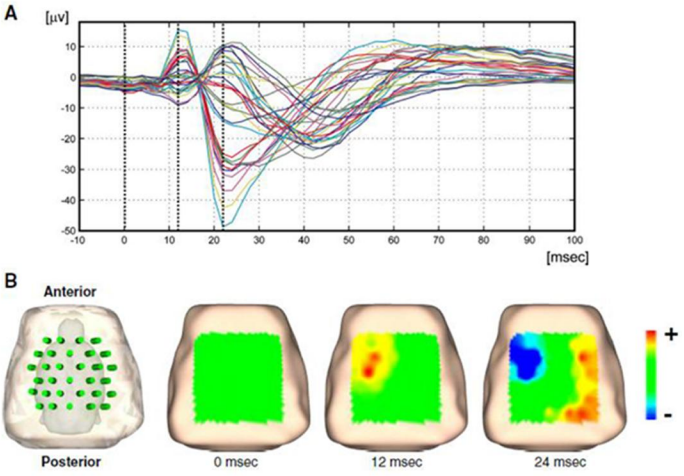
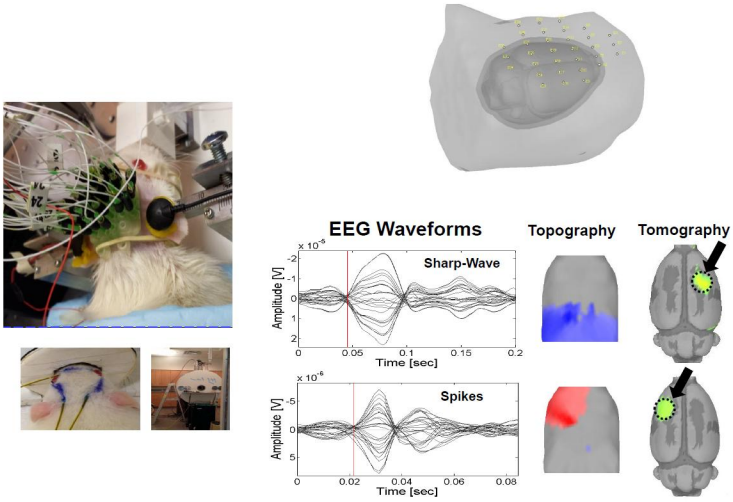
EEG Mini-Cap

The Riera High-Density Non-Invasive EEG Mini-Cap

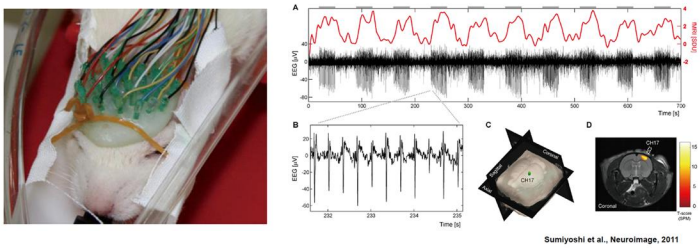
EEG Topography



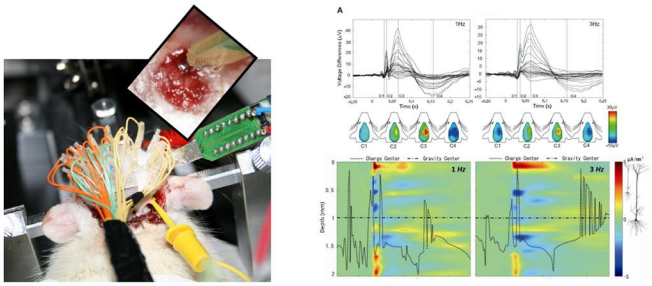
EEG Source Analysis



EEG + fMRI



EEG + MEA



Relevant publications:

- Riera J., Ogawa T., Goto T., Sumiyoshi A., Nonaka H., Evans A., Miyakawa H., Kawashima R. Pitfalls in the dipolar model for the neocortical EEG sources. Journal of Neurophysiology 108(4): 956-975, 2012.
- Sumiyoshi, A., Riera J., Ogawa T., Kawashima R. A Mini-Cap for simultaneous EEG and fMRI recording in rodents. NeuroImage 54, 1951-1965, 2011.
- Valdés-Hernández P.A., Sumiyoshi A., Nonaka H., Haga R., Aubert-Vásquez E., Iturria-Medina Y., Riera J., Kawashima R. An in vivo MRI template set for morphometry, tissue segmentation and fMRI localization in rats. Frontiers in Neuroinformatics 5, article 26:1-19, 2011.

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EEG Mini-Cap

The Riera High-Density Non-Invasive EEG Mini-Cap

The EEG mini-cap, atlas and source models for Wistar rats represent a new experimental platform for translational neuroscience, bridging the gap between rat and human measurements and making enabling non-invasive multi-modal measurements that previously had been unavailable.

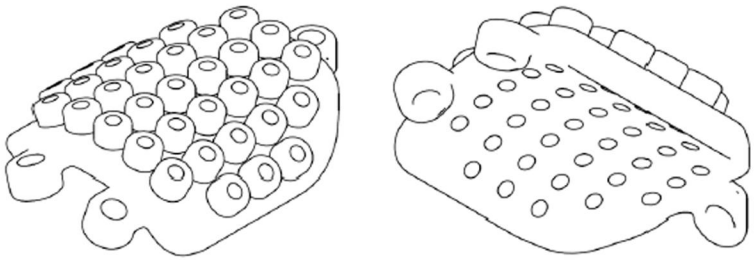
Salient Features:

· Unique non-invasive 32 channel scalp recording array
· Biophysical source and head models: brain source analysis methods specially tuned for small heads
· Brain atlas for human comparison: Wistar rat digital probabilistic atlas (available on license) and template (downloadable).
· Simultaneous EEG-fMRI
· Simultaneous EEG-NIRS
· Global EEG + intracranial recording

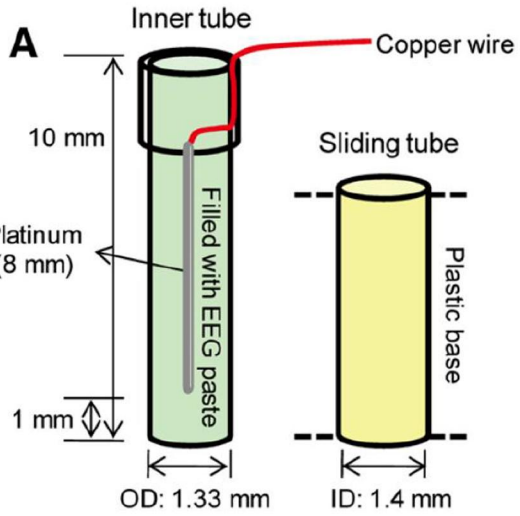
Additional Considerations:

· Easy to apply and remove
· Adaptable to most EEG systems
· Inexpensive
· Reusable

Cap Design



Electrode Design



Patent Pending: Pub. No.: US 2013/0131461 A1, Pub. Date: May 23, 2013

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Inventors: Riera Jorge, Miyanagi (JP); Akira sumiyoshij Miyanagi (JP); Ryuta Kawashima, Miyanagi (JP)

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