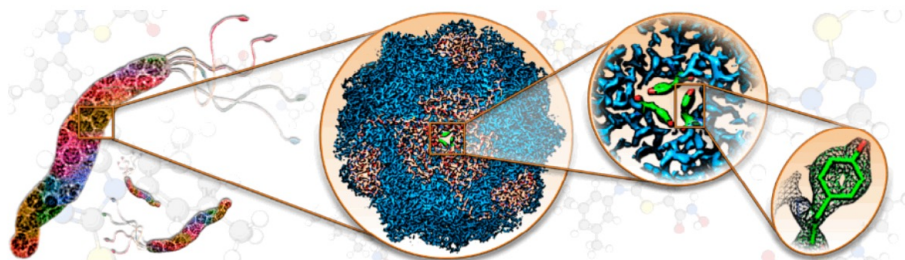


CRYOEM@NOVA

A CRYO ELECTRON MICROSCOPY HUB ENABLING DRUG DISCOVERY



Aim of the project

The Horizon Europe ERA Chair Project CryoEM@NOVA aims to establish a sustainable cryoEM hub for research and training at FCT-NOVA. We are setting up a cryoEM infrastructure leading to high-resolution structures of proteins with medically-relevant bound inhibitors, generating high-impact publications and attracting funding and collaborations.

On-going research

We investigate the survival mechanisms of the human carcinogenic pathogen *Helicobacter pylori* in the stomach using structure-based drug design and cryo electron tomography approaches. For reasons poorly understood, *H. pylori* infection rates and concomitant rates of stomach cancer are unusually high in Portugal compared to other Western countries. We are currently working with 1.68 Å resolution cryoEM maps of one target bound with a novel inhibitor. This excellent resolution makes this project an ideal candidate for cryoEM-enabled structure-based drug discovery.

Find out more:

<https://sites.fct.unl.pt/cryoem-at-nova/>



Duration: 5 years
(2023 – 2027)
Budget: 2.5M EUR



Funded by
the European Union



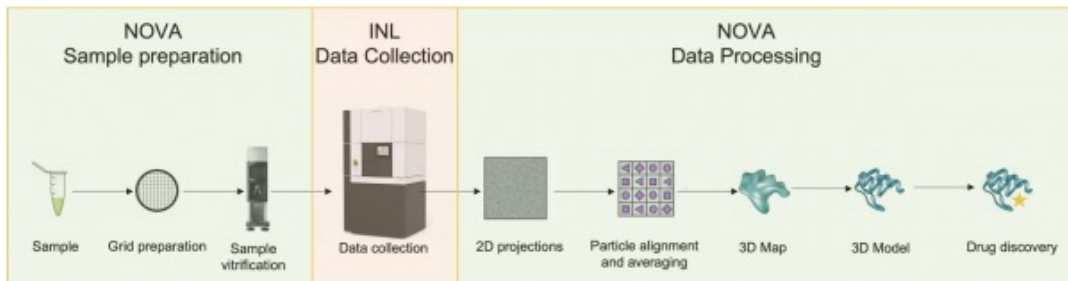
NOVA SCHOOL OF
SCIENCE & TECHNOLOGY



This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No 101087571.

A new CryoEM facility

CryoEM@NOVA will establish the cryoEM workflow and a cryoEM-based research program at FCT-NOVA that includes sample preparation and data processing infrastructure, with cryoEM data collection at INL, the central node of the CryoEM-PT Consortium that is hosting the latest-generation 200 kV autoloader cryo electron microscope with a direct electron detector.



The node is currently preparing the installation of a glow discharger for grid preparation and a vitrification robot for sample vitrification. Once vitrified, sample grids are stored in a liquid nitrogen dewar hooked up to an alarm system. Grids will be transported in dry shippers for off-site data collection (INL and/or other European cryoEM facilities). A data processing infrastructure will also be installed. The cluster will feature a 250 TB RAID-5 storage server with a 10 Gb/sec network and multi-core servers with 256 GB main memory and 4 GPUs.



Find out more:

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