Conference Report:

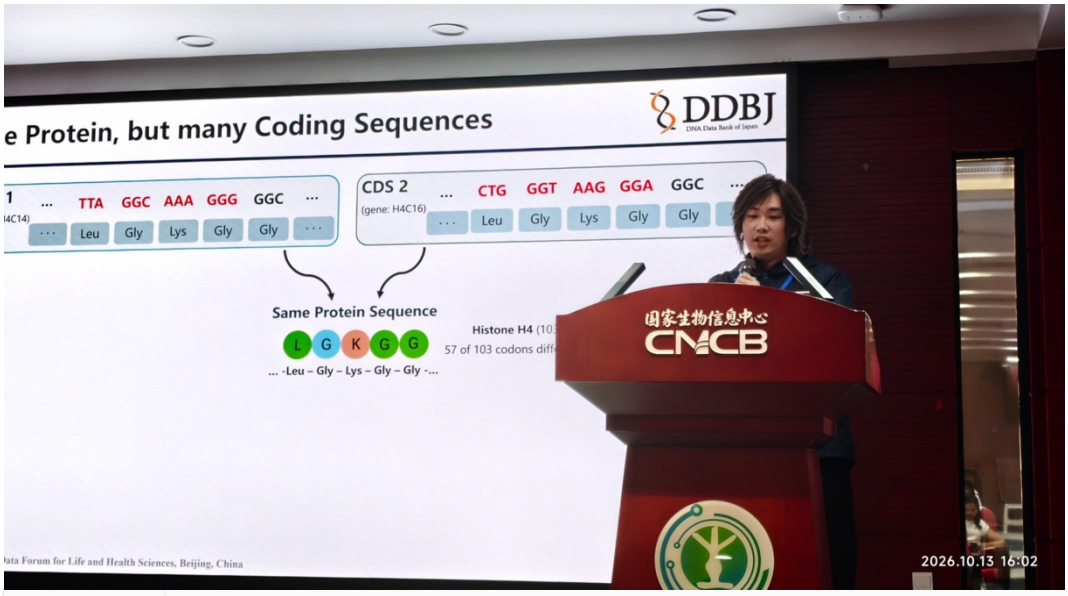
The 11th Big Data Forum for Life and Health Sciences, Beijing

Name: Ziyi HE
Year: D2 of 5 years PhD Student
Lab: Genome Informatics Lab
Location: Beijing, China
Duration: 2026/10/13 ~ 2026/10/15

Presentation title: From Codon Usage to Data-Centric Biological AI: Exploring Applications of Large-Scale Sequence Resources from DDBJ

I am sincerely grateful to NIG for the travel support that enabled me to give my first oral presentation at an international academic conference. This was a challenging experience and an important part of my training as a doctoral student. Presenting my study to fellow researchers required a lot of courage. Clearly explaining my research and its significance within the allotted time and responding to questions from the audience also trained and tested my communication skills.

The 11th Big Data Forum for Life and Health Sciences (BDF) was held in Beijing, China, on October 13–15, 2026, organized by the Beijing Institute of Genomics, Chinese Academy of Sciences (China National Center for Bioinformation) with the aim of promoting the open sharing of omics data and health data to explore applications of big data in life science and health research.



15:50 - 16:00	**From Codon Usage to Data-Centric Biological AI: Exploring Applications of Large-Scale Sequence Resources from DDBJ** Ziyi He, National Institute of Genetics

Fig.1. My Presentation Photo & Agenda



Fig.2. Meeting Photos (presentations from EMBL-EBI and NIG)

At BDF, most speakers were professors and senior researchers, including those from EMBL-EBI, Peking University, the RCNS in Hungary, and Chulalongkorn University in Thailand, who shared recent advances in their respective fields. This meeting also provided opportunities for doctoral students to present their research. I was one of two doctoral student speakers selected to give an oral presentation and delivered a 10-minute talk on the first day.

I had the opportunity to share my study for building codon usage resources from public data from DDBJ with big data & life science researchers. I also discussed the potential applications of these resources for biological AI, evolutionary biology, and medical research. Fellow participants gave me many suggestions on applications of codon usage bias and database development. These suggestions offered new perspectives for my future work on molecular evolution using codon data and on data processing.

During the meeting, I met other field researchers in marine ecology, environmental science, and AI modeling. These experiences encouraged me to hope to participate in more academic conferences, share my research progress, and draw on feedback from these exchanges to further develop my doctoral research.

Once again, I would like to thank NIG for the ‘Travel Support for International Meetings and Courses’ program, and my supervisor, Professor Nakamura, for supporting my participation in this meeting.



Fig.3. Beijing’s Sky & Conference Poster

External links:

Official meeting webpage: https://ngdc.cncb.ac.cn/conference/bdf2026