Collaborations/Funding opportunities

Guoxing Xia

Projects

- Related to plasma beam dump
  - A transportable plasma electron accelerator for radiotherapy (VHEE)
  - Compact FEL based on plasma accelerators
  - Compact radiation sources (e.g. gamma-ray)
  - EuPRAXIA, ELI related project
- Related to energy recovery
  - ILC, AWAKE, green facility, energy efficiency study

Collaboration

- Projects on EuPRAXIA, ELI, AWAKE, CLEAR, CLARA, ILC with wide participation
- Collaboration on R&D and design study, e.g. EuPRAXIA, ELI, etc.
- Collaboration on the experiments, e.g. AWAKE, CLEAR

Funding

- The Global Challenges Research Fund (GCRF) is a £1.5 billion fund announced by the UK Government in late 2015 to support cutting-edge research that addresses the challenges faced by developing countries. Alongside the other GCRF delivery partners we are creating complementary programmes that:
- promote challenge-led disciplinary and interdisciplinary research, including the participation of researchers who may not previously have considered the applicability of their work to development issues
- strengthen capacity for research, innovation and knowledge exchange in the UK and developing countries through partnership with excellent UK research and researchers
- provide an agile response to emergencies where there is an urgent research need.

https://www.ukri.org/research/global-challenges-research-fund/

Funding

- **Equitable Access to Sustainable Development**

  Our vision is to create new knowledge and drive innovation that helps to ensure that everyone across the globe has access to:

  – secure and resilient food systems supported by sustainable marine resources and agriculture
  – sustainable health and well being
  – inclusive and equitable quality education
  – clean air, water and sanitation
  – affordable, reliable, sustainable energy.

Newton Fund

- The Newton Fund aims to promote the economic development and social welfare of either the partner countries or, through working with the partner country, to address the well being of communities. It will do so through strengthening partner country science and innovation capacity and unlocking further funding to support this work. It is part of the UK's official development assistance (ODA).

Newton Fund

- The Fund was launched in 2014 and originally consisted of £75 million each year for 5 years. In the 2015 UK Spending Review it was agreed to extend and expand the Fund. The Newton Fund was extended from 2019 to 2021 and expanded by doubling the £75 million investment to £150 million by 2021, leading to a £735 million UK investment to 2021, with partner countries providing matched resources within the Fund.
- The Newton Fund covers three broad activities:
- **People**: increasing capacity in science and innovation, individually and institutionally in partner countries.
- **Research**: research collaborations on development topics.
- **Translation**: creating collaborative solutions to development challenges and strengthening innovation systems.

An example-Newton fund

- **A transportable plasma electron accelerator for radiotherapy at Brazil and China** (costs: £10M in 5 years)

WP1: Management (coordinate project, project integration)

WP2: Theory/simulation (analytical/simulation, code benchmarking, optimize the parameters, give support to other WPs, different schemes etc.)

WP3: Lasers R&D (power, stability, efficiency, compactness, laser beam line, etc)

WP4: Plasma sources (acceleration, deceleration, diagnostics)

WP5: Beam line design (including S2E, diagnostics)

Other funds

- STFC PPRP
- STFC PRD (can be seeding grant)
- EPSRC
- Royal Society
- etc.?

Other funds from partner countries H2020, ERC?