

# Open Source for Global and Sustainable Health

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Universidad de Las Palmas de Gran Canaria



**GNU Health Conference 2022**

**Las Palmas de Gran Canaria, 26 de mayo de 2022**

# ¿Qué son los proyectos Interreg MACbioIDI?

# MACbioIDi

**El proyecto MACbioIdi dio comienzo en 2017 y a lo largo de estos tres años son muchas las actividades que se han realizado, los países, instituciones, y profesionales implicados.**

**Este documento muestra un compendio de todo ello, pero para todos los que hemos participado en el, las relaciones establecidas y los demás aspectos intangibles cuentan más que los números.**



**MAC 2014-2020**  
Cooperación Territorial

**Interreg**

Fondo Europeo de Desarrollo Regional



EUROPEAN UNION





Cruz Roja

## RED CROSS HUMANITARIAN LOGISTICS CENTRE IN THE CANARY ISLANDS

6,780 m<sup>2</sup>

330,972 KG

Aid managed from the  
Canary Islands, 2009-2015

Capacity of the aid platform:

2,500 PEOPLE IN 48h.

One of the five humanitarian  
logistic centers

For its vicinity and connectivity, the Canary Islands have become a logistics base for Red Cross, United Nations World Food Programme and USAID operations with Africa.



## UN WORLD FOOD PROGRAMME LOGISTICS CENTRE

One of the 5 logistics centers  
of this organisation is located  
at the Canary Islands



USAID  
FROM THE AMERICAN PEOPLE

USAID

9,400 m<sup>2</sup>

storage area for the  
Food for Peace Programme

30,000 TN

Aid managed from the  
Canary Islands, 2009-2015

One of the six overseas  
warehouses





# Temática: I+D en tecnologías de imagen médica

Alineados con los objetivos del desarrollo sostenible

Estratégicamente orientados a África Occidental y a aprovechar la relevancia geopolítica de Canarias

MACbioDI: 2017 – 2020

MACbioIDI2: 2022 -2023

¿Y qué pasó durante 2021?  
(retraso en financiación)

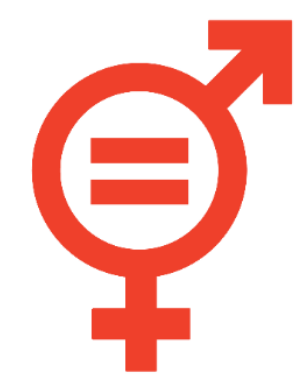
Promovimos EBATINCA SL



**3 GOOD HEALTH AND WELL-BEING**



**5 GENDER EQUALITY**



**4 QUALITY EDUCATION**



**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**



**La sostenibilidad requiere nuevos modelos de negocio**



# MACbioIDi en Cifras

**+100**

Nº de impactos en comunicación

**+12**

Nº de proyectos desarrollados

Nº de publicaciones científicas

**32**

Nº de acciones en igualdad de género

**+15**

**4**

Nº de proyectos ERASMUS

**16**

Nº de estancias de alumnos/profesores

Nº de instituciones implicadas

**31**

Nº voluntarios INTERREG IVY

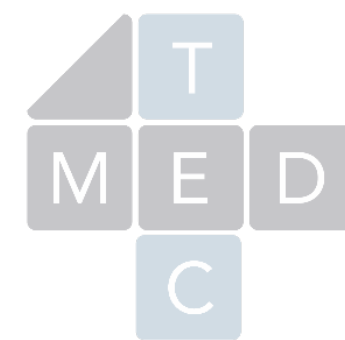
**2**

**+40**

Nº de estudiantes implicados

**12**

Nº de países implicados



Tecnología Médica  
para el Desarrollo Sostenible



MAC 2014-2020  
Cooperación Territorial

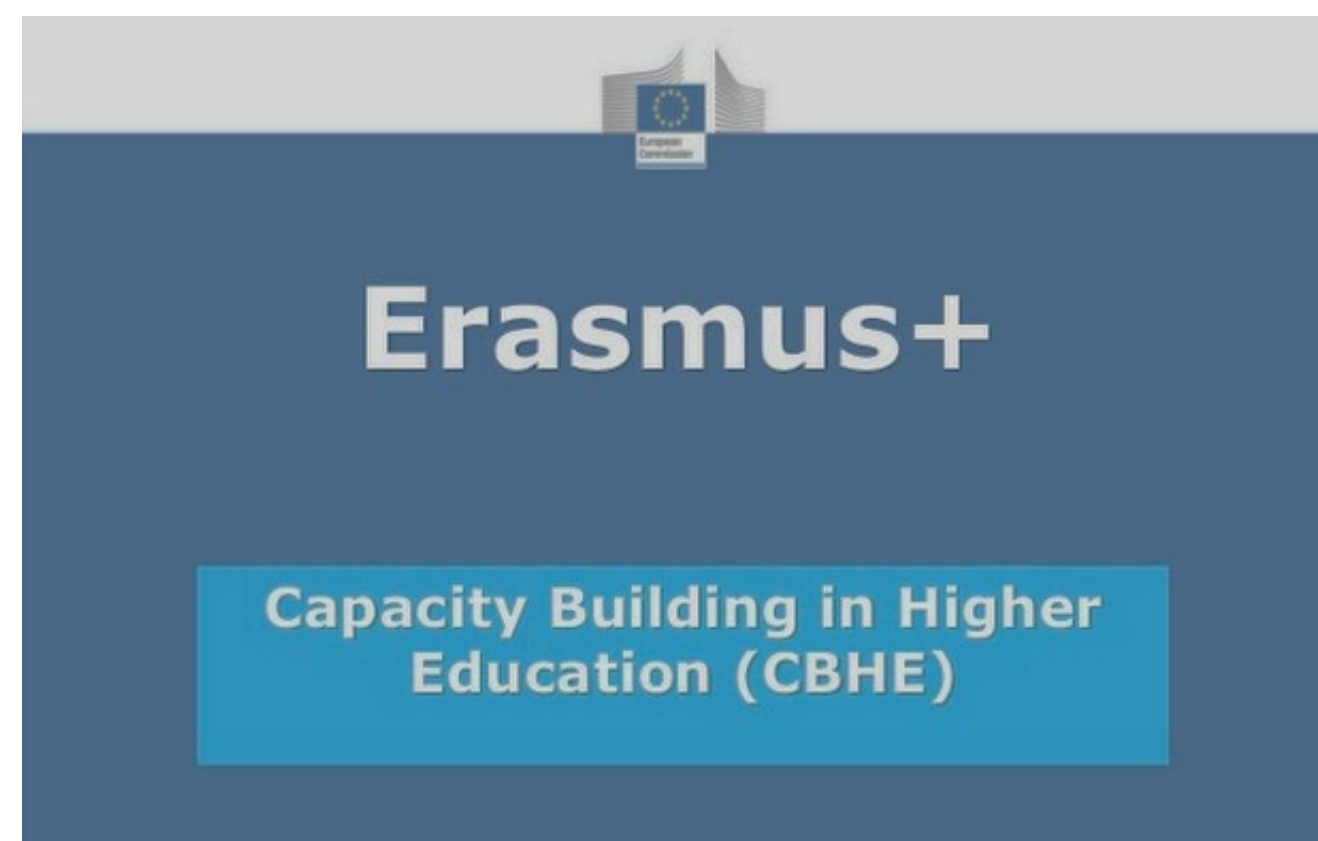
Interreg

Fondo Europeo de Desarrollo Regional



# Proyectos ERASMUS

**4 Proyectos ERASMUS presentados:**  
**2 Erasmus + Capacity Building (Marruecos)**  
**2 Erasmus + KA 107 (Argentina / Marruecos)**





# Estudiantes Implicados

**+ de 400 estudiantes en diferentes países:**





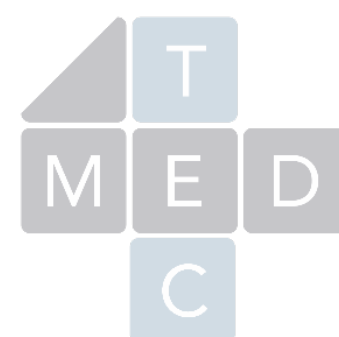
# Voluntarios *Interreg* Volunteer Youth



**Néstor Medina Medina**



**Abel Arencibia Sagols**



Tecnología Médica  
para el Desarrollo Sostenible



# Países Implicados





# Testimonio gráfico



Fondo Europeo de Desarrollo Regional





Lo que van a ver es el trabajo de **MUCHAS** personas. Conocerán a algunas en esta presentación.

Asmaa Skareb fue la Project Manager de MACbioIdi, persona clave sin la que esto no hubiera sido realidad. Ahora es la directora de internacionalización de nuestro spin-off, EBATINCA SL



Mayo 2017



El Embajador de Senegal en España, General Mamadou Sow, nos visita, **Julio 2017**





**¿Pero qué hacemos?**

**I+D+i en Tecnologías Médicas  
sostenibles y**

**Formación de Formadores,**

**Con colaboradores internacionales**

**Y el nodo central en Las Palmas de GC**



## Así trabajamos



Incluso nos divertimos: tarde de comida  
y música senegalesa





# Brillantes contribuciones de relevancia internacional



<https://www.openanatomy.org/about.html>

## International outreach

The most exciting current outreach opportunity for Open Anatomy has come from an SPL collaboration with the European Union's INTERREG MACbiolDI project within the Medical Technology for Sustainable Development initiative in the Canary Islands headed by Dr. Juan Ruiz Alzola at the University of Las Palmas de Gran Canaria. This project is designed bring together partners from the Canary Islands in Spain, Madeira, Azores, Cape Verde, Mauritania, Senegal, mainland Spain, and the United States to advance cooperative medical expertise, training, and technology development.

The distributed nature of this medical training collaboration is a natural application for web-based technologies such as OABrowser. Neuroscientist and colleague Dr. Nikos Makris has used OABrowser to teach neuroanatomy over Skype to physicians in Senegal and Mauritania. We are working closely with the team in Las Palmas and their African partners, including teachers from Mozambique, to customize our tools and technologies for African classrooms.

## A global community

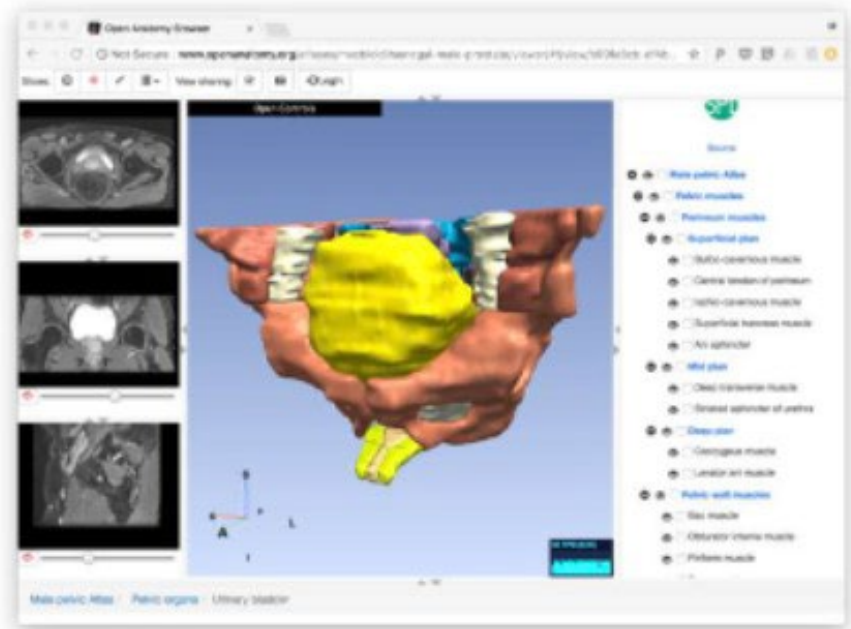
In June of 2018, teams of developers, physicians and scientists from the 3D Slicer community came from all over the world to the Canary Islands as part of a twice-a-year workshop. For the first time, they met with their peers from Sub-Saharan Africa to find new ways to partner to develop open medical technologies for Africa.

During the week-long meeting, Dr Babacar Diao from the Medical Training University from Senegal used 3D Slicer to develop an atlas of the pelvis of one of his patients. He presented his work to a diplomatic meetings with Senegal's Ambassador to Spain and the Senegal Surgeon General.

Dr. Diao's pelvic atlas will soon become part of Open Anatomy Project, demonstrating that medical expertise is not limited to a particular continent or country. Similarly, the Las Palmas team and their partners will work to translate existing anatomy atlases into French, Portuguese, and other languages for the benefit of an entire world of non-English speakers.



Babacar Diao MD, Chief Physician at the Military Medical School in Dakar, Senegal.



An pelvic atlas of a Senegal patient created by Dr. Diao at the 28th 3D Slicer Project Week in Las Palmas de Gran Canaria, Canary Islands.



These early collaborations demonstrate the viability and potential of the basic tenets of the Open Anatomy Project.



## La actual Embajadora de Senegal en España, Mariame Sy, nos visita, marzo 2019





# ¿Y ahora? MACbioldi2 y OpenDx28



## Jornadas de Formación de Formadores, marzo 2022



Mesa redonda de igualdad de género y salud materno neonatal



Taller de entrenamiento del parto



Dra. Sokhna Ba, Jefa del Servicio de Radiología del Hospital Fann







Recientemente, en nuestro laboratorio:

Dra. Marie Ndyae, Senegal

Dra. Mónica García, ULPGC

Septy Mohamed El Moktar, Mauritania

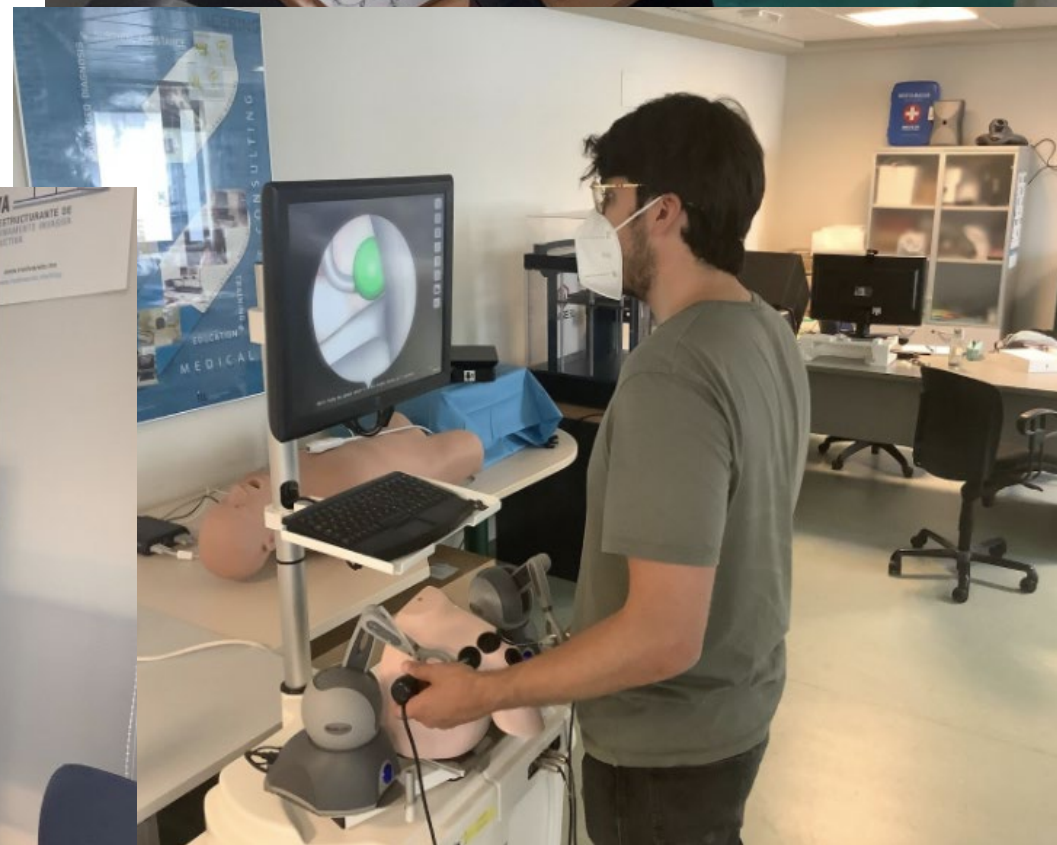
María Rosa Rodríguez Luque, estudiante de TFG de ULPGC

No sale en la foto, Dra. Badia Ait Ahmed, Marruecos

Las Dras. Badia Ait Ahmed y Marie Ndyae cuentan con apoyo de la Fundación Mujeres x África



# Simulation Center





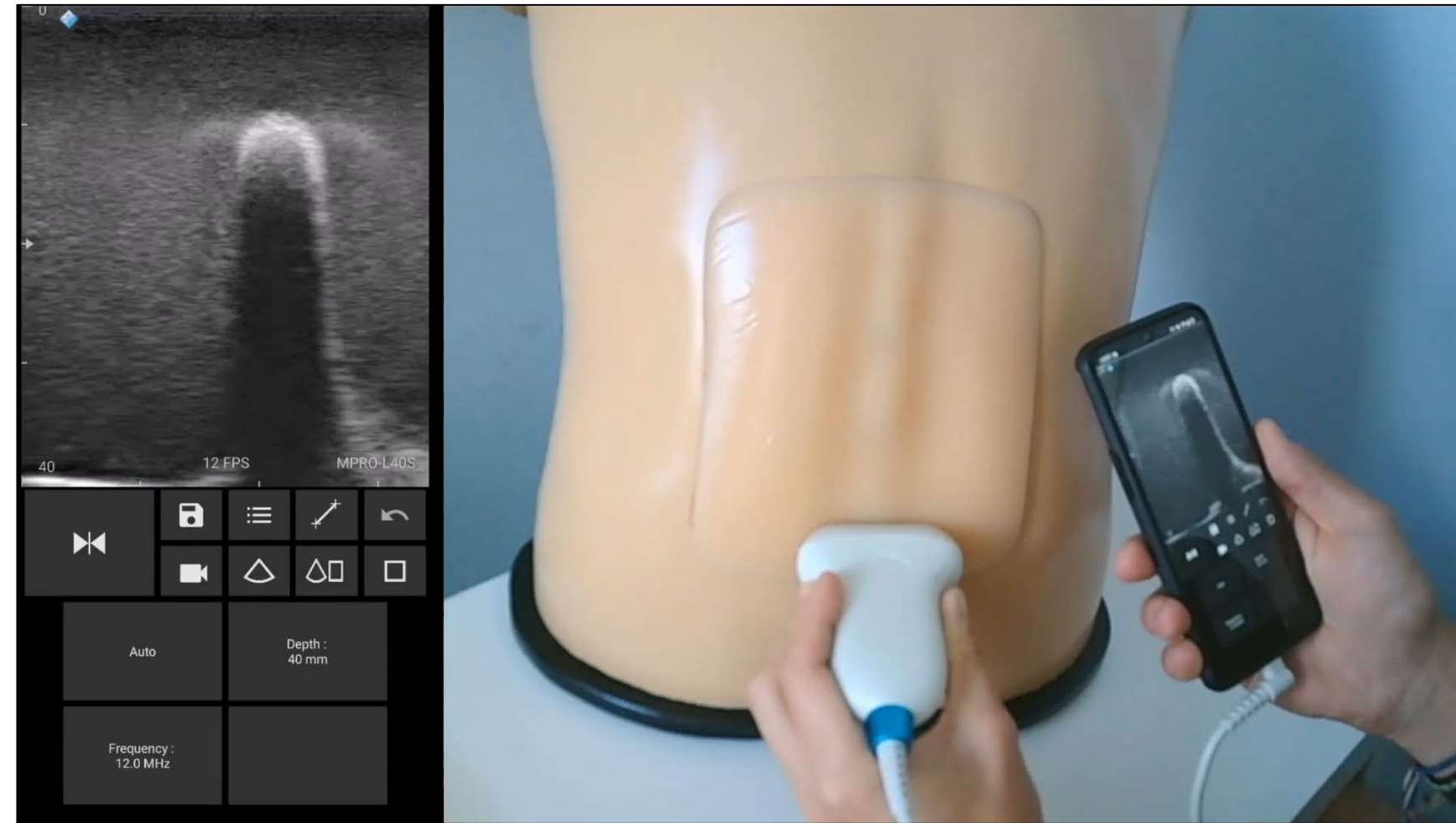
# ENTRENAMIENTO PARA PARTO

- Parto vag





# EBATINCA – Empresa spin off de la universidad



# Next Activities

- **Train the trainers program (2023)**
  - Medical image computing (using 3D Slicer, for SW developers) (12 ECTS)
  - Medical simulation (for healthcare providers and support engineers)
  - Health information systems for engineers (3 ECTS): this includes cloud computing, HIS (with GNU Health), RIS/PACS (with Orthanc) and DHIS2
  - Health information systems for end users (3 ECTS)
  - Health economics (4.5 ECTS)
  - Obstetrics
  - (...)





# January 30 – Febr 3 2023

## Las Palmas GC

- **Presential edition of the Train the Trainers program**
  - Everyone is invited to contribute
  - Major interest in GNU Healkth, Orthan and Slicer
  - Deployment on (private) clouds – reference implementation at Teide HPC
- **NAMIC Project Week**
- **[https://projectweek.na-mic.org/PW38\\_2023\\_GranCanaria/](https://projectweek.na-mic.org/PW38_2023_GranCanaria/)**





**ULPGC**  
**Universidad de**  
**Las Palmas de**  
**Gran Canaria**