

Poster Presentation

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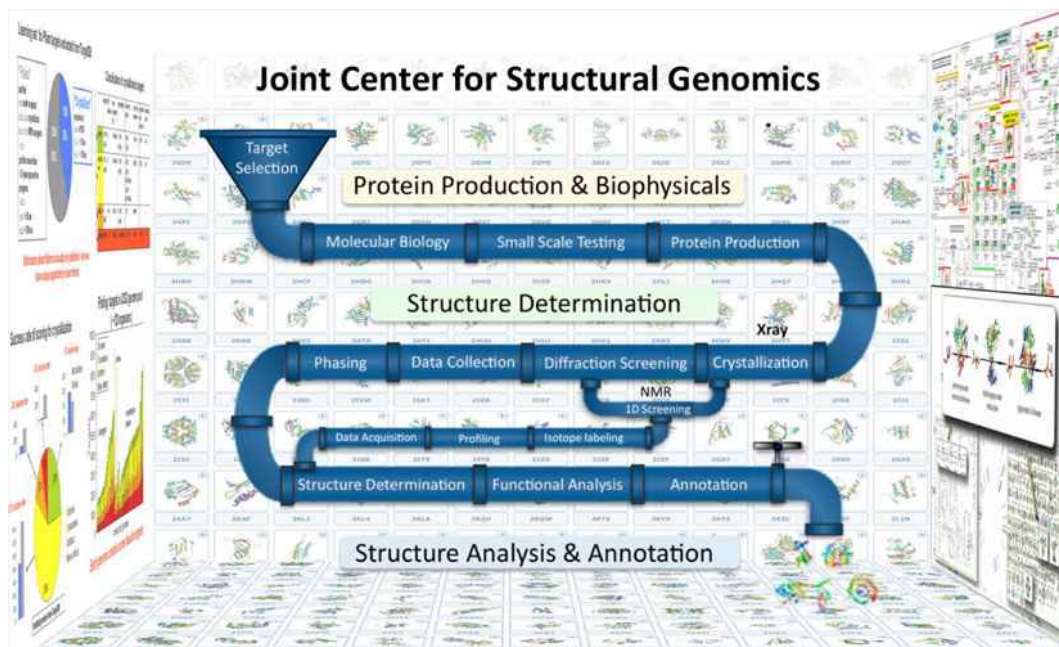
JCSG – Adapting Structural Genomics to Eukaryotic Complexes

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For over a decade, the Joint Center for Structural Genomics (JCSG.org) has been at the forefront of developing tools and methodologies that enable the application of high-throughput structural biology (HTBSB) approaches to a broad range of challenging biological and biomedical problems. In PSI:Biological (2010-2015) to meet the challenges and embrace the opportunities that arise from our Partnerships projects, we have leveraged our gene-to-structure pipeline to explore challenging projects focused on structural characterization of interaction networks involved in stem cell regulation, T-cell activation and nuclear receptor signaling. These highly collaborative efforts have enabled development of systematic and integrative approaches for identifying and investigating networks of key multi-domain eukaryotic proteins and higher order assemblies of multi-component eukaryotic protein/protein and protein/nucleic acid complexes. In parallel, our biomedical theme project has focused on investigating host/microbe interactions of the microbial communities that inhabit specific niches and environments of the human body, e.g. the human gut microbiome. These efforts to date have been centered on secreted proteins from commensal bacteria in the human gut. The symbiotic relationship and influence on human development, physiology, immunity, and nutrition represent an exciting new frontier for HTBSB where we can investigate how these microorganisms contribute to human health as well as to disease. The JCSG also strives to promote widespread use of PSI resources, materials, methodologies and data to the general scientific community, via Community Nominated Target (CNT) projects and development and use of new technologies and methodologies. We also continue to contribute to the original PSI mission of structural coverage of the expanding protein universe. Supported by NIH U54-GM094586.

[1] Elslinger MA, Deacon AM, Godzik A, Lesley SA, Wooley J, Wüthrich K, Wilson IA. The JCSG high-throughput structural biology pipeline. *Acta Crystallographica Section F* (2010), 66, 1137-42



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