

創薬オープンイノベーションにおける Big Data プラットフォーム Big Data Processing and Analyzing Platform for Open Innovation in Drug Discovery

開催趣旨:

Bill & Melinda Gates 財団の MM4TB や NIH Blueprint などのように国境を越えたオープンイノベーションのプロジェクトが進行しており、多くの成果を上げています。こうしたプロジェクトに参加している研究チームは各々の施設で研究業務を遂行するため、データをどのようにプロジェクトメンバーに対して共有し、活用していくのかが課題の1つとなります。言い換えれば効果的なデータの活用がプロジェクトの進行を左右する要因になり得ます。今回こうした課題を解決するための手段としてクラウドベースのプラットフォーム (CDD Vault) について紹介し、創薬オープンイノベーションにおけるビッグデータ処理や解析に求められるプラットフォームについて討論できることを期待しています。多くの方々のご参加をお待ちしております。

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■ Collaborative Drug Discovery in the Age of Big Data

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Collaborative Drug Discovery

Whereas the main focus in Big Data has been its vast size, the main value that can be obtained from it depends on the tools and processes that allow for effective mining of such data. Big Data mining is the capability of extracting useful information that has been historically impossible with the existing technologies. The information management needs of the pharmaceutical industry has been pushing for new ways of mining large and complex databases, as well as for new technologies to identify useful trends and information that can be extracted.

CDD Vault® is one of the new platforms that provides a hosted database solution for secure management and sharing of chemical and biological data. It lets you organize chemical structures and biological study data, and collaborate with internal or external partners through a web interface. CDD Public is an open database that can be mined through CDD Vault and is freely accessible to scientists at no charge. Importantly, it contains negative data which makes it valuable for those involved in predictive model development. Simultaneous analysis of private and public data in a multi-site multi-disciplinary secure environment makes the collaborative CDD Vault platform uniquely valuable.

In this presentation, we will provide several examples where CDD Vault has been utilized as the central platform for multi-national collaborations including NIH Blueprint (11 organizations), Bill & Melinda Gates foundations (BMGF) Tuberculosis (TB) collaborations (14 organizations including 7 big pharma), and More Medications for Tuberculosis (MM4TB) (25 organizations including 2 big pharma). The search, analysis, and data visualization capabilities of CDD Vault will be discussed.