

## **CURRICULUM VITAE**

**Kingsley James Arthur COX**

### **Current position**

Research Assistant Professor, Department of Neurobiology, Stony Brook University, Stony Brook, NY

### **Previous posts - Academic**

1999- 2002 Research Assistant Professor, Department of Neurobiology, SUNY at Stony Brook, Stony Brook, NY

1996 –1999 Postdoctoral research associate, Department of Neurobiology and Behavior, SUNY

1995 –1996 Postdoctoral researcher, Department of Neurobiology and Behavior, SUNY at Stony Brook, Stony Brook, NY

1994 –1995 Research Associate, Howard Hughes Medical Institute, Department of Neurobiology and Behavior, SUNY at Stony Brook, Stony Brook, NY

1989 –1991 Research Assistant, Department of Pathology and Cell Biology, Thomas Jefferson University, Philadelphia

### **Education**

2005 - 2013 M.Sc. (Hons) Mathematics (2:1) Open University, England

1991 – 1994 Ph.D. Molecular Neurobiology, Sussex University, England

1988 – 1989 M.Sc. Neurochemistry London University, England

1982 – 1985 B.Sc. (Hons) Chemistry (2:1) Leicester University, England

## **Awards**

1996-1999 NRSA Postdoctoral grant

1994-1995 Howard Hughes Medical Institute Research fellowship

1991-1994 Science and Engineering Research Council (U.K.) postgraduate award

## **Patents Held**

Neuromorphic Device for Proofreading Connection Adjustments in Hardware Artificial Neural Networks. U.S. Patent Number 7962429 (issued June 14, 2011)

Neural Network Device for Evolving Appropriate Connections. U.S. Patent Number 7080053 (issued 7/18/2006)

Thermal combination cup and fluid container. U.K. Patent Number 2291180 (issued July 12<sup>th</sup>, 1994), U.S. Patent number 5823380 (issued Oct. 20, 1998)

## **Previous posts – Non- Academic**

CEO, Genpak Inc. (1996-2000)

Director, Genetix USA Inc. (2000-2003)

## **Publications**

**Cox K.J.A.**, Adams P.R. (2013) Hebbian learning from higher-order correlations requires crosstalk minimization. *Biological Cybernetics* (under revision)

**Cox KJA**, Adams PR (2012) From Life to Mind: 2 Prosaic Miracles? In: Simeonov PL, Smith LS, Ehresmann AC (eds) *Integral Biomathics: Tracing the Road to Reality*. Proceedings of iBioMath 2011, Paris and ACIB '11, Stirling UK.

**Cox K.J.A.** and Adams P.R. (2009) Hebbian crosstalk prevents nonlinear unsupervised learning. **Front. Comput. Neurosci.** 3:11. doi:10.3389/neuro.10.011.2009

Radulescu, A., **Cox, K.J.A.** and Adams, P.R. (2009) Hebbian errors in learning: An analysis using the Oja model. **J. Theor. Biol.**, 258, 489-501

Adams, P.R., and Cox, K.J.A. (2006) A neurobiological perspective on building intelligent devices. **The Neuromorphic Engineer**, volume 3, Issue 1.

Adams, P. and Cox, K. J.A. (2002) A New View of Thalamocortical Function. *Phil Trans R. Soc Lond B* 357, 1767-1779

Adams, P.R., and Cox, K.J.A. (2002). Synaptic Darwinism and neocortical function. **Neurocomputing**, 42, 197-214.

Cox, K.J.A., and Adams, P.R. (2000). Implications of synaptic digitisation and error for neocortical function. **Neurocomputing**, 32-33, 673-678.

Tensen, C.P., Cox, K.J.A., van der Schors, R.C., Burke, J.F., Vreugdenhil, E., and van Heerikhuizen, H. (1998). Cloning, characterization and expression of a neuropeptide Y receptor, and identification of its endogenous ligand from *Lymnaea stagnalis*. **Eur. J. Neurosci.**, 10, 3409-3416.

Tensen, C.P., Cox, K.J.A., Smit, A.B., van der Schors, R.C., Hermann, P.M., Meyerhof, W., Richter, D., van Minnen, J., Burke, J.F., Geraerts, W.P.M., Vreugdenhil, E., Knol, J.C., and van Heerikhuizen, H. (1998). The *Lymnaea* cardioexcitatory peptide (LyCEP) receptor: a G-protein-coupled receptor for a novel member of the RFamide neuropeptide family. **J. Neurosci.**, 98, 9812-9821.

Fetcho, J.R., Cox, K.J.A., and O'Malley, D. (1998). Monitoring activity in neuronal populations with single cell resolution in a behaving vertebrate. **Histochem. J.**, 30, 153-167.

Burke, J.F., Cox K.J.A., Perry, S., Tensen, C.P. and van Heerikhuizen, H. (1998) FMRamide related peptides: their expression, their receptors and their role in mammals. **J. Physiol.**, 513P. 16S.

Cox, K.J.A., Tensen, C.P., van der Schors, R., Li, K.-W., van Heerikhuizen, H., Vreugdenhil, E., Wijnand, Geraerts, P.M., and Burke, J.F. (1997). Cloning, characterization and expression of a G-protein coupled receptor from *Lymnaea stagnalis* and identification of a leucokinin-like peptide, PSFHSWSamide, as its endogenous ligand. **J. Neurosci.**, 17, 1197-1205.

Fetcho, J.R., Cox, K.J.A., and O'Malley D. (1997). Imaging neuronal activity with single cell resolution in an intact behaving vertebrate. **Biol. Bull.**, 192, 150-153.

Cox, K.J.A., and Fetcho, J.R. (1996). Labelling blastomeres with a calcium indicator: a non-invasive method of visualizing neuronal activity in zebrafish. **J. Neurosci. Meth.**, 68, 185-191.

Tensen, C.P., van Kesteren, E.R., Spijker, J., van Minnen, J., Planta, R.J., Cox, K.J.A., Burke, J.F., van Heerikhuizen, H., and Vreugdenhil, E. (1994). Molecular cloning and neuronal expression of a novel type of a G-protein coupled receptor from the pond snail *Lymnaea stagnalis*. **Neth. J. Zoology**, 44, 463-472.

Tensen, C.P., van Kesteren, E.R, Planta, R.J., **Cox, K.J.A.**, Burke, J.F., van Heerikhuizen, H., and Vreugdenhil, E. (1993). A G protein coupled receptor with LDL-binding motifs suggests a role for lipoproteins in G-protein-linked signal transduction. **Proc. Natl. Acad. Sci. USA**, 91, 4816-4820.

Slater, S.J., **Cox, K.J.A.**, Lombardi, J.V., Ho, C., Kelly, M.B., Rubin, E., and Stubbs, C.D. (1993). Inhibition of protein kinase C by alcohols and anaesthetics, **Nature**, 364, 82-84.

Stubbs, C.D., Slater, S.J., Ho, C., Kelly, M.B., Rubin, E., and **Cox, K.J.A.** (1992). Alcohols Inhibit protein kinase C, **Alcoholism**, 16, 360

**Cox, K.J.A.**, Rubin, E., and Stubbs, C.D. (1992). The effect of membrane fluidization on protein kinase C - inhibition by ethanol and higher alcohols and stimulation by increased lipid unsaturation or addition of nonesterified fatty acids **Faseb Journal**, 6, no.1, 34.

**Cox, K.J.A.**, Ho, C., Lombardi, J., and Stubbs, C.D. (1992). Gramicidin conformational studies with mixed chain unsaturated phospholipid bilayers, **Biochemistry**, 31, 1112-1118

**Cox, K.J.A.**, Tensen, C.P., Gerhardt, C.C., van Kesteren, E.R., Planta, R.J., Vreugdenhil, E., and van Heerikhuizen, H. and Burke, J.F (1993) Cloning of G protein coupled neuropeptide receptors in the pond snail *Lymnaea stagnalis*. **Neurobiology of Aplysia Symposium** Cold Spring Harbor.

**Cox, K.J.A.**, Ho, C., Lombardi, J., and Stubbs, C.D. (1991) Effect of increasing membrane fluidity on protein kinase C. **Biochemical Society**, Royal Holloway and New College, London.

**Cox, K.J.A.**, Ho, C., and Stubbs, C.D. (1991) Conformational studies of gramicidin in lipid bilayers. **American Biophysical Society**, Baltimore.