Preface

This special issue of *Neuropsychobiology* is based on the MDMA (3,4-methylenedioxymetamphetamine) conference held at the Brain Sciences Institute, Swinburne University, Melbourne, on 11–13th September 2008. Australian groups were amongst the first to investigate recreational ecstasy/MDMA [1], with the Australian Government sponsoring many large-scale studies [2]. Currently it is funding a number of new initiatives, including the Ecstasy and Related Drugs Reporting System, and hence Australia continues to be at the forefront of MDMA research [3, 4]. The topics covered by Australian groups at the Swinburne Conference included: ecstasy dependence, thermoregulation, behavioural inhibition, cognitive processing, visual orientation, perceptual dysfunction, appetite, impulsivity, depression, peer education, interactions between γ -hydroxybutyrate (GHB) and MDMA, the neurohormone oxytocin, epidemiological studies and roadside drug testing. The international papers were from research groups in France, Germany, Spain, New Zealand, the UK and the USA. The topics they covered included: emergency hospital admissions, self-administration in laboratory animals, alcohol-MDMA interactions, executive working memory, Internet studies, suggestibility, creativity, the memory consolidation effect of sleep, and the energetic stress neurohormone cortisol. One of the papers was an interactive video link, while this special MDMA issue also contains some related papers.

The conference format was based on meetings held at the Novartis Foundation in London, where I had helped to organize 2 previous MDMA conferences. Hence only active ecstasy/MDMA researchers attended, and the programme contained extended periods for discussion.

Thanks should be expressed to Swinburne University for hosting the meeting and funding the conference dinner at the Point Restaurant – overlooking the Melbourne skyline. Thanks also to Professor Andrew Scholey for inviting me for a sabbatical at Swinburne and to Professor Con Stough for the organizational support of the Brain Sciences Institute. The earlier MDMA meetings have both been published, the first as an issue of *Neuropsychobiology* [5], the second in the *Journal of Psychopharmacology* [6]. Hence this is the second special MDMA issue to be published by *Neuropsychobiology*. Each submission underwent normal peer review, with Professor Petra Netter assisting in the editorial decisions. The abstracts are also published here. However due to space limitations, some full-length papers will appear in subsequent issues. One paper in the first *Neuropsychobiology* MDMA issue was by Una McCann et al. [7], and Professor McCann was 1 of 5 keynote speakers at Melbourne. Her expertise includes drugs and sleep [8], and at Swinburne she presented some important new findings on sleep apnoea in ecstasy users. These are being formally published elsewhere, but in her talk, Una noted that this sleep disorder was generally rare in fit young people, but a significantly higher incidence of sleep apnoea was found in those with greater MDMA usage. The thoracic surgeons involved in the study were not too surprised, since breathing control has a serotonergic component. Many of the other talks and posters at this meeting covered functional deficits with a serotonergic component. They replicated and extended our knowledge about these problems, as described in the 2000 *Neuropsychobiology* issue. Hence we now have more information about MDMA-related deficits in

memory, executive processing, visual orientation, sleep, neurohormonal activity, bio-energetic stress, overheating, and psychiatric symptoms [3, 4, 6, 8]. We also have more sophisticated knowledge about MDMA self-administration, psychoactive co-drugs, atypical patterns of dependency, and the complex neurochemical changes

which underlie serotonergic nerve damage in animals, and possibly also humans. This confirms a concluding statement in the earlier *Neuropsychobiology* issue, if MDMA-related neurotoxicity is a myth, 'it is a myth with a strong serotonergic component' [5].

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References

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