Filipa Franca de Barros

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Dear Dr. Ronald Myers,

The title of our manuscript is *Protocol for a long-term sensory conflict in freely-behaving mice* and the authors are Filipa França de Barros, Julie Carcaud and Mathieu Beraneck.

The described protocol produces a persistent sensory conflict for experiments aimed at studying long-term learning. By permanently wearing a fixed device on their heads, mice are continuously exposed to a sensory mismatch between their visual and vestibular inputs while freely moving in their homecage.

This methodology was validated by a recent publication (Carcaud et al 2017) to which we refer extensively; however the present paper gives the most important details which couldn't fit the original article. We focus on the critical steps that need to be followed so that other experimenters can reproduce similar type of experiments. We believe that such a protocol can inspire many groups who could adapt this to study long term learning both in vivo and in vitro.

After receiving an invitation from you on the 11th July 2018, we are submitting this manuscript today 20th September 2018. We believe that this manuscript is a good fit for JoVe since it will allow other scientists to have the detailed steps of this novel protocol. Thus, enabling the reproduction and re-invention of this protocol throughout the neuroscientific community.

This manuscript is original and no part of the manuscript has been published before nor is any part of it under consideration in another journal.

Thank you for your consideration,

Filipa Barros