

# UK Research Office MSCA Doctoral Networks

7 June 2022

## MSCA Networks Driving Innovation in Researcher Training Prof Dr Carsten P Welsch



# Overview

- **Fellow R&D** – a driver for cutting-edge science and innovation
- **Training** – boosting skills and maximizing employability
- **Events** – reaching out to the wider scientific community (and beyond)

# MSCA Networks



- Beam Diagnostics 2008 - 2012
  - **21 Fellows, 32 partners** [www.liv.ac.uk/ditanet](http://www.liv.ac.uk/ditanet)
- Laser Applications 2011 - 2015
  - **19 Fellows, 38 Partners** [www.la3net.nu](http://www.la3net.nu)
- Accelerator Optimization 2011 - 2015
  - **23 Fellows, 35 Partners** [www.opac-project.eu](http://www.opac-project.eu)
- Medical Applications 2016 - 2020
  - **15 Fellows, 33 Partners** [www.oma-project.eu](http://www.oma-project.eu)
- Antimatter R&D 2017 - 2021
  - **16 Fellows, 35 Partners** [www.ava-project.eu](http://www.ava-project.eu)
- EuPRAXIA Plasma Accelerator 2022 -
  - **10/12 (?) Fellows, 19/23 (?) Partners**

# “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' Report 2014 (EC)

- Early Stage Researchers (**ESRs**) inadequately informed about career path outside academia
- Insufficient experience in industry/other sectors
- Only 1 in 10 **ESRs** received training in entrepreneurship or intellectual property rights during their PhD

# Evolution in Postgraduate training

- Build awareness of various career pathways and their high value
- International experience and collaborations



- Experience in different sectors
- Transferable skills
- Provide structured training

# Complementary skills training

- PhD project-specific part
  - Presentation skills
  - Scientific writing
  - Project management



- Generic skills through outreach project
  - Team working
  - Working under (time) pressure
  - Proposal writing
  - Peer review



*"I hadn't really thought of myself as a project manager until today!"*



Researcher training

Cross-sector training is key

GANIL Laser  
LABNET  
School 2012



Researcher training

Joining different communities





Exploring new opportunities

Spin-out company – international success



Scientific events

Accelerating innovation



International project representation

Network outcomes presented around the world



Public engagement

Fascinating the next generation

# Outreach



## EU-funded R&I projects

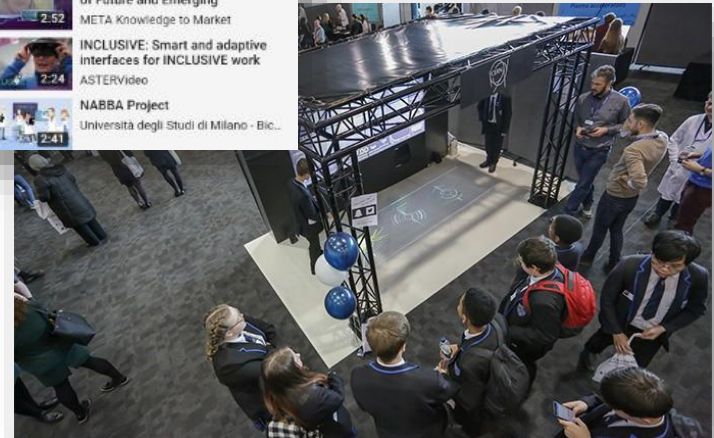
EU Science & Innovation - 1 / 301

1 AVA - Nature (anti)matters  
QUASAR Group  
2:45

2 FET2RIN - Supporting the take up  
of Future and Emerging  
META Knowledge to Market  
2:52

3 INCLUSIVE: Smart and adaptive  
interfaces for INCLUSIVE work  
ASTERVideo  
2:24

4 NABBA Project  
Università degli Studi di Milano - Bic...  
2:41





UNIVERSITY OF  
LIVERPOOL

# Project TEAM

Crucial support for the best science + training

# Summary

- MSCA doctoral networks offer fantastic opportunities for **collaborative research** and for driving innovation;
- **Fellows** from all around the world can be developed into future research leaders;
- **Training** allows to go significantly beyond established practice – be creative! Always put Fellows in the focus!
- MSCA **events** have huge visibility and significant impact on wider scientific community and general public.

**Get involved!**



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