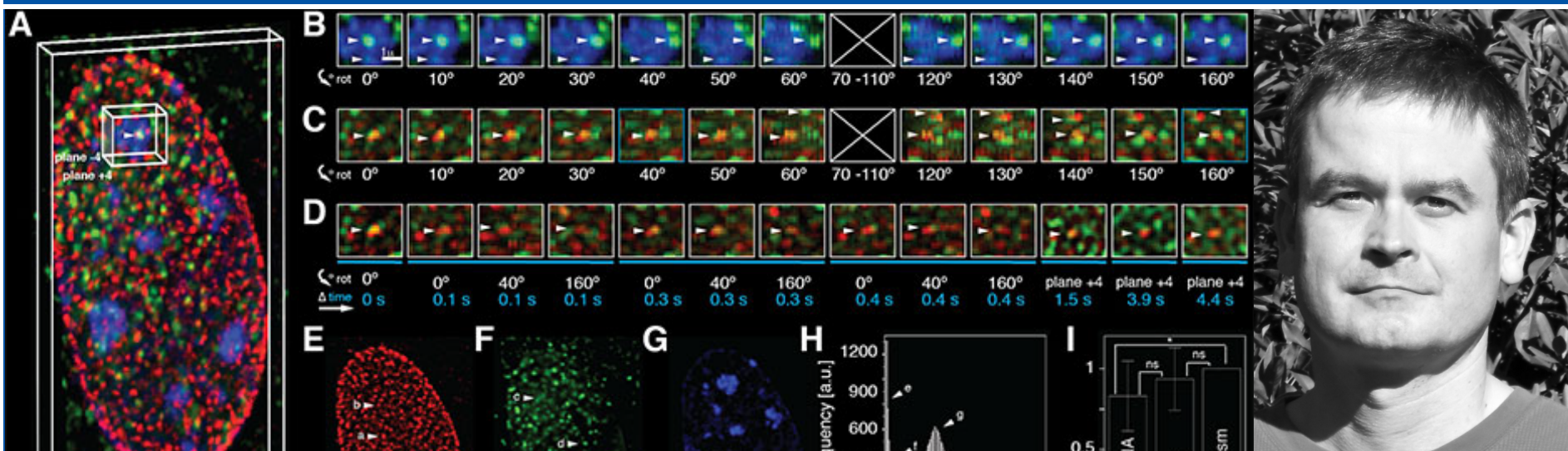
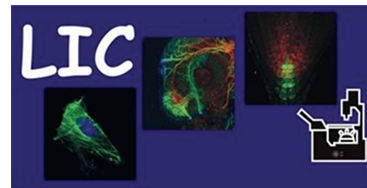


MIAP Seminar Series 2018



New imaging modalities and analysis approaches to study cell-nuclear function

A story about imaging viral and mRNA, new imaging technology and microscope calibration.

David Grunwald, PhD., Associate Professor RNA Therapeutics Institute, UMass Medical School, Worcester, MA, USA

July 10th 2018 - 12:00 - 13:00

For more information:

<https://miap.eu> - info@miap.eu



Historically, major advances in biology have rapidly followed major advances in microscopy, often driven by biologists' desires to visualize ever and ever smaller objects. Here I present advances in studying the real-life dynamics of molecules in the cell nucleus using RNA aptamers, CRISPR based DNA labeling technology, 2D and simultaneous 3D single molecule real time microscopy in to bypass the limits of diffraction. Although technological advances have been made, issues like unspecific background, limited signal, and optical aberrations still limit our imaging abilities, but smart image-processing and -analysis strategies for quantification can help to further push the limits. However, to increase data quality and fidelity for biological measurements in images requires microscope and experiment specific meta-data for the characterization of data obtained through fluorescence microscopy. I will present tools and meta data standards currently developed as part of NIH's 4D nucleome consortium to address these needs.

Venue:

Albert-Ludwigs University Freiburg
Center for Biological Systems Analysis (ZBSA) - Room -01.026
Habsburgerstr. 49
79104 Freiburg im Breisgau

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