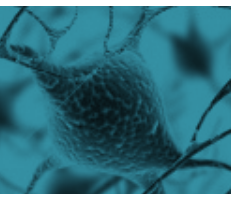

PROJECTS RECOMMENDED FOR FUNDING

WN2NA \\ WHITE MATTER IMAGING, MICROSTRUCTURE, AND NEGATIVE AFFETCS: THANSLATIONAL STUDY IN HUMANS AND MICE

Austria\ Belgium\ Canada\ Finland\ France\ Germany\ Israel\ Italy\ Luxembourg\ Poland\ Portugal\ Romania\ Spain

Mood and anxiety disorders affect more than 100 million of Europeans and are still rising. The identification of noninvasive imaging biomarkers might inform on their early stages and course effects on brain structure. The affective disorders have been related to deviations of brain white matter connectivity as evidenced by diffusion tensor imaging (DTI). White matter imaging in depression could reflect myelin abnormalities. However, it is not clear what the changes seen through DTI refer to at the tissue and molecular levels.
This greatly limits the potential value of monitoring white matter alterations with DTI as a clinical tool. To which extent DTI alterations reflect changes in white matter maturation at adolescence and what are the molecular factors related with these changes cannot be tested in humans by non-invasive techniques.
The WM2NA project proposes to conduct cross-species DTI imaging studies (young participants and mice) to identify white matter changes that correlate with anxiety and depression symptoms. These changes could serve as translational and clinical biomarkers with clinical value. Novel insight on the molecular causes and consequences of altered white matter will bridge the gap from imaging findings to their cellular and molecular roots, thus opening new avenues for the understanding and prevention of major depression or related symptoms.

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