corticosterone excitotoxicity by 5-HT-cAMP-PKA-dependent pathway in rat cortical neurons. Society For Neuroscience, Chicago 2009.
2. Purusothaman V, and **Ogle WO**. Functional mechanisms of a bioengineered receptor hormone: Development of a quantitative assay of nuclear receptor hormone translocation. University of Florida & Morehouse College HHMI Celebration of Undergraduate Creativity in the Arts & Sciences. Samuel P Harn Museum of Art and the Florida Museum of Natural History. Gainesville, FL 2008.
3. Kojic Z, Foster T, **Ogle WO**, and Ormerod B. Exposure to an environment increases mitochondrial health and number in aged rats. University of Florida & Morehouse College HHMI Celebration of Undergraduate Creativity in the Arts & Sciences. Samuel P Harn Museum of Art and the Florida Museum of Natural History. Gainesville, FL 2008.
4. Xu Y, Pan J, Li S, Barish PA, Subramaniam S, and **Ogle WO**. Beneficial effects of curcumin on chronic stress-induced impairment of spatial learning, memory and neuronal plasticity, possible mechanisms. Society For Neuroscience, Washington, D.C. 2008.
5. Barish PA, Ying X, **Ogle WO**. Quantitative analysis of regulated trans-gene expression in hippocampal neurons. American Society for Gene Therapy, Boston, MA 2008.
6. Xu Y, Barish PA, Cui L, Foster TC, and **Ogle WO**. Curcumin reverses impaired hippocampal neurogenesis, serotonin receptor 1A mRNA and brain-derived neurotrophic factor expression in chronically-stressed rats. Society For Neuroscience, San Diego, Ca. 2007.
7. Goosens KA, **Ogle WO**, Maren S, and Sapolsky RM. Novel Mechanisms for stress-induced facilitation of amygdala function. Society For Neuroscience, San Diego, Ca. 2007
8. Kaufer D, **Ogle WO**, Palmer TD, and Sapolsky RM. Genetic manipulations of hormonal signaling in the hippocampus. FEBS meeting, Budapest, Hungary 2005.
9. Kaufer D, **Ogle WO**, Pincus ZS, and Sapolsky RM. Restructuring the neuronal stress response with anti-glucocorticoid gene delivery. Society for Neuroscience, San Diego. 2004.
10. Kaufer D, **Ogle WO**, Pincus ZS, Clark KL, Dinkel KM, Dumas TC, Ferguson D, Lee AL, and Sapolsky RM. Remodeling the neuronal stress response: genetic strategies to increase neuronal survival following neurological insults. Society for Neuroscience, New Orleans. 2003.
11. **Ogle WO**, Kaufer D, Pincus ZS, Dumas TC, Dinkel KM, Ferguson D, Clark KL, and Sapolsky RM. Genetic interventions to decrease neurological injury in vivo. American Society for Gene Therapy, Washington D.C. 2003.
12. Kaufer D, **Ogle WO**, Pincus ZS and Sapolsky RM. Modulating the neuronal stress response. Institute of Advanced Studies Workshop on Stressing the Organism. Jerusalem, Israel 2002.

13. Pincus ZS, **Ogle WO**, Kaufer D, and Sapolsky RM. Genetic interventions to decrease neurological injury. Society for Neuroscience, San Diego. 2001 (Talk)
14. **Ogle WO**, Phillips RG, and Sapolsky RM. Enhancement of Long-term gene expression in hippocampal neurons due to stabilization of a Herpes virus amplicon. Society for Neuroscience, New Orleans, 2000.

#### **UNIVERSITY AND DEPARTMENTAL SERVICE**

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|-----------|--|
| 2005-2009 | BME Academic Committee.  |
| 2007      | Research presentation to Dept. of BME Advisory Board.                        |
| 2007      | Research presentation to potential donors.                                   |
| 2007      | Meeting with potential donors.   |
| 2007      | Invited to sit on the panel for Translational Research in Aging and Dementia |
| 2006-2007 | BME Senior Faculty Search Committee.   |
| 2006      | Presented research to Dept. of BME Advisory Board.                           |
| 2005-2006 | BME Faculty Search Committee.  |
| 2005      | Presented research to Dept. of BME Advisory Board.                           |

#### **SCIENTIFIC OUTREACH**

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| 2008 | Graduate student recruitment at the Annual Biomedical Research Conference for Minority Students, Orlando FL. |
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