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Japan produces world's first report on brain activation by Plasmacluster Technology

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Validation of the mechanism of its enhancing effect on human work performance by measuring brain function



Japanese firm Sharp Corporation conducted collaborative research on its Plasmacluster technology, with DrGoichi Hagiwara, Associate Professor, Faculty of Human Sciences, Kyushu Sangyo University. When the mechanism of its enhancing effectiveness on human work performance is validated by measuring brain function, Sharp confirmed for the first time in the world, the potential to induce brain activation by exposing working people to Plasmacluster ions with positive and negative ions emitted simultaneously.

Through research using brain wave measurements, Sharp has demonstrated that its Plasmacluster technology contribute to the enhancing effectiveness on work performance (the reducing stress and maintaining the concentration of people working indoors or driving a car and the improvement of exercise training efficiency and esports scores and so on), and this time, Sharp could approach specific mechanism for the first time.

From the results so far, Sharp considered the possibility of Plasmacluster technology effect not only on brain waves but also on blood flow (cerebral blood flow) in the prefrontal cortex, which is closely associated with concentration and cognition. Therefore, in this research, Sharp used a device to measure the changes in cerebral blood flow and then compared the changes under the following conditions: when subjects were not exposed to Plasmacluster ions (air flow only) and exposed to Plasmacluster ions.

As a result, the changes in cerebral blood flow that occurs during brain activation was confirmed when subjects were exposed to Plasmacluster ions, and it is suggested that this brain activation by the Plasmacluster technology contribute to the mechanism of the enhancing effectiveness on human work performance.

Dr Goichi Hagiwara said, "It is possible that work performance such as sports, learning, daily operations and so on is enhanced by improvement of the ability to think and take action due to this brain activation, so I look forward to further application of Plasmacluster technology in the future."