

AQUA-NEUROSCIENCE AND IT'S APPLICATION

- Aqua-neuroscience can expand the possibility for aquatic exercise and rehabilitation.
- Water immersion dramatically alters our whole body, including the brain.
- Sensorimotor networks may differently work in water compared to land.
- Somatosensory input from water may have numerous beneficial effects on sensorimotor functions.
- Water immersion may promote neural plasticity due to cholinergic neural activation

DAISUKE SATO



IMMERSION + EXERCISE IN PEDIATRICS

- Aquatic exercise (AE) improves the regulation of the autonomic nervous system, with cardio-neuroprotective and behavioral therapeutic effects
- AE enhances water immersion in its neuroplastic and learning possibilities; activating the parasympathetic system, facilitating transferability to land
- Therapist guided AE with FITT principles generate cortical excitability, supporting neuroplasticity, task performance and skill retention.
- Children with e.g. ASD, ADHD or epilepsy benefit from AE: improvements in sleep patterns, cognitive flexibility and seizure control

JAVIER GÜEITA

