

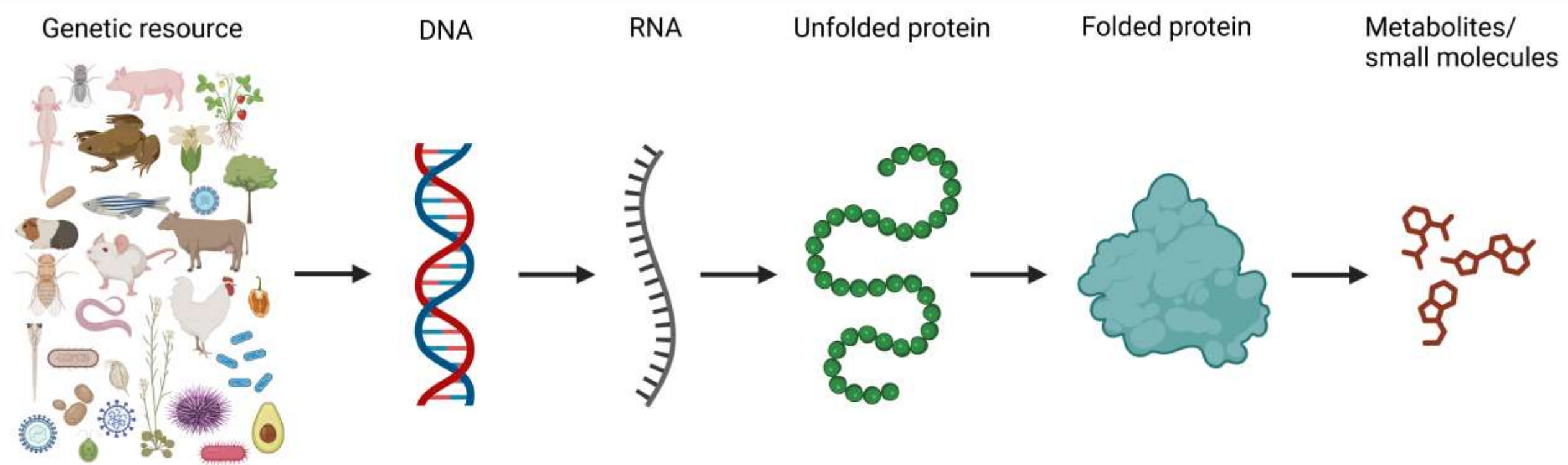
What does open access to DSI mean for researchers?

Future-proofing the DSI MLM: implications of artificial intelligence & other upcoming technologies

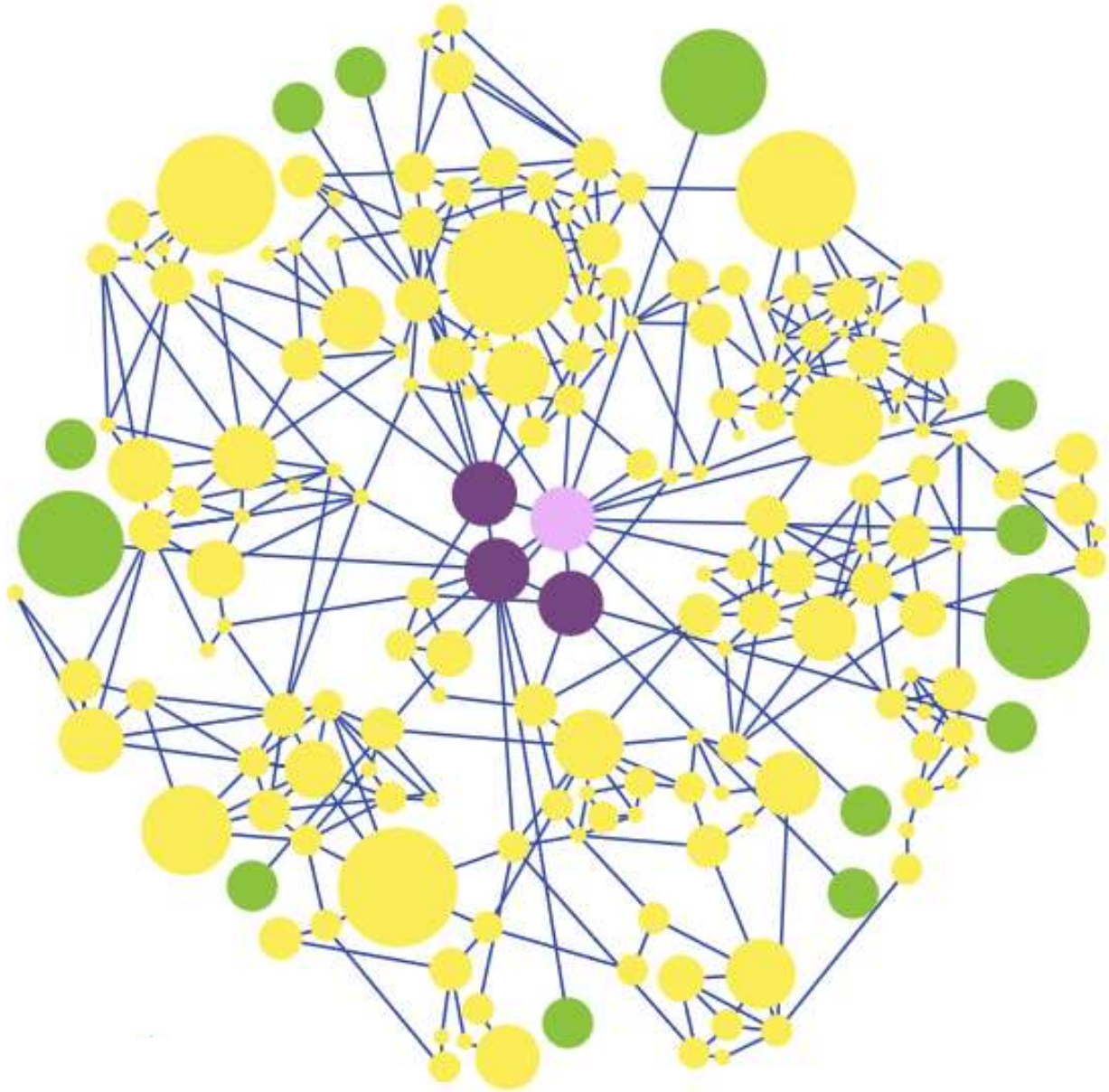
Davide Faggionato

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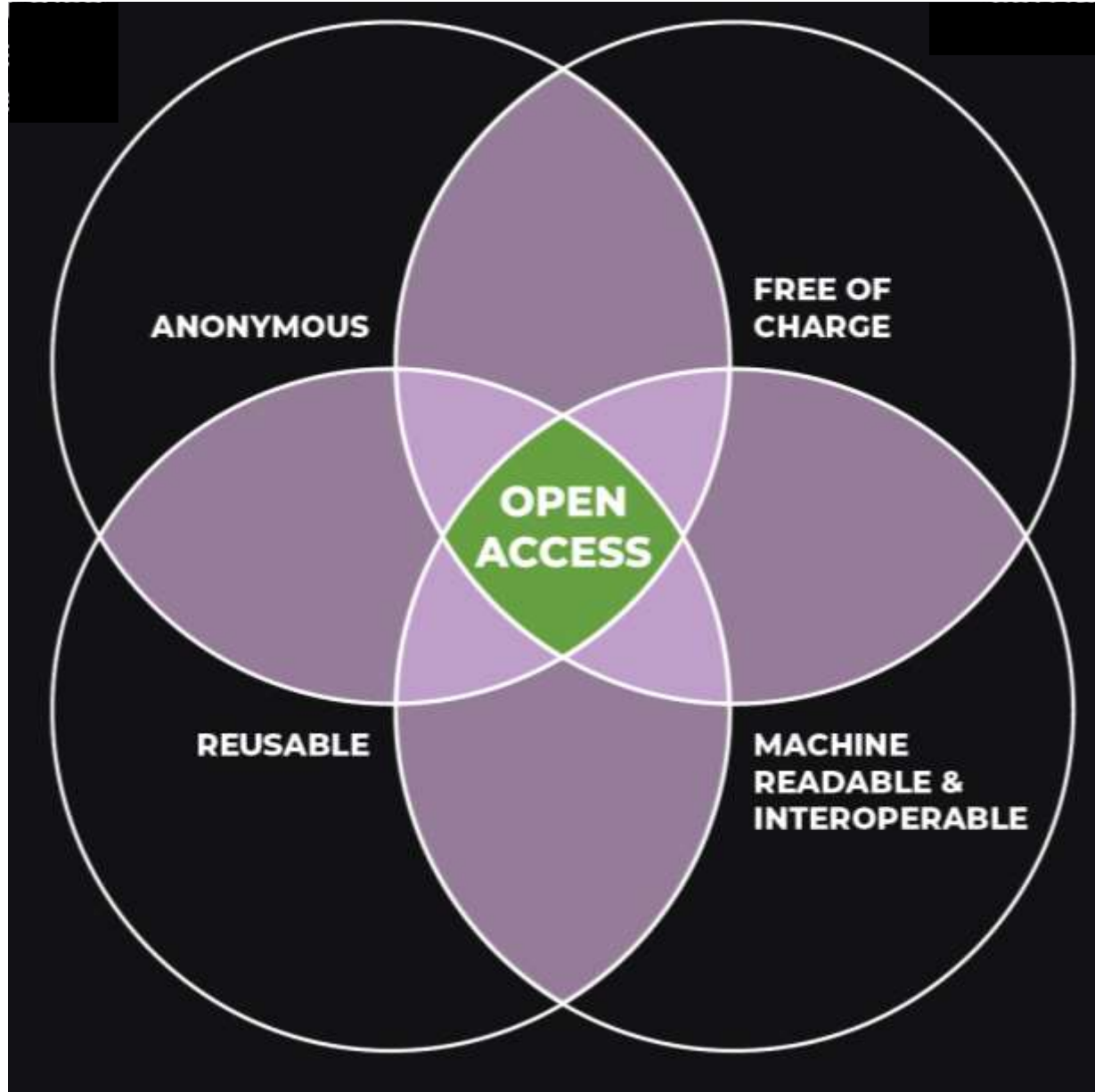


What does open access to DSI mean for researchers?



- **DDBJ, ENA, GenBank & Other repositories**
- China NGDC ++
- **3,000 other open databases** - exchange back and forth with the INSDC repositories and amongst themselves
- **Private databases** - often "one way" databases that often use the public data but don't contribute back

What does open access to DSI mean for researchers?



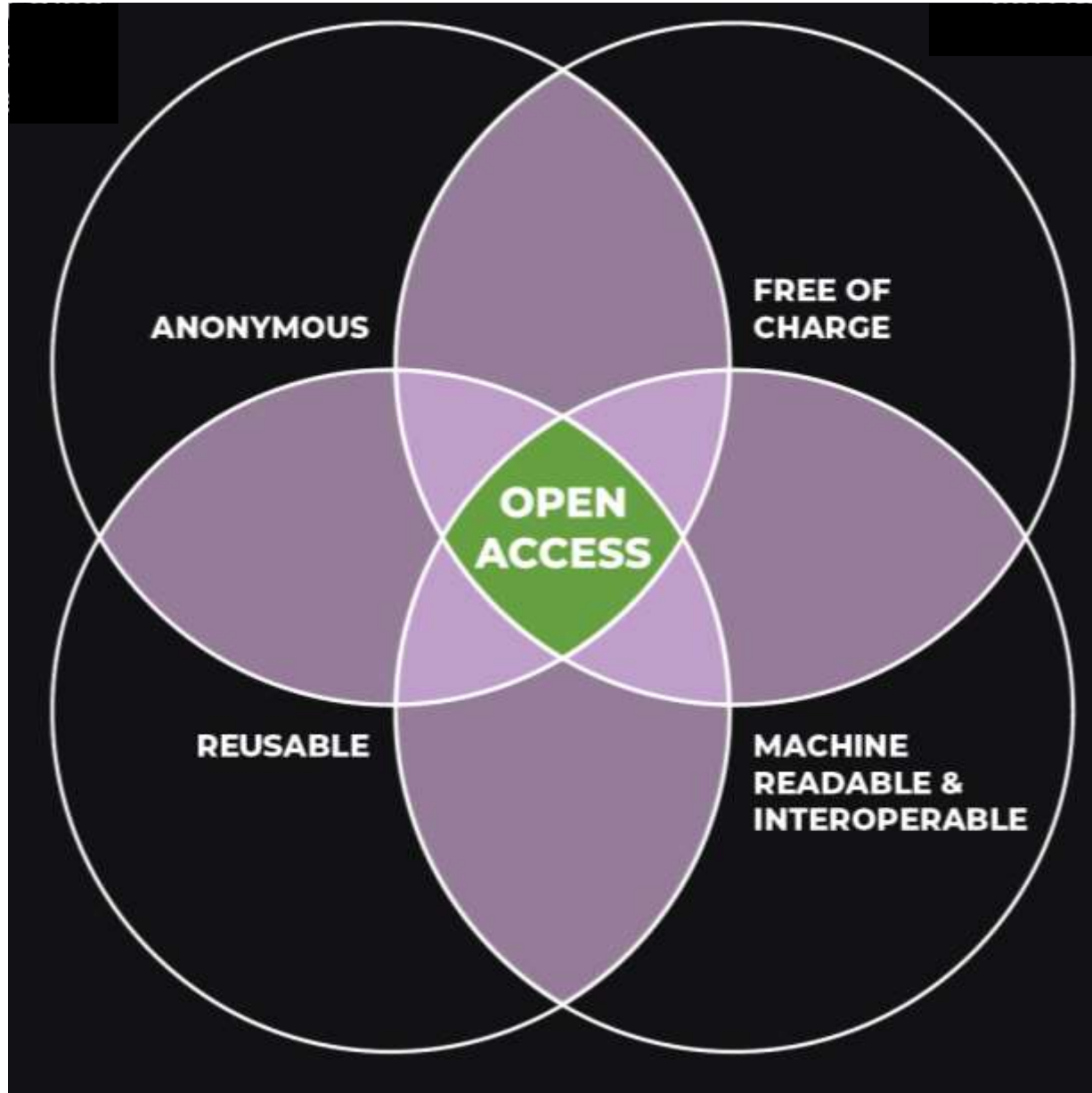
What does open access to DSI mean for researchers?

Anonymous

Most public DSI databases can be accessed without registering

Free of Charge

Access to and use of public DSI databases is free of charge



Reusable

Researchers are able to reuse data without restrictions

Machine readable & interoperable

Data is provided in a form that can be easily processed, transferred, analyzed and reused across different systems

What does open access to DSI mean for researchers?



400 suspected shark meat samples from the northern coast of Brazil



17 shark species, 4 listed as near threatened and 9 as threatened such as the great hammerhead shark

Feitosa, L.M., Martins, A.P.B., Giarrizzo, T. et al. DNA-based identification reveals illegal trade of threatened shark species in a global elasmobranch conservation hotspot. *Scientific Reports* (2018). <https://doi.org/10.1038/s41598-018-21683-5>

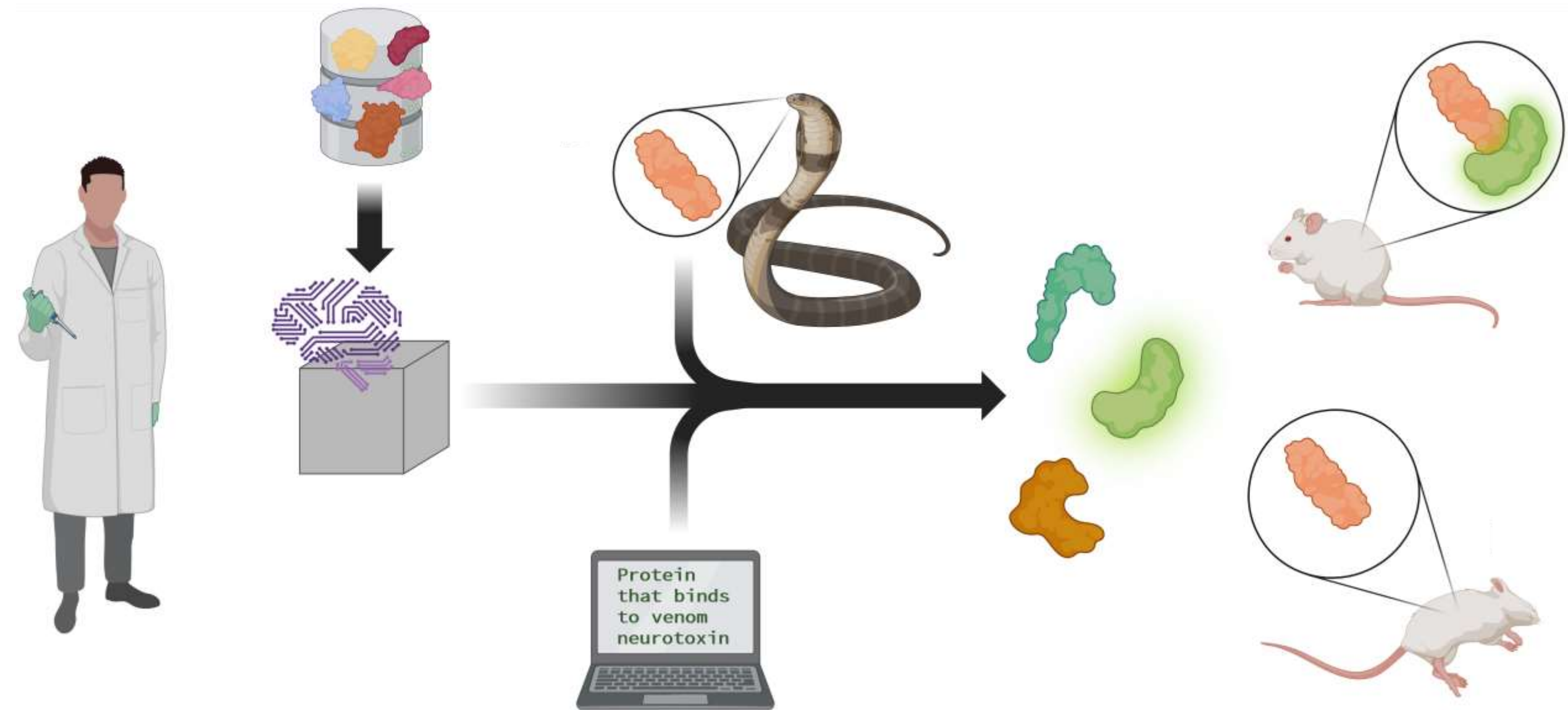
THE NOBEL PRIZE IN CHEMISTRY 2024



David
Baker

Demis
Hassabis






John M.
Jumper






Take home messages

- **Para. 9.d: It is crucial that the DSI multilateral mechanism “be consistent with open access to data”.**
- **Capture the collective benefits derived by the use of DSI:** A future-proof MLM must be designed to recognize the aggregate value of DSI.
- **A broad definition for DSI:** With a broad definition for DSI (DNA, RNA, proteins, metabolites), the MLM would be better positioned to accommodate future technological advances beyond current AI applications.

Latest publications

- 1  DSI Scientific Network position paper for COP16
- 2  Mapping the landscape of DSI databases: A large, interconnected, and ever evolving DSI data ecosystem
- 3  Future-proofing the DSI multilateral mechanism: possible implications of artificial intelligence & other upcoming technologies
- 4  Meeting the goals of the Global Biodiversity Framework: what is the role of digital sequence information?
- 5  Harmonize rules for digital sequence information benefit-sharing across UN frameworks, Nature communications

Latest publications

- 6  What does open access to DSI mean for researchers?
- 7  Understanding the use and provision of DSI: A multidirectional flow of information
- 8  Digital Sequence Information (DSI) data governance practices to support benefit-sharing and science

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DSI Scientific Network
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