

# Sex and Gender Bias in Artificial Intelligence and Health: Building a Future for Equality

## Our challenge

Enable an open discussion, exchange knowledge and analyze the social, ethical and technological challenges of gender and sex bias in health, personalized medicine and artificial intelligence (AI) research.

## Our goal

Provide information and scientific evidence on the importance of sex and gender bias in science and more specifically in the fields of health, personalized medicine and artificial intelligence (AI). The ultimate goal is to apply innovative solutions to reduce bias.

SELECTED PROJECT PALAU MACAYA CALL

Coorganized with: Barcelona Supercomputing Center (BSC)



#GenderBias #GenderAI #GenderDataScience  
#GenderEquality #PalauMacaya

From Tuesday  
March 16th to  
Wednesday June  
16th 2021

Pg. de Sant Joan, 108  
Barcelona



"la Caixa" Foundation

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## Our work dynamics

The Bioinfo4Women Programme of the Barcelona Supercomputing Center's Life Sciences Department will coordinate the series. The series is structured on two main themes: (1) personalized medicine and (2) artificial intelligence. Each theme will include different activities: seminar, working group and participatory workshop. The goal of these activities is to allow and encourage discussion between scientists and prominent representatives from different fields (business, media, NGOs, research institutes and public administration, among others) and to raise awareness about sex and gender bias in health and about the risk of amplifying and perpetuating bias through artificial intelligence.

## ACTIVITIES

The program is subject to the current sanitary situation and may change to accommodate new restrictions.

OPENING CONFERENCE | MARCH 16TH, FROM 18 TO 20H CET

### Sex and gender bias in artificial intelligence and health

The opening conference will define the goals of the series by enabling an open discussion with international experts to analyze the implications sex and gender bias has on the development of new technologies in health and personalized medicine, with a particular focus on the risk of amplifying and perpetuating bias through artificial intelligence.

**ONSITE (REGISTRATION REQUIRED) AND ONLINE**  
Check the event on our website.

BY:

Presenters: **María José Rementería & Nataly Buslón**, Social Link Analytics, Bioinfo4women Programme, Barcelona Supercomputing Center.

**Alfonso Valencia**, ICREA Research Professor, Life Sciences Department Director at the Barcelona Supercomputing Center (BSC) and Director of the Spanish National Bioinformatics Institute (INB-ISCI). **Antonella Santuccioni**, Co-founder and CEO of the Women's Brain Project (WBP), and Head of Stakeholder Engagement at Biogen.

SEMINAR | APRIL 14TH, FROM 10 TO 13H CET

### Sex and Gender perspective in the future of personalized Medicine

Personalized Medicine proposes a new paradigm by which therapeutic decisions are made considering the individual characteristics of patients. Scientific evidence proves that there are individual differences in the response to drugs due to not only genetic factors, but also intrinsic factors, such as biological sex and gender. Biomedical research needs to include sex and gender differences to predict variability in therapeutic response, avoid side effects or reduced drug efficacy, and determine disease prognosis in all professional health activities, from the experimental and technological development to ethics and law.

**ONSITE (REGISTRATION REQUIRED)**

BY:

**Luis Rocha**, Professor and director of the NSF-NRT Complex Networks and Systems graduate Program in Informatics, member of the Indiana University Network Science Institute, and core faculty of the Cognitive Science Program at Indiana University, Bloomington, USA. **Carne Valls**, Politician and physician specialised in endocrinology with a gender perspective. Director of the "Women, Health and Quality of Life" program at the Center for Health Analysis and Programs CAPS. **Silvina Catuara Solarz**, Ph.D., Project evaluator and a mentor of start-ups at EIT Health, Member of the WHO Digital Health Roster of Experts, Lead in Technology Application for Neuroscience and Mental Health, Women's Brain Project  
Moderator: **Davide Cirillo**, PostDoctoral Researcher at the Computational Biologist group, Barcelona Supercomputing Center (BSC).

WORKING GROUP | APRIL 14TH, FROM 14 TO 18H CET

## Building a Future for Equality: Challenges and strategies in Personalized Medicine

Analysis of the application of sex and gender perspective to scientific research in health and personalized medicine. We will think about tools and strategies to improve the current bias in health using innovative tools to reduce bias and improve the population's quality of life.

CLOSED MEETING

SEMINAR | MAY 11TH, FROM 10 TO 13 H CET

## Social, Ethical and Technical challenges of sex and gender bias in AI and healthcare

AI bias is present in algorithms in different ways, from experimental design, the data collected or used to train the algorithm, and finally the interpretation of the outcomes. As a result, it can create unfair decisions, generating discrimination or stigmatization towards certain groups of people. Part of this bias is inherited from historic or socially-constructed biases. AI can help identify and reduce these biases, but it can also enlarge the problem of inclusion and diversity if they are not embedded throughout the entire AI's system life cycle. An open and multidisciplinary dialogue is needed to include a gender perspective to the design and deployment of AI in healthcare in order to promote fairness and trustworthiness to society.

ONSITE (REGISTRATION REQUIRED)

BY:

**Karina Gibert**, Full Professor at UPC, coFounder and member of the board at IDEAI-UPC, Vicepresident of Equity and Ethics at COEINF. **Itziar de Lecuona**, Associate Professor at School of Medicine (UB) & Assistant Director Bioethics and Law Observatory-UNESCO Chair in Bioethics. **Paula Petrone**, Founder and Managing Director at Phenobyte  
Moderator: **Atia Cortés**, PostDoctoral Researcher at the Social Link Analytics unit, Barcelona Supercomputing Center (BSC),

WORKING GROUP | MAY 11TH, FROM 14 TO 18 H CET

## Building a Future for Equality: Route map towards an inclusive AI for a better healthcare system

Scientific analysis of sex and gender bias in new technologies and artificial intelligence and the risk of amplifying and consolidating bias. We will work on proposals to define strategies and possible solutions tackling the problem from a diverse and inclusive point of view on social, ethical and technological challenges.

CLOSED MEETING

WORKING GROUP | MAY 12TH, FROM 16 TO 20 H

## Women in Science International Network: Health and Artificial Intelligence

Debate with different organizations and social initiatives working on sex and gender bias in health and artificial intelligence to define specific actions to generate and maintain an international collaborative support network.

CLOSED MEETING

## Actions to overcome current sex and gender bias in science

Final debate with international experts on (1) sex and gender innovations in science, health and medicine, engineering and environment, and definitions of (2) how to use data and computational methods to work towards racial and gender equality. This is the closing conference of the series, and will include a presentation of the results and a proposal of measures to be applied in the future for the benefit of society as a whole.

**ONSITE (REGISTRATION REQUIRED) AND ONLINE**  
Check the event on our website.

BY:

Presenters: **María José Rementería & Nataly Buslón.**

Social Link Analytics, Bioinfo4women Programme, Barcelona Supercomputing Center.

Josep Maria Martorell Rodon, Associate Director at the Barcelona Supercomputing Center (BSC). **Londa Schiebinger**, John L. Hinds Professor of History of Science in the History Department at Stanford University and Director of the EU/US Gendered Innovations in Science, Health & Medicine, Engineering, and Environment Project. **Catherine D'Ignazio**, Assistant Professor of Urban Science and Planning in the Department of Urban Studies and Planning at MIT. Director of the Data + Feminism Lab.

