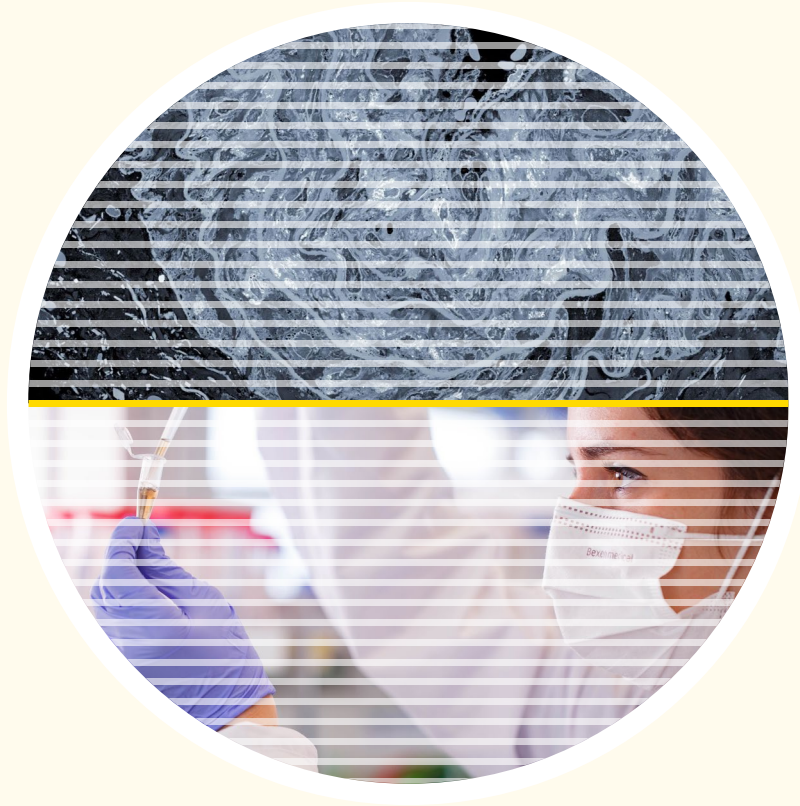


CIC biomaGUNE

AT THE FRONTIERS OF SCIENCE

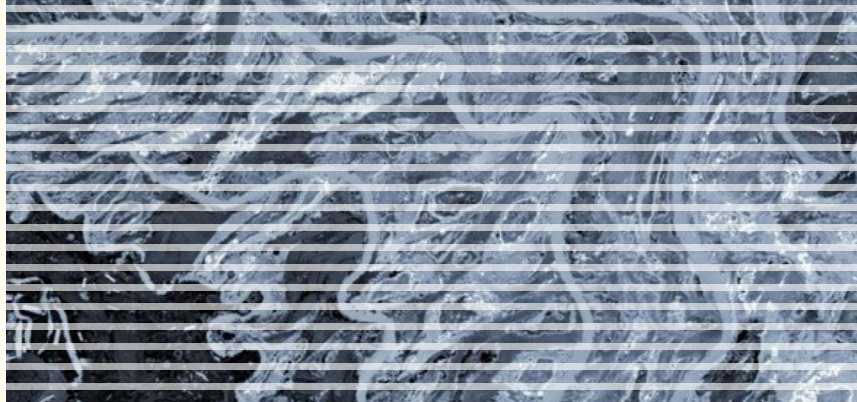


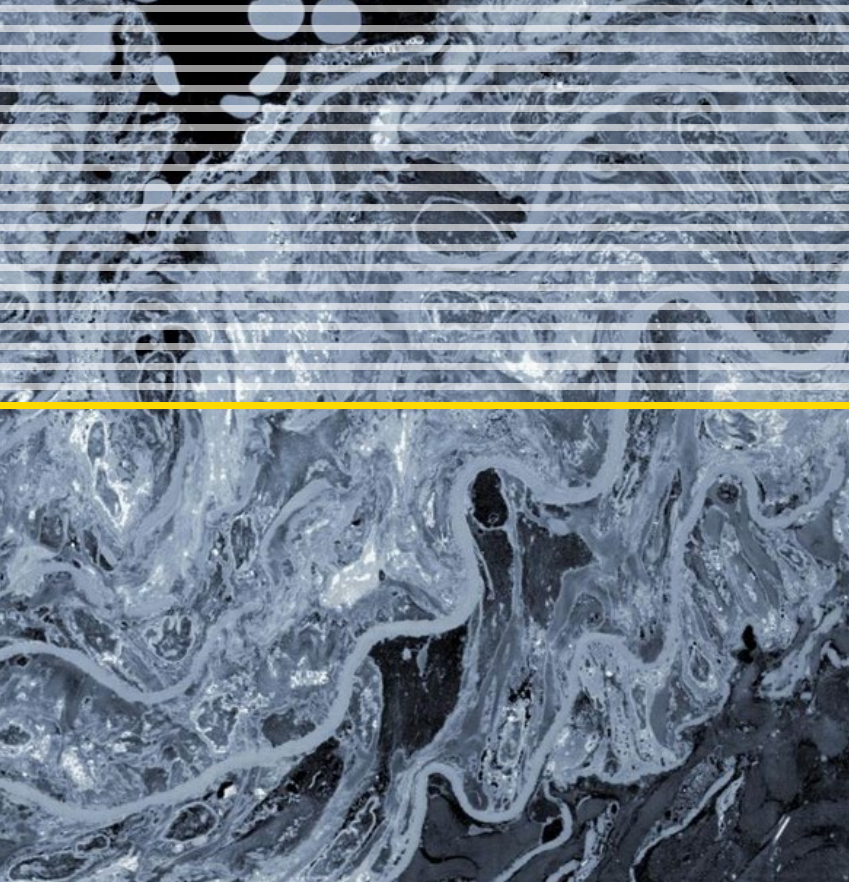
CICbiomaGUNE

MEMBER OF BASQUE RESEARCH
& TECHNOLOGY ALLIANCE



EXCELENCIA
MARÍA
DE MAEZTU
07/2018 - 06/2022





CICbiomaGUNE

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& TECHNOLOGY ALLIANCE



EXCELENCIA
MARÍA
DE MAEZTU
07/2018 - 06/2022



José M. Mato
DIRECTOR GENERAL

Aitziber L. Cortajarena
SCIENTIFIC DIRECTOR

AT THE FRONTIERS OF SCIENCE



The Center for Cooperative Research in Biomaterials - CIC biomaGUNE, member of the Basque Research and Technology Alliance (BRTA), is a non-profit research organization created to promote scientific research and technological innovation at the highest levels in the Basque Country, following the BioBasque policy in order to create a new business sector based on biosciences.

Prof. José M. Mato is the Director General of CIC biomaGUNE since its definition in 2005. The scientific activity started in December 2006, under the direction of Prof. Manuel Martín-Lomas, who took the responsibility to shape the identity of the Center. After an initial phase during which the first research teams were selected, the Molecular Imaging Facility was built and soon approved as a Singular National Facility by the Spanish Government in 2011. Prof. Luis M. Liz-Marzán took over the Scientific Directorate in January 2013, until December 2021. Since January 2022, Prof. Aitziber L. Cortajarena is the Scientific Director of CIC biomaGUNE.

Located in the Science and Technology Park of Gipuzkoa (Donostia-San Sebastián), the activity of CIC biomaGUNE is conducted by a team of 10 international and dynamic research groups, which develop high-level research at the interface between chemistry, physics and biology, with particular emphasis on the properties of nanostructures and biomaterials, and their applications in biomedicine.

The main research lines deal with the design, preparation and characterization of biofunctional nanostructures and their *in vitro* and *in vivo* biological evaluation, to be used in the study of biological processes and the development of biomedical tools such as diagnostic, theranostic, or multimodal imaging platforms.

To carry out this ambitious program of research, the Center counts with a unique research infrastructure, equipped with advanced nanoscience, chemistry, biochemistry, cell biology, and molecular imaging facilities, including fully equipped research laboratories, **Technological Platforms** and the **Molecular Imaging Facility**, recognized as a Singular Scientific and Technical Infrastructure (ICTS) by the Spanish Government and one of the **most complete preclinical imaging research infrastructures in Europe**.



CIC biomaGUNE

MEMBER OF BASQUE RESEARCH
& TECHNOLOGY ALLIANCE



In the course of almost fifteen years, with an average critical mass of around 160 people, the Center has obtained national and international recognition as a scientific leader and knowledge builder in the field of biomaterials. Among other achievements, our activity has resulted in the generation of knowledge (publications, patents, PhD theses), the internationalization of research through collaborations with international bodies and institutions, as well as opening our facilities to the scientific community and the industrial sector.

In 2018 CIC biomaGUNE earned the accreditation as a “María de Maeztu Unit of Excellence”, the highest recognition of scientific excellence in Spain awarded by the Spanish State Research Agency (AEI).

The center counts also with the European Seal of Excellence in Human Resources “HR Excellence in Research”, the UNE 166002:2014 standard for RD&I Management and the AAALAC accreditation for the care and use of animals in science.





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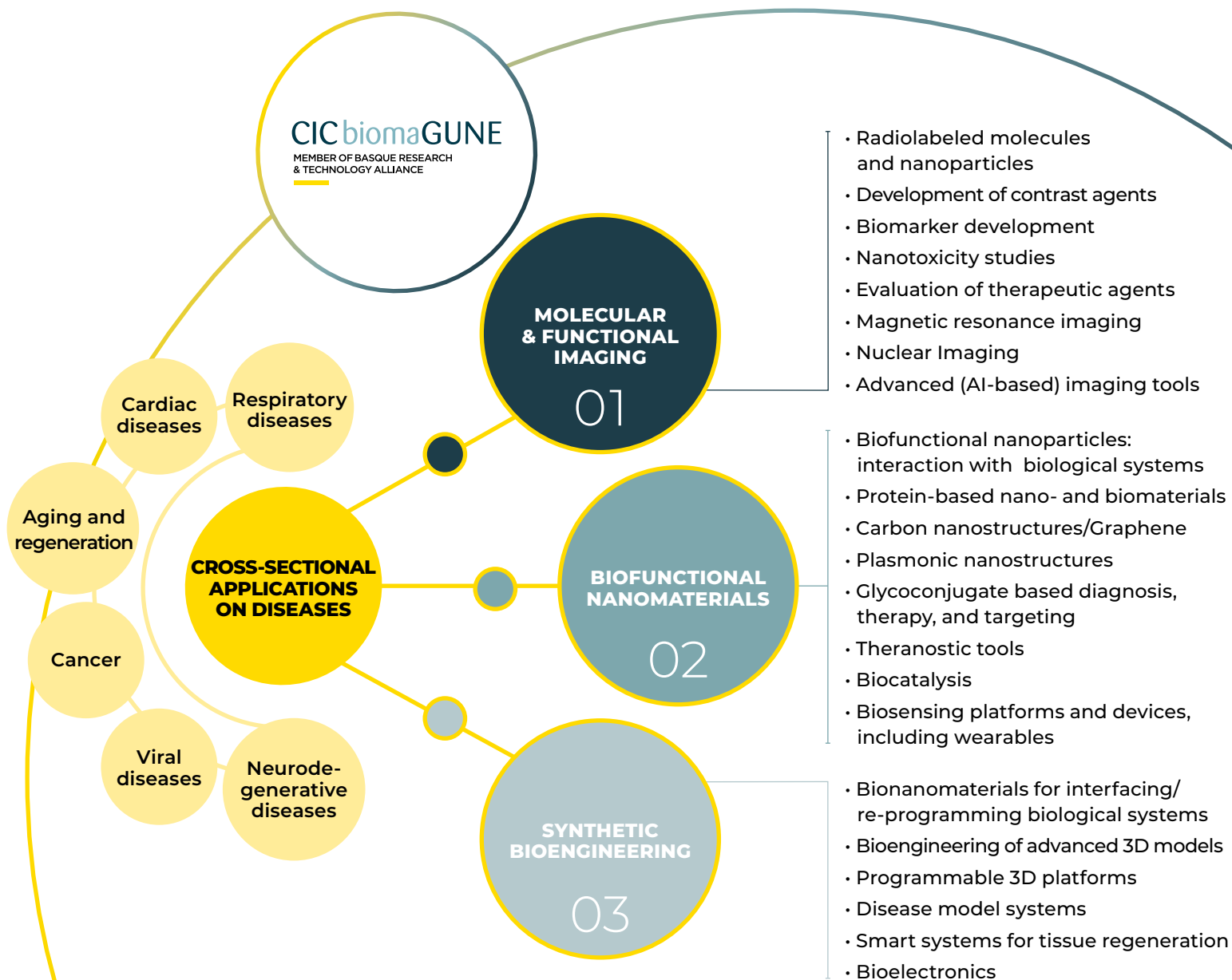
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CIC biomaGUNE RESEARCH PROGRAM

A



RESEARCH GROUPS

The main research lines deal with the design, preparation and characterization of biofunctional nanostructures and their in vitro and in vivo biological evaluation, to be used in the study of biological processes and the development of biomedical tools such as diagnostic, theranostic, or multimodal imaging platforms.

B

GLYCOTECHNOLOGY

The Glycotechnology Laboratory carries out projects in basic and applied glycoscience, the science and technology of carbohydrates with a large untapped potential to provide innovative solutions to important social challenges such as personalized medicine, pharmaceutical products, food and biomaterials.

The group applies carbohydrate synthesis, materials science and molecular biology to the design of tools, probes and devices to elucidate the role and exploit the potential of sugars for cancer immune therapy, as biomarkers and biomaterials for biomedical applications.

Niels Reichardt

PRINCIPAL INVESTIGATOR



nreichardt@cicbiomagune.es

RESEARCH LINES

Synthesis

- Chemo-enzymatic synthesis of oligosaccharides and glycomimetics
- Natural products isolation and modification
- Glycoengineering of cells and exosomes
- Development of glyconanoparticles as tunable glycan display systems

Drug discovery and screening

- Development of glycomimetics as inhibitors for the treatment of cancer, autoimmune diseases and allergy
- Functional glycomics of C-type lectins in pathogen and self-recognition (microarrays, flow cytometry, functional immune assays)
- HTS enzyme activity assays development

Glycan analysis / Biomarkers

- Absolute quantification of glycans and glycopeptides by mass spectrometry
- Development of lectin-based screening technology
- Development of anti-carbohydrate antibodies
- Glycan and polysaccharide microarrays

BIONANOPLASMONICS

The activity of the Bionanoplasmonics Laboratory focuses on the biomedical applications of plasmonic nanomaterials, including new chemical methods for the synthesis of colloidal metal nanoparticles with tailored size, shape and surface chemistry, their directed self-assembly and applications in biosensing, diagnostics and therapy, mainly based on plasmonic effects.

Luis M. Liz-Marzán

PRINCIPAL INVESTIGATOR
Ikerbasque Research Professor
CIBER-BBN Group Leader



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One of the current central topics of the group is the development of platforms that can be used for ultrasensitive detection based on SERS.

The group is interested in the incorporation of such nanostructured substrates within devices for implementation of real detection techniques.

RESEARCH LINES

Colloidal synthesis and self-assembly

- Morphology control through seeded growth
- Surface modification through ligand exchange and encapsulation
- Colloidal nanocomposites
- Hierarchical nanostructures

Plasmonic sensing

- Surface enhanced Raman scattering
- Plasmonic chirality
- Nanothermometry

Biomedical applications

- Ultrasensitive detection of biomarkers
- Plasmonics-based bioimaging
- Photothermal effects in biological systems

CARBON BIONANOTECHNOLOGY

The mission of the Carbon Bionanotechnology Laboratory is the design and synthesis of tailored carbon nanostructures for bio-nanotechnology applications and solar energy conversion through biomimetic approaches.

The group explores new synthetic protocols and new analytical

methods, enabling innovative, controlled and reproducible ways toward the designer functionalization of carbon nanostructures, such as fullerenes, carbon nanotubes, graphene and carbon nanodots.

Maurizio Prato

PRINCIPAL INVESTIGATOR

Ikerbasque Research Professor & AXA Chair



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RESEARCH LINES

Nano-Neurosciences

Evaluation of nanomaterials based on carbon nanotubes and graphene for interaction with nerve cells and spinal cord tissue. This approach shows a high potential for addressing incurable cases of spinal cord lesions.

Nano-catalysis for water splitting

Reduction of oxygen to hydrogen peroxide, reduction of alcohols to hydrogen, reduction of CO₂ to formate.

Carbon Nanodots

Synthesis and applications of carbon nanodots, namely small, fluorescent, quasi-spherical nanoparticles with a high potential in photonics and biology.

Science and technology of 2D materials

Graphene and MoS₂ are among the most promising materials nowadays, with a wide variety of potential applications.

BIOMOLECULAR NANOTECHNOLOGY

The group focuses on protein engineering toward the generation of functional nanostructures and bioinspired materials for applications in nanobiotechnology and nanomedicine.

The research focuses mainly on protein engineering in order to develop versatile platforms for the bottom-up fabrication of protein-based hybrid functional biomaterials.

Aitziber L. Cortajarena

PRINCIPAL INVESTIGATOR

*Ikerbasque Research
Professor*

Scientific Director



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The group is interested in the tailored biofunctionalization of nanomaterials for biomedical applications, from disease treatment to diagnosis.

The group also carries out research aimed at the development of new analytical and bioanalytical techniques, using metal and semiconductor nanoparticles and has also focused on the fabrication of novel biosensors employing different read-out methods, such as UV-visible and fluorescence spectroscopy, quartz crystal microbalance, electrochemistry and photo-electrochemistry.

RESEARCH LINES

Protein engineering for functional structures and bioinspired materials

- Protein-based photoactive and electroactive materials for bioelectronics
- Proteins as scaffolds for multienzymatic pathways and catalytic materials
- Proteins to template nanomaterials
- Protein-nanocluster hybrids: biosensing and imaging applications
- Designing photoactive proteins
- Designing switchable protein-based structures

Biofunctional nanomaterials and surfaces for biomedical applications

- Functional nanomaterials: diagnosis and therapy
- New iron nanomaterials as contrast agents for MRI
- Functional polymeric materials

HETEROGENEOUS BIOCATALYSIS

The Laboratory of Heterogeneous Biocatalysis is applying multi-enzyme systems to synthetic, environmental, medical and analytical chemistries by harnessing the exquisite selectivity of enzymes (biological catalysts) for the development of more sustainable and effective chemical processes.

The group mimicks the spatial organization found inside the living organisms, but using *ex-vivo* systems supported on solid materials.

To address such goal, we are interfacing chemistry and biology utilizing multidisciplinary tools that involve molecular biology, enzymology and materials chemistry.

Fernando López-Gallego

PRINCIPAL INVESTIGATOR
Ikerbasque Research Professor



flopez@cicbiomagune.es

RESEARCH LINES

Fabrication of robust and efficient multifunctional heterogeneous biocatalysts

- Discovery and engineering of novel enzyme activities
- Engineering the enzyme orientation
- Tuning enzyme spatial organization in porous materials
- Engineering synthetic scaffolds to assemble biocatalytic cascades into solid materials

Functional and structural characterization of immobilized enzymes

- Spectroscopic methods to in operando characterize immobilized enzymes
- Single-particle methods to better study the apparent kinetics of immobilized enzymes

Application of heterogeneous bio(hybrid) catalysts for chemical manufacturing using renewable raw materials as starting point

- Integration of heterogeneous biocatalysts in flow-systems
- Combination of enzyme and chemical catalysts in one-pot systems

SOFT MATTER NANOTECHNOLOGY

The Soft Matter Nanotechnology Laboratory makes use of elements of soft matter, mainly polyelectrolytes, in nanofabrication and in the development of hybrid materials for biomedical applications.

The group has expertise in several physico-chemical characterization techniques, especially in fluorescence spectroscopy.

Sergio Moya

PRINCIPAL INVESTIGATOR



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The group interests include the synthesis of polyelectrolytes, self-assembly, physical characterization, the development of drug delivery systems, and hybrid materials for tissue engineering.

RESEARCH LINES

Polyelectrolyte synthesis and self-assembly

- Layer by layer technique
- Polymer brushes
- Polyelectrolyte complexes

Physical chemistry of Polyelectrolytes

- Diffusion studies
- Small-angle X-ray (SAXS) and neutron (SANS) scattering
- Fluorescence spectroscopy
- Quartz Crystal Microbalance

Supramolecular assemblies for drug delivery

- Polyelectrolytes for siRNA delivery
- Metal Organic Frameworks (MOFs)
- Protein nanoparticles

Development of hybrid materials for tissue engineering

- Mesoporous titania
- Bioactive ions

Biological fate of polymer Nanomaterials

- Protein corona studies
- Fluorescence Cross Correlation
- Translocation *in vitro/in vivo*

REGENERATIVE MEDICINE

The Regenerative Medicine Laboratory uses biomaterial-based approaches to boost knowledge in stem-cell biology, both in physiological and in pathological contexts. For this aim, the group generates bioactive and cell-laden 3D structures potentially useful for regenerative medicine and disease modelling studies.

The understanding of bone tissue is the core of our research. Briefly, the group designs, characterizes and tests different kinds of implantable devices to gain insight into specific tissue formation processes.

From this information it is possible to define and modulate relevant mechanisms in the context of tissue regeneration and tissue pathology.

Ander Abarrategi

JUNIOR GROUP LEADER

Ikerbasque and Ramón y Cajal Fellow



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RESEARCH LINES

2D and 3D structures for bone and cartilage studies

- Biomimetic materials
- Biocompatible and bioactive materials
- Drug delivery systems

Tissue Engineering for Regenerative Medicine

- Bone and cartilage regeneration processes
- Bone and cartilage physiological processes
- Mesenchymal stem cells
- Endochondral ossification

Tissue Engineering for Disease Modelling

- Bone tissue-related cancer etiology
- Bone and cartilage pathological processes
- Metastatic models

RADIOCHEMISTRY & NUCLEAR IMAGING

The activity of the Radiochemistry and Nuclear Imaging Laboratory focuses on the development of innovative radiochemistry and the application of positron emission tomography (PET) and single photon emission computed tomography

(SPECT) tracers toward the investigation of biological, physiological and pathological processes in the fields of oncology, neurology, pneumology, infection and cardiovascular diseases.

Jordi Llop

PRINCIPAL INVESTIGATOR



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RESEARCH LINES

Fundamental radiochemistry

- Development of innovative labeling strategies using ^{11}C , ^{13}N and ^{18}F
- Investigation of reaction mechanisms using labeled species

Nanotechnology and nanomedicine

- Development of nanomaterial-based drugs with application in boron neutron capture therapy (BNCT)
- Investigation of the biological fate of nanoparticles using *in vivo* imaging
- Evaluation of nanoparticles as drug carriers in infectious diseases
- Development of nano-immunotherapeutic agents

Translational applications

- Longitudinal investigation of neurodegenerative diseases
- Investigation of pathophysiological aspects of brain ischemia
- Tumor metabolism

MAGNETIC RESONANCE IMAGING

The Magnetic Resonance Imaging (MRI) Laboratory makes use of nanomaterials and magnetic resonance imaging techniques on animal models.

The group intends to characterize the onset and evolution of diseases of the central nervous system (CNS), from development of early markers to imaging methods that quantify the progression of the

pathological processes and their consequences at anatomical and functional levels.

The group additionally develops new therapeutic approaches to treat such diseases, with special emphasis on the penetration through the blood- brain-barrier and monitoring the effective release of drugs in the brain parenchyma.

Pedro Ramos-Cabrer

PRINCIPAL INVESTIGATOR
Ikerbasque Research Professor



pramos@cicbiomagune.es

RESEARCH LINES

Imaging of demyelination and remyelination processes

- Multi-parametric high resolution imaging of white matter
- In vitro and in vivo quantification of myelin
- Nanomaterials for theranostics on demyelination processes

Functional imaging of the CNS

- Functional imaging on animal models of disease
- Integration of fMRI with DTI and fiber tracking techniques
- Optogenetics and genetic sensors of neuronal activity

Imaging drug delivery

- Imaging sensors of nanodrugs integrity for imaging delivery
- Responsive nanosystems for activatable drug delivery
- Enhancement and visualization of the crossing of the blood-brain-barrier.

MOLECULAR & FUNCTIONAL BIOMARKERS

The Molecular & Functional Biomarkers Laboratory studies cardio-pulmonary and vascular diseases through functional and molecular imaging and system biology approaches.

The group is particularly interested in the potential of new imaging techniques, including

nanotechnology-based applications, in early diagnosis of pulmonary and cardiovascular remodelling, the assessment of metabolic changes associated with cell growth, the structure and function of the right ventricle and cardiovascular coupling signals.

Jesús Ruiz-Cabello

PRINCIPAL INVESTIGATOR
Ikerbasque Research Professor
CIBER-ES Group Leader



jruizcabello@cicbiomagune.es

RESEARCH LINES

System and signal biology

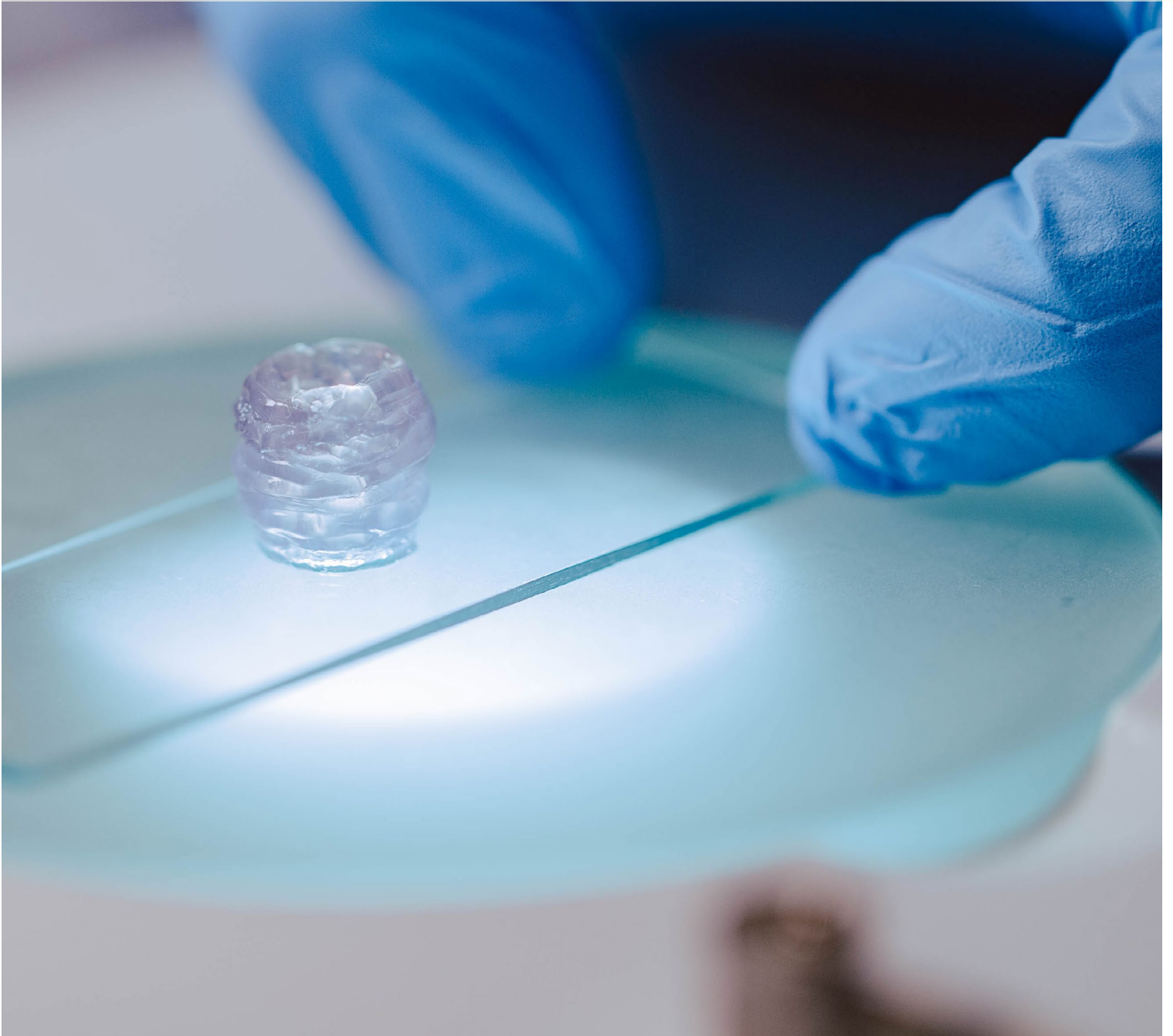
- Metabolomics based biomarkers
- Early diagnosis of pulmonary vascular diseases
- System biology data integration with imaging and physiological signals

Nanotechnology

- Hybrid (PET and MRI) nanoparticles for molecular and functional imaging
- Labeled nanovectors for enhanced lung targeting and early diagnosis of pulmonary and vascular diseases

Imaging

- Cardiovascular and pulmonary imaging
- Functional and molecular imaging of pulmonary vascular diseases



MOLECULAR & FUNCTIONAL IMAGING FACILITY

Housed within 900 m², the Molecular and Functional Imaging Facility at CIC biomaGUNE is an integrated bioimaging structure that offers state-of-the-art preclinical imaging instrumentation in Positron Emission Tomography (PET), Single Photon Emission Computed Tomography (SPECT), Computerized Tomography (CT), Magnetic Resonance Imaging (MRI) and complementary equipment including autoradiography and gamma spectrometry.

It includes a fully equipped radiochemistry laboratory with a biomedical cyclotron, advanced microscopy equipment and a dedicated animal housing facility for rodents which holds AAALAC since 2015.

The Facility is currently integrated in the “Distributed Biomedical Imaging Network” (ReDIB, www.redib.net), recognized by the Spanish Government as a Singular Scientific and Technical Infrastructure (ICTS).

The infrastructure has been designed, built and equipped to tackle longitudinal and multimodal pre-clinical projects and to develop applications in the area of Preclinical Molecular and Functional Imaging and Nanomedicine.



01. RADIOCHEMISTRY

Vanessa Gómez-Vallejo
PLATFORM MANAGER

The Radiochemistry platform is equipped with:

- IBA Cyclone 18/9 cyclotron with targets for the routine production of several positron emitters or direct activation of nanomaterials.
- 6 hot cells which house automatic- remote controlled synthesis modules
- A shielded laminar flow cabinet
- State of the art quality control equipment, including radio-HPLC, radio-GC, radio-MS, radio-TLC and a multichannel energy analyzer
- A fully equipped laboratory for radioactive metabolite analysis in blood and tissue samples and a cell culture lab for *in vitro* studies with radiolabeled ligands

The versatility of the instruments allows the synthesis of a wide range of well-known PET and SPECT radiotracers, as well as the design of new labeled structures to undertake pharmacokinetic and pharmacodynamic studies.

02. MAGNETIC RESONANCE IMAGING (MRI)

Daniel Padró
PLATFORM MANAGER

The Magnetic Resonance Imaging (MRI) platform is equipped with:

- MRI 11.7T/16 cm (117/16 USR) operating at proton resonance frequency of 500 MHz
- MRI 7T/30 cm (70/30 USR) operating at proton resonance frequency of 300 MHz
- Dedicated RF-coils of different sizes optimized for *in vivo* and *ex vivo* MR imaging on rat and mouse brain, body or heart
- Heteronuclear coils allowing ^{13}C , ^{19}F and ^{31}P acquisitions
- MRI-compatible physiological monitoring systems



03. NUCLEAR IMAGING

Unai Cossío

PLATFORM MANAGER

The platform is designed to perform in vivo studies from various imaging modalities, including Positron Emission Tomography (PET), Single Photon Emission Computed Tomography (SPECT) and Computed Tomography (CT). The combination of these potent and non-invasive imaging techniques facilitates performing multimodal approaches to biological problems, obtaining images with rich functional and anatomical information. It is equipped with small dedicated:

- Hybrid PET-CT (General Electric eXplore Vista-CT)
- PET-PET-SPECT-CT trimodal system (2x β -CUBE, γ and X-CUBES, MOLECUBES)
- Autoradiography system for end point-high resolution nuclear imaging (BiospaceLab Beta Imager 2000)

04. PRE-CLINICAL IMAGE ANALYTICS

Unai Cossío

PLATFORM MANAGER

The Image Analytics service takes care of processing all the outcoming multimodal images obtained within the Molecular Imaging Unit (PET, SPECT, CT, MRI and Optical Imaging). Working on different operating systems, we carry out co-registration, segmentation, and quantification of multimodal images. Moreover, we also work with Matlab, FSL and IDL in the development of analysis and processing algorithms. The combination of all multimodal imaging techniques confined in the Imaging Unit with a reliable image analysis process offers a complete and powerful Imaging facility to researchers.

05. ANIMAL FACILITY

Ainhoa Cano

PLATFORM MANAGER

It provides users with the assessment and necessary equipment (preparations and microsurgery rooms) to carry out research on laboratory animals (rodents).

It procures care and ensure the welfare of the animals, ensuring all legal and ethical standards concerning the use of animals for research. The Animal Unit Platform is an AAALAC accredited facility since 2015.



TECHNOLOGICAL PLATFORMS

Technology platforms, managed by specialized platform managers, provide technical and scientific support to the research activities conducted at CIC biomaGUNE.

The technological platforms are open to external users such as companies, research centers associated with the Basque Network of Science and Technology, as well as to other public or private external users. The platforms offer the following services:

D

01. NUCLEAR MAGNETIC RESONANCE

Daniel Padró

PLATFORM MANAGER

The Nuclear Magnetic Resonance (NMR) platform enables performing a wide range of experiments with liquid samples. Routine studies include structural analysis, purity evaluation, structural elucidation, metabolic, dynamic and kinetic studies, identification, and quantification of organic compounds, among others. The platform is equipped with:

- 500 MHz NMR spectrometer equipped with a $^1\text{H}/^{19}\text{F}$ BBI 5mm probe and a HRMAS (High Resolution Magic Angle Spinning) 4mm probe interfaced with a 60 sample automation system
- Time-Domain NMR spectrometer (Minispec) working at clinical MRI field (1.5 Tesla) specially designed to study MRI Contrast Agents

02. ELECTRON MICROSCOPY

Marco Möller

PLATFORM MANAGER

The Electron Microscopy platform offers techniques to characterize materials at the micrometer and nanometer scale. Its focus is on the study of composites made of inorganic nanoparticles and biological or soft polymeric materials. It is equipped with:

- Transmission electron microscope (TEM) optimized for ultrahigh resolution and low electron dose studies, equipped with a CMOS camera and STEM (BF & DF) and EDXS systems
- TEM optimized for high contrast studies
- Scanning electron microscope (SEM) equipped with an EDXS system
- Sample Preparation Laboratory for Ultramicrotomy and Cryomicroscopy



03. MASS SPECTROMETRY

Javier Calvo

PLATFORM MANAGER

The platform provides several high quality mass spectrometry techniques for the analysis of small molecules, complex biomolecules or polymers, and for the determination of metal concentration in different media.

It is equipped with modern instrumentation and offers different ionization techniques coupled to high resolution analyzers:

- LC/MS (Acquity UPLC / LCT Premier XE ESI-TOF, Waters)
- NanoESI-QTOF tandem mass spectrometry (Advion Nanomate, LCT Premier Waters)
- MALDI TOF/TOF tandem mass spectrometry (UltrafleXtreme III, Bruker)
- ICP/MS (iCAP-Q, Thermo)

In addition, other techniques such as ImagePrep (Matrix deposition technique for MALDI-imaging, Bruker), HPLC preparative (Delta600, Waters), FPLC (ÅktaPure, GE) and ion chromatography (Dionex) are also available.

04. SURFACE ANALYSIS & FABRICATION

Desiré Di Silvio

PLATFORM MANAGER

The platform offers XPS and AFM measurements as well as thin film deposition. The platform is equipped with:

- X-ray Photoelectron Spectroscopy (XPS)
- ATC 1800 UHV Reactive Magnetron Sputtering
- Edwards Auto 500 thermal evaporator/sputter coater
- Edwards Auto 306 coater
- Atomic force microscopes (AFM): Multimode V AFM and a NanoWizard II AFM installed on a Carl Zeiss Axiovert 200 optical microscope

05. COLLOIDAL NANOFABRICATION

Ana Sánchez-Iglesias

PLATFORM MANAGER

The platform has developed synthetic strategies toward creating a toolbox of structurally uniform nanoparticles in high-yield, with excellent control over their shape and size. The platform aims to provide access to the state of the art synthesis, infrastructure, consulting service, training, as well as technical and scientific support in the synthesis and self-assembly of metallic, magnetic, semiconductor and oxide nanoparticles with a variety of sizes, shapes and surface chemistries.

06. OPTICAL SPECTROSCOPY & IMAGING

Irantzu Larena

PLATFORM MANAGER

Judith Langer

PLATFORM MANAGER

The platform offers a wide range of equipment and techniques to characterize physicochemical properties of biomaterials and biosurfaces. The platform is equipped with:

- Scanning Confocal Fluorescence Microscopes (Zeiss LSM 880 multiphoton laser & 510 Meta)
- Confocal Raman Microscopes (WITec alpha300 & Renishaw)
- Spectrophotometers (UV-Vis, UV-Vis-NIR, RAMAN, and FT-IR) and fluorometers
- Flow Cytometer (BD FACS Cantoll)
- Epifluorescence Microscope (Zeiss Axio Cell observer)
- Circular Dichroism (Jasco J-1500)
- Differential Scanning Calorimeter (DSC)
- Isothermal Titration Calorimeter (VP-ITC)
- Dynamic Light Scattering (Malvern Zsizer Ultra)
- MicroScale Thermophoresis (MST) Binding Affinity



SUPPORT UNITS

E

01. DIRECTION

José M. Mato
DIRECTOR GENERAL

Aitziber L. Cortajarena
SCIENTIFIC DIRECTOR

Design, define and coordinate the Center's scientific strategies and activities.

02. GENERAL MANAGEMENT

Anna Llanes Pallàs
GENERAL MANAGER

The General Manager is responsible for supervising the management of the Administration, Financial and HR Department, Project Management, Biosafety&Radioprotection, IT and Maintenance units of the Center.

03. ADMINISTRATION, FINANCIAL & HR MANAGEMENT

Sheyla García Medel
ADMINISTRATION & HR MANAGER

Elizabeth Noguera Olaechea
FINANCE & CONTROL MANAGER

This department is responsible for the management of finances, accounting, administration, and the human resources of the Center.

04. RD&I MANAGEMENT UNIT

Cristina Díez García
PROJECT MANAGER

Marcos Simón Soria
TECHNOLOGY TRANSFER MANAGER

This office supports and strengthens the capacities of the Center in terms of attracting funding from various Research Programs, in particular international ones, strengthening links between academic and industrial partners, and promoting the transfer of research results to society and industry, especially to the biotechnology sector.

05. BIOSAFETY & RADIOPROTECTION

Paola Ferreira Cabeza
BIOSAFETY & RADIOPROTECTION MANAGER

Dedicated to establishing safe working conditions for CIC biomaGUNE's personnel by ensuring good laboratory practices. The service also ensures safe operation of the Center's Radioactive Facility.

06. INFORMATION TECHNOLOGY

Mikel Gonzalez Lacunza
IT MANAGER

The IT service is in charge of helping set up and maintain computer-related equipment, software, data storage programming, e-mail servers, as well as the website and social media.

07. MAINTENANCE

Álvaro Ruiz Fernández
MAINTENANCE MANAGER

This department takes care of the preventive, predictive and corrective maintenance of all facilities at CIC biomaGUNE.

INTERNATIONAL SCIENTIFIC ADVISORY BOARD (ISAB)

The scientific activity of CIC biomaGUNE is regularly assessed by the International Scientific Advisory Board (ISAB), composed of internationally distinguished scientists, who are active in CIC biomaGUNE's research fields of interest.

It is currently comprised of the following members:

**Prof.
Aránzazu
del Campo**

*Division of
Dynamic
Biomaterials*

Leibniz Institute
for New Materials,
Germany

**Prof.
Peter Seeberger**

*Biomolecular
Systems*

Max Planck
Institute of
Colloids and
interfaces,
Germany

**Prof.
Patrick Couvreur**

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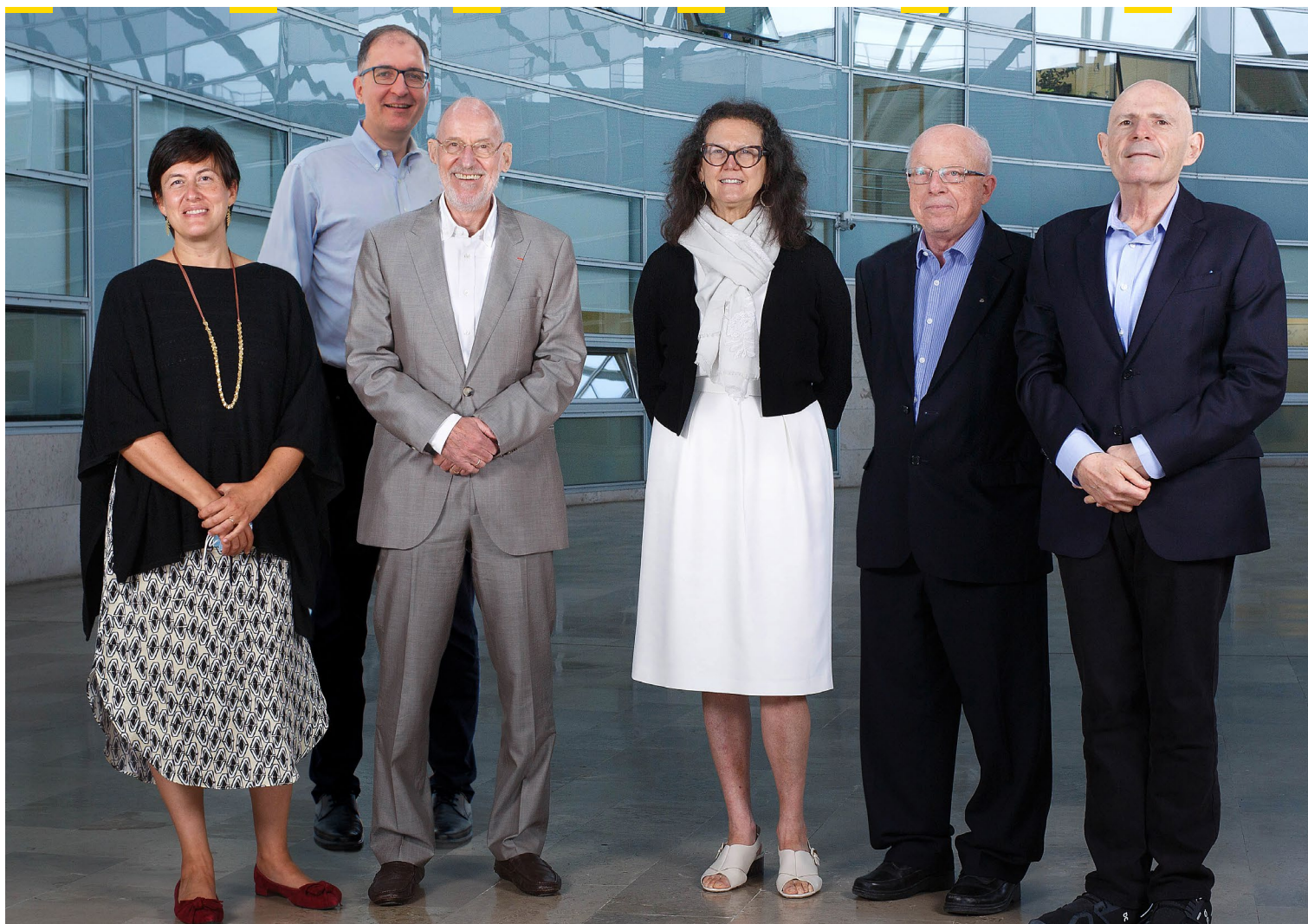
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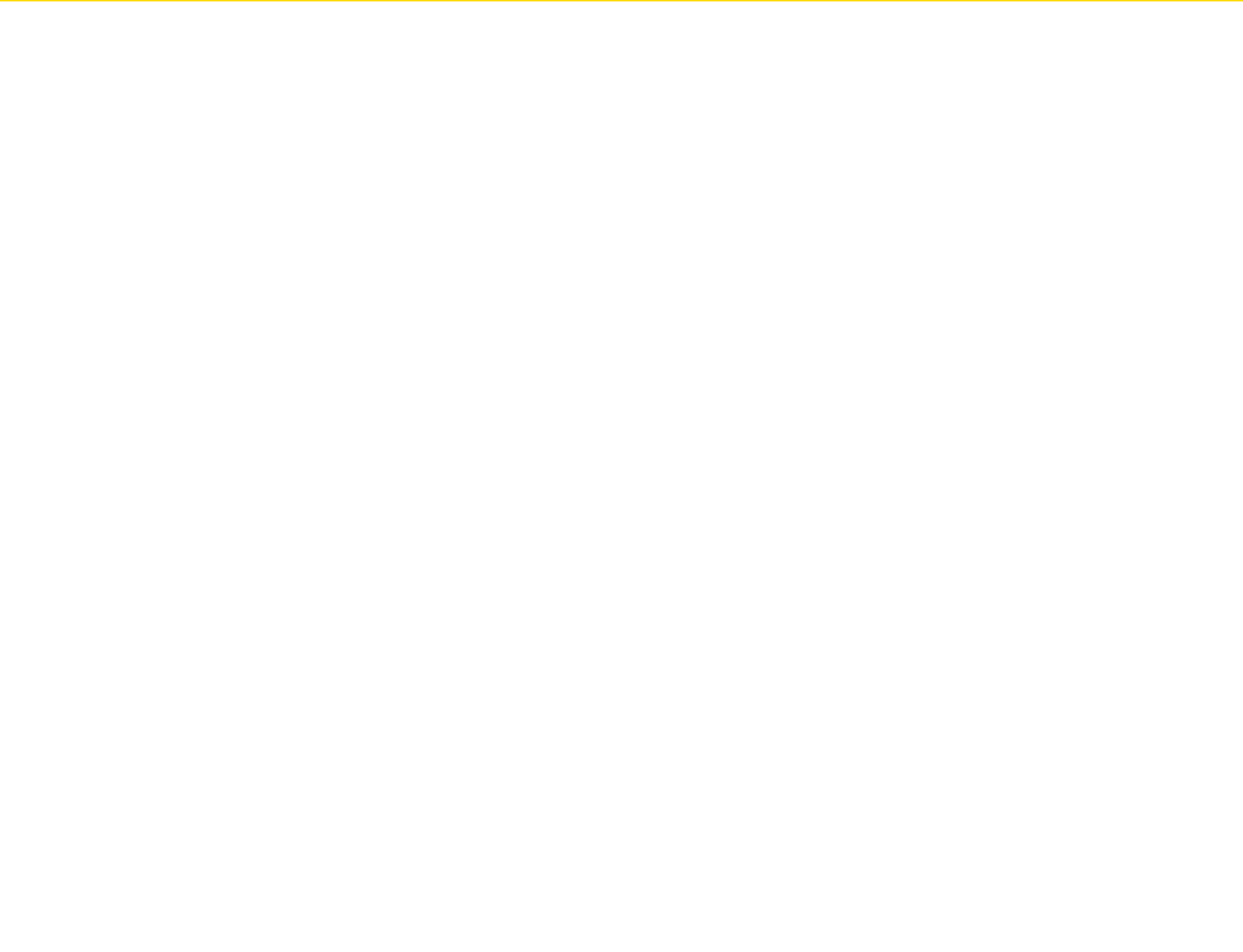
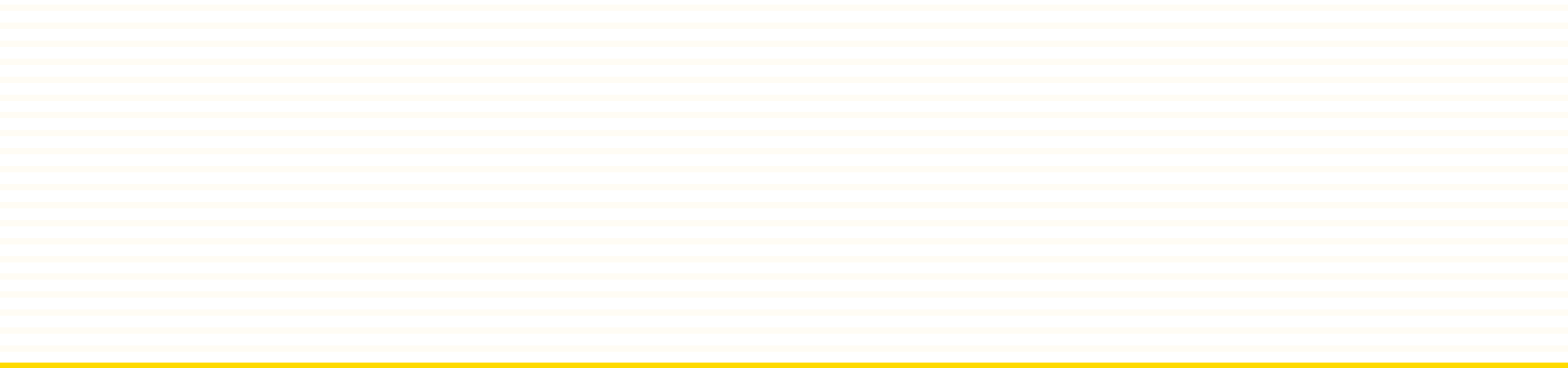


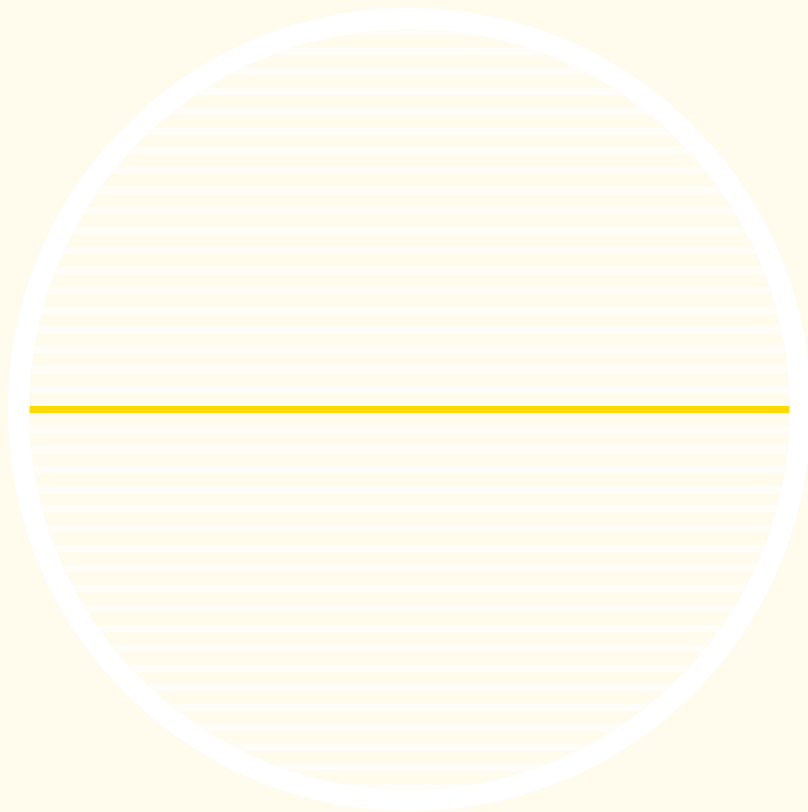
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