

the Train

Integration of the sex and gender dimension in life sciences research

Trainer



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Recognized Researcher

Day 1 - Wednesday, June 28, 2023 | 13h - 18h

- 13:00-14:00 Welcome lunch
- 14:00-14:30 Icebreaker and Introduction to the Question Board
- 14:30-15:45 Sex and Gender Concepts
- 15:45-16:15 Coffee break
- 16:15-17:30 Storyboarding
- 17:30-18:00 Individual Reflection and Preparation to Day 2
- 20:00 Course dinner (El Jardí de l'Abadessa [c/ de l'Abadessa Olzet, 26](#))



Day 2 - Thursday, June 29, 2023 | 9:00h - 14:00h

- 9:00-10:00 Individual Reflection
- 10:00-12:30 Training Plan Proposal Ideation with Coffee break (11:00-11:30 coffee break)
- 12:30-13:00 Back to the Question Board
- 13:00-14:00 Closing lunch

Handbook



Editors: Davide Cirillo (BSC), Mónica Cano Abadía (BBMRI-ERIC)

Content creators: Mónica Cano Abadía, Melanie Goisauf, Kaya Akyüz (BBMRI-ERIC), Sarah Morgan (EATRIS), María Flores, Othmane Hayoun Mya, Iria Pose, Fatemeh Baghdadi, Gonzalo Parra, Claire Furtick (BSC)

Case studies

- Definitions of 'sex' and 'gender'
- Beyond binary classifications
- Sex and gender in the postgenomic era
- Sex and gender dimension in single cell multiomics
- Integrating a gender-and sex-sensitive dimension into pharmaceuticals
- Integrating the sex and gender dimension into social impact of technology
- ...

Implementation guidelines

- Communication
- Leading interactive / discussion sessions
- Assessing / evaluating learning

Day 1

Icebreaker &
Introduction to
the *Question*
Board

Definitions of sex and gender

Sex and Gender Concepts

FACTORS THAT DETERMINE SEX

The Gender Spectrum

A transgender woman is a person who was assigned male at birth based on her anatomy but who identifies as a woman.

A cisgender woman is a person who was assigned female at birth based on her anatomy and who also identifies as a woman.

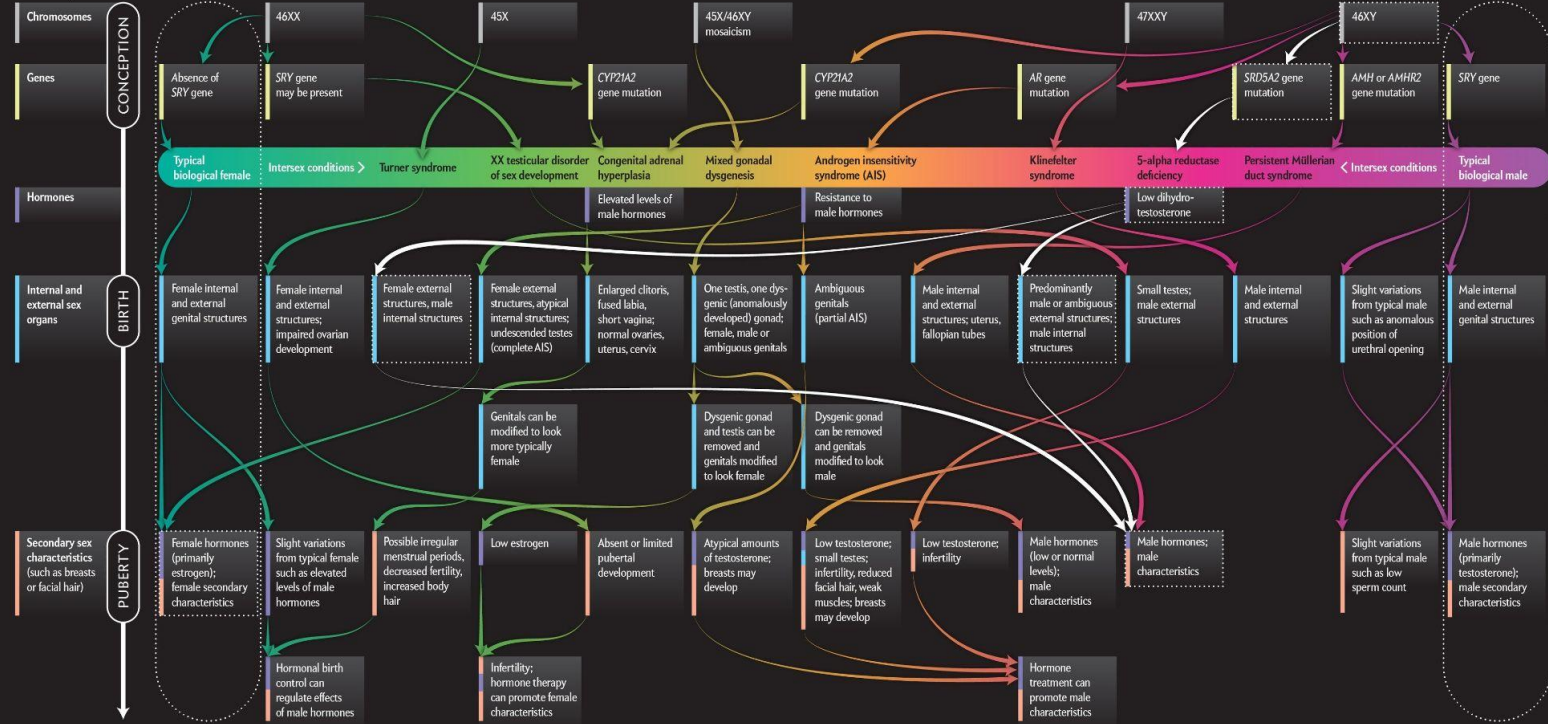
A nonbinary person is someone who identifies as neither completely female nor completely male. Such an individual may identify with both genders or neither gender, or they may be gender fluid, meaning their gender fluctuates between female and male.

A transgender man is a person who was assigned female at birth based on his anatomy but who identifies as a man.

A cisgender man is a person who was assigned male at birth based on his anatomy and who also identifies as a man.

Sexuality refers to an individual's sexual orientation or to the kind of person to whom they are attracted. Sexuality is also a spectrum but is separate from both sex and gender.

5-alpha reductase deficiency is an intersex condition that can follow multiple pathways throughout development. Affected individuals have a chromosomal makeup of 46XY, like a typical biological male, but a genetic mutation causes a deficiency of the hormone dihydrotestosterone. Patients' external anatomy can vary, so an individual might be assigned to either sex at birth, but at puberty a surge of testosterone promotes male characteristics. As a result, patients who are raised as girls often end up identifying as male.



The Gender, Sex, and Sexual Orientation (GSSO) ontology

<https://www.ebi.ac.uk/ols4/ontologies/gssso>

SEX

Sex refers to a set of **biological attributes** in humans and animals. It is primarily associated with physical and physiological features **including chromosomes, gene expression, hormone levels and function, and reproductive/sexual anatomy**. Sex is usually categorised as female or male but **there is variation in the biological attributes** that comprise sex and how those attributes are expressed.

CIHR Institute of Gender & Health. What Is Gender? What Is Sex? 2020. Available online: <https://cihr-irsc.gc.ca/e/48642.html>

GENDER

Gender refers to the **socially constructed** roles, behaviours, expressions and identities **of girls, women, boys, men, and gender diverse people**. It influences how people perceive themselves and each other, how they act and interact, and the distribution of power and resources in society. Gender identity is **not confined to a binary (girl/woman, boy/man)** nor is it static; it exists along a **continuum** and can **change over time**. There is **considerable diversity** in how individuals and groups understand, experience and express gender through the roles they take on, the expectations placed on them, relations with others and the **complex ways** that gender is **institutionalised** in society.

CIHR Institute of Gender & Health. What Is Gender? What Is Sex? 2020. Available online: <https://cihr-irsc.gc.ca/e/48642.html>

Storyboarding

*A day in the life of a PhD student
in Life Sciences*

1. At a conference on human genetics



source: unsplash.com

Presenter: “To investigate the genetic basis for sexual orientation, we performed a genome-wide association study, discarding individuals with unmatched biological and self-identified sex.”

PhD student: "Did you exclude transgender, intersex, and other groups within the queer community?"

Presenter: “We hope future research will address this limitation. Biobank participants gave broad consent for health-related research purposes.”

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*Binary normative
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*Questioning
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Limited understanding of the complexity of the subject matter

Binary normative assumptions

Concern for inclusivity

Pathologization of sexual orientation

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Excluding standard practises in science

Inappropriate terminology

Questioning background assumptions

Shifting social responsibility onto others

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Article | [Open Access](#) | [Published: 04 August 2020](#)

Moving back to the future of big data-driven research: reflecting on the social in genomics

[Melanie Goisau](#) , [Kaya Akyüz](#)  & [Gillian M. Martin](#)

[Humanities and Social Sciences Communications](#) **7**, Article number: 55 (2020) | [Cite this article](#)

2. At a European consortium meeting

Expert 1: “Our cancer database reports metadata such as sex to distinguish between men and women’s images.”

Expert 2: “Good. The Commission is obsessing over gender lately.”

PhD student: “I’m confused. Are the metadata standardized?”

Expert 1: “Let’s not overcomplicate this with unnecessary synonyms and stick to male and female categories.”

PhD student: “What about a hormonally-treated trans person's cancer images?”



source: unsplash.com

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Dismissing their ideas

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Dismissing their ideas

Importance of inclusion in health

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Binary sex categories

Avoid negative impact on human lives

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[Alison M. Berner](#) 

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3. Presenting results to a postdoc

Postdoc: “Nice results, Eve! By the way, did you consider the impact of sex in your analysis?”

PhD student: "No, I didn't have access to that information. Maybe we can contact the authors of the study."

Postdoc: “Hmm, that rarely works. Can we search for external sources to find insights on factors related to sex?”

PhD student: “I've never done this before. How would we determine which sources are relevant?”

Postdoc: “Look, don't worry about it. I'll ask Adam for help. He has more experience.”



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Seek training

Gender discrimination

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Not provide training

To learn more:



**INCORPORATING THE
SEX AND GENDER
PERSPECTIVE IN
RESEARCH CONTENT:
A TOOLKIT**

**Community
Hipàtia**



Individual Reflection
&
Preparation to Day 2

Day 2

Individual Reflection

Training Plan Proposal Ideation

Back to the *Question*
Board

Next steps

the Train

Integration of the sex and gender dimension in life sciences research

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BBMRI-ERIC <https://www.bbmri-eric.eu/elsi>

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