



# CLASP

Challenge Led Appplied Systems Programme

## Introduction

CLASP Healthcare Call – Information and Networking day  
20 May 2014

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REF2014 Impact Assessor  
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# Welcome



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# What STFC does

- STFC funds world class and world-leading research in **astronomy, particle physics, nuclear physics and space science**

This research takes place in

- University groups
  - £400m live grant funding
  - Funding 1,700 academic staff in 50+ UK universities
- STFC laboratories
  - Harwell (Oxford), Daresbury (Warrington), UK ATC (Edinburgh)
- International facilities include
  - CERN (Switzerland), ILL, ESRF (France)
- Other International subscriptions include
  - ESO, ESA
- International Projects include,
  - ESS, XFEL, SKA , FAIR , ALMA and many others



# Delivering Impact

Impact to the nation includes :-

- i. industrial/economic advances,
- ii. policy developments,
- iii. outreach and societal benefits ,
- iv. and very importantly - the training of scientists & engineers.

STFC's own vision is to extract maximum impact & benefit from its research base in order to:

- introduce innovative technology
- develop new people skills  
enrich society (for background see STFC Impact Report 2012)
- drive the economy
- improve the lives of citizens

**CLASP is one way that we do this.  
CLASP concentrates on applications  
for industrial & commercial  
opportunities.**



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# Challenge Led Applied Systems Programme (CLASP)

## Applies STFC research to global challenges

- For CLASP - the user community (Industry, Government etc.) define the “priority areas” and the STFC community responds with proposed solutions.
- Funds are awarded for short feasibility studies and large developmental projects that use STFC funded research
- For CLASP 2014, £1.5m is available for projects exploiting STFC research capabilities for solving healthcare challenges
- Projects can be multidisciplinary and user/customer engagement strongly encouraged – more information later by Philip Tait
- Industry can offer in-kind support or as a subcontractor for key activities.

[www.stfc.ac.uk/clasp](http://www.stfc.ac.uk/clasp)



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# History of CLASP

## First PNPAS Call

- General Call 2009

## CLASP Previous calls

- Healthcare 2010
  - Sensing, Isotope Production, Data Analysis (5 projects)
- Security 2011
  - Detection, Imaging and X-ray Production (6 projects)
- Environment 2012
  - Air & water pollution sensing & monitoring (7 projects)
- Energy 2013
  - Energy production, radiation and carbon sensing (4 projects)

## CLASP 2014 call

- Healthcare



# CLASP Assessment

We are looking for:

1. A realistic prospect of product or service being demonstrated or prototyped by the end of the grant period.
2. Firm evidence of a clear channel to market and/or of engagement of an exploitation partner.
3. Demonstrable genuine advantage through novelty / intellectual property / process improvement
4. An understanding, rationale for and articulation of the market opportunity i.e. the 'size of the prize'

We are not looking for:

- Very low TRL projects
- Blue skies research

**This is a competition**



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# STFC & Healthcare Achievements

- The Development of a Commercial Boron Neutron Capture Therapy Facility: establishing a clinically useable facility at Birmingham University
  - Dr Edgecock (STFC RAL)
- ❖ Treatment recently started - Phase I clinical trial approved.
- ProSPECTus: Next generation Single Photon Emission Computed Tomography (2009)
  - Dr Boston (University of Liverpool)
- ❖ At very advanced stage (TRL4 - 5) with preclinical trial being finalised for this year.
- Improved Organ Dose Determination and Imaging in  $^{177}\text{Lu}$  Targeted Radionuclide Therapy (2012) & using Monte-Carlo Simulation (2011)
  - Dr Cullen (University of Manchester)
- ❖ Already used on patient scans with  $^{177}\text{Lu}$  at The Christie Hospital (Manchester).- working with a leading provider of vendor-neutral nuclear medicine platform and seeking to provide a European wide standard for dosimetry in MRT.





# STFC & Healthcare

- A novel tissue equivalent phantom for hadron therapy
  - Dr Casse (University of Liverpool)
- ❖ Project demonstrated with measurements at the Clatterbridge cyclotron for eye cancer treatment – leading to a full clinical development programme.
- Laser isotope ratiometer for non-invasive medical diagnostics through breath analysis
  - Dr Weidmann (STFC, RAL)
- ❖ Capability to identify early onset of blood infections by measuring the stable carbon isotope ratio in exhaled breath and clinical trial results would significantly accelerate the commercialisation of the technology and even of a spin-off company.
- Improving intensive care unit effectiveness and efficiency through improved data processing and analysis techniques.
  - Prof Harra (UCL)
- ❖ Applying space mission technology to produce a sample website from anonymised data for clinical use – hospital collaboration being planned.



# REF 2014 Impact Assessment Requirements from the University Sector

## REF Panel Quality Profiles

Outputs	65%
Impact	20%
Environment	15%

<b>Number of Category A staff submitted (FTE)</b>	<b>Required number of impact case studies</b>
up to 15	2
15 - 25	3
25 - 35	4
35 - 45	5
45 or more	6, plus 1 further case study per additional 10 FTE



# Today's Agenda....

10.45 – 11.05	STFC Capabilities in Healthcare	Barbara Camanzi – STFC Futures
11.05 – 11.30	Healthcare Challenges for CLASP - Radioisotopes	James Ballinger - NHS
11.30 – 11.55	Healthcare Challenges for CLASP – Imaging Technology	Peter Jarritt - NHS
11.55 – 12.20	Healthcare Challenges for CLASP – Early Diagnosis	Linda Mahon-Daly –NHS
12.20 – 13.20	Lunch	
13.20 – 13.40	Case Study – Gamma Technologies Ltd	John Lees - University of Leicester
13.40 – 13.50	CLASP Funding Details	Phillip Tait STFC External Innovations
13.50 – 16.00	Networking and collaboration building	

Organisational questions –  
Philip Tait, Penny Woodman



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# THANK YOU

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