



AFFILIATIONS CONTINUED:

Founder Neuroscience Education: Urban and Rural Outreach (NEURO) 2004 - 2006  
Student representative to the Neuroscience Graduate Studies Program Committee,  
The Ohio State University 2002 - 2005  
Student representative to the Carnegie Initiative on the Doctorate 2003 - 2005  
*Additional information may currently be found through the Carnegie Foundation website:*  
[www.carnegiefoundation.org/CID/index.htm](http://www.carnegiefoundation.org/CID/index.htm).

PUBLICATIONS:

**Butcher, G.Q.**, Lee, B., Cheng, H.M., and Obrietan, K. (2005). "Light stimulates MSK1 activation in the suprachiasmatic nucleus via PACAP-ERK/MAP kinase-dependent mechanism." **Journal of Neuroscience**. 25(22):5305-5313.

Lee, B, **Butcher, G.Q.**, Hoyt, K., Impey, S. and Obrietan, K. (2005). "Activity-dependent neuroprotection and CREB: kinase coupling, stimulus intensity, and temporal regulation of CREB phosphorylation at Serine 133." **Journal of Neuroscience**. 25(5):1137-1148.

**Butcher, G.Q.**, Lee, B., Hsieh, F. and Obrietan, K. (2004). "Light- and clock-dependent regulation of ribosomal S6 kinase activity in the suprachiasmatic nucleus." **European Journal of Neuroscience**. 19(4):907-915.

Dziema, H., Oatis, B., **Butcher, G.Q.**, Yates, R\*, Hoyt, K.R. and Obrietan, K. (2003). "The ERK/MAP kinase pathway couples light to immediate early gene expression in the suprachiasmatic nucleus." **European Journal of Neuroscience**. 17(8): 1617-1627. \* denotes undergraduate co-author

**Butcher, G.Q.**, Lee, B. and Obrietan, K. (2003). "Temporal regulation of light-induced extracellular signal-regulated kinase activation in the suprachiasmatic nucleus." **Journal of Neurophysiology**. 90(6):3854-3863.

**Butcher, G.Q.**, Dziema, H., Collamore, M., Burgoon, P.W. and Obrietan, K. (2002). "The p42/44 MAP kinase pathway couples photic input to circadian clock entrainment." **Journal of Biological Chemistry**. 277(33):29519-25.

SELECTED ORAL PRESENTATIONS:

"The Mitogen-Activated Protein Kinase (MAPK) Pathway: A Signaling Conduit for Photic Entrainment of the Central Mammalian Circadian Clock" by **Butcher, G.Q.** Dissertation talk presented for the Neuroscience Graduate Studies Program, The Ohio State University, Columbus, OH.

"Neurotransmitters" by **Butcher, G.Q.** and Obrietan K. (2005). Guest lecture for *Cellular and Molecular Neurobiology*, The Ohio State University, Columbus, OH.

"Chronobiology" by **Butcher, G.Q.** (2005). Invited talk given at Kenyon College, Gambier, OH.

"Neurobiology of Language" by **Butcher, G.Q.** (2005). Invited talk given at Kenyon College, Gambier, OH.

"MSK and the Mammalian Circadian Clock" by **Butcher, G.Q.** (2005). The Ohio State University, Columbus, OH.

"Photic Entrainment and MAPK Signaling in the SCN" by **Butcher, G.Q.** (2003). The Ohio State University, Columbus, OH.

"The Molecular Basis of Circadian Clocks: Biological Clocks and Behavior" by **Butcher, G.Q.** (2002). The Ohio State University, Columbus, OH.

PUBLISHED CONFERENCE ABSTRACTS:

Lee, B., Almad, A., **Butcher, G.Q.**, and Obrietan K. (2006). "Protein Kinase C and Light Entrainment of the Mammalian Circadian Clock." Society for Neuroscience 36<sup>th</sup> Annual meeting, Atlanta, GA.

**Butcher, G. Q.**, Lee, B., Cheng, H. M. and Obrietan, K. (2006). "Differential Function of the Mitogen-Activated Protein Kinase (MAPK) Targets MSK and RSK in the Suprachiasmatic Nuclei (SCN) of Mice." 10<sup>th</sup> Meeting of the Society for Research on Biological Rhythms. Sandestin, FL.

**Butcher, G.Q.**, Detloff, M.R., Ghai, K., Hoschouer, E.L., Pyter, L.M., Venugopal, S. and Bishop, G.A. (2005). "Neuroscience Education: Urban and Rural Outreach." Society for Neuroscience 35<sup>th</sup> Annual meeting, Washington, DC.

Pyter, L.B., **Butcher, G.Q.**, Congdon, E.E., Detloff, M.R., Hoschouer, E.L., Venugopal, S., Bresnahan, J.C. and Beattie, M.S. (2005). "Mapping Neuroscience at The Ohio State University: Graphic Representations of Program and Individual Scientific Breadth and Depth in Association with the Carnegie Initiative on the Doctorate (CID)." Society for Neuroscience 35<sup>th</sup> Annual meeting, Washington, DC.

**Butcher, G.Q.**, Lee, B., Cheng, H.M. and Obrietan K. (2005). "Light Stimulates MSK1 Activation in the Suprachiasmatic Nucleus via a PACAP-ERK/MAP Kinase-Dependent Signaling Cassette." Society for Neuroscience 35<sup>th</sup> Annual meeting, Washington, DC.

**Butcher, G.Q.**, Lee, B., and Obrietan, K. (2004). "RSKs and MSKs Couple the MAPK Cascade to Expression of the Core Clock Gene mPer1." Society for Neuroscience 34<sup>th</sup> Annual meeting, San Diego, CA.

**Butcher, G.Q.**, Lee, B., Dziema, H., Oatis, B., Yates, R., Hoyt, K.R. and Obrietan, K. (2004). "The MAP kinase pathway mediates light-induced immediate early gene expression in the suprachiasmatic nucleus." Ohio State University Medical Center 3<sup>rd</sup> Annual Graduate and Postgraduate Research Day. Columbus, OH.

**Butcher, G.Q.**, Lee, B., Dziema, H., Oatis, B., Yates, R., Hoyt, K.R. and Obrietan, K. (2003). "The MAP kinase pathway mediates light-induced immediate early gene expression in the suprachiasmatic nucleus." Society for Neuroscience 33<sup>rd</sup> annual meeting. New Orleans, LA.

**Butcher, G.Q.**, Burgoon, P.W., Hoyt, K.R. and Obrietan, K. (2003). "Spatial and temporal dynamic of light induced MAPK pathway activation in the SCN." Ohio State University Medical Center 2<sup>nd</sup> Annual Integrated Research Day. Columbus, OH.

**Butcher, G.Q.**, Burgoon, P.W., Hoyt, K.R. and Obrietan, K. (2002). "Spatial and temporal dynamics of light induced MAPK pathway activation in the SCN." Society for Neuroscience 32<sup>nd</sup> annual meeting. Orlando, FL.

**Butcher, G.Q.** & Obrietan, K. (2002). "Light-Induced MAPK Activation in the SCN: A Spatial and Temporal Analysis." Hunt-Curtis Symposium on Translational Neuroscience. Columbus, OH.

REFERENCES:

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