2027 Call for the IRB Barcelona International PhD Fellowships Programme (ref.01/27.1/IRB)

TERMS & CONDITIONS

Section II, article 6, letters c) and q) of the Articles of Association of the *Fundació Institut de Recerca Biomèdica (IRB Barcelona)* (hereafter referred to as IRB Barcelona or the Institute) establish that the Institute will promote activities that address collaboration and knowledge transfer and also launch fellowship calls and subsequent granting of these awards.

Accordingly, this document is to announce a fellowship call included in the IRB Barcelona International PhD Programme. The fellowships are assigned to students enrolled on a PhD programme who perform and defend their PhD theses under the supervision of group leaders at IRB Barcelona.

I. Objective

These Terms and Conditions serve to regulate the award of PhD fellowships for the academic year 2027–2028.

II. Fellowship Call

The following will be offered in this call:

- Up to 10 FPI doctoral positions associated with the "Proyectos de Generación de Conocimiento 2026" Call (funded by the Agencia Estatal de Investigación AEI-MICINN).

The FPI positions will be regulated by the MICINN call, following the conditions of this government agency. Details of the evaluation criteria are provided in Annex 2.

All fellowship awardees will be contracted by IRB Barcelona. Fellowships will be renewable on a yearly basis and up to 4 years from the date of signature of the employment contract by the awardee, provided that he/she complies with all the requirements of point X of this call.

The awardee's supervisor will be the group leader at IRB Barcelona previously assigned and agreed with the awardee before the signature of the fellowship. This group leader will oversee that the duties assigned to the awardee are fulfilled and will notify IRB Barcelona's Academic Office and the Chair of the Academic Advisory Committee of any

incident, alterations in the fulfilment of the allocated duties, or other pertinent circumstances so that corrective measures can be applied and/or proceedings can be started to withdraw the fellowship.

III. Requirements and Selection Criteria

IRB Barcelona will recruit prospective doctoral candidates of any nationality, gender, culture, religion, sexual orientation or age to undertake a PhD in biomedicine.

1. The programme is aimed at students who have completed one of the following options by September 2027:

a) Studies that lead to an official Spanish (or from another country of the European Higher Education Area) university degree in Biology, Chemistry, Biochemistry, Pharmacy, Physics, Medicine or related fields and that have 300 credits (ECTS), of which at least 60 must correspond to master level.
b) A degree in a non-Spanish university not adapted to the European Higher Education Area and that gives access to doctoral studies in Biology, Chemistry, Biochemistry, Pharmacy, Physics, Medicine or related fields in Spain.

2. Candidates are selected exclusively on merit, on the basis of their curricula. The academic grades and curriculum vitae of each applicant are evaluated, as well as recommendation letters and a motivation letter. No selection criteria for positive or negative discrimination are applied.

Applicants should indicate the Research Cluster(s) and/or Research Group(s) to which they wish to apply (up to 3, in total). Details of the projects available are provided in Annex 1.

IV. Application Procedure

1. Applications can be made online at http://phd.irbbarcelona.org/. The application deadline is 15:00 CET on 7 January 2027.

The tentative calendar for this call is as follows:

Call opening: 9 November 2026
Deadline for applications: 7 January 2027, 15:00 CET
Deadline for referee submissions: 10 January 2027, 15:00 CET
Remote evaluation: 1-5 February 2027
Interviews and Group Leader Panel presentations at IRB Barcelona: 9–10 March 2027
Notification to candidates: TBC March 2027
Fellowships start date: from September 2027

If the application deadline is extended, the updated information will be available on the IRB Barcelona's website.

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2. For more information, applicants can consult IRB Barcelona's webpage or contact IRB Barcelona's Academic Office at academicoffice@irbbarcelona.org.

V. Applications

Applicants should send a completed online application form, together with the following documents:

1. Curriculum vitae specifying education and experience, including career breaks, and supported by pertinent documents.
2. A motivation letter (maximum 2 pages) highlighting their research experience and academic achievements and explaining why they are interested in IRB Barcelona and in a particular research group.
3. A scanned copy of their certified Academic Record. These documents must show the grades. If the certified academic records are not in Spanish, Catalan or English, applicants should also attach a translation in one of the above-mentioned languages.
4. Any additional files considered relevant to the application
5. Two recommendation letters from university lecturers or scientists with whom they have studied or worked. Candidates are responsible for ensuring that referees submit these letters. Applications not supported by these letters will not be eligible. If the applicant has previously worked with a researcher at IRB Barcelona, any letter of reference from said person cannot be included as one of the two reference letters requested. However, it can be sent to provide additional support for the application.

Applicants will be asked to upload the following documents in English. Please note that all the documents provided should be in PDF format.

VI. Selection

An Evaluation Committee will appraise eligible. This committee will have representatives of group leaders at IRB Barcelona. The evaluation will be independent, impartial, objective, and free of conflicts of interest, and the selection will be open, efficient, transparent, fair, and merit-based. The Academic Advisory Committee and Academic Office will oversee the remote and interview stages of the selection process.

Applicants will receive continuous support from the Academic Office through the helpdesk (email, phone), which will notify them of the outcome of the preselection. Candidates with the highest scores will be invited for an online interview. Those who do not pass the threshold established will be excluded from further consideration and will be informed.

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Short-listed candidates will receive an invitation to a two-day interview process held at IRB Barcelona. Teleconference interviews will be used only for candidates with prior commitments that cannot be rearranged and that thus prevent them from travelling to Barcelona.

Offers of admission will be made to the successful candidates shortly after the interview period. Candidates positively evaluated but with an insufficient score to receive a fellowship will be put on a reserve list to cover possible renunciations and future positions.

Awardees will receive a formal invitation letter.

The following evaluation criteria will be used by the Evaluation Committee during the pre-selection phase:

Evaluation criteria	Score (points)	Sub criteria	Weight	Threshold
Academic record and CV	1-10	Academic and/or professional curriculum in relation to the stage of the candidate's career (graduate studies, grades, institution), including career breaks.	50%	60%
		Research experience (diverse fields /sectors, publications, participation in projects).		
		International mobility (studies abroad, secondments, etc.).		
		Scientific-technological quality (courses, workshops).		
		Fellowships/awards received, supervision, knowledge transfer, communication and other relevant merits.		
Motivation Letter	1-10	Strength and relevance of the candidate's motivation towards the research conducted at IRB Barcelona.	20%	50%
		Interest in any specific IRB Barcelona research group.		
Letters of reference	1-10	Reference letters supporting the candidacy will be assessed taking into account the relevance of the content and the person who signs the letter in relation to the candidate's target research groups.	30%	50%

The overall score of the pre-selection phase will be calculated by multiplying the score obtained for each criterion (1-10 points) by the weight assigned to each one (as seen in the table in %). Only applications that are above the thresholds established for all criteria will be considered. This procedure will lead to a score out of 10. A ranking will be obtained in a consensus meeting. In case of a draw in the total score between applications, candidates will be prioritized on the basis of the weight of each criterion. If two candidates have the same scores for all evaluation the criteria, both will be invited to interviews.

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During the Candidate's Presentation Panels and Interview phases, additional criteria (see below) will be taken into consideration:

Evaluation criteria	Score (points)	Sub criteria	Weight	Threshold
Candidate's potential	1–10	Ability to present complex reasoning in English.	40%	50%
		Independent thinking, creativity, and organisation capacity.		
		Leadership skills, team working capacity, and maturity.		
Motivation	1–10	Strength and relevance of motivation for applying to IRB Barcelona.	30%	50%
		Motivation towards the research lines offered by the different research clusters and/or research groups.		
Academic background and theoretical fundamentals	1–10	Suitability of the candidate's academic background to undertake the research lines offering projects in the call.	30%	50%

The overall score in the interview phase will be calculated by multiplying the score obtained for each criterion (0–10 points) by the weight assigned to each one (as seen in the table in %). This procedure will lead to a total score out of 10. A ranked list of candidates will be drawn up. In the event of a draw in the total score, candidates will be prioritized on the basis of the weight of each criterion. When scores on all evaluation criteria are still the same, preference will be given to candidates from under-represented groups (e.g. on the basis of gender, disability or refugee backgrounds).

On 9 December 2014, IRB Barcelona was awarded the "HR Excellence in Research" logo. This recognition reflects the commitment of the Institute to continuously improving its human resources policies in line with the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers. More information about our OTM-R (Open, Transparent, Merit-based Recruitment) policy can be found at the following link.

VII. Documentation

Each candidate selected during the interviews must present the following documents to complete the selection procedure.

1. Degree certificate or official notification of degree award.
Non-Spanish nationals must present: 1) a certified copy and sworn translation of the degree certificate or equivalent obtained in a university abroad; and 2) a certified copy and sworn translation of the certificate showing the subjects studied.

If the certified academic records are not in Spanish, Catalan or English applicants should also attach a sworn translation in one of the above mentioned languages.

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2. A sworn statement expressing intention to enrol in a university doctoral programme.

3. A sworn statement stating that he or she does not receive any other funding or fellowship grant.

(Non-compliance with points 2 and 3 will automatically lead to withdrawal of the fellowship and the awardee must return any amounts received to IRB Barcelona).

VIII. Communication of Fellowship Award

The Head of Human Resources and Academic Affairs department will officially inform successful candidates of the fellowship award.

IX. Rights of Awardees

1. Awardees will have the following general rights:

    a) To be provided with the necessary assistance to perform their studies and research activities.
    b) To become a member of the research programme in which they will be undertaking PhD studies.
    c) To participate in bodies governing and representing the student community.
    d) To participate in complementary calls for funding to attend scientific congresses or to spend training periods in other centres upon approval of their supervisors and the director of IRB Barcelona.
    e) To have their intellectual and industrial property rights regulated in the employment contract with IRB Barcelona.

2. Awardees will have employment and Social Security rights derived from the employment contract with IRB Barcelona.

3. Awardees will be able to exercise intellectual property rights derived from their training activity in accordance with their contribution, as established in the Intellectual Property Law, Royal Decree 1/1996, 12 April. These rights will be independent, compatible, and accumulable with other rights that may arise from the research developed, without negatively affecting the rights of the joint effort when the awardees participate in or are associated with a joint research project.

4. Regarding possible industrial property rights of the awardees, these will be regulated by Law 24/2015, of July 24, 2015, on Patents, and Royal Decree 55/2002, of January 18, 2002, governing the exploitation and license of rights on discoveries made in public research organisations.

    Said rights will not be linked to salary.

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X. Responsibilities of Awardees

1. To fulfil the terms and conditions established in this call.

2. To enrol in a university doctoral programme.

3. To perform their research activity under the supervision of a group leader at IRB Barcelona for the duration of the fellowship. In addition, they must perform the activities foreseen in the research training and specialisation programmes of the Institute, as well as satisfactorily fulfil the objectives of the training programme.

4. To comply with the internal regulations of IRB Barcelona, particularly regarding working conditions and the prevention of occupational risks.

5. To prepare a report each year informing on the scientific progress of their theses. Moreover, they will present this report to their Thesis Advisory Committee, designated by the Institute.

6. To request approval from the group leader supervising their activity prior to the submission for publication or disclosure of any abstracts and/or publications based on research carried out at IRB Barcelona.

7. To undertake the duties that correspond to them as a result of being contracted by IRB Barcelona, as well as those associated with inclusion in the Social Security System.

8. To defend their theses and obtain the respective PhD degree by the end of the fourth year after the start of the fellowship. In exceptional cases, an extension of one year may be given for the defence of the thesis.

XI. Termination of Fellowships

The fellowship will be revoked if the awardee has withheld or falsified information. The fellowship will also be revoked if the awardee does not fulfil the responsibilities described in point X.

XII. Incompatibility

Awardees will be devoted exclusively to the research or technical training and specialisation activities defined in this call. The fellowships included in this call are not compatible with any other type of grant or fellowship from other public or private organisations.

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XIII. Legal Regime

Awardees will be subjected to the legal regime applicable to PhD fellowships according to the law in force at the time of drawing up the contract.

XIV. Data Protection

In accordance with Regulation (EU) 2016/679 (General Data Protection Regulation), Organic Law 3/2018 of December 5, and other applicable regulations governing personal data protection, any personal data provided by applicants will be incorporated into the Academic file of IRB Barcelona, for which the Institute is the data controller. The purpose of keeping such data is to manage the relationship of the Institute with applicants. Applicants may exercise the rights of access, rectification deletion, opposition, transfer and expiry, as well as limitation in data processing of said information by contacting the Institute at the following e-mail address: dataprotection@irbbarcelona.org, or by writing to the following postal address: C/ Baldiri Reixac, 10, 08028, Barcelona.

XV. Dissemination

Any information regarding this fellowship call will be placed on the announcement board on IRB Barcelona's website.

XVI. Clarification

The Director of IRB Barcelona or a designated representative will be responsible for clarifying queries regarding these terms and conditions.

Barcelona, 9 November 2026



Maribel Labrid
Head of Human Resources and Academic Affairs

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ANNEX 1. Research projects

IRB Barcelona research group	Group Leader	Research Cluster	Description of the research project
Quantitative Stem Cell Dynamics	Alejo Rodríguez-Fraticelli	Aging and Metabolism	**How does a blood stem cell's history shape its future?** In the Quantitative Stem Cell Dynamics lab at IRB Barcelona, we develop tracking tools to follow individual cells and their descendants over time. We offer two possible PhD projects. 1. Can blood stem cells remember past experiences? You'll investigate whether a brief exposure during development leaves an epigenetic memory that changes which blood cells a stem cell produces as it ages. Using barcoding mice, human stem cell expansion cultures, and single-cell perturbation multi-omics, you'll trace individual clones and test which memories persist, which fade, and which can be rewritten. This project builds on our work tracing blood aging through naturally occurring epigenetic marks (Nature, 2025). 2. What makes a leukemia stem cell dangerous? Our work showed that the state of a blood stem cell can shape how it responds to a leukemia-driving mutation (Cell Stem Cell, 2025). You'll use single-cell lineage tracing, genetic mouse models, and human leukemia models to discover which cells sustain disease, what they depend on, and whether those dependencies can be targeted. Life in the lab. We are a highly collaborative group, typically with 4-5 young fellows, 3-4 postdocs, and 3-4 technicians with diverse expertise, including computational analysis support. Since our lab was established in 2021, four PhD students have graduated from our group, with a typical time to graduation of 4-5 years. We like to bring the team together frequently for lab activities and lab/program retreats, and we strongly embrace diversity, mutual respect, collegiality, and professionalism as core lab ideals. Collaborations. In addition to work in the lab, we also collaborate with groups at the Arc Institute, Cambridge Stem Cell Institute, VHIO, Carreras Leukemia Research Institute, CaixaResearch, the Centre for Genomic Regulation (CRG), the University of Pennsylvania, and Harvard University, among many others, and there are always opportunities for secondments with our collaborators. Support and recognition. Our research is supported by the European Research Council (ERC), the Cris Cancer foundation, the Spanish Association for Cancer Research (AECC), Caixa Foundation, as well as the Spanish Ministry of Science/AEI.

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			Translational potential. We are constantly looking for students with an entrepreneurial mindset to contribute to translational projects on reprogramming aged blood and immune cells, identifying vulnerabilities in metastasis-seeding cells, and developing immunotherapies for targeting blood cancers.
Pediatric Cancer Epigenetics	Alexandra Avgustinova	Cancer Science	**Perturbing cell state plasticity in aggressive childhood cancers** Malignant rhabdoid tumours (MRTs) are very rare and highly aggressive childhood cancers, with poor survival and an extremely low mutation burden. This genetic simplicity makes MRTs a unique model: with little clonal complexity and low background noise, the non-genetic mechanisms that let a tumour adapt can be dissected with a clarity rarely possible in other cancers. Our single-cell multi-omic and spatial profiling of patient tumours suggests that cell states are shaped by a core regulatory circuit and by signals from their niche. How does a genetically quiet tumour switch between these states, and can we block it? The PhD student will tackle this question through systematic perturbation. Using CRISPR/Cas9-based or pharmacological approaches in patient-derived models, the student will disrupt the circuit and niche signals and read out the consequences at single-cell resolution in vitro and in vivo. Lineage tracing will reveal how tumour cells adapt, and computational modelling of regulatory networks will predict which interventions block state switching. The project aims to prevent plasticity-driven treatment resistance in children with rhabdoid tumours, and may uncover principles that apply to other cancers.
Mitochondrial Biology and Tissue Regeneration	Ana Victoria Lechuga-Vieco	Aging and Metabolism	**Decoding mitochondrial heterogeneity in ageing and immune resilience** Ageing is a highly heterogeneous process, with cells and tissues showing remarkable differences in their capacity to withstand molecular damage and maintain physiological function. Mitochondria are emerging as key regulators of these differences, yet the mechanisms linking mitochondrial diversity to cellular ageing and resilience remain largely unexplored. This project aims to investigate the dynamics of mitochondrial genetic and functional heterogeneity during ageing. By exploring how mitochondrial diversity emerges during haematopoiesis, we aim to understand how mitochondrial quality control and cellular selection shape immune ageing and long-term tissue resilience. The project will also investigate whether targeting mitochondrial fitness can restore immune function and mitigate age-associated diseases. The successful candidate will combine advanced mouse models of ageing with stem cell biology, genetic engineering, single-cell technologies, mitochondrial characterisation and metabolic profiling. This multidisciplinary approach aims to identify the mechanisms underlying cellular resilience and develop new strategies to promote healthy ageing.
Colorectal Cancer Laboratory	Eduard Batlle	Cancer Science	

Gene Translation Laboratory	Lluís Ribas	Aging and Metabolism	Project: TRADUMED – **"Biomedicine of the translation apparatus: impact of degenerating transfer RNAs upon human health and ageing"** Human ageing is characterized by a gradual and irreversible loss of proteome quality. Transfer RNAs are central components of the protein synthesis machinery, and their genes accumulate large amounts of somatic mutations as we get older. The resulting mutant tRNAs can alter the fidelity and efficiency of gene translation. This project investigates how the progressive degeneration of the cellular tRNA pool affects human cells, and how this impact depends on cell state (proliferating, quiescent, post-mitotic or senescent). The PhD student will combine cell biology, molecular biology and RNA sequencing approaches to characterise the dynamics of tRNA populations, to dissect the mechanisms by which mutant tRNAs perturb proteostasis, and to explore strategies to counteract these effects. We are looking for an experimentalist interested in the mechanistic basis of ageing, in the study of RNA population dynamics, or in drug-discovery programmes.
Structural Bioinformatics and Network Biology	Patrick Aloy	Computational, Chemical and Structural Biology	**Blending Biology, Chemistry and AI to Enable Personalized Systems Pharmacology** Biological data is accumulating at an unprecedented rate, escalating the role of data-driven methods in computational drug discovery. The urge to couple biological data to cutting-edge machine learning has spurred developments in data integration and knowledge representation, especially in the form of heterogeneous, multiplex and semantically-rich biological networks. Today, thanks to the propitious rise in knowledge embedding techniques, these large and complex biological networks can be converted to a vector format that suits the majority of machine learning implementations. In this computational framework, complex connections between entities can be unveiled by means of simple arithmetic operations. Indeed, we demonstrate and experimentally validate that these descriptors can be used to reverse and mimic biological signatures of disease models and genetic perturbations in vitro and in vivo. However, only a tiny fraction of the possible chemical space has been so far explored, meaning that most compounds able to modulate biological activities (i.e. drugs) are yet to be discovered. Accordingly, the main objective of my laboratory is to couple bioactivity signatures and generative AI to design and synthetize new chemical entities (NCEs) with a desired functionality. In particular, we aim at generating NCEs to modulate the activity of a specific set of targets, selected from a combination of perturbagen profiles, to revert the pathological state induced by Alzheimer´s disease (AD) and other complex disorders. All in all, the incorporation of machine learning methods to the drug discovery process is triggering the development of thousands of novel compounds, finally enabling personalized pharmacology. References

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			Rojas-Granado et al. Phenotypic AI-based design of cell-specific small molecule cytotoxics. 2026. Communications Chemistry, 9: 1-14. Comajuncosa-Creus et al. Integration of diverse bioactivity data into the Chemical Checker compound universe. 2025. Nat Protocols, 1-25. Comajuncosa-Creus et al. Comprehensive identification and characterization of druggable pockets thourgh binding site descriptors. 2024. Nat Commun. 15: 7917. Fernández-Torras et al. Integrating and formatting biomedical data in the Bioteque, a comprehensive repository of pre-calculated knowledge graph embeddings. 2022. Nat Commun. 13: 5304. Pauls et al. Identification and drug-induced reversion of molecular signatures of Alzheimer's disease onset and progression in AppNL-G-F, AppNL-F, and 3xTg-AD mouse models. 2021. Genome Med. 13:168. Bertoni et al. Bioactivity descriptors for uncharacterized chemical compounds. 2021. Nat Commun. 12: 3932. Duran-Frigola et al. Extending the small molecule similarity principle to all levels of biology with the Chemical Checker. 2020. Nat Biotechnol. 38: 1087-1096.
Translational Control of Cell Cycle and Differentiation	Raúl Méndez	Mechanisms of Disease	**TRANSLATIONAL CONTROL OF CELL CYCLE AND DIFFERENTIATION** (mRNA translational regulation in tissue health, ageing and cancer) MÉNDEZ LAB | IRB BARCELONA: How do cells remodel their proteome to adapt to changing conditions—and how does this capacity change during ageing and disease? Our laboratory investigates how cells regulate gene expression post-transcriptionally, controlling the fate and translation of messenger RNAs. We connect the molecular mechanisms that regulate individual mRNAs to the programs that maintain tissue function, support adaptation to stress and shape cancer development. From molecular interactions to cellular organization: We study how mRNAs assemble with RNA-binding proteins, particularly the CPEB family, into messenger ribonucleoprotein complexes (mRNPs). We investigate how these complexes control mRNA stability, localization and translation, and how their organization into RNA-containing condensates influences when and where proteins are produced. From RNA-maps to tissue homeostasis: We combine mechanistic experiments with transcriptomics, epitranscriptomics, translatomics and proteomics to connect mRNA abundance and chemical modifications with protein production. A central question is how ageing and metabolic stress reshape these regulatory layers, determining whether cells adapt, enter quiescence or senescence, and whether tissues regenerate or progress towards chronic disease. The liver provides a major experimental setting for understanding these transitions. From tissue stress to the tumor–immune interface: We investigate how post-transcriptional regulation shapes inflammatory and fibrotic environments that can precede cancer, as well as tumor and premetastatic niches—changes in distant tissues that favor subsequent metastatic colonization. We are particularly interested in communication between tumor cells and immune cells, and how stress

			adaptation, quiescence and senescence influence these interactions, immune surveillance and tumor progression. A PROPOSAL FOR A PHD THESIS: How do mRNA modifications organize gene expression in the ageing liver? Our research offers the opportunity to connect fundamental RNA biology with questions in physiology and disease, combining molecular and cellular approaches with quantitative imaging, experimental models and computational analysis of multiomics data Can epitranscriptomic marks, alter where mRNA resides, how it moves and when it produces proteins—and thereby influence tissue health?: Chemical modifications of mRNA, collectively studied through epitranscriptomics, provide an additional layer of gene regulation. This project will investigate whether these modifications influence how mRNAs interact with RNA-binding proteins and partition into, exchange with or leave RNA-containing condensates. We will test how these behaviors organize translation across space and time, shaping the proteome in relation to circadian rhythms and cell polarity. The mechanistic question: We will examine how defined mRNA modifications affect mRNP assembly, condensate association and transitions between translationally repressed and active states. We will ask whether these mechanisms coordinate daily rhythms of protein production and the localized translation that supports the distinct functional domains of polarized hepatocytes. A central aim is to distinguish direct effects on RNA–protein interactions and condensate behavior from effects mediated by changes in mRNA stability or translation. The physiological context: Using the liver as a model, we will investigate how metabolic stress and ageing reshape these mechanisms. We will ask whether altered spatial and circadian regulation of translation supports adaptive responses or contributes to persistent inflammation, fibrosis and tissue environments that favor tumor development. The approach and opportunity: The project will integrate epitranscriptomic profiling with transcriptomics, ribosome profiling and proteomics, alongside quantitative imaging and targeted perturbation of RNA-modifying enzymes and selected mRNAs. Analyses across circadian time and cellular locations will connect molecular mechanisms to changes in protein production, hepatocyte polarity and communication among hepatocytes, immune cells and fibrosis-producing stromal cells. The goal is to determine whether modification-dependent control of mRNA condensate dynamics contributes causally to liver homeostasis and disease. For a student, the project offers a route from fundamental questions about RNA organization to the biology of ageing, chronic liver injury and cancer. Representative publications 1- Cárdenas et al. (2026). “CPEB4 deficiency promotes vasculogenic mimicry and resistance to anti-angiogenic therapy in hepatocellular carcinoma.” Gut. 2- Belloc et al. (2026). “Posttranscriptional reprogramming controls MASLD progression through chronic ER stress adaptation.” Science Advances.

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			3- Garcia-Cabau et al. (2025). “Mis-splicing of a neuronal microexon promotes CPEB4 aggregation in ASD.” Nature. 4- Fernández-Alfara et al. (2023). “Antitumor T-cell function requires CPEB4-mediated adaptation to chronic endoplasmic reticulum stress.” The EMBO Journal. 5- Duran-Arqué et al. (2022). “Comparative analyses of vertebrate CPEB proteins define two subfamilies with coordinated yet distinct functions in post-transcriptional gene regulation.” Genome Biology. 6- Pascual et al. (2020). “The RNA binding protein CPEB2 regulates hormone sensing in mammary gland development and luminal breast cancer.” Science Advances. 7- Parras et al. (2018). “Autism-like phenotype and risk gene mRNA deadenylation by CPEB4 mis-splicing.” Nature. 8- Maillo et al. (2017). “Circadian- and UPR-dependent control of CPEB4 mediates a translational response to counteract hepatic steatosis under ER stress.” Nature Cell Biology. 9- Bava et al. (2013). “CPEB1 coordinates alternative 3′-UTR formation with translational regulation.” Nature. 10- Ortiz-Zapater et al. (2012). “Key contribution of CPEB4-mediated translational control to cancer progression.” Nature Medicine.
Comparative Genomics	Toni Gabaldón	Computational, Chemical and Structural Biology	The comparative genomics group (www.cgenomics.org) is seeking motivated candidates to perform a PhD in the exciting area of emerging fungal human pathogens. The recruited PhD candidate will develop an interdisciplinary thesis within the project, aimed at understanding the evolutionary and molecular mechanisms that enable emerging Candida pathogens to colonize human-associated niches, acquire virulence-related traits, and evolve antifungal resistance. The thesis will be adapted to the candidate’s background and may follow a computational, experimental, or hybrid direction. Computational work may involve comparative genomics, population genomics, transcriptomics, genotype–phenotype associations, and integration of public and newly generated datasets. Experimental work may include phenotypic characterization of clinical and environmental isolates, antifungal susceptibility testing, stress-response assays, adhesion and biofilm assays, in vitro infection models, experimental evolution, and functional validation of candidate genes or variants. In all cases, the candidate will work in close interaction with computational and experimental members of the group, with the goal of linking genomic variation to clinically and biologically relevant phenotypes in emerging Candida pathogens.
Chemical biology and therapeutics discovery	Luke Lairson	Computational, Chemical and Structural Biology	The Lairson laboratory uses small molecules and chemical biology approaches to identify and study mechanisms associated with human disease biology. Cell-based phenotypic screening, involving high-throughput microscopy or flow cytometry, is combined with quantitative proteomic methods to discover new protein-ligand interactions that induce desired changes in cell fate or state. Cell biology studies are used to elucidate mechanisms of action, and medicinal chemistry is combined with in vivo pharmacology to evaluate the relevance of identified mechanisms at the organismal level. The laboratory is highly

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			interdisciplinary, with expertise in organic chemistry, analytical biochemistry, immunology, and glial cell neuroscience. Current research applies this approach to the cGAS-STING pathway, the regenerative process of remyelination, and cell-type-selective targeting of therapy-resistant tumor cells.

ANNEX 2. Evaluation criteria

1. Academic and/or scientific-technical trajectory of the candidate (up to 50 points).

Sub-criterion 1.a): Scientific-technical contributions (up to 45 points). The candidate's academic record and other curricular merits will be assessed, as well as their suitability for the tasks to be performed based on their training and professional experience.

Sub-criterion 1.b): Mobility and internationalisation (up to 5 points). The relevance and impact on the candidate's research trajectory of stays at national and international centres and/or in the industrial sector will be assessed, taking into account the prestige of the host institution and the activities carried out during the stay.

2. Suitability of the candidate for the research activities to be conducted (up to 50 points).

The candidate's suitability for the program, project, or research activities to be carried out will be assessed based on their prior education and experience. This assessment will take into account the added value that the completion of the project will bring to their research career, as well as the value contributed to the hosting institution and team.

EXCELENCIA SEVERO OCHOA
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