FRANCESCA FILBEY, PHD

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Francesca Filbey is a world-renowned expert in the brain mechanisms of addictive disorders. The significance of her research is in advancing the understanding of brain mechanisms to identify targets for prevention and intervention. The potential societal impacts of this research is high given that addictive disorders cause an extensive burden in terms of morbidity, mortality, and public health costs, yet treatment strategies are only modestly effective.

Dr. Filbey's studies incorporate interdisciplinary approaches from the fields of cognitive neuroscience, neuroimaging, genetics, computational modeling, psychology and psychiatry. Taking advantage of methodological advancements in neuroimaging and analytical techniques, she combines genomic and neuroimaging approaches to determine the mechanisms that underlie reward and motivation in substance using populations.

Her projects move beyond simple classifications of presence or absence of reward dysfunction by applying "deep phenotyping" and multivariate approaches that consist of continuous variables from cognitive assessments in addition to biological processes. Understanding these mechanisms will: (1) advance our understanding of the dopaminergic mesocorticolimbic pathway, (2) elucidate the multidimensional processes involved in reward-seeking behavior, (3) inform prevention strategies by defining factors that put individuals at risk, and (4) facilitate effective intervention by unraveling neurobiological and cognitive targets of treatment strategies.

Recent research from Dr. Filbey's lab, published in the American Journal of Drug and Alcohol Abuse, examines the interrelatedness of long-term cannabis use, sleep and memory, marking the first investigation into the interrelatedness of these three factors on brain health. Findings from this study fill a gap in research into therapeutic considerations for cannabis, particularly regarding its use as a sleep aid.

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