

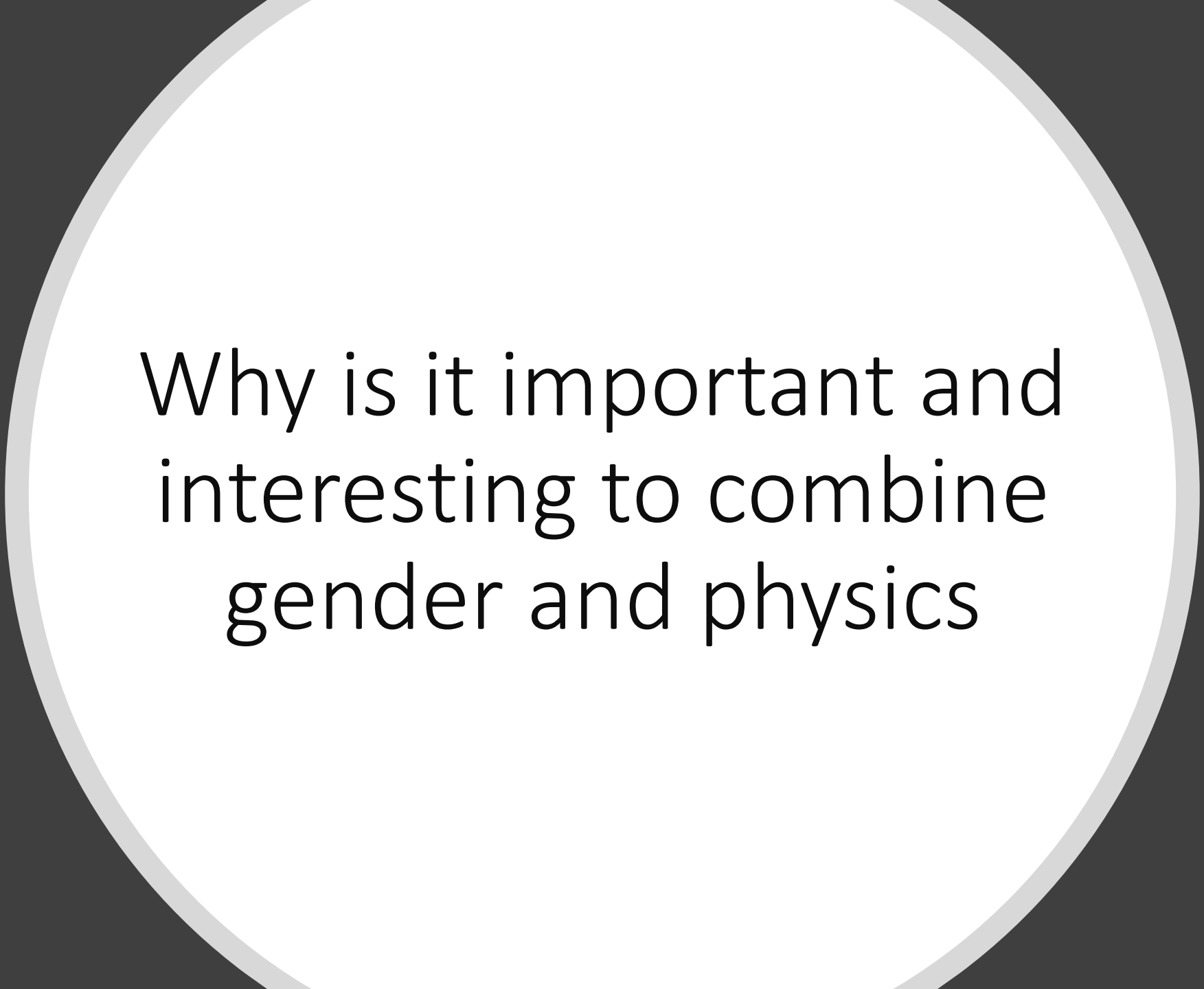
# The GENERA network

Promoting Gender, Diversity and  
Equal Opportunities in Physics

Tomas Brage

Professor of Physics

Lund University



Why is it important and  
interesting to combine  
gender and physics

# The Positivist Paradox in Physics:

## **Physics is considered to be objective**

– not affected by the sex or gender or ... of the people involved  
(researcher, teacher, student ...)

*... but ....*

## **Culture of Physics is affected by sex, gender, ...**

- Class-rooms, labs, history, board rooms are almost always dominated by white men

... seems like a **contradiction** ...





Why is it so hard?

# What we are up against ...

The Physicist looks out in the universe and wonders why there is only matter and no antimatter.

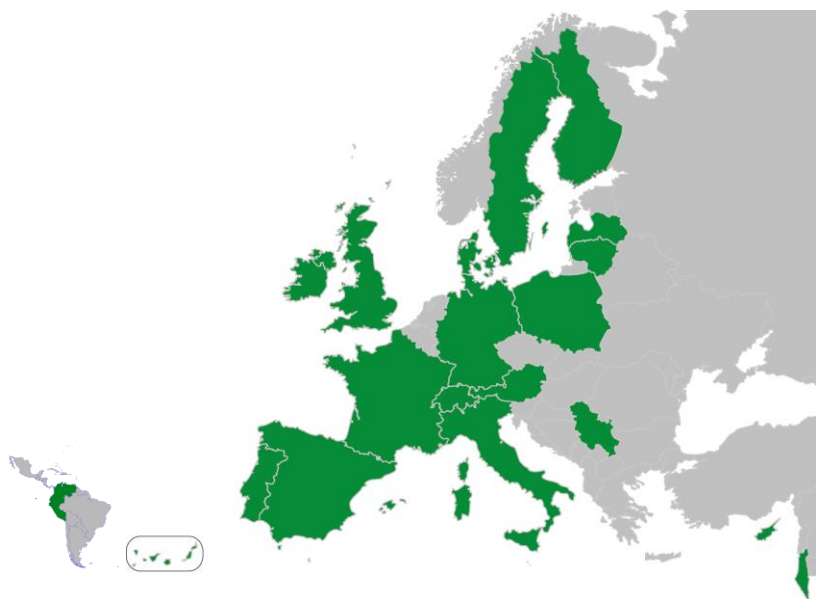
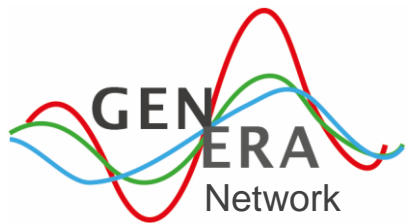
***Where did the antimatter go?***

Is one of the most prestigious questions in Physics and the **subject of thorough research.**

The Physicist looks out over the classroom or lab and notes that it is dominated by men.

***Where did the women and minorities go?***

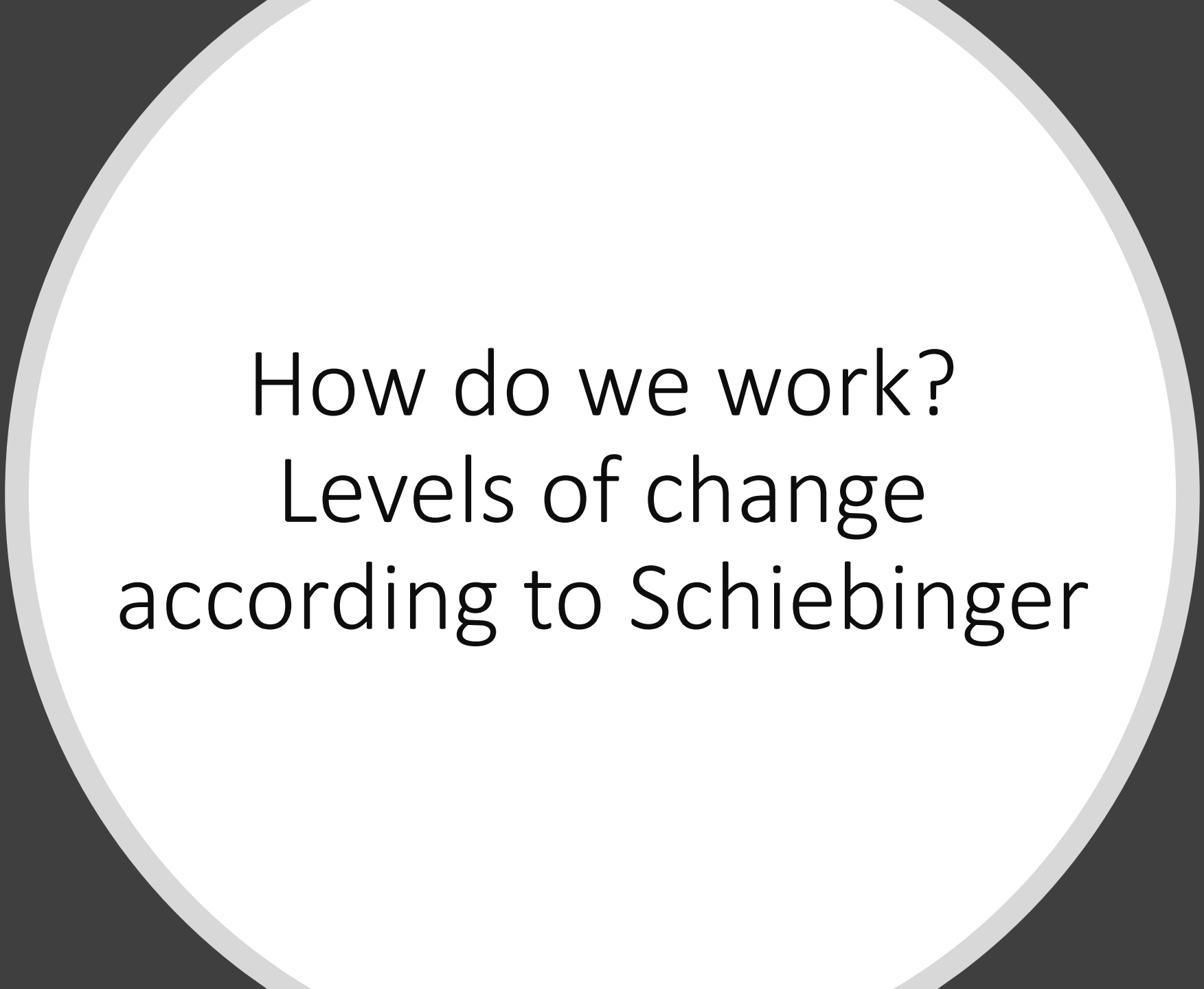
Is often a **non-question for Physicist** and sometimes answered **without scientific method.**



42 Members/Friends

# GENERA Network

- Founded end of August 2018
- Took over the heritage of the EU funded GENERA project (develop. GEPs in physics research organisations)
- Is based on a Memorandum of Understanding
- Is a network of physics research institutions
- Consists of Members and Friends (observers)
- Its vision is to support, coordinate and improve gender equality (policies) in physics research organisations in Europe and world-wide
- Involves physicists, social scientists and more
- Further information: <https://www.genera-network.eu>



How do we work?  
Levels of change  
according to Schiebinger

# ~~"Taxonomy"~~ of Change

*Londa Schiebinger, Stanford University*

1. Fix the numbers



2. Fix the women

Indicator

Trap!


3. Fix the institutions – Culture

4. Fix the knowledge – Subject

Focus!







Motivation:  
Required and  
Recommended in GEP  
by European  
Commission

# Mandatory parts in GEP

## PUBLIC DOCUMENT

- formal document signed by the top management,
- published on the institution's website and disseminated widely within the institution.

## DEDICATED RESOURCES

- Earmarked funding could be available for staff positions such as "Equality Officers" or "Gender Equality Teams".
- Organisations may reserve working hours of existing staff (academic, management, HR) for equality work.

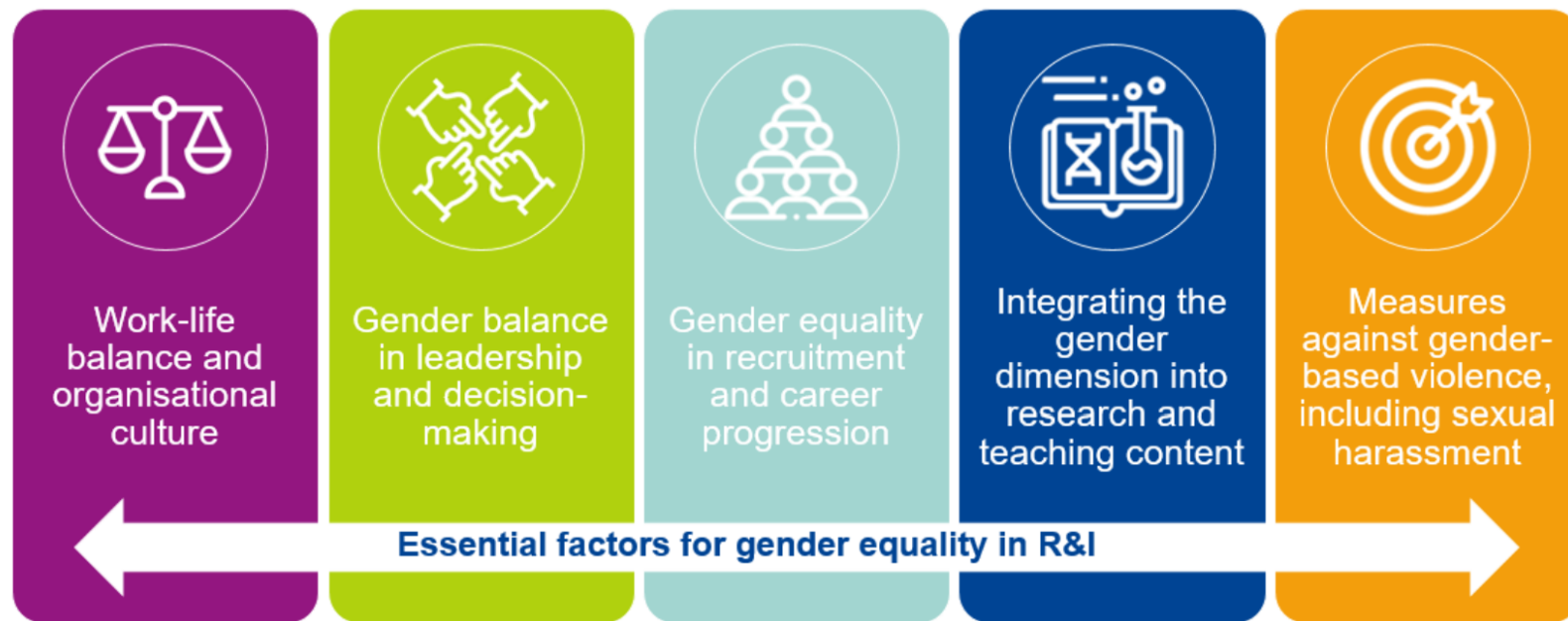
## DATA COLLECTION AND MONITORING

- sex/gender-disaggregated data collection across all staff categories.
- Annual reporting of gender imbalances across job categories & leadership positions.
- comprehensive evaluation approach.

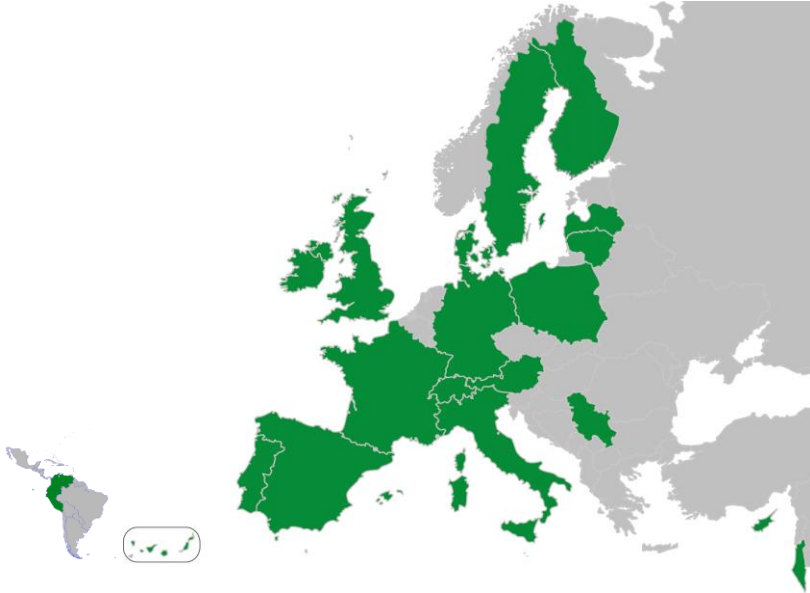
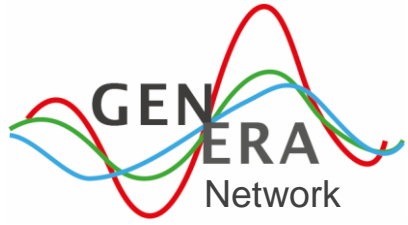
## TRAINING & CAPACITY BUILDING

- e.g. tackling unconscious gender bias among staff and decision-makers
- information and dissemination material, workshops,
- or working groups dedicated to specific topics.

# Recommended parts in GEP



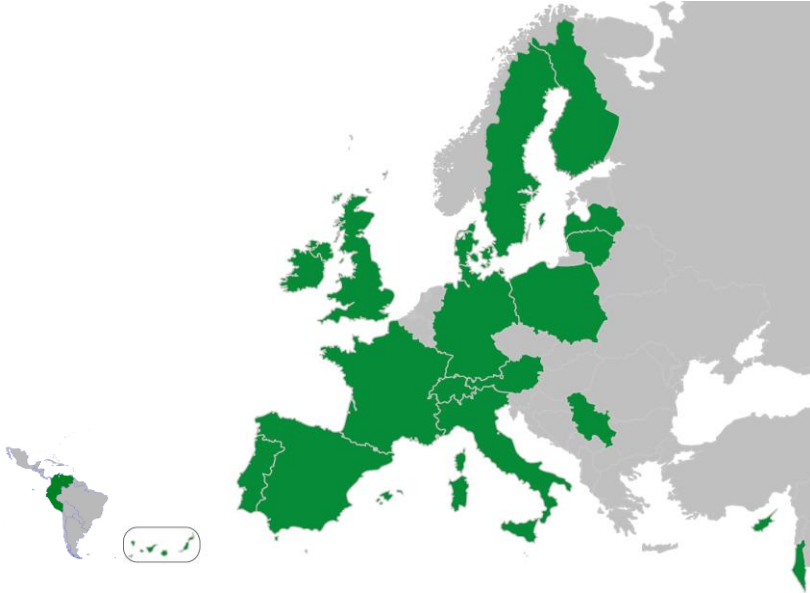
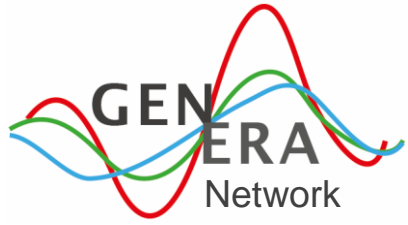
Source: How to prepare a successful proposal in Horizon Europe: Horizontal Aspects, presentation by Pepin, A., European Commission, 21 April 2021, Icons - © Flaticon



42 Members/Friends

# GENERA Network

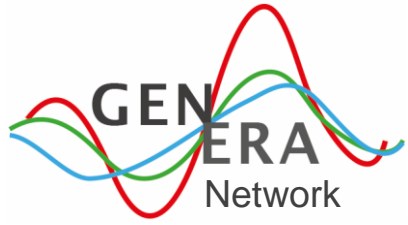
- Organized as a Community of Practice with well structured activities
  - **Monthly online meetings**
  - **Annual working meetings and General Assembly meetings**
  - **5 GENERA Working Groups:**
    - data collection & analysis
    - strategy & vision
    - dissemination
    - career development
    - gender dimensions



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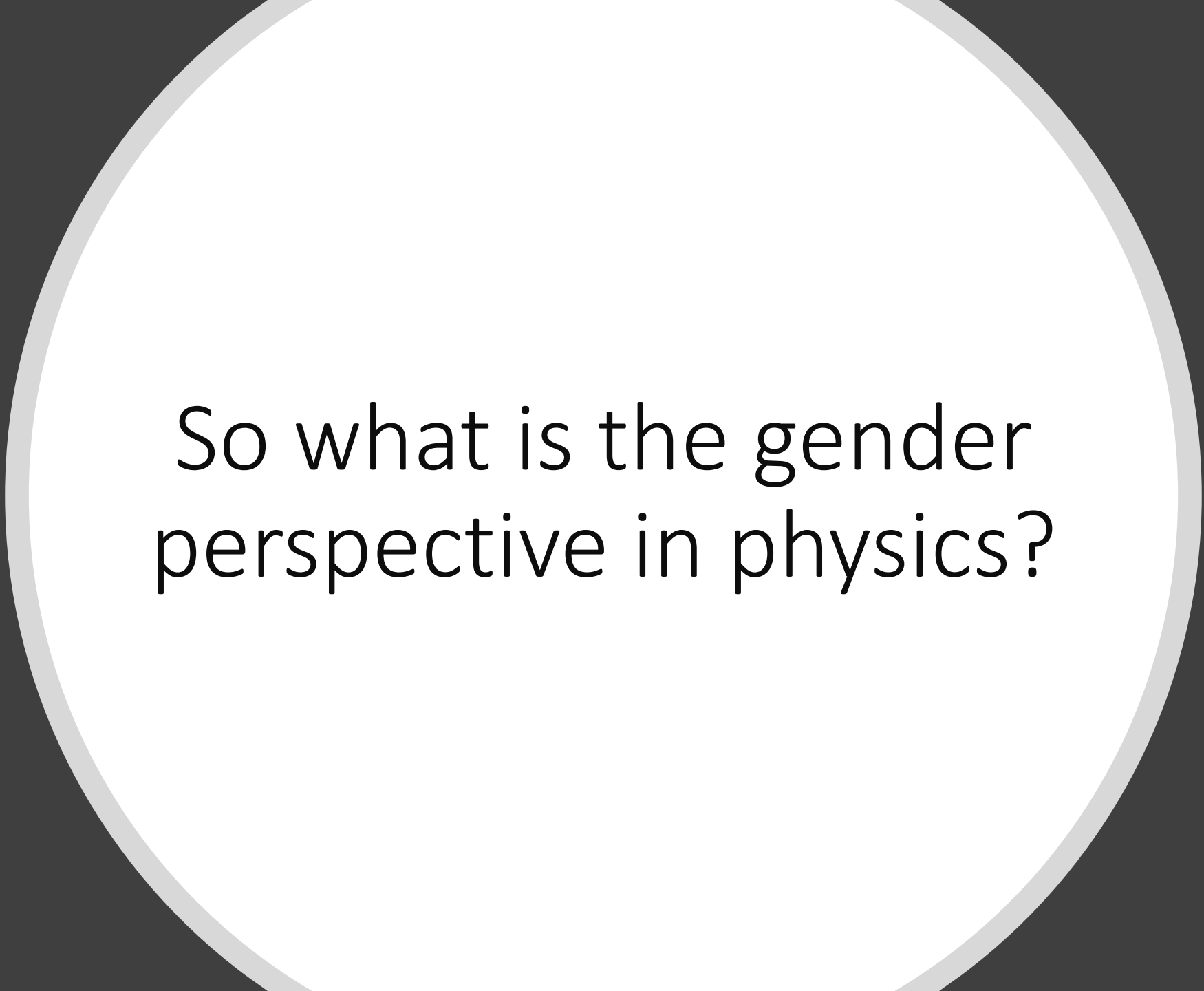


# WG Gender Dimension



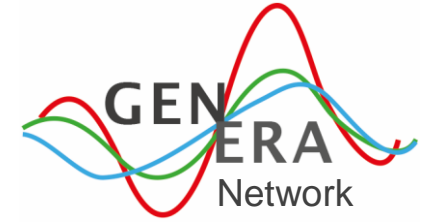
Focus on engendering research and teaching – gender perspective or content, gender and knowledge production and learning.

... but also working to understand and counteract resistance.



So what is the gender  
perspective in physics?

# Sometimes an obvious gender/sex perspective



Sometimes sex/gender is a characteristic of what we study – biophysics, medical physics, applied physics, ... etc

Or applications are clearly gendered

... but this dimension is often forgotten ...

<http://genderedinnovations.stanford.edu/>

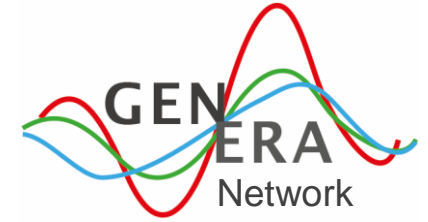


# Gender in Research and Innovations



<http://genderedinnovations.stanford.edu/>

# Always a Gender and Diversity Perspective



Resistance: "Electrons and Stars do not have e.g. gender" (The God Trick)

Physics is what Physicists do

i.e. what we teach – what we do research on – How we teach and do research

Applications, metaphors, examples, representation, ...

Culture and Subject are intertwined – who has the power to decide what should be researched and taught?

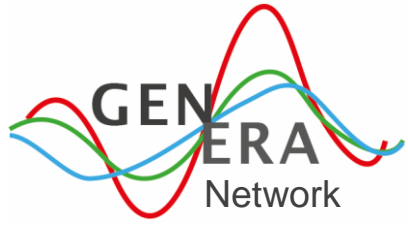
Resistance: "I only do curiosity-driven Science"

But who's curiosity decides what you do?

All Science is situated with limited sight (*Harraway 1988*)

# Example of useful methods from GRI

- Rethinking research priorities and outcomes
- Rethinking language and visual presentations



# Goals and outcomes



Long term: change Physics in our institutions, and beyond,  
to be more inclusive and therefore more relevant and excellent.

# Goals and outcomes

GENERA NETWORK CONFERENCE, LUND 22–23 JUNE 2022

## GeDiMIRT –

GENDER DIMENSION IN PHYSICS AND MATH-INTENSIVE  
RESEARCH AND TEACHING

### THE CONFERENCE

- Inspiring talks
- Best practices
- Knowledge exchange
- Discussions
- Mingle
- Dinner

### SPEAKERS

- Lucy Avraamidou
- Anna Danielsson
- Aleksandra Derra
- Helene Götschel
- Jeff Hearn
- Alexandra Kalev
- Ioana Latu
- Anne Pépin
- Londa Schiebinger
- Sigrid Schmitz

**Register now!**

<http://genera-network.eu/gedimirt>



# Goals and outcomes

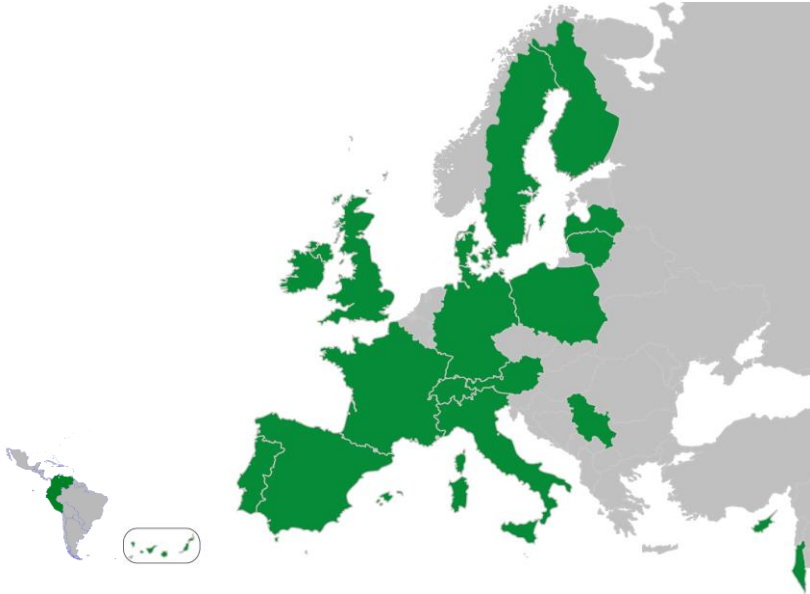
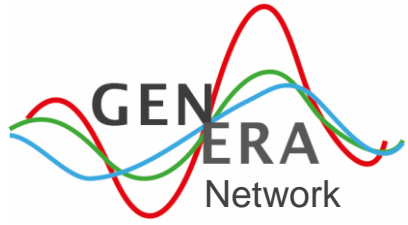
- Material for a workshop on gender dimension  
*Part on resistance already existing*  
*Part on content of physics ready within the year*  
*Part on culture of physics existing*
- Book chapter on gender mainstreaming higher education in physics.  
*Published within this year.*
- Material from conference: talks, interviews and conclusions.  
*Published within this year – open access.*
- Establish the GeDiMIRT conference as a regular event.  
*Bi- or tri-annual.*





## Examples of outcomes from GENERA

- Look for collaborations and funding opportunities together.
- Bibliography with resources  
*Repository and Journal Club started in 2020*
- Statistical data on gender balance etc.  
*collected and analysed regularly.*
- Producing a workshop on careers for young researchers.  
*Run as a pilot this year.*
- Best practices on e.g. mentoring and other equality work.  
*Presentations given monthly by members.*



42 Members/Friends

# GENERA Network

We invite all institutions to join as a member  
or a friend.

**Contact [genera@desy.de](mailto:genera@desy.de)**

**Welcome!**

**.. and thank you for your attention!**