CLASP

Challenge Led Applied Systems Programme

Introduction
CLASP Healthcare Call – Information and Networking day
20 May 2014

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Former CLASP Panel, PPARC & CCRLC Councils Member
REF2014 Impact Assessor
Director PHYSEGA Ltd,
Honorary Prof. Swansea and Liverpool,
ex-CERN, GE Healthcare & Amersham International plc.
Welcome
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
  o £400m live grant funding
  o Funding 1,700 academic staff in 50+ UK universities

• STFC laboratories
  o Harwell (Oxford), Daresbury (Warrington), UK ATC (Edinburgh)

• International facilities include
  o CERN (Switzerland), ILL, ESRF (France)

• Other International subscriptions include
  o ESO, ESA

• International Projects include,
  o 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.**
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
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
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.

  • 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 $^{177}$Lu Targeted Radionuclide Therapy (2012) & using Monte-Carlo Simulation (2011)
  • Dr Cullen (University of Manchester)
    ❖ Already used on patient scans with $^{177}$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
<table>
<thead>
<tr>
<th>Outputs</th>
<th>65%</th>
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<tbody>
<tr>
<td>Impact</td>
<td>20%</td>
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<tr>
<td>Environment</td>
<td>15%</td>
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#### Number of Category A staff submitted (FTE) vs. Required number of impact case studies

<table>
<thead>
<tr>
<th>Number of Category A staff submitted (FTE)</th>
<th>Required number of impact case studies</th>
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<tbody>
<tr>
<td>up to 15</td>
<td>2</td>
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<tr>
<td>15 - 25</td>
<td>3</td>
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<td>25 - 35</td>
<td>4</td>
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<tr>
<td>35 - 45</td>
<td>5</td>
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<tr>
<td>45 or more</td>
<td>6, plus 1 further case study per additional 10 FTE</td>
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## Today’s Agenda....

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Institution</th>
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<tbody>
<tr>
<td>10.45 – 11.05</td>
<td>STFC Capabilities in Healthcare</td>
<td>Barbara Camanzi – STFC Futures</td>
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<tr>
<td>11.05 – 11.30</td>
<td>Healthcare Challenges for CLASP - Radioisotopes</td>
<td>James Ballinger - NHS</td>
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<tr>
<td>11.30 – 11.55</td>
<td>Healthcare Challenges for CLASP – Imaging Technology</td>
<td>Peter Jarritt - NHS</td>
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<td>11.55 – 12.20</td>
<td>Healthcare Challenges for CLASP – Early Diagnosis</td>
<td>Linda Mahon-Daly –NHS</td>
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<td>12.20 – 13.20</td>
<td>Lunch</td>
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<td>13.20 – 13.40</td>
<td>Case Study – Gamma Technologies Ltd</td>
<td>John Lees - University of Leicester</td>
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<tr>
<td>13.40 – 13.50</td>
<td>CLASP Funding Details</td>
<td>Phillip Tait STFC External Innovations</td>
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<td>13.50 – 16.00</td>
<td>Networking and collaboration building</td>
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**Organisational questions –**  
Philip Tait, Penny Woodman
THANK YOU

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