

# Neuroscience R&D

Central nervous system disorders such as Alzheimer's disease and schizophrenia present substantial unmet treatment needs. Our two interviewees this month discuss their roles in academia and industry helping to translate research in neuroscience into novel therapies for such disorders.



**Tamas Bartfai, Ph.D.**  
Director, Harold L. Dorris Neurological Research Center, Chair of Molecular and Integrative Neurosciences, Scripps Research Institute, La Jolla, California, USA.

The Harold L. Dorris Neurological Research Center at The Scripps Research Institute investigates neurological disorders, including schizophrenia and Alzheimer's disease, and seeks to advance knowledge of the process of brain ageing. Tamas Bartfai, who has been involved in the development of psychopharmaceutical agents for more than 30 years — including the first selective serotonin reuptake inhibitor — was invited to direct the centre when it was founded in 2000.

Bartfai's main research interest throughout his career has been in physiological chemistry. He completed his undergraduate studies in physics and chemistry at Eotvos Lorand University in Budapest, Hungary, and his Ph.D. in biochemistry at Stockholm University,

Sweden — where he remained until 1997, rising to become Chairman of the Department of Neurochemistry and Neurotoxicity.

"I was lucky to apply for and receive a lecturer position right after my Ph.D.," he says. "I applied on the strength of my publications and research ideas. There were many applicants but the Swedish open application system merited whoever seemed most promising. This is a great strength of Swedish science."

Driven by the desire to try to influence drug development, more than is possible as a consultant, in 1997 Bartfai joined Hoffman-La Roche in Basel, Switzerland, to become Head of Central Nervous System Research. At that time, however, he felt that drug portfolio management was driven by marketing. "When the marketing team decided that schizophrenia drugs would not be easy to sell, such projects — no matter how promising scientifically — were stopped, even though we had just made progress into drugs based on a (then) new theory of hypoglutamatergic function causing the disease. It turned out that their sales estimates were completely wrong," he explains.

Eventually, Bartfai was told to stop too many scientific projects that he viewed differently

in terms of possible success in areas of unmet medical need. "Despite being personally treated very well, I was frustrated. Academic research, with its slower pace, lower salary and much smaller resources, seemed attractive again," he says.

At this time, he was invited to Scripps with the promise of a US\$10 million research endowment. "I was so fortunate that at the same time my application to become a professor at the Karolinska Institute in Stockholm was successful and I became the successor to Bengt Samuelsson [who was one of three scientists awarded the Nobel Prize for Physiology or Medicine in 1982 for discoveries concerning prostaglandins]. The two institutions, Scripps and the Karolinska Institute, agreed that I may share my time between them. This seemed such an unusual and great opportunity to return to academia that I could not refuse."

Now, as Director of the Harold L. Dorris Neurological Research Center, Bartfai offers the following advice to younger researchers: "Only do projects that you are enthusiastic about because there will be plenty of frustrations on the way. You cannot do a good job in something that was only chosen by pragmatism."



**Husseini Manji, M.D., F.R.C.P.C.**  
Global Therapeutic Area Head, Neuroscience, Johnson & Johnson Pharmaceutical R&D, New Jersey, USA.

Throughout his career, Husseini Manji has been passionate about understanding neuropsychiatric illnesses and developing new treatments for them. He spent most of his career at the US National Institutes of Health and, before joining Johnson & Johnson (J&J) in June 2008, was the Chief of the Laboratory of Molecular Pathophysiology and Director of the Mood and Anxiety Disorders Program, the largest programme of its kind in the world, comprising over 450 individuals.

Now he leads a global team focused on combining innovative internal and external approaches to discover and develop new solutions for psychiatric, neurological and pain-related diseases. "My ultimate goal, and that of my team, is getting improved treatments into the hands of those patients who need them most," he says.

After obtaining his medical degree from the

University of British Columbia, Manji completed his fellowship training at the National Institute of Mental Health (NIMH) and received extensive training in molecular and cellular biology. Following this, he became the Chief of the Unit on Clinical Pharmacology at NIMH in 1993. "The opportunities that presented themselves to me because of extensive training with outstanding mentors were conducive to long-term success; these would not have been open to me had I attempted to keep the training as brief as possible," he says.

In 1995, he was recruited by the US state of Michigan to develop and lead a new neuropsychiatric research programme at Wayne State University School of Medicine, where he was Professor of Psychiatry and Behavioural Neurosciences and Pharmacology. In 2000, he returned to the NIMH to direct the Mood and Anxiety Disorders Program.

Although the research at the NIMH was progressing very well, in 2008 Manji decided to move to J&J. "Given the many challenges that the pharmaceutical industry faces, one might question the timing. However, I think that addressing these challenges will result in more innovation and focused efforts on developing truly transformational treatments," he explains,

adding that he always felt very strongly about bridging the gap from molecular to clinical therapeutics. "While it was a very difficult decision for me to leave some truly outstanding colleagues, and one of the best institutions in the world, it was clear to me that I could affect more people globally by making the move."

So far, Manji has no regrets. "My first year has been tremendously exciting and rewarding. We have restructured our therapeutic areas with the goal of using clinical insights about complex and heterogeneous disorders to inform drug discovery and development efforts."

He also hopes to help restore public trust in the pharmaceutical industry: "It is unfortunate that the pursuit of developing treatments (and someday cures) for illnesses such as Alzheimer's disease and schizophrenia has been tainted by concerns such as conflict of interest. I have seen the talent, dedication and desire of a large number of my colleagues and peers, who want to make a difference. Furthermore, I think that the greatest advances are undoubtedly going to come from industry, academic and government scientists working together to understand diseases and develop treatments — this is a model that we have to embrace."