

## Cybertherapy for Stress Control (CtrlStress)

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It involves a consortium of partners:

Institution	Partner	Status	Implication in the project
ISM, UMR 7287	Mestre Daniel	DR2 CNRS	Coordinator /RV
INT, UMR 7289	Khalfa Stéphanie	CR1/CNRS	Medical Imagery
Clersé, UMR 8019	Sainaulieu Ivan	PR2 Université Lille1	Sociological approach
LPL, UMR 7309	Bastien-Toniazzo Mireille	PR2 Aix-Marseille Université	Cognitive assessment
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### Summary

Responding to stress is a survival adaptive behavior. It involves feedback loops between hypothalamus, hippocampus and the prefrontal cortex in the human central nervous system. In pathological cases, amygdala is hyperactive; fear dominates the regulation of behavior. The expression of fear can be reduced if the subject has learned how to control it, by the inhibitory action of the frontal cortex on subcortical areas. In this context, Virtual Reality Exposure Therapy (VRET) can be used. The first objective of this clinical research project is to improve the efficacy of VRET, by giving a patient control over his/her level of exposure to a fearful virtual environment. We will focus here on acrophobia (fear of heights). A second objective is to analyze, before and after VRET, the activity of cortical structures, in relation with the improvement of symptoms (using fMRI, PET scan along with cognitive evaluations). A third objective is to evaluate the acceptability of VRET among clinical practitioners and the patients themselves.