



| The European Synchrotron

The cryoEM project

The 4 Ws?

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ACKNOWLEDGEMENTS

Yohann Guigal
Thierry Giraud
Gordon Leonard
Stéphanie Malbet Monaco
Alex deMaria Antolinos
Jean Susini
Montserrat Soler Lopez
Olof Svensson
François Torrecillas
Purchase
Safety
ISDD
TID



Trevor Forsyth

Guy Schoehn
Winfried Weissenhorn



Rémy Boucher
Pierre-Yves Mille

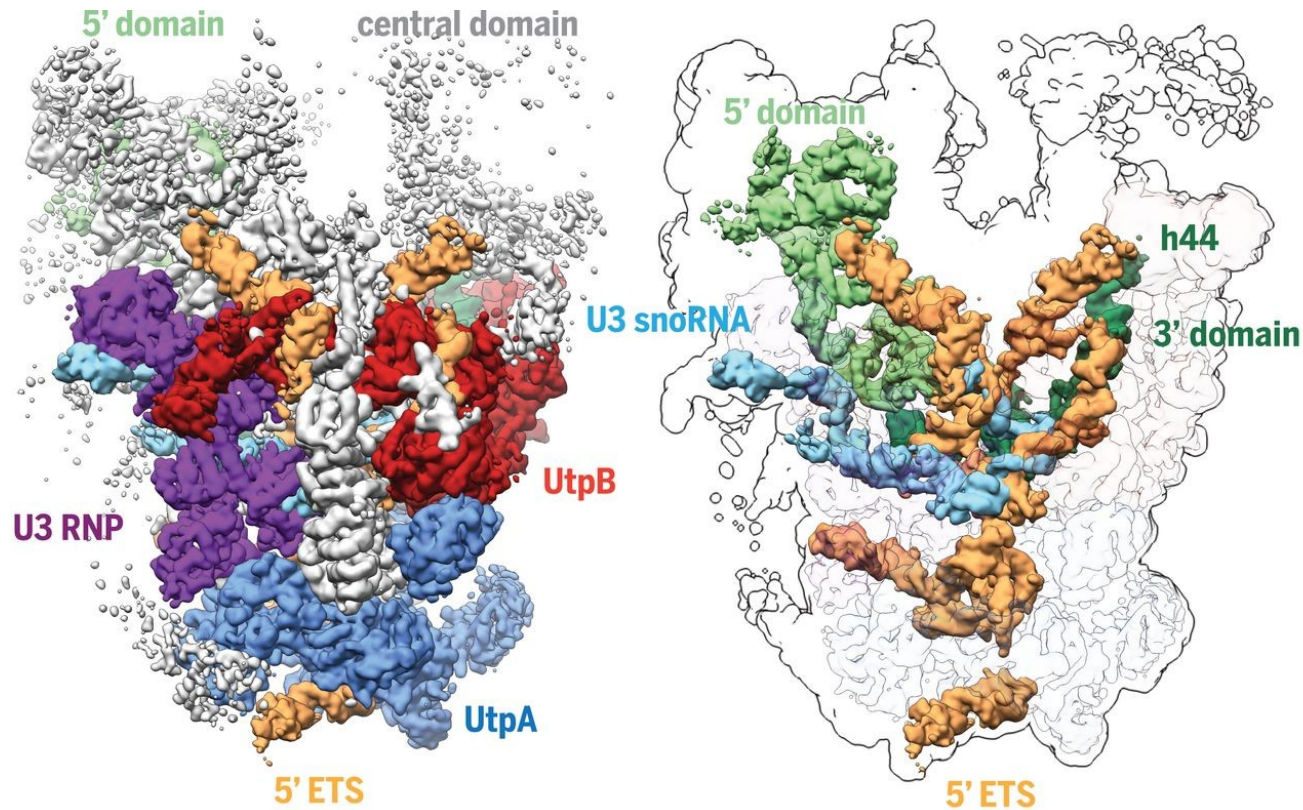
Stephen Cusack
Wojciech Galej
Marco Marcia





Titan Krios G2
Energy filter
K2 summit direct detector
Volta phase plate

- “CDR” high-lightening complementarity SP cryoEM & MX 05/2016
- endorsement from the ESRF SAC 05/2016
- approval from the ESRF council 06/2016

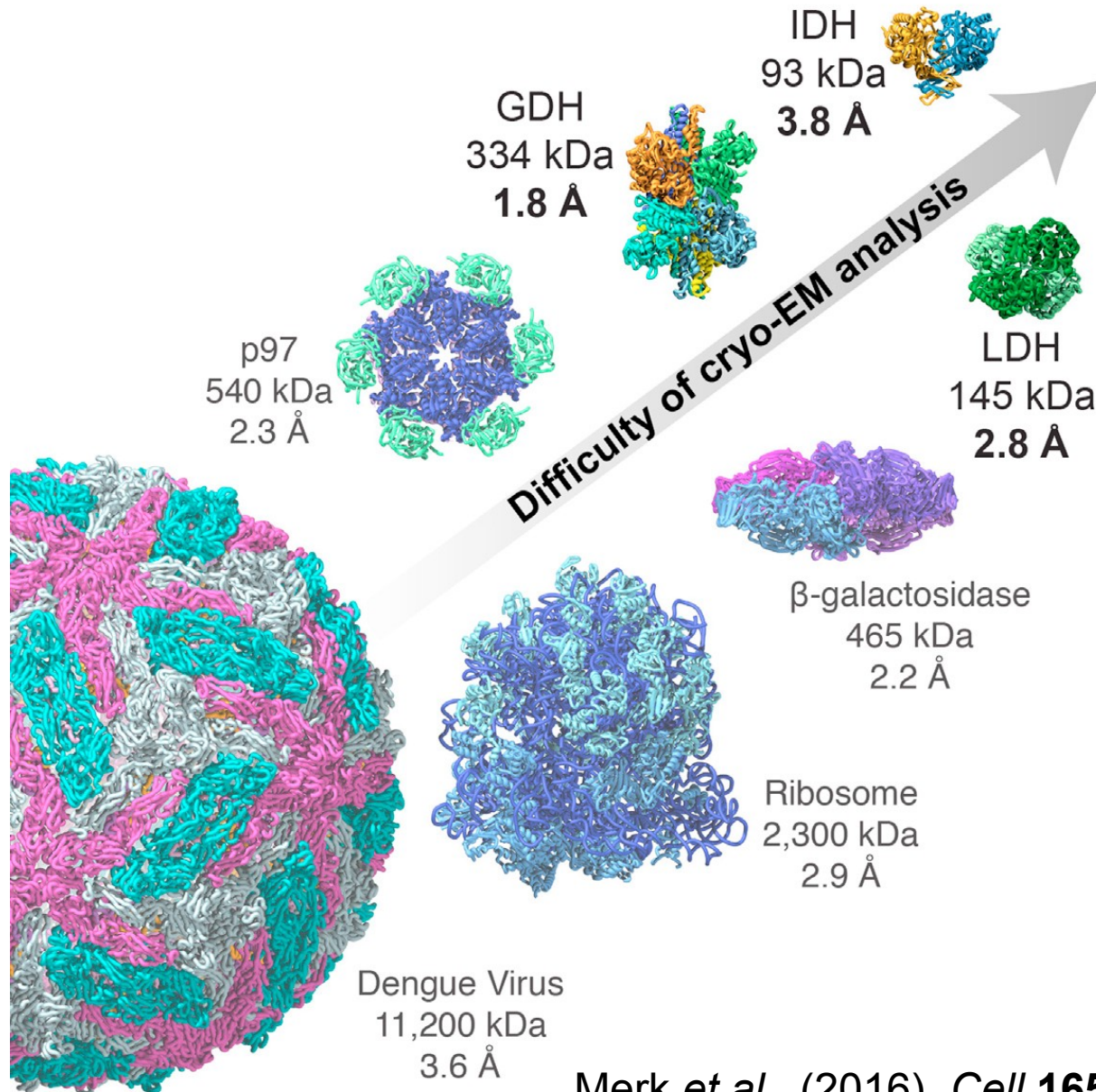


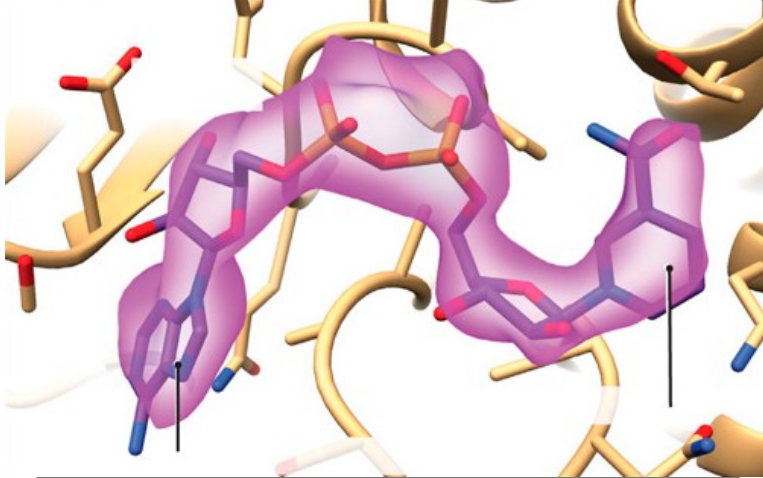
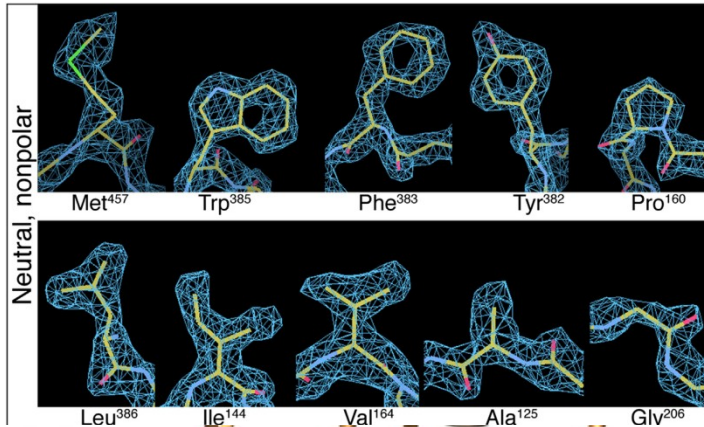
The small subunit (SSU) processome, organizes the assembly of the eukaryotic small ribosomal subunit by coordinating the folding, cleavage, and modification of nascent pre-ribosomal RNA (rRNA). 5.1 Å resolution.

Architecture of the yeast small subunit processome

M. Chaker-Margot, J. Barandun, M. Hunziker, S. Klinge

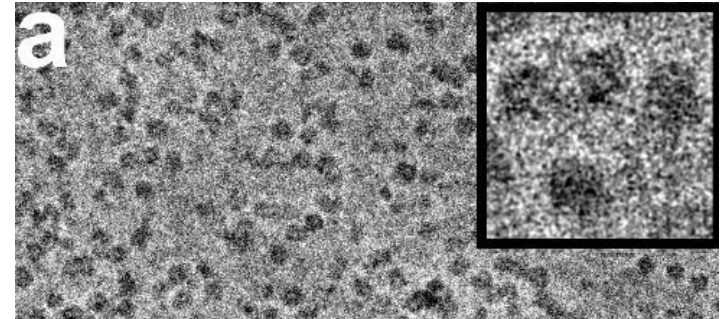
Science (2017). 355, DOI: 10.1126/science.aal1880





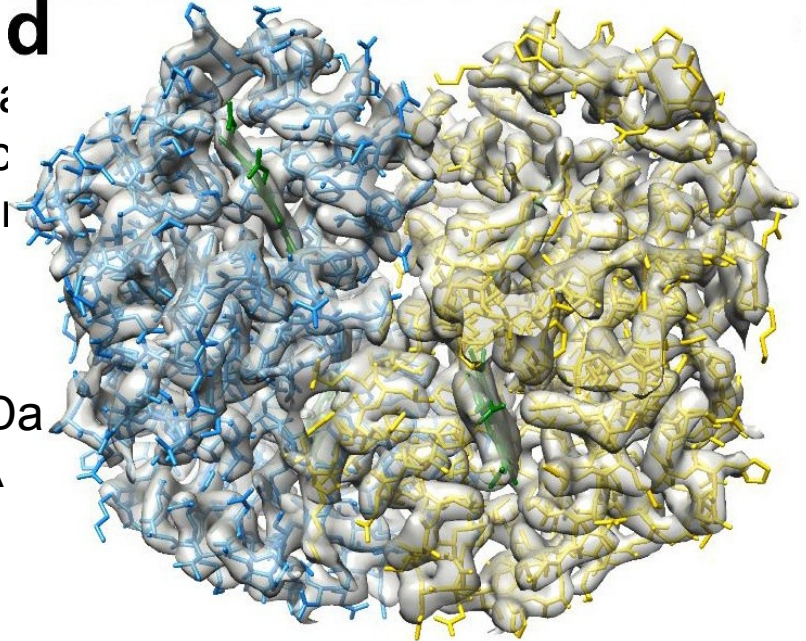
Using cryoEM to map small ligands on dynamic metabolic enzymes: Studies with Glutamate Dehydrogenase

M.J. Borgnia *et al.* S. Subramaniam, J.L.S. Milne
Mol. Pharm. (2016). **89**, 645-651.



GDH **d**
336 kDa
1.8 Å (c)
Inhibitor

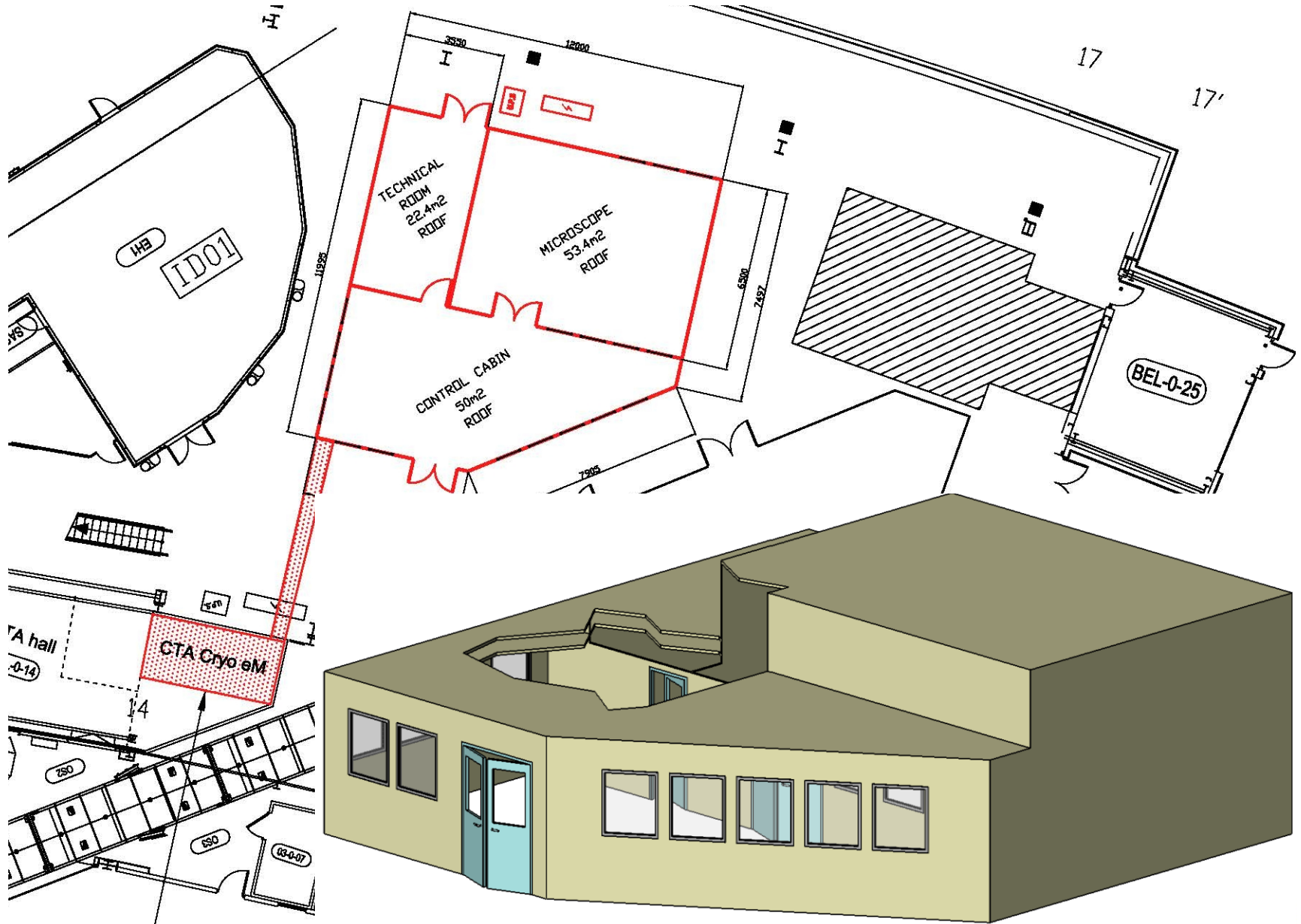
Hb
64 kDa
3.2 Å



CryoEM structure of haemoglobin at 3.2 Å determined with the Volta phase plate.

M. Khoshouei, M. Radjainia, W. Baumeister & R. Danev
doi: <http://dx.doi.org/10.1101/087841> (2016)

WHERE



Time line:

Infrastructure ready at ESRF	07/2017
Symposium cryoEM @ EPN	07/2017
Delivery microscope at ESRF	~07/2017
Installation Krios @ ESRF finished	~10/2017
Testing of Krios	from 10/2017
1 st regular users	from 11/2017

- cryoEM will be treated as a beam line.
- pre-characterised samples – pls provide information
- rolling access proposals can be made from ~09/2017
- beam time granted by BTAP on a project basis (not BAG)
- evolution of access model currently under discussion

