Contribution ID: **12** Type: **Talk**

Developing (semi)automatic analysis pipelines and technological solutions for metadata annotation and management in high-content screening (HCS) bioimaging

Wednesday 15 May 2024 11:40 (15 minutes)

Bioimaging merges microscopy, biology, and computation for single molecule to organism-level study. High-content screening (HCS) automates analysis, aiding in understanding cellular processes and drug development. Managing metadata is a challenge. NFDI4BioImaging aims to enhance FAIR principles in bioimaging. We propose a workflow for zebrafish larvae images, enriching metadata and uploading to OMERO server. Users access and analyze images, supporting reproducibility and collaboration. Integration with IDR enhances data sharing. Our approach streamlines data handling, supporting robust scientific inquiry. Through automated pipelines, we tackle the complexity of metadata, ensuring data integrity and facilitating interdisciplinary collaboration. This workflow not only enhances the efficiency of HCS bioimaging but also contributes to the wider scientific community's efforts to adopt FAIR principles, thereby advancing scientific discovery and innovation.

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Session Classification: Thematic Session: Data Acquisiton / Image Format - part III

Track Classification: Data Acquisition & Image Formation (focus on real-time imaging): Thematic focus: Data Acquisition & Image Formation