

LASCARAY

RESEARCH CENTRE

SCIENTIFIC ACTIVITY REPORT

2015



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LASCARAY RESEARCH CENTRE

The Lascaray Research Centre opened on 26 November 2009 aiming to ensure and promote research and teaching and transferring knowledge to the productive sector.

It is located in the centre of the Campus of Álava, at Avenida Miguel de Unamuno 3, 01006 Vitoria-Gasteiz. Contact tel.: (34) 945014500.



It has a provisional Coordination Body for the integration of the services and activities of the Centre and serves as representative of the Vice Rector's Office of the Álava Campus.

The Coordinator is Professor Marian M. de Pancorbo, and the Coordinator's Advisor is Professor Jorge Martínez Quesada.

This is a pioneer building in environmental sustainability because it has a geothermal exchange system that takes advantage of the ground's thermal inertia.

The Lascaray Ikergunea Research Centre houses research of the highest excellence. The spaces are occupied by 16 groups of investigators, General Research Services (SGIker) of the Álava Campus and a business incubator.



In addition to the research facilities, the Centre has spaces for training, administration and a multimedia laboratory. The Groups and General Research Services are located in the Centre in laboratories equipped with the latest scientific equipment. The Centre also has common research areas, whose use is accessible to all groups and services located in the Centre.

Events attracting large numbers of the public, such as the Science Week or the Employment Fair have The Lascaray Centre as their headquarters, where also numerous acts and UPV/EHU prize awarding events take place (Campus of Álava). Information about activities and users of the Centre can be found on: www.ehu.eus/lascarayikergunea or www.ehu.eus – Campus of Álava.



STRATEGIC LINES

Mission

Generate and transmit knowledge through the development of advanced and innovative research lines, in Biosciences and Quality of Life, contributing in the near future to improving people's wellbeing. The Strategic Lines addressed are: Pharmaceutical Development, Forensic Science, Food Safety and Quality, Nanotechnology and gene therapy, Parasitology and Immunoallergy; Nutrition; Pathophysiology (heart related) Aging Prevention (neurodegenerative diseases and advanced cell therapy) and Biodiversity.

Vision

Become a center of international reference in research and training in Biosciences and Quality of Life. With its current capacity and future potential, the Center's will join Euskampus Excellence in Research activities and expand internationally by signing agreements with national and international scientific institutions and networks.



Values

- Scientific and innovative capacity
- Commitment
- Cooperation
- Trust
- Critical Spirit
- Innovation and sustainability
- Social responsibility
- Scientific rigor
- Excellence

Objectives

- Generate knowledge in Biosciences and Quality of Life.
- Promote high qualification training.
- Encourage incorporation of post-doctoral and young researchers to the Center.
- Strengthen its facilities and equipment.
- Implement a Quality Plan to ensure management certification and procedure accreditation.
- Promote cooperation amongst the Center's Research Groups.
- Increase current results regarding excellence indicators: dissertations, research projects, patents and publications.
- Become a scientific-technical benchmark.
- Transfer knowledge derived from research.
- Foster collaboration with companies and generate agreements at the international, state and/or local level with agencies/institutions, etc.
- Boost internationalization of the Center's image and participation in national and international networks.
- Pass the benefits from this type of Center on to society.



LASCARAY ACTIVITIES



LASCARAY ACTIVITIES

Apart from activities, courses, masters and meetings conducted by the Research Groups at Lascaray Ikerguna Research Centre, other seminars and events have been carried out by the Campus and the Centre organisers. These activities have helped to establish relations among Lascaray researchers and promote the culture of entrepreneurship within the University community.

Further information about the activities as well as videos and photos of the events are available at www.ehu.eus/lascarayikergunea



Lunch with Science at Lascaray



"Lunch with Science" was an activity carried out in 2015, where young researchers shared the experiences and strategies that have led them to consolidate their position and introduce their most relevant research lines.

The aim of this activity is to show the dynamics of work to consolidate a research career; the audience targeted is students interested in research and development, young researchers in training process and, in general, lecturers/researchers from the university community. During the sessions, pizza and refreshments were offered to attendees.

These 4 lunch sessions were held in 2015:

- 18/03/2015: "*Next Generation Sequencing for pathogens applied to epidemiological studies*" conducted by **PhD João André Carriço**, of the Medicine School from Lisbon University. The session was framed in the official Master of the University of the Basque Country UPV/EHU on Microbiology and Health.
- 27/05/2015: "*From Botany to Aerobiology*" by **PhD Concepción De Linares**, of Faculty of Sciences, Autonomous University of Barcelona.
- 23/09/2015: "*Bio-micro-technology, laboratory on a chip*" carried out by **PhD Lourdes Basabe Desmots**, Ikerbasque from BIOMICS Research Group of the University of the Basque Country UPV/EHU.
- 16/12/2015: "*The fascinating world of animal behaviour: its relationships with food quality and safety*" by **PhD Inma Estevez**, Ikerbasque Research Professor at Neiker-Tecnalia.

Scientific Sessions of Lascaray Research Groups



In the course of this year, several scientific sessions have been held by the Centre Research Groups. The aim has been the presentation of some of the latests and more relevant international publications of each Group, so as to facilitate the sharing of such work with the rest of researches of the Centre.

- 25/03/2015: *"Design and Evaluation of non-viral vectors based on lipic solid nanoparticles to treat X-linked juvenile Retinoschisis by means of Gene Therapy"*. The speech was given by **Alicia Rodríguez Gascón** and **Paola Stephanie Apaolaza Gallegos**, From Research Group **Farmacocinética, Nanotecnología y Terapia Génica (PharmaNanoGene)**.
- 22/05/2015: *"The digestion of galactolipids by pancreatic lipase-related protein 2 (PLRP2)" (about galactolipids, galactolipases and how humans and other mammals digest these plant lipids)*. The speech was conducted by **Frédéric Carrière**, Director of the "Laboratory of Enzymology at Interfaces and Physiology of Lipolysis at the Centre National de la Recherche Scientifique" (Marseille, France), invited by Noelia Aldai-Elkoro, from **Lactiker** Research Group.
- 17/06/2015: *"Mechanisms responsible for cardiac electrical remodeling in Hypothyroidisms"*. The presentation was conducted by **Hiart Alonso Basáñez**, a researcher of **Electrofisiología Cardíaca** Group.
- 18/11/2015: *"Search for chemical markers in health and food sciences. Metabolomic studies based on Mass Spectrometry"* by **PhD Laura Millan Martín**, from **METABOLOMIPs** Group.

INIZIA Arabacampus 2015 Entrepreneurial Seminar



The Centro de Empresas e Innovación de Álava-CEIA-(Centre for Business and Innovation) and Álava Campus entered, in September 2015, a collaboration agreement based on entrepreneurship promotion.

Under this agreement is the INIZIA Arabacampus programme dedicated to the development of activities focused on generating and promoting entrepreneurial culture within the university community, also to the provision of infrastructures and basic equipment to those entrepreneurial projects originating from technology transfer and innovation management processes.

During the last quarter of the year, some entrepreneurial sessions were carried out within the INIZIA Arabacampus ene 1 Lascaray Programme:

- 30/09/2015: *"Entrepreneurship: From knowledge generation to the market"* conducted by company **Univalue**.
- 03/11/2015: *"Agile generation of business models"* by company **Innobide**.
- 30/11/2015: *"Knowledge management (patents) in new technology-based companies"* conducted by members of company **BAIGENE S.L**
- 16/12/2015: *"Develop your marketing strategy"* conducted by **AD consultores**.

INIZIA-AGUDEZIA Workshop



The [Inizia-Agudezia Entrepreneurial workshop](#), enjoyed, in its 2015 edition, the participation of 14 students and former students from different Faculties/Schools. Conducted by the A+g Consultores de Gestión, S.Coop team, and taught using their methodological BIZIKIRO Living Management approach, 12 theoretical-practical group sessions and individualised sessions with 13 out of those students to develop their business ideas/projects were carried out.

Uniemprendedor INIZIA-5th Edition Prize-giving ceremony

The Vicerectorate of Álava Campus has continued developing, throughout the year, activities to promote entrepreneurial culture within the university environment under the INIZIA ArabaCampus programme.



One of these activities has been the organisation of the Uniprendedor INIZIQ-5th Edition prize-giving ceremony ([play video](#)), where the following prizes were awarded in the event held on 27th November:

- 1st Prize of 4,000 € for the *Azoteas Verdes* Project. Urban Gardens at Heights. Based on the definition of an organic farming model on rooftops, sustainable and efficient in time. Promoter: Alejandro Jose González Hipolito.
- 2nd Prize of 2,000 € for Malgutech. Online tool that enables companies to identify and repair, in a graphical and intuitive manner, accessibility errors present on their websites. Promoter: Raúl Miñón Jiménez.
- 1 Second Prize of 1,000 € for the Seeyouzoom Project. 3D interactive virtual tours of real places and spaces viewable from the Internet. Promoters: Josune Rodriguez Prado and Mikel Hervas Trancho.
- 1 Second Prize of 1,000 € for Optimus 3D. Development and manufacture of new implants made with 3D printing and with bone growth factors homogeneously added to substantially improve bone integration and development in the medical and dental sectors. Promoter: Fernando Oharriz Vega.

Vitoria-Gasteiz 2015 Employment Forum

The sixth-edition ceremony of the Vitoria-Gasteiz 2015 EMPLOYMENT FORUM/EMPLEO GUNE initiative was held, on 26th and 27th November, at the Lascaray Research Centre ([video](#)).

As in past editions, the initiative was funded and organised by both the Department of Employment and Sustainable Economic Development of Vitoria-Gasteiz Town hall and the Vicerectorate of the Álava Campus of the University of the Basque Country (UPV/EHU).



On this occasion, the Forum had, as an opening session, the conference "And now... why not? Search and find your opportunity", conducted by Jorge Ortiz de Urtaran, expert in coaching and entrepreneurship and leadership issues.

The forums focused on scopes related to employment, entrepreneurship, support for guidance professionals and guidance through Employment Centres.



The information of the event is available at: <http://empleo-gune.org/2015/es/conclusiones.php>

Volunteer Fair 2015



The Volunteer Fair of the University of the Basque Country UPV/EHU was held, on 22nd April, at Lascaray, the meeting point among social entities and university students with the aim to sensitize and train students in this area ([website of the Fair](#)).

The main objectives were:

- to encourage social participation among the university community
- to visualize and voice the work carried out by social entities in our environment.
- to contribute towards the recognition of the work developed by volunteers
- to disseminate values linked to volunteers (compromise, social responsibility, solidarity...)

The video of the fair is available at:
<http://ehutb.ehu.es/es/video/index/uuid/5591119fddba9.html>

Master Astea 2015

On 11th March, the [MASTER ASTEA 2015](#) was held at the Lascaray Research Centre of the Álava Campus.



During the session, those interested in studying the Master had the opportunity to find out about the University of the Basque Country UPV/EHU postgraduate studies for 2015/2016. Apart from information stands, sessions to introduce different masters were held, where students had the chance to solve doubts directly with the Master lecturers. Also information on grants and scholarships or mobility was available.

Multimedia Authoring Workshop in Álava Campus (LEMMCA)

The Centre has a multimedia room with 11 computers to support teaching activities, to develop teaching material by the research and teaching staff, to support research activities and to conduct training courses for lecturers. In 2014 different sessions of the Forensic Analysis Master of the University of the Basque Country (UPV/EHU) were taught.



It is also a place of reference and support for technicians and audiovisual services in the Campus with the aim to carry out activities focusing on the practical training of the university community.

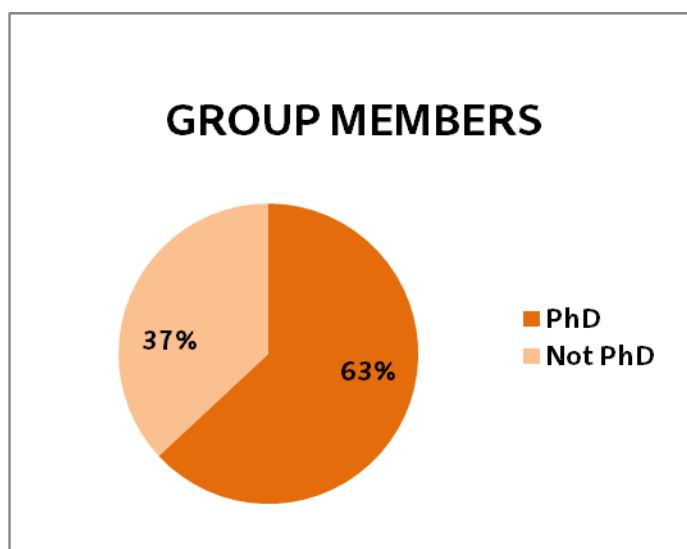
LASCARAY IN FIGURES



GROUP MEMBERS

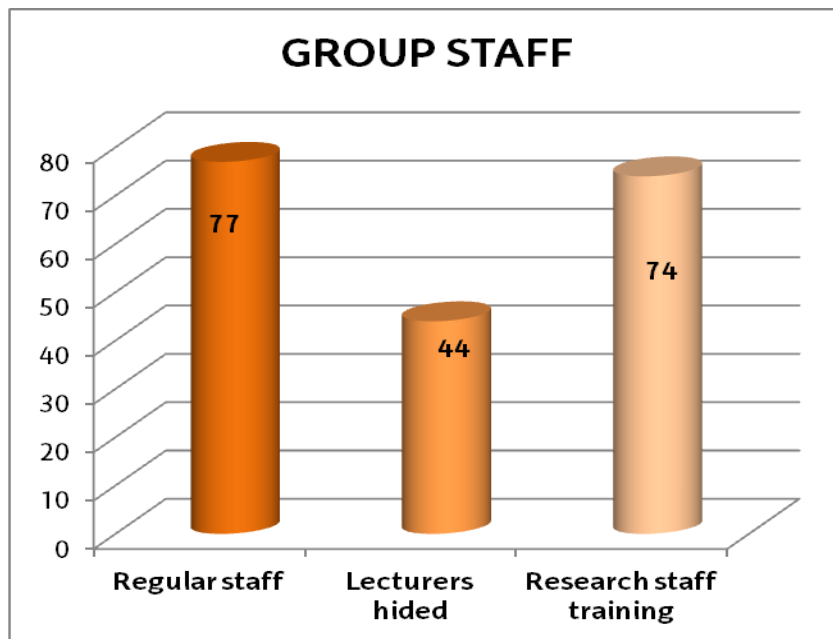


195 researchers worked in the 16 Lascaray Research Centre Groups in 2015. The number of researchers has considerably increased since the opening of the Centre, which means that projects and activities conducted are also significantly increasing.



The research staff is classified into three types, as show below:

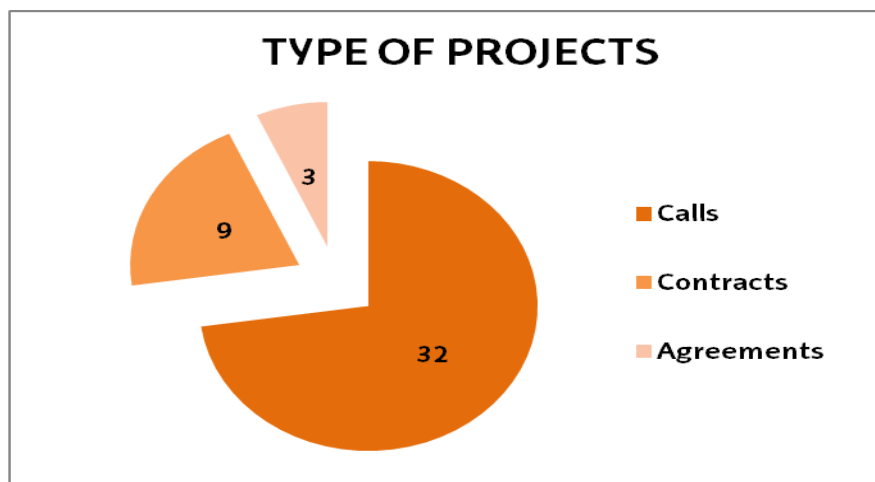
Staff on the UPV/EHU payroll (Professor Staff and Tenured Faculty), Contract PhD Staff (Ramon y Cajal, Ikerbasque Programmes and Juan de la Cierva, temporary staff, other PhD-research staff) and Research Staff in Training (predoctoral and/or fellows).



PROJECTS

Types of projects according to the sources of funding

In 2015 the Centre Groups initiated 44 new research projects, for which funding has been obtained through different sources such as Calls/tenders, Contracts and Agreements.

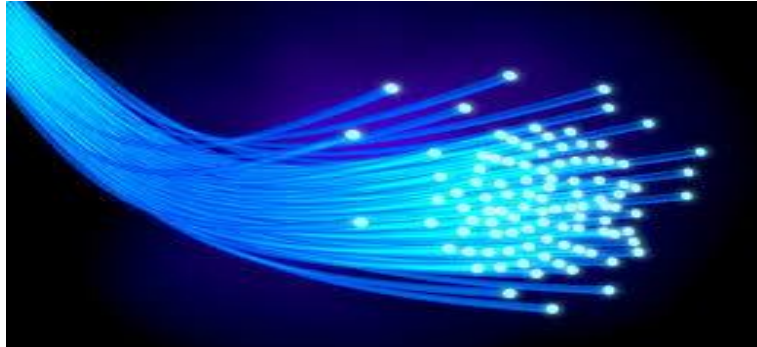


72% of projects initiated this year corresponds to calls related to competitive concurrence, mainly public (national and autonomous calls/tenders).

The Groups maintained a total of 91 projects in force in 2015, including those initiated this year.

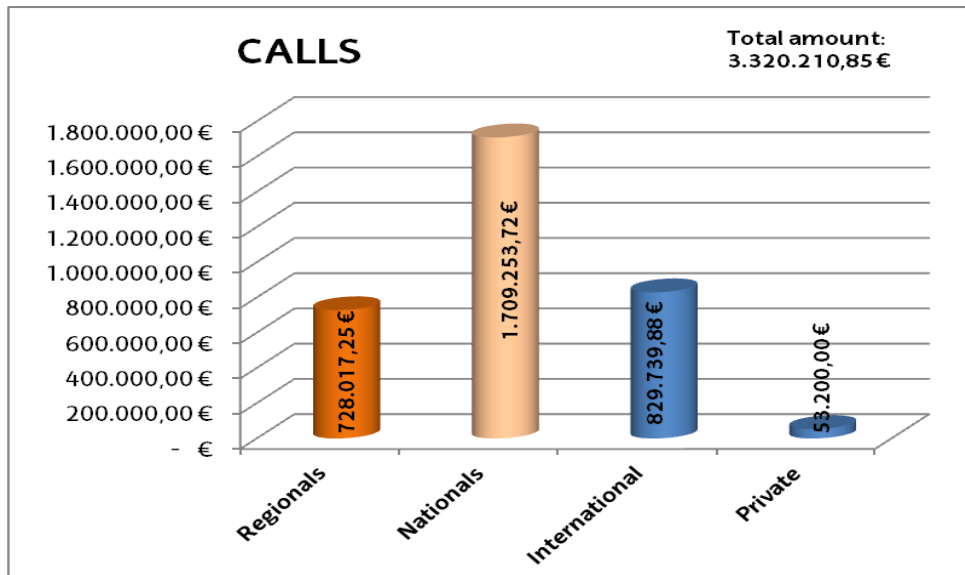
Projects classified by amount

The overall funding achieved by the research groups during 2014 was € 1,938.469,63 €.

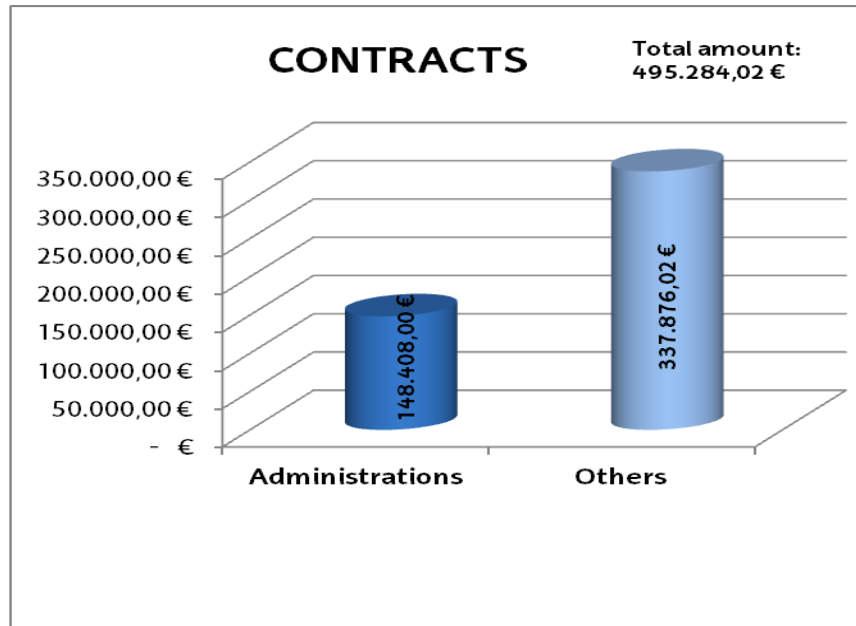


The total funding raised by the Research Groups in 2015 was 4,001,515.37 €.

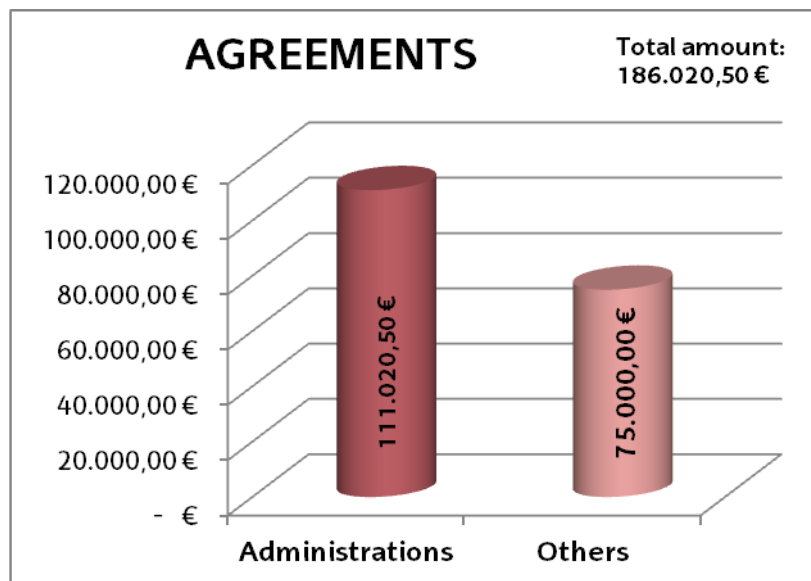
Regarding such amount, over 80% of the funding comes from competitive concurrence projects (3.320,210.85 €), out of which half is public and national.



Regarding **contrats**, the Groups entered 9 new contracts for a total amount of 495,284.02 €; most of them corresponds to institutions, foundations and/or private associations.



Lastly, the Groups entered **agreements** with public administrations and with other entities such as institutions, foundations and private associations.

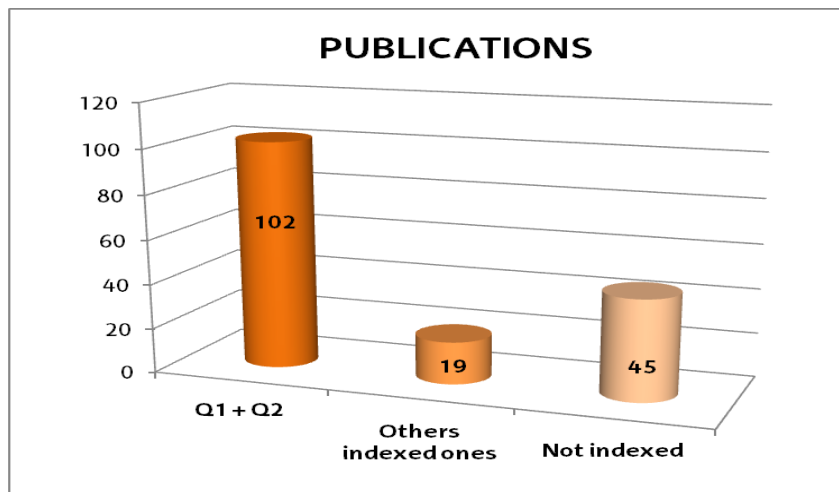


PUBLICATIONS AND PAPERS



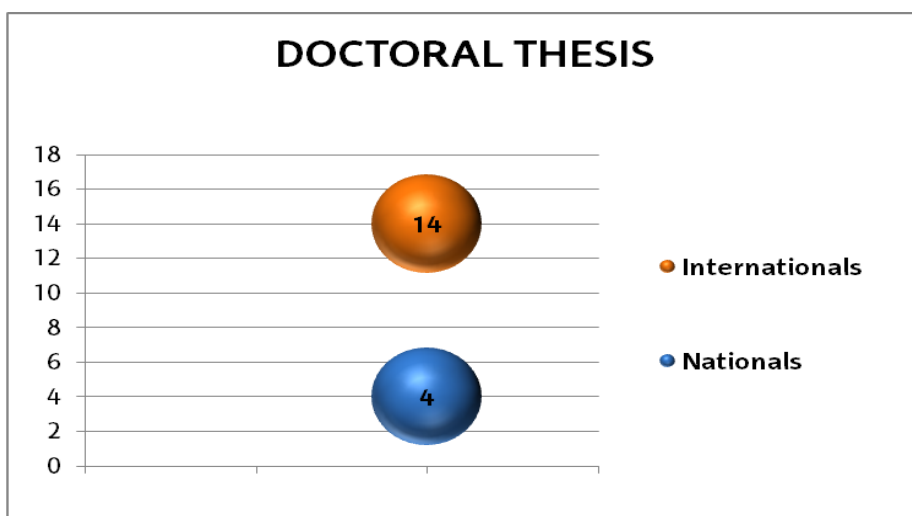
Publications in books or specialised magazines are one of the main indicators of excellent research. During the course of this year, a total of 166 publications have been carried out, and nearly 75% of those corresponds to indexed magazines; most of them belongs to the first quarter of this year.

| PUBLICATIONS | NUMBER |
|---------------------|------------|
| Q1 | 74 |
| Q2 | 28 |
| Others indexed ones | 19 |
| Not indexed | 45 |
| TOTAL | 166 |



DEFENDED DOCTORAL THESIS

In 2015 Lascaray Groups submitted 18 doctoral thesis; 14 of those were international thesis.

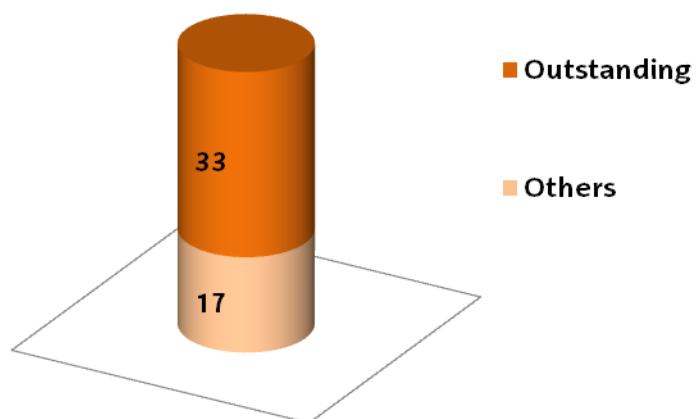


MASTERS DISSERTATIONS

In academic year 2014-2015, 50 end-of-Master's projects were conducted by Centre researchers and 33 of them scored excellently.



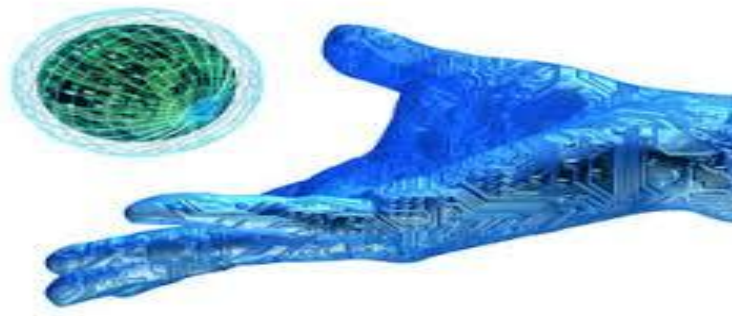
MASTERS DISSERTATIONS



PARTNERSHIPS AND NETWORKS

One of the best ways to contribute to the research development is through organizational structures formed by several research agents. Lascaray Ikergunea research centre research groups are involved in a total of 95 structures, and almost half of them are in international forums.

Collaborations are on the increase and in 2015, 17 new structures (13 international and 4 national) were created.



| NETWORKS | | PARTNERSHIPS | |
|-----------|----------------|--------------|----------------|
| NATIONALS | INTERNATIONALS | NATIONALS | INTERNATIONALS |
| 14 | 10 | 41 | 47 |

Regarding the type of collaboration in the Centre, there is a total of 24 networks, which provide access to world-wide research networks.

PATENTS



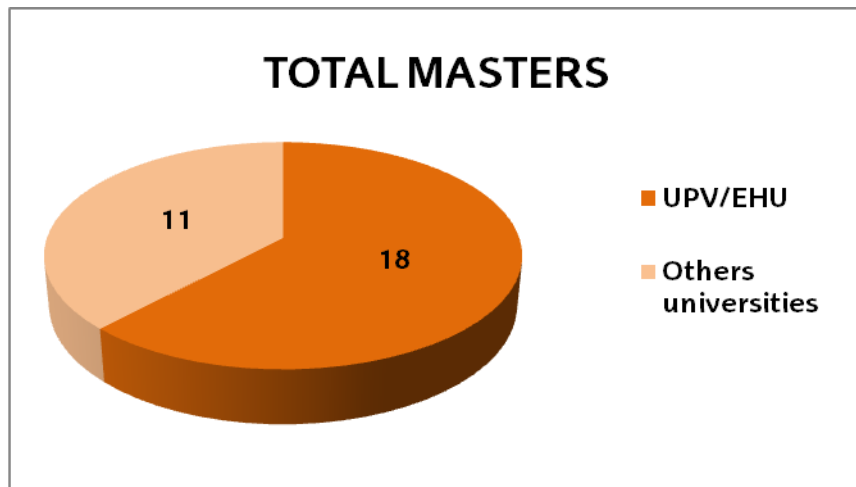
5 Research Groups have 19 patents in force, 11 of those have been granted in Spain and 5 of them are undergoing international proceedings.

| GROUP | NUMBER OF PATENTS | STATUS AND SCOPE |
|--|-------------------|---|
| BIOMICS | 5 | 4 granted in Spain 1 internationally granted |
| Pharmacokinetics, Nanotechnology and Gene Therapy (PharmaNanoGene) | 2 | 2 granted in Spain and being processed internationally |
| Built Heritage Research Group (GPAC) | 1 | 1 submitted in Spain, with future international request |
| NanoBioCel | 9 | 5 granted in Spain 1 requested in Spain 3 requested in Europe |
| Nutrition and Obesity | 2 | 1 internationally licensed 1 granted in Spain |

MASTERS DEGREE ORGANISATION



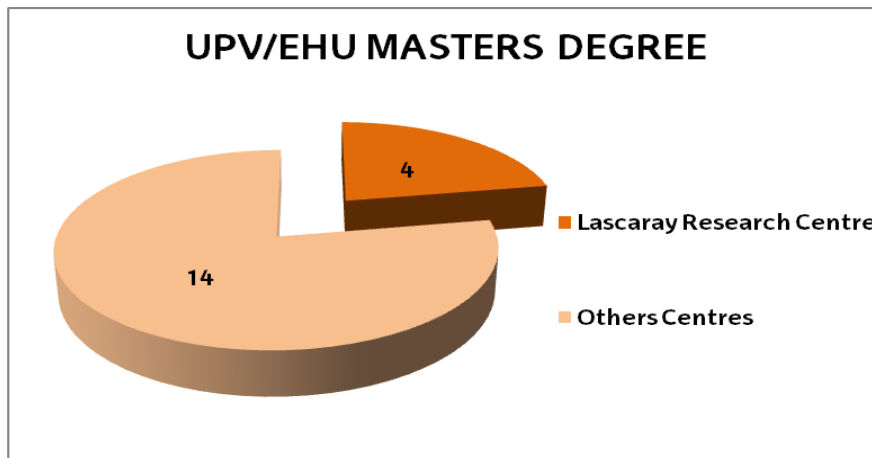
In the last academic year, the Groups have taken part in 29 master degrees; nearly 65% of those are official Masters of the University of the Basque Country UPV/EHU.



The Official Masters of the University of the Basque Country UPV/EHU have a teaching load of 60 ECTS credits, and in 2014-2015 a total of 406 students enrolled masters in which some Lascaray members took part.

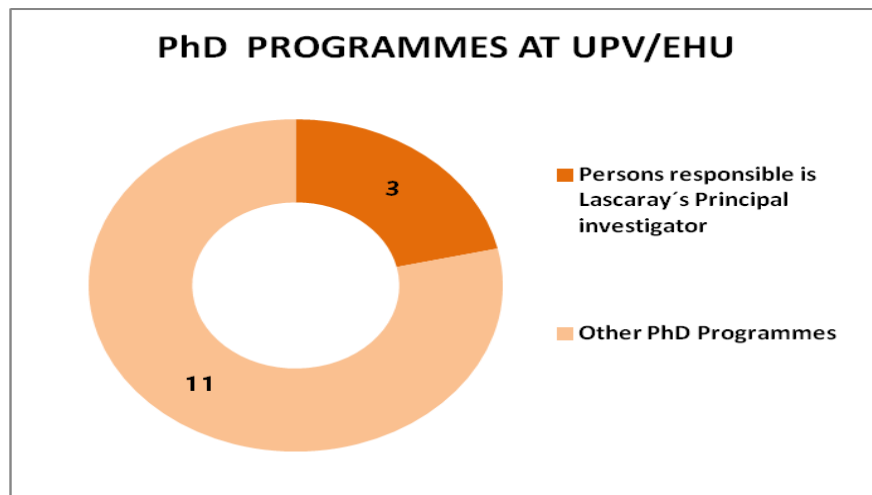
14 Lascaray researchers are members of Master Academic Commissions, and 4 of them actually chair them.

Out of the Masters taught in the University of the Basque Country UPV/EHU by Centre Groups, over 20% of those are from Lascaray.



Apart from these official Masters at the University of the Basque Country, the Centre researchers take part in 6 Masters outside the University of the Basque Country (UPV/EHU).

As for Doctorate courses, the Groups take part in 14 programs and 3 of those are managed by Lascaray Top Researchers. Besides, 12 Centre researchers are members of Academic Commissions. 229 students have enrolled these programmes.



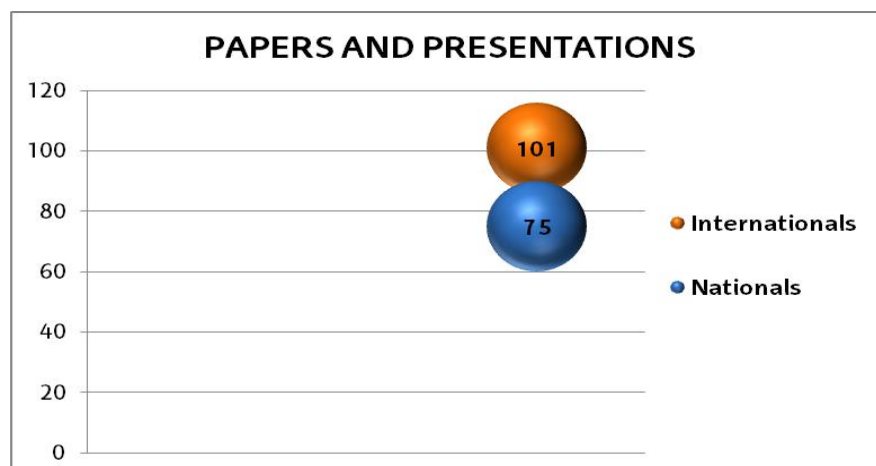
All information related to Masters and Doctoral Courses of the University of the Basque Country UPV/EHU is available at: <http://www.ehu.es/es/web/mde>

CONGRESS ORGANISATION AND PAPERS AND PRESENTATIONS

The Centre Research Groups organised 13 national conferences in 2015.



Besides, researchers contributed with numerous communications/papers in poster, oral and paper formats. In total, the members took part in 176 of them (mostly international).



PARTICIPATION IN COLLABORATIVE QUALITY CONTROL EXERCISES

2 Groups have participated this year in collaborative quality control exercises.

| GROUP | TYPE OF ACTIVITY | PARTICIPATING ORGANIZATIONS |
|---|---|---|
| BIOMICs | Intercomparison exercise "Study of DNA polymorphism in blood stains and other biological samples: Modules: Basic and advanced-level kinship, basic and advanced-level forensics. 2015 | Spanish and Portuguese speaking Group from the International Society for Forensic Genetics (GHEP-ISF) |
| BIOMICs | Bobino2013 Comparison Test (TCB2013) 2015 | Charité-Universitätsmedizin Berlin |
| BIOMICs | Marian M de Pancorbo: Technical auditor accrediting laboratories according to Standard ISO17025 in the human health area, molecular biology. | COFRAC (Comission Française d'Accreditation) |
| Pharmacokinetics, Nanotechnology and Gene Therapy (PharmaNanoGene) | Begoña Calvo Hernáez: Member of the VERIFICA (ANECA). Comission regarding Bachelor and Master Degrees in the Health Sciences branch. | National Quality Assessment and Accreditation Agency / National Quality Assessment and Accreditation Agency |

AWARDS

Several Groups have been awarded this year:

| GROUP | AWARD | INSTITUTE/ISSUING BODY |
|---------|--|---|
| BIOMICS | Award to excellence 1st Poster: Relationship between gene expression of Stearoyl-Coa desaturases (SCD1 & SCD5) and the fatty acid profile in adipose tissue of cattle breeds in the Basque region"Gamarra, D., Arakawa, A., Aldai, N., López-Oceja, A., M. de Pancorbo, M. and Taniguchi, M. | 61st International Congress of Meat Science and Technology (ICoMST) Clermont-Ferrand (France). 23-28 august, 2015 |
| BIOMICS | Best communication award: " <i>Influencia del género en la percepción de la imagen corporal</i> ". Ibáñez, M.E., Jelenkovic, A., Rebato, E. | 19th (award) of the Spanish Society of Physical Anthropology. "Human populations, Genetics, Environment and Food". Madrid |

| | | |
|---|---|--|
| Pharmacokinetics, Nanotechnology and Gene Therapy (PharmaNanoGene) | Award to the project submitted in the primary healthcare area: <i>"Impacto de las acciones de mejora para el control farmacoterapéutico de la insuficiencia cardíaca en atención primaria"</i> . B. Calvo, J. Martínez, MA Solinis, A. Isla, A. del Pozo, E. Goyenechea. | 11th Pharmaceutical Care Conference. 15th-17th October 2015. |
| Built Heritage Research Group (GPAC) | Best Paper Award: Izarne Elgezabal Gómez and Agustín Azkarate Garai-Olaun. Communication: <i>"Documenting and recording intangible heritage: rural carnivals in Araba (Basque Country)"</i> . | "Sharing Cultures 2015" 4th International Conference on Intangible Heritage. Lagos, Portugal. September, 2015. |
| NanoBioCel | Article Award: <i>A novel cationic niosome formulation for gene delivery to the retina</i> . | 5th edition of the research award of the Spanish Society of Industrial and Medical Pharmacy. 26th January 2015 |
| Nutrition and Obesity | AMPEA Award to professional women: Maria Puy Portillo | AMPEA |
| Nutrition and Obesity | Award to the best communication poster: <i>"Cambios en el perfil de metilación de la ácido graso sintasa inducidos por compuestos fenólicos"</i> . A. Gracia, X. Elcoroaristizábal, A. Fernández-Quintela, J. | 3rd FESNAD Conference Seville, 5th-7th March 2015 |

| | | |
|-------------------------------|--|---|
| | Miranda, M. Martínez de Pancorbo, N. García, A. Rimando, M.P. Portillo. | |
| Translational Oncology | <p>Toyota Award to the best poster: <i>"Exploring exosomal urinary miRNAs for bladder cancer diagnostics. Poster presentatio"</i>.</p> <p>Arnaiz E, Leon C, Martínez A, Perez E, Alvarez-Ossorio JL, Falcon JM, Sánchez-Carbayo M.</p> | <p>XXXXII Meeting of the International Society of Oncodevelopmental Biology and Medicine</p> <p>Zakopane (Poland), 3rd-8th October 2015</p> |

LASCARAY CENTRE'S USERS



RESEARCH GROUPS



BIOMICS

<http://www.biomics.es/>

Group Members:

- PI: Marian M. de Pancorbo. Professor of Cell Biology.
marian.mdepancorbo@ehu.es; 945014528
- Esther M. Rebato Ochoa. Professor of Biological Sciences
esther.rebato@ehu.es
- Juan José Zarranz Imirizaldu. Professor of Neurology.
juanjose.zarranzimirizaldu@osakidetza.net
- Carmelo Aguirre Gómez. Tenured Lecturer of Pharmacology.
carmelo.aguirregomez@osakidetza.net
- Ana Maria Rocandio Pablo. Tenured Lecturer of Nutrition and Food Science.
anamaria.rocandio@ehu.es
- Marta Ines Saloña Bordas. Tenured Lecturer of Animal Biology.
m.salona@ehu.es
- José Ángel Peña García. Tenured Lecturer of Animal Biology.
joseangel.pena@ehu.es

- Jaime Algorta Pineda. PhD in Medicine. jaime.algorta@ehu.eus
- Marta Arroyo Izaga. PhD in Pharmacy. marta.arroyo@ehu.eus
- Naiara Garcia Bediaga. PhD in Nutrition. Postdoctoral fellow. naiarabediaga@gmail.com
- Laura Valverde Potes. PhD in Biochemistry. Postdoctoral fellow. lauravalverdepotes@gmail.com
- Andrés López Oceja. Graduate in Environmental Science. PhD student. andreslopezoceja@gmail.com
- Leire Palencia Madrid. Graduate in Environmental Science. PhD student. leirepalencia@gmail.com
- David Gamarra Fernández. Graduate in Environmental Science. PhD student davidgamarra@gmail.com
- Maria Eugenia Ibáñez Pérez-Zamacona. Graduate in Environmental Science. PhD student.
- Ibone Espinosa Carcabilla. Graduate in Environmental Science. PhD student

Lines of Research

- Genetic variability: Structure of current human populations and human and animal archaeological populations. Applications to population genetics, forensic genetics and evolution.
- Biomedicine: Genomics, epigenomics and miRNoma in neurodegenerative diseases, cancer and pharmacogenetics.
- Model development: Expansion in culture and differentiation of adult human mesenchymal stem cells.
- Lifestyle and its influence on health and disease.
- Microtechnologies: Development of microfluidics and nanosensors devices to

use in different areas of sciences, especially in biomedicine and forensic sciences.

Molecular Epidemiology of Campylobacter and Arcobacter

<http://www.ehu.es/en/web/inmunologia-microbiologia-parasitologia/home>

Group Members:

- PI: Aurora Fernández-Astorga. Professor of Microbiology. aurora.fernandez@ehu.es; 945014520
- Rodrigo Alonso Monsalve. Tenured Lecturer of Microbiology. rodrigo.alonso@ehu.es
- Karmele Colom Aristondo. Tenured Lecturer of Microbiology. karmele.colom@ehu.es
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- Cecilia Girbau Iturralde. Contract Investigator. PhD in Biology. cecilia.girbau@ehu.es
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Lines of Research

- Molecular epidemiology of Campylobacter.
- Genomotyping of *C. jejuni* (DNA microarrays).
- Molecular Epidemiology of Arcobacter.
- Typing of clinical strains (Enterococcus).

Cardiac Electrophysiology

<http://www.ehu.es/es/web/enpresa/eskaintza-orokorra?type=group&cod=00235&option=0>

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Lines of Research

- Cardiac electrical remodeling in most prevalent metabolic diseases: diabetes and hypothyroidism.
- Molecular and cellular mechanisms triggering cardiac arrhythmias.

Food Processing, Quality and Safety

<http://www.ehu.es/es/web/procayseal/home>

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Lines of Research

- Aromas of smoke, composition, preparation, and safety features.
- Composition and antioxidant activity of essential oils, extracts of herbs, spices and flavorings.
- Smoked foods with smoke and smoke flavorings.
- Study of the aroma of food through its volatile components.
- Polycyclic Aromatic Hydrocarbons (PAHs) in food.

- Characterisation of fats, oils and food lipids by unconventional techniques.
- Processes of degradation of fats, oils and food lipids.
- Oxygen-containing Alpha, beta-unsaturated genotoxic and cytotoxic aldehydes in foods.
- Fried foods and Maillard reaction. Influence of processing conditions, nature of oil and composition of the food in safety and quality of fried foods.
- Evolution of dietary lipids and antioxidant compounds in processing and digestion.

Pharmacokinetics, Nanotechnology and Gene Therapy (PharmaNanoGene)

<http://www.ehu.es/en/web/pharmananogene/hasiera>

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Lines of Research

- Development of non-viral vectors for gene therapy.
- Development of nanoparticle systems for drug delivery.
- Pharmacokinetic/pharmacodynamic analysis in antibiotic therapy.
- Clinical pharmacokinetics of antimicrobial agents in critical patients.
- Pharmacotherapeutic evaluation of drugs. Pharmaceutical care.
- Legal regulation of biotech drugs.

Fluor-Phosphate Chemistry

<http://www.ehu.es/es/web/pfq/hasiera>

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Lines of Research

- Synthetic organic chemistry. Solid Phase Synthesis, Combinatorial Chemistry, Catalysis in Organic Synthesis.

- Organophosphorus compounds, amino phosphonates. Fluorinated compounds.
- Heterocyclic compounds, cycloaddition reactions, azadienes, azirines, aziridines, amino acids.
- Design and synthesis of enzyme inhibitors. Development of new active substances for drugs. Radiopharmaceuticals.

Thematic Mapping and GIS

<http://www.ehu.es/en/web/sgiker/kartografi-eta-informazio-sistemak-zerbitzua-aurkezpena>

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Lines of Research

- Thematic Mapping and GIS.
- The Iberian Hercynian foldbelt (West Spain).
- Cartography, geomorphology and geodynamic evolution of the Basque-Cantabrian basin.

Lactiker - Quality and Safety of Foods of Animal Origin

<http://www.ehu.eus/en/web/lactiker/home>

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Lines of Research

- Quality and traceability of traditional foods: contribution to the sustainability of mountain grazing of dairy sheep.
- Evaluation and production of high-quality ruminant meat for human consumption.
- Evaluation of the use of local sheep-food farming products. Improving the quality of milk and cheese.
- Influence of dairy intake on the risk of cardiovascular disease.
- Preparation of technological and sensory interest compounds for cheese and cheese derivatives. Biochemical and technological studies for new product development and innovation.
- Cheese safety: characterisation of defects and the presence of biogenic amines in ripened cheese.
- Optimisation and improvement of sensory analysis methods to evaluate cheese and meat quality.

METABOLOMIPs

<http://www.ehu.eus/en/web/metabolomip/hasiera>

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Lines of Research

- Molecular recognition techniques based on development of new biomimetic polymeric materials.

- Metabolomic studies for biomarker characterization.
- Forensic Chemical Analysis.
- Wine Metabolomics.

NanoBioCel

<http://www.ehu.es/en/web/nanobiocel/home>

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Lines of Research

- Microencapsulation of live cells.
- Micro and nanoparticles as delivery systems for peptide and protein vaccines.
- Non-viral vectors for gene therapy.
- Development of modified release formulations.
- Biopharmaceutical and pharmacokinetic evaluation of modified release formulations and new therapeutic systems.
- Nanofomulaciones for pulmonary administration.

Cellular and Molecular Neuropharmacology

<http://www.ehu.es/es/web/enpresa/eskaintza-orokorra?type=group&cod=00246&option=0>

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Lines of Research

- Molecular and cellular basis of ligand-directed signaling and heteromerisation of receptors coupled to heterotrimeric G proteins:
- Activity based on the determination of endophenotypes associated with mental and neurodegenerative diseases in postmortem human brain.
- Activity based on the study of interaction of ligands with receptors coupled to G proteins and in the developments of new allosteric drugs.

Nutrition and Obesity

<http://www.nutricionyobesidad.com/>

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Lines of Research

- Functional ingredients and obesity.
- Functional ingredients and fatty liver.
- Functional ingredients and diabetes mellitus.
- Mediterranean Diet and Health.
- Childhood Obesity.
- Epigenetics: markers of obesity and fatty liver.
- Assessment of dietary habits and nutritional status of population groups.
- Assessment of gluten in foods. Accredited laboratory.

Built Heritage Research Group (GPAC)

<http://www.ehu.eus/gpac/portal/index.php/en.html>

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Lines of Research

- Identification of factors amenable to heritage protection: Development of a methodology for census and inventory to establish criteria for interpretation and common assessment.
- Tools and strategies for assessment and heritage significance: Research of chronological indicators and development of territorial analysis systems and people settlements with diachronic and thematic criteria.

- Heritage intervention and conservation: Restoration as a cognitive process and respect for the integral values of built heritage.
- Dissemination and socialization of architectural heritage: Safeguarding and exhibition of architectural and urban documentary collections and introduction into suitable museum circuits. Editing specialized scientific reference publications and thematic portals online.
- Economic and socio-cultural impact: Political, cultural identity and diversity.
- Specialised postgraduate training: "Master degree in restoration and enhancement of heritage".

Translational Oncology

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Lines of Research

- To identify and characterise epigenetic, genetic and proteic profiles related to tumorigenesis and tumor progression by the optimisation of different -omics both in tumor tissues and biological fluids. Besides, the assessment of how these profiles are associated with clinical-pathological parameters is also present.
- To functionally characterise mechanism by which targets take part in carcinogenesis and tumor progression. Signalling pathways related to tumor suppressor and metastasis tumor suppressor genes by in vitro and in vivo models in an integrated manner with the characterisation of human samples are analysed.
- To translate molecular alterations of tumor tissues in epigenetic, genetic multi-parametric markers that can be detected in serum and urine and enable the diagnosis, stratification, prognostic and prediction of therapeutic response.

- The main work area focuses on bladder cancer: Other types: kidney, lung, colon, head and neck and gynecological tumors...

Parasitology and Immunoallergy

<http://www.ehu.es/en/web/inmunologia-microbiologia-parasitologia/home>

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Lines of Research

- *Toxocara canis* and *Anisakis simplex*. Characterisation and study of larval allergens. Keywords: toxocarosis, *Toxocara canis*, allergy, nematodes, parasite immunology, zoonoses. Study the relevance of *Ascaris* allergens in hives of unknown origin.
- Food allergens: allergens study in food components. qPCR application for early

detection and quantification of allergens of phytoparasitic origin in food.

- Detection of phytopathogenic allergen species in parasitised citrus fruit by fungal allergens. Experimental models of infection and transfer of methodologies to fruit consumption.
- Production of monoclonal antibodies against canine IgE and against plant and fungal origin allergens.

Population Systematics, Biogeography and Dynamics

<http://www.systbiogen.com/>

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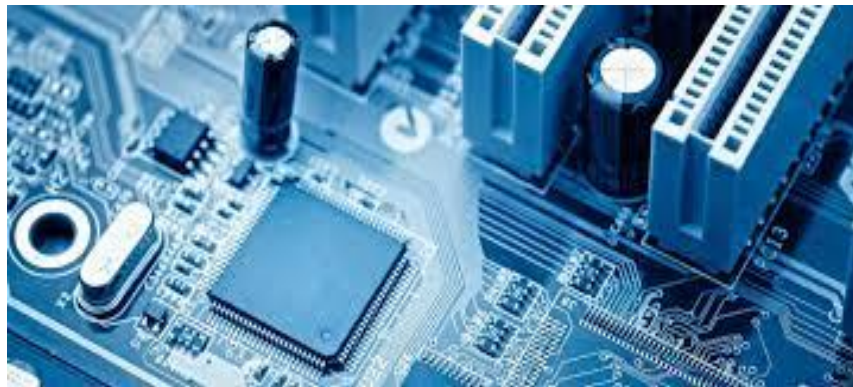
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Lines of Research

- Phylogeography and Martes genus landscape genetics (*Martes martes*; *Martes zibellina* and *Martes foina*) (Order Carnivora, Mustelidae Family).
- Structure and genetic variability of fragmented populations of threatened amphibians.
- Phylogeny, phylogeography and population structure of continental molluscs.
- Systematics of Opiliones.
- Monitoring the impact of the introduction of invasive alien species on native populations.
- Studies of population dynamics of wild carnivores by non-invasive molecular techniques.
- Ecological connectivity and wildlife predictive distribution studies.
- Application of massive sequencing techniques in systematics, biogeography and population dynamics studies.

SGIKER

General Research Services (SGIker) of the Campus of Álava are located in the Lascaray Research Centre where important scientific equipment are to be found and which provide service to the scientific, technological and industrial community.



DNA Bank

http://www.ehu.es/SGIker/es/adn/servicios_ofertados.php

Scientific Responsible: Marian M. de Pancorbo (marian.mdepancorbo@ehu.es)

SGIker Technician: Maite Alvarez Alvarez (maite.alvarez@ehu.es)

General information

The DNA Bank Unit of the Genomics and Proteomics General Service of the UPV/EHU is a support for basic and applied research in different areas of knowledge in Biomedical, Biological, Environmental and Food Sciences amongst others, and to assist in ensuring service in Clinical Health fields.

The DNA Bank Unit offers a full set of services aimed providing investigators with sample collections of nucleic acids (mainly DNA) from various sources.

Sensory Analysis

<http://www.ehu.es/SGIker/es/lasehu/presentacion.php>

Principal investigator: Francisco José Pérez Elortondo
(franciscojose.perez@ehu.es)

General information

LASEHU is the Sensory Analysis Laboratory of the Faculty of Pharmacy at the UPV / EHU (Vitoria-Gasteiz). It is in the area of Nutrition and Food Science, which belongs to the Department of Pharmacy and Food Science. With an experience of 10 years, the team of Sensory Laboratory consists of three University Professors, one Assistant Doctor and 2 Researchers (Bachelor of Science and Food Technology), hired to carry out.

Central Analysis Service

<http://www.ehu.es/en/web/sgiker/arabako-analisirako-zerbitzu-zentrala-aurkezpena>

Scientific Responsible: Ramón Barrio Diez-Caballero (r.barrio@ehu.es)

SGIker Technician:

Maria Carmen Sampedro Yangüela (mariacarmen.sampedro@ehu.es)

Alicia Sánchez Ortega (alicia.sanchez@ehu.es)

General information

The General Analysis Service mitigates the generated analytical problems in such diverse fields as Health Sciences, Biochemistry, Environment, Food, Quality Control in numerous industries, and even other related fields such as archaeology, and the study and dating of works of art.

This service helps especially groups with little chance of obtaining financing for the purchase of equipment, and also allows consolidated groups direct their efforts to tasks that are not merely analytical. On the other hand, the provision of external services to companies and institutions is therefore improved, and even allows the recruitment of new resources.

Nuclear Magnetic Resonance

<http://www.ehu.es/en/web/sgiker/erresonantzia-magnetiko-nuklearra-emn-aurkezpena>

Scientific Responsible: Francisco Palacios Gamba (francisco.palacios@ehu.es)

SGIker Technician: Edorta Martínez de Marigorta Izaga (edorta.martinezdemarigorta@ehu.es)

General information

The MRI service organised in three units. The service's administrative headquarters and directorate are located at the Faculty of Chemistry (San Sebastián), which is associated with the Unites of the Faculty of Pharmacy (Vitoria) and the Faculty of Science and Technology (Leioa). This distribution aims further bring closer the department's services to direct users and facilitate their use.

The main features consist of the structural study of organic and organometallic molecules, biomolecules, materials, additives, traces... by the qualitative and quantitative determination of the components. Likewise, it is possible to approach the study of dynamic processes and structural changes with the temperature in these materials.

General information

Amongst its key objectives, the Mapping and Geographic Information Systems Service provides the university community and other groups in society (scientific, government, businesses and individuals) a territorial data bank and a large digital mapping support, both basic (topography, satellite imagery, orthophotomaps, etc..) and specific (thematic maps of geology, vegetation, soil, crop and land development, land use, urban planning, etc.).

P3 Biological Containment

http://www.ehu.es/en/web/sgiker/content/-/asset_publisher/ZcG4/content/info_laboratorionivel3?redirect=http%3A%2F%2Fwww.ehu.es%2Fen%2Fweb%2Fsgiker%2Fhome%3Fp_p_id%3D101_INSTANCE_8WTj%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-2%26p_p_col_count%3D3

Scientific Responsible: Marian M. de Pancorbo (marian.mdepancorbo@ehu.es)

SGIker Technician: Maite Alvarez Alvarez (maite.alvarez@ehu.es)

General information

Level-3 Biological Containment Laboratory, University of the Basque Country (UPV/EHU), has been installed at the Lascaray Ikergunea Research Centre. It occupies an area of 140 m² on the first floor of the building with an air conditioner facility on the building's outer layer and an effluent digester in the basement.

The complex includes a Technical Area with all mechanical fixtures such as air conditioners, exhaust filters, steam generators, digester, etc.; a Classified Zone where all the work is performed and therefore designed for the initial needs of the projects to be developed, in regard to amount of users, material flow, sterilisation areas, etc.; and interchange systems consisting of autoclaves, biological air-locks and material air-locks allowing the exit of biological materials and samples from the containment enclosure.



For further information about all SGIker as well as the annual service report please visit the SGIker (Research General Service) website of the UPV/EHUE on: <http://www.ehu.eus/es/web/sgiker/home/>

UFI

Research and Training Units (UFI) are conceived as an alliance of research structures of the UPV/EHU, based on common objectives. Their purpose is to increase the extent and quality of research and training activities by improving certain indicators linked to those goals.

Knowledge generation and training are necessarily greater than the sum of the production of the structures that compose it; this allows enhancing forecasting and visibility of both research and training activities.



Below, the UFIs participating in a group located in Lascaray are listed.

Eldunanotek: Development Unit for Therapeutic Devices: Nanotechnologies, Aging and Quality of Life

<http://www.ehu.eus/en/web/ufieldunanotek/definizioa-eta-helburuak>

Coordinator: Rosa María Hernández Martín (rosa.hernandez@ehu.eus)

Research Management Officer: María Martín Fernández (maria.martin@ehu.eus)

Groups members of the Centre

- BIOMICs
- NanoBioCel
- Nutrition and Obesity

Thematic area

Despite the many marketed drugs, there are diseases lacking available effective treatment or whose treatment produces so many side effects that its long-term use is unviable, and those related to ageing are highlighted amongst these diseases.

The UFI's main purpose is to respond to society by contributing to the improvement of the quality of life of citizens, since the multidisciplinary team has proven research experience in this field of activity. Specifically, this health problem is approached from its first stage, the search for new therapeutic targets, continuing with its validation to the development of active substances with a suitable delivery system to achieve this target and modify the development of the disease.

All this falls within the translational biomedical research that the structures forming ELDUNANOTEK perform with their clinical associates.

Food Quality and Safety

<http://www.ehu.es/en/web/uficalidadyseguridadalimentaria/home>

Coordinator: Maria Dolores Guillén Lorén (mariadolores.guillen@ehu.es)

Research Management Officer: María Martín Fernández (maria.martin@ehu.es)

Groups members of the Centre

- Molecular Epidemiology of Campylobacter and Arcobacter
- Lactiker - Quality and Safety of Foods of Animal Origin
- Parasitology and Immunoallergy

- Food Processing, Quality and Safety

Thematic area

Food research is essential not only to offer society the most attractive and safe food with better functional, organoleptic and nutritional properties, but also to further improve knowledge of the composition and properties of food, and on changes that various types of processing and storage can have on food. This knowledge is essential to advance safely on development and innovation.

The four research structures that form this UFI enhance multidisciplinary collaboration in the field of Quality and Food Safety, specifically the field of quality and food safety throughout the process of transforming them from raw material to the final product and its consumption, from a physicochemical biochemical, microbiological, nutritional, technological and sensory perspective.

Global Change and Heritage

<http://www.ehu.eus/en/web/ufiglobalchangeandheritage/home>

Coordinator: Juan Manuel Madariaga Mota (juanmanuel.madariaga@ehu.eus)

Research Management Officer: Isabel Urrutia Samper (isabel.urrutia@ehu.eus)

Groups members of the Centre

- Built Heritage Research Group

Thematic area

This UFI aims to further improve the scientific disciplines to provide a holistic view of the problems associated with climate change, the negative effects that compromise the cultural and natural "heritage" of humanity and sustainable development capable of correcting them. This aggregation between structures in quite distinct fields of action is based on the link between knowledge and "sectoral know how" of

the Groups in the integrating and dynamic context of Global Change and Heritage.

The GPAC structure has understood this context as built cultural heritage, GHI as a nature, water and land Heritage, and IBEA as the characterisation and diagnosis of environmental impacts on both worlds. The starting point of this synergy is the "Heritage value chain as a whole", which fits the CTS vision: Science-Technology-Society, and the perspective of sustainability.

Organic Chemistry, Synthesis and Catalysis (QOSYC)

<http://www.ehu.eus/en/web/ufiqosyc/home>

Coordinator: Claudio Palomo Nicolau (claudio.palomo@ehu.eus)

Research Management Officer: Nerea Casas Maeso (nerea.casas@ehu.eus)

Groups members of the Centre

- Fluor-Phosphate Chemistry

Thematic area

Development of new synthetic methods and chemical catalysis, and their application to the preparation of active substances with biological and industrial interest.

Groups that make up this UFI belong organizationally to the Organic Chemistry departments I and II of the UPV/EHU, and have extensive research experience in the area of Organic Chemistry, where they work on highly topical themes and therefore very competitive, such as: the study of chemical reactions by computational methods, the design of reagents and synthetic methodology consistent with the concept of atom economy, asymmetric catalysis including organocatalysis, product development for pharmaceuticals and biomedical applications with special emphasis on cancer and neurodegenerative diseases drugs.

Neurochemistry, Neuropsychopharmacology and Psychiatry

<http://www.ehu.eus/en/web/ufineuropsi/home>

Coordinator: Joan Sallés Alvira (joan.salles@ehu.eus)

Research Management Officer: Javier López de Lacalle Beltrán de Heredia (javier.lopezdelacalle@ehu.eus)

Groups members of the Centre

- METABOLOMIPs
- Cellular and Molecular Neuropharmacology

Thematic area

Study and interdisciplinary approach of mental illness, from their origins, manifestations, evolution to their clinical expression, treatment and evaluation of responses thereto.

This UFI includes scientific groups working on biological bases (genetic, molecular and cellular biology), clinical (diagnostic and prognostic evaluation, neuropsychology, therapy), pharmacological (design and evaluation of new targets and treatments, technology for these assessments) and epidemiological (risk factors, response to clinical trials) of major mental illness (depression, schizophrenia and bipolar disorder).

The group includes investigators in neurobiology and basic medicine, and basic-applied and clinical medicine, establishing synergies amongst themselves and working with what has become known as translational science goals.



INIZIA BUSINESS INCUBATOR


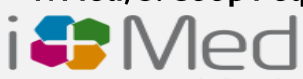


INIZIA business incubator was launched on 21st February 2014 with the aim to generate and consolidate new business initiatives through the provision of infrastructures, common services, basic equipment and support services.

All companies located in the business incubator are distinguished by their strong technological character due to the fact that they are linked to University of the Basque Country (UPV/EHU) research Groups and are projects to develop and consolidate in Álava.



3 companies have made use of the offices of the business incubator in 2015:

| PROJECTS | |
|--|---|
| BAIGENE  <small>Genetics & New Technologies in Sport Performance</small> http://baigene.com/ | |
| Promoters: <ul style="list-style-type: none"> - Jose Maria Aznar Oviedo - David Celorrio Herrera - Adrian Odriozola Martínez | <ul style="list-style-type: none"> - I+D+i business initiative based on Sports Genetics of New Technologies applied to individualisation and improvement of: 1) sports performance, 2) injury reduction, 3) nutrition and, 4) healthy habits. <p>BAIGENE S.L develops:</p> <ul style="list-style-type: none"> a) Specific genetic kits for each sport (running, cycling, judo, etc), as well as a specific genetic kit for nutrition professionals. b) Specialised Training in Genetics applied specifically to sports modalities aimed at professionals related to the world of health and sports. c) Application for IT devices to manage your own genetic kit. |
| i+Med, S. Coop Pequeña  <small>Ingeniería Biomédica Aplicada</small> http://imasmed.com/ | |
| Promoters: <ul style="list-style-type: none"> - Sergio Cardieno Solachi - Iñaki López Puente - Manu Muñoz Morentin - Raúl Pérez González | <ul style="list-style-type: none"> - Project for the manufacture of copolymeric-hydrogels for custom biomedical applications. - Development of a family of sodium hyaluronate (NaHa) solution based injectable products at different concentrations. - Innovation in polymeric gels incorporating controlled drug release to develop a new product. |

UN-DIET UNIDAD DE SALUD ALIMENTARIA GASTEIZ ELIKADURA OSASUNeko UNITATEA, S.L

UN-diet

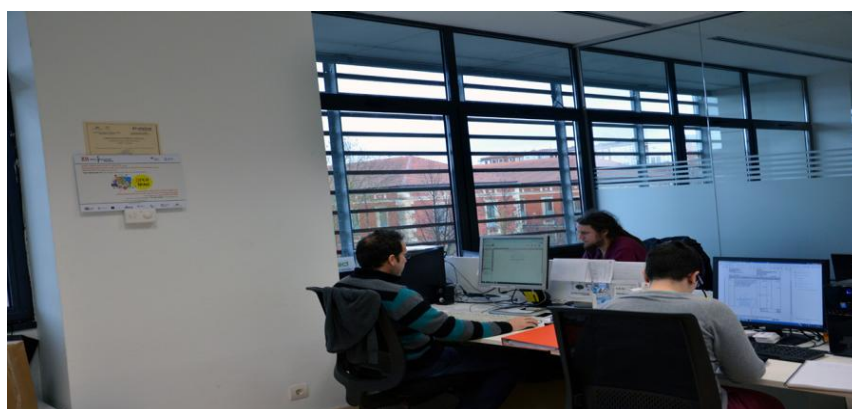
Unidad de Salud Alimentaria
Elikadura-osasuneko Unitatea

www.un-diet.es

Promoters:

- Leila Pérez Venturino
- Bittor Rodriguez Rivera

- Nutritional Health Care.
- Education and training.
- Scientific advice and assistance.



All information and documentation of the business incubator is available on the Lascaray website: <http://www.ehu.eus/en/web/lascarayikergunea/enpresa-mintegia>

EUSKAMPUS

Community of Poles of Knowledge



UPV/EHU, Tecnalia and DIPC are the founding members of Euskampus Fundazioa, and the University of Bordeaux is their strategic European partner. Euskampus Fundazioa is responsible for designing, coordinating and implementing activities that strengthen and accelerate the process of modernisation of the University of the Basque Country, through the development of the Campus of International Excellence Project.

Euskampus Fundazioa is an entity with an extensive history, aiming to become a benchmark and leader of the Basque Science, Technology and Innovation System, being a key agent to the revitalisation of R&D&I, its internationalisation and with a clear vocation of social responsibility and integration with its territory.

Several Lascaray research groups participate in the co-creation teams of the Euskampus poles of knowledge responsible for defining the strategic stakes and the first series of collaboration activities in the fields of training, research and knowledge transfer to address the selected targets.

FOOD & HEALTH HABITS POLE

- Nutrition and Obesity
- Food Processing, Quality and Safety

NEUROSCIENCE POLE

- BIOMICS

The Euskampus home page gathers all the information of the International Excellence Campus Project: <http://euskampus.ehu.es/>

