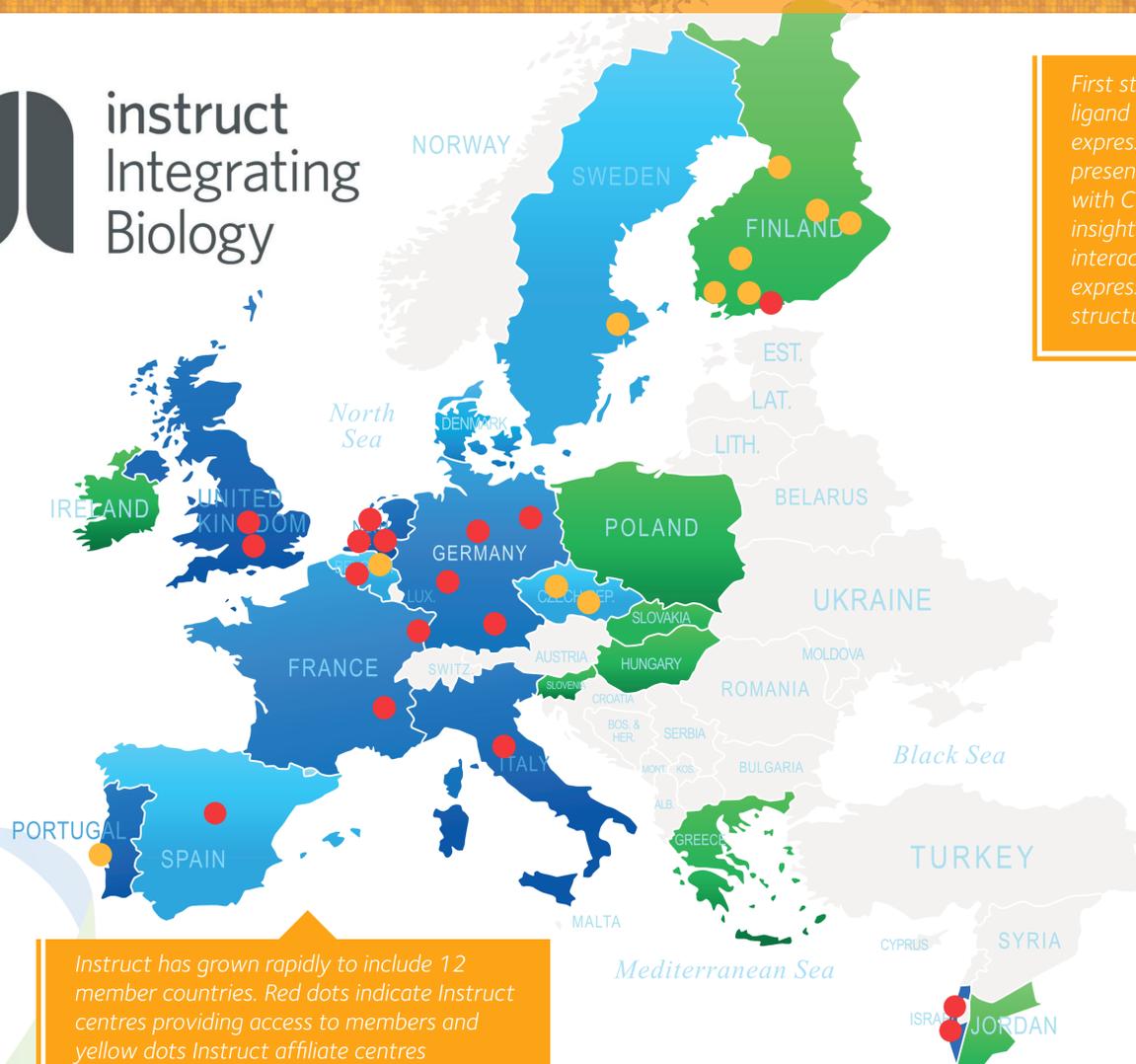


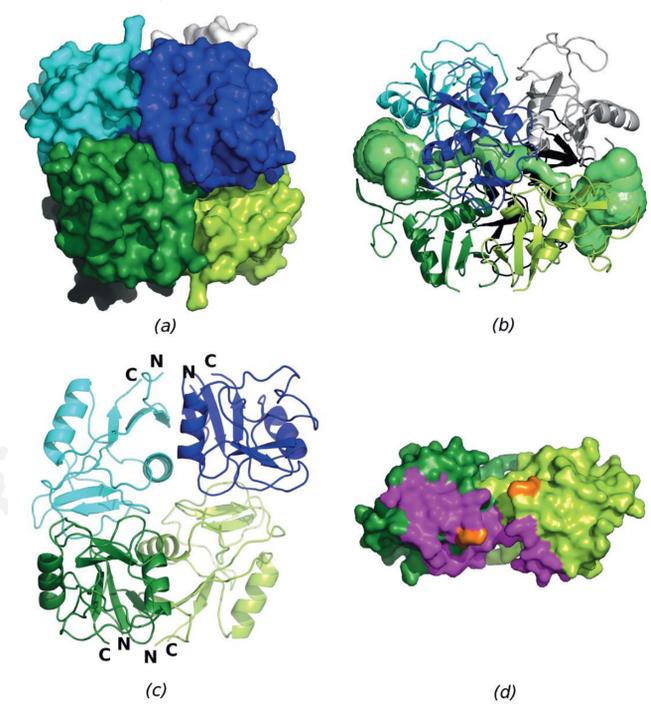
# The Wellcome Trust Centre for Human Genetics

## Access to high-end structural biology facilities via Instruct accelerates research for European scientists



Instruct has grown rapidly to include 12 member countries. Red dots indicate Instruct centres providing access to members and yellow dots Instruct affiliate centres

First structure obtained of human Natural Killer Receptor ligand LLT1, a type II transmembrane glycoprotein expressed on activated lymphocytes and antigen presenting cells. Four crystal structures reveal similarities with CD69, a T-cell activation antigen, and provide insights into its mechanism of mediating immune cell-cell interactions. This work was enabled by access to protein expression, crystallization, X-ray data collection and structure determination at Instruct facilities



### WHAT WAS KNOWN

- Recent advances in structural biology have resulted in a paradigm shift where complex structural information can be obtained from smaller samples and in faster times
- Integrative high and low resolution methods can deliver more functionally-relevant structural information on important macromolecular biological complexes than single techniques
- Computational methods including simulation and modelling enhance the experimental data to test functional scenarios
- Some cutting edge techniques are currently unavailable to some European scientists
- High-level expertise to support users of new technologies can significantly improve the outcome

### WHAT WE DID

- Brought together a large single infrastructure (Instruct) providing both conventional and new structural biology technologies for more than 3000 research users to access
- Established 16 Instruct Centres across 12 European countries providing access to these technologies
- Provided open access to infrastructure at Instruct Centres, funded by Instruct, subject to peer review and granted with scientific excellence as the overarching criterion

### WHAT THIS ADDS

- Democratised access to high-end structural biology technologies for all researchers
- Better outcomes for users of new or challenging technologies
- Opportunities for new collaborations, innovative new approaches and broader skills for the scientific community

### REFERENCES

More than 130 publications derived from research at Instruct centres can be seen at [www.structuralbiology.eu/update/publications](http://www.structuralbiology.eu/update/publications)

This is one example:

Four crystal structures of human LLT1, a ligand of human NKR-P1, in varied glycosylation and oligomerization states.  
 T Skalova, J Blaha, K Harlos, J Duskova, T Koval, J Stransky, J Hasek, O Vanek & J Dohnalek.  
*Acta Cryst D Biol Crystallogr.* 2015, 71(3): p578–591.