Public Engagement in CREDO: optional or essential?

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Why engage the Public?

Institutions accused of being:

- **Irrelevant** and out of touch with society

- Secretive and **untrustworthy**

- **Unaccountable** and a waste of tax payers' money

- Elitist and reinforcing **inequality**

Benefits to the Public

To counter act this we must consider...

- **relevance** - Research outputs are easily accessible and widely used

- **trustworthy** – their attitudes are taken account of

- **accountability** - The purposes and impact of research are understood and valued

- **Equality** - Young people see research careers as relevant and attractive

Benefits to the Researcher

To counter act this we must consider…

- **relevance** - Research can be more finely tuned to society's needs - Innovation flourishes as new ideas & insights flow

- **trust** – New / controversial areas of research can be openly and fairly debated

- **accountability** – greater influence over investment priorities through transparency

- **equality**– engagement is an opportunity to support social mobility

Types of Engagement

Engagement is far more than talking…

- **Co-production** - actions, comments book, opinion postcards

- **Media and option formers** - focus groups, social media events

- **lead by example** - case studies, interviews, observation

- **Compelling messages** - emotive cartoons, reflection log

- **Gamification** - pebbles in boxes or stickers on charts, prediction

The CREDO Project

"The CREDO project aims to pioneer the use of bottom-up research methodologies opening up ground breaking scientific research to the general population.

Through utilizing this method the project aims to spearhead a new era of collaborative research in astro-particle physics, studying the universe through the detection of high energy particles on global scales."

Engagement in Data Collection

Data collection is via…

- Collaborations with professional observatories

- Detectors based at educational institutions

- Mobile phone application – smart cosmic ray detector

…participants can then follow their data

Defining the Engagement

What is going on during data collection…

- **Co-production** – the public are adding directly to the data set
  - Researchers alone can not produce such a data set

- **lead by example** – researchers can use their own smartphones
  - The public will appreciate seeing 'we're all working on this together'

- **Gamification** – the app is fun and educational
  - By adding interesting facts and a 'points' system the public will be motivated
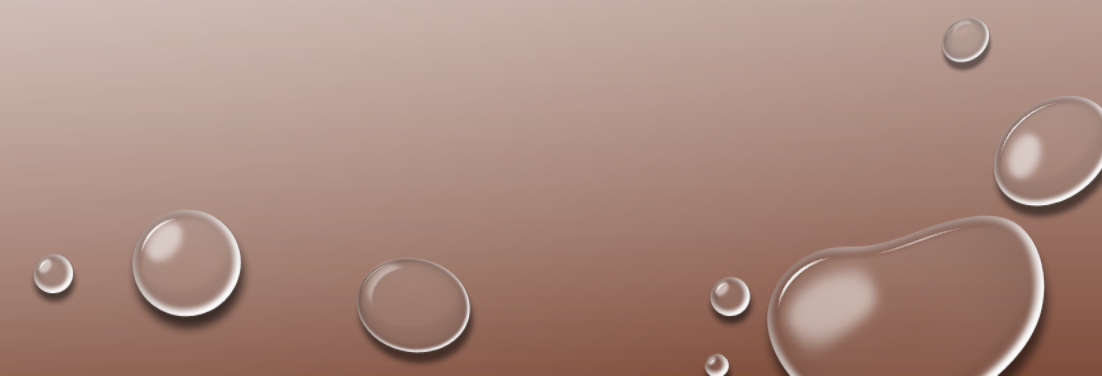
Engagement in Analysis
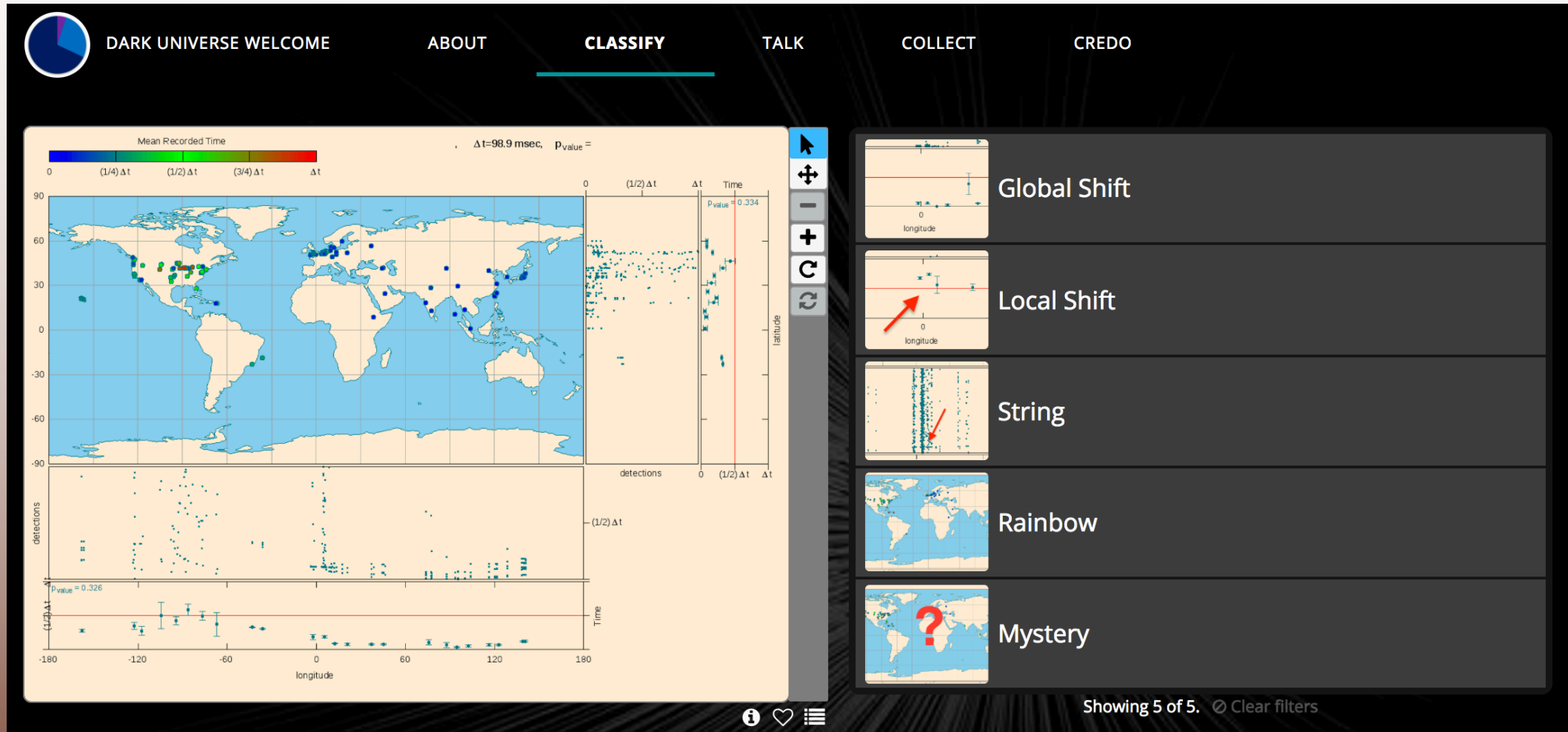
Defining the Engagement

What is going on during analysis…

- **Co-production** - the public are directly analysing their data
  - automatic algorithms alone can not perform such detailed analysis

- **lead by example** – researchers can use the same analysis tools
  - The public will see the value of what they are doing and be motivated to continue

- **Gamification** – the platform includes user rankings and educational resources
  - Researchers will benefit from the analysis the public are motivated to undertake

Engagement in Discussion

Open and fair debate is encouraged via…

- Dark universe welcome (DUW) talk channels

- DUW & user collections/favorites

- CREDO symposia & collaboration meetings

- Open conversation channels via CREDO website

- Public & school events

Defining the Engagement

What is going on during discussion…

- **Co-production** – lively and multi-directional debate

  - direct interaction between the public and researchers leads valuable discussion

- **Media and option formers** – researchers keep the public informed of progress

  - Continued information and result sharing will motivate ongoing support

- **Compelling messages** – regular additional information, blogs etc.

  - Writing/videoing resources will train researchers in communication

Evaluation of Public Engagement

It's important to understand whether we have achieved our goals…

- **Types of Evaluation** - Front-end (pre-project), Formative (during project), Summative (post project)

- **Evaluation plan –** Aim, Evaluation, Methodology, Reporting

  - **Generic objectives -** Knowledge and understanding, Skills, Attitudes and Values, Enjoyment, Inspiration and Creativity, Activity, Behaviour and Progression

  - **Data collection techniques -** activity-based focus groups, questionnaires, web analytics, etc…

  - **Analysing Data -** Qualitative vs Quantitative data, Ethical considerations, Sampling, Coding, etc…

Measuring the Base Line

Understanding our current position…

- **Type of Evaluation** - Front-end (pre-project)

- **Aim** – evaluate the public engagement status the of CREDO community

- **Objectives** – understand existing attitudes towards public engagement

- **Data collection** – bit.ly/2wPATJ6

- **Data analysis** – Quantitative analysis and coding

- **Reporting** – summary of responses and proposed next steps

Summary

- We must counter act any negative perceptions the public may have

- Engaging the public has benefits for the public and the researcher

- There are many different types of engagement – be creative and have fun!

- The CREDO project is placing engagement at the forefront of its objectives

- The public are evolved in data collection, analysis and discussion

- It is important to analyze the effectiveness of engagement

References

- Pathways to Impact - www.rcuk.ac.uk/innovation/impacts

- CREDO - credo.science

- Dark Universe Welcome - www.zooniverse.org/projects/credo/dark-universe-welcome

- National Coordinating Centre for Public Engagement - www.publicengagement.ac.uk

Public Engagement Survey - bit.ly/2wPATJ6