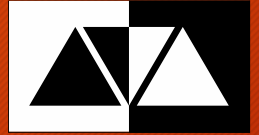


ACCELERATORS VALIDATING ANTIMATTER PHYSICS

Prof Carsten P. Welsch
University of Liverpool
Cockcroft Institute, UK

Overview

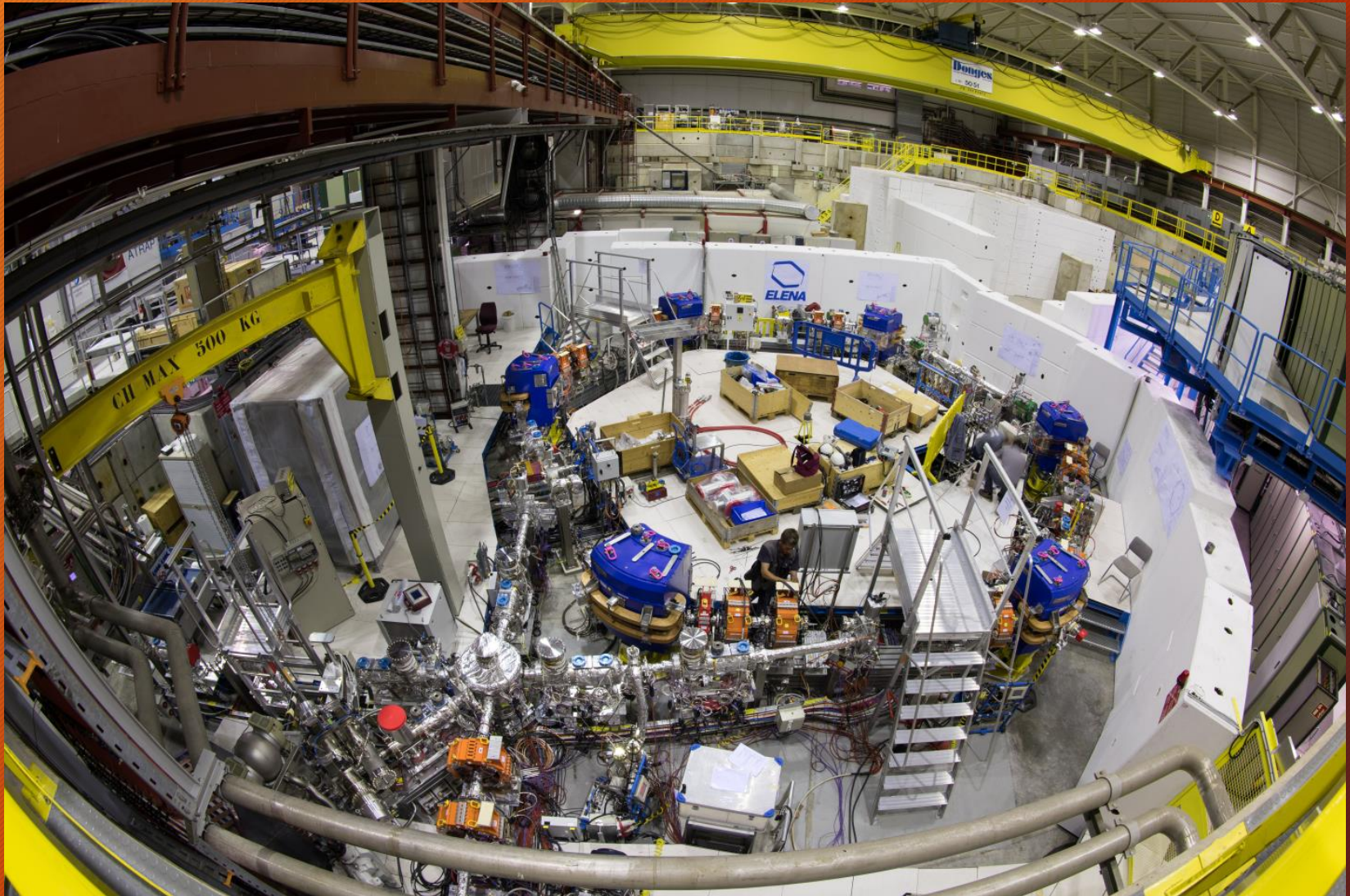


Background

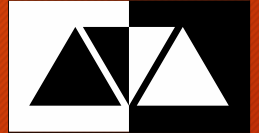
Research

AVA Events

ELENA - A fantastic opportunity



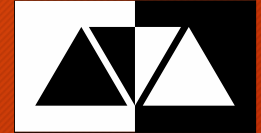
„Classic‘ PhD training in Europe



- Focus on academic career path;
- Scientific papers as key quality indicator;
- Training through (often blue sky) research;
- Very little training in complementary skills - researchers often need to be (re)trained on the job;
- Students or researchers ?

Evolution: Initial training networks (ITNs)

Marie Curie ITNs



- Introduced in EU Framework Programme
- 2016: 100,000 Marie Curie researchers;
- Provides support for early career and experienced researchers (young Postdocs).

Goals

- Improve employability of researchers;
- Better training through demonstrated international mobility;
- Maintain Europe's leadership position in R&D.

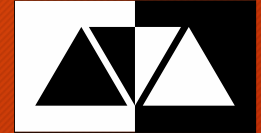
Accelerator Beam Diagnostics



« novel Dagnostic Techniques for future particle Accelerators:
A Marie Curie Initial Training NETwork »



Marie Curie Networks



(Beam Diagnostics, **Physics**)
4.2 M€, 32 partners



(Laser Applications, **Engineering**)
4.6 M€, 38 partners



(Accelerator Optimization, **Physics**)
6 M€, 35 partners

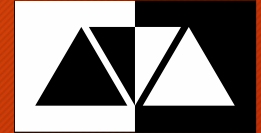


(Medical Accelerators R&D, **Life Sciences**)
4.0 M€, 24 partners



AVA is first ITN on antimatter research.
Started 1 January 2017.

What is AVA ?

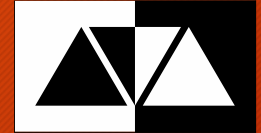


- Funding for 15 Fellows
- One of the largest Marie Curie networks in this call with a budget of around 4 M€
- Gives industry an important role in training the next generation of scientists !
- Allows for organizing (large) number of events.
- Recognized importance of R&D into fundamental physics & accelerator science at European level !

Beneficiaries



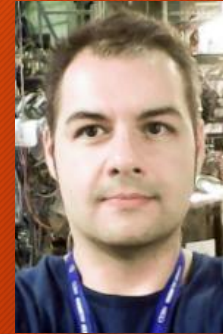
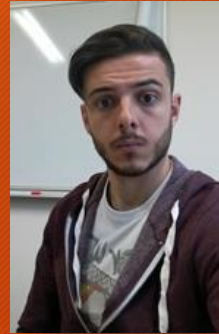
Partner Organizations



AARHUS UNIVERSITY

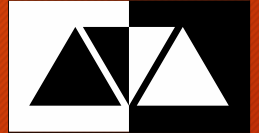


AVA Fellows



?

AVA Research



- Enhanced facility design
- New beam handling techniques

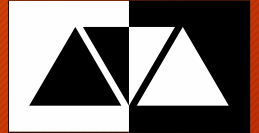


- Online diagnostics
- Improved detectors



- Experiments: Novel cooling schemes
- Spectroscopy on antihydrogen.

Training

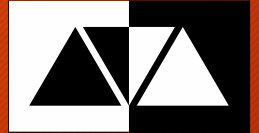


- Local training by host;
- Network-wide schools on antimatter research;
- Intra-network exchange of researchers;
- Secondments to partners from industry;
- Training in complimentary, careers and media skills



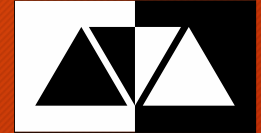
Motivation: *Ideal* Training.

Training - at each Host



- In accordance with national PhD regulations
- Provide trainees with broad skills base
- Expose to other sector
- Promote knowledge exchange and collaboration across the network
- 100% focus on research project

Researcher Skills Training



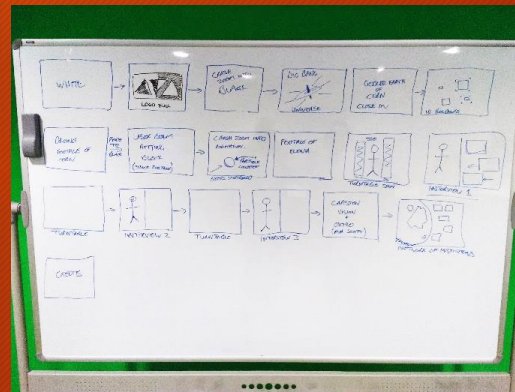
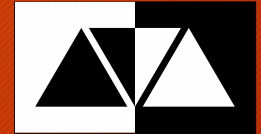
- Project-specific part
 - Presentation skills
 - Scientific writing
 - Project management
- Generic skills through outreach project
 - Team working
 - Proposal writing
 - Peer review
 - Working under (time) pressure



“I hadn't really thought of myself as a project manager until today!”



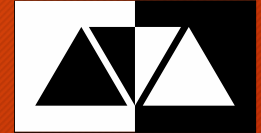
Media Skills Training



Watch the video!

YouTube

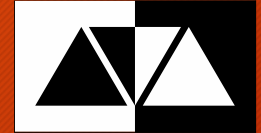
AVA Events



- International Schools on Antimatter Physics and Fundamental Symmetries, 25-29 June @ CERN;
- Topical Workshops on focused research topics - always across the different project Work Packages;
First one: 15-17 October @ CIVIDEC, Vienna;
- Outreach Symposium on 28 June 2019 to present project to wider public; Final conference in spring 2020;
- Events are open to all Fellows and wider community!



Project Web Site



URL: (<http://www.ava-project.eu>)

UNIVERSITY OF LIVERPOOL

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A-Z Sign In

AVA

- About us
- Network Structure
- Projects
- Vacancies
- News
- Events
- Dissemination
- Press
- Downloads
- Links
- Project T.E.A.M.
- Contact
- Ava - the girl behind the name

AVA

Accelerators Validating Antimatter physics


The goal of AVA is to enable further world-class research with low energy antiprotons

FIND OUT MORE

Facebook, Twitter, YouTube icons

Welcome to AVA


Accelerators Validating Antimatter physics (AVA) is the goal of this new network. This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 721559.



Our Network


We work with the leading research centres, universities and industry partners.

[Find out more](#)



Upcoming Events

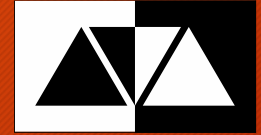
[International School on Low Energy Antimatter Physics](#)
25th - 29th June 2018, CERN, Switzerland - [Register now!](#)



QUASAR Group + CI



MIRROR Newsletter



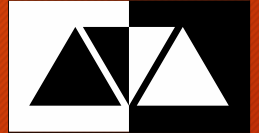
- Main communication channel of AVA
- Simply send me an email to subscribe!



Quarterly newsletter for the antimatter research community



Summary



- A major European initiative in antimatter research has just started;
- Three work packages address many interesting research challenges;
- There are many opportunities for getting involved.

Spread the word - participate - benefit