
Hsien-Yuan Lane, M.D., Ph.D.

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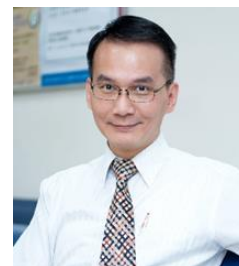
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**Education**

- 1980-1987 M.D. , Medicine , Taipei Medical College, Taipei, Taiwan
- 1995-2000 Ph.D., Life Science, National Defense Medical Center, collaborated with Academia Sinica, Taiwan

Research and Professional Positions Held in Chronological Sequence

- 1989-1993 Resident, Department of Adult Psychiatry, Taipei City Psychiatric Center
- 1993-2000 Staff Psychiatrist, Taipei City Psychiatric Center
- 1997-2000 Instructor, School of Medicine, Taipei Medical College
- 2000-2002 Staff Psychiatrist, Department of Psychiatry, Tzu-Chi General Hospital
Assistant Professor, Institute of Neuroscience, Tzu-Chi University
- 2002-2003 Chief, Department of Community Psychiatry, China Medical University Hospital
Assistant Professor and Chief, Department of Psychiatry, China Medical University
- 2004-2006 Chief, Department of Psychiatry, China Medical University Hospital
Associate Professor and Chief, Department of Psychiatry, China Medical University
- 2005-2006 Chief, Institute of Medical Sciences, China Medical University
- 2006-2007 Associate Professor, Institute of Behavioral Medicine, National Cheng Kung University
Staff Psychiatrist, Department of Psychiatry, National Cheng Kung University Hospital
- 2006-2008 Adjunct Associate Research Fellow, Institute of Biomedical Sciences, Academia Sinica, Taiwan
- 2007- Chief, Department of Psychiatry, China Medical University Hospital
Professor and Chief, Department of Psychiatry, China Medical University
- 2008-2016 Director, Graduate Institute of Clinical Medical Sciences, China Medical University
- 2016- Director, Graduate Institute of Biomedical Sciences, China Medical University

Research Interests

Dr. Lane's research interests include two main axes: (1) to establish individualized medicine by exploring biomarkers for treatment response and mental disorders, and (2) to develop novel agents for treating mental disorders. Both axes are of clinical and industrial values.

The first research interest, individualized medicine, aims to explore the individual and racial differences in the pharmacokinetics, pharmacodynamics, and pharmacogenetics of psychiatric

drugs; and to establish early prediction models for drug efficacy, greatly improving the effectiveness and safety of psychiatric drug treatment. The research results are adopted by the World Psychiatric Association and the British treatment guidelines. Regarding biomarkers, Dr. Lane's team systematically examined genetic factors that may predict patients' response to pharmacological interventions and published the first pharmacogenetic study on the 2nd-generation antipsychotic agent globally. His team also discovered the first biomarker, G72 (D-amino acid oxidase [DAAO] activator) protein, for schizophrenia. In addition, they found that NMDA receptor (NMDAR)-related genetic variances may affect cognitive functions of patients with schizophrenia, and various D-amino acids differ in their role in modulating cognitive functions.

The second is the pharmacological research related to NMDAR regulation, opening a new page for psychopharmacology. Committed to developing novel treatments, Dr. Lane's team is the first group to demonstrate the therapeutic efficacy of sarcosine, a glycine transporter I inhibitor, for schizophrenia and other mental disorders. Sarcosine represents a new compound and a novel mechanism for treatment of mental disorders. Another alternative to enhance NMDAR function is to inhibit DAAO activity; DAAO is responsible for degrading D-serine and other D-amino acids. Dr. Lane's group is also leading in translational and clinical studies to explore the potential role of DAAO inhibition in the treatment of schizophrenia and other brain diseases. Such an approach has been regarded as the most potent therapy for schizophrenia, including refractory schizophrenia, to date. This brand-new treatment with a novel mechanism hopefully will advance future treatments for schizophrenia and other cognitive disorders.

Dr. Lane's studies have been gaining global attention. His research was awarded the CNS Drug Innovation Award of the International College of Neuropsychopharmacology (CINP) in 2016, and selected by the Ministry of Science and Technology in 2019 as one of Taiwan's leading scientific research achievements in the world. These research results not only instill new hope into the treatment of schizophrenia and other brain diseases, but also lead the industry in the research and development of CNS new drugs.

Major Honors and Awards

2005	National Science Council Research Award - A Award, Taiwan
2006	Y.Z. Hsu Scientific Paper Award, Biotechnology Category, Taiwan
2013	The 10th National Innovation Award, Taiwan
2014	The 24th Wang-Ming-Ning Award, Taiwan
2014	Ministry of Science and Technology Outstanding Research Award
2016	CNS Drug Innovation Award, The International of College of Neuropsychopharmacology (CINP)
2017	The 14th National Innovation Award, Taiwan
2018	Ministry of Science and Technology Outstanding Technique Transfer Award, Taiwan
2019	The 16th National Innovation Award Excelsior Award, Taiwan
2021	The 18th National Innovation Award, Taiwan
2021	Ministry of Science and Technology Future Technology Award finalist, Taiwan
2022	The 19th National Innovation Award, Taiwan
2022	National Pharmaceutical Science and Technology Research and Development Award finalist, Taiwan
2022	National Science and Technology Council Future Technology Award, Taiwan
2023	Taipei Medical University - Outstanding Alumni of Academic Achievement