The 177th RIKEN BRC SEMINAR



June 23, 2025 (Mon.) 15:30~17:00 RIKEN BRC Moriwaki Hall

Chair : Dr. Hiroshi Masuya Integrated Bioresource Information Division

The Gateway to Biological Research. BioOne!

Dr. Tae-Eun Jin

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Bio-resources are essential materials for biotechnological research and industry. Given their importance, many countries have focused on the acquisition and utilization of bio-resources. Recognizing this, Korea has made considerable efforts to collect these resources since the 2000s. By 2024, Korea had accumulated a total

of 20,709,924 bio-resource samples, with 812,241 samples distributed in 2024 alone.

However, changes in both domestic and international circumstances, such as the entry into force of the Nagoya Protocol and the global pandemic, have highlighted the need to adjust policies regarding the acquisition of bio-resources and the establishment of bio-resource banks. In July 2020, Korea announced its 3rd national strategy for bio-resources, which has led to changes in how bio-resources and their data are utilized.

Hybrid

As part of this strategy, bio-resource banks are now organized into 14 units, including human tissues, pathogens, cell lines, experimental animal models, microorganisms, plant extracts, and more. Additionally, to enhance the utilization of bio-resource data, the BioOne platform (a one-stop bio-resource service) is being established in 2024. This platform will allow users to search for research papers, patents, research results, and bio-resources, and will enable the ordering and distribution of bio-resources. In this presentation, I will explain the management of bio-resources in Korea and provide an overview of the BioOne platform (https://www.bioone.re.kr/en/main).

The Resource Research Circulation (RRC): A Publication Database for the National BioResource Project and Its Applications

Dr. Shoko Kawamoto

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The National BioResource Project (NBRP) was launched in 2002 and has provided a wide variety of biological resources to researchers both in Japan and abroad for over two decades. Research outcomes utilizing these resources are typically published as academic papers by the users. The accumulation of such publication data not only demonstrates the value of the bioresources but also serves as an essential indicator for the evaluation and improvement of the resource-providing institutions.

Based on this background, we developed the Resource Research Circulation (RRC), a centralized literature database that collects, curates, and publicly shares research papers in collaboration with resource centers across Japan, including RIKEN BRC. In addition to bibliographic information, RRC records the names or IDs of bioresources used in each publication, allowing users to see which resources are being used in research. As of now, the database contains over 60,000 entries. Researchers can also register their publications directly through the RRC website. RRC data is used to analyze trends in bioresource research. In collaboration with RIKEN BRC, we visualized changes in research topics using word clouds. These findings indicate that RRC can guide future resource strategies and reveal emerging research areas.

To improve user accessibility, the interface has been continuously refined based on feedback from users at RIKEN BRC. Further development is also planned, including integration with a comprehensive resource database, BRW. RRC aims to evolve beyond a publication database into a platform that enables the visualization and analysis of the circulation of research resources.

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