

Detector R&D

Part II



Niels van Bakel

Nikhef

Theme

"The Expert and the Newcomer's View"



What's new in 2018



September 30 - October 5, 2018 | Switzerland
ISPCS 2018

International IEEE Symposium on Precision Clock Synchronization
for Measurement, Control, and Communication

European Organization for Nuclear Research (CERN)

ISPCS 2018 ▾

REGISTRATION

AUTHOR INFO ▾

TRAVEL & VENUE ▾

Award Winners

The ISPCS 2018 Best Paper Award

WHITE RABBIT ABSOLUTE CALIBRATION

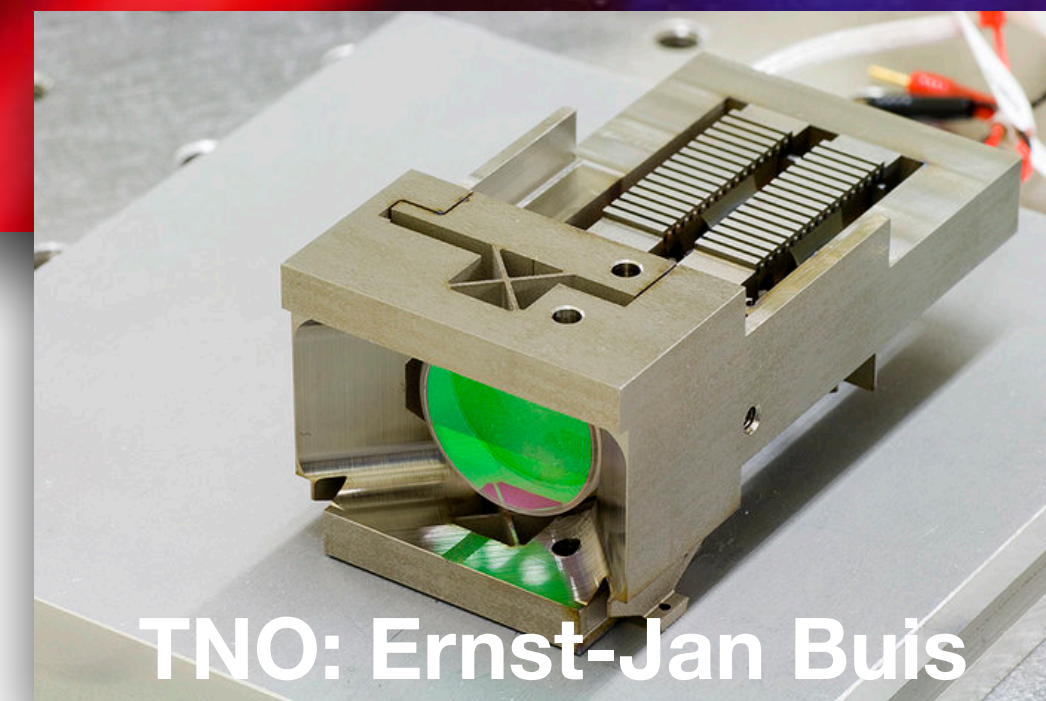
- Peter Jansweijer (Nikhef, Netherlands)
- Henk Peek (Nikhef, Netherlands)



NWA



Daniela Pascucci
Ester Abrams



TNO: Ernst-Jan Buis

What's new in 2018



The Project

ATTRACT Call

Consortium

FROM OPEN SCIENCE TO OPEN INNOVATION

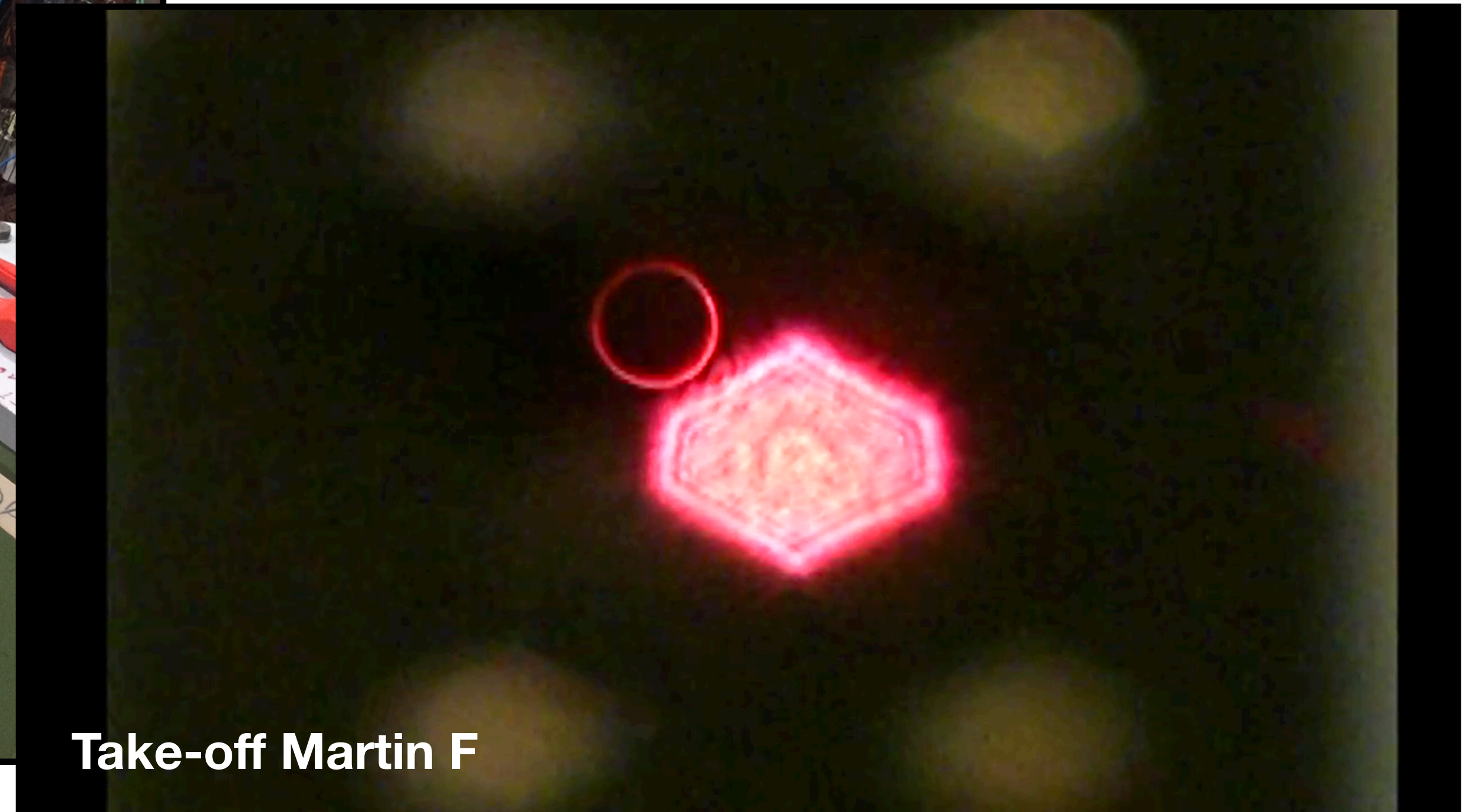
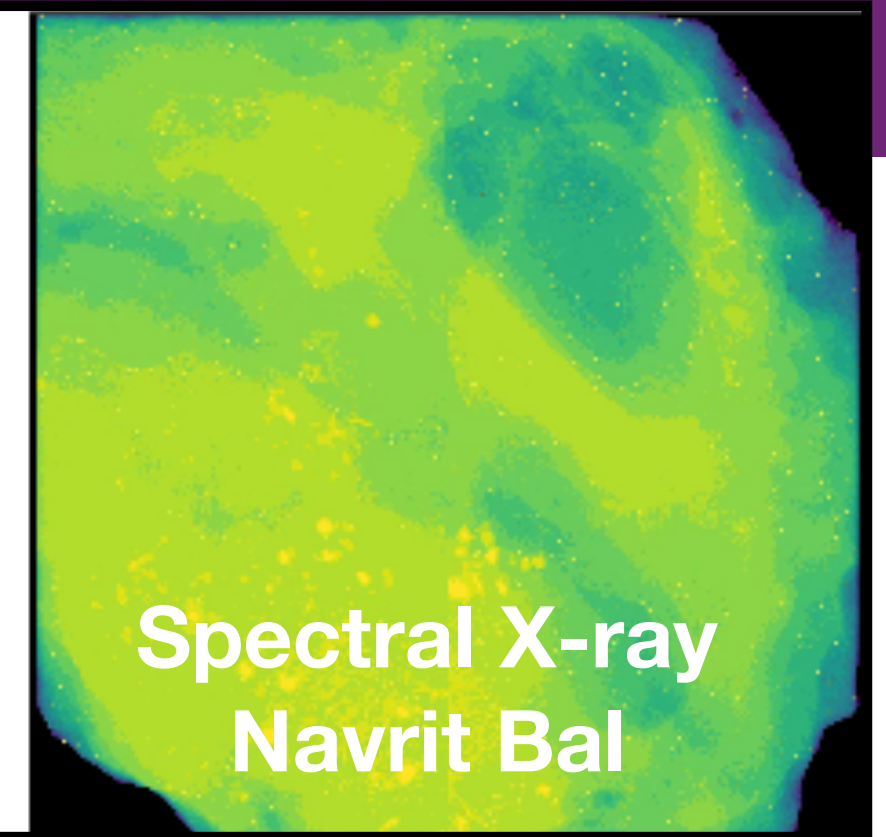
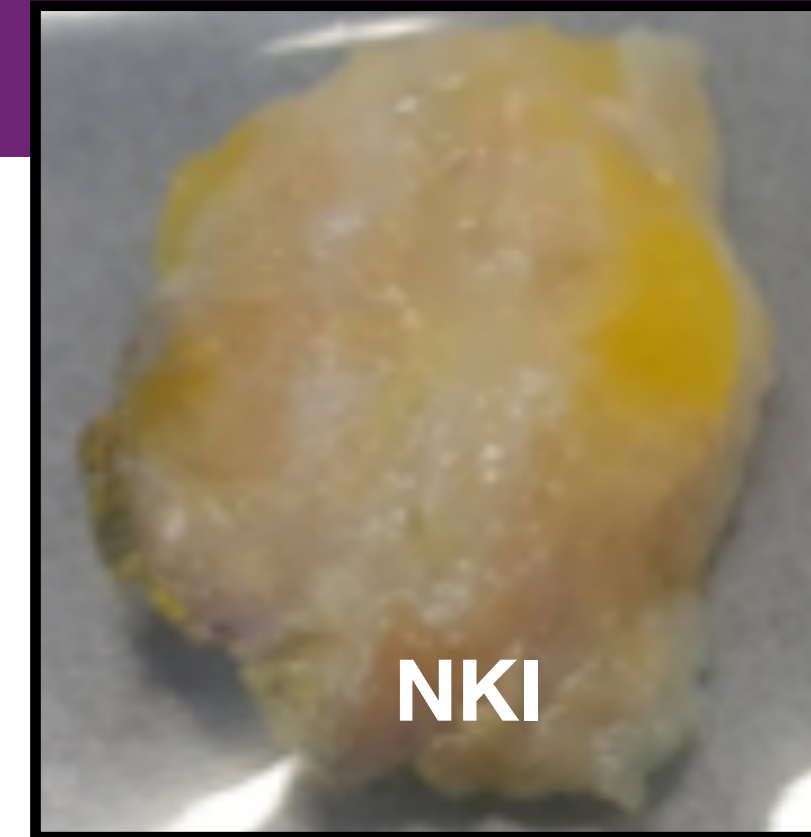
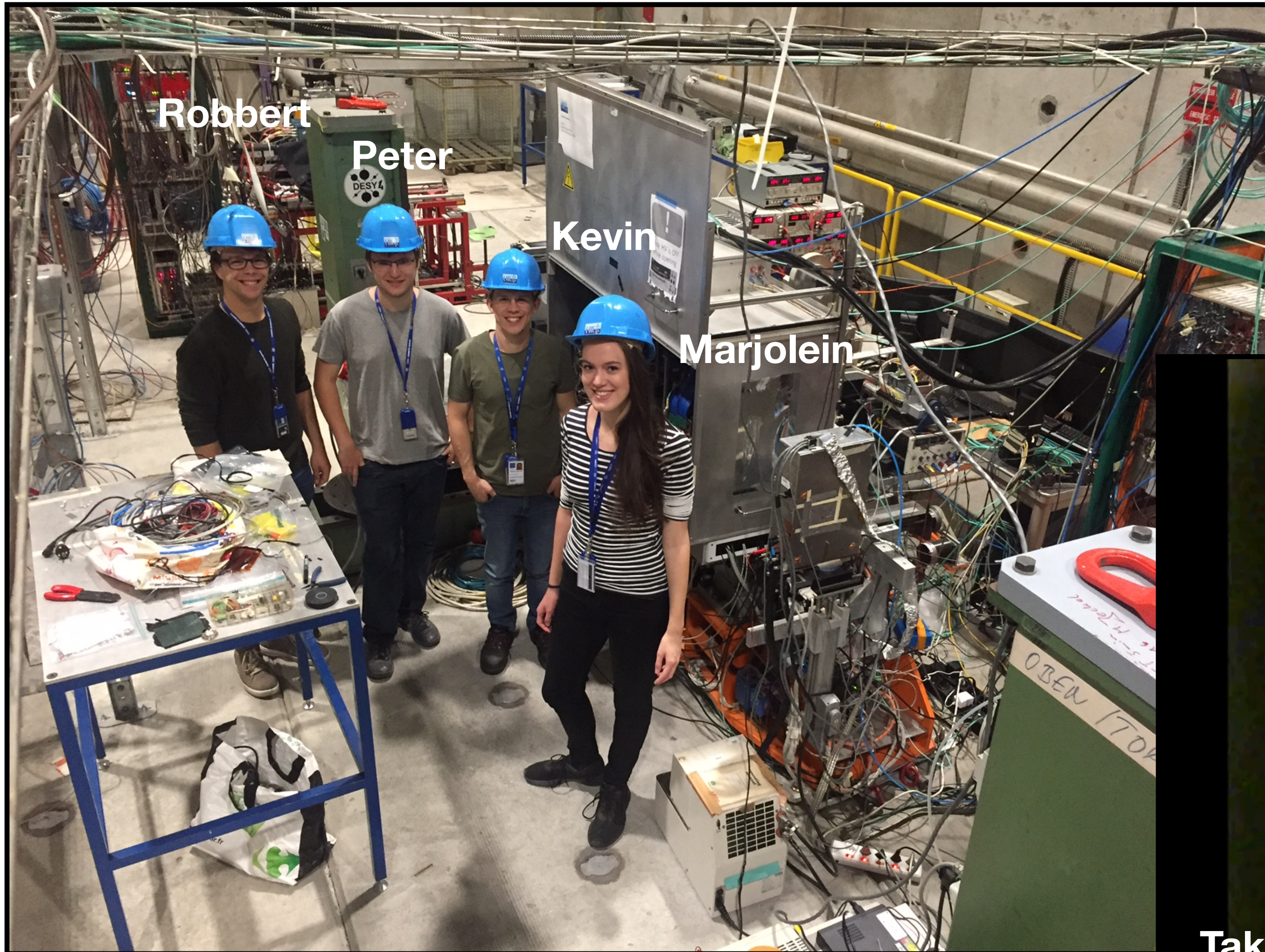
ATTRACT

Developing breakthrough technologies for science and society

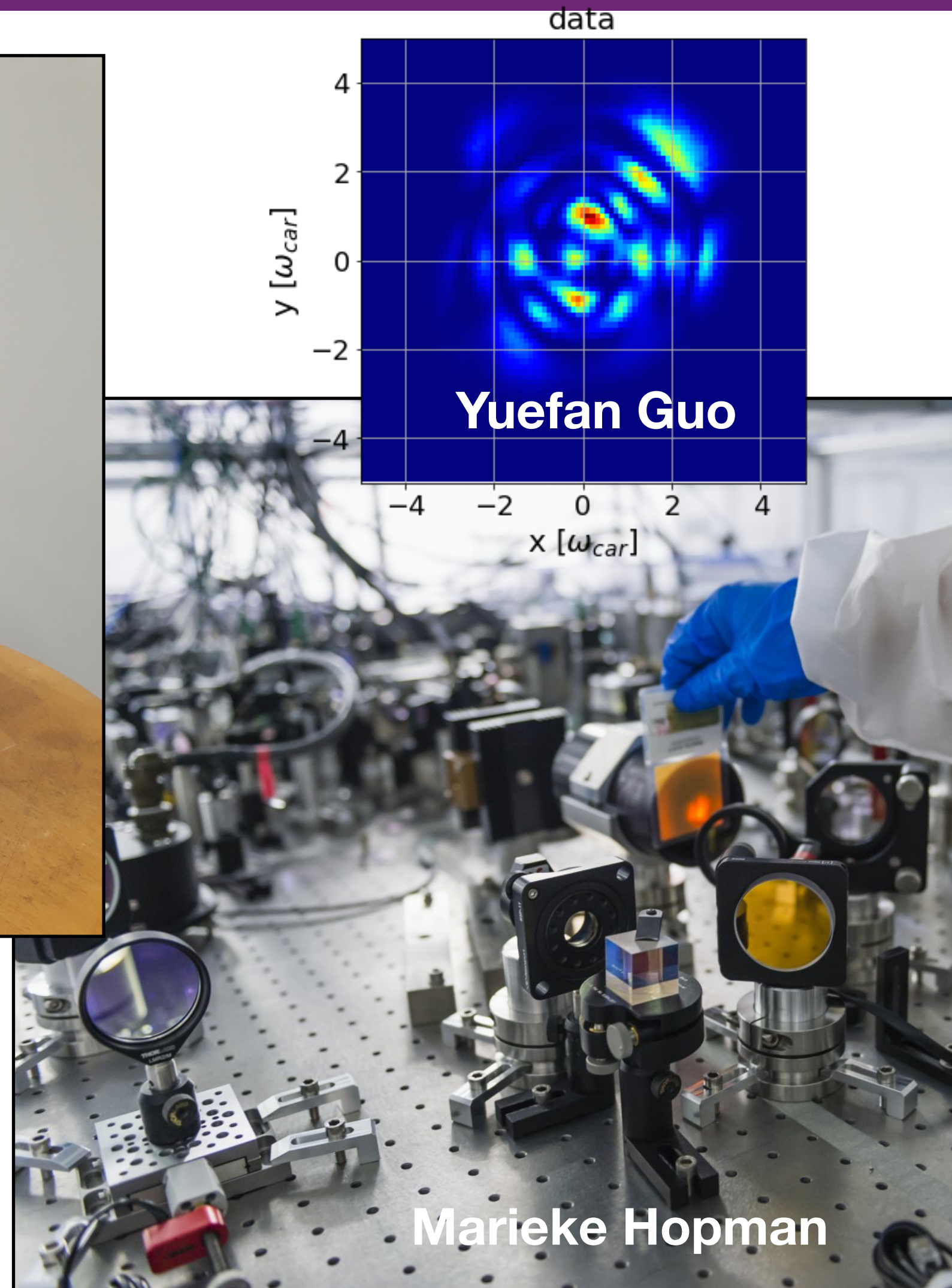
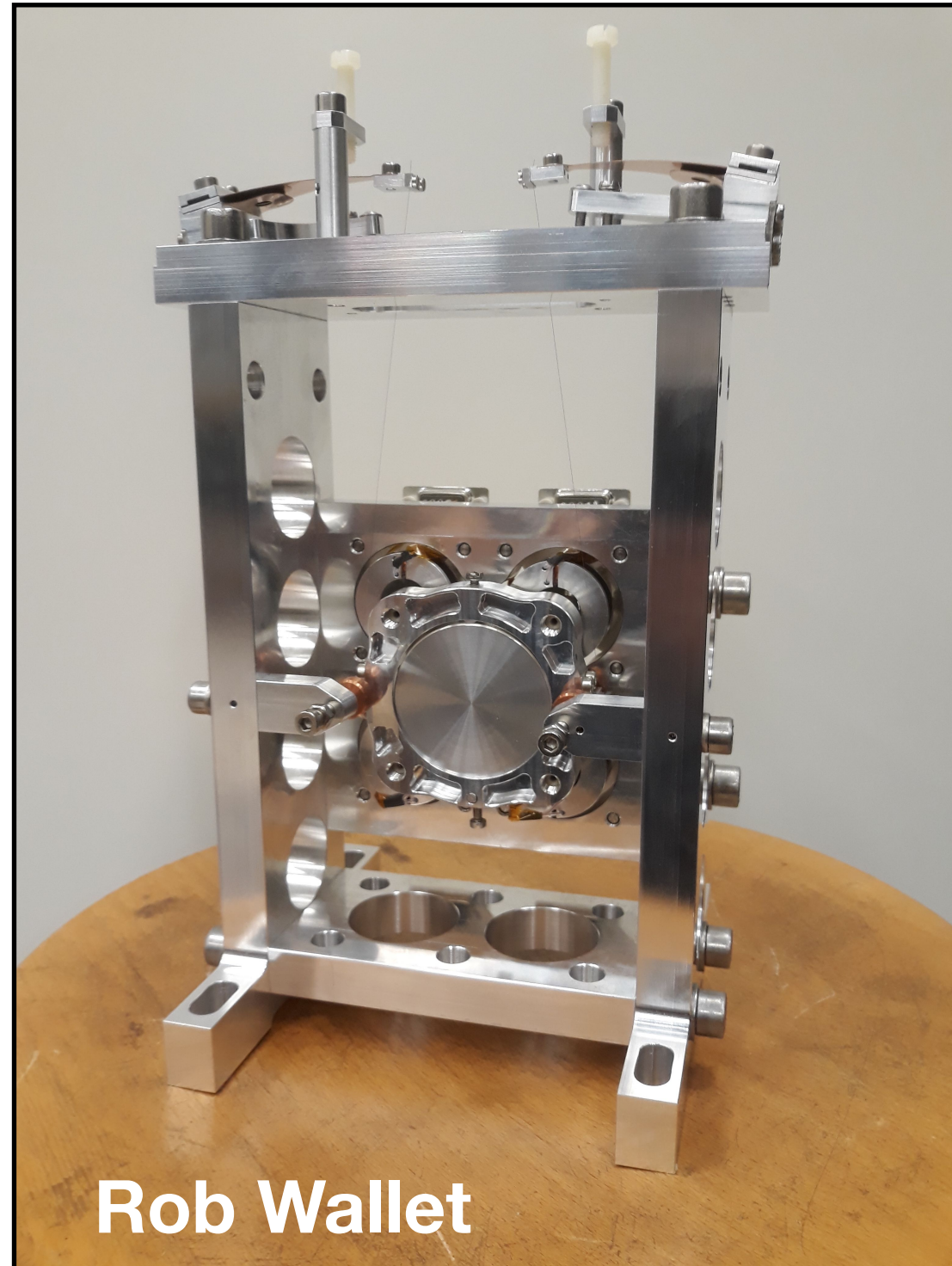
ATTRACT is a pioneering initiative bringing together Europe's fundamental research and industrial communities to lead the next generation of detection and imaging technologies

- Spectral x-ray with lensless imaging (MF) - Cosine
- Seismic imaging & monitoring systems (NvB)- Innoseis
- High quantum efficiency photocathode (HvdG) - Photonics
- Tilgad - inverted LGAD on Timepix4 (Martin vB, Daniel H, Kazu A)
- Picotrack - Timepix4 telescope (MvB, DH, KA)
- Dice - simulation software (DH)

Successes in 2018

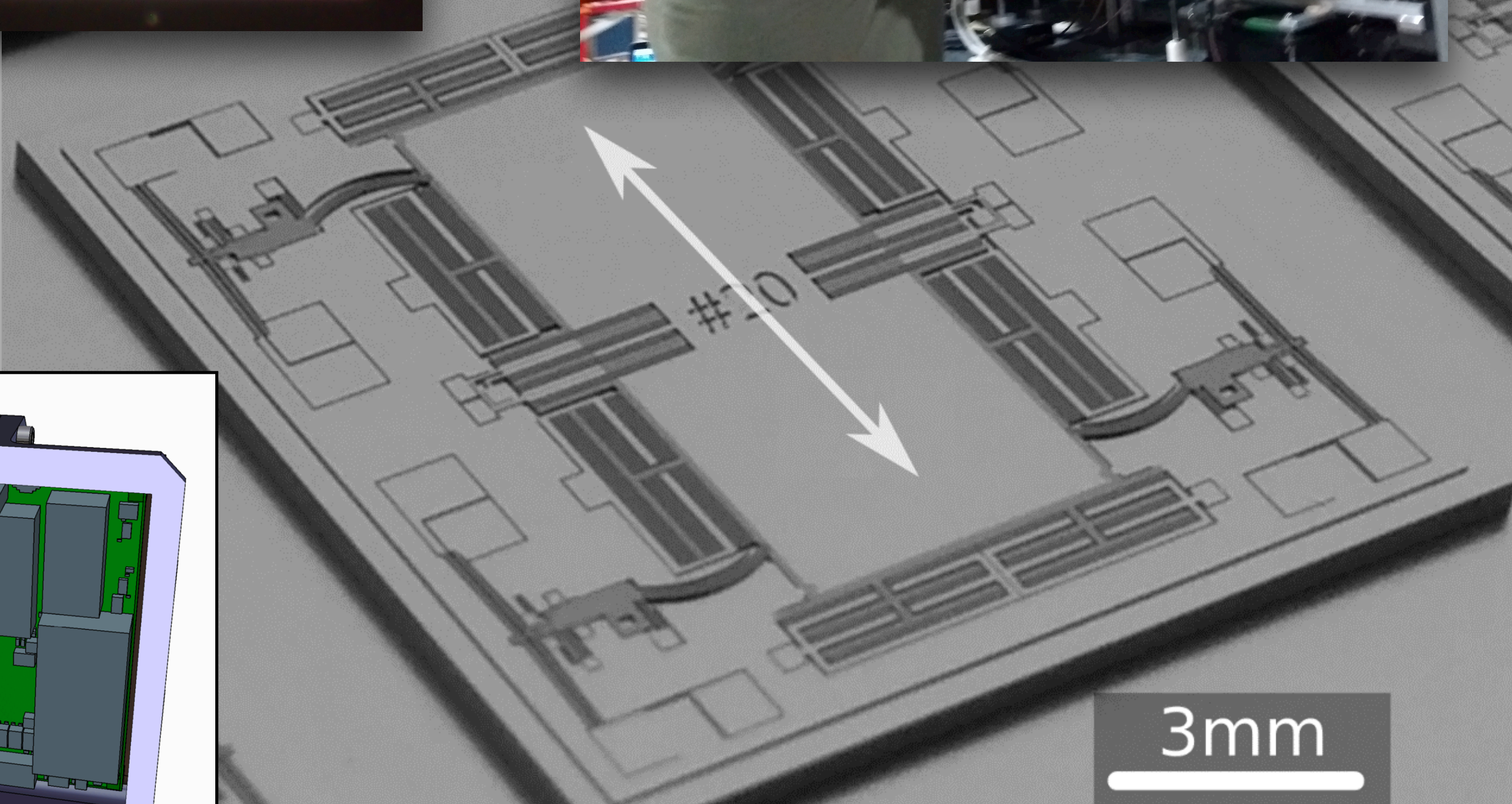
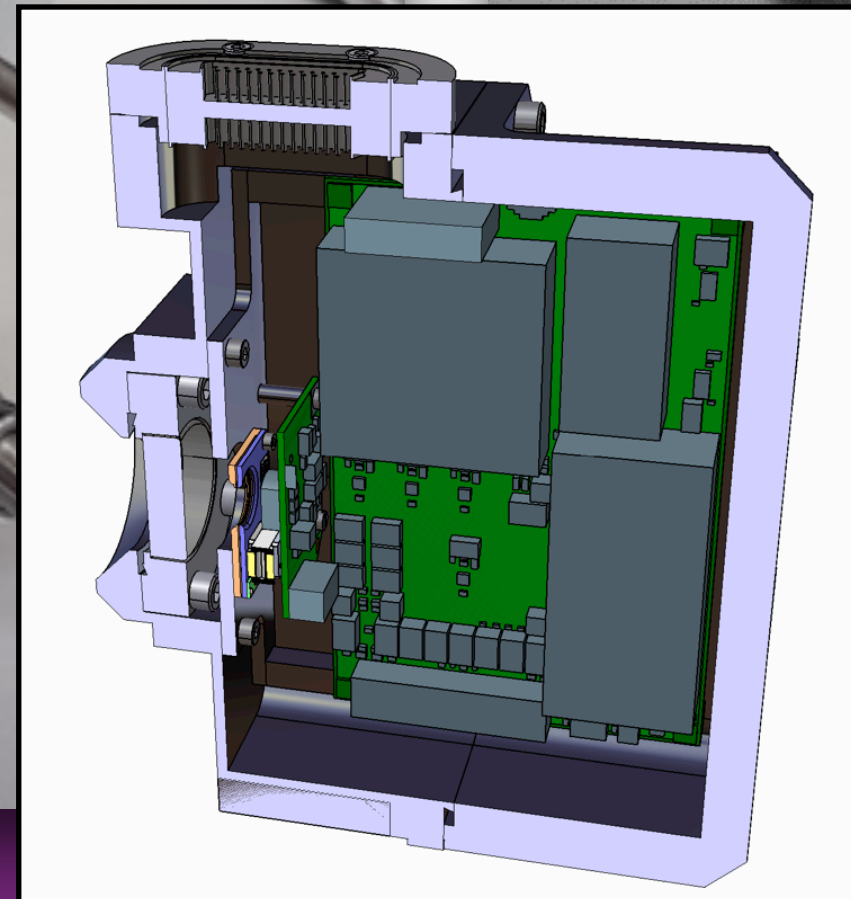
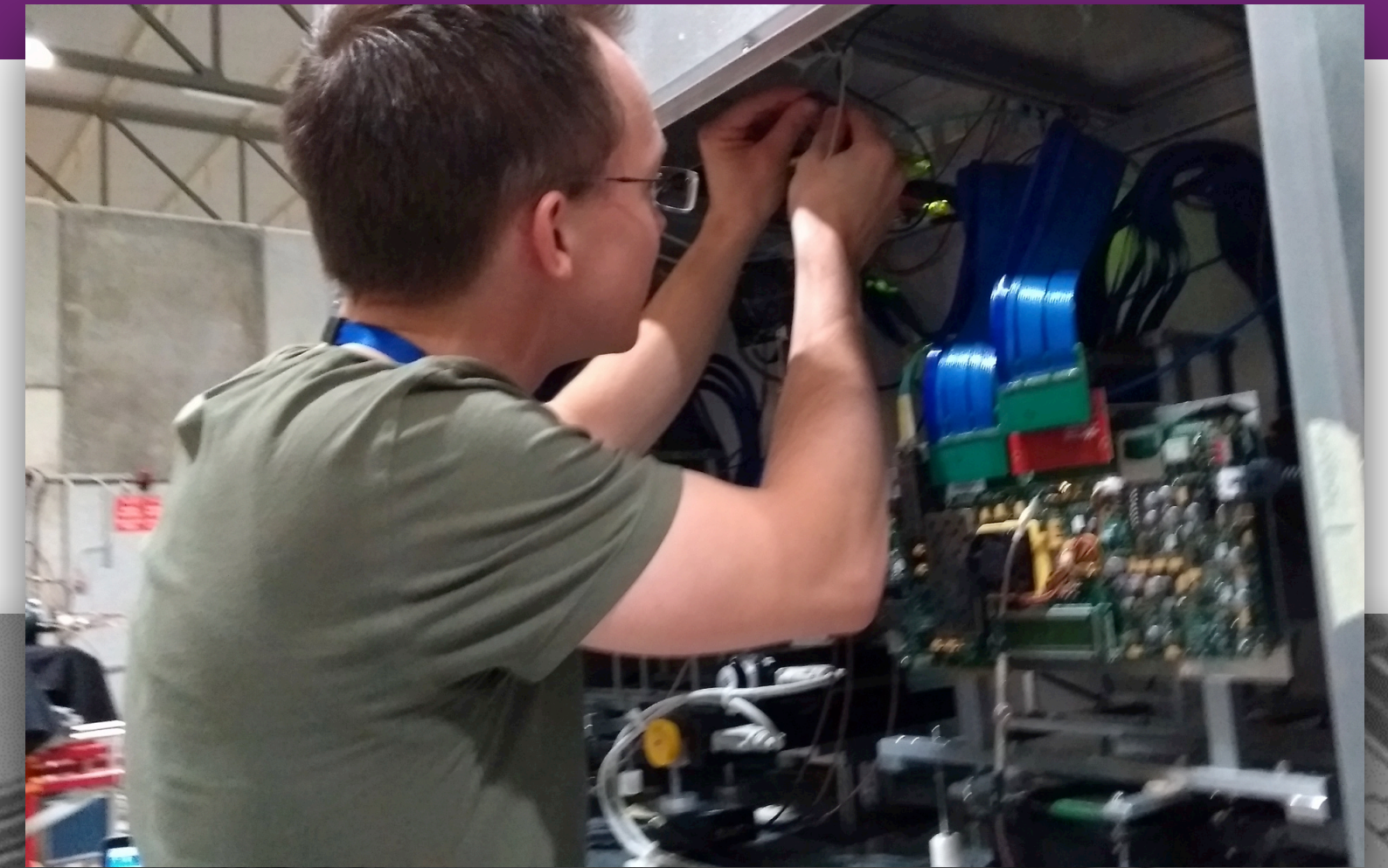
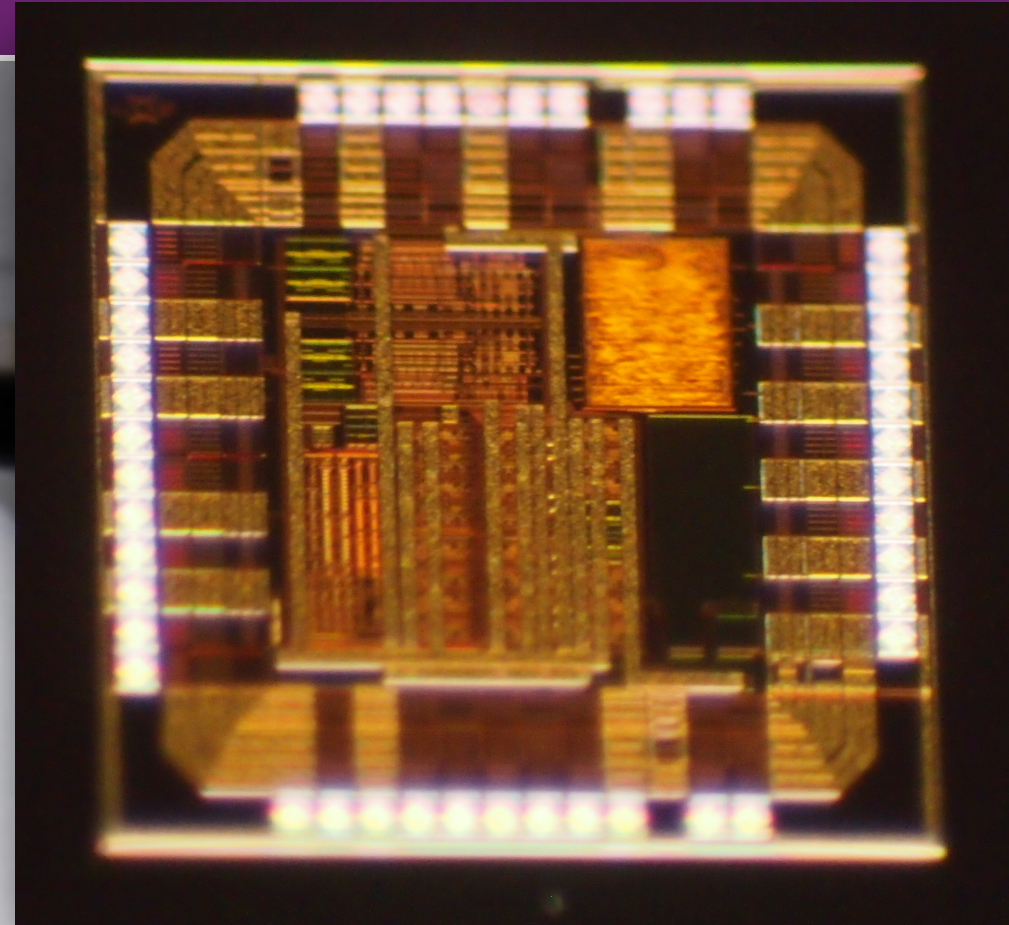
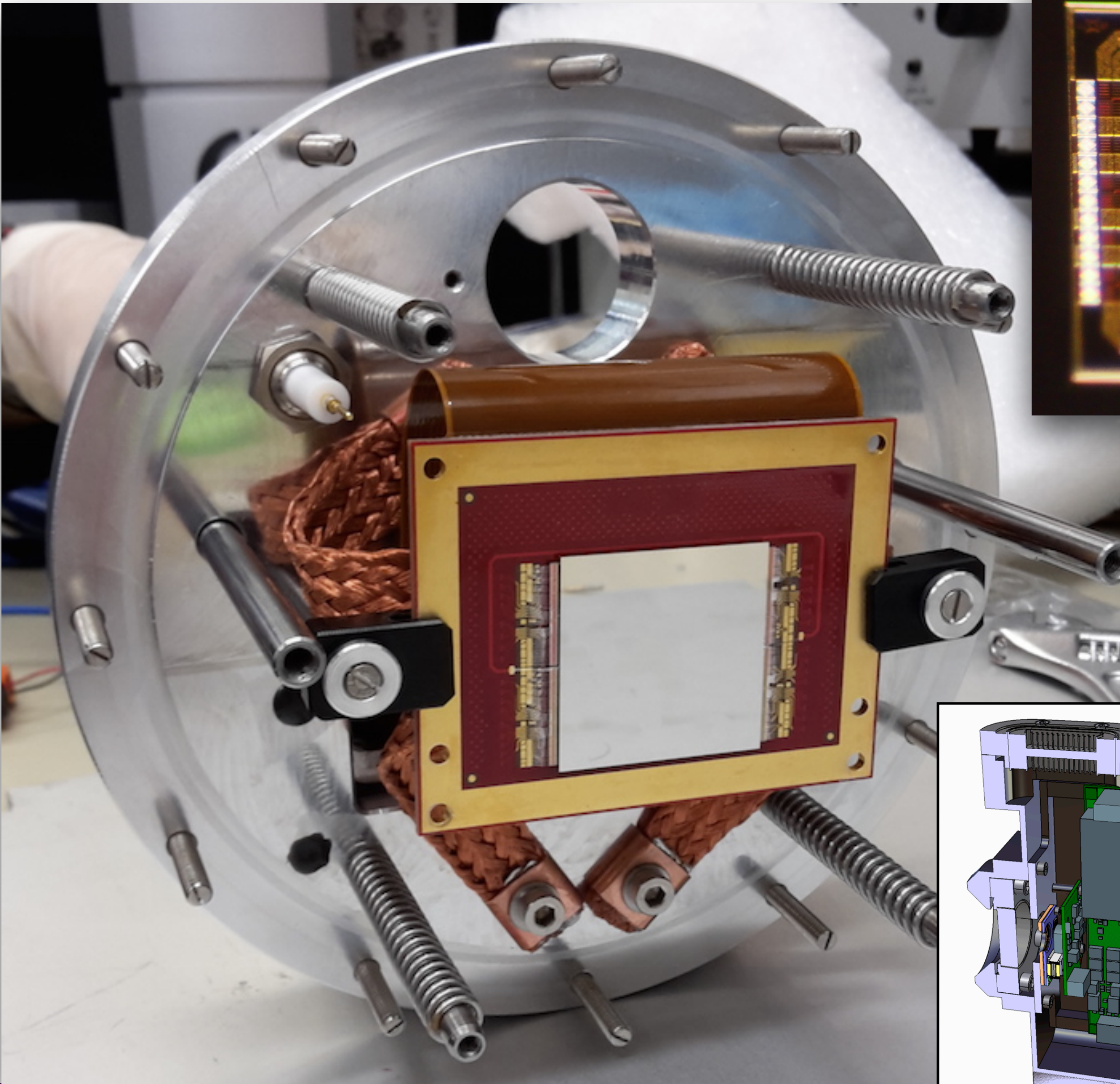


Building optical lab



- Frequency dependent squeezing
 - *Test optical and mechanical components*
- Study higher-order-modes and non-gaussian beams
- Small IFO with suspended mirrors
 - *Improve sensing and controls scheme's*
- Holographic projector
- Student project(s)
- Develop wave-front sensing techniques
 - *Test LISA photoreceivers*

Proto 2018 - Thanks, ET, MT & CT!



Andre

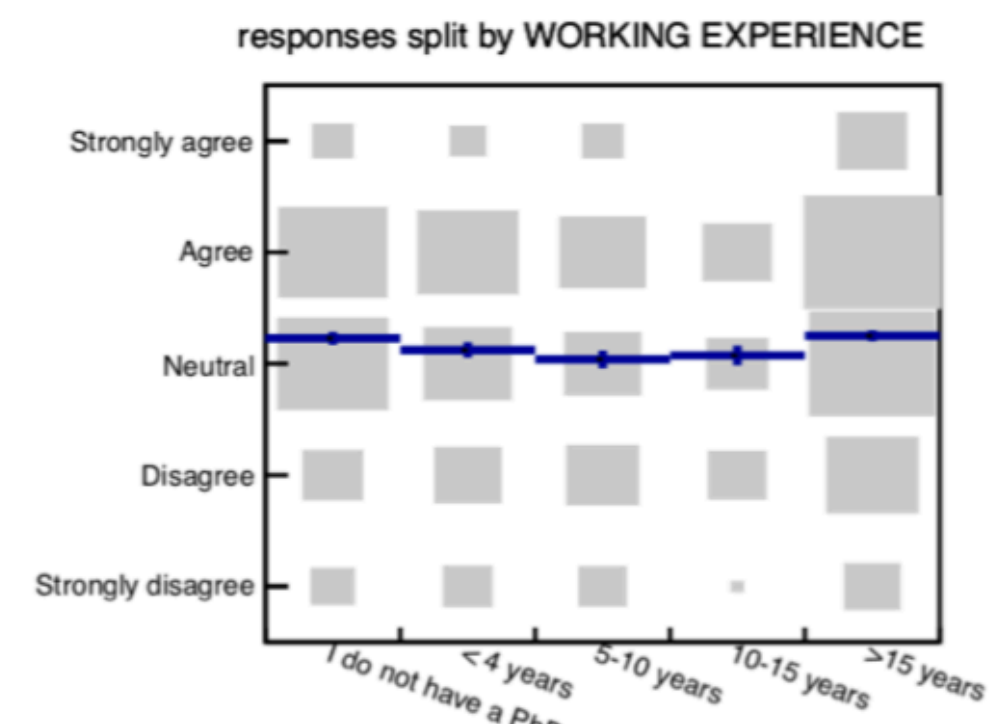
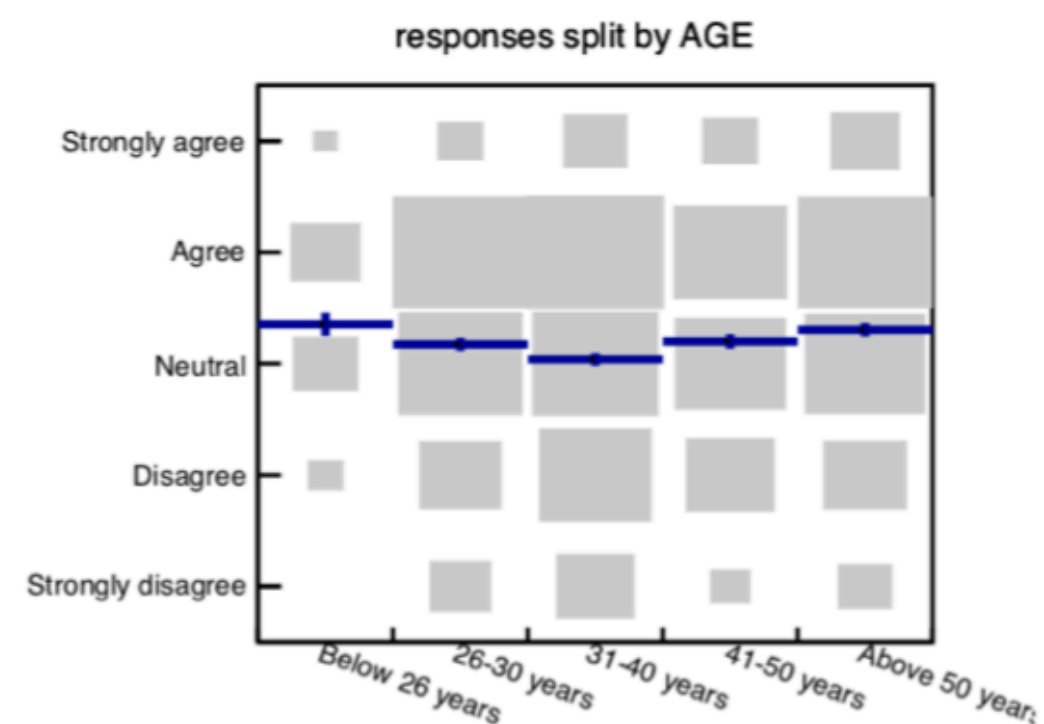
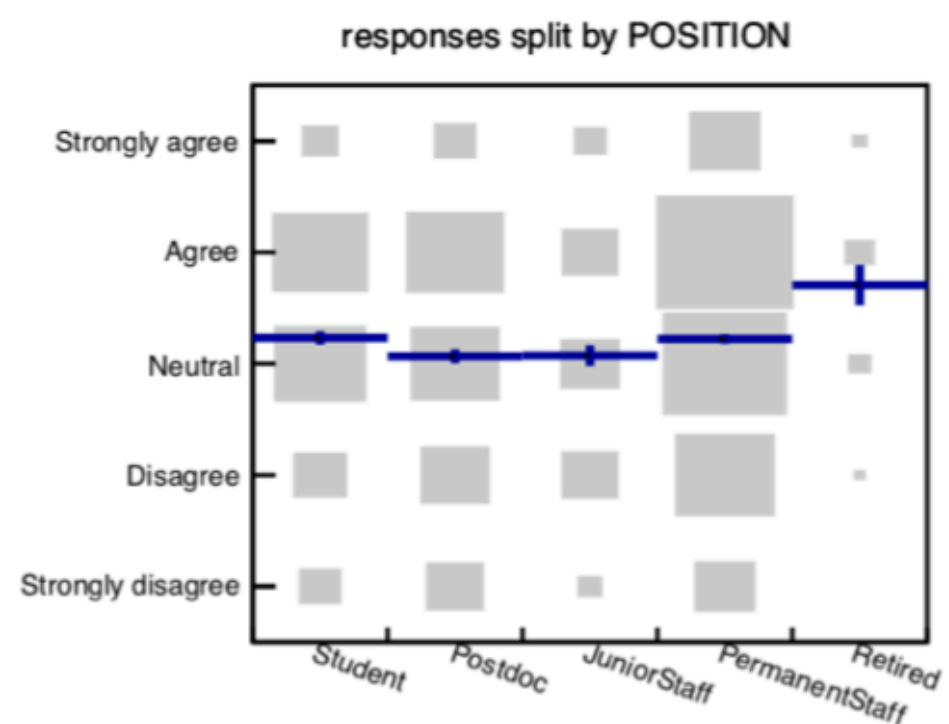
Els

Niels

Part II - RECFA questionnaire

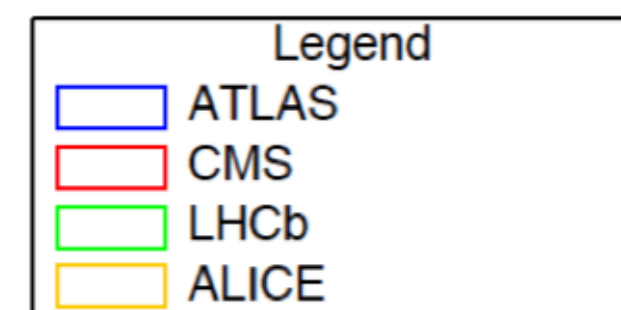
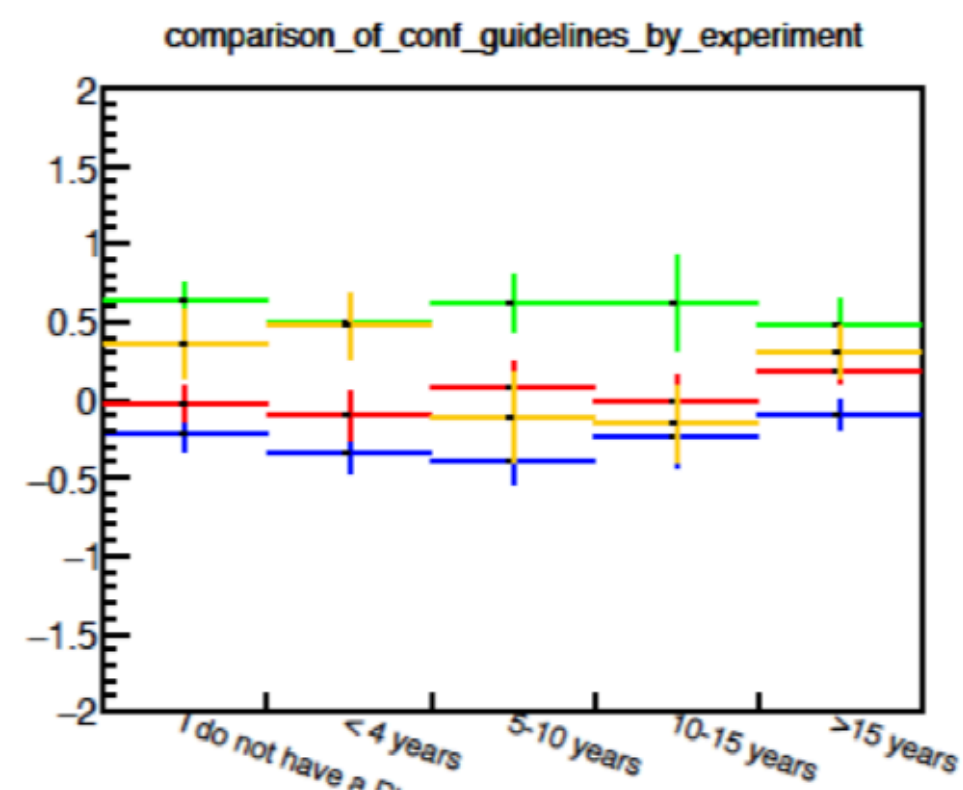
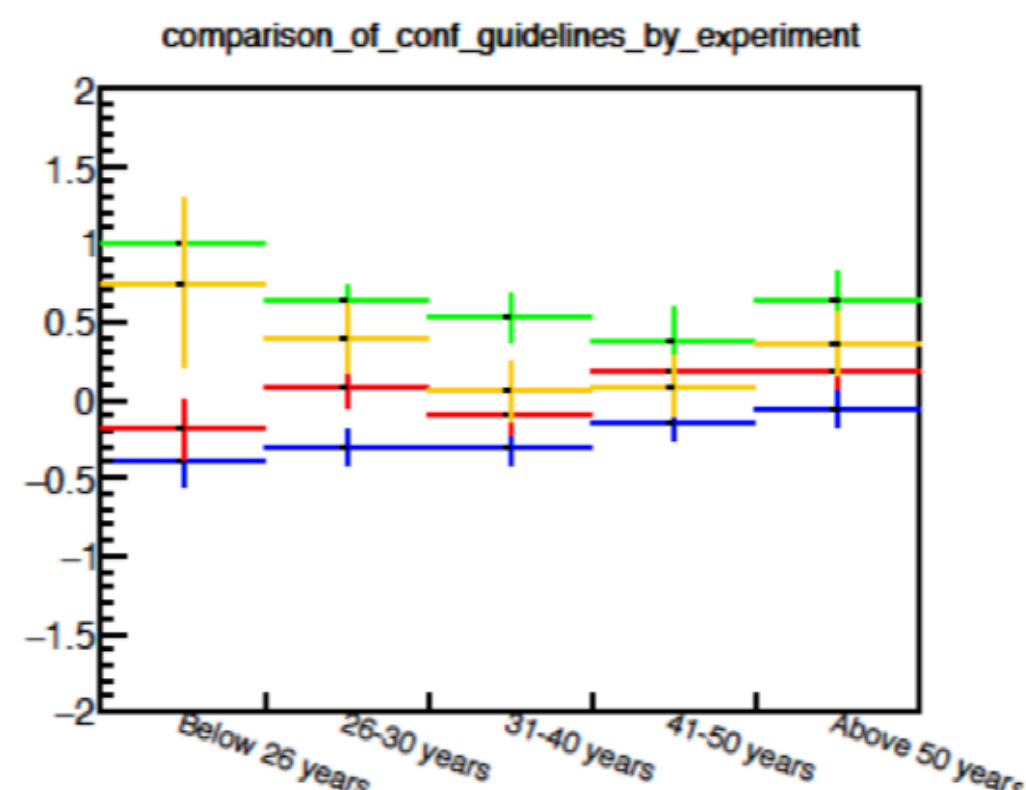
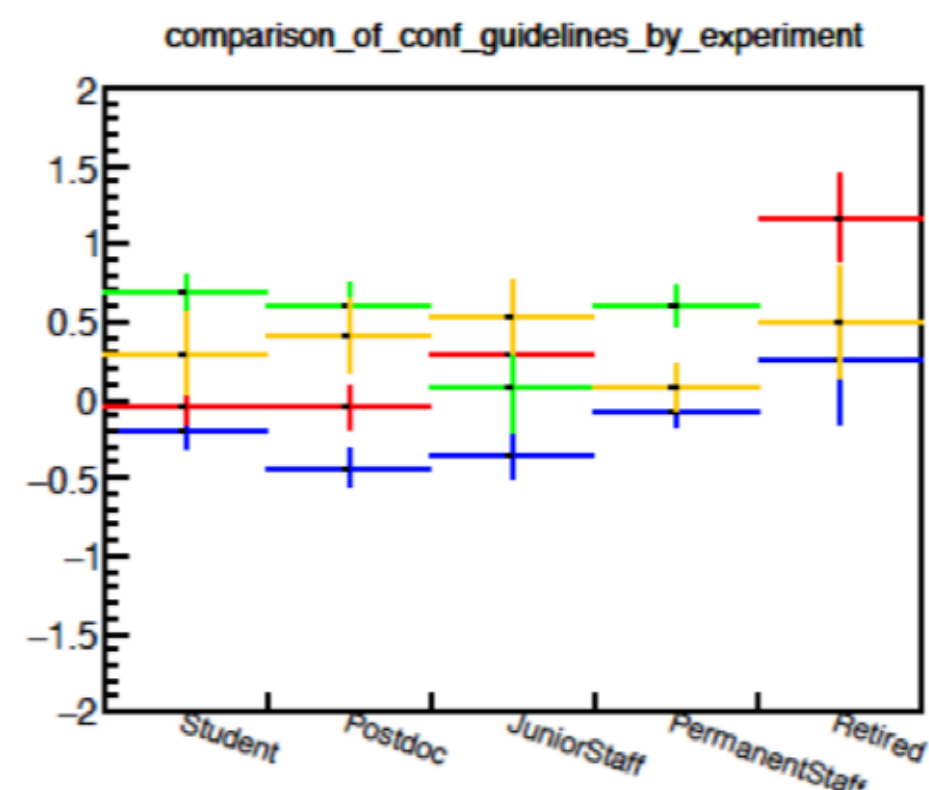
CONFERENCE TALKS - 1

The collaboration guidelines for speakers at conferences allow me to be creative and demonstrate my talents



Disagreement largest for postdocs and junior staff

Large differences observed between the LHC experiments - for all stages in career

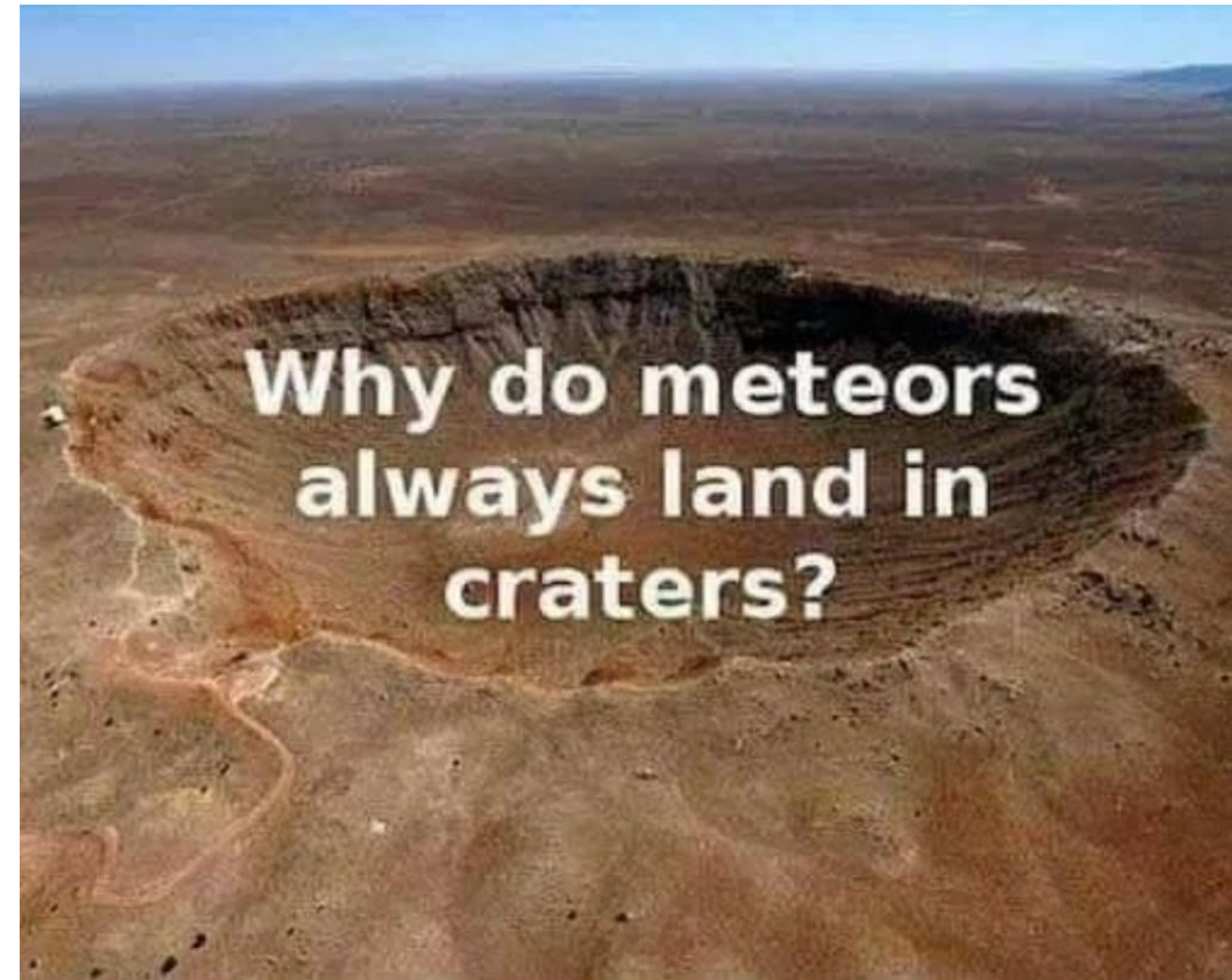


Part II - Last year

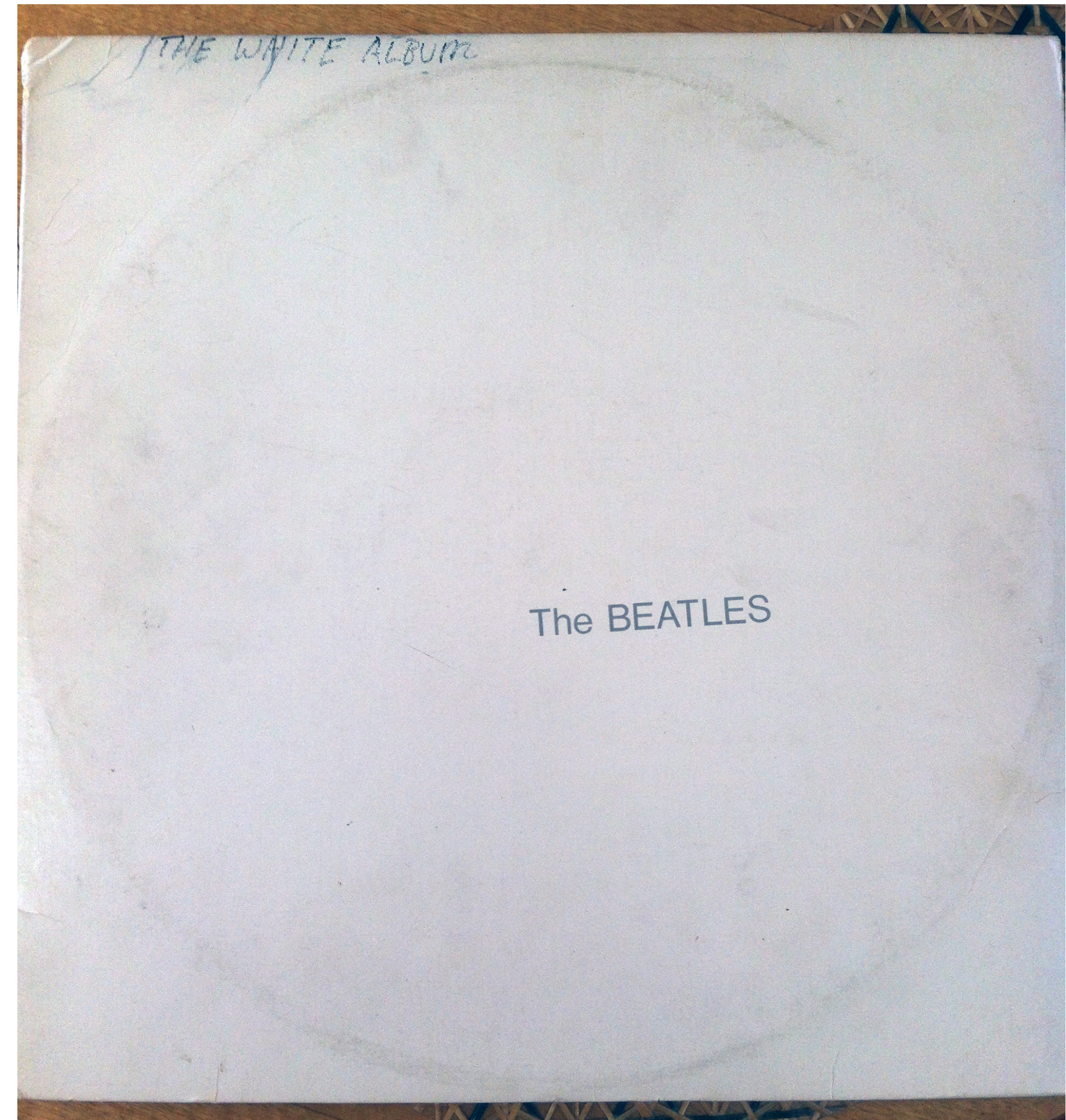


Part II - End of year

GUMMBAH



Part II - End of year



Part II - Another reason

Academic conferences urgently need environmental policies

To the Editor — For nearly a decade, environmental scientists have deplored the paradox of needing to fly to conferences¹⁻³ and have increasingly called for sustainable conferencing^{4,5}. Have conferences responded by reducing their environmental impact?

We assessed the environmental-impact policies of 116 international and national academic conferences in 31 countries. Information for five (4%) of carbon-offset, and only action that environmental science and conservation commonly (5/10 conferences). Environmental inability science and advertisements environmental conferences, though guidelines on neutral ne, and reports neutral conferences

exist⁴⁻⁶, our study shows that these examples are exceptional.

What might explain this poor adoption of better environmental practices? Conferences are often organized by a small local committee of researchers. Most conference organizers we contacted had never thought about the environmental impact of their meeting. In fact, multiple organizers asked for guidance on how to reduce the impact of future events, showing that there is desire and opportunity for sustainable conferences. Although not all of the conferences in our sample have finished their 2017 meetings, we know of at least one annual meeting in our sample that promoted sustainability in 2016 but failed to advertise sustainable practices in 2017, probably because organizing committees change each year. Academic societies could facilitate consistent sustainable practices by developing clear policies and guidelines for organizing committees to follow.

At a minimum, conferences should document and promote the actions they take to reduce environmental impacts, even if those actions are minimal. It is not just a matter of environmental protection, but also

of awareness and transparency. We scientists should favour conferences with sustainability policies. If we demand this information, then conferences will provide it, and in doing so, be motivated to think about and develop new sustainable practices. A small investment by our academic societies, right now, has the opportunity to generate major positive environmental impacts and lead the route to global sustainability. □

Matthew H. Holden^{1,2,3*}, Nathalie Butt^{1,2}, Alienor Chauvenet^{1,2}, Michaela Plein⁴, Martin Stringer^{1,4} and Iadine Chadès^{1,5}

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Dear colleagues,

The particle physics community in Europe is currently collecting inputs in order to formulate a new European Strategy Update (<https://europeanstrategy.cern/>). This strategy should also take into account the huge challenges posed by Climate Change (as exemplified in the most recent IPCC Special Report). There is an ongoing initiative collecting signatures that will go into an input to this strategy voicing some recommendations.

I invite you to look into it:

tinyurl.com/yaw523ng <<http://tinyurl.com/yaw523ng>>

On Twitter: @ESClimateChange

Thank you very much,

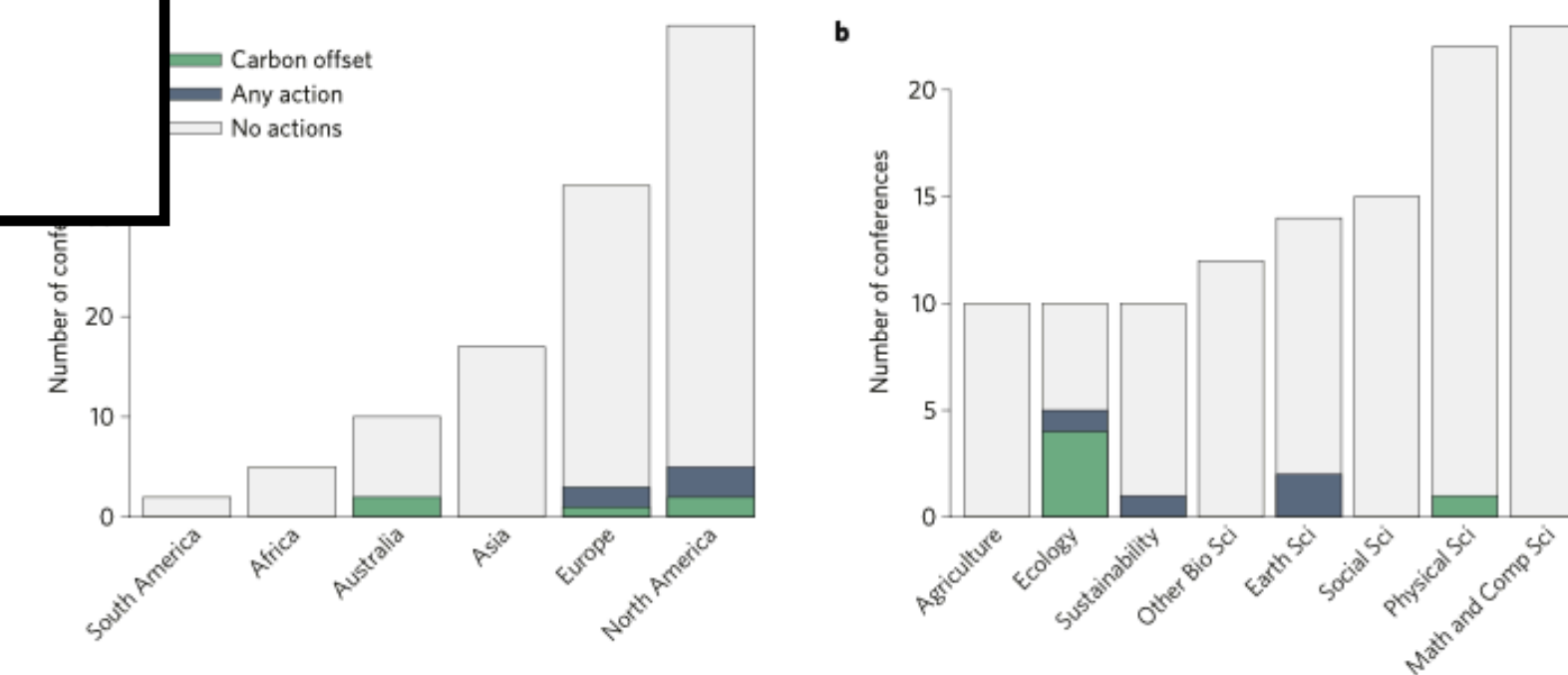


Fig. 1 | Frequency of advertised sustainable practices. a,b. Conferences were classified as advertising no environmental actions, advertising any environmental action, or advertising a carbon-offset policy (by continent (a) and by research field (b)). The 18 scientific disciplines represented in the study have been classified into eight broader fields for display purposes (see Supplementary Information).