RESULTATS PROJETS SELECTIONNES A L'APPEL A PROJETS ECOS Sud - MINCYT 2023

Sciences de la vie

Code projet	Titre du projet	Abstract	Responsable français	Responsable argentin
PA23B07 BALDET **Devient A23B01 BALDET**	Étude du métabolisme de l'acide ascorbique et de sa régulation chez la tomate.	The main objective of the collaborative research proposed within the framework of the ECOS-Sud France-Argentina 2023 project is the study of the molecular mechanisms regulating the metabolism of ascorbic acid (vitamin C) in tomato fruit (Solanum lycopersicum). lt is no longer to be demonstrated that an increased consumption of fruits and vegetables is beneficial for human health, and in this respect, the tomate represents an important source of fibers, antioxidants such as vitamins C and E and minerais in our food. ln addition, ascorbic acid has several essential functions in plants, in particular as a major antioxidant. ln relation to its role as an antioxidant in the response of plants to biotic and abiotic stress, recent work suggests that ascorbic acid participates in quality contrai in several species, including tomatoes. Understanding the regulation of ascorbic acid content in fruit is the first step towards studying the genetic bases linked to the adaptation and response of plants to stress, particularly in the context of environmental constraints. ln plants, there are still very few data on the regulatory elements of ascorbic acid content, and this field of research is still completely virgin as far as the biology of the fruit is concerned. Within a tomato EMS mutant population, the INRAE Bordeaux team was able to identify several mutant lines presenting either an enrichment or a deficiency in ascorbic acid content in the fruit. The mutated proteins responsible for these phenotypes have been characterized for three of these mutants. ln the case of ascorbic acid-enrichment trait, the first mutant corresponds to a small peptide involved in the regulation of the activity of GDP-Galactose Phosphorylase (GGP), described as the most controlling enzyme of the biosynthetic pathway (Deslous et al., 2021). The second mutant corresponds to a new photoreceptor protein called PAS/LOV whose interaction with this same GGP is regulated by blue light (Bournonville et al., 2023). This mutant is a major discovery that finally explains how plants protect themselves from too much light by synthesizing more of their main antioxidant, ascorbic acid. Finally, the ascorbic acid-deficient mutant corresponds to a knockout mutation for the GGP enzyme. Ali these results support the hypothesis that GGP is the most controlling enzyme of the biosynthetic pathway. ln addition, light plays an important role in the ability of plants to produce ascorbic acid, although to date the mechanisms linking the light effect and the regulation of ascorbic acid content in plants are still poorly understood. Ali of these mutants therefore represent plant materials that are perfectly suited to address this research question. The team at University of La Plata has already studied two tomato mutants deficient in ascorbic acid from the EMS population of Bordeaux. This team thus characterized the effects of such a decrease in ascorbic acid content on the fruit ripening process as well as on the fruit load of plants. The objectives of this collaborative project are to: 1) Elucidate the molecular mechanisms linked to light in the regulation of the biosynthesis of ascorbic acid, and in particular at the level of the enzyme GGP. 2) Understand the role of ascorbic acid during flowering and early stages of fruit development. 3) Determine if there is a "Trade-Off" between the redox metabolism in which ascorbic acid has a major role and the processes of plant and fruit development and in response to environmental constraints.	**Pierre BALDET** UMR 1332 BFP, Centre de Recherche INRAE - Bordeaux - Nouvelle Aquitaine, 71 avenue Edouard Bouriaux, CS20032 33882 Villenave d'Ornon Cedex pierre.baldet@inrae.fr	**Carlos BARTOLI** Plant Physiology lnstitute, National University of La Plata, CCT CONICET carlos.bartoli@agro.unlp.edu.ar

PA23B11 TABARES **Devient A23B02 TABARES**	Activation mechanism of beta-lactam antibiotic sensing proteins.	The rapid development of antibiotic resistance represents a major challenge for the prevention and treatment of bacterial infections worldwide. This contrast with the small number of antibiotics in the final stages of clinical evaluation. The identification of new target proteins, for the design of new antibiotics or of inhibitors of resistance mechanisms, is essential not only for the treatment of current infections but also to prevent future pandemic outbreaks. We will study the mechanism of activation of the mec, VraSRT and VbrK systems, which are induced by □-lactams and confer resistance to these antibiotics in two highly relevant pathogens: Staphylococcus aureus and Vibrio parahaemolyticus. The membrane proteins that sense/transduce the signal are excellent targets for the design of inhibitory compounds to restore the antibiotic efficacy. We will combine biochemical and microbiological studies with state-of-the-art Electron Paramagnetic Resonance Spectroscopy (EPR) and crystallography techniques to unveil the mechanism of activation of the sensor/transducer proteins. We intend to develop assays to monitor the antibiotic-induced conformational changes both in-vitro and in-cells, assays which we foresee can be used in the future to screen for inhibitors of these systems. These studies will shed light on how the □-lactam defense mechanism is activated and will help to the development of new drugs to block it.	**Leandro TABARES** I2BC - Institut de Biologie lntégrative de la Cellule - UMR 9198 (CEA-UPS-CNRS), Bât. 21, 1 Avenue de la Terrasse F-91198 Gif-sur-Yvette cedex leandro.tabares@cea.fr	**Leticia LLARULL** IBR-CONICET-UNR, Rosario llarrull@ibr-conicet-gov.ar
PA23B12 PRIGENT-COMBARET **Devient A23B03 PRIGENT-COMBARET**	Une approche métabolomique pour l'identification des signaux chimiques de Pseudomonas qui stimulent la croissance et l'efficacité d'Azospirillum comme biostimulant des cultures	Les rhizobactéries des groupes Azospirillum et Pseudomonas ont fait l'objet de nombreuses études en raison des effets bénéfiques qu'elles peuvent induire sur la croissance des plantes. Bien que quelques inoculants agricoles comprenant des souches de ces deux groupes bactériens soient commercialisés, et ce particulièrement en Amérique du sud, les entreprises qui les produisent évaluent rarement au préalable leur compatibilité et leurs performances lorsqu'elles sont combinées. Cela se traduit par des mélanges qui produisent au champ des résultats peu reproductibles en termes d'effets positifs sur le rendement des cultures. Des interférences peuvent même exister entre les souches et compromettre les propriétés bénéfiques observées pour chacune des souches lorsqu'elles sont inoculées indépendamment. Dans nos 2 laboratoires, nous avons montré que des souches d'Azospirillum et de Pseudomonas sont capables soit de coopérer entre-elles, soit au contraire d'entrer en compétition, selon les conditions dans lesquelles elles sont utilisées et selon les souches utilisées. L'objectif général de ce projet est d'isoler et de caractériser des composés chimiques bioactifs produits par des souches fluorescentes de Pseudomonas qui stimulent le développement des biofilms d'Azospirillum et qui améliorent leur association avec les plantes, augmentant ainsi les effets bénéfiques que ces souches auront sur ces dernières. Les connaissances générées nous apporteront une image plus précise et plus complète des différents processus physiologiques impliqués dans les interactions entre des micro-organismes bénéfiques cohabitant dans la rhizosphère, tels que les Azospirillum et les Pseudomonas, et entre ces microorganismes et les plantes. D'un point de vue appliqué, les molécules identifiées pourraient avoir un fort impact biotechnologique, permettant de concevoir de nouvelles stratégies pour exploiter pleinement le potentiel de ces microorganismes comme inoculants agricoles et améliorer leur efficacité.	**PRIGENT-COMBARET Claire** UMR CNRS 5557 Ecologie Microbienne, Université Claude Bernard Lyon - Bât. Mendel (3eme) / LEM - 16 Rue Dubois - 69622 Villeurbanne cedex claire.prigent-combaret@univ-lyon1.fr	**MARONICHE Guillermo Andres** Laboratorio de Bioquimica Vegetal y Microbiana, Universidad Nacional de Mar del Plata - LVBM B7620 Balcarce gmaroniche@gmail.com

Sciences Exactes

Code projet	Titre du projet	Abstract	Responsable français	Responsable argentin

PA23E07 PORCAR **Devient A23E01 PORCAR**	Amélioration des Matériaux élastocaloriques pour des dispositifs de chauffage/ refroidissement respectueux de l'environnement.	The need for efficient and environmentally friendly refrigeration or heating systems is increasing worldwide. The use of heat pumps for refrigeration and heating systems based on solid state phase transformation (elasto-caloric effect) are promising, however a strong need for extending fatigue endurance exists for real system to be developped. Among all materials, Cu-based alloys have been extensively studied and are on a material ressource perspective among the best candidates (low cost, non critical materials together with good performance). This project is gathering long time expertise in Argentina on these systems together with French labs expanding this research theme. PhD students and researchers will benefit from a rich interdisplinary expertises and means. We propose relevant metallurgical routes to improve fatigue lite in the Cu-based alloys.	**PORCAR Laureline** Institut Néel (UPR CNRS 2940). 25 rue des Martyrs, BP 166, 38042 Grenoble Cedex 9 Laureline.Porcar@Neel.Cnrs.fr	**Alfredo Tolley** Division Ffsica de Metales, Gerencia Fisica, GAIDI, CNEA, Centre At6mico Bariloche tolley@cab.cnea.gov.ar
PA22E09 FAIVRE **Devient A23E02 FAIVRE**	Development of innovative Janus lipid-based nanoscale dispersions for cutaneous applications	We present here a starting collaboration between the Multiphase group from the Institut Galien Paris-Saclay (France) and the Laboratorio de Nanosistemas de Aplicaci6n Biotecnol6gica (LANSAB) from the Universidad Nacional de Hurlingham (Argentina). Both teams will join forces to work on diverse nanoformulations based on Janus Nanoparticles (JNP) as carriers for different compounds and nanostructures that could be useful for health treatments. ln particular, the aim is to develop new possible treatments for skin diseases such as different types of non-metastatic skin cancer, and cutaneous leishmaniasis. The nanoformulations that are proposed to be obtained are intended to enable topical cutaneous administration, therefore localized, of nanoeffectors of photodynamic and photothermal therapy and of active principles with severe side effects when administered by routes that reach systemic distribution. Given the particular properties of JNPs that make it possible to co-encapsulate molecules with different polarities, it is proposed, on the one hand, to obtain nanoformulations that co-transport two antineoplastic drugs for combined therapy against skin cancer. On the other hand, it is proposed to encapsulate carbon quantum dots in the same structures for theragnostic purposes both against skin tumors and against infections caused by leishmania. These new nanoformulations, together with others previously obtained by the French team, will be physicochemically characterized, their in vitro cytotoxicity and in vivo toxicity will be studied, as well as their ability to penetrate the stratum corneum and to transport the compounds and nanoeffectors to deep layers of the skin. Therefore, the complementarity of knowledge and expertise of both groups will be key to achieving the proposed objectives, as well as the interaction will enable to add value to their research in general, while the human resources in their abroad stays will receive specific training that will enrich the know-how of both teams.	**Vincent FAIVRE** Institut Galien Paris-Saclay UMR CNRS 8612, Faculté de Pharmacie, 5 rue JB Clément 92296 Châtenay-Malabry. vincent.faivre@un iversite-pa is-saclay.fr	**Jorge MONTANARI** Laboratorio de Nanosistemas de Aplicacion Biotecnologica (LANSAB), Universidad Nacional de Hurlingham jorge.montanari@unahur.edu.a r
PA23E16 SCHEID **Devient A23E03 SCHEID**	Topological and Shape Optimization for Fluids Modeling: fluid-structure interactions and free boundary problems	The objective of this project is to study topological optimization and shape optimization methods for fluid-structure interaction problems and free boundary problems. In the context of shape optimization, one of the objectives is to use the exact calculation of shape derivatives for a Stokes/Elasticity system to numerically determine the optimal shape of the elastic structure at rest before deformation by the fluid. We are also interested in topological optimization for free boundary problems and eigenvalue problems for systems.	**SCHEID Jean-Francois** Institut Elie Cartan de Lorraine, UMR7502, BP. 70239 F-54506 Vandoeuvre-les-Nancy Cedex jean-francois.scheid@univ-lorraine.fr	**Sebastian Miguel Giusti** Regional Faculty of Cordoba of the National Technological University sgiusti@frc.utn.edu.ar

PA23E01 FAMEAU **Devient A23E04 FAMEAU**	Foams as Smart sensors (SENSOFOAM)	The search for sensor systems to detect biomarkers is a very active area of research that demands the development of new technologies that simplify and reduce the costs of conventional detection techniques. For example, in the detection of bacterial Contamination in the food industry, the detection of metabolites or enzymes to diagnose diseases, or even in the detection of environmental contaminants, such as pesticides, it is important to develop easy-to-implement and economical techniques that do not require equipment or specialized personnel, which are expensive and can take days to complete the analysis. This project aims to provide a new and versatile technological platform based on responsive or smart foams to detect a wide range of biochemical markers and chemical contaminants. Foams are dispersed systems, gas bubbles dispersed in a continuous liquid matrix. To create them, energy must be delivered to form the liquid-gas interfaces. This implies that they are meta-stable systems, out of thermodynamic equilibrium. To stabilize them, additives such as a detergent must be added, which reduces the energy needed to create the interfaces and slows down the various dynamics involved in their destabilization. This is why liquid foams can amplify small changes that occur on a nanoscale in the chemical system used to stabilize them, producing drastic changes in terms of their foamability and stability over time. ln this sense, foams can be qualified as "molecular magnifying glasses", allowing observation of events that occur at the nanoscale (molecular) at a visible scale. ln this project, we propose to use foamability changes as the readout mechanism for biomarker detection. To do this, it is necessary to find the appropriate conditions to obtain foams with two distinct behaviors in the presence and absence of the target biochemical agent: high/low foamability. The critical parameter in our project is sensitivity, which is linked to the chemical system used to stabilize the foam (surfactant). Our hypothesis is that we can design sensory foams by designing surfactant agents in such a way that they can interact with the target biomarker, forming supramolecular complexes that modify foam dynamics, bath in volume and at the liquid-gas interfaces, producing an observable modification in foamability that allows for simple biomarker detection. To design these sensors, a multidisciplinary and multiscale approach is necessary, ranging from the chemistry of supramolecular complexes and the nanoscale to the physics that controls dynamics in a macroscopic foam.	**FAMEAU anne-laure** UMET, INRAe, équipes PIHM, 369 Rue Jules Guesde anne-laure.fameau@inrae.fr	**Hernan Ritacco** lnstituto de Fisica del Sur (IFISUR). CONICET/ Universidad Nacional de Sur. hernan.ritacco@uns.edu.ar

Sciences Humaines et Sociales

Code projet	Titre du projet	Abstract	Responsable français	Responsable argentin
PA23H06 GALLOT **Devient A23H01 GALLOT**	Reconnaissance et valorisation du travail reproductif dans les quartiers populaires	Since the middle of the 20th century, the legitimacy of the market as the sole instance for valuing work has been progressively questioned. The notion of reproductive work thus aims to make visible different activities, often carried out by women, and not or hardly included in the wage-earning and market economy. On the occasion of social movements, within trade union organizations or even state sectors, other mechanisms of recognition and valorization, i.e. attribution of an economic value, can be put in place, or at least claimed. This project aims to broaden and pool the study of these experiences, in France as well as in Argentina, and to analyze their scope and durability at the intersection of the theory of reproduction and the sociology of quantification.	**GALLOT Fanny** CRHEC, Campus centre, bâtiment i, bureau i3-202, Université Paris-Est Créteil LLSH 61, av du Général de Gaulle 94010 Créteil fanny.gallot@u-pec.fr	**Paula Andrea LENGUITA** CEIL CONICET Saavedra 15 6 ° piso C1083ACA, Buenos Aires plenguita@ceil-conicet.gov.ar

PA23H11 LAZARUS **Devient A23H02 LAZARUS**	La variété des finances domestiques: pratiques, dispositifs et organisations entre l'Etat et le système financier	How does the advance of finance transform social life? Based on ethnographie research conducted in France and Argentina, and on a collaboration of more than a decade, this project aims to shed both empirical and theoretical light on the diversity of forms that the so-called "financialization of household money" can take. Two central questions are at the heart of this project. The first one challenges the idea widespread in the international literature that the crumbling of the welfare state would automatically lead to the financialization of household money. On the one hand, in France as in Argentina, the contact between households and finance is channelled through the state; on the other hand, it appears that the poorest groups are on the margins of (formai) finance, or even excluded from it. Therefore, the idea of social benefits being automatically replaced by financial tools needs to be nuanced. The second question is part of a classic discussion on the question of formai and informai. These two spaces of finance are far from being watertight. On the contrary, despite the great differences between the political and socio-economic contexts of the two countries concerned, it appears that households are constantly moving between formai and informai engagements. The project will seek to show that the degree of formality of the financial tools used is part of the social stratification.	**LAZARUS Jeanne** Centre de Sociologie des organisations, UMR CNRS Sciences Po, 27 rue Saint Guillaume, 75007 Paris jeanne.lazarus@sciencespo.fr	**Luzzi Mariana** Escuela lnterdisciplinaria de Altos Estudios Sociales, Universidad Nacional de San Martin (EIDAESUNSAM) mluzzi@unsam.edu.ar
PA23H14 SORIANO **Devient A23H03 SORIANO**	Oppression épistémique et résistance: étude comparée des activismes féministes et de la dissidence sexuelle en France et en Argentine	L'oppression épistémique est un phénomène socialement enraciné qui consiste en l'exclusion systématique de certains groupes sociaux, généralement sur la base de leur situation sociale, des instances légitimes d'échange et de production épistémiques. Peu d'études abordent ses contours conceptuels, sa caractérisation et ses liens avec d'autres concepts proches tels que la violence épistémique ou l'injustice épistémique, ou encore son expression concrète dans différents domaines de l'interaction sociale. Dans ce projet, nous étudierons les pratiques d'oppression épistémique fondées spécifiquement sur le genre et la dissidence sexuelle, la façon dont elles entrent en rapport avec l'activisme et dont elles s'expriment dans ce dernier, en prenant comme exemple différentes formes d'activisme féministe et de la dissidence sexuelle, à Toulouse, en France et à Buenos Aires en Argentine. Nous visons à identifier et à comprendre a) comment l'oppression épistémique qui procède de contextes socialement hégémoniques affecte ces activismes et les groupes sociaux concernés ; b) comment l'oppression épistémique se produit au sein de ces activismes à partir de hiérarchies sociales imbriquées ; et c) quelles sont les formes de résistance que les activismes développent contre cette forme d'oppression. Ces objectifs seront atteints grâce à une équipe interdisciplinaire pratiquant une méthodologie composée d'études théoriques et empiriques, chaque démarche s'alimentant des résultats de l'autre, permettant ainsi d'offrir des résultats théoriquement et empiriquement rigoureux et informés. L'étude empirique des modes d'expression de l'oppression et de la résistance épistémiques fournira des éléments jusqu'ici non étudiés qui permettront de développer une caractérisation et une définition plus adéquates du phénomène, ainsi qu'une compréhension des formes de résistance les plus appropriées, capable de rendre compte de leurs aspects politiques, épistémiques et empiriques.	**SORIANO MICHÈLE** CEIIBA, Université Toulouse Jean Jaurès, 5 allées A. Machado, 31058 TOULOUSE cedex 9 michele.soriano@univ-tlse2.fr	**Moira Patricia Pérez** lnstituto de filosoffa Alejandro A. Korn, Facultad de filosofia y Letras, Universidad de Buenos Aires perez.moira@gmail.com

Sciences de la Santé

Code projet	Titre du projet	Abstract	Responsable français	Responsable argentin
PA23S06 AMIGORENA **Devient A23S01 AMIGORENA**	A la recherche de nouvelles stratégies d'immunothérapie : Réponses immunitaires cytotoxiques croisées entre Trypanosoma cruzi et les tumeurs	The immunotherapy appears as one of the most promising treatments against cancer in recent years. Although the use of specific monoclonal antibodies to inhibit immune checkpoints, such as the PD-1 / PDL-1 interaction (or CTLA-4) attracts much of the attention of the pharmaceutical industry, the use of vaccine formulations with antigens capable of initiating or improving the immune response against tumors is also a reason for study. The use of microorganisms for the treatment of diseases originates with the advent of malariotherapy, and in particular the parasite Trypanosoma cruzi has been postulated as an antitumor agent for the first time in the 1940s. Since then, various mechanisms by which said parasite could exert its tumor suppressor role have been proposed, the vast majority related to the possibility that the immune response developed against the parasite also targets neoplastic cells. ln this project, and based	**Sebastian AMIGORENA** lnstitute Curie, IMMUNITY AND CANCER (U932 INSERM), 26 rue d'Ulm, 75005 Paris.	**Andrés ALLAOTI** lnstituto de lnmunologia Clinica y Experimental (IDICER) - CONICET/UNR

		on our preliminary results, we propose to characterize the cytotoxic response mediated by CDS+ T cells that is established during infection with Trypanosoma cruzi, in order to analyze the existence of shared antigenic determinants -between parasites and cancer cells- that will allow us to improve our vaccination strategies. To this end, the ligandome or immunopeptidome of dendritic cells infected with T. cruzi and of the B16-F10 tumor cell line will be studied. ln addition, the adoptive transfer of cells, both cytotoxic and antigen presenting (dendritic cells), as well as the conjugation of antigenic peptides to monoclonal antibodies for their targeting towards the Clec9A or DNGR-1 receptor, present in dendritic cells with high antigen presentation capacity, will be analyzed as an eventual therapy. We are confident that this project will provide us with relevant information for the development of low-cost alternative therapies against certain tumors. This proposai represents the initial kick for the collaboration between the Argentine and French groups involved, in this particular area of studies, as well as the establishment of a proof of concept in mice with the potential to be translated to humans, in the future.	sebastian.amigorena@curie.fr	alloatti@idicer-conicet.gob.ar
PA23S04 **MOTTERLINI** **Devient A23S02** **MOTTERLINI**	Études sur l'efficacité thérapeutique du monoxyde de carbone (CO) dans l'angiogenèse associée au cancer de la prostate	Prostate cancer (PCa} is a complex and progressive disease. PCa cells acquire genotypic and phenotypic changes that allow them ta survive under conditions of androgen deprivation. Inflammation is associated with the pathogenesis of PCa; however, the molecular mechanisms leading to PCa have not been deciphered yet. ln line with this, heme oxygenase 1 (HO-1), the rate-limiting enzyme that catalyzes heme degradation to carbon monoxide (CO), iron and biliverdin, is a key player in cellular responses to pro-oxidative and pro-inflammatory insults. HO-1 participates in cell homeostasis by attenuating inflammation, reducing oxidative injury, and regulating cell proliferation. Reports from our laboratory documented that HO-1 over-expression has a strong anti-tumoral effect in in PCa as it impairs cell proliferation, invasion, and migration in vitro, and angiogenesis and tumor growth in vivo. Furthermore, using a fully immunocompetent murine mode!, we showed that pre-treatment with hemin, a well-known inducer of HO-1, injected subcutaneously (s.c) before implanting PCa cells, limited PCa development by targeting bath tumor vascularization and the cytotoxic T-cell responses. However, we cannot discard that the antitumoral raie of HO-1 in PCa could be partly due toits metabolic products, primarily CO. Studies have revealed an intriguing role for CO as an endogenous and versatile gasotransmitter, exerting anti-inflammatory, antiapoptotic, and antiproliferative activities. CO-releasing molecules (CO-RMs) have been developed for delivering controlled quantities of CO to cells and tissues in vivo and are being tested as a potential therapeutic agent in clinical trials. Our hypothesis is based on the fact that HO-1/CO axis reprograms the PCa cells to a phenotype that alters the tumor microenvironment, targeting and modulating the expression of inflammatory and angiogenic factors. These altered factors, will in turn be responsible for a less aggressive tumor phenotype. Our general aim is to assess the impact of CO-RMs on angiogenesis, metabolism and inflammation associated with PCa with a final translational perspective of eliminating death from this disease. The proposed experimental design consists of determining in vitro the ability of these molecules to modulate PCa-associated biological processes and evaluating the significance and functionality of CO in PCa tumors growing as xenotransplants.	**Roberto MOTTERLINI** Faculté de Medecine, Université Paris Est Creteil, INSERM U955, 94010 Creteil, roberto.motterlini@inserm.fr	**Geraldine GUERON** Laboratorio de lnflamaci6n y Cancer/ IQUIBICEN-UBA ggueron@iquibicen.fcen.uba.ar
PA23S13 **LEGEMBRE** **Devient A23S03** **LEGEMBRE**	Novel therapeutics to target CD95/Fas in cancers	CD95 (also known as Fas) is a death receptor that belongs to the tumor necrosis factor (TNF) receptor family. Accumulating evidence indicate that this receptor can trigger, in addition to the apoptotic cell death, inflammatory signais in a ligand-dependent and independent manner. Notably, these signais contribute to the severity of chronic inflammatory disorders and metastasis dissemination in breast cancer. CD95, as other TNF receptor family members, self-aggregates in a ligand-independent manner, through its pre-ligand assembly demain (PLAD). CD95 self-aggregation is essential for proper ligand-dependent and -independent cell signaling. Accordingly, we envision that drugs impairing the association of CD95 will abrogate pro-inflammatory and oncogenic signais. However, the minimal PLAD demain of CD95 remains to be identified. By combining molecular modelers, chemists, biochemists, biologists and medical doctors, this consortium proposes to decipher i) how CD95 aggregates with itself by identifying the minimal PLAD and/or other regions, which modulate the CD95 aggregation and ii) transform this sequence into peptidomimetic as disruptor of the CD95 self-association. Finally, the therapeutic effect of newly designed peptidomimetics will be validated in a triple negative breast cancer mouse model.	**LEGEMBRE Patrick** CRIBL, lnserm U1262, CNRS 7276, Limoges patrick.legembre@inserm.fr	**SICA Mauricio** Medical Physics Department Centra Atomico Bariloche Comision Nacional de Energia Atomica (CNEA) Consejo Nacional de lnvestigaciones Cientificas y Técnicas (CONICET) San

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PA23S03 PANAYOTOV **Devient A23S04 PANAYOTOV**	Comportement biomécanique des biomatériaux pour la revitalisation de la pulpe dentaire dans des modèles in vitro et in vivo	After dental pulp necrosis in youth patients whose teeth still immature, prognostics and treatment become difficult so Regenerative Endodontic Procedures (REP) could be applied as an alternative to classical endodontic treatment. These procedures consist on pulp extirpation and formation of a blood clot inside the pulp space that after healing process it could be replaced by a vascularized tissue. REP results are encouraging but not enough reproducible due to poor mechanical properties and fast degradation rate of the blood clot. Besides they could not be used in adults. With the aim to improve these procedures and evaluate the performance in adults, the LBN UM_UR104 recently developed two biomaterials that demonstrated ability to regenerate a vascularized tissue similar to human dental pulp inside a human tooth in vitro. To continue with the development of these materials and evaluate their biomechanical behavior, this study carries out two phases. The first one consist on proving mechanical resistance of tooth treated by developed biomaterials to chewing forces. The second one involves animal experimentation in an orthotopic model of young and adult sheep. This would allow to evaluate in a situation close to reality the ability of biomaterials to guide a pulp-like tissue regeneration in the pulp space, to revitalize and restore a non- vital teeth.	**Ivan PANAYOTOV** Laboratoire de Bioingénierie et Nanosciences,Université de Montpellier UR_UM104, 545 avenue du professeur Louis Viala, 34197 MONTPELLIER CEDEX 5 ivan.panayotov@umontpellier.fr	**Zavala Walther** Centro de investigaciones Odontol6gicas de la facultad de Odontologia, Universidad Nacional de Cuyo scarminati@mendoza-conicet.gob.ar

Sciences de l'Univers

Code projet	Titre du projet	Abstract	Responsable français	Responsable argentin
PA23U03 RABATEL **Devient A23U01 RABATEL**	Current climate and glacier changes and related hydrological impacts in the Santa Cruz river catchment, Southern Patagonian Andes	The Rio Santa Cruz watershed in Argentine Patagonia is one of the most glacierized in the Andes. lt drains about 3000 km2 of glaciers of the Southern Patagonian icefield, the largest glacierized area in the Southern Hemisphere outside Antarctica. ln the current context of climate change and anthropic pressure, the challenges in terms of water resources are considerable, especially in relation to hydroelectric production (power plants under construction in the basin), or international tourism which has been constantly increasing for two decades. The loss of glacier mass in this region is clear. However, the processes related to changes in snow accumulation, ice melt and calving mass loss in proglacial lakes remain insufficiently documented. Similarly, their links with climate change are insufficiently understood to be able to clearly establish both the contribution of glaciers to the hydrological functioning of the watershed and its temporal evolution. Our consortium of French-Argentinian researchers from Grenoble (IGE), Toulouse (LEGOS) and Mendoza (IANIGLA) aims to provide new knowledge and understanding of this issue by combining a wide range of expertise in glaciology and mountain hydrology through field observations, satellite remote sensing monitoring and modeling tools.	**RABATEL Antoine** Institut des Géosciences de l'Environnement (UMR 5001, UGA, CNRS, IRD, INRAE, Grenoble-lNP), IGE Glaciologie. 54 rue Molière, Domaine Universitaire. 38400 Saint Martin d'Hères antoine.rabatel@univ-grenoble-alpes.fr	**RUIZ Lucas** lnstituto Argentine de Nivologia, Glaciologia y Ciencias Ambientales (IANIGLA), Centro Cientffico Tecnologico, CCT-CONICET, Mendoza lruiz@mendoza-conicet.gob.ar