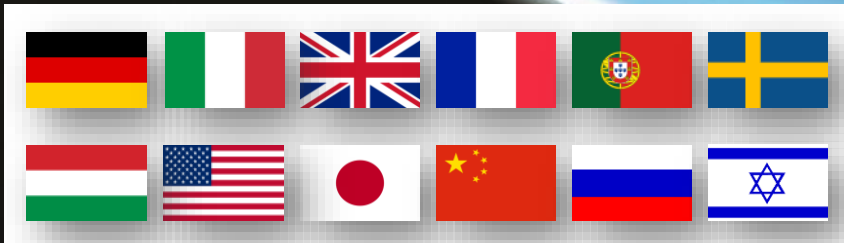


EUROPEAN
PLASMA RESEARCH
ACCELERATOR WITH
EXCELLENCE IN
APPLICATIONS

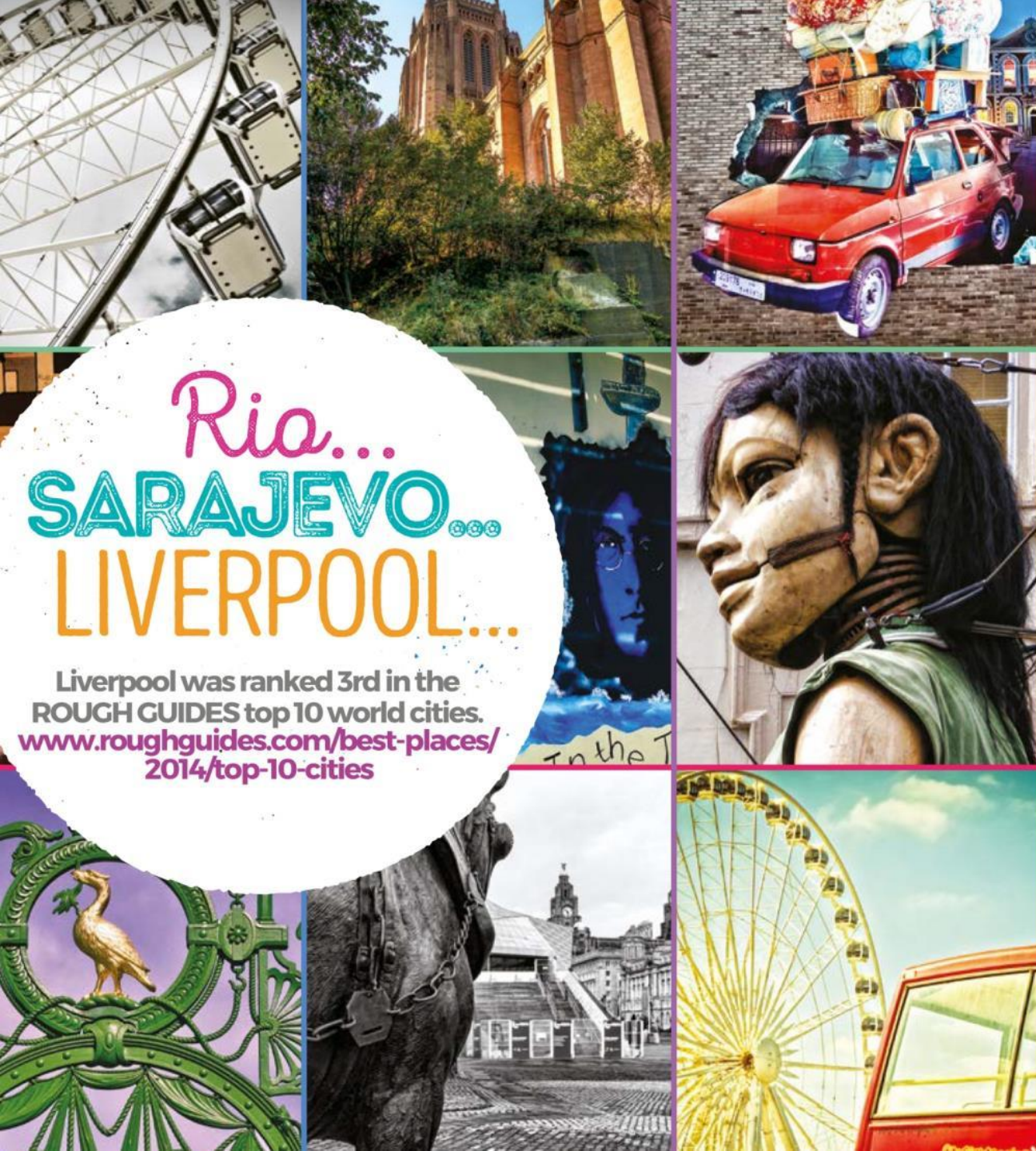


Welcome!

Prof Carsten P Welsch / University of Liverpool



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653782.



Ria...

SARAJEVO...

LIVERPOOL...

Liverpool was ranked 3rd in the
ROUGH GUIDES top 10 world cities.

[www.roughguides.com/best-places/
2014/top-10-cities](http://www.roughguides.com/best-places/2014/top-10-cities)

Liverpool

- ...is a very welcoming city, with great culture and sporting events.
- ...has more national museums, theatres and art galleries than anywhere in the UK outside of London

Liverpool

- Population: 445k
- 3 universities, home of >50k students
- UK's fastest growing business outside of London
- UK's oldest Chinese community
- Beatles, football, museums, world heritage skyline, Liverpool One, ...and much more!

***For the advancement of learning
& ennoblement of life*** – since 1881

- More than 22k students on campus, of which 8k international
- £600 million investment in our teaching, research and residential estate
- Central, London and China campus give unique experience
- Network of 219k alumni in 171 countries
- Largest provider of online courses in Europe



- Amongst top 5 UK Physics Departments
- 68 academic staff
- 62 research staff
- 150 PhD students
- 339 undergraduate students (all years)
(~5 per academic)
- Projected intake ~120 students



- Research areas:

Astrophysics

Medical

Nuclear

Renewable Energy

Biophysics

Particle

Materials

Accelerators



the guardian
UNIVERSITY
AWARDS

Winner
2013

Award
Winning



The Telegraph

Student Experience
Winner 2015

HEA CATE Award 2017

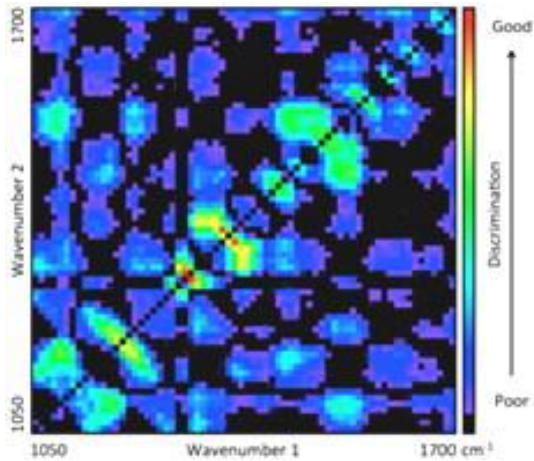
Why
THE UNIVERSITY
OF LIVERPOOL

World Class Teaching Facility

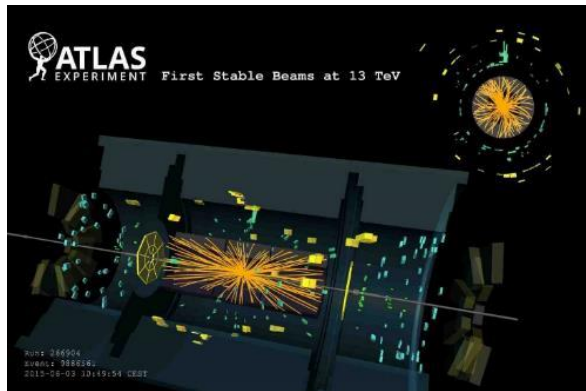
Up to 30 identical sets of high spec equipment for individual work

- NI ELVIS prototyping boards
- Research grade gamma-ray systems
- X-ray diffractometers with computed tomography units
- Hand-held X-ray fluorescence analyser





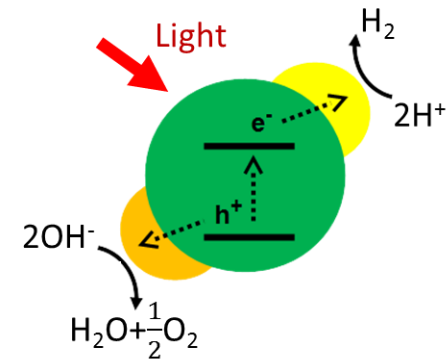
New methods for cancer detection



Detection and study of the Higgs boson with Liverpool detectors



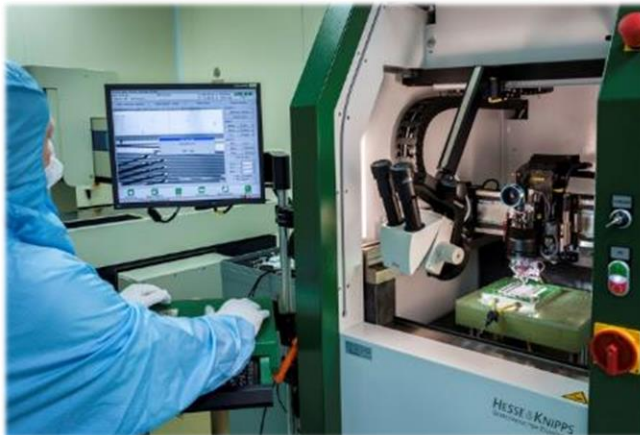
Fundamental understanding of nuclei shapes



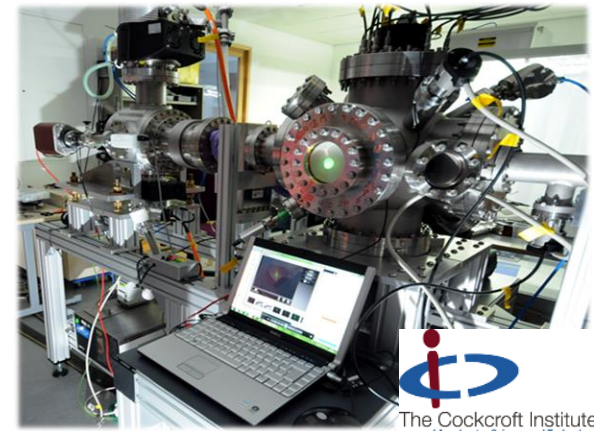
Nanocrystals for H₂ generation



Stephenson Institute for Renewable Energy
R&D into energy conversion, storage and enabling technologies



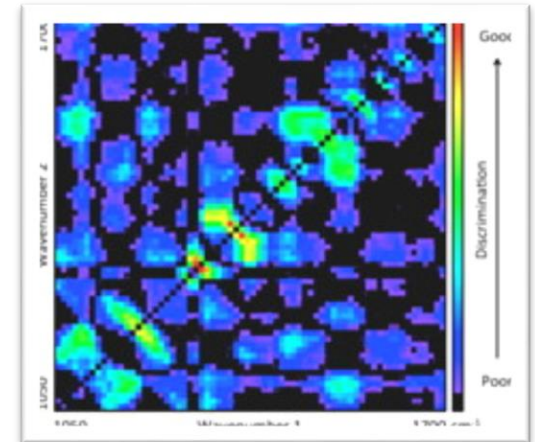
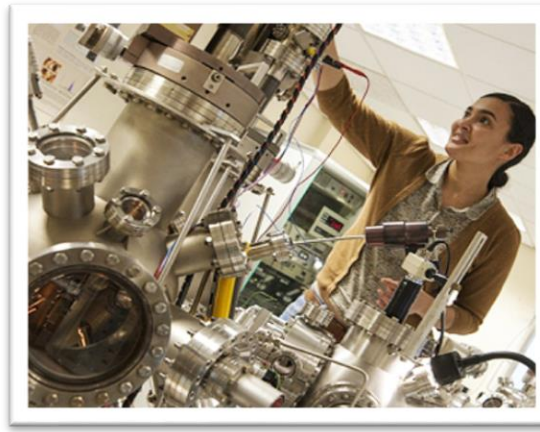
Liverpool Semiconductor Detector Centre
Clean room facility for the development of new detectors for particle, nuclear and astrophysics



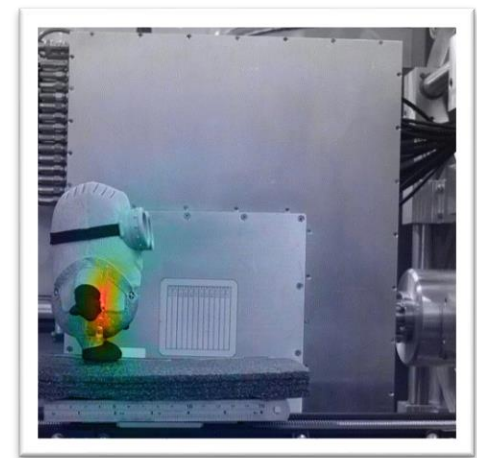
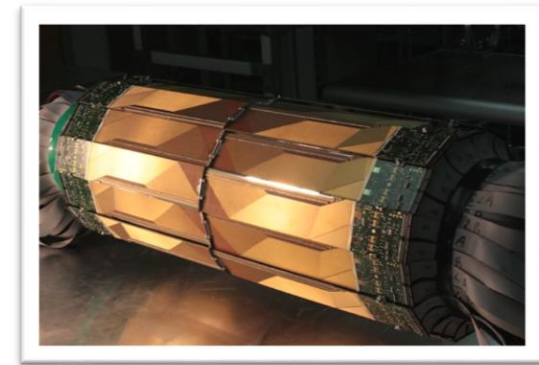
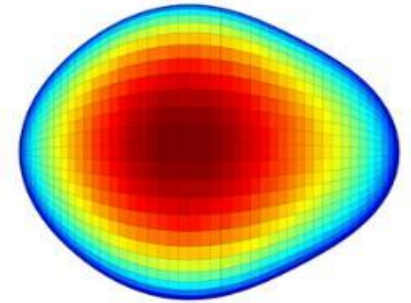
Cockcroft Institute, Daresbury
New accelerators for fundamental science and industry applications



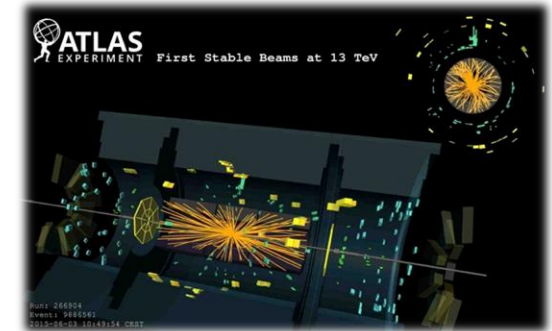
- We study nanoscience, biophysics and surface physics
- We are developing new methods for cancer detection and image analysis tools for a host of applications
- We are world leaders in the development of solar fuels and solar cells



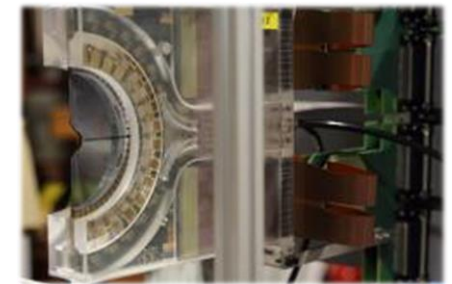
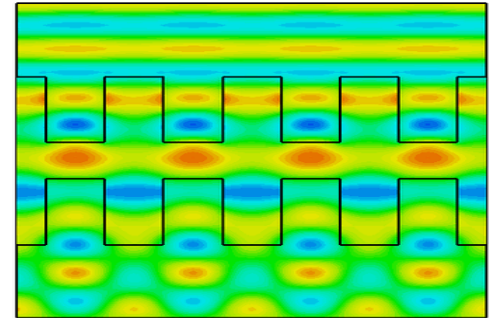
- We develop and use state-of-the-art radiation detectors to study the properties of exotic nuclei
- We discovered nuclei can be pear shaped !
- We play a leading role in the study of antihydrogen
- We study superheavy elements
- We develop new gamma-ray imaging techniques for medical imaging and security applications



- One of the largest UK particle physics groups, studying the fundamental building blocks of the universe
- Co-winners of the **2016 Breakthrough prize** for the discovery and study of neutrino oscillations
- Leading roles in the measurement and study of the Higgs particle
- Expertise in radiation hard detectors



- Beam diagnostics
- Accelerator design & optimisation
- Novel technologies – accelerator in-a-chip
- Frontier Accelerators
- Accelerator applications



- One of UK's top physics departments, ranked 5th in 2019 Guardian league table;
- Research across four clusters with coverage of both, discovery science and applied research;
- Specialized inter-disciplinary institutes maximize impact and reach;
- Outstanding capabilities including Semiconductor lab and expert workshops.



Department of **Physics**

Explore. Discover. **Achieve.**



- Individual WP meetings / parallel sessions
- Wifi
- Sockets
- Group picture: 12.30
- Lunch

- Symposium:
 - Registration from 10.00
 - Bring your badge and lunch voucher!

- Dinner Friday:
 - Drinks start at 19.30 at ACC Liverpool
 - Dress code: smart



U N I V E R S I T Y O F

L I V E R P O O L