

The NCMD Research Seminar Series

Psychedelics for the treatment of Psychiatric Disorders: From brain mechanisms to resurrected treatments

Friday 11th July 2025, 12-1pm, [online via Teams](#)

Presented by **Dr Rayyan Zafar** *Wellcome Postdoctoral Fellow in Neuropsychopharmacology (Imperial College London)*



Psychedelic therapy has witnessed a resurgence in interest in the last decade from the scientific and medical communities with evidence now building for its safety and efficacy in treating a range of psychiatric disorders including addiction. In this review we will chart the research investigating the role of these interventions in individuals with addiction beginning with an overview of the current socioeconomic impact of addiction, treatment options, and outcomes. I will start by examining historical studies from the first psychedelic research era of the mid-late 1900s, followed by an overview of the available real-world evidence gathered from naturalistic, observational, and survey-based studies. I will then cover modern-day clinical trials of psychedelic therapies in addiction from first-in-human to phase II clinical trials including an overview of the first clinical and mechanistic study of psilocybin therapy in gambling disorder. Finally, I will provide an overview of the different translational human neuropsychopharmacology techniques, including functional magnetic resonance imaging (fMRI) and positron emission tomography (PET), that can be applied to foster a mechanistic understanding of therapeutic mechanisms. A more granular understanding of the treatment effects of psychedelics will facilitate the optimisation of the psychedelic therapy drug development landscape, and ultimately improve patient outcomes.

Dr Rayyan Zafar PhD MRSB. Zafar is a neuropsychopharmacologist and postdoctoral UKRI fellow at the Centre for Psychedelic Research and Neuropsychopharmacology at Imperial College London and senior researcher at Drug Science. He works alongside Professor David Nutt, a global leading psychiatrist and drug scientist. His research focuses on understanding the brain mechanisms of addiction and mental health disorders and exploring how drugs such as psychedelics (psilocybin, DMT, LSD), Ketamine, MDMA and Cannabis work in the brain and how they can be used to treat individuals with addictions. Zafar is currently conducting the world's first clinical and brain imaging study of psilocybin therapy in gambling addiction. In addition to his work at Imperial College London, Zafar is a senior scientific officer at Drug Science, the leading independent charity on Drug related research.

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