

(Virtual) wwPDB Scientific Advisory Board Meeting – 17 October 2025
8am-11am EDT/1pm-4pm UK Summer Time/9pm-Midnight Japan Time
Advisory Committee Chair

John Rubinstein (Chair and 3DEM Representative, University of Toronto/The Hospital For Sick Children. john.rubinstein@utoronto.ca)

Advisory Committee Members in Attendance

Hari Arthanari (Co-Chair; BMRB, hari_arthanari@hms.harvard.edu)

Christina Redfield (BMRB, christina.redfield@wolfson.ox.ac.uk)

Kirk L. Clark (RCSB PDB, kirk.clark@novartis.com)

Paul Adams (RCSB PDB, pdadams@lbl.gov)

Martin Walsh (PDBe, martin.walsh@diamond.ac.uk, walshbm14@gmail.com)

Toshiya Senda (PDBj, toshiya.senda@kek.jp)

Kyeong Kyu Kim (PDBj, kyeongkyu@skku.edu)

Sjors Scheres (EMDB, scheres@mrc-lmb.cam.ac.uk)

Giulia Zanetti (EMDB, g.zanetti@bbk.ac.uk)

Advisory Committee Regrets

Anastasis Perrakis (PDBe, a.perrakis@nki.nl)

IUCr Representative

Jennifer L. Martin

ISMAR Representative

Charles Schwieters

3DEM Representative

John Rubinstein

wwPDB Principal Investigators

Stephen K. Burley (RCSB PDB)

Jeffrey C. Hoch (BMRB)

Genji Kurisu (PDBj)

Kyle Morriss (EMDB)

Sameer Velankar (PDBe)

Associate Member

China: Wenqing Xu

Associate Member candidate; Regrets

India: Debasisa Mohanty

Introduction and overview

The wwPDB advisory committee congratulates wwPDB members for their effort and success over the past year. We recognize that this has been a challenging year for scientific research and international collaboration.

In particular, success with PDB China has been impressive. The PDBc now processes 100% of depositions from mainland China. PDBc currently uses servers from PDBj in Osaka, and to become a full member PDBc will need to install servers in Shanghai and staff will need to be trained in their use and maintenance. The AC strongly supports continuation of this important process.

The AC strongly believes that the top priority for the PDB should be ensuring stability of the resource, and specifically retiring the technical debt associated with the OneDep system.

Response to questions posed by wwPDB PIs

QUESTION

1. Concerns regarding the future of wwPDB member funding have not eased in the past twelve months.

- Is the wwPDB AC willing to reaffirm publicly the importance of open access to scientific research data and the enormous value of the wwPDB Core Archives?
- Would the AC publish a communication in a respected journal that wwPDB can share with funders and other government officials?

The wwPDB advisory committee unreservedly reaffirms its support for the value of the wwPDB Core Archive. As the central repository for experimentally determined atomic models of biomolecular structures, the wwPDB represents the sum total of our knowledge of the molecular basis of life. The wwPDB Core Archive is one of the great accomplishments of science. Most recently, this experimental knowledge has allowed for development and continued improvement of predictions of biomolecular structures that have not been observed experimentally.

Owing to the magnitude of the wwPDB Core Archive, the wwPDB advisory committee will enthusiastically and energetically participate in publishing a communication in a respected journal that the wwPDB can share with funders and government agencies. We feel strongly that recognized scientific leaders, including Nobel Laureates and others who are most noteworthy to governments, should be included in this statement. Leaders from Pharma and Biotech companies, which have benefited greatly from the existence of the wwPDB should also be included. We are confident that these respected scientists will recognize the value of the effort and participate enthusiastically. Including these individuals will have the additional benefit of ensuring that the most influential scientists are aware of the ongoing challenges faced by the PDB.

Loss of the data of the wwPDB must not be allowed to occur.

Question 2: A long-term aspirational goal of the wwPDB is to establish a common global instance (with failover) of the OneDep software system for structure deposition, validation, and biocuration to avoid challenges with maintaining multiple instances in different geographic locations with differing hardware and operating system configurations (see Slide No. 14).

- Is the wwPDB AC aware of other organizations that have tackled similar challenges that we could learn from?

We agree that this is an important goal that aligns well with the goal of modernizing and updating the OneDep software system.

The wwPDB AC is not aware of other organizations that have tackled analogous challenges. Loose parallels exist with organizations such as The Square Kilometer Array and Instruct-ERIC. It is possible that companies have built enterprise solutions to similar problems, and it may be worth identifying relevant examples and discussing with those companies.

To begin to take steps to achieving this goal, we strongly encourage the wwPDB to identify possible ways in which the new software could be developed and determine the cost of these plans. One of these costed plans could form the basis for funding requests. Without a concrete fundraising objective, we worry that the plan will remain aspirational indefinitely.

We observe that, as a multinational organization, the PDB has the advantage of flexibility for where this development will be done. This flexibility will allow the work to be done with maximal cost effectiveness.

Question 3: The AC will learn about the successful and pending joint BBSRC-NSF (see Slide No. 32) grants for deposition and validation, respectively.

- Is the AC aware of other joint funding mechanisms?
- What areas should wwPDB target for future joint submissions?

The AC members are only aware of one related funding mechanism, involving BBSRC and the Japan Science and Technology Agency (JST):

https://www.jst.go.jp/pr/info/info1729/pdf/info1729_en.pdf

The AC feels strongly that the single most important mission for the wwPDB should be to upgrade the OneDep system. We urge the wwPDB to ensure that any other efforts should not compromise efforts to upgrade the OneDep system.