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Maestras de ceremonia

Itxaso Etxabarria, Euskampus fundazioa

Katixa Peigneguy, Euskampus fundazioa

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10:00 – 10:40 / Mesa - Mahaia - Table ronde Covid 19

Joanne Pagèze, UB

Moderadora

Marie-Line Andreola, UB

Rodoldhe Thiebaud, UB

Sara de la Rica, UPV/EHU

Joseba Laka, Tecnalia

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10:40 – 11:15 / Euskampus Resilience COVID 19

Introducción programa

Olivier Pujolar, UB

Ricardo Diez, DIPC

SARSense

Thomas Schäfer, UPV/EHU

Covid-AR

Itziar Alkorta, UPV/EHU

EISCOVID-19

Maité Morteruel, UPV/EHU

BOTA-ROBOTA

Damien Sallé, Tecnalia

URJES

Pilar Nicolás, UPV/EHU

INFECTON

Marek Grzelczac, DIPC

CORTAR

Marc Landry, UB

RX-AI-Covid

Arantza Bereciartua, Tecnalia

COnfVID19

Borja Calvo, UPV/EHU

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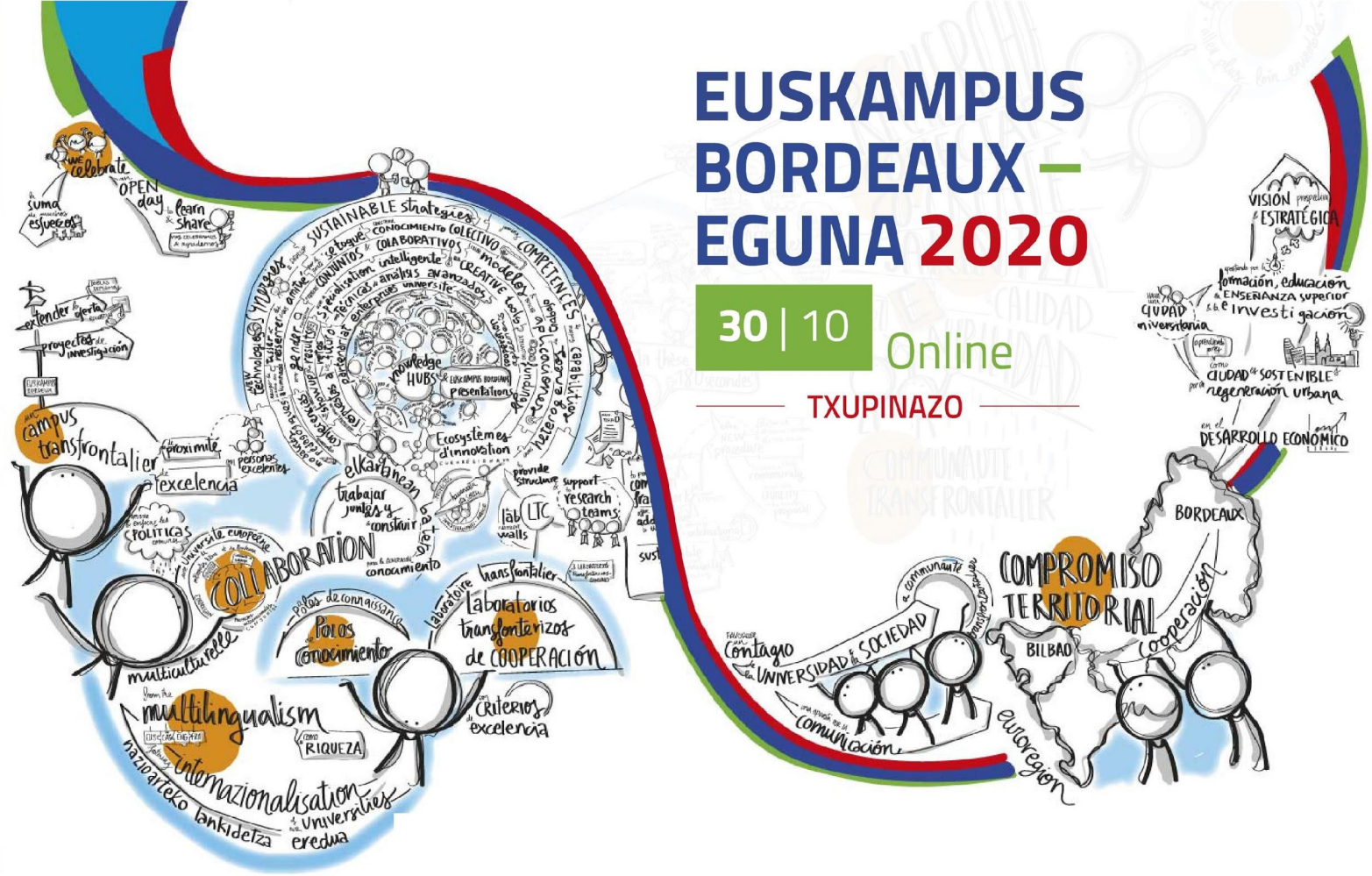

Fundamental insights into binding mechanisms for the rational design of sensors for the detection of SARS-CoV-2

SARSense

Thomas Schäfer

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SARSense - université de BORDEAUX · UPV EHU · DIPC

The Team - multidisciplinary

université de BORDEAUX

Carmelo Di Primo

Biophysics

POLYMAT · eman ta zabal zazu · UPV EHU

Thomas Schäfer

Chemical Engineering

eman ta zabal zazu · UPV EHU

Fernando Cossío

Organic Chemistry

DIPC

Juan José Cadenas

Particle Physics

DIPC

Iván Rivilla

Organic Chemistry

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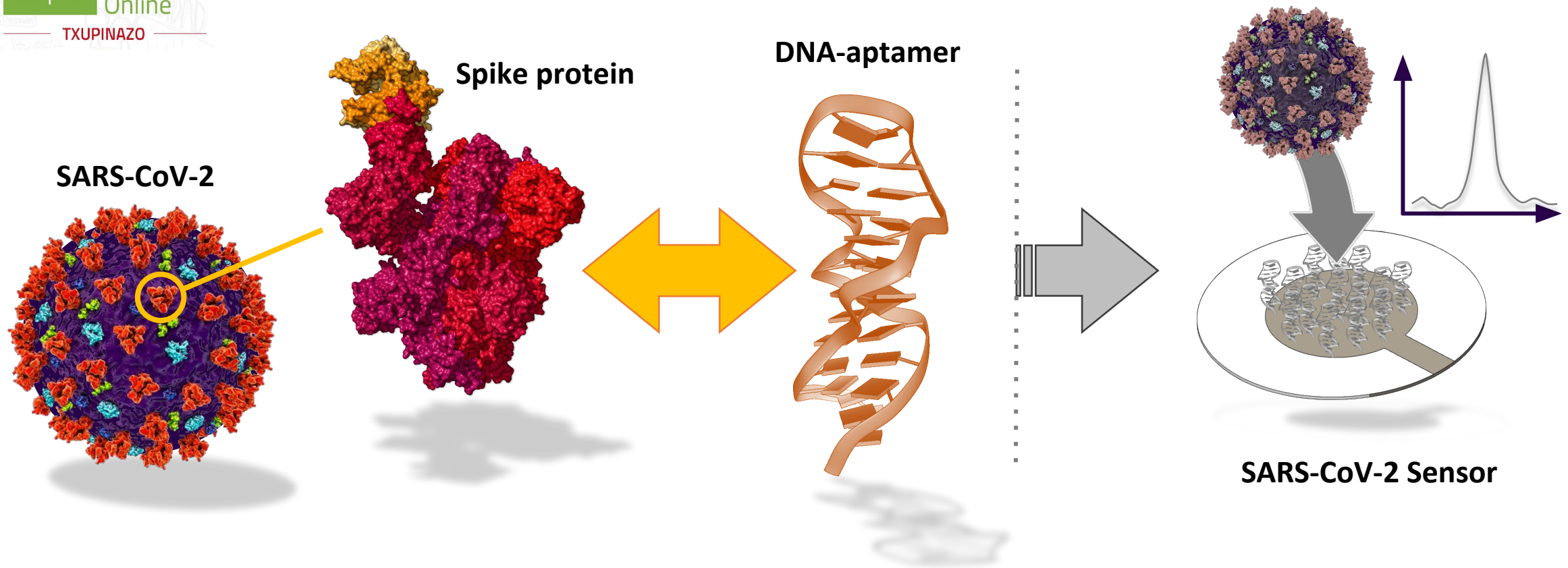
SARSense /Main objective



- Elucidate binding interactions: spike protein and DNA-aptamer

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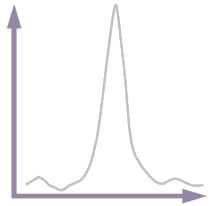
SARSense/ Impact expected



- **Critical** insight into feasibility of using DNA-aptamers as **specific** receptors for detection of SARS-CoV-2
- Blueprint of a DNA-aptamer based sensor for **reliable** virus detection in general
- Strengthen long-standing interaction in the field between université de BORDEAUX and POLYMAT UPV EHU

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Fundamental insights into binding mechanisms for the rational design of Sensors for the detection of SARS-CoV-2

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Carmelo Di Primo

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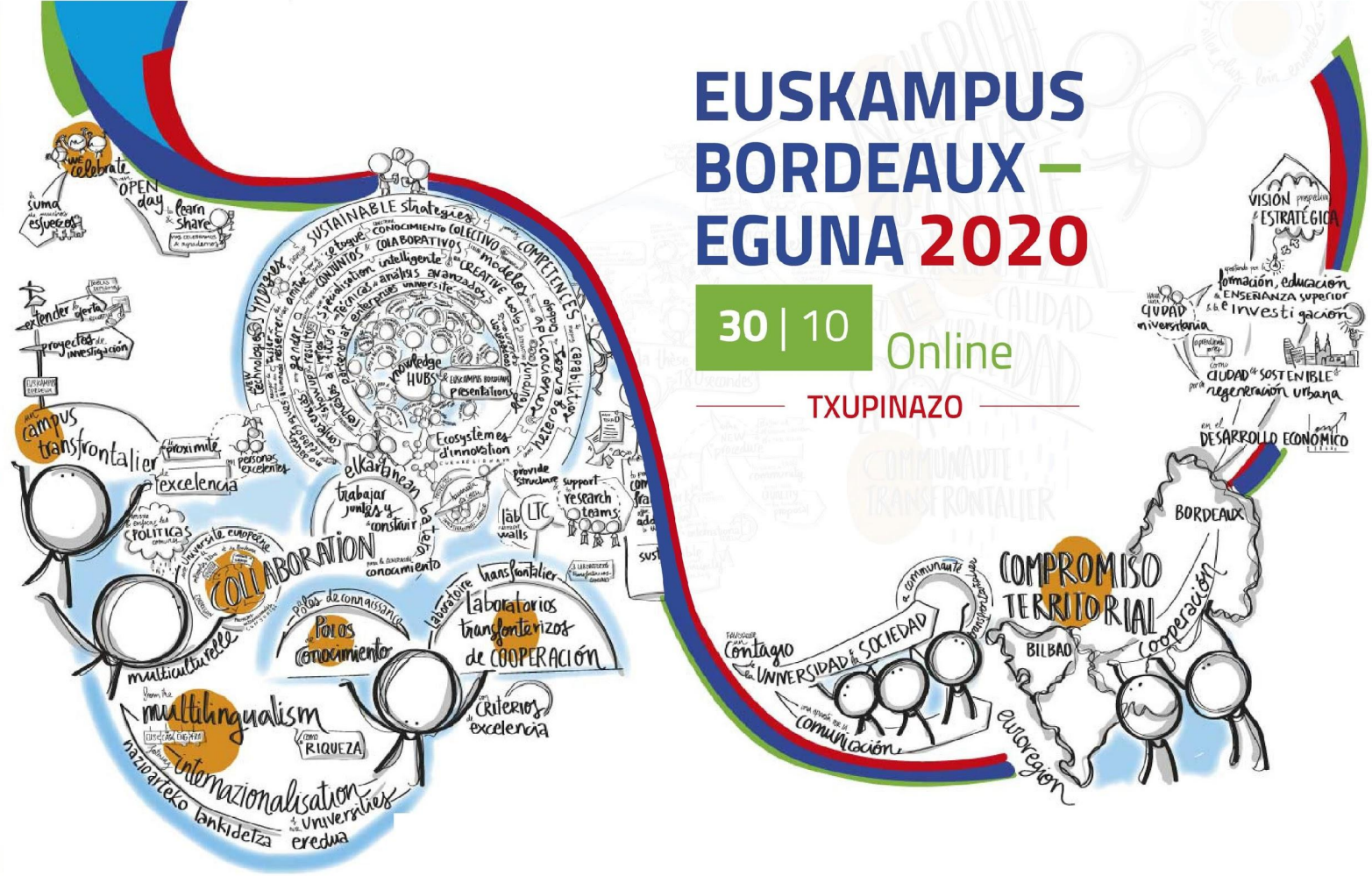

EXACERBATION OF THE ANTIBIOTIC RESISTANCE HEALTH CRISIS ASSOCIATED WITH THE COVID-19 PANDEMIC

COVID-AR

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EXACERBATION OF THE ANTIBIOTIC RESISTANCE HEALTH CRISIS ASSOCIATED WITH THE COVID-19 PANDEMIC

eman ta zabal zazu

Universidad del País Vasco
Euskal Herriko Unibertsitatea

Dr. Itziar Alkorta Calvo, Dr. Néstor Etxebarria, Dr. Ailette Prieto, Dr. Lucía Gallego

ENTITIES INVOLVED

université de BORDEAUX

Dr. Marie-Helene Devier, Dr. Hélène Budzinski

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Dr. Karmele Herranz-Pascual

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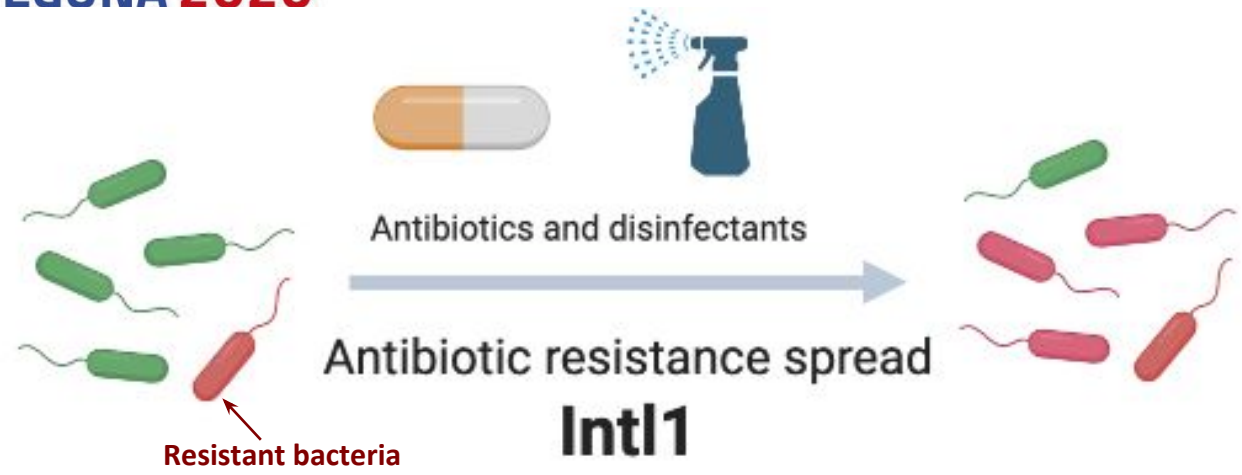
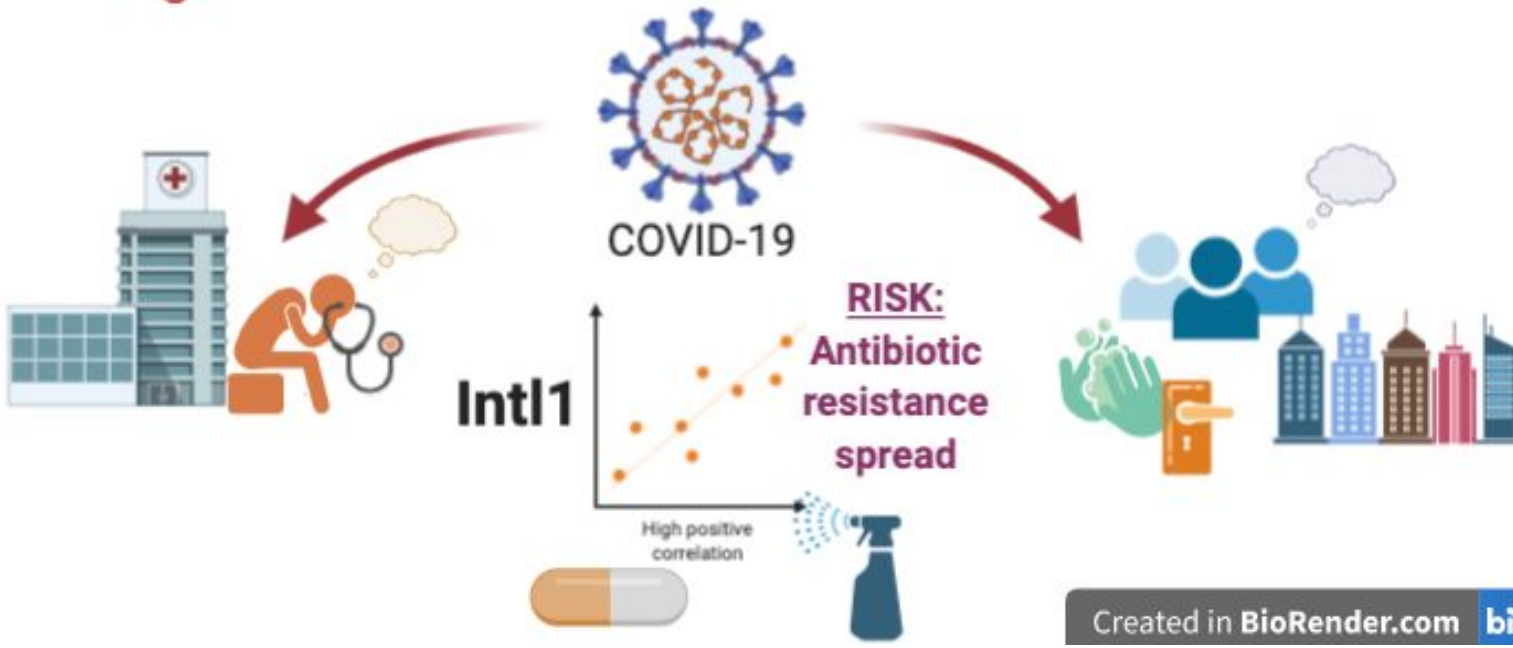


Objectives

1. Class 1 integrons (Intl1) as indicators of antibiotic and disinfectant contamination and antibiotic resistance spread risk.

2. Incidence of behaviour changes caused by COVID-19 in this problem.



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EXACERBATION OF THE ANTIBIOTIC RESISTANCE HEALTH CRISIS ASSOCIATED WITH THE COVID-19 PANDEMIC

Impact

1. Direct impact on human and environmental health by decision making on antibiotic use.

2. Possibility to assess antibiotic contamination and antibiotic resistance spread RISK with a simple, rapid and inexpensive measure Class 1 integrons (IntI1).

3. Contribution to a more rational use of antibiotics and disinfectants taking into account their potential risks and the (psycho)social determinants of their use.

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Project

EXACERBATION OF THE ANTIBIOTIC RESISTANCE HEALTH CRISIS ASSOCIATED WITH THE COVID-19 PANDEMIC

ENVIRONMENTAL ANTIBIOTIC RESISTANCE JOINT RESEARCH LABORATORY

http://www.jrl-environmental-antibiotic-resistance.eus/

Thank you!
Merci!
Eskerrik asko!
¡Gracias!

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itzi.alkorta@ehu.eus

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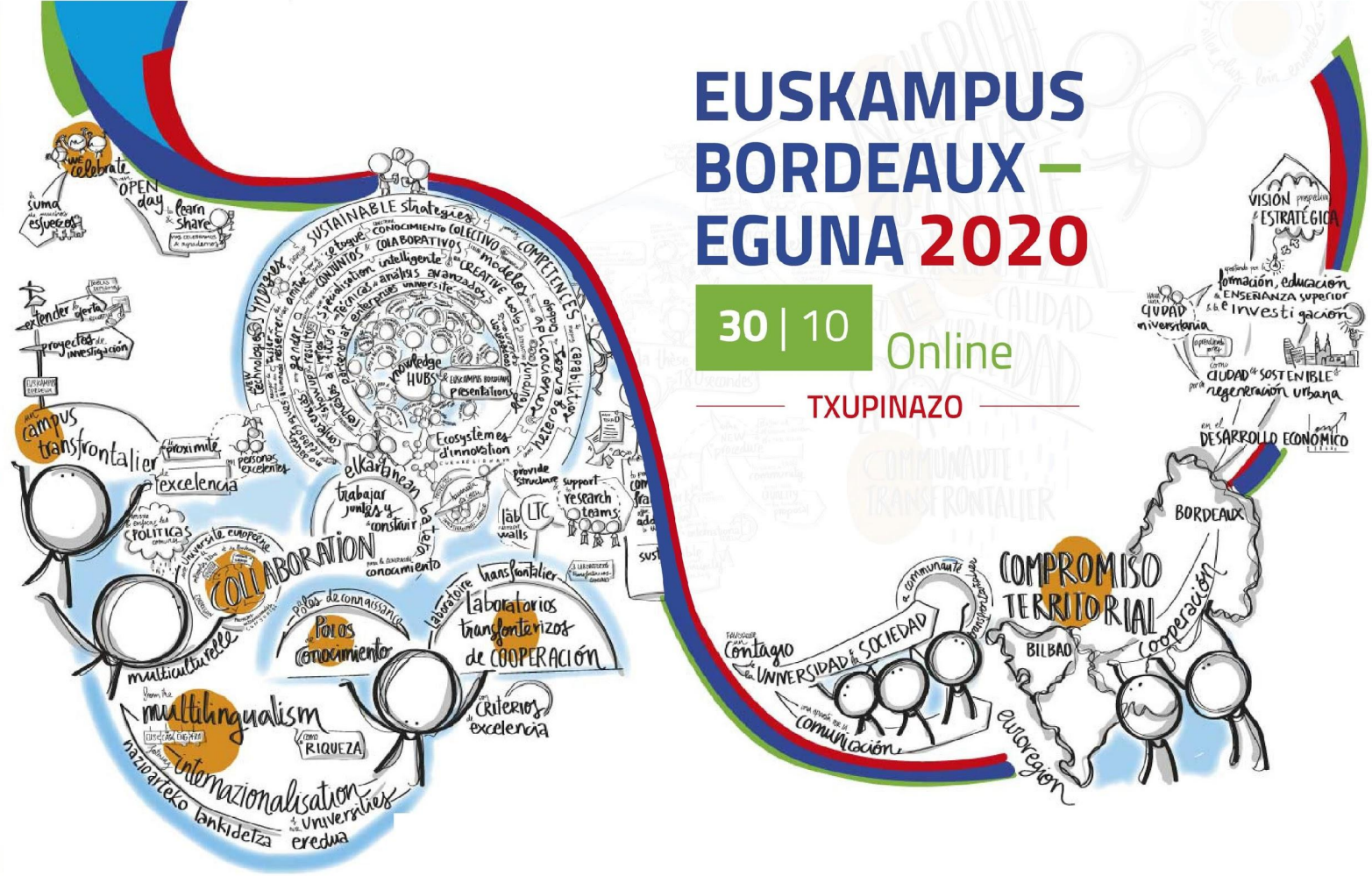

EISCOVID-19.

Health impact assessment of COVID-19 management and control measures in the Basque Country and New Aquitaine

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EISCOVID-19 / Entities involved

University of the Basque Country (UPV/EHU)

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Universidad del País Vasco
Euskal Herriko Unibertsitatea

University of Bourdeaux

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EISCOVID-19 / Main objectives

General objective

To carry out a **health impact assessment** with an **equity focus** of the **lockdown, de-escalation and "new normality"** measures delivered to contain the expansion of the COVID-19 in the **Basque Country** and the **New Aquitaine** regions

Specific objectives

1. To identify and characterize the **impacts (+ or -) of these measures** on the health of the population and on the social determinants of health in the two regions
2. To identify and characterize the **distribution of these impacts** within the population
3. To develop **recommendations** aimed at **maximizing the positive impacts and minimizing the negative** ones of future decision making related to the Covid-19 crisis in both regions

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EISCOVID-19 / Results and impact expected

- The measures adopted to respond to the Covid crisis have had a **major impact on the health and the quality of life of** populations
- The negative impacts have mainly concentrated on **women** and on **socio-economically disadvantaged groups** (precarious employment & housing, low income, social discrimination and exclusion…), **increasing prevailing health inequalities**
- A **better knowledge of the health effects** of these measures **and their inequal distribution** within the population could guide future decisions as the pandemic evolves and in foreseeable scenarios of new emerging epidemics
- Resulting recommendations will be aimed at **incorporating the social determinants of health model** in the design and implementation of these new measures and this, **with a particular emphasis on disadvantaged groups**

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Zaindu

Take care (of one another)

Prendre soin (les uns des autres)

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EISCOVID-19. Health impact assessment of COVID-19 management and control measures in the Basque Country and New Aquitaine

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Disinfection robot with door-opening capabilities

BOTA-ROBOTA

TECNALIA: Damien SALLÉ

UPV/EHU: Basilio SIERRA

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BOTA-ROBOTA / Entities involved

TECNALIA

tecnalia Inspiring Business

I. ROBOT AUTONOMY AS A KEY TO FLEXIBILITY

- Mobile manipulators, Indoor and outdoor Autonomous Navigation
- Collaborative robotics and Workspace monitoring
- 3D Vision parts detection and localization for robot guiding
- Impedance, Adaptance and force control of robots
- Skills based programming: re-use, easy programming and Plug&Produce
- Automatic path planning
- Dual-arm manipulation
- Learning and IA for robotics

II. ROBOTS FOR INDUSTRIAL PROCESSES

- Complex end-effectors and robotic cells for advanced automation
- Aeronautics processes: drilling, fastening, composite layup, composite 3D preforms
- Metallic 3D printing with robots
- Cable-based robots and High Speed Pick'n'Place PKM

III. ROBOTS AS A PRODUCT FOR THE INDUSTRY

- In TECNALIA, we imagine, design, prototype and patent new architectures of robots that we can later on transfer under license to robot manufacturers.

The University of the Basque Country (UPV/EHU)

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Euskal Herriko Unibertsitatea
The University of the Basque Country

ROBOTIKA & SISTEMA AUTONOMOEN IKERKETA TALDEA

I. Robotics And Autonomous Systems

- Intelligent Robotics
- Social Robotics
- Machine Learning
- Computer Vision
- Data Analysis
- Deep Learning
- Autonomous Systems
- Natural Language Processing

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BOTA-ROBOTA /Main objectives

Allow Covid-fighter robots to open doors and thus facilitate their deployment in non-prepared buildings

- Covid is also transmitted by contact on contaminated surfaces.
- To disinfect buildings like offices, factories, hospitals etc, robot manufacturers have proposed various products to deploy UV light or chemical sprays.
- However these robots are based on industrial AGVs that require the buildings to also be automated: motorized doors, communication devices for the elevators etc…
- So the Covid-fighters robots cannot yet be deployed in “any” building without humans open the doors…
- BOTA-ROBOTA aims at demonstrating that adding a robot arm on those robots could help them detect and open doors, freeing them from the human operators

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BOTA-ROBOTA / Impact expected

Allow covid-fighter robots to achieve their best efficiency

Covid-fighters robots are tools to achieve a massive deployment of surfaces disinfection.
They are complements to human personnel: they allow to remove humans from dangerous operations (UV-C, chemicals…).
They also propose a cost-efficient massive deployment of the disinfection: they increase the frequency and efficiency of the treatment.

But today, **they need humans to open and close doors for them**, or take them in the elevator to change level…

Bota-Robota thus aims at unleashing their potential.

The technology demonstrated in the Project should later be transferred to the robot manufacturers in order to reach this impact.

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BOTA-ROBOTA

Dr. Damien SALLÉ
TECNALIA
Coordinator of Robotics, Automation and Mecatronics control
Movil: +34 667 119 720
Email: damien.salle@tecnalia.com

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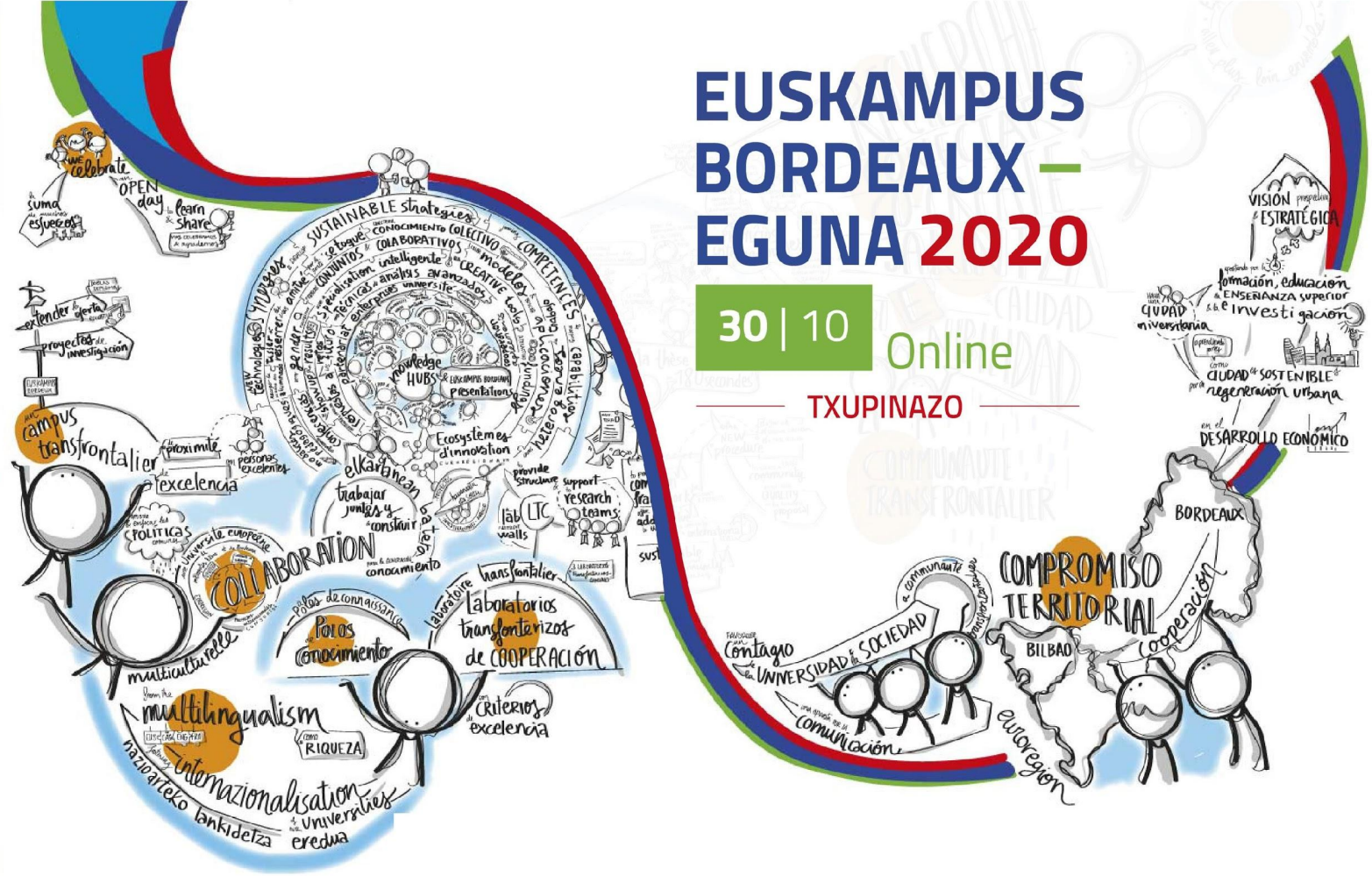

URJES

UNA RESPUESTA JURÍDICA Y ÉTICA PARA CRISIS DE SALUD PÚBLICA (A LEGAL AND ETHICAL RESPONSE TO PUBLIC HEALTH CRISIS)

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URJES/Institutions involved

Universidad del País Vasco – Euskal Herriko Unibertsitatea

université de BORDEAUX

Faculty of Law

Itziar Alkorta (private law, biomedical law)

Iñigo de Miguel (public law, biomedical law)

Pilar Nicolás (public law, biomedical law)

Faculty of Law

Marie Lamarche (private law, biomedical law)

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URJES/Main objectives

Contribute to improve the response to health emergency

- Constitution of an international and interdisciplinar network of experts

- Identification and discussion concerning:

● Use of personal data

● Geolocation and Artificial Intelligence.

.

● Triage, vaccination and immune passports

● The role of the EU as a response platform to this kind of crisis.

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URJES/Impact expected

- Permanent expert debate forums as a reference for the legal and ethical issues of health emergency

- Development of consensus proposals

- Dissemination of results (reports, monograph, web)

URJES Project

Contact

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Itizar.alkorta@ehu.eus
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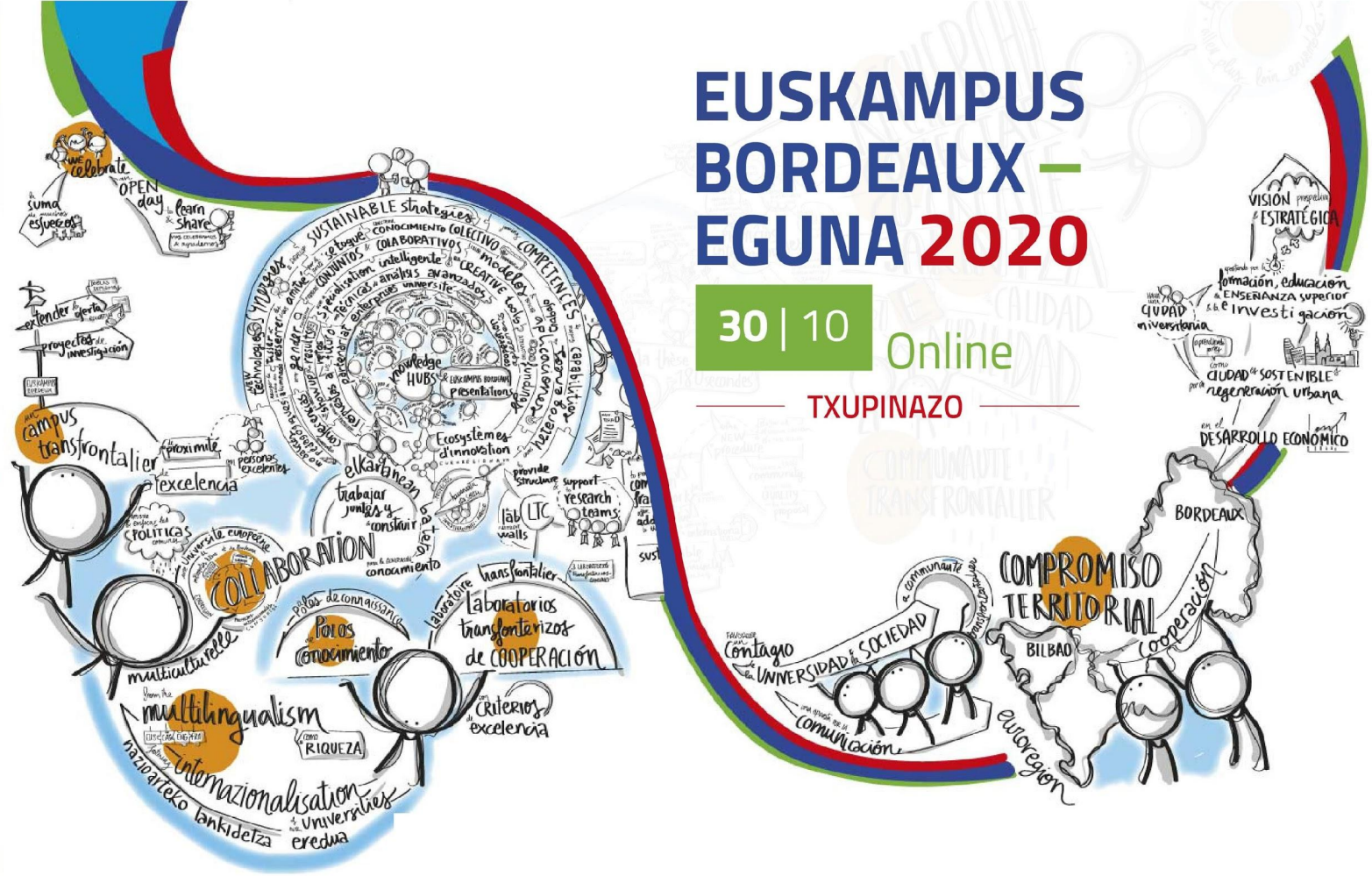

INFECTON

Towards universal biomarkers for INFECTious diseases by plasmON-mediated colloidal sensors aided by computer vision and machine learning

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INFECTON / Entities involved

Nanochemistry

Marek Grzelczak (PI)
DIPC

Plasmonics

Javier Aizpurua
DIPC

Computational Chemistry

David De Sancho
UPV/EHU

Machine learning

Ignacio Arganda
UPV/EHU

Robotics

Elena Lazkano
UPV/EHU

Robotics

Basilio Sierra
UPV/EHU

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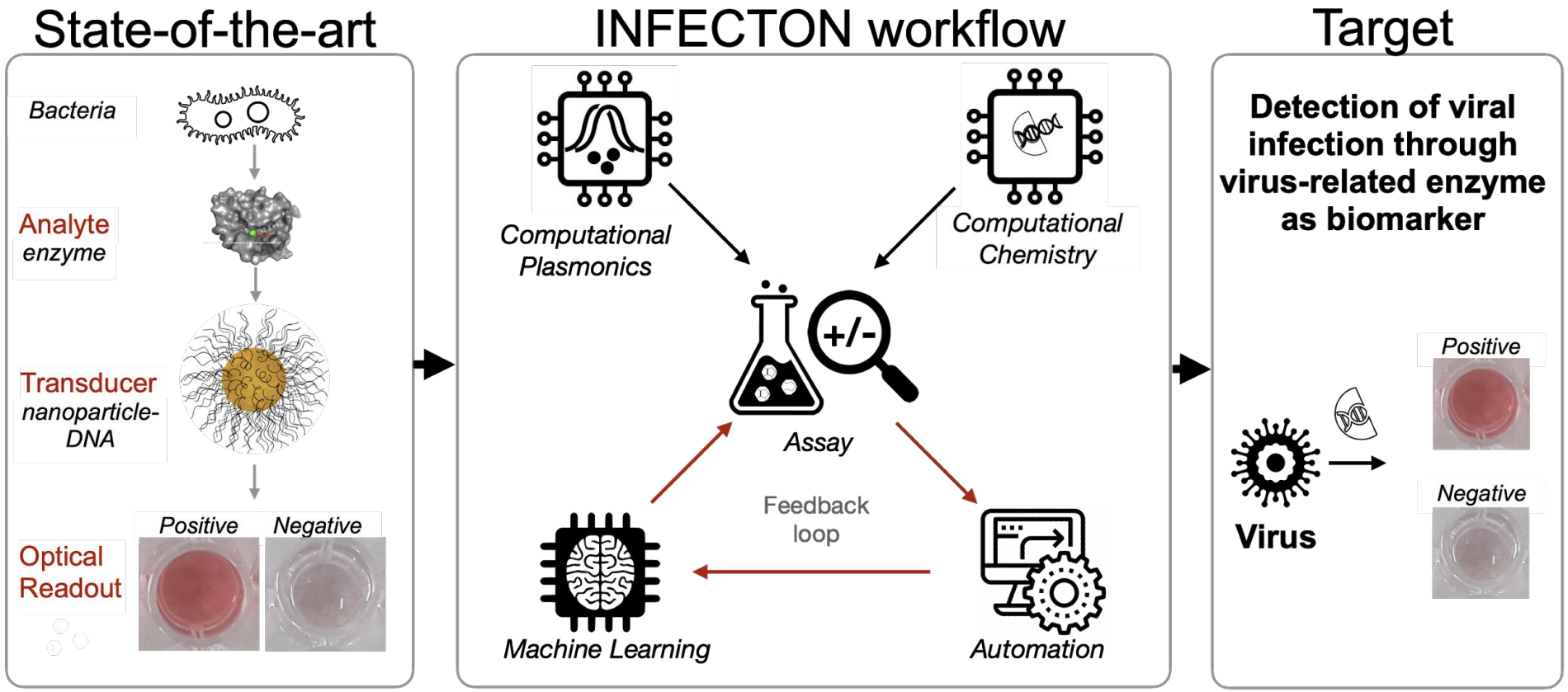
INFECTON / Hypothesis and Objectives

Hypothesis:
bacterial infections-related biomarkers -enzymes - can be exploited for the detection of viral infection in COVID-19.



Objectives:

- Set an interdisciplinary workflow (computational chemistry and plasmonics, nanochemistry, robotics and machine learning);
- Demonstrate colourimetric detection of coronavirus-related enzyme using optimised assay.

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INFECTON / Impact expected

- Automation and machine learning **accelerate the sensor optimisation** (from 6 months to 2 weeks);
- **New detection means for (corona)virus** that is orthogonal to the existing tests available in the market.
- An optimised **detection kit** ready for exploitation **in real-world conditions** (human samples).
- A colourimetric assay for bacterial and viral infections for **sectors related to health system, food safety, agrotechnology.**

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Towards universal biomarkers for INFECTious diseases by plasmON-mediated colloidal sensors aided by computer vision and machine learning

Marek Grzelczak

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#MarekGrzelczak

https://colsyschem.github.io

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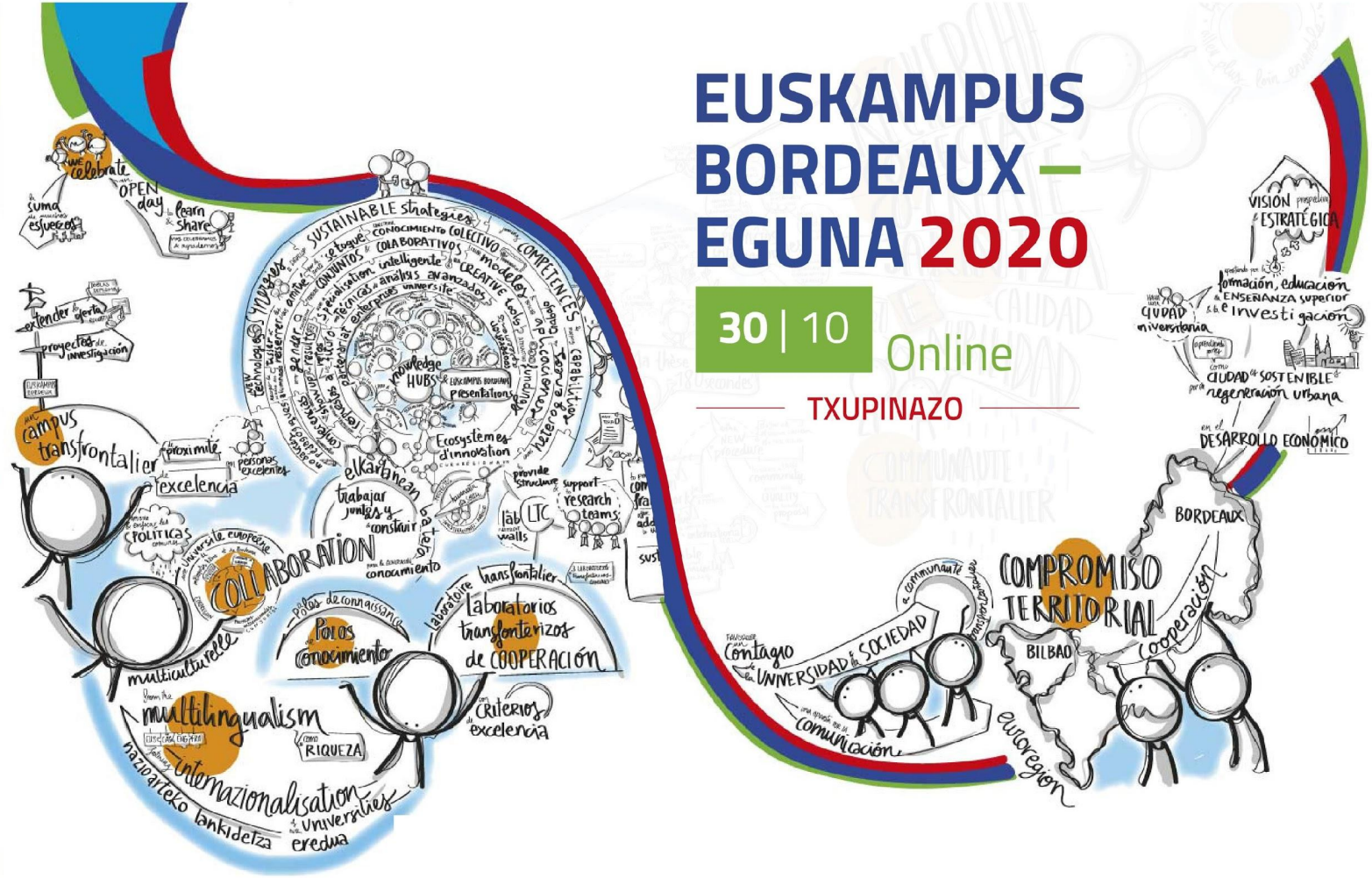

CORTAR
(CORONAVIRUS RECEPTOR TARGETING)

SARS-CoV2 RECEPTOR TARGETING FOR THE TREATMENT OF COVID 19 PATIENTS”

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CORTAR: Entities involved

- ***Rafael Rodriguez-Puertas***
- ***Ivan Manuel Vicente***
- ***Marta Moreno Rodriguez***

IMN BORDEAUX neurocampus

- ***Marc Landry***

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Universidad del País Vasco — Euskal Herriko Unibertsitatea

Departamento de Farmacología

cnrs

- ***Marie-Line Andreola***
- ***Harald Wodrich***

- ***Thomas Trian***

Inserm

CHU Hôpitaux de Bordeaux

mfp UMR 5234 Microbiologie Fondamentale et Pathogénicité · Bordeaux

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Université de Bordeaux

euskampus — UDA IRAKASTAROAK CURSOS DE VERANO SUMMER COURSES — UFV EHU — DIPC — Tecnalia — Universidad de Burgos — Mondragon Unibertsitatea — CAF — ikerbasque — Eurorégion Euroeskualdea Euroregión

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30 | 10 Online
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CORTAR: Main objectives

COMMENTARY

JOURNAL OF MEDICAL VIROLOGY WILEY

ACE2 activators for the treatment of COVID 19 patients

Rafael Rodríguez-Puertas PhD

Department of Pharmacology, Faculty of Medicine and Nursing, University of the Basque Country UPV/EHU, Leioa, Spain

Hypothesis
ACE2 activators, e.g. the antiparasitic diminazene aceturate (DIZE), compete with S-protein for ACE2 occupancy

Main goal
Prevent SARS-CoV2 infection and maintain ACE2 crucial functions

"small is powerful" research area of the Euskampus Covid-19 resilience programme

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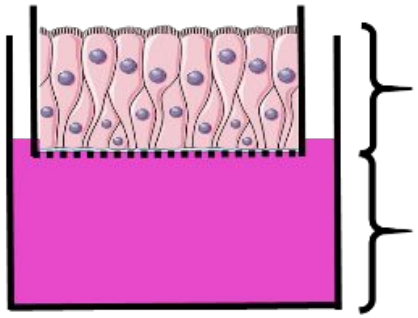
CORTAR: Methods

WP1: Identifying ACE2 binding sites for SARS-CoV2 and DIZE

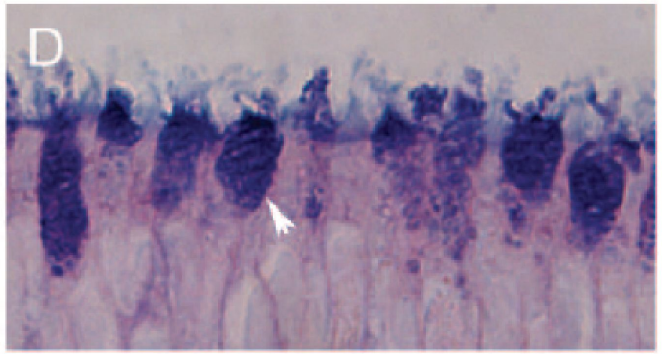


1- Analysis of COVID-19 infection : Virus PCR, IF, Transcriptomic and RNAscope

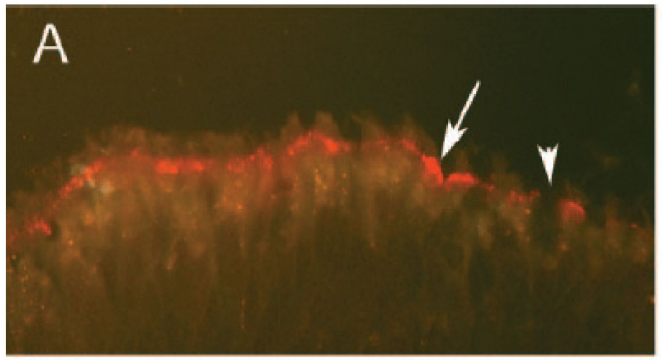
2- Analysis of the inflammatory response: multiplex cytokine analysis (CBA assays)

Human respiratory epithelium in culture
Infected with SARS-CoV2 and treated with ACE2 radioligand and/or DIZE

Binding experiments
ACE2 radioligand binding inhibition with DIZE



ACE2 receptor



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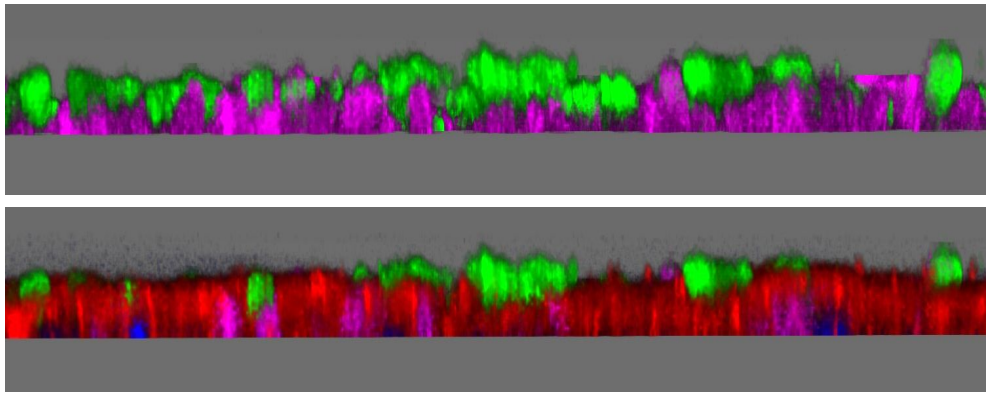
CORTAR: Methods

WP2: Determining the ACE2 ultrastructural localization and intracellular trafficking

Light microscopy studies
Cell types expressing ACE2 and SARS-CoV2

Electron microscopy studies
ACE2 trafficking and SARS-CoV2 spread upon DIZE application

SARS-CoV2 Basal cells Epithelial cells



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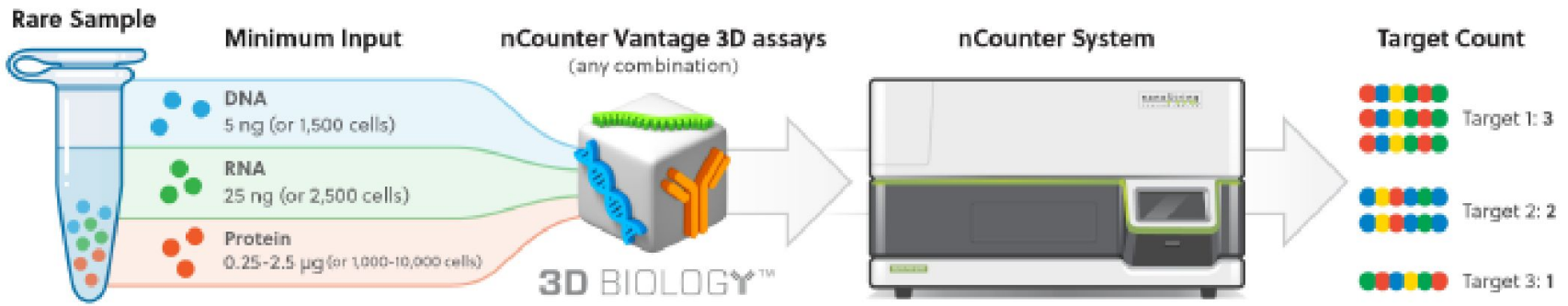
CORTAR: Methods

WP3: Characterizing the immune response against SARS-CoV-2 upon infection of bronchial epithelial cells

Transcriptomics analysis
Detection of cytokines and pro-inflammatory molecules
Changes in the immune response upon DIZE application



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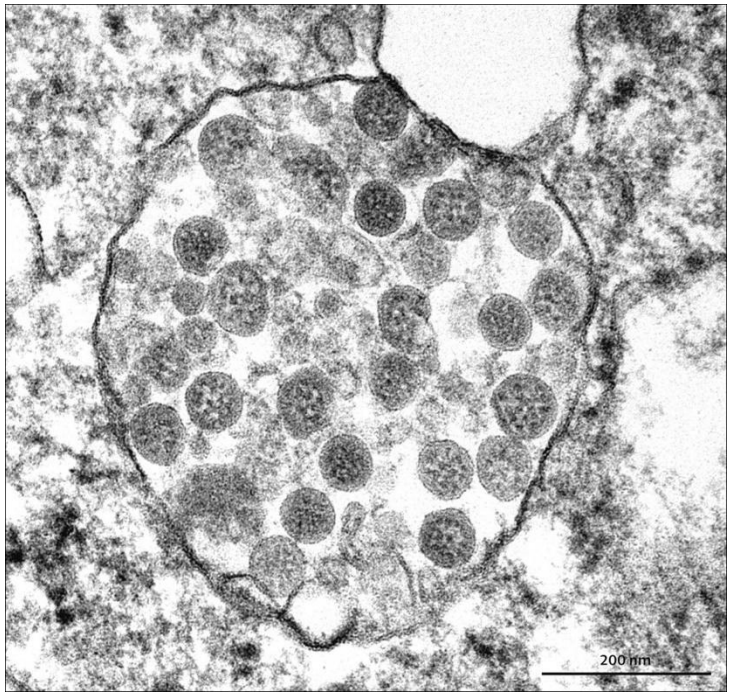
CORTAR: Impact expected

Transregional center of expertise
Virology platform (ANR-funded ANACONDA)

Proof of concept
Reducing SARS-CoV2 infection without impairing ACE2 activity

Therapeutic strategy
Drug repositioning (DIZE)

Drug discovery
Drug screening (Tecnalia - Euskampus)



Electron microscopy of SARS-CoV-2: a challenging task
Cynthia S Goldsmith, Sara E Miller, Roosecelis B Martines, Hannah A Bullock, Sherif R Zaki
www.thelancet.com Vol 395 May 30, 2020

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CORTAR: Impact expected

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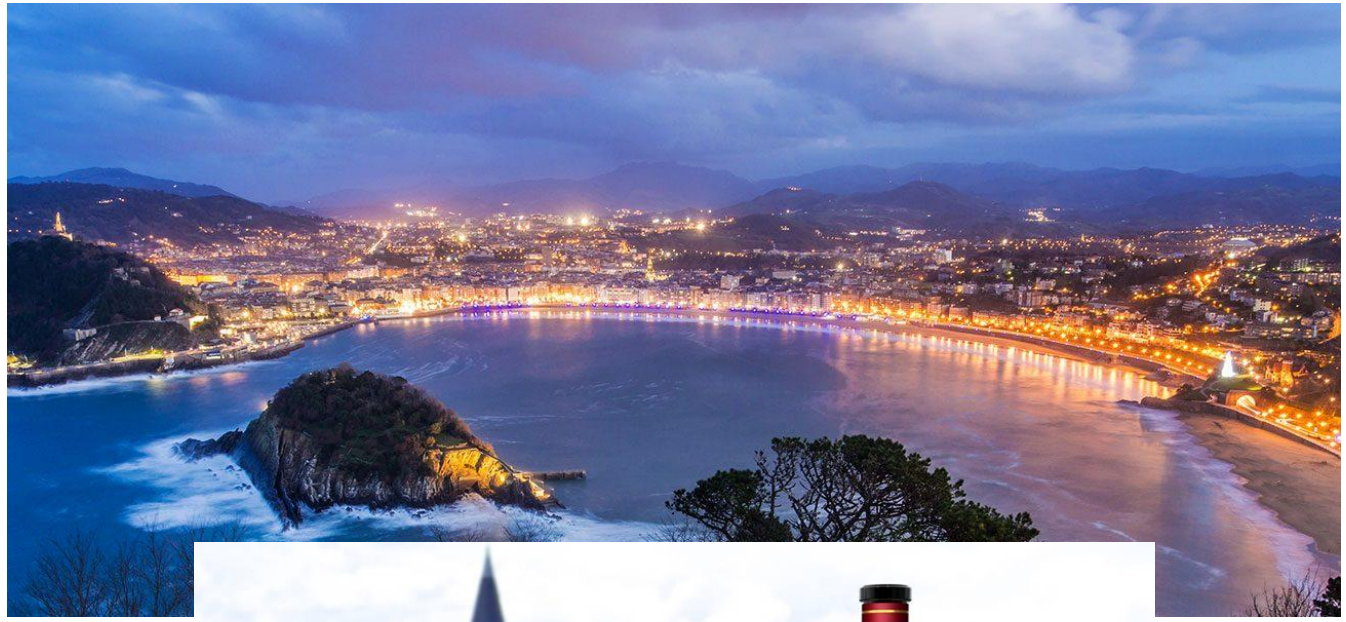
Drug repositioning (DIZE)

Drug discovery
Drug screening (Tecnalia)

Reopening of transregional exchanges



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Project title: ***SARS-CoV2 RECEPTOR TARGETING FOR THE TREATMENT OF COVID 19 PATIENTS"***

Contact: **marc.landry@u-bordeaux.fr**
rafael.rodriguez@ehu.eus

Resil8_RX-AI-COVID
-19

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velatia

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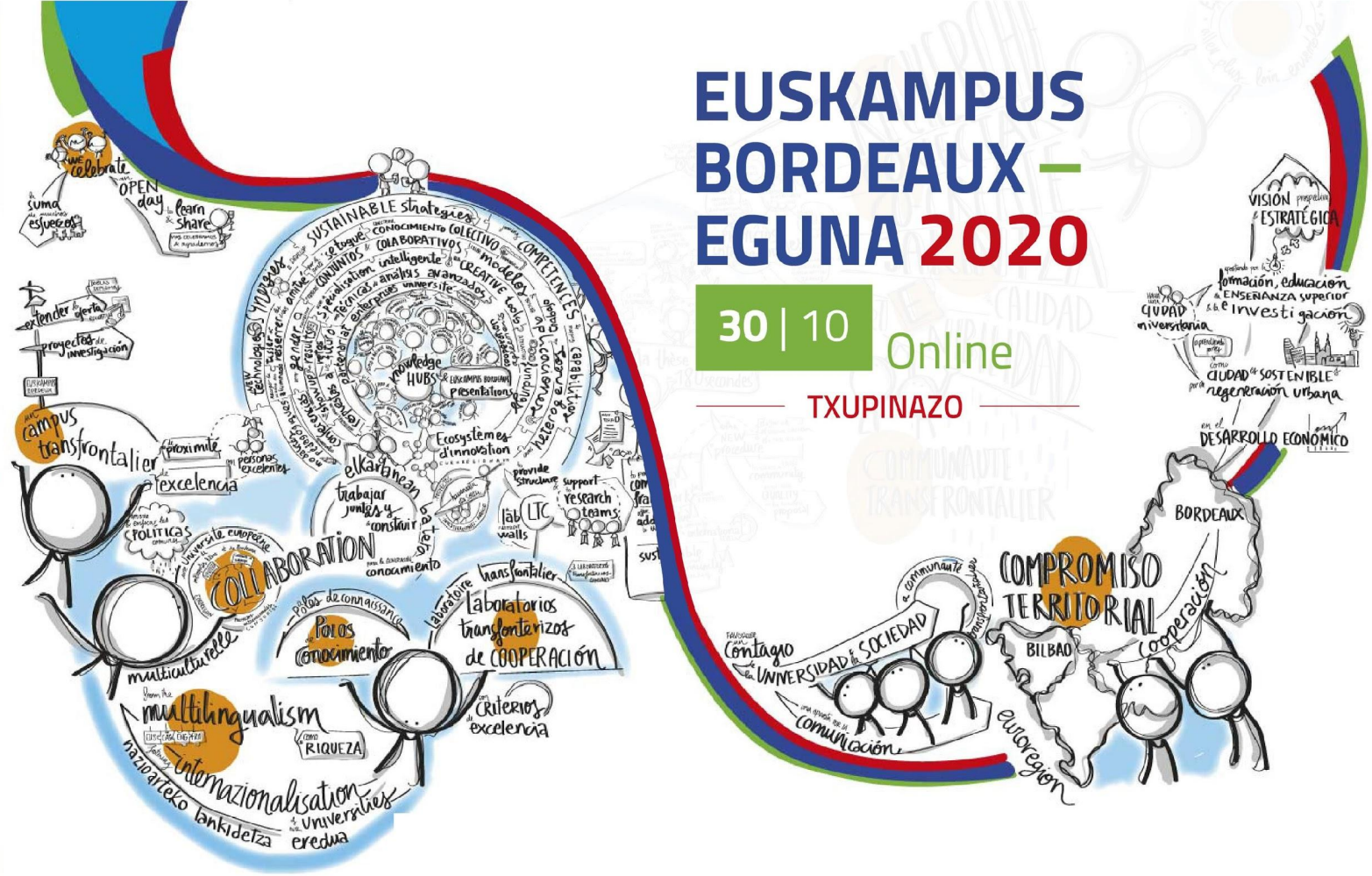
Basque Foundation for Science



Diagnosis Support System for screening of covid-19 and acute respiratory syndromes by means of Rx analysis.

RX-AI-COVID-19

Arantza Bereciartua (Tecnalia)

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RX-AI-COVID/ Tecnalia - UPV

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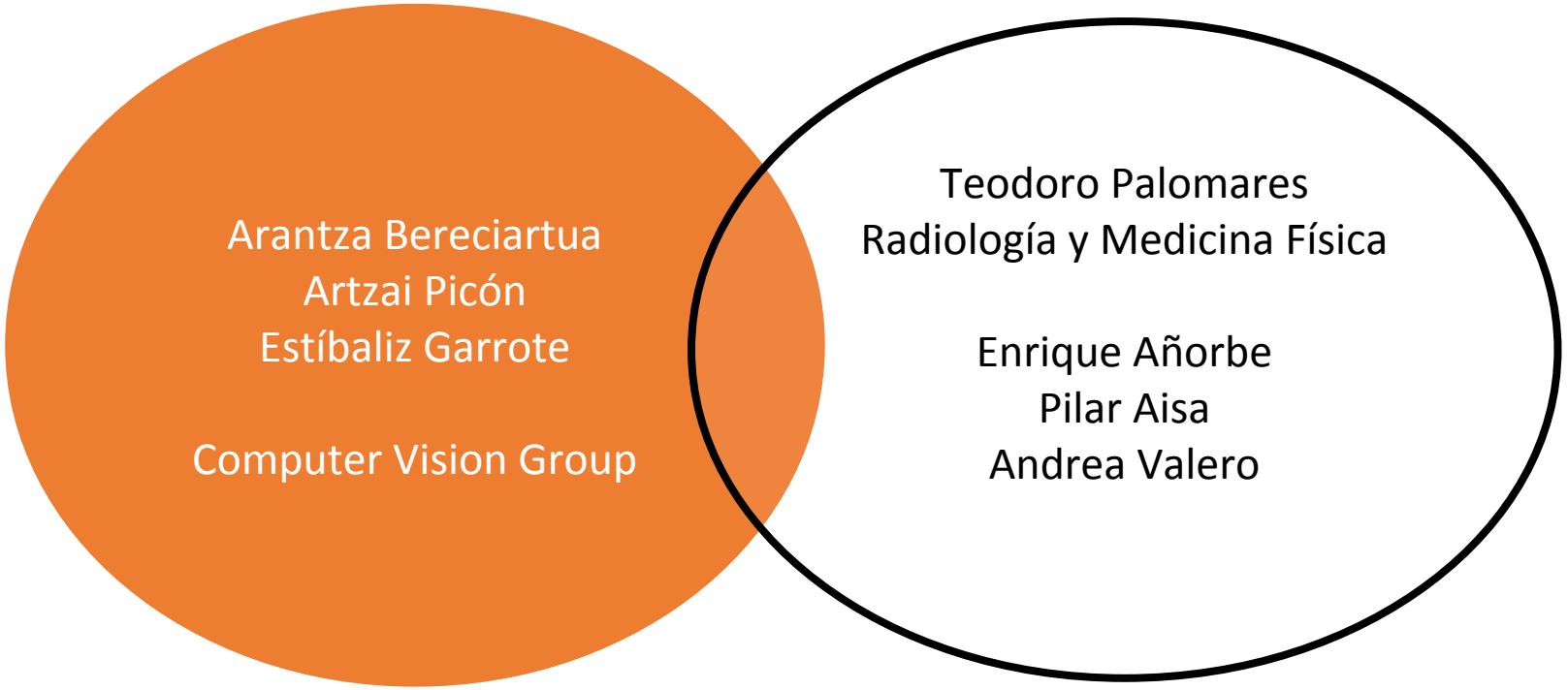

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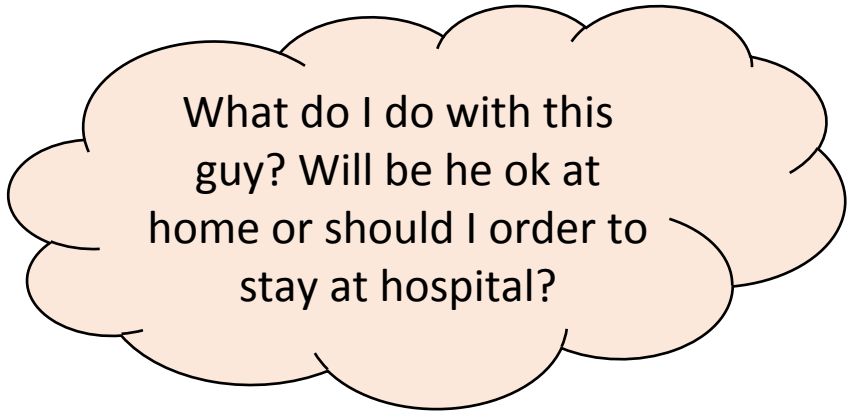
RX-AI-COVID/Main objectives

Diagnosis Support System for screening of covid-19 and acute respiratory syndromes by means of Rx analysis

1. Prediction in seconds about the presence of covid-19 or others syndromes with Deep Learning:
   - triage in the emergency room
   - primary care

2. Fast learning with few images (~100) in case of virus mutation and change in diagnostic behaviour



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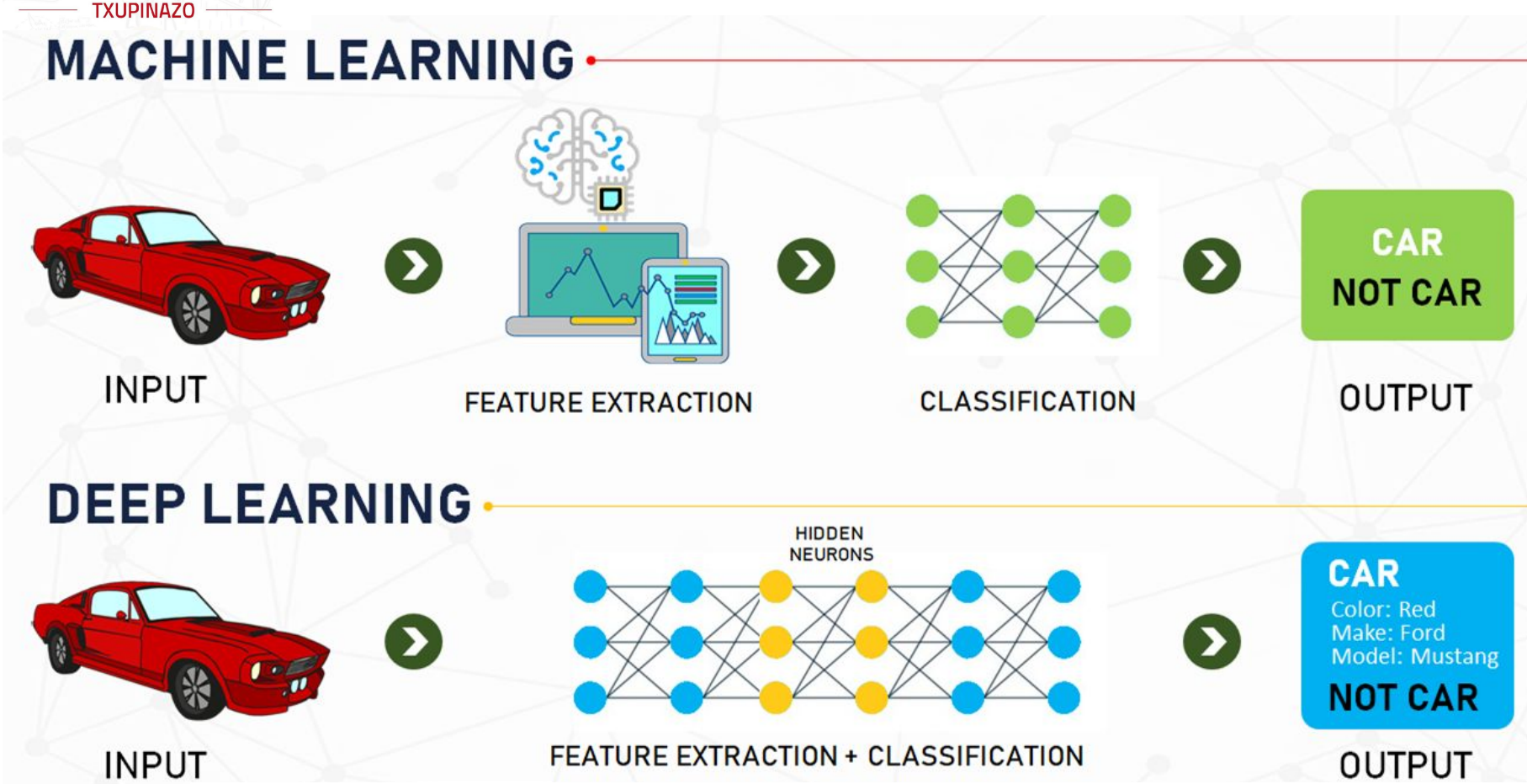
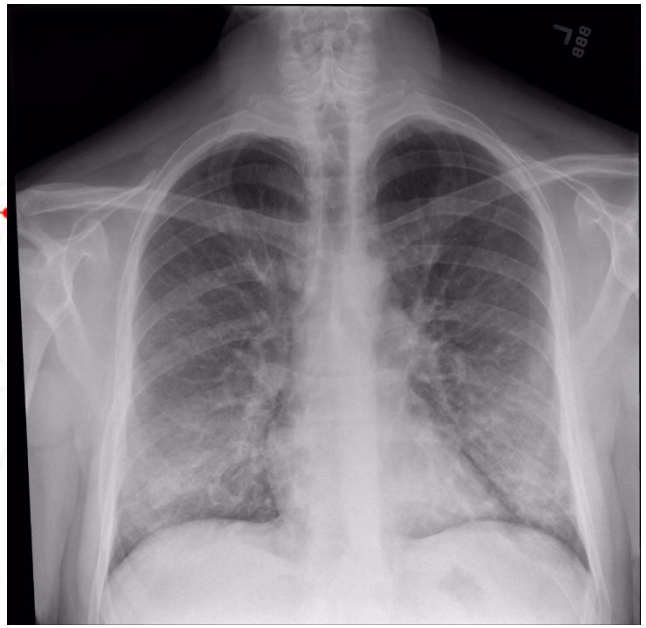
RX-AI-COVID/Main objectives

What is Deep Learning?





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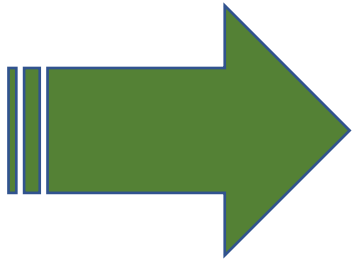
RX-AI-COVID/ Impact expected

Results

1. Diagnosis Support System capable of indicating the presence or not of covid-19
2. Module for fast learning of other respiratory diseases or mutations of covid-19 (around 100 images will be necessary)



Impact

SW tool for fast screening in emergency room triage and big support in primary care

Validation in Osakidetza (by means of radiologists taking part in this project). Real cases

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RX-AI-COVID

Arantza Bereciartua
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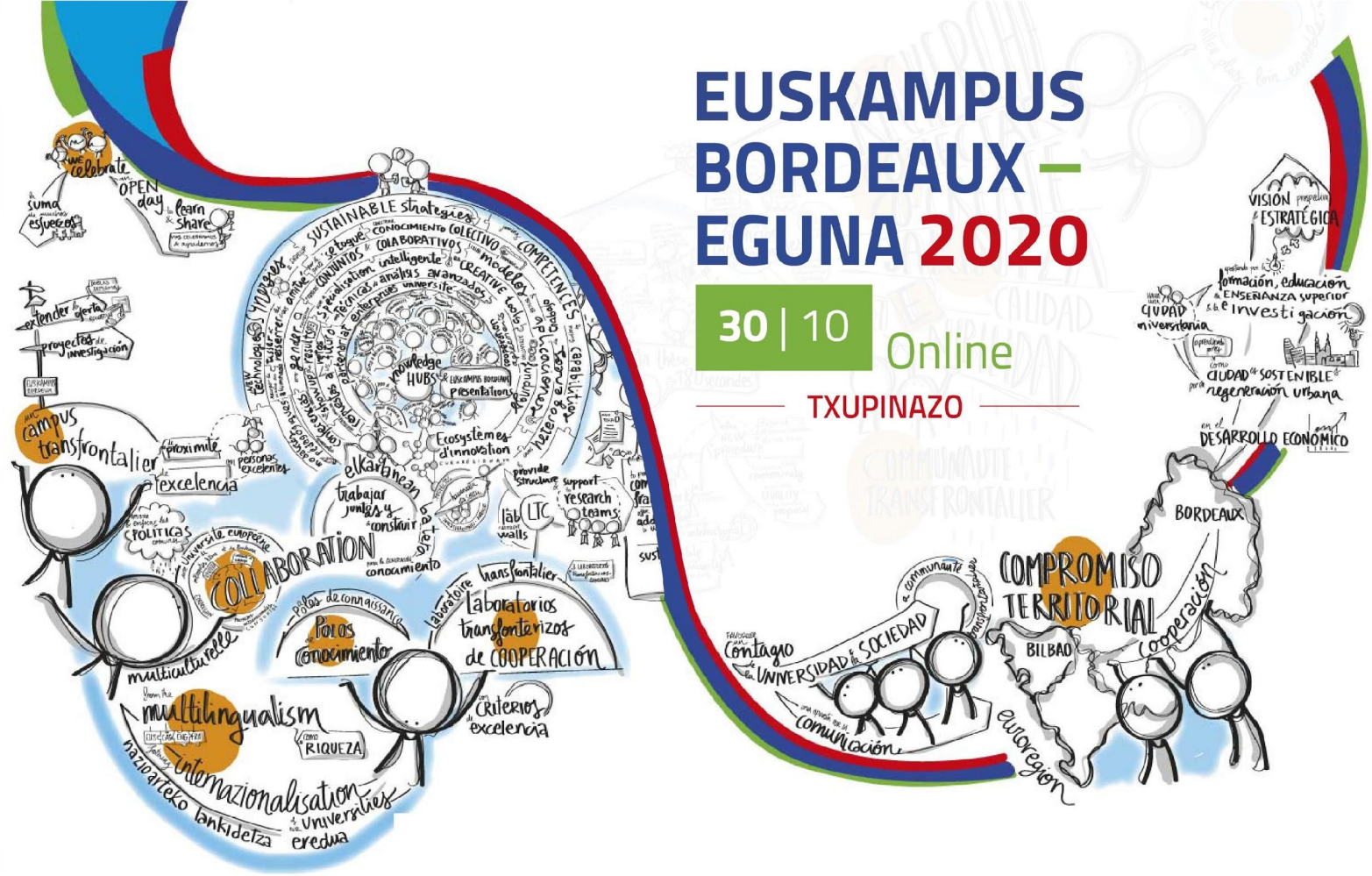

COnfVID19

Development of trustable prognosis models for healthcare manangement

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COnfVID19: Entities Involved

XXXXX

Dpt. Computer Science and Artificial Intelligence

Dpt. Mathematics

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Universidad del País Vasco | Euskal Herriko Unibertsitatea

CAMPUS OF INTERNATIONAL EXCELLENCE

tecnalia

Artificial Intelligence Area

Dpt. Preventive Medicine and Public Healthcare

bcam basque center for applied mathematics

Machine Learning Area

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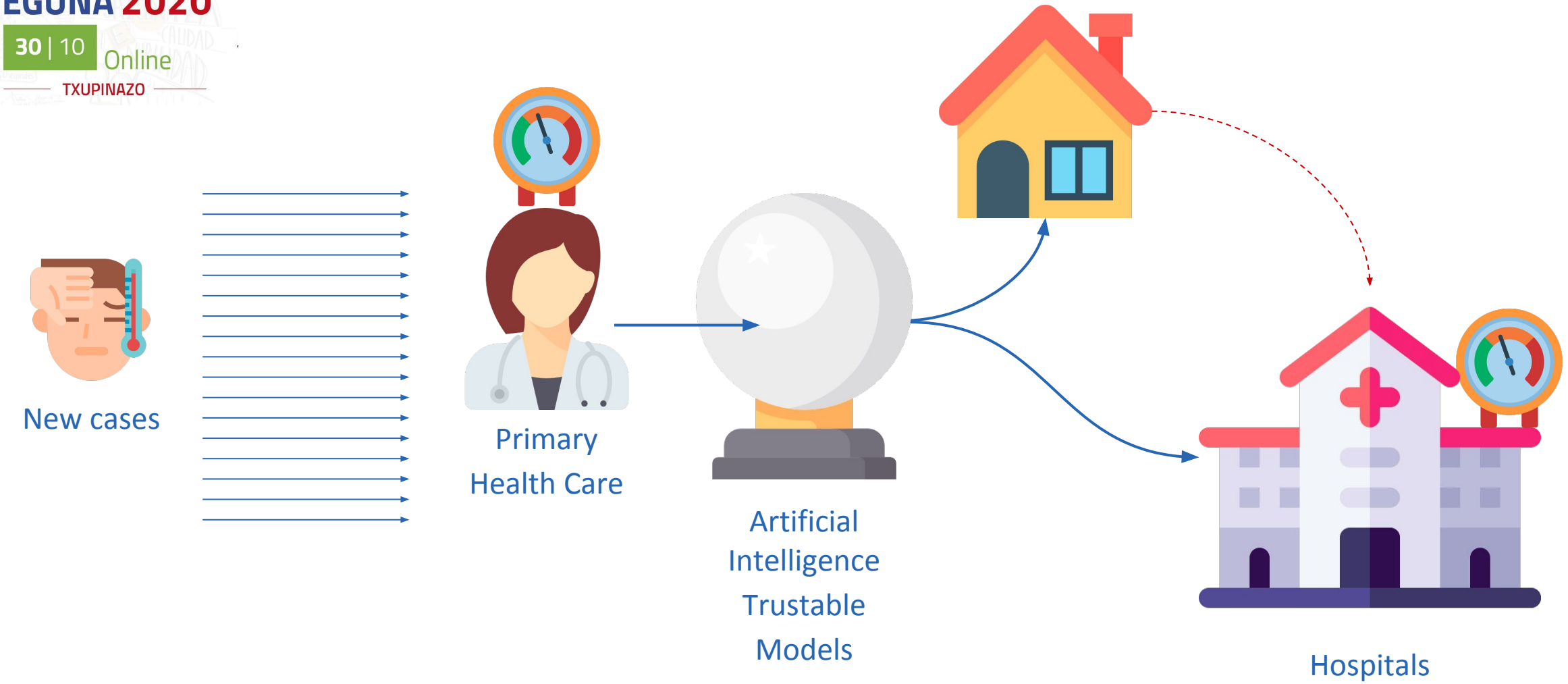
COnfVID19: Main objectives



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COnfVID19: Impact expected

Reduce the **pressure** in the Public **Health Care** System

Help in the decision making

Optimize the use of the resources

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COnfVID19

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smazuelas@bcamath.org

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11:15-11:30 / Atsedenaldia- Descanso- Pause- Break

11:30ean itzuliko gara…

Volvemos a las 11:30…

Nous reprenons à 11h30…

We'll be back at 11:30 a.m….

GERO ARTE!

Ocean i3

11:30 – 11:40 (video)

UN PROYECTO TRANSFRONTERIZO DE
INNOVACIÓN EDUCATIVA
PARA LA SOSTENIBILIDAD DEL OCEANO

"2 UNIVERSITÉS, 4 DÉFIS, 17+1 OBJECTIFS ODD et de nombreux DÉFIS territoriaux à venir"

1 MAKE WATER CLEAN AGAIN
¿Cuáles son los riesgos sanitarios de la contaminación por plásticos en las aguas recreativas?
1 Djamadar Saindou — Toxicité des plastiques dans la mer
2 Uxue Velez — MiKroplastikoak eta algak

2 Del CONOCIMIENTO a la ACCIÓN para REDUCIR los PLÁSTICOS
3 Ander Jiménez — Plan de Comunicación. Máster Museoa
4 Amaia Garmendia — Plastikoen tratamendu juridiko-administratiboa
5 Clément Leray — Gestion de projets associatifs - BESAK

3 RECYCLING vs UPCYCLING
Zer egin ozeanotik berreskuratutako plastikoekin?
6 Irati Lazpiur — Ekoizpen teknikoko berriak
7 Ainhize Ibarretxe — Produktuen ekodiseinua
8 Onintza Zarzuelo — Procedencia de los plásticos
9 Andrea Erice — Ingurumen Krimen azTerketa
10 Miren Pereda — Normativa municipal de prevención de producción de residuos plásticos

4 TODOS SOMOS SURFRIDER PROTEJAMOS el OCEANO
11 Maite Tolosa — Hezkuntza proiektua
12 Maite Saizar — Legislativos, RRSS,...
13 Patxi Belinchon — Sensibilizazio proiektua

5 STOP AUX MICROPLASTIQUES
SENSIBILISATION et CONNAISSANCE/IMPACT
14 Florane Le Bihanic ~ Charlotte Lefebvre — Connaître les microplastiques et leur impact sur le milieu aquatique

6 SENSIBILISATION des SCOLAIRES aux BLUE/GREEN SKILLS
15 Laly Teixeira — Ateliers sur les plages sensibilisation aux green/blue skills

PROJETS TRANSVERSAUX

FRANÇAIS pour OBJECTIFS SPÉCIFIQUES
Ainhoa Fernández — Protéger l'Océan
Ane Berasain — Économie Circulaire
Mikel Aguerre — Micropolluants
Naia Vázquez — Droit
Ortega del Río — Biologie et Vétérinaire Marine
Silvia Fernández — Criminologie

ESTUDIO sobre MULTILINGÜISMO e INTERCULTURALIDAD de la comunidad Ocean i3
Giorgia Gabricci (DREAM UPV/EHU y EUSKAMPUS FUNDAZIOA)
Multilingual in the educational context

KOMUNIKAZIO PLANA
Inne Arana & Lorea Diez
Sitio WIX, RRSS,...

ESTUDIO sobre COMPETENCIAS en SOSTENIBILIDAD que se desarrollan en Ocean i3
E.Tom Renz
IKASGURA UPV/EHU
ODS & Ocean i3

Interreg POCTEFA
UNIÓN EUROPEA
UNION EUROPÉENNE
Projet co-financé par le FEDER

https://oceani3.wixsite.com/oceani3

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11:40 – 11:50 / European University ENLIGHT

ENLIGHT

https://enlight-eu.org

Joanne Pagèze, UB

Marta Barandiaran, UPV/EHU

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ENLIGHT

EUROPEAN UNIVERSITY NETWORK TO PROMOTE EQUITABLE QUALITY OF LIFE, SUSTAINABILITY & GLOBAL ENGAGEMENT THROUGH HIGHER EDUCATION TRANSFORMATION. SHAPING OUR FUTURE CITIES AND COMMUNITIES

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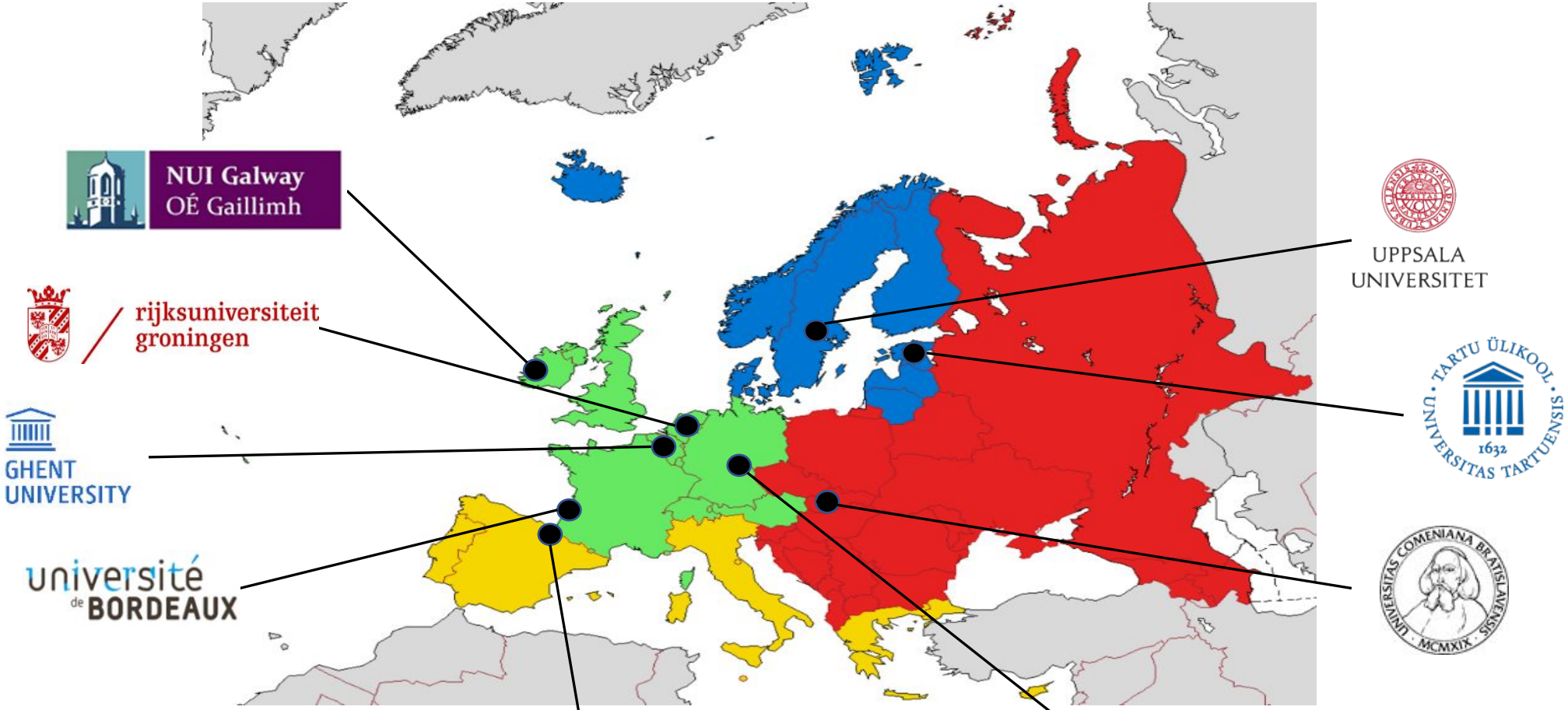
The ENLIGHT partners



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The ENLIGHT partners: Faces

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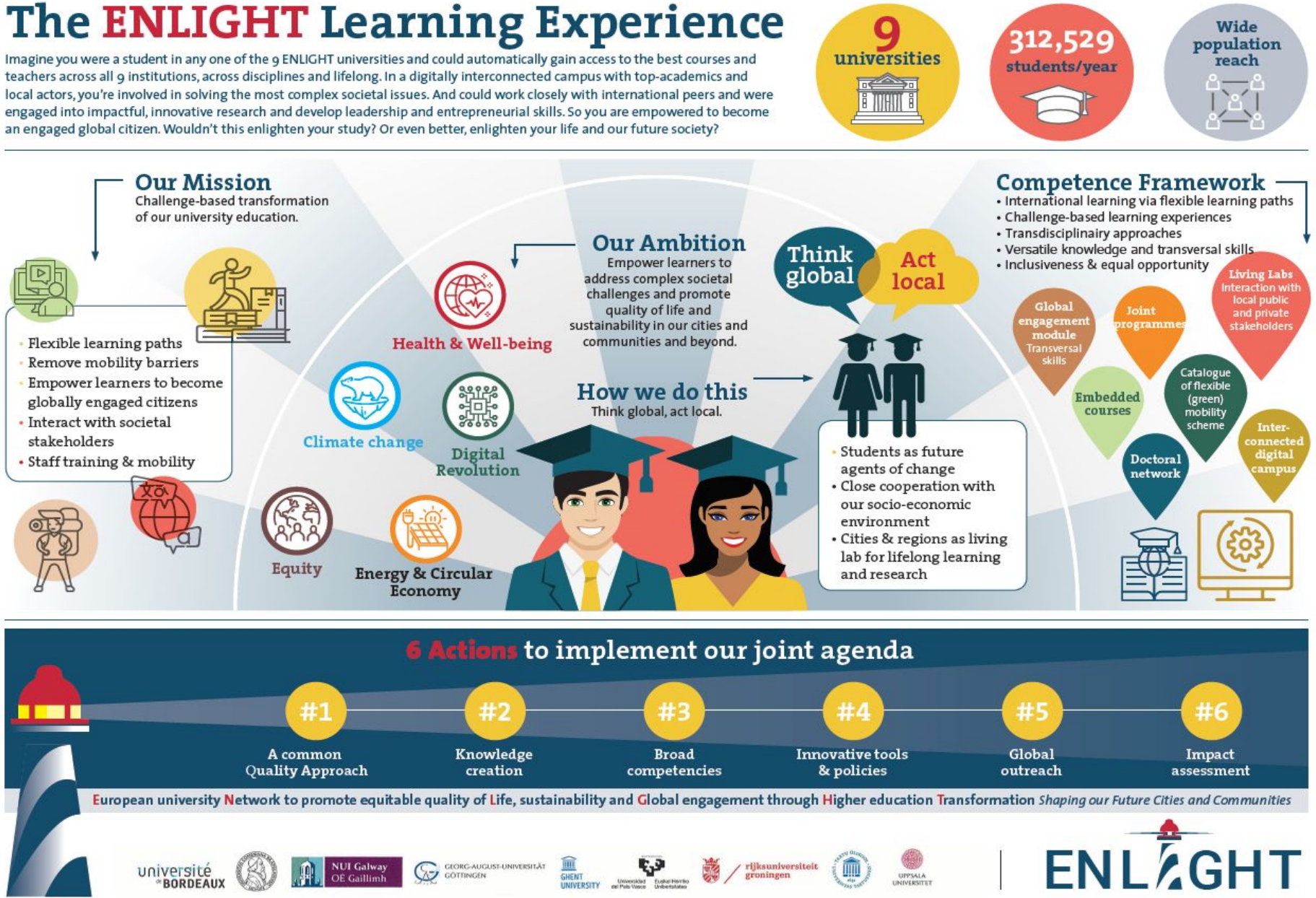
ENLIGHT Learning Experience



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ENLIGHT Learning Experience: Vision

The ENLIGHT Learning Experience

Imagine you were a student in any one of the 9 ENLIGHT universities and could automatically gain access to the best courses and teachers across all 9 institutions, across disciplines and lifelong. In a digitally interconnected campus with top-academics and local actors, you're involved in solving the most complex societal issues. And could work closely with international peers and were engaged into impactful, innovative research and develop leadership and entrepreneurial skills. So you are empowered to become an engaged global citizen. Wouldn't this enlighten your study? Or even better, enlighten your life and our future society?

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ENLIGHT Learning Experience: Mission

ENLIGHT aims to undertake a **fundamental transformation of European Higher Education** by **empowering learners as globally engaged citizens** with state-of-the-art **knowledge, skills, and innovation potential** to tackle the major societal transition and to promote **equitable quality of life** and **sustainability.**

"Like a lighthouse guiding sailors to shore, the ENLIGHT alliance will guide students to become lifelong learners and agents-of-change ready to tackle the challenges of tomorrow."

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ENLIGHT Learning Experience: Education

- International learning via flexible learning paths
- Research-oriented, challenge-based learning
- Transdiscplinarity
- Versatillity
- Inclusiveness

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ENLIGHT Learning Experience: Focus

5 Flagship Areas

- Health and well-being
- Digital revolution and Impact of digitalization
- Climate change
- Energy and Circular economy
- Equity

Cities, territories as a common denominator

- Focal points of major societal challenges
- Test-bed for new learning formats

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ENLIGHT Learning Experience: Main Actions (1)

Project

1. Develop a **common Quality Approach** enabling automatic recognition of study periods across ENLIGHT as the basis of a **European University System**;
2. Test new international **research-driven and challenge-based learning and teaching formats** in close cooperation with local and regional stakeholders, focusing on knowledge creation and critical-thinking skills;
3. Foster **generic competences and global engagement** among students and create know-how for embedding language bridging skills, diversity awareness, leadership, and entrepreneurial skills into our curricula;
4. Develop the **competence framework for inclusive, seamless and green mobility**, and provide the tools for flexible learning;
5. Develop models for a **structural dialogue with local, European and global stakeholders**;
6. Develop a comprehensive methodology to **measure the impact** of the ENLIGHT competence framework on learners and their socio-economic environment.

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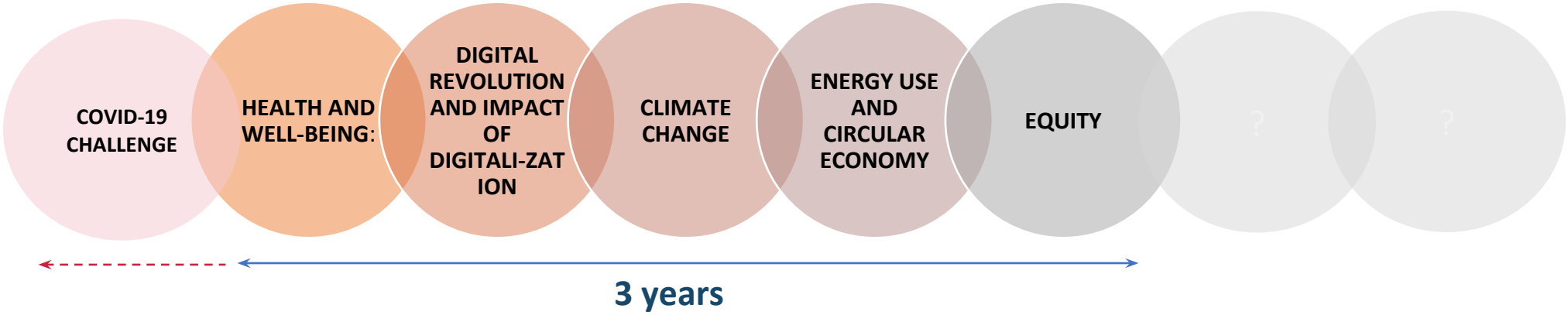
MAIN OBJECTIVES WP2

➔ **Test new international research-driven and challenge-based learning and teaching formats in close cooperation with local and regional stakeholders, focusing on knowledge creation and critical-thinking skills**

- Create knowledge capacity around the **5 flagship challenges** that are key determinants of well-being and sustainability for future cities and communities
- Scale up our innovative methodology to transform the way we address sustainability challenges



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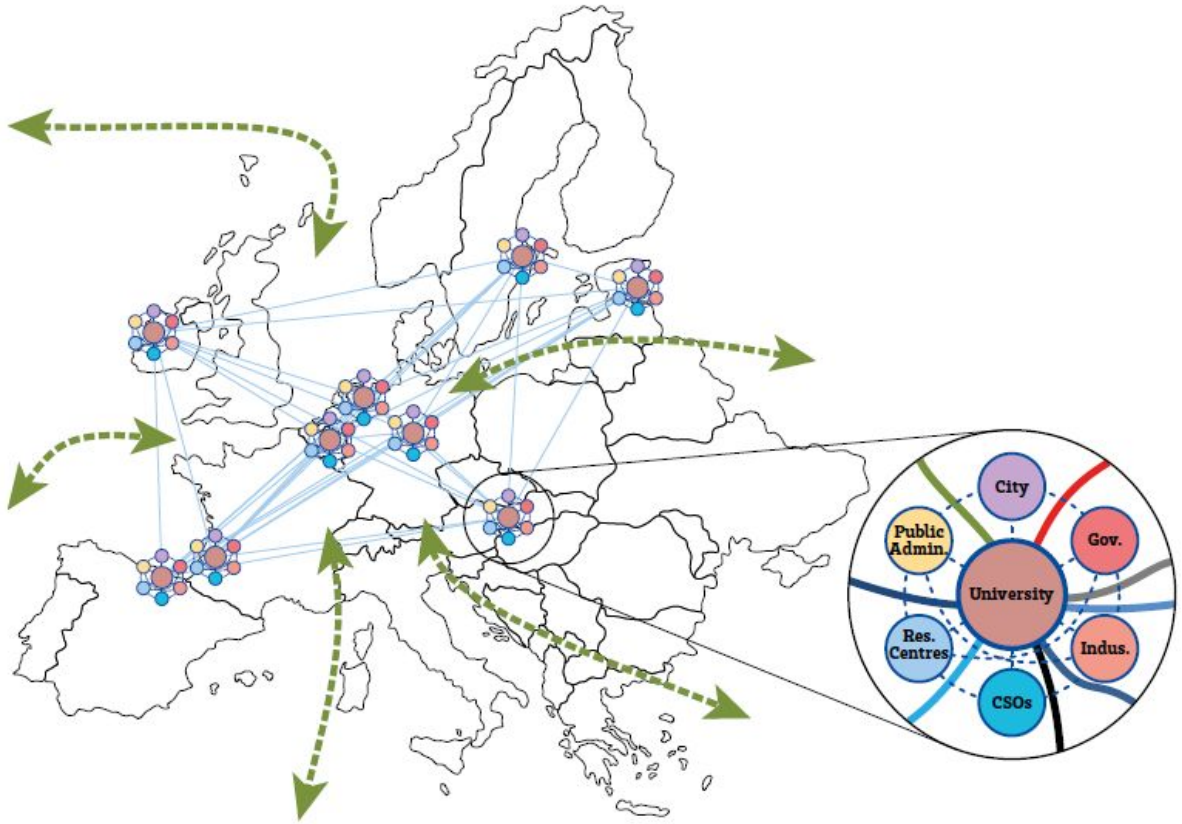
ENLIGHT Learning Experience: Main Actions (2)

Long-term

- To create an open integrated space (**European University System**) with free movement of students and staff and sharing of resources that gradually integrates quality assurance, international outreach and global engagement, talent recruitment and investment in large research infrastructure



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ENLIGHT RISE

SwafS OA 33 Part II Call – "Science with and for Society"

Other Action 33 - Support for the Research and Innovation Dimension of European Universities (Part II)

RESEARCH AND INNOVATION AGENDA WITH AND FOR SOCIETY:

Leveraging digital innovation for a greener and healthier Europe

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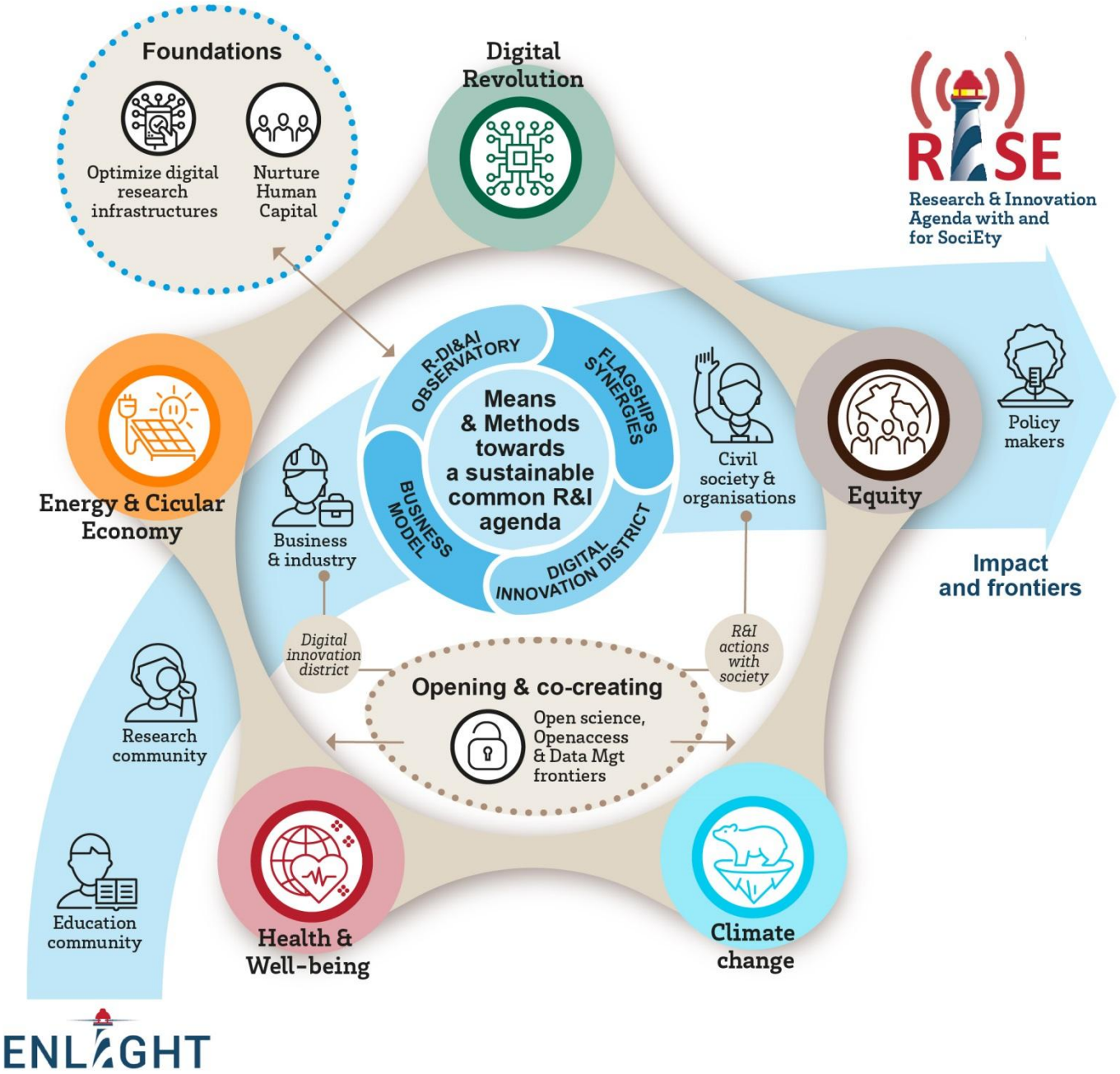
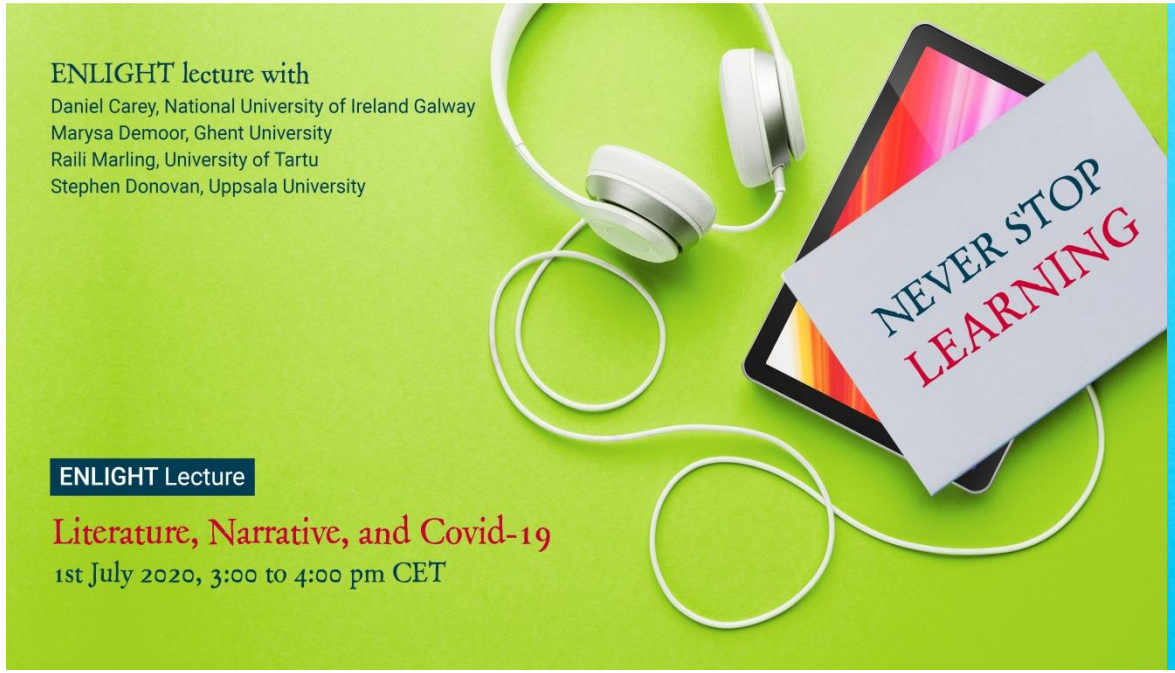
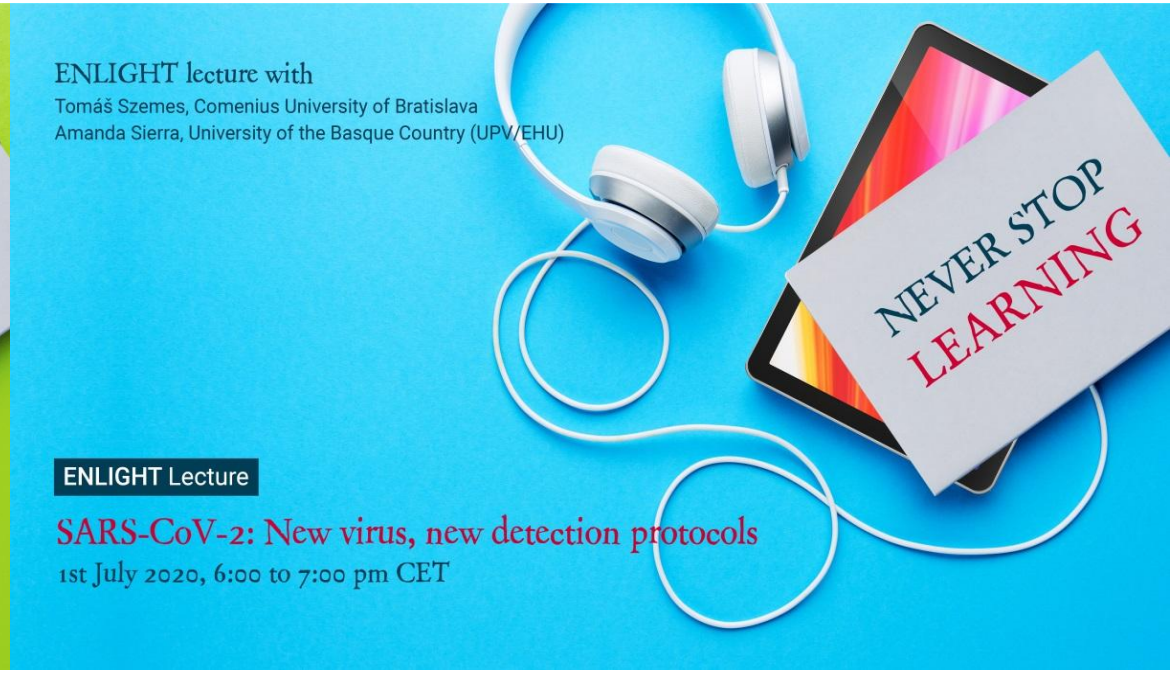

Foundations
Optimize digital research infrastructures
Nurture Human Capital
Digital Revolution
RISE
Research & Innovation Agenda with and for SociEty
R-DI&AI OBSERVATORY
FLAGSHIPS SYNERGIES
BUSINESS MODEL
DIGITAL INNOVATION DISTRICT
Means & Methods towards a sustainable common R&I agenda
Energy & Cicular Economy
Business & industry
Civil society & organisations
Equity
Policy makers
Impact and frontiers
Digital innovation district
R&I actions with society
Opening & co-creating
Open science, Openaccess & Data Mgt frontiers
Research community
Education community
Health & Well-being
Climate change
ENLIGHT

First Activities: ENLIGHT Lecture Series





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First Activities: ENLIGHT Online Education Survey

ENLIGHT Online Education

As you know our university has engaged with 8 other universities in the European University Alliance project "ENLIGHT" (https://enlight-eu.org), together we have applied to the Erasmus+ EUN call. On May 27th international relations directors and vice-presidents exchanged in an online seminar about the impact of the COVID19-pandemic on international education, with a desire to anticipate, help and perhaps lessen the burden on teachers. Following this joint brainstorming, in consultation with our ENLIGHT partners, we seek to investigate the possibilities for shared online education, exchange of education materials and/or integrating virtual exchange in order to formulate and offer accessible solutions and enhance the educational offer for our students.

If you wish to participate, completing the below survey takes approximately 5 min.

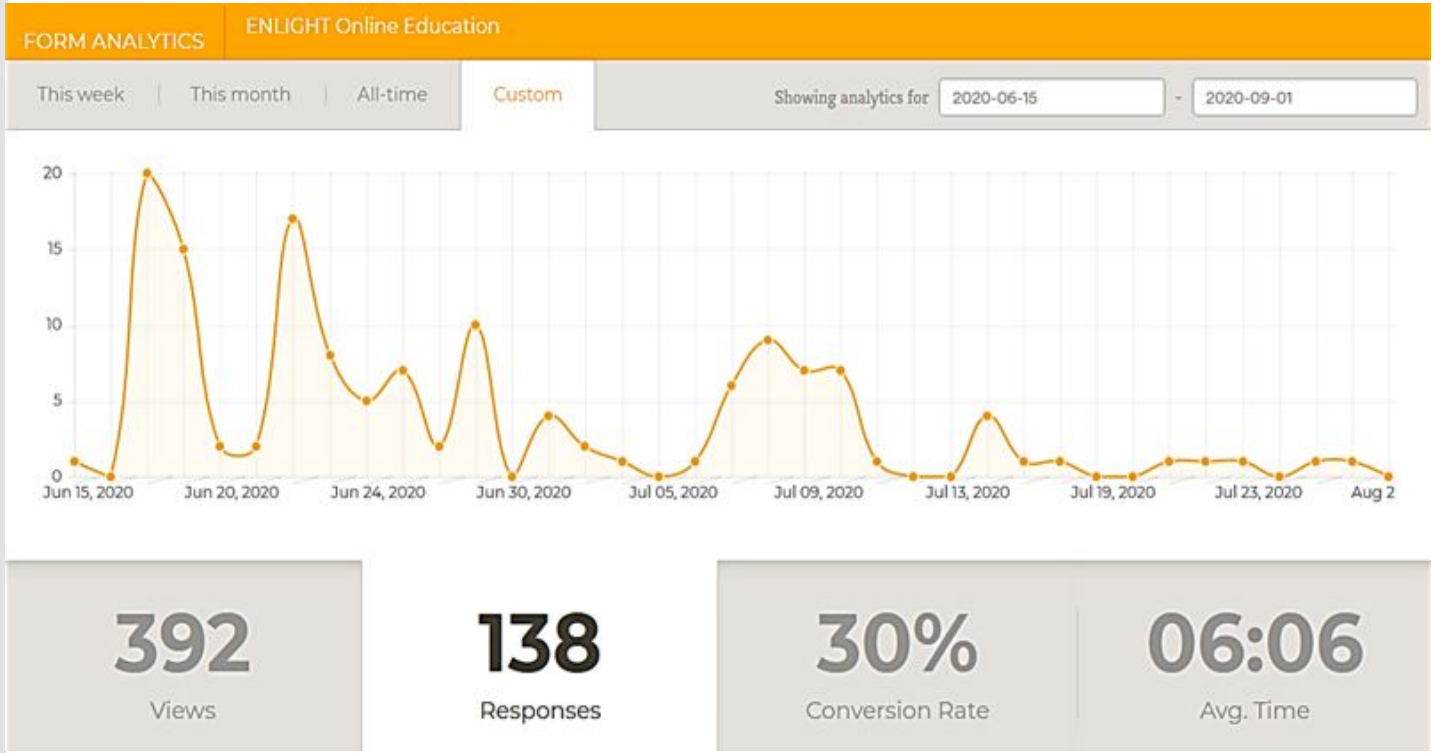
We thank you for your valuable input!

Each question leads to a different section of the form to complete. You can mark only one answer at a time. If you wish to mark two (or more) answers, please fill out the form a second time.

Reason for responding to this call *

- ○ I have an online course/online course material and wish to share and/or cooperate with ENLIGHT colleagues
- ○ I wish to cooperate with ENLIGHT colleagues to develop online education resources and/or integrate available online course material
- ○ I have an existing cooperation with two ore more ENLIGHT partner institutions and wish to further extend this towards other partner universities

Next



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“There can be no solution to the challenge of climate change that is not global. But if we can come together in partnership, we can transform today's challenge into tomorrow's opportunity - an opportunity for green growth and sustainable prosperity... we also need a strong bottom-up push from academics and opinion-shapers such as you. Universities such as yours are founts of ideas and innovation. They are furnaces of innovation and entrepreneurship.
So, send forth this word.”
-- Ban Ki-moon

Thank-you for your attention

Eskerrik asko zure arretagatik

Bedankt voor uw aandacht

Tänan teid tähelepanu eest

Merci pour votre attention

Vielen Dank für Ihre Aufmerksamkeit

Go raibh maith agat as do aird

Ďakujem za tvoju pozornosť

Gracias por su atención

Tack för din uppmärksamhet

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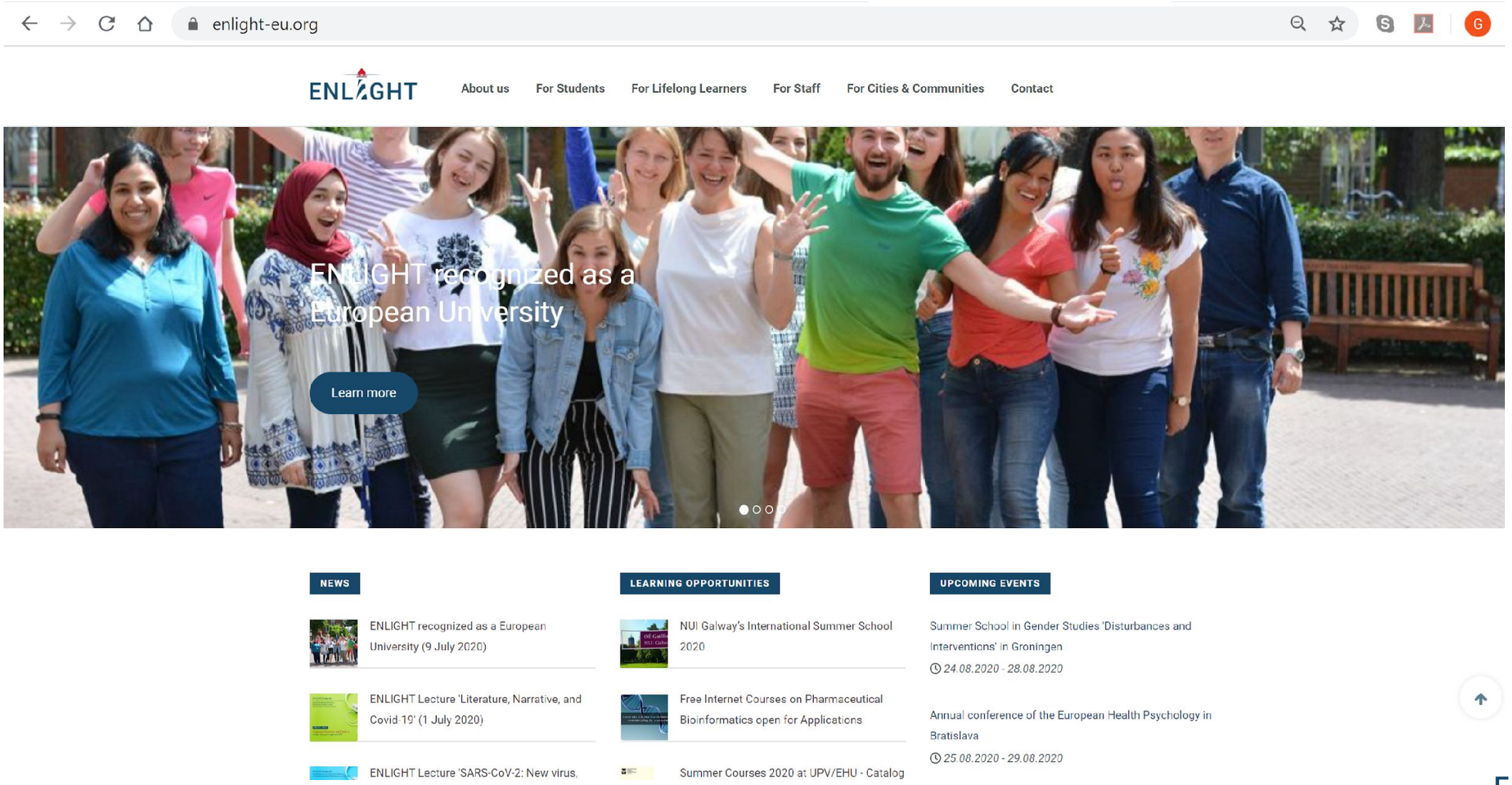
Visit us at enlight-eu.org



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TXUPINAZO

11:50 – 12:20 / Laboratoires Transfrontaliers de Coopération (LTC)

Introducción programa

Philippe Moretto, UB

Fernando Tapia, UPV/EHU

LTC QuantumChemPhys

Pascal Larregaray, UB (ponente) - Ricardo Diez, DIPC

LTC Aenigme

Franck Girot, UPV/EHU (ponente) - Olivier Cahuc, UB

LTC TransMath

Luis Vega, BCAM (ponente) - David Lannes, UB

LTC Green Concrete

Cyril Aymonier, UB (Ponente) –Jorge Sanchez Dolado, UPV/EHU

LTC1_QuantumChemP
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QuantumChemPhys

Theoretical Chemistry and Physics at the Quantum Scale

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DIPC

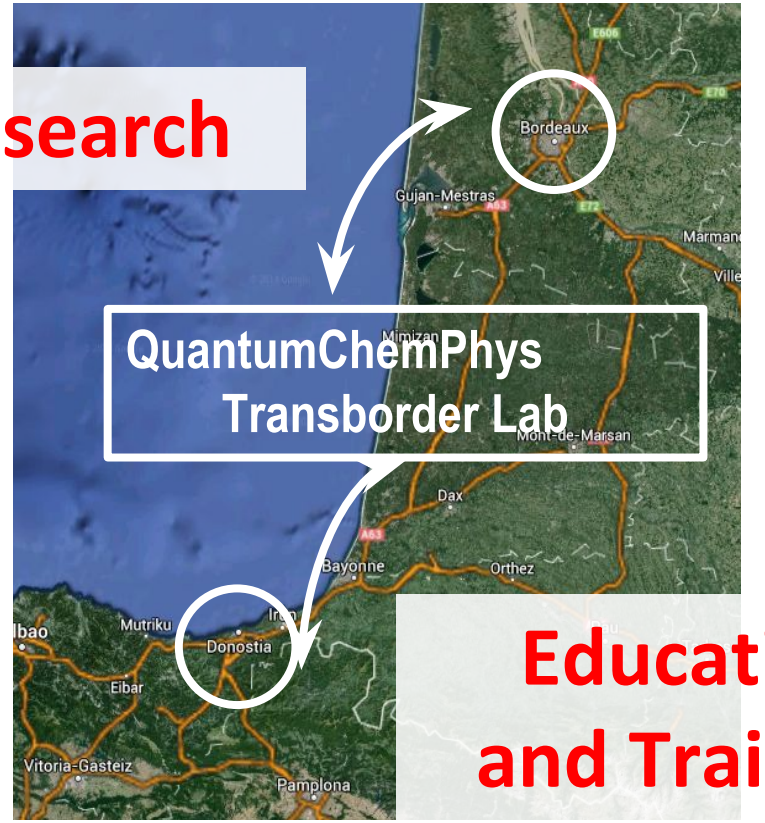
LTC QuantumChemPhys

theoretical chemistry and physics at the quantum scale

université de BORDEAUX

Donostia International Physics Center
DIPC

Centro de Física de Materiales
(UPV/EHU-CSIC)



Institut des Sciences Moléculaires
(U. Bordeaux/CNRS)

Laboratoire Ondes et Matière d'Aquitaine
(U. Bordeaux/CNRS)

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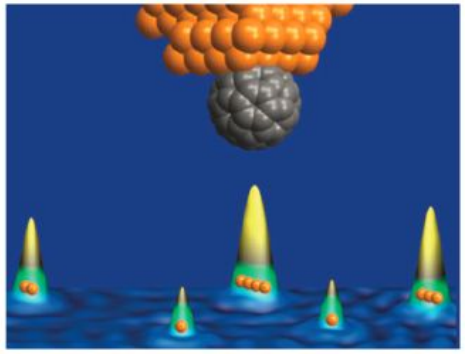
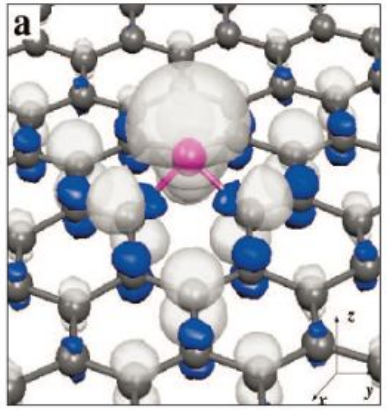
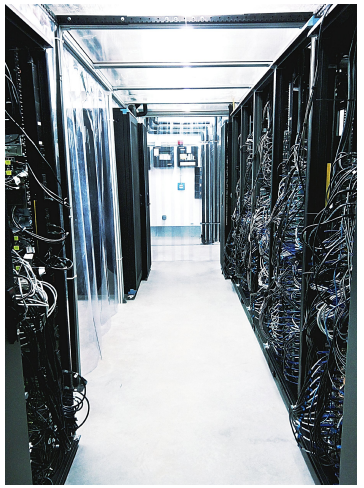
LTC QuantumChemPhys

theoretical chemistry and physics at the quantum scale



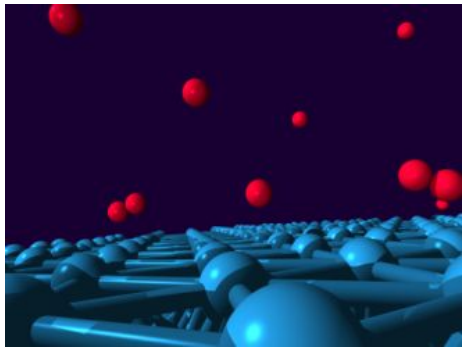




Molecular Dynamics, Elementary Reactivity, and Theoretical Chemistry

Electronic Structure and Quantum Transport

High Performance Computing



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LTC QuantumChemPhys

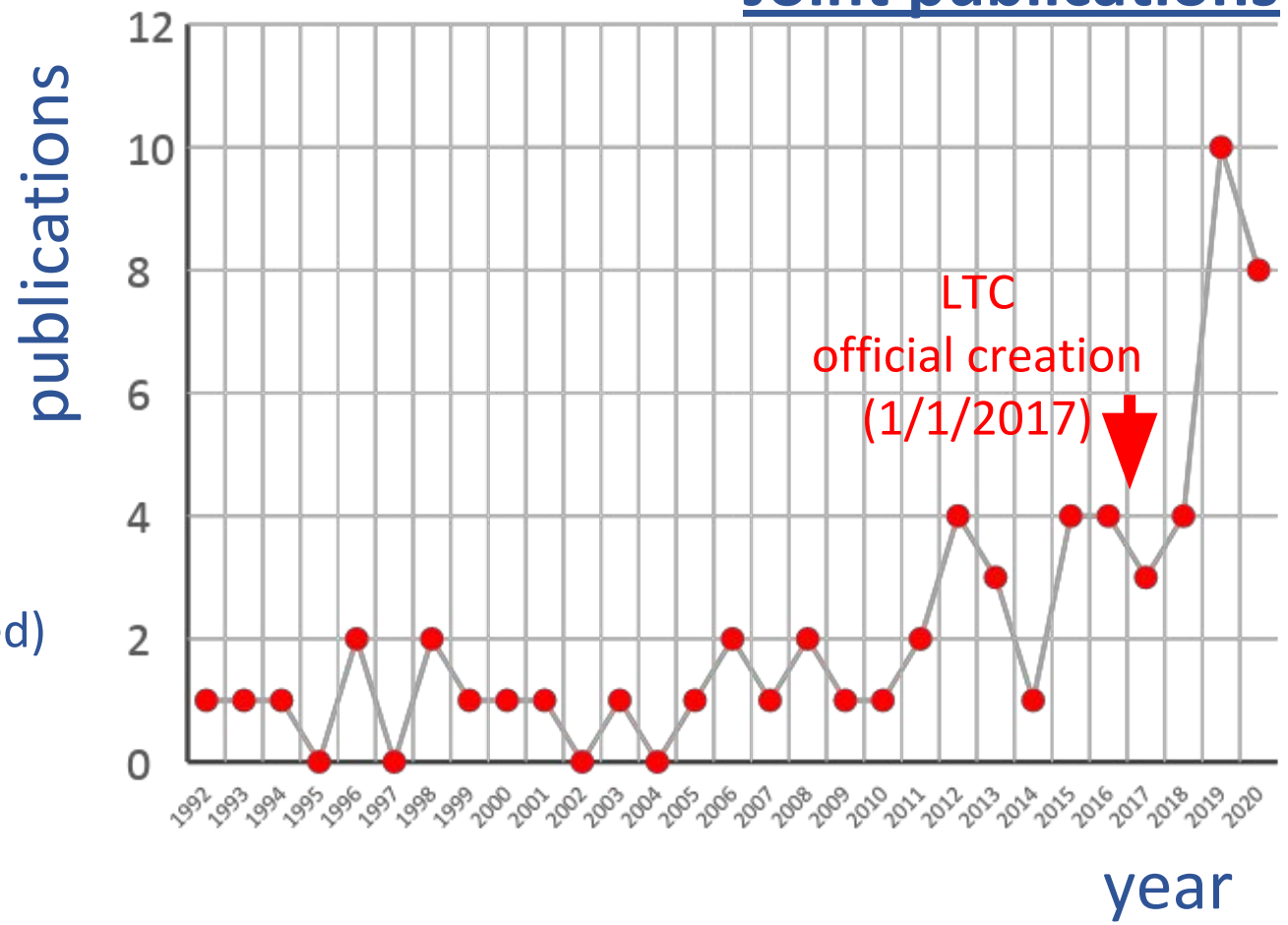
theoretical chemistry and physics at the quantum scale

8 joint publications (so far) in 2020

5 of them led by PhD students (1st author)
+
2 of them with a PhD student (coauthor)

63 joint publications since the collaboration started)

Joint publications



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LTC QuantumChemPhys

theoretical chemistry and physics at the quantum scale

4 joint PhDs currently running

Olatz Uranga
Computational studies on photophysical properties of molecular aggregates

Sophie Espert
Protonic conductivity mechanism in new electrolytes based on strong acid hydrate

Alberto Rodríguez-Fernández
Semiclassical corrections in the dynamics of gas/surface interfaces

Carmelo Naim
Van der Waals interactions in the description of molecular nonlinear optical switches

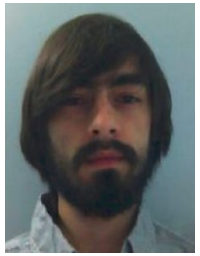
5 joint PhDs already defended

Oihana Galparsoro (2016)
Phonon and electron excitations in diatom abstraction from metallic surfaces

Alejandro Peña Torres (2018)
Contribution to the theoretical description of the dynamics in heterogeneous elementary processes

Bogusz Bujnowski (2019)
Transport properties of excitonic-insulator hybrid junctions

Julie Baumard (2019)
Charge, spin and heat transport in superconducting nanostructures with generic spin fields



Quentin Schaeverbeke (2020)
Dynamical aspects of quantum transport in nano-electronics

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LTC QuantumChemPhys 2021

theoretical chemistry and physics at the quantum scale

Main goal: collaborative research and joint training

Research: Molecular Dynamics, Elementary Reactivity, and Theoretical Chemistry
Electronic Structure and Quantum Transport

Research: Mobility of senior researchers (**)

Research: Reinforce transborder collaboration with joint post-doctoral researchers

Training: Joint PhD students (existing and new)

Training: Mobility of Master's students (**)

Activities: Sharing good practices and knowledge -- HPC

Activities: LTC QuantumChemPhys 2021 workshop (either on-site or on-line)

Activities: International Conference on Elementary Reactivity at Surfaces (**)

*(**=depending on the pandemic situation)*

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QuantumChemPhys

Contact:

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Ricardo Díez Muiño – CFM (CSIC-UPV/EHU), DIPC
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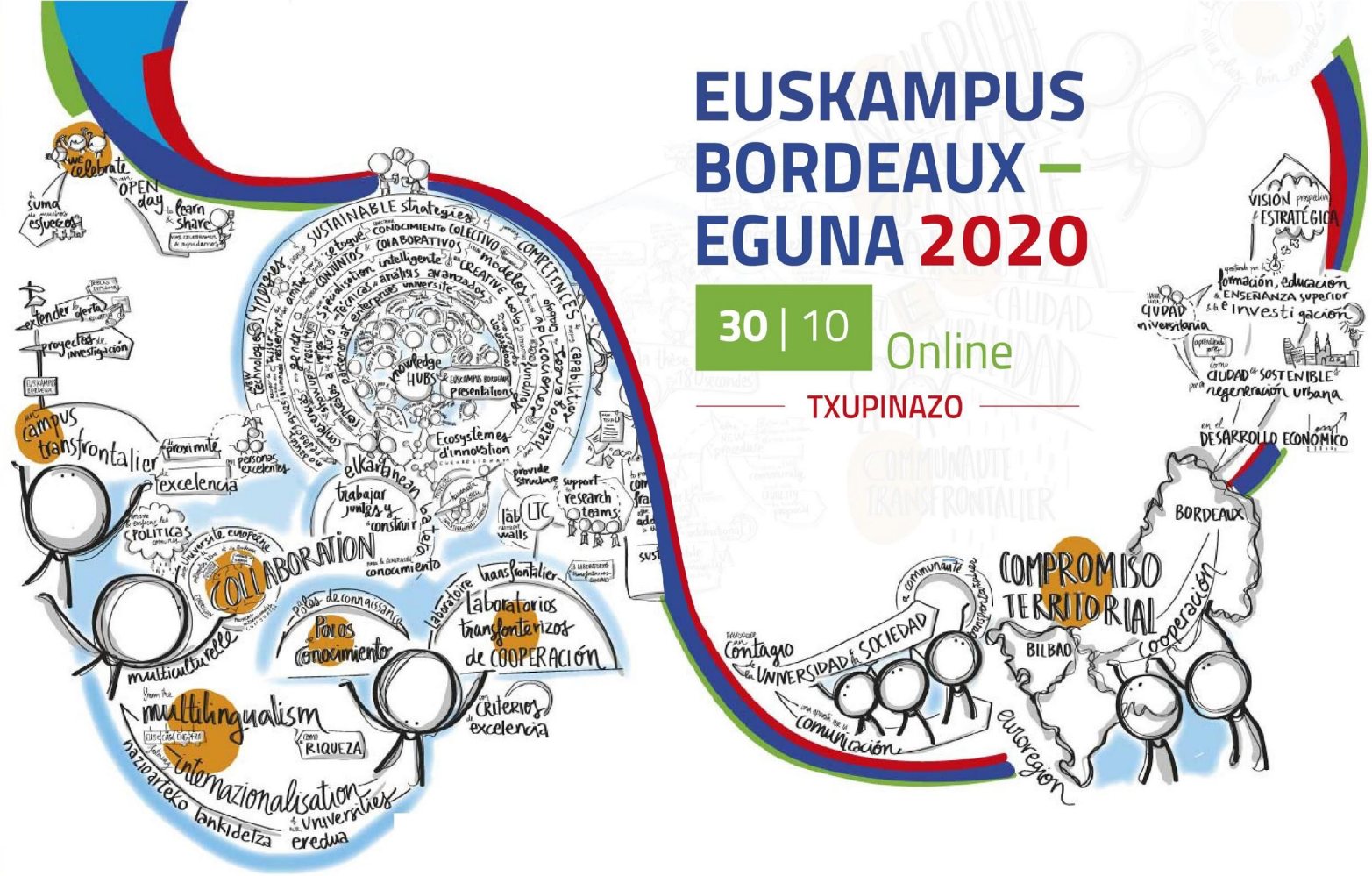

LTC ÆNIGME

Aquitaine Euskadi Network In Green Manufacturing and Ecodesign

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LTC ÆNIGME

LTC ÆNIGME – CROSS BORDER JOINT LABORATORY
AQUITAINE EUSKADI NETWORK IN GREEN MANUFACTURING AND ECODESIGN

The LTC associates the Department of Mechanical Engineering of the Faculty of Engineering of Bilbao, UPV/EHU on one hand, and the Institute of Mechanics and Engineering of Bordeaux, UBx, ENSAM, Bordeaux INP and CNRS, on the other hand.

The LTC is organized around three main axes:

(1) Sustainable and ecological design of components, structures, equipments and systems through and for sustainable manufacturing,

(2) Models and Processes for Sustainable Manufacturing,

(3) In service behavior of components or structures with strong gradients of properties.

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LTC ÆNIGME /Main objectives

Actions identified for the 2019-2020 period

Sustainable processes and Ecodesign

***Additive Manufacturing by laser cladding or SLM**: PhD in co-tutelle of Mario Renderos; International PhD of Pinku Yadav (ENABLE project).*

***Machining of metal and CFRP, and design of Smart tooling for aeronautic assembly** - International PhD of Haythem Zouabi (ENABLE project).*

***High energy welding of dissimilar materials**: application to steel and aluminum –Thesis in cosupervision of Nélida Rodríguez.*

Process simulation

***Strain gradient modelling and simulation for severe loading conditions** - Thesis in co-tutelle of Raffaele Russo (ENABLE project).*

***DEM simulation of the grinding process** – Possible thesis in co-tutelle of Tyrone Pazmiño.*

Process validation and data recording

***Experimental characterization of dynamic behavior of materials** - Thesis in cosupervision of Trunal Bhujangrao (ENABLE project).*

***Identification of temperature and kinetic fields during FSW** - Thesis in cosupervision of Danilo Ambrosio (ENABLE project).*

LTC Management

***New International Master of Science on Industry 4.0** from existing courses at UPV/EHU, UBx, ENSAM and UC (USA) .*

Organization of the LTC workshop and PhD training

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LTC ÆNIGME / Main results- Outcomes - Work plan

DURING 2020, THE FOLLOWING MAIN OUTCOMES HAVE BEEN REALIZED

- **7 PUBLICATIONS IN Q1 JOURNALS AND 4 PUBLICATIONS IN EVALUATION IN Q1 JOURNALS**
- **3 CONTRIBUTIONS IN INTERNATIONAL CONERENCES AND 8 POSTPONED TO 2021**
- **1 ITN MARIE SKLODOWSKA-CURIE IN PROGRESS**
- **1 BOOK CHAPTER PUBLISHED BY SPRINGER**
- **1 CO-TUTELLE PhD FINALISED, 1 CO-TUTELLE PhD RUNNING AND 1 IN PROGRESS**
- **3 COSUPERVISED PhDs RUNNING**
- **2 INTERNATIONAL PhD RUNNING**
- **10 MONTHS OF INCOMING / OUTGOING MOBILITY REALIZED**
- **ONLINE TRAINING**
- **1 WORKSHOP ORGANISED FOR PhD STUDENTS (ONLINE EVENT)**
- **26 HOURS OF SPECIFIC COURSES ORGANIZED (15 + 25 STUDENTS HAVE ATTENDED THESE COURSES DURING THE ONLINE TRAINING AND THE WORKSHOP)**

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Next steps

OPEN THE LTC TO COMPLEMENTARY COMPETENCES (THERMAL ASPECTS…)

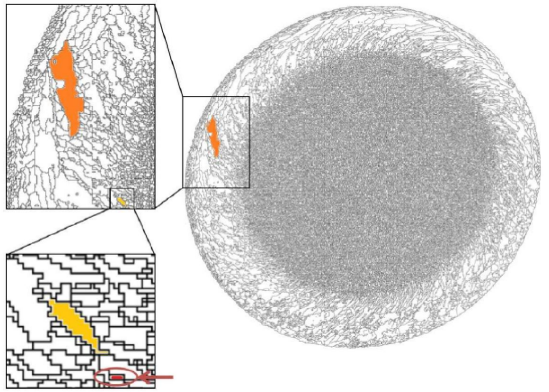
PARTICIPATION IN PROJECTS OF THE KIC "MADE IN EUROPE"

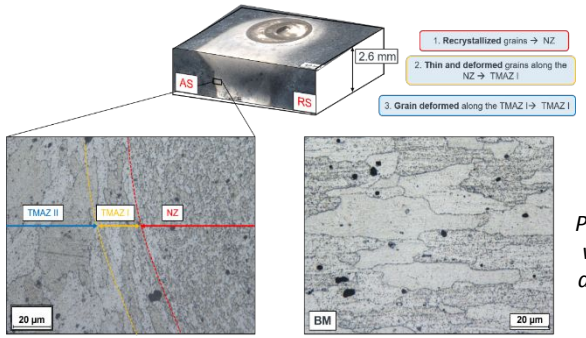
THINK ABOUT ITN POSSIBILITIES OR OTHER PROGRAMS AFTER THE ENABLE PROJECT

INCREASE OUTGOING / INCOMING MOBILITY

INCORPORATION OF NEW PhD STUDENTS AND POSTDOCS…

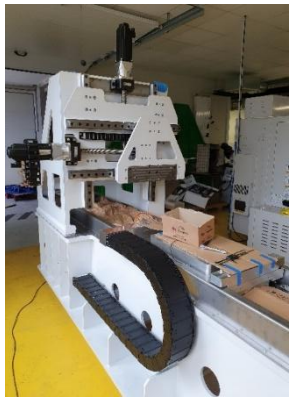
Example of statistical self-similarity of grain morphology for an EBSD image of the CC deposition strategy on a coated specimen. The scale of the self-similarity will be limited in this case by the resolution of the image used in the fractal geometry analysis (the resolution of the EBSD image is 10 microns, the diameter of the section shown is approximately 7.7 mm).

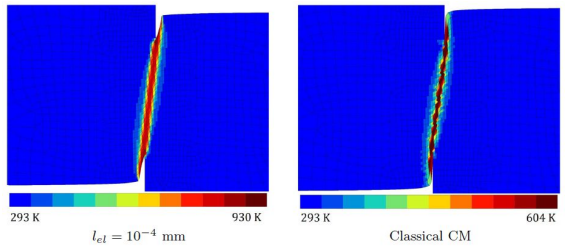




Prototype of the nodes/bars structure with integration of the hexapod (the actuators of the hexapod are not set)

Bench prototype for machining and friction experiments currently set up.





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LTC ÆNIGME

Contacts

BASQUE COUNTRY PARTNER

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Escuela de Ingeniería de Bilbao – Departamento de Ingeniería Mecánica

NEW AQUITAINE PARTNER

Pr. OLIVIER CAHUC Olivier.cahuc@u-Bordeaux.fr
Institut de Mécanique et Ingénierie de Bordeaux – Département MPI

LTC3_Transmath

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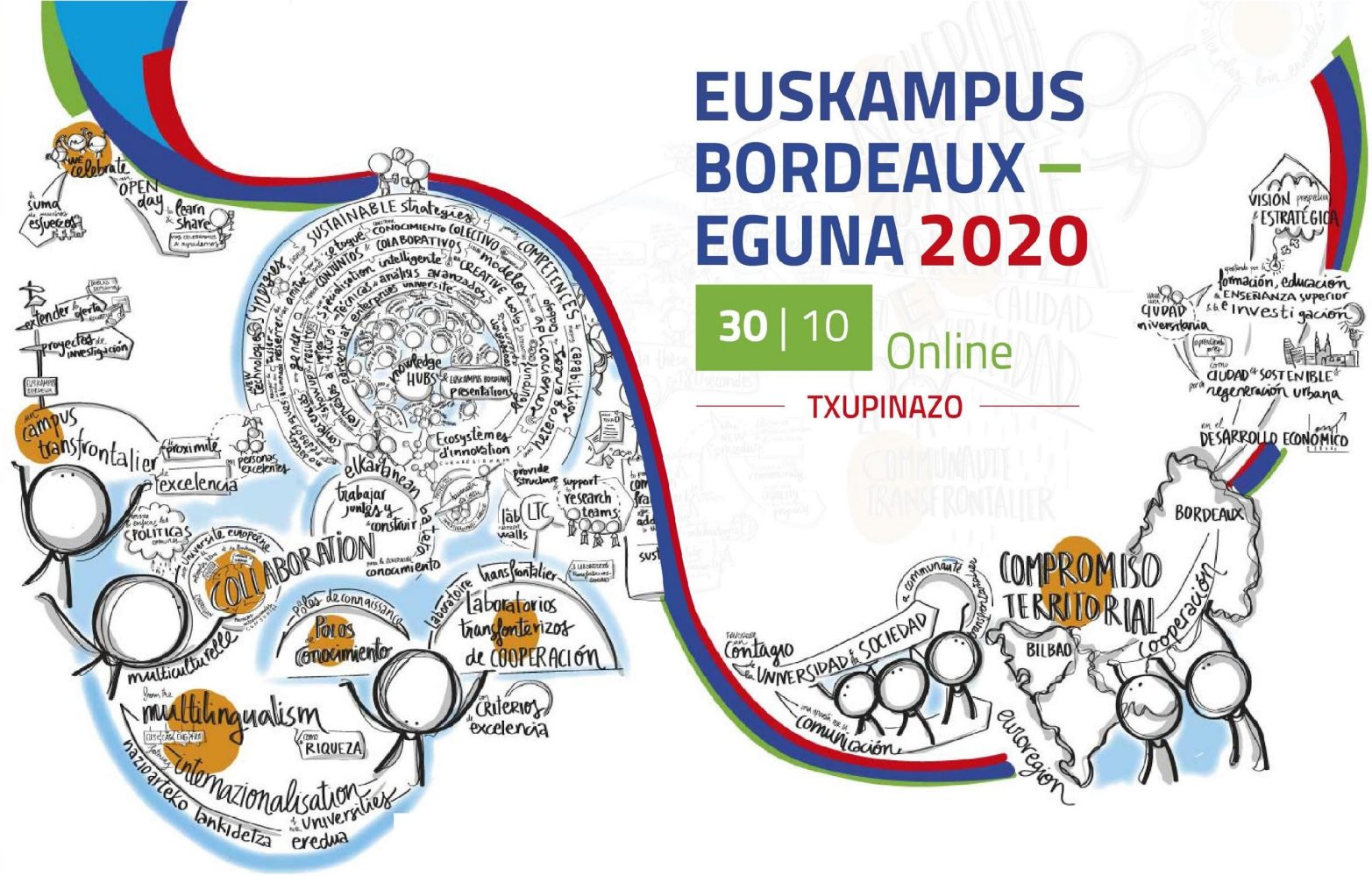

LTC name: TRANSMATH

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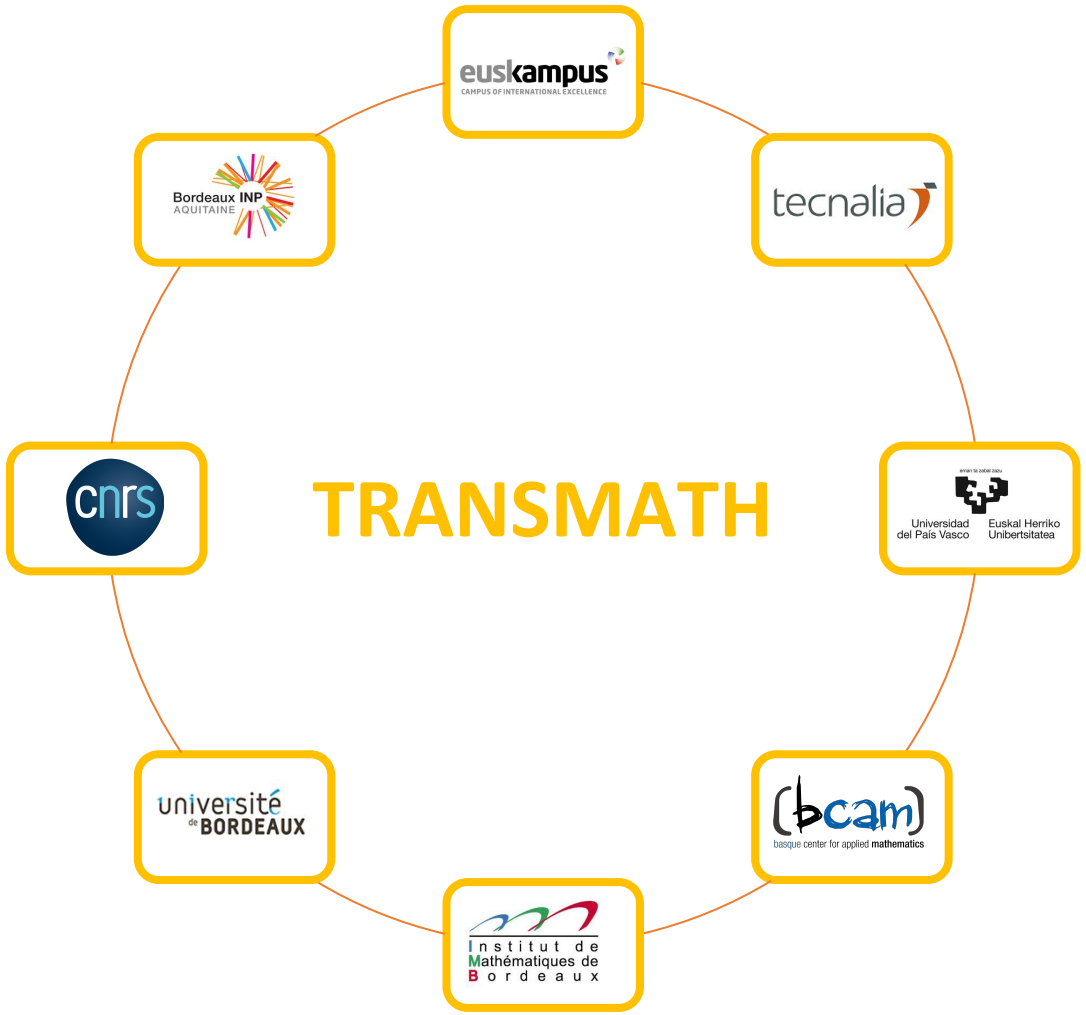
TRANSMATH/ Partners and Entities involved

Transborder Laboratory for Mathematics and its Applications-Transmath



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TRANSMATH /Main objectives

Principal Investigators & Hosts:

In Bordeaux: ***DAVID LANNES***

- *Institut de Mathématique de Bordeaux (IMB), UMR CNRS 5251*
- *Université de Bordeaux*

In the Basque Country : ***LUIS VEGA***

- *Department of Mathematics, University of the Basque Country*
- *BCAM – Basque Center for Applied Mathematics*

Keywords:

- ✔ *Mathematics,*
- ✔ *Applied Mathematics,*
- ✔ *Analysis of PDEs,*
- ✔ *Computational mathematics,*
- ✔ *Algebra and Geometry,*
- ✔ *Mathematical Physics,*
- ✔ *CFD,*
- ✔ *Mathematical Modeling,*
- ✔ *Mathematics and Artificial Intelligence*

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TRANSMATH/Main results- Outcomes - Work plan

Main results:

- Two co-tutelle agreements
  - Baddredine Benhellal (2019) co-funded by ERC HADE
  - Mahdi Zreik (2020) UB grant (*Doctorat International* 2020 call)

- Collaboration with LTC AENIGME and the participation in the ITN Project ENABLE: PhD student Tamara Dancheva (BCAM) has been hired. The advisor is Michael Barton (Ikerbasque Fellow, BCAM).

- Collaboration in the project Renovable for the Euroregional call "Economy of knowledge" (EHU,BCAM, Alerion technologies, UPV, CENER, Naitec, Science Po Bordeaux, IMB and Inria)

- Part of the H2020-MSCA-COFUND-2020 application led by UPV/EHU + UB on advanced manufacturing

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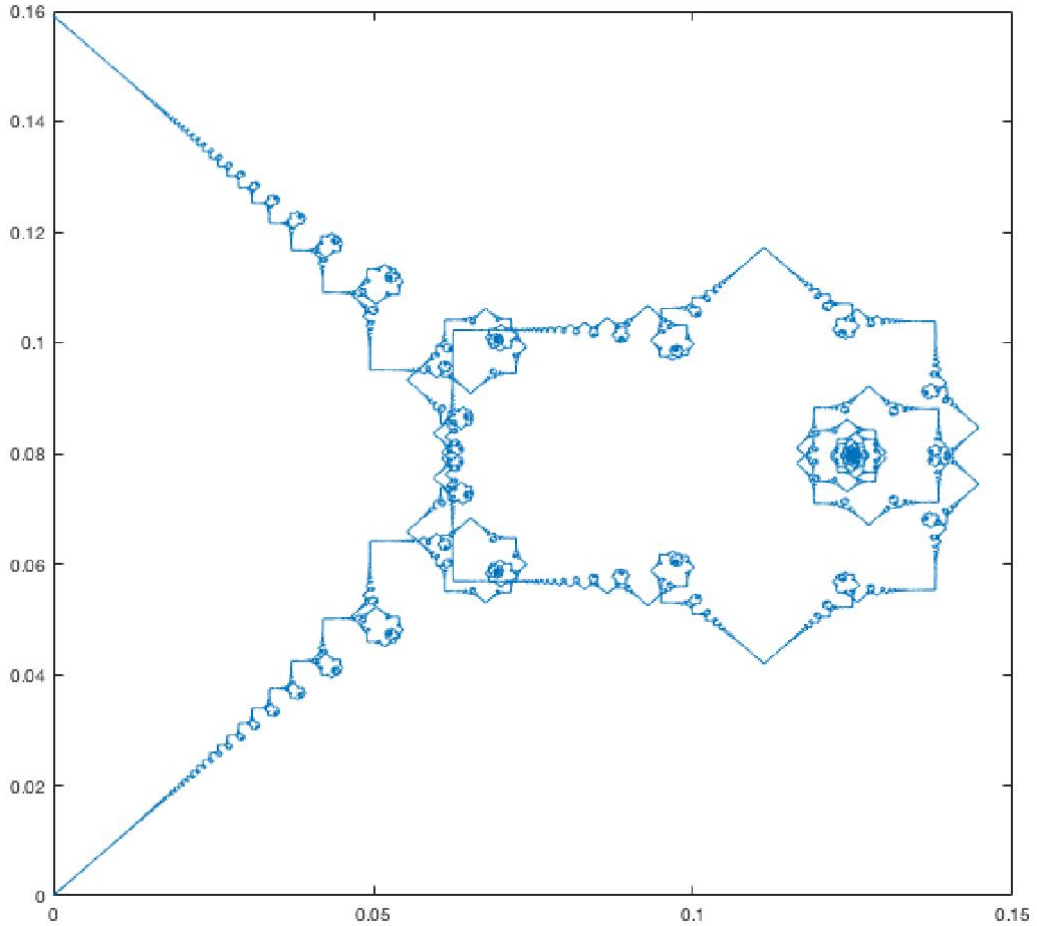
Next steps

- Strengthen the regional net on marine renewable energies: organization of a conference, workgroups.
- Student seminar : once in Bilbao and once in Bordeaux.
- On going collaboration in Algebra: need of funding at the postdoc level.



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TRANSMATH

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Luis Vega: luis.vega@ehu.eus

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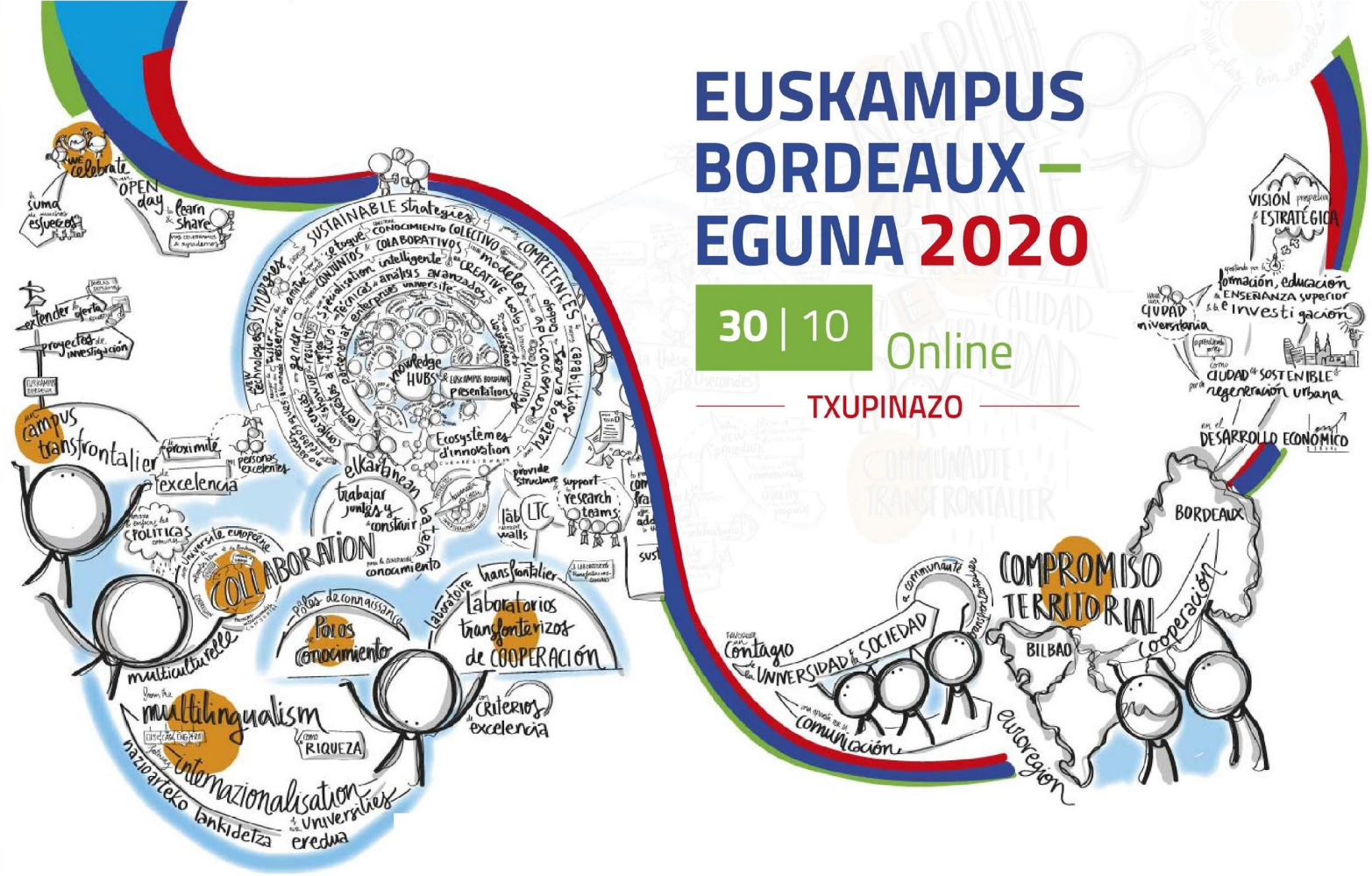

LTC
GREEN CONCRETE

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LTC Green Concrete / Partners and Entities involved

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tecnalia

DIPC

icmcb

Institut de chimie de la matière condensée de bordeaux

Green Concrete

Cross-Border Collaborative Laboratory

Baskrete

Basque Country Initiative for Cement and Concrete Research

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ISM Institut des Sciences Moléculaires BORDEAUX

CFM

CSIC

Consejo Superior de Investigaciones Científicas

POLYMAT

MPC

Materials Physics Center

cnrs

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LTC Green Concrete /Main objectives

~ 10% human CO_2 emissions related to cement manufacture

~ 40% of the energy demand is consumed in buildings.

The **LTC GREEN CONCRETE** aims to be

- our **"local" response to a global need,** and
- become a worldwide reference in the **development of more sustainable production processes and materials for concrete** and cement based materials.

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LTC Green Concrete/ Results - Work plan

4 RESEARCH AREAS

CLINKER ENGINEERING

(New chemistry, new MW and hydrothermal Cement manufacture processes**)**

HYDRATION ENGINEERING

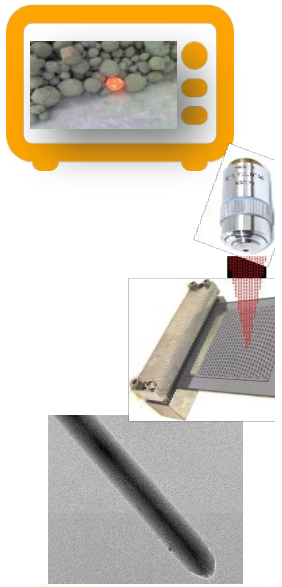
(Cement composite designs, Multi-scale characterization and simulations)

NANOADDITIONS

(nanotubes, seeds, superplasticizers…)

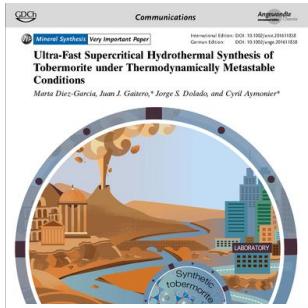
PERFORMANCE

(Mechanical and thermal Properties, Energy Storage, durability, LCA…**)**

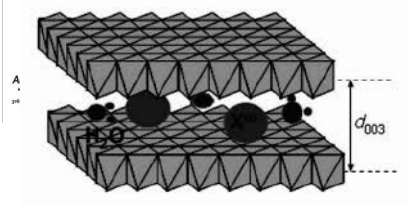


Some results…

PUBLICATIONS



PATENTS



DISSEMINATION

UDA IKASTAROAK
CURSOS DE VERANO
SUMMER COURSES
UPV/EHU

TRAINING (3 PhD in cotutelle soon)

FUNDING

ENERGY STORAGE

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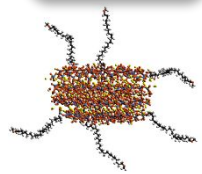
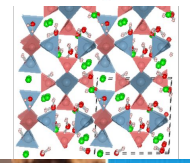
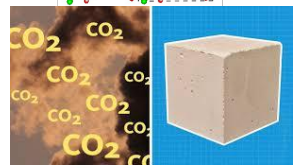
Next steps

MNG	**KoM.** Strengthening our joint participation in EU projects. Identification of new collaboration areas. Define the "Talent capture plan". *Nov 2020*
R&D	**PhD thesis** of Valentina Musumecci (ICMCB & CFM). *March 2021*
R&D	**PhD thesis** Francisco Aguirre (TECNALIA & ICMCB). *October 2021*
R&D	**Co-tutelled PhD:** Zeolite-based concrete for energy storage. *April 2021*.
R&D	**Postdoctoral researcher :** Eco-concrete for CO_2 capture. *Feb 2021*
DISS&EXP	**Patentability study.** (*Dec 2020*).
DISS&EXP	**International Green Concrete Workshop** (Biarritz, *Jun 2021*)

Horizon Europe







European Patent Office

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LTC Green Concrete

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Cyril Aymonier

Jorge S. Dolado

Green Concrete

Cross-Border Collaborative Laboratory

Nadia Saiyouri

Andrés Ayuela

Hegoi Manzano

José Ramón Leiza

Guido Sonneman

Silvina Cerveny

Juan J. Gaitero

Edurne Erkizia

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12:20 – 12:30 / Txupinazo Euskampus Bordeaux urte nagusia

Julieta Barrenechea, Université de Bordeaux et Euskampus fundazioa

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EUSKAMPUS BORDEAUX URTE NAGUSIA

10º Anniversary

- Campus of International Excellence Euskampus
- University of Bordeaux Initiative of Excellence
- Euskampus Fundazioa
- Euroregional Campus Euskampus Burdeos,

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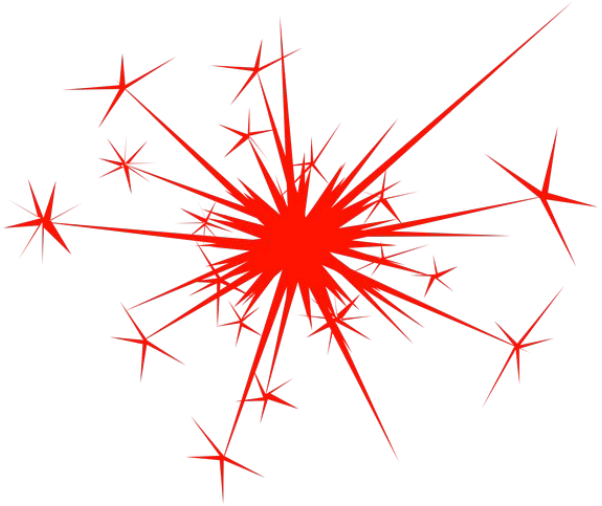

10 years in wich we have been...

Awarded ….

- DIÁLOGO 2018 Prize

Accompanied…

- Euroregion AECT NAEN Strategic Partnership

Recognized …

- Strategic Alliance European University ENLIGHT

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10 years collaborating ....

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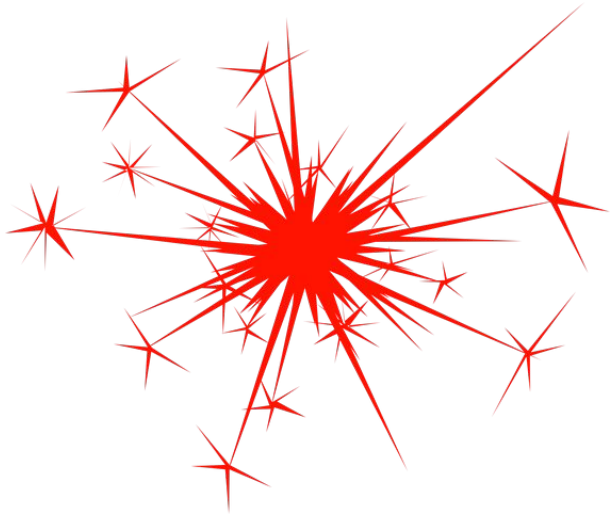

EDUCATION, EMPLOYABILITY AND ENTREPRENEURSHIP E3

- 4 Post-graduate joint degrees
- 2 Erasmus Mundus Master
- 1 INTERREG - POCTEFA Project

RESEARCH & INNOVATION

- 4 Cross-border Joint Laboratories (LTC)
- 25 PHD cotutelle defended since 2015,
- 30 PHD cotutelle ongoing
- 9 European projects
- 309 co-authorship

REGIONAL ENGAGEMENT

- 6 Eurorregional Projects
- Participation in Euro-regional Strategy.

COMMUNICATION AND INTERNATIONAL PROJECTION

- 2 Social comunication forums
- Alliance ENLIGHT

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WORKSHOPS AND ENCOUNTERS

EUSKAMPUS BORDEAUX EGUNA

SUMMER 2021

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10 th Anniversary

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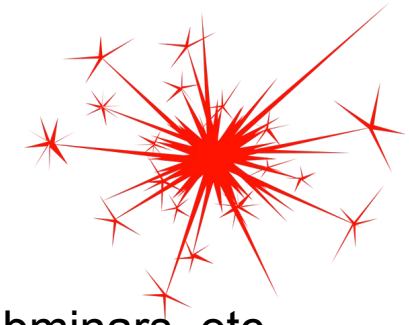

"Programme to support the organisation of Euskampus Bordeaux 2020-2021 encounters/meetings".

Bases on the we site **15th November**

Purpose: genuine, inter, trans and multidisciplinary collaboration around priority challenges for our Euroregional territory with high potential for scientific, technological, economic and social impact.

Meetings/encounters : Workshops, webminars, etc ….

- Leading role to young researchers and students
- creativity in the formats
- Web and media contents
- look to Europe through for the collective construction of this Alliance

ENLIGHT

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In June 2021 we will, hopefully, celebrate 10 years of EUSKAMPUS BORDEAUX and an ambitious horizon of collaborations for the next decade.

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12:30 – 13:00 / Cierre / Itxiera / Clôture

Ricardo Diez, Director DIPC

Iñaki San Sebastián, CEO Tecnalia

Mathieu Bergé, Conseiler regional Coop.transfrontalière Nouvelle-Aquitaine

Jokin Bildarratz, Consejero de Educación, Gobierno Vasco

Manuel Tunón de Lara, Président UB

Nekane Balluerka, Rectora UPV/EHU

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UPV EHU · DIPC · tecnalia · université de BORDEAUX · ORMAZABAL velatia · CAF · ikerbasque Basque Foundation for Science