

## Progress of Molecular Genetics and Neuroscience Research in Schizophrenia

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*A psychiatric disorder has multiple etiological factors. Every psychiatric disorder has its specific weight of every specific etiological factor. Schizophrenia is a model psychiatric disorder for psychopathological research. After "dementia praecox" was recognized by E. Kraepelin and "schizophrenia" was explored by E. Bleuler, the continuous research of schizophrenia initiates the developmental process of psychiatry in recent one hundred years.*

*Up to the end of 20<sup>th</sup> Century, schizophrenia was understood as a diagnostic category which is with heterogeneity. Research data showed that schizophrenia patients had structural abnormality and impaired function of the brain. Neuropsychological function, including sustained attention, working memory and executive function were impaired. Hyperactivity of dopamine was formulated to be one of the neurochemical pathophysiological mechanisms. Based on family, twin and adoption studies, genetic factor was found to be the major etiological factor. Current molecular genetic study found that several possible chromosome regions might contain vulnerability genes of schizophrenia. These progresses represent the status of a new era of psychopathological study of schizophrenia.*

*However, we still do not know the exact number and exact locations of schizophrenia vulnerability genes; we still have no knowledge about the pathophysiological mechanism of abnormal brain structures and functions in relation to genes; we still wait to comprehend the pathophysiological mechanism of pathological brain functions as manifested in modern neuroimaging technology; and we are still looking for the basic pathology for defining schizophrenia. This symposium is organized for the purpose to address these psychopathological issues. Scholars from the Departments of Psychiatry, National Taiwan University ; Harvard University ; and Tzu-Chi University present and discuss about the recent progress of research in psychopathological areas.*

*In the beginning of this 21<sup>th</sup> Century, we expect that serial research will solve these psychopathological problems step-by-step. Basal on the empirical data of these psychopathological areas, we hope that methods of early*

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*diagnosis and early treatment can be invented for better treatment and rehabilitation methods can be developed, as well as early prevention method can be found.*

*These psychopathological studies of schizophrenia will contribute a lot in solving the human suffering from “being psychotic”. It is expected further that the research of the psychopathology of schizophrenia can provide further insight in the research of other psychiatric disorders.*

*key words: schizophrenia, neuroscience research, molecular genetics research*