

Meeting of minds at the International Life Science Summer Summit in Beidaihe

The coastal town of Beidaihe, a two-hour train ride east of Beijing, hosted the first International Life Science Summer Summit in the end of this July. Organized by the United Nations Office for Project Services (UNOPS) and the Qinhuangdao municipal government, and supported by the Chinese Academy of Medical Science Neurology Center and the Kavli Neuroscience Discovery Institute of Johns Hopkins University, it focused on brain health and sciences. Here, three key organizers discuss the conference theme and the drive to boost brain science research and brain health industry in China.

Chuqin Chen: Smart Health & Life Science Director, UNOPS

Rong Li: Director, Center for Cell Dynamics, Johns Hopkins University School of Medicine

Liwei Zhang: Vice President, Beijing Tiantan Hospital

District Administrative Committee on the development of the Beidaihe Life Science and Healthcare Innovation Demonstration Zone. As the first of its kind in China, the demonstration zone is aligned with the national health development strategy to boost the local healthcare industry by attracting talent and financial resources. To create a supportive environment for biomedical innovation, we initiated the International Life Science Summer Summit to enhance life science education and research, and focused on brain health and science for our inaugural summit.

defined by the removal of a tumour, or surviving a disease; it refers to the full recovery of brain function, the maintenance of psychological health and a real return to society. This means that greater research efforts are needed to better understand the brain.



Li: Brain health plays a significant role in social development. Neurodegenerative diseases have a huge burden on families, society, and affect people's quality of life. But, as well as neurodegeneration, there are neurological diseases, such as depression and ADHD, taking a large toll on young people. We want to evoke greater awareness in China of brain diseases to encourage early diagnosis and treatment, and also to advocate that the government and the private sector to inject more investment into this very important area.

Zhang: It is a great time to promote brain research in China. The country is committed

to investing in science with robust financial support, buttressing basic, clinical and translational research. The government is also able to mobilize different resources and has supportive policies that encourage innovation and attract talent. In the study of brain health, our advantage lies in rich clinical resources, which enable us to explore various rare diseases and support the construction of brain banks, generating massive data that will fuel our basic and clinical research.

Yet, we still need to improve the research system to truly foster innovation and the sustainable development of research. One task is to find interdisciplinary investigation areas to engage brain scientists of different fields.

Li: Indeed, brain research is an integrative science and there are people working on different scales, ranging from the very fundamental cell biology to the treatment of diseases. The question is how to link them and integrate their efforts. I don't know much about the landscape of Chinese science or how its research is organized, but I know that the United States is very much into interdisciplinary research. For instance, at Hopkins, we have grants specifically for collaborative projects with teams from different fields. The Center for Cell Dynamics that I'm leading is just such a platform and has brought together people with backgrounds in cell biology, pharmacology, bioengineering and even mechanic engineering. We are all interested in dynamic processes within the cells, but take different perspectives and can learn from each other's expertise. This model proves to be very efficient.

Chen: Encouraging interdisciplinary collaboration through the exchange of scientists from diverse fields is a major goal of this conference. Focusing on brain health, we have brought in top-notch scientists, as well as experienced clinicians to explore neurodegenerative diseases. We hope our conference creates a platform for mutual learning and that the dialogue will lead to collaborated projects in Beidaihe. We also



hope to promote more public-private, as well as international collaborations.

The interdisciplinary nature of our conference is also reflected in the arts and mind sessions that we've planned for, a unique feature of our summit. We will explore how music, architectural design and meditation influence mind and health, in the hope of sparking more scientific studies on this. In the process, we also want to empower more female scientists.

Zhang: I hope the conference will attract greater social attention to brain health and by engaging experts of different fields, spark investigation of the brain from varied perspectives. Exploration is not limited to brain diseases, but functions of different brain areas that have applications in engineering, computer science and many other facets. In our audience, we had people from engineering school, in addition to clinicians and neuroscientists. They seemed excited about this rare opportunity for interdisciplinary learning.

The conference also promotes research development in China. We want to leverage brain science to integrate all the resources to develop an entire chain of innovation that links basic, clinical and translational research, reinventing our research system.

Li: Yes, everyone can learn at our summit. Listening to people from other fields, help you to think out of the box. For instance, as a cell biologist, I'm most interested in the session discussing the molecular, cellular and genetic mechanisms of neurodegeneration, and we had leading experts in the field introducing their cutting-edge research. But I also have a broader interest in the clinical sessions

introducing the biomarkers and novel treatment approaches, which may give me new ideas for applying my research. Meanwhile, clinicians can also be inspired by findings on the mechanisms of disease progression.

Another expectation is that the summit will foster collaboration on brain research and education, which will be the foundation that boosts biomedical innovation in the demonstration zone.

Chen: Creating a supportive ecosystem for biomedical innovation is a core task of the Beidaihe demonstration zone. This entails establishing joint laboratories on translational medicine and an ethical board for quality control, in addition to attracting leading scientists to guide research planning and launching joint graduate education programmes to train students. We will also have venture capital funds to support innovative projects. Another goal of the demonstration zone is to explore system innovation. We are working with the China FDA to pilot an 'expedited passage' for drug development in Beidaihe, enabling quick approval of clinical trials for new drugs approved by the US FDA. This will be supported by legal studies to ensure safety and efficiency of clinical trials. We want to create a role model for life science innovation in Beidaihe, with a focus on brain health, and the summit promoted the demonstration zone. ■



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