<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th>Breaking the boundaries of brain plasticity: Positive plasticity across the hand-face border</th>
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| **Institute** | Lyon Neuroscience Research Center  
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| **Context** | One of the most prominent features of the primate somatosensory homuncular representation is the hand-face border. Reducing or eliminating somatosensory input from either the face or the hand results in cross-border reorganisation like that observed in amputees. This reorganisation is associated with gains/losses in cortical territory, is paralleled by negative perceptual consequences, and it is generally assumed to be competitive. Positive plasticity occurs under conditions of enhanced afferent inputs and results in improved perception and sensorimotor performance. The goal of this project is to better understand which mechanisms operate during this newly-discovered type of plasticity. |
| **Abstract/Objectives** | Recent research has shown that repetitive sensory stimulation (RSS) improves tactile performance at the stimulated finger and expands its somatosensory representation. We recently found that RSS on the finger alters tactile performance not only at this finger but also at the upper-lips. This was the first demonstration that perceptual improvement can transfer across the hand-face border. The goal of this project is to examine whether hand-mouth sensorimotor interactions are also altered by repetitive tactile stimulation of the right index finger.  
  Objectives: Use a well-established transcranial magnetic |

stimulation paradigm (sensory afferent inhibition) to investigate interactions between the sensory and motor systems before and after tactile stimulation to induce positive plasticity.

**Bibliography**


**Location**

Equipe ImpAct
16 avenue Doyen Lepine
Bron 69675
FRANCE

**Duration**

3 months

**Language (French/English/Both)**

Both