Record Nr. UNINA9910367258203321 Autore Miura Kota Titolo Bioimage Data Analysis Workflows [[electronic resource] /] / edited by Kota Miura, Nataša Sladoje Cham, : Springer Nature, 2020 Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2020 **ISBN** 3-030-22386-8 Edizione [1st ed. 2020.] Descrizione fisica 1 online resource (170) Collana Learning Materials in Biosciences, , 2509-6125 Disciplina 610.28 Soggetti Biomedical engineering Cell biology **Bioinformatics** Biology—Technique Systems biology Biological systems Biomedical Engineering/Biotechnology Cell Biology Computational Biology/Bioinformatics **Biological Techniques** Systems Biology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Workflows and Components of Bioimage Analysis -- Measurements of Nota di contenuto Intensity Dynamics at the Periphery of the Nucleus -- 3D Quantitative Colocalisation Analysis -- The NEMO Dots Assembly: Single-Particle Tracking and Analysis -- Introduction to MATLAB: Image Analysis & Brownian Motion -- Resolving the process of Clathrin Mediated Endocytosis Using Correlative Light & Electron Microscopy (CLEM). Sommario/riassunto This Open Access textbook provides students and researchers in the life sciences with essential practical information on how to

quantitatively analyze data images. It refrains from focusing on theory, and instead uses practical examples and step-by step protocols to

familiarize readers with the most commonly used image processing and analysis platforms such as ImageJ, MatLab and Python. Besides gaining knowhow on algorithm usage, readers will learn how to create an analysis pipeline by scripting language; these skills are important in order to document reproducible image analysis workflows. The textbook is chiefly intended for advanced undergraduates in the life sciences and biomedicine without a theoretical background in data analysis, as well as for postdocs, staff scientists and faculty members who need to perform regular quantitative analyses of microscopy images.