

Open Science Week

16.–20. 10. 2023



Univerzita Palackého
v Olomouci

Open Science v praxi: Show and tell

Open Science v živých vědách a chemii

Karel Berka

International
Open Access Week



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Open Science - flavours

Open principles



**OPEN
PRINCIPLES**

Open collaboration



**OPEN
COLLABORATION**

Reproducible Research and Data Analysis



**REPRODUCIBLE
RESEARCH
& DATA ANALYSIS**

Open Research Data



**OPEN
RESEARCHDATA**

Open Research Software and Open Source



**OPEN
RESEARCH SOFTWARE
& OPEN SOURCE**

Open Access to Research Papers



**OPEN ACCESS
TO RESEARCHPAPERS**

Open Evaluation



**OPEN
EVALUATION**

Public Engagement with Science



**PUBLIC ENGAGEMENT
WITH SCIENCE**

Open Educational Resources



**OPEN
EDUCATIONAL RESOURCES**

Open Advocacy



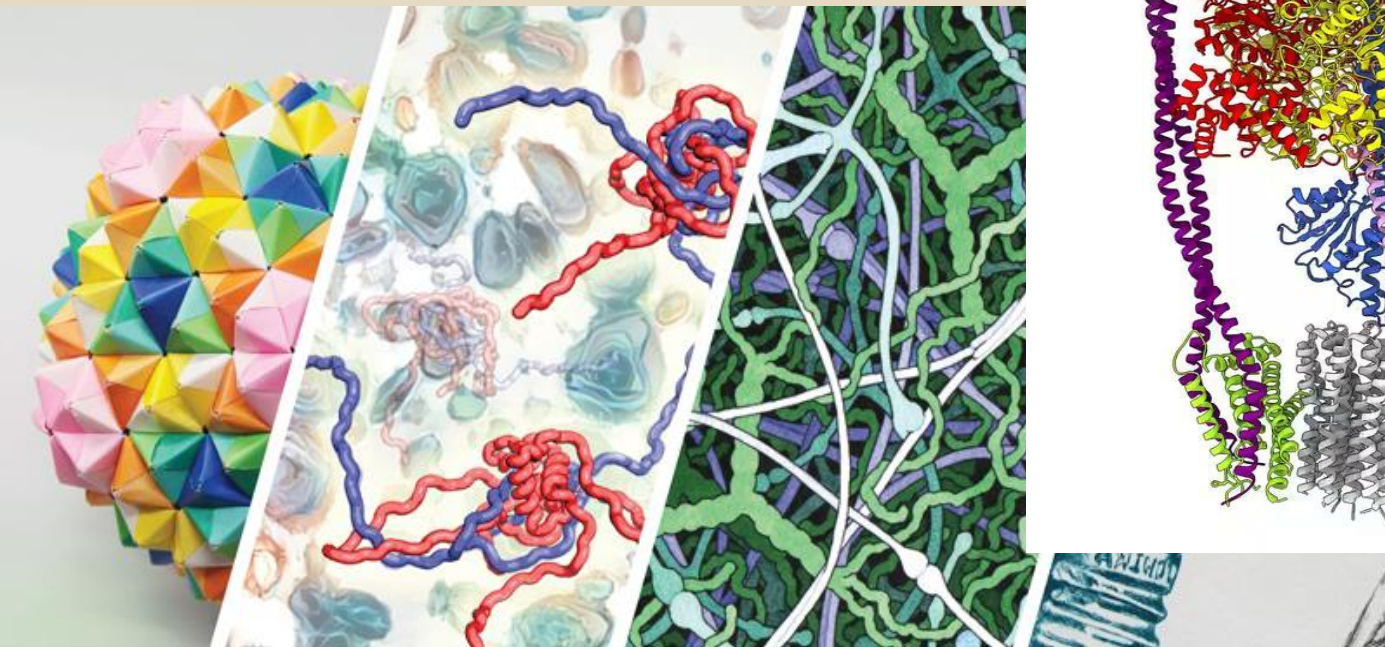
**OPEN
ADVOCACY**

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Open Science ve strukturní biologii

- PDB (1971) ->



Guo et al.,
2019

AlphaFold Protein Structure Database

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AlphaFold Protein Structure Database

Developed by DeepMind and EMBL-EBI

Search for protein, gene, UniProt accession or organism

Examples: [Free fatty acid receptor 2](#) [A11g58602](#) [Q5VSL9](#) [E. coli](#) [Help: AlphaFold DB search help](#)

Feedback on structure: [Contact DeepMind](#)

AlphaFold DB provides open access to over 200 million protein structure predictions to accelerate scientific research.

Background

AlphaFold is an AI system developed by DeepMind that predicts a

2021 Calendar

Celebrating 50 Years of Protein Data Bank



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Open Science - ChannelsDB



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Protein Data Bank in Europe

Search ChannelsDB 2.0 for experimental structures using name or IDs (e.g. cytochrome P450, 5ebi, KcsA, P08686)



Search ChannelsDB 2.0 for AlphaFill structures via Uniprot ID (e.g. P08686, P10635)

ChannelsDB last update on **12/09/2023** contains: **71353** protein entries [Show details](#)

ChannelsDB database is located at <https://channelsdb.ncbr.muni.cz/>.

ChannelsDB 2.0 is a comprehensive and regularly updated resource of channels, pores and tunnels found in biomacromolecules deposited in the [Protein Data Bank](#) and [AlphaFill](#) / [AlphaFold](#) databases. As such, it is a unique service for channel-related analyses. Pathways were calculated using an algorithms [CAVER](#) and [MOLE](#).



<https://channelsdb2.biodata.ceitec.cz/>

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Děkuji za pozornost – otázky na Slido

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Melanie Imming, & Jon Tennant. (2018, June 8). Sticker open science: just science done right. Zenodo. <http://doi.org/10.5281/zenodo.128557>