

ENGAGING THE PUBLIC IN COSMIC RAY RESEARCH

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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**

THE ONLY PEOPLE THAT CAN COUNTER ACT THESE ARE US AS RESEARCHERS...

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 AND/OR 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.”



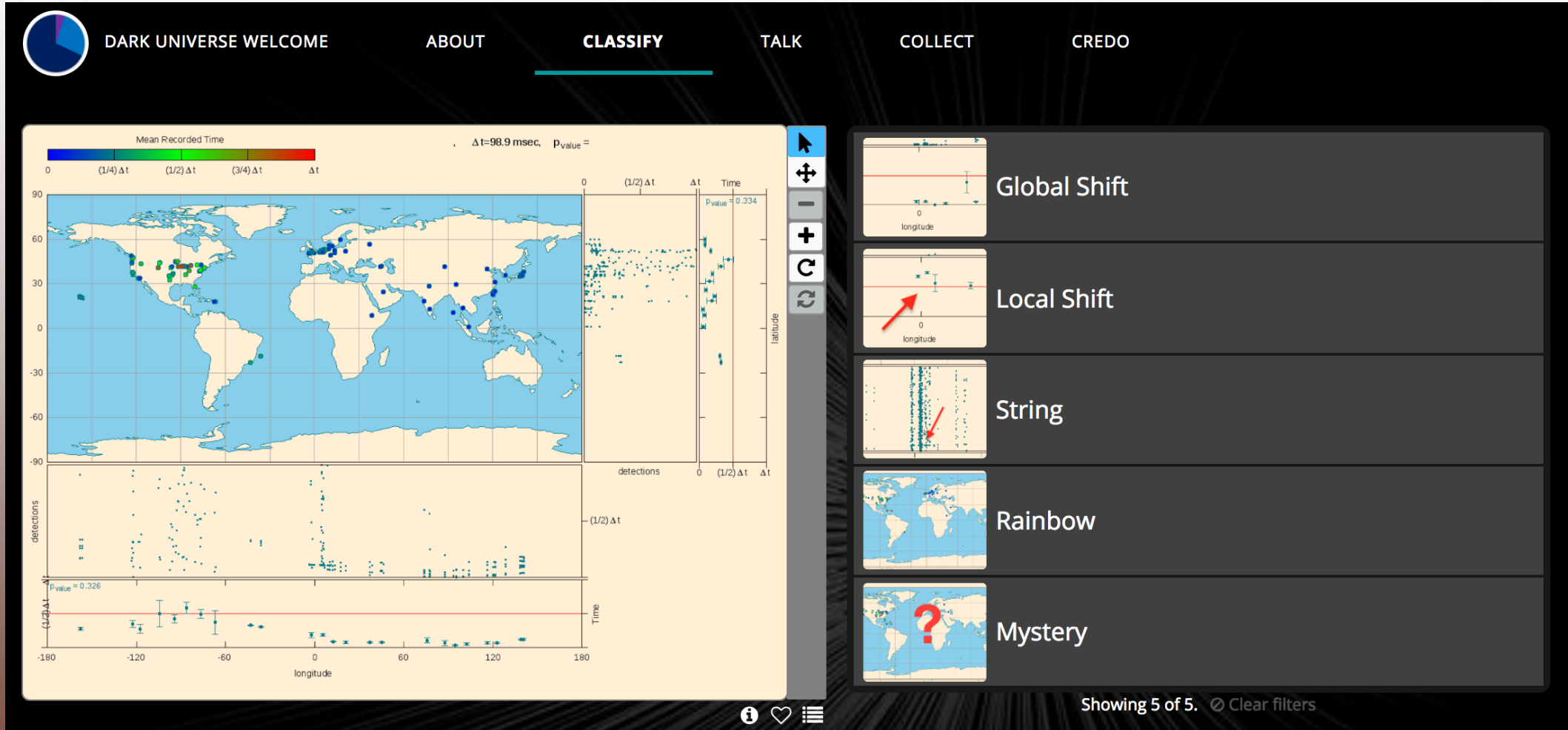
ENGAGEMENT IN DATA COLLECTION

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

ENGAGEMENT IN ANALYSIS



ENGAGEMENT IN DISCUSSION

OPEN AND FAIR DEBATE IS ENCOURAGED VIA...

- DARK UNIVERSE WELCOME (DUW) TALK CHANNELS
- DUW & USER COLLECTIONS
- DUW & USER FAVORITES
- CREDO SYMPOSIA & COLLABORATION MEETINGS – 30TH & 31ST AUGUST 2017
- OPEN CONVERSATION CHANNELS VIA CREDO WEBSITE
- PUBLIC & SCHOOL EVENTS

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, OBJECTIVES, EVALUATION, METHODOLOGY, DATA COLLECTION, DATA ANALYSIS, 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...

SUMMARY

- WE MUST COUNTER ACT ANY NEGATIVE PERCEPTIONS THE PUBLIC MAY HAVE OF OUR INSTITUTIONS/RESEARCH
- 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