



Korea-EU Horizon Europe Researchers Networking Forum

on Advanced Biotechnology

1- 3 July 2025



UAB

Universitat Autònoma
de Barcelona



Universitat
Pompeu Fabra
Barcelona



Universidad Autónoma
de Madrid

uc3m

Universidad
Carlos III
de Madrid

What is **Alliance** **4 Universities?**

A strategic partnership of 4 research leading
Spanish Public Universities... **since 2009**

4 Universities
2 Cities
1 Alliance



MADRID

Universidad Autónoma
de Madrid

Universidad Carlos III
de Madrid



BARCELONA

Universitat Autònoma
de Barcelona

Universitat Pompeu Fabra
de Barcelona

A-4U

Objectives and Joint Actions



1. **Promotion of European research**
activities through a permanent office in Brussels (OPERA), which facilitates participation of A-4U researchers in European programmes and decision-making



2. **IUNE Observatory**
an information database for the evaluation of research in Spanish universities, recognised by the Ministry of Education of Spain



3. **Common strategy of internationalisation**
Africa (South, West)



4. **Joint undergraduate programmes**
Philosophy, Politics and Economics (since 2013)
Sciences (since 2020)
Science, Technology and Humanities (since 2021)
Partially English-taught



OPERA: Office for the Promotion of European Research Activities

Research at Alliance 4 Universities

A-4U enhances the strategic collaboration between Madrid and Barcelona as the two most R&D intensive regions in Spain



6%

of the Permanent Research and Teaching Staff in the Spanish University System



17%

of the scientific production (papers) in the Spanish University System



63%

Open Access Publications (2013-2022)



59%

of the sci papers with International Collaboration



600 H2020

projects with a total EU-funding of **273 M €**



12%

funding from Spanish R&I National Program



378 HE

projects with a total EU-funding of **188 M €**

Data from [IUNE](#) Report 2023



A4U-OPERA – Added Value

Promotion of European research activities through a permanent office in Brussels (OPERA), which facilitates participation of A-4U researchers in European programmes and decision-making processes

- ✓ Radar to strategic information and opportunities (new programs, new initiatives)
- ✓ Digestion of all the information created daily in Brussels and inform adequately Local European Projects Support Offices (bulletins and dedicated emails)
- ✓ Participation in brokerage events and position A4U research and researchers
- ✓ Meeting spaces for A4U Researchers

OPERA: Office for the Promotion of European Research Activities

	 UAB Universitat Autònoma de Barcelona	 UAM Universidad Autónoma de Madrid	 uc3m Universidad Carlos III de Madrid	 upf Universitat Pompeu Fabra Barcelona	
HORIZON EUROPE (Nr Projects)					
Pillar I: Excellence Science	87	48	28	71	234
ERC	30	5	3	32	70
MSCA	55	41	22	36	154
Research Infrastructures	2	2	3	3	10
Pillar II: Global Challenges	49	8	42	19	118
CL5: Climate, Energy and Mobility	10	1	9	0	20
CL2: Culture, creativity and inclusive s	18	2	7	5	32
CL4: Digital, Industry and Space	6	1	22	6	35
CL6: Food, Bioeconomy Natural Resources, Agriculture	9	2	1	2	14
CL1: Health	6	2	0	6	14
CL3: Civil Security for Society	0	0	3	0	3
Pillar III: Innovative Europe	2	8	3	3	16
European innovation ecosystems	0	1	0	0	1
EIC	2	7	3	3	15
WIDERA	5	2	1	2	10
Widening	3	1	1	2	7
ERA	2	1	0	0	3
TOTAL	143	66	74	95	378
TOTAL (EU Net Contribution M€)	77,8	19,8	23,8	66,2	187,6

HE CL1 Projects

INSTITUTION	Project Acronym	CORDIS link	Project EU contribution (EUR)
UAB	AICE	http://cordis.europa.eu/project/id/101057400	4.650.797,00 €
UAB	EChLiBRiST	http://cordis.europa.eu/project/id/101057114	6.935.380,75 €
UAB	IDAlert	http://cordis.europa.eu/project/id/101057554	9.188.294,00 €
UAB	LIVERAIM	http://cordis.europa.eu/project/id/101132901	13.854.592,75 €
UAB	VaMPiRE	http://cordis.europa.eu/project/id/101156370	7.928.632,83 €
UAB	ERDERA	http://cordis.europa.eu/project/id/101156595	56.317.412,61 €
UAM	MENTBEST	http://cordis.europa.eu/project/id/101080651	6.975.977,50 €
UAM	ORTHO-ALLO-UNION	http://cordis.europa.eu/project/id/101137464	9.993.416,25 €
UPF	IDAlert	http://cordis.europa.eu/project/id/101057554	9.188.294,00 €
UPF	TRUSTING	http://cordis.europa.eu/project/id/101080251	5.999.510,00 €
UPF	GEMINI	http://cordis.europa.eu/project/id/101136438	9.991.877,50 €
UPF	PLANET4HEALTH	http://cordis.europa.eu/project/id/101136652	5.925.130,00 €
UPF	EBV-MS	http://cordis.europa.eu/project/id/101136991	6.999.194,50 €
UPF	VICT3R	http://cordis.europa.eu/project/id/101172693	13.524.750,00 €

OPERA: Office for the Promotion of European Research Activities

Universities' Expertise

ANA JANIC



Universitat
Pompeu Fabra
Barcelona



Principal Investigator Universitat Pompeu Fabra (UPF)

Contact: ana.janic@upf.edu

Main Research Lines:

My research focuses on **Cancer Biology**, specifically investigating the mechanisms of **tumour suppressors**, **DNA damage**, and the role of **p53**. A key area of my work involves **immunotherapy** approaches to combat cancer.

Lab Website: <https://www.upf.edu/web/cancer-biology>

Interest in Horizon Europe Cluster 1 Topics (WP2025): I am interested in the call **HORIZON-HLTH-2025-01-TOOL-05: "Boosting the translation of biotech research into innovative health therapies"**. My expertise in cancer biology and immunotherapy is highly relevant to developing novel biotechnology-derived therapeutics, such as advanced cell therapies or therapeutic vaccines, for cancer treatment. This call's focus on accelerating the transition from preclinical research to early clinical phases aligns directly with my goal of translating fundamental discoveries in cancer biology into innovative health solutions for patients

JAVIER MACÍA



Universitat
Pompeu Fabra
Barcelona



Associate Professor Universitat Pompeu Fabra (UPF)

Contact: javier.macia@upf.edu

Main Research Lines:

My research focuses on **Synthetic Biology** applied to biomedical solutions. We develop **biosensors**, **biomaterials**, and explore **bioengineering** to create biological systems with novel functionalities.

Lab Website: <https://www.upf.edu/web/sbba>

Interest in Horizon Europe Cluster 1 Topics (WP2025): I am interested in the call **HORIZON-HLTH-2025-01-TOOL-01: "Enhancing cell therapies with genomic techniques"**. My expertise in synthetic biology and bioengineering directly aligns with the development of genetically engineered cells, the engineering of synthetic circuits, and the creation of cells with improved therapeutic properties, which are key aspects of this call.

LORENZO PASQUALI



Universitat
Pompeu Fabra
Barcelona



Professor Universitat Pompeu Fabra (UPF)

Contact: lorenzo.pasquali@upf.edu

Main Research Lines:

My research focuses on **Endocrine Regulatory Genomics**, investigating the **genomic and epigenetic regulation** of **insulin-producing pancreatic beta cells**. We combine molecular genetics and bioinformatic approaches to understand regulatory mechanisms controlling cell function and fate in endocrine tissues, particularly in the context of **diabetes** and neuroendocrine tumors.

Lab Website: <https://www.upf.edu/web/endocrine-regulatory-genomics>

Interest in Horizon Europe Cluster 1 Topics (WP2025):

HORIZON-HLTH-2025-01-TOOL-01: Enhancing cell therapies with genomic techniques

HORIZON-HLTH-2025-01-DISEASE-06: Implementation research addressing strategies to strengthen health systems for equitable high-quality care and health outcomes in the context of non-communicable diseases (GACD)

HORIZON-HLTH-2025-01-TOOL-02: Advancing cell secretome-based therapies

HORIZON-HLTH-2025-01-TOOL-03: Leveraging multimodal data to advance Generative Artificial Intelligence applicability in biomedical research (GenAI4EU)

My background in genomics, epigenetic regulation, and computational biology, particularly as applied to human cell function and the pathogenesis of diabetes, aligns closely with the scientific and translational goals of these calls. Regarding "Enhancing cell therapies with genomic techniques", my work directly contributes to the development of genetically and epigenetically engineered cells with improved therapeutic functionalities. For "Advancing cell secretome-based therapies", I am involved in research focused on uncovering the regulatory mechanisms that govern secretome composition in human cells. These insights can support the optimization of secretome-based products for regenerative medicine applications. In the context of "Leveraging multimodal data to advance Generative Artificial Intelligence applicability in biomedical research", my team is actively exploring deep learning approaches for integrating and analyzing single-cell multi-omic datasets. Although not directly related to basic science, I am also interested in the DISEASE-06 call, as my translational work intersects with strategies to improve care models for complex chronic conditions such as diabetes—an area central to equitable and high-quality health outcomes.

ERA4TB accelerates the development of new treatment regimens for tuberculosis.

About

ERA4TB (European Regimen Accelerator for Tuberculosis) project is a public-private initiative devoted to accelerate the development of new treatment regimens for tuberculosis.

Objectives

The main objective of ERA4TB is to create a European open platform to accelerate the development of new regimens for the treatment of tuberculosis.

Ambition

All Member States of WHO and the UN have committed to the goal of ending the TB epidemic by 2030 through their unanimous endorsement of the WHO End TB Strategy at the World Health Assembly and their adoption of the UN Sustainable Development Goals (SDGs).

uc3mUniversidad
Carlos III
de Madrid**Maria Arrate Muñoz Barrutia****Full Professor**

Universidad Carlos III de Madrid

Biography

Arrate Muñoz Barrutia is Full Professor at Universidad Carlos III de Madrid (UC3M) and Senior Researcher at the Gregorio Marañón Health Research Institute. She holds a Ph.D. in Electrical Engineering from the Swiss Federal Institute of Technology Lausanne (EPFL) and a Telecommunications Engineering degree from Universidad Pública de Navarra (UPNA). Her international career includes academic stays at King's College London, the California Institute of Technology (Caltech), and Johns Hopkins University, where she was Visiting Professor in 2022-2023. She has previously held positions at CIMA-Universidad de Navarra, CEIT, and TECNUN, and served as Chair of the Bioengineering and Aerospace Engineering Department at UC3M from 2019 to 2021.

She is IEEE Fellow (2024) and has been recognized with the UC3M Excellence Award for Young Researchers (2017), a BBVA Leonardo Grant (2017), and a Ramón y Cajal fellowship (2005). Arrate Muñoz Barrutia has supervised 11 PhD theses—two awarded Extraordinary Doctorate Prizes—and over 65 undergraduate and master's theses.

She has held leadership roles such as Chair of the Steering Committee of the IEEE International Symposium on Biomedical Imaging (2022-2024) and elected member of the Administrative Committee of the IEEE Engineering in Medicine and Biology Society (2019-2021). She has also served on numerous national and international research evaluation panels. As of May 2025, she has authored 88 JCR-indexed articles (73% Q1) and has more than 6,600 citations and an H-index of 33 (GS).

Research Area

My work focuses on the development of computational methods and AI-driven tools for the analysis of biomedical image data, with an emphasis on usability, reproducibility, and FAIR principles. I have co-led the design of open-source platforms such as deepImageJ (Nat Methods, 2021), BiaPy (Nat Methods, 2025), and the bioimage.io chatbot (Nat Methods, 2024), all aimed at democratizing access to deep learning in microscopy.

My recent research includes InterpolAI, a deep learning method for optical flow interpolation to enhance 3D tissue reconstructions (Nat Methods, 2025). I contribute to infrastructure projects like AI4Life, focusing on model reuse, evaluation, and community engagement. These efforts span multiple scales—from subcellular structures to tissue-level organization—and are applied to problems in oncology, neuroscience, and cell biology.

Juan José Vaquero – RESEARCH



Juan José Vaquero

[Google Scholar](#)

[Webpage](#)

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Carlos III
de Madrid

About him

Juan José Vaquero is a faculty member at the Departamento de Bioingeniería, Universidad Carlos III de Madrid since 2010. He is Telecommunications Engineer from the Universidad Politécnica de Madrid (UPM) in 1988, and a European EUR ING in 1992. He also holds a Master of Bioengineering from the UNED, and a PhD in Medical Imaging from the Universidad Politécnica de Madrid.

He joined SIEMENS-Spain as the Head of the Cardiology, Ultrasound and OperatingTheatresGroup from 1988 to 1990.

Between 1991 and 1997 he carried out research as a postdoctoral scientist at UPM that was focused on medical imaging, and led projects which developed a clinical gamma camera and MRI prototypes for small-animal and human imaging.

From 1997 to 2001 he was a Fogarty Fellow at the National Institutes of Health (Bethesda, Maryland, USA), where he was the principal engineer for the development of a new generation of small-animal PET systems.

In 2001, he returned to Madrid and joined the Unidad de Medicina y Cirugía Experimental (Experimental Medicine and Surgery Unit) of the Hospital General Universitario Gregorio Marañón as a Ramón y Cajal Fellow in 2007, and he became a senior scientist at the Fundación para la Investigación Biomédica del Hospital Gregorio Marañón (FIBHGM), where he managed the preclinical molecular imaging activities.

His current research is focused on the development of small-animal molecular imaging systems and their associated instrumentation and data analysis. For this purpose, he directs his research group in coordination with research projects involving a variety of local, national and international collaborators (see below), as well as with industrial partners.

He has co-authored more than 186 journal articles and book chapters, and currently holds 13 patents on medical imaging devices.

ARTES RODRIGUEZ, ANTONIO

category: Full Professor

 <https://orcid.org/0000-0001-6540-7109>

Positions

- Academic Department : Signal Theory and Communications
- Research Group : Signal Processing and Learning Group (GTSA)
- Institute : Pedro Juan de Lastanosa Institute of Technology Development and Innovation
- Institute : UC3M-Santander Big Data Institute

Subjects

Biology and Biomedicine Computer Science Electronics Mathematics
Mechanical Engineering Medicine Pharmacy Physics Psychology
Robotics and Industrial Informatics Social Work Sociology Statistics Telecommunications

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MUÑOZ ORGANERO, MARIO



category: Full Professor

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Positions

- ▶ Academic Department : Telematic Engineering
- ▶ Research Group : GAST- Telematic Applications and Services Group
- ▶ Institute : UC3M-Santander Big Data Institute

Subjects

Agriculture Biology and Biomedicine Computer Science Education Medicine
Telecommunications

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LARRABEITI LOPEZ, DAVID

category: Full Professor

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Positions

- ▶ Academic Department : Telematic Engineering
- ▶ Research Group : Network Technologies
- ▶ Institute : University Institute on Gender Studies

Subjects

Aeronautics Computer Science Electronics Industrial Engineering
Mechanical Engineering Optics Physics Telecommunications

Contact Info

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Salvador Ventura

Full Professor
Universitat Autònoma de Barcelona

Biography

Salvador Ventura is Full Professor of Biochemistry and Molecular Biology at the Universitat Autònoma de Barcelona (UAB) and Scientific Director of the Parc Taulí Research and Innovation Institute (I3PT), a CERCA and ISCIII center.

He is also an ICREA Acadèmia researcher and co-founder of Eureka NanoBioEngineering.

Ventura earned his PhD in Biological Sciences from UAB in 1998.

He conducted postdoctoral research at EMBL-Heidelberg, Harvard Medical School, and the Karolinska Institutet.

In 2003, he returned to UAB as a Ramón y Cajal researcher.

Since 2005, he leads the "Protein Folding and Conformational Disorders" group at the Institute of Biotechnology and Biomedicine (IBB), which he directed from 2017 to 2020.

His lab integrates computational and experimental tools to combat protein aggregation.

He has led 47 competitive research projects and 11 contracts with industry.

Author of over 310 scientific articles, he has supervised 20 PhD theses and holds 19 patent families.

One of the most cited researchers in protein aggregation, he ranks among the top 2% in his field globally.

He has received the Narcís Monturiol Medal, the Bruker "Manuel Rico" Award, and three ICREA Acadèmia distinctions.

Ventura also received the UAB Knowledge Transfer and Research Excellence Awards.

He is an elected member of the Academia Europaea.

He serves on the Governing Board of CIBER-ISCIII and on juries and boards supporting science and innovation.

His work bridges basic research, clinical application, and biotech transfer.



Thank you
for your attention

For more information:

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