# CCP-EM

Pub Quiz 2019

ANSWERS!!!

Welcome to the pub quiz! *Something for mull over during the conference dinner. Feel free to work in groups and we'll go through the answers at the end… will your group be crowned the 2019 CCP-EM quiz champions?!*

1 | Hardware: magnification identification…

Can you name each bit of kit? (and thanks to Emma Hesketh from Leeds for the pictures)
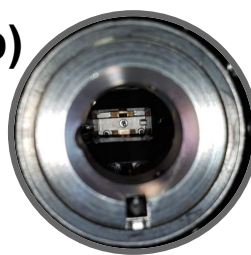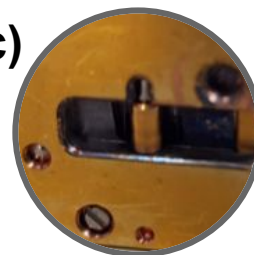
UltrAuFoil
a)
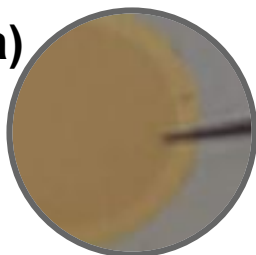
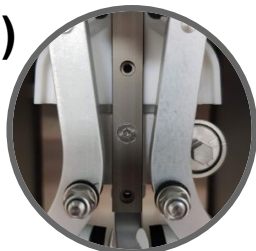*Nanocap*
b)

Cassette
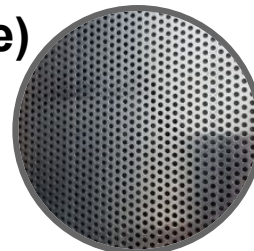**c)**

Vitrobot Mk IV
c)

Autoloader
d)

Inside of Krios door
e)

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2 | Software: source code… *a) match the developer to the code b) name the program and c) what language is it written in?*
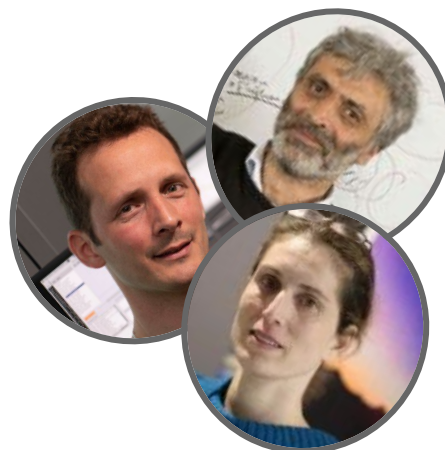
01000001)

Garib Murshudov
REFMAC5
FORTRAN

```
   WRITE(LINE,'(A,F10.4)') 'Free R factor                = ',
&  RFACTOR_FREE
   IF(RFACTOR_FREE.GT.0.0) THEN
     CALL ERRWRT(-1,LINE)
     RFREE_VS_CYCLE(NCYCLE_OVERALL) = RFACTOR_FREE
   ENDIF
   if(fsc_work(1).gt.-1.0) then
     write(line,'(a,f10.4)')
&      'Average Fourier shell correlation    = ',fsc_work(1)
     call errwrt(-1,line)
   endif
```

01000010)

Maya Topf
Flex-EM
python

```
# start simulated annealing molecular dynamics
print 'MD annealing'
scal = physical.values(default=1.0, em_density=10000)
cap = cap_shift
timestep = 5.0
icount = 0
MD = molecular_dynamics(cap_atom_shift=cap, md_time_step=timestep,
                        md_return='FINAL', output='REPORT',
                        schedule_scale=scal)
trc_file = open('MD'+run_num+'.trc', 'a')
```

01000011)

```
   if (rlen < 0)
   {
       totlen = -rlen;
       prevt = startt = currt;
       fprintf(stdout, "000/??? sec ");
       fprintf(stdout, "~~(,_,\">");
       for (i = 1; i < 10; i++)
           fprintf(stdout, "      ");
       fprintf(stdout, "   [oo]");
       fflush(stdout);
   }
```

Sjors Scheres
RELION
C++ [mouse & cheese]

#CryoCycle

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3 | *Image processing…* oh dear data collection has been corrupted and the images have merged frequencies. Low frequencies from one speaker and high frequencies from another. Can you identify the two speakers in each image?
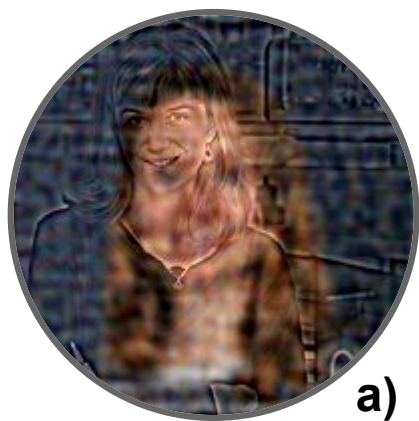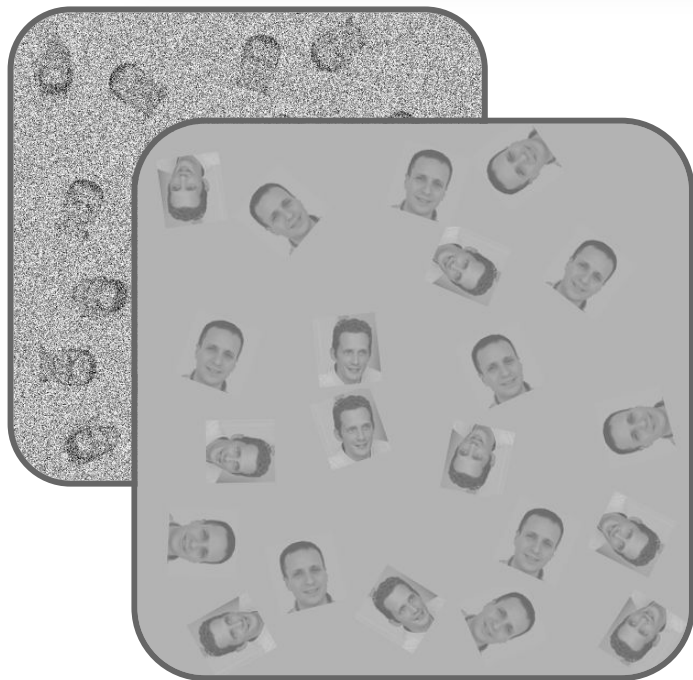
a)

b)

c)

Doryen Bubeck [low]
Wanda Kukulski [high]

Tristan Croll [low]
Felix Weis [high]

David Bhella [low]
Jose Miguel de la Rosa Trevin [high]

4 | *Particle picking…*
a) How many classes?
b) How many of each class?
c) What are the "particles"?

a) 2
b&c) 10x Sjors Scheres
**   11x John Rubinstein**

#CryoCycle: a 660 mile cryoEM bike ride

IJM

A team from Leeds are cycling 660 miles, visiting the all of the Titan Krios and Grand ARM microscopes in the UK to raise money for International Justice Mission, a charity tackling modern slavery.

The route will start in Glasgow, and then head to Leeds, Oxford, London, Cambridge and Leicester, finishing in Nottingham just in time for the CCPEM annual conference on 30th April

We are looking for fellow cryoEMers to join us for parts of the journey! Check out the route by scanning the QR code or email r.f.thompson@leeds.ac.uk

To follow our progress and donate to this fantastic charity please see the website below or scan the QR code

@naranson and @bex_16

https://naranson.myportfolio.com/ijm-charity-cycle-ride-2019

ASTBURY BIOSTRUCTURE LABORATORY

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#CryoCycle

5 | Publish or die... *can you identify the real papers from the fake ones?*

https://xkcd.com/2025/

a)

"Diamond is Forever: Second Generation Upgrade of the National Light Source" **Fake**

"From Urethra with Shove: Bladder Foreign Bodies. A Case Report and Review" **Real** https://onlinelibrary.wiley.com/doi/full/10.1111/j.1532-5415.2006.00876.x

"The Name is Bond, Double Bond: Two Electrons Bad, Four Better - a Review" **Fake**

b)

"Line Dancing and its Effects on Social Standing" **Fake**

"The Effect of Country Music on Suicide" **Real** https://www.jstor.org/stable/2579974

"Know When to WalK Away: Sensor Protein Kinases Know When to Run" **Fake**
http://www.sciencedirect.com/science/article/pii/S000296101630006X

c)

"Epidemiology of Lawnmower-related Injuries in Children: A 10-year review" **Real**

"The Perils of Bungee Jumping" **Real** http://www.sciencedirect.com/science/article/pii/073646799500067K

"You Probably Think This Paper's About You: Narcissists' Perceptions of Their Personality and Reputation" **Real**
https://www.ncbi.nlm.nih.gov/pubmed/21604895

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6 | Say what you see...
....and find the famous scientists:

a)

F-Ra-N-K

b)
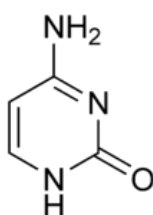
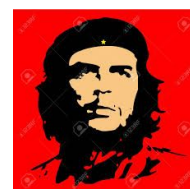**C-Rick [cytosine]**

c)

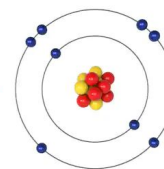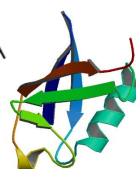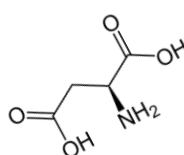**Hen-der-son**

d)

Wil-K-Ins [Prince William, Kelvin, Ye Olde Trip]

e)

D-Ub-O-Che(t) [Asp, ubiquitin, oxygen, Che Guevara]

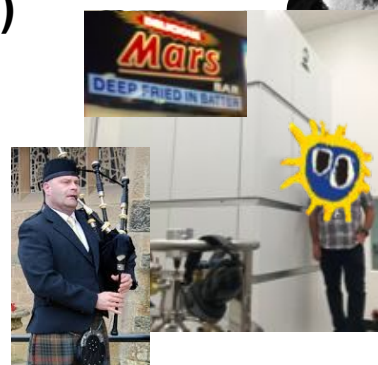## #CryoCycle

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7 | *Le Tour de Cryo...* *name the places the intrepid Leeds #CryoCyclists visited:*

a) London [Birkbeck & Crick]

b) Glasgow

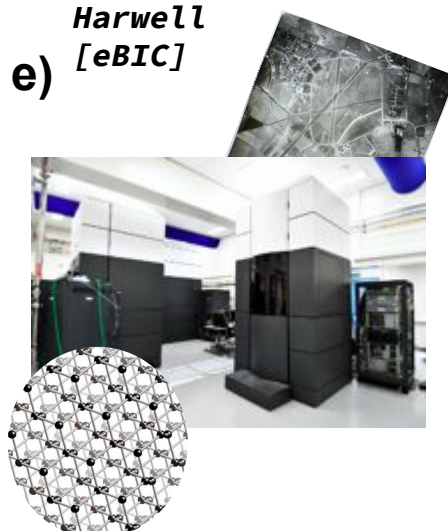**c)** Leeds

Oxford [Dunn Sch, STRUBI] **d)**

Cambridge [MRC-LMB, Biochemistry] **e)**

e) Harwell [eBIC]

f) Leicester

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