

September 12, 2011

Esteemed colleague,

The *Allen Institute for Brain Science* is in the initial planning stages of a large-scale, ten-year, experimental and computational effort to study coding in the cerebral cortex. This will include the construction of electrophysiological and imaging observatories to record the activities of large numbers of neurons in the visual cortex and its associated satellite structures in behaving mice, high-throughput characterization of cell types, their molecular signatures, dendritic and axonal morphologies, and synaptic connectivity within the visual system, and the design of genetically engineered mice and viruses. These experimental efforts will be complemented by biophysically and anatomically accurate computational models of the visual cortex and its afferent and efferent structures, to interpret and understand the data streams delivered by the observatories. As in the ongoing Allen Institute mouse and human brain atlas work, all of the resultant data will be made freely and widely available to the public.

To further these efforts, we are seeking exceptionally talented and motivated junior investigators that are excited about working collaboratively towards a larger vision – the systematic understanding of how the cortex represents and transforms sensory information to give rise to perception, memory and behavior.

Each investigator – with experience and expertise roughly equivalent to an assistant professor at a first-class research university – will be responsible for a particular domain relevant to the overall group effort. Collectively, the investigators will be responsible for the overall direction of this long-term effort. The areas in which we seek to recruit include:

- single cell reconstruction and synaptic connections
- cell type specific gene expression profiling
- transgenic mice or recombinant viruses
- *in vivo* calcium imaging and optogenetics
- *in vitro* or *in vivo* electrophysiology and optogenetics
- electron microscopic reconstruction of circuits
- computational neuroanatomy
- rodent behavior
- biophysically accurate neuronal modeling
- large scale modeling of the visual system using spiking neurons
- machine learning applied to neurobiological data

Requirements are (1) a PhD or MD in a relevant scientific, engineering or medical field; (2) a minimum of 2 years of post-doctoral work; (3) a strong record of published research; and (4) a commitment to collaborative team science.

We will invite suitable candidates to a symposium to take place at the Allen Institute in Seattle in early 2012 to select among candidates with the help of an outside advisory board.

The three scientists coordinating this endeavor, Hongkui Zeng, PhD ([hongkuiz@alleninstitute.org](mailto:hongkuiz@alleninstitute.org)), Prof. Clay Reid at Harvard Medical School ([clay\\_reid@hms.harvard.edu](mailto:clay_reid@hms.harvard.edu)), and myself ([christofk@alleninstitute.org](mailto:christofk@alleninstitute.org)) will be attending this year's upcoming *Society for Neuroscience* meeting in Washington, D.C. We would relish the opportunity to talk to interested candidates on the job market at the SfN meeting about this extraordinary effort and how they can contribute.

We would very much appreciate if you could post this letter and either email us about suitable candidates or urge them to contact us directly.

Yours cordially,

A handwritten signature in red ink that reads "Christof Koch". The signature is written in a cursive, flowing style.

Christof Koch, PhD  
Chief Scientific Officer