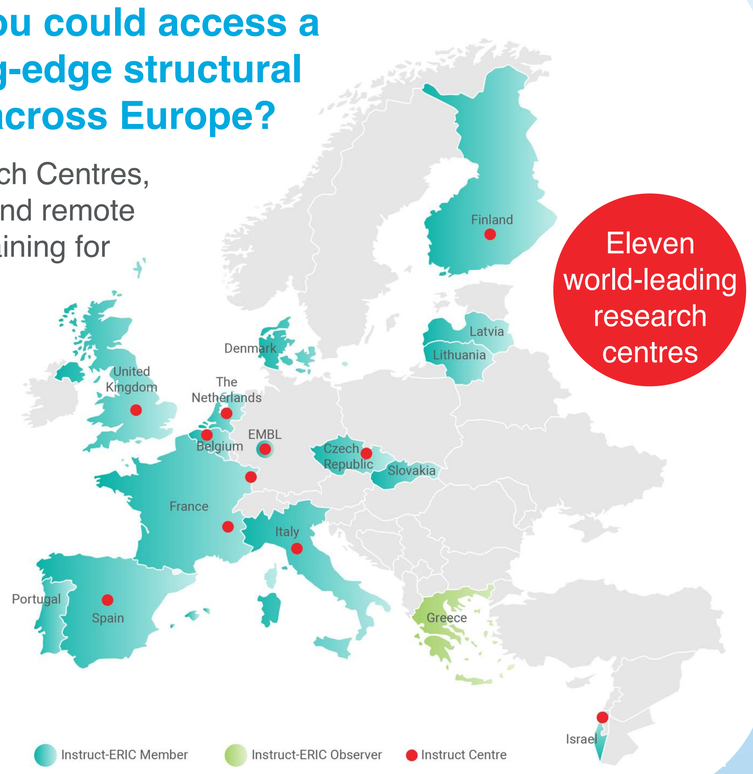
instruct ERIC

The single point of access to technology and expertise for European structural biology

Did you know that you could access a wide range of cutting-edge structural biology techniques across Europe?

Through its specialist research Centres, Instruct provides in-person and remote access to technology and training for researchers in Europe.



Instruct Member Countries and Organisations

EMBL

Instruct for Industry

Instruct-ERIC offers cost-effective industry access to cutting-edge technology and expert scientists. Instruct's service includes a single point of access to a range of methods, fast turnaround, quality systems, and legal agreements with Instruct Centres.

- Instruct aims to build collaborations between academia and industry, leading to translatable scientific advances
- Instruct delivers specialised training courses that are open to European industry researchers
- Instruct Centres have established partnerships with manufacturers including Bruker, Agilent, Rigaku, FEI, Qiagen and Leica

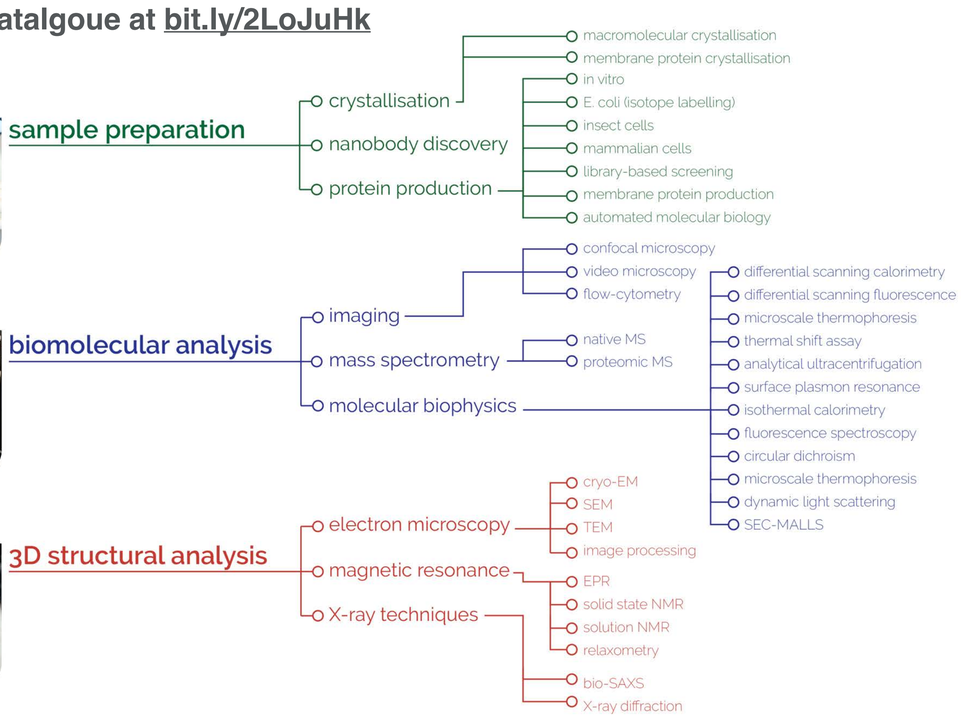
Find out more at bit.ly/37polsA

Research visits

European governments and leading research institutions have invested in state-of-the-art equipment, which is available through Instruct-ERIC's online catalogue.

Through its 11 research Centres, Instruct offers an extensive range of over 70 core and advanced structural biology techniques, enabling multidisciplinary research.

View the catalgoue at bit.ly/2LoJuHk



When you use Instruct services, you will receive scientific and technical support relating to your experiment to ensure that your research project is productive.

Training

Instruct-ERIC provides training in a range of structural biology techniques, delivered at its Centres by internationally-renowned experts.

Training courses from Instruct include advanced practical courses in core techniques, such as X-ray methods, NMR and electron microscopy, as well as emerging technologies.

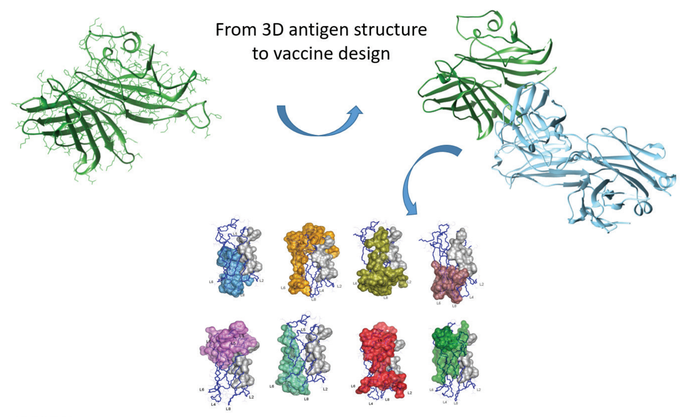
Find out more at bit.ly/2Ncry3k

Industry case studies

Glaxo-Smith-Kline: Structure-based antigen design

Neisseria meningitidis is the bacterial pathogen responsible for meningitis and septicaemia. Previously, a polysaccharide-based vaccine has been developed against Meningitis A, C, Y, W-135. However, the capsular polysaccharide of Meningitis B is a structural mimic of a human cell adhesion molecule, making it poorly immunogenic.

Using NMR facilities at Instruct Centre Italy for atomic-level structure determination, researchers successfully engineered a single molecule of factor H binding protein that induces protective immunity against all antigenic variants of Meninigitis B. Detailed knowledge of the structural properties and of the antigen-antibody interactions contributed to vaccine approval.

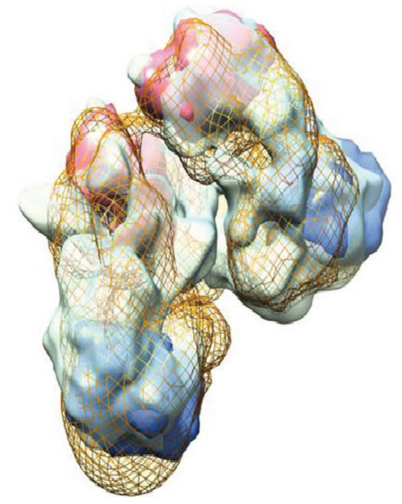


Scarselli M., et al. 2011. Sci. Transl. Med., (3)91, ra62-ra92

CALIXAR: Cryo-EM for drug design

KCC2 is a neuron specific K^+-Cl^- co-transporter that controls neuronal chloride homeostasis. KCC2 is critically involved in many neurological diseases including brain trauma, epilepsies, autism, and schizophrenia.

Electron microscopy at Instruct Centre FR1 revealed that KCC2 exists as monomers and dimers in solution but not as higher homo-oligomers. The structural information that was obtained by cryo-EM served as a starting point to better understand KCC2 functional domains, which will help to delineate common mechanistic features within the cation chloride co-transporters family and enable new drug design to treat specific neurological disorders.



Agez M., et al., 2017. Sci. Rep., 7(1), 16452

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