CURRÍCULUM VÍTAE NORMALIZADO

David Talens Perales

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GOBIERNO DE ESPAÑA
MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

FECYT INNOVACIÓN

Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

I completed my undergraduate studies in Biology at the University of Valencia in 2011. Following that, I pursued a Master's degree in Molecular Approximations for Health Sciences at the same university in 2012. In 2016, I earned a Master's degree in Training for Teaching in Secondary Education from the Catholic University of Valencia. Subsequently, in 2016, I was awarded a Ph.D. in Biotechnology from the University of Valencia. Presently, I hold a position at the Institute of Agrochemistry and Food Technology (CSIC) and serve as a lecturer at the Catholic University of Valencia.

Throughout my professional journey, my research has been primarily focused on enzymes at the Laboratory of Enzyme Structure and Function. Specifically, I have explored various aspects of enzymes, including their identification, modification, and immobilization.

Identification: Enzymes that meet the industry's requirements are often in short supply. This scarcity has driven the quest for novel enzymes adapted to extreme conditions. Recent advancements in bioinformatics, coupled with the proliferation of cost-effective sequencing, have unlocked access to databases brimming with uncharacterized genetic sequences. Leveraging algorithms and specialized software, I have been able to scour these databases, identifying candidate sequences for cloning, production, and characterization. In recent years, my work has centered on three glycosyl hydrolase families: GH2 (glycosidases and lactases), GH10, and GH11 (xylanases). This research has yielded significant findings, including the characterization of an extremophilic lactase capable of producing prebiotic galactooligosaccharides and two xylanases resistant to high temperatures and alkaline pH. Notably, one of these xylanases has been patented, scaled for industrial production, and is currently undergoing testing in the paper industry (RAIZ-Navigator) for pulp bleaching.

Modification: Another avenue for obtaining new enzymes or enhancing their properties involves structural or compositional modification through molecular engineering. In this domain, I have applied a range of techniques, including directed mutagenesis, random mutagenesis, and the construction of hybrid enzymes. These efforts have yielded improved versions of lactases, invertases (resulting in a patent), and glucose oxidases, all of which find widespread use in the food industry and as biosensors.

Reuse: Due to cost considerations, it is imperative to develop immobilization methods that facilitate the reuse of enzymes in bioprocesses. Over the years, I have explored various enzyme immobilization techniques, including covalent binding, hybrid enzymes with carbohydrate-binding modules (CBM domains), encapsulation, nanoflowers, and more.

My involvement in research projects has been made possible through financial support from the Spanish Government's national plan and initiatives funded by European sources (H2020). Throughout their implementation, I have actively contributed to these projects while also providing guidance to numerous intern students. In addition, I currently lead a regional project as the principal investigator, further expanding my research contributions.

In addition to my contributions to scientific publications and patents, I have actively participated in diverse scientific outreach activities, including interviews, collaborations with radio programs, press releases, and involvement in photo contests. These efforts have resulted in a total of 19 scientific publications in indexed journals (13 of which are Q1 and 5 D1), 3 book chapters, 2 patents, and several popular science publications.

General quality indicators of scientific research

This section describes briefly the main quality indicators of scientific production (periods of research activity, experience in supervising doctoral theses, total citations, articles in journals of the first quartile, H index...). It also includes other important aspects or peculiarities.

- Awarded a total of 6 competitive scholarships
- Successfully organized 10 scientific outreach and dissemination events
- Received 4 awards and recognitions related with scientific ativity, with the most notable being the Extraordinary Doctorate Award and "Premio Cientifico Técnico Ciutat d'Algemesí"
- Supervised 10 undergraduate final projects and 1 master's final project
- Participation in a total of 9 competitive projects, including European, national, and regional initiatives , on of them as PI
- Accumulated a total of 409 citations in my research publications (01/06/2024)
- Published a total of 20 research papers
- 15 publications in the first quartile Q1 and 3 in D1
- Attained 2 research six-year term
- H-index of 13
- i10-index of 17

David Talens Perales

Surname(s):	**Talens Perales**
Name:	**David**
ORCID:	**0000-0002-8693-4239**
Date of birth:	**24/12/1988**
Gender:	**Male**
Nationality:	**Spain**
Country of birth:	**Spain**
Aut. region/reg. of birth:	**Valencian Community**
City of birth:	**Carcaixent**
Contact aut. region/reg.:	**Valencian Community**
Personal web page:	**www.biogenmol.blogspot.com**

Current professional situation

1 **Employing entity:** Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Professional category: Profesor contratado asociado
Start date: 05/09/2019
Type of contract: Temporary employment contract
Primary (UNESCO code): 240300 - Biochemistry
Performed tasks: Profesor y coordinador de la asignatura de Enzimología en 3r grado de Biotecnología.

2 **Employing entity:** Consejo Superior de Investigaciones Científicas
Department: Biotecnología, Instituto de Agroquímica y Tecnología de Alimentos
Professional category: TITULADO SUP. ACTIVIDADES TECN. Y PROF.
Start date: 2011
Type of contract: Temporary employment contract **Dedication regime:** Full time

Education

University education

1st and 2nd cycle studies and pre-Bologna degrees

1 **University degree:** Máster
Name of qualification: Máster Universitario en Formación del Profesorado de Secundaria, Bachillerato, Formación Profesional y Enseñanzas de Idiomas
Degree awarding entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Date of qualification: 20/07/2017

2 **University degree:** Máster
Name of qualification: Master en Aproximaciones Moleculares a las Ciencias de la Salud
Degree awarding entity: Universitat de València **Type of entity:** University
Date of qualification: 30/07/2012

3 **University degree:** Licenciado
Name of qualification: Licenciado en Biología
Degree awarding entity: Universitat de València **Type of entity:** University
Date of qualification: 29/06/2011

Doctorates

Doctorate programme: Programa Oficial de Doctorado en Biotecnología
Degree awarding entity: Universitat de València **Type of entity:** University
Date of degree: 27/10/2016

Specialised, lifelong, technical, professional and refresher training (other than formal academic and healthcare studies)

1 **Training title:** DISEÑO EXPERIMENTAL E INFERENCIA CON R SOFTWARE (CURSO ON LINE)
Awarding entity: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
End date: 30/06/2023 **Duration in hours:** 60 hours

2 **Training title:** ANÁLISIS DE CORRELACIÓN Y REGRESIÓN LINEAL CON R SOFTWARE (CURSO ON LINE)
Awarding entity: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
End date: 04/11/2022 **Duration in hours:** 60 hours

3 **Training title:** Introducción a la estadística aplicada con R software (CURSO ONLINE)
Awarding entity: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency

End date: 27/05/2022 **Duration in hours:** 60 hours

4 **Training title:** Adobe Ilustrator CS5 ONLINE
Awarding entity: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
End date: 05/11/2021 **Duration in hours:** 40 hours

5 **Training title:** Adaptar la enseñanza-aprendizaje a los restos de la realidad: aportaciones de la docencia on-line y de las TIC
Awarding entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
End date: 10/02/2021

6 **Training title:** Python Avanzado ONLINE
Awarding entity: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
End date: 28/09/2020 **Duration in hours:** 40 hours

7 **Training title:** Experto Universitario en Competencia Profesional para la Ensenyanza en Valenciano
Awarding entity: FUNDACION RECI-UNIVERSIDAD POLITECNICA DE VALENCIA
End date: 31/05/2018 **Duration in hours:** 240 hours

8 **Training title:** Certificación para la Enseñanza en Inglés
Awarding entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
End date: 21/07/2017 **Duration in hours:** 240 hours

9 **Training title:** Bioinformatics: Introduction and Methods
Awarding entity: Peking University
End date: 27/01/2015

10 **Training title:** Creación y retoque de imágenes con software libre
Awarding entity: Universidad de Málaga **Type of entity:** University
End date: 28/10/2014 **Duration in hours:** 27 hours

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
English	B2	B2	B2	B2	B2
Catalan	C2	C2	C2	C2	C2
Spanish	C2	C2	C2	C2	C2

Teaching experience

General teaching experience

1 **Type of teaching:** Official teaching
Name of the course: Enzimología/3º
University degree: Biotecnología
Start date: 05/09/2023 **End date:** 30/08/2024
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 50
Entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Subject language: Spanish

2 **Type of teaching:** Official teaching
Name of the course: Enzimología/3º
University degree: Biotecnología
Start date: 05/09/2022 **End date:** 30/08/2023
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 50
Entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Subject language: Spanish

3 **Name of the course:** ACTIVIDAD BIOLÓGICA DE MOLÉCULAS DE ORIGEN MARINO
Type of programme: Master's degree **Type of teaching:** In person theory
Type of subject: Obligatory
University degree: Máster Biotecnología Azul
Start date: 08/10/2021 **End date:** 31/08/2022
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 4
Entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Faculty, institute or centre: Facultad de Veterinaria y Ciencias Experimentales

4 **Type of teaching:** Official teaching
Name of the course: Enzimología/3º
University degree: Biotecnología
Start date: 05/09/2021 **End date:** 30/08/2022
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 50
Entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Subject language: Spanish

5 **Type of teaching:** Official teaching
Name of the course: Enzimología/3º
University degree: Biotecnología

Start date: 05/09/2021 **End date:** 30/08/2022
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 50
Entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Subject language: Spanish

6 **Type of teaching:** Official teaching
Name of the course: Biotecnología Microbiana
University degree: Materia Biotecnología Microbiana Master Propio en Biotecnologías Agroalimentarias
Start date: 15/09/2021 **End date:** 15/06/2022
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 10
Entity: FUNDACIÓN GENERAL DE LA UNIVERSITAT DE VALÈNCIA

7 **Type of teaching:** Official teaching
Name of the course: Enzimología/3º
University degree: Biotecnología
Start date: 05/09/2020 **End date:** 30/08/2021
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 50
Entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Subject language: Spanish

8 **Type of teaching:** Official teaching
Name of the course: Biotecnología Microbiana
University degree: Materia Biotecnología Microbiana Master Propio en Biotecnologías Agroalimentarias
Start date: 15/09/2020 **End date:** 15/06/2021
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 11
Entity: FUNDACIÓN GENERAL DE LA UNIVERSITAT DE VALÈNCIA

9 **Type of teaching:** Official teaching
Name of the course: Biotecnología Microbiana
University degree: Materia Biotecnología Microbiana Master Propio en Biotecnologías Agroalimentarias
Start date: 15/09/2020 **End date:** 15/06/2021
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 11
Entity: FUNDACIÓN GENERAL DE LA UNIVERSITAT DE VALÈNCIA

10 **Type of teaching:** Official teaching
Name of the course: Enzimología/3º
University degree: Biotecnología
Start date: 05/09/2019 **End date:** 30/08/2020
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 41
Entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Subject language: Spanish

11 **Type of teaching:** Official teaching
Name of the course: Biotecnología Microbiana
University degree: Materia Biotecnología Microbiana Master Propio en Biotecnologías Agroalimentarias
Start date: 15/09/2019 **End date:** 15/06/2020
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 10
Entity: FUNDACIÓN GENERAL DE LA UNIVERSITAT DE VALÈNCIA

12 **Type of teaching:** Official teaching
Name of the course: Biotecnología Microbiana
University degree: Materia Biotecnología Microbiana Master Propio en Biotecnologías Agroalimentarias
Start date: 15/09/2018 **End date:** 15/06/2019
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 10
Entity: FUNDACIÓN GENERAL DE LA UNIVERSITAT DE VALÈNCIA

13 **Name of the course:** Integración Bioquímica y Bioquímica Clínica
University degree: Graduado o Graduada en Medicina
Start date: 2015 **End date:** 2016
Entity: Universitat de València **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina y Odontología

14 **Name of the course:** Bioquímica II
University degree: Graduado o Graduada en Farmacia
Start date: 2014 **End date:** 2015
Entity: Universitat de València **Type of entity:** University
Faculty, institute or centre: Facultad de Farmacia

15 **Name of the course:** Integración Bioquímica y Bioquímica Clínica
University degree: Graduado o Graduada en Medicina
Start date: 2014 **End date:** 2015
Entity: Universitat de València **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina y Odontología

Experience supervising doctoral thesis and/or final year projects

1 **Project title:** Generación de endolisinas híbridas para su inmovilización en soportes sólidos
Entity: Universidad Católica de Valencia San Vicente Mártir
Student: Mireia Palanca Gisbert
Obtained qualification: 9,6
Date of reading: 2022

2 **Project title:** Estudio filogenético, síntesis y caracterización de lactasas termoestables
Entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Student: Juan Carlos Torrat Novés
Date of reading: 2021

3 **Project title:** Nuevas estrategias de tratamientos en especies del género Candida
Entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Student: Ana Boix Romà
Date of reading: 2021

4 **Project title:** Influencia de las matrices biopoliméricas en la hidrólisis de la lactosa de hidrogeles y aerogeles enzimáticamente activos cargados con nanoflores de beta galactosidasa
Type of project: Minor thesis
Entity: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
Student: Adrián Román Sarmiento
Obtained qualification: 10-Matrícula de Honor
Date of reading: 18/10/2020

5 **Project title:** Ingeniería enzimática para el desarrollo de materiales funcionales en tecnlogía de alimentos
Type of project: End of course project
Entity: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
Student: Marcos Tomás
Obtained qualification: 9.0
Date of reading: 25/07/2020
Quality recognition: No

6 **Project title:** Caracterización y mejora de dos variantes de la b-galactosidasa TmLac de Thermotoga maritima
Type of project: End of course project
Entity: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
Student: Maria Desamparados Valera García
Obtained qualification: 9.1
Date of reading: 09/07/2020

7 **Project title:** Respuesta celular T CMV-específica como biomarcador no invasivo del estado de inmunocompetencia y riesgo de infecciones en el trasplante de órgano sólido
Type of project: End of course project
Entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Student: Joaquí Roglá Aragó
Obtained qualification: 6,1
Date of reading: 07/2020

8 **Project title:** Inmovilización de la b-galactosidasa de Thermotoga maritima mediante el método de formación de nanoflores
Type of project: End of course project
Entity: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
Student: Luís Martínez Argente
Obtained qualification: 10 - Matrícula de Honor
Date of reading: 07/2019
Quality recognition: No

9 **Project title:** DESARROLLO DE BIOMATERIALES ENZIMÁTICAMENTE ACTIVOS: REVISIÓN Y TENDENCIAS FUTURAS
Type of project: End of course project
Entity: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
Student: María Inmaculada Esteve Ferrer
Obtained qualification: 7
Date of reading: 2019

10 **Project title:** Mejora de β-galactosidasas para la producción industrial
Type of project: End of course project
Entity: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
Student: Berta Polanco Esteve
Obtained qualification: 9,6
Date of reading: 2018

Scientific and technological experience

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

1 **Name of the project:** MEAT BY-PRODUCTS: Exploring Meat By-products Hydrolysates as a Source of Permeabilizing Peptides to Enhance Endolysin Action Against Gram-Negative Bacteria
Entity where project took place: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
City of entity: PATERNA, Valencian Community, Spain
Name principal investigator (PI, Co-PI....): David Talens-Perales; Marta Gallego
Nº of researchers: 2
Start-End date: 01/01/2025 - 31/12/2025
Total amount: 15.000 €

2 **Name of the project:** PROYECTO ZYMSAFOOD: DESARROLLO DE ENZIBIÓTICOS DE PRÓXIMA GENERACIÓN PARA LA DESINFECCIÓN DE AMBIENTES ALIMENTARIOS (PID2022-140232OB-I00)
Entity where project took place: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
City of entity: Paterna, Spain
Name principal investigator (PI, Co-PI....): Julia Marín-Navarro
Nº of researchers: 1
Start-End date: 01/09/2023 - 31/08/2025
Total amount: 81.000 €

3 **Name of the project:** Evaluación de la calidad del agua en áreas costeras del Golfo de Valencia sometidas a estrés medioambiental, mediante análisis metagenómico y de actividad enzimática
Entity where project took place: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
City of entity: Valencia, Valencian Community, Spain

Name principal investigator (PI, Co-PI....): David Talens Perales
Nº of researchers: 3
Start-End date: 01/01/2023 - 31/12/2024
Total amount: 19.000 € **Sub-project amount:** 19.000 €
Applicant's contribution: In this project, I hold the role of the principal investigator. The project is designed with the specific objective of conducting a comprehensive assessment of the waters in the Gulf of Valencia at various times throughout the year. Our focus extends to four distinct areas facing contamination challenges.The core of our research revolves around the examination of microbial genes through metagenomic analysis. This endeavor is complemented by an in-depth exploration of physicochemical characteristics and enzymatic activity. Our ultimate aim is to uncover novel enzymatic activities that may serve as valuable contamination indicators.

4 **Name of the project:** DISEÑO, PROCESADO Y CARACTERIZACION DE ESTRUCTURAS INNOVADORAS DE ENVASADO ACTIVO Y COMPOSTABLE BASADOS EN BIOPOLIESTER
Entity where project took place: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
Name principal investigator (PI, Co-PI....): Auxiliadora Prieto; Maria José Fabra Rovira; Julio Polaina Molina
Funding entity or bodies:
Ministerio de Ciencia e Innovación. **Type of entity:** State agency

Start-End date: 01/09/2021 - 31/08/2024
Applicant's contribution: My role in this project is to discover, enhance, and produce the enzymes that will be utilized in the development of compostable and functional packaging materials.

5 **Name of the project:** INVESTIGACIÓN Y DESARROLLO DE UN SISTEMA BIOTECNOLÓGICO INTEGRAL DE LIMPIEZA Y DESINFECCIÓN DE PATÓGENOS CON APLICACIÓN EN SEGURIDAD ALIMENTARIA Y ÁMBITO CLÍNICO (INNEST/2021/7)
Entity where project took place: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
City of entity: Valencian Community, Spain
Start-End date: 01/03/2021 - 31/08/2023
Total amount: 122.249,42 €
Applicant's contribution: In my contribution to the project, I performed two key tasks. First, I conducted an in silico search for endolysins with specific qualities, using phylogenetic analysis. The goal was to identify enzymes with high activity and stability, focusing on thermoresistance for easier purification. Second, I expressed selected enzyme sequences in E. coli, optimized induction conditions, and purified the enzymes. We tested their lytic activity using a turbidimetric assay with different bacterial strains from various phyla to determine their range of action.

6 **Name of the project:** Extremozymes for wood based building blocks: From pulp mill to board and insulation products (WoodZymes)
Entity where project took place: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
Funding entity or bodies:
BBI-RIA (Bio-based Industries Research and Innovation action) **Type of entity:** Fondos Europeos

Start-End date: 01/06/2018 - 31/05/2021
Total amount: 162.510 €
Applicant's contribution: Development of the bioinformatic phase for screening and selection of potential extremophilic xylanases that meet the industry's requirements in the wood and paper sector. Design and cloning of the chosen sequences, followed by their expression, purification, and characterization in recombinant organisms.

7 **Name of the project:** Production of new enzymes, enzyme conjugates and bioactive compounds by synthetic biology for food applications
Entity where project took place: Instituto de Agroquímica y Tecnología de los Alimentos
Name principal investigator (PI, Co-PI....): Maria José Fabra; Julio Polaina
Nº of researchers: 3
Funding entity or bodies:
MINECO **Type of entity:** State agency

Start-End date: 20/12/2016 - 31/05/2019
Total amount: 151.250 €
Applicant's contribution: In this project, my responsibilities included the search, synthesis, and design of enzymes for their immobilization on various biomaterial-based supports. Furthermore, I actively contributed to project reports, meetings, and scientific articles.

8 **Name of the project:** INDUSTRIAL APPLICATIONS OF MARINE ENZYMES: INNOVATIVE SCREENING AND EXPRESSION PLATFORMS TO DISCOVER AND USE FUNCTIONAL PROTEIN DIVERSITY FROM THE SEA
Entity where project took place: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
Funding entity or bodies:
COMISION EUROPEA **Type of entity:** Public Research Body

Start-End date: 01/04/2015 - 31/03/2019
Applicant's contribution: Throughout this project, I actively engaged in the cloning and characterization of a marine-derived galactosidase, TmLac, from Thermotoga maritima. I conducted comprehensive characterization studies, including various immobilization techniques. Additionally, I contributed to the development of a bioactive compound bonding system on Artemia cuticle. I also played a role in project meetings, report and memo writing, as well as the composition of scientific articles.

9 **Name of the project:** GENERATION OF STATE-OF-THE-ART ENZYMES FOR FOOD APPLICATIONS THROUGH PROTEIN ENGINEERING
Entity where project took place: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
Name principal investigator (PI, Co-PI....): Julio Polaina Molina
Funding entity or bodies:
MINISTERIO DE ECONOMIA Y COMPETITIVIDAD **Type of entity:** State agency
City funding entity: Spain

Start-End date: 01/01/2014 - 31/12/2016
Applicant's contribution: In this project, I was part of the team involved in developing the necessary molecular biology and cloning techniques for enzymes, such as glucose oxidase. I also contributed to report and article writing, reflecting our collaborative efforts.

10 **Name of the project:** MEJORA FUNCIONAL Y PRODUCCION DE GLICOSIDASAS PERTENECIENTES A LAS FAMILIAS GH1, GH2, GH3 Y GH32 Y SU EMPLEO PARA LA PRODUCCION DE OLIGOSACARIDOS PREBIOTICOS Y BIOETANOL,
Entity where project took place: Instituto de Agroquímica y Tecnología de Alimentos **Type of entity:** State agency
Name principal investigator (PI, Co-PI....): Julio Polaina Molina
Funding entity or bodies:
MINISTERIO DE ECONOMIA Y COMPETITIVIDAD **Type of entity:** State agency
City funding entity: Spain

Start-End date: 01/01/2011 - 30/06/2014

Applicant's contribution: "In this project, I was a part of the research team, initially undertaking more basic tasks related to the development of new enzymes and contributing to ongoing experiments within the research group. I invested a portion of that project in training. I had just received a JAEpredoc scholarship and an FPU grant for my doctoral studies. However, over time, I gained experience, and by the end of the project, I was capable of independently conducting experimental research, which eventually evolved into the core of my doctoral thesis.

Results

Industrial and intellectual property

1 **Title registered industrial property:** Xylanase enzyme with extreme thermostability and alkaline stability EP20382849.6
Inventors/authors/obtainers: Julio Polaina Molina; David Talens Perales; Paloma Sánchez Torres
Entity holder of rights: CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS (CSIC)
Nº of application: 300381562
Country of inscription: Spain
Date of register: 25/09/2020

2 **Title registered industrial property:** PROCEDIMIENTO DE SÍNTESIS BIOENZIMÁTICA DE FRUCTOOLIGOSACÁRIDOS
Inventors/authors/obtainers: Julia Victoria Marín Navarro; David Talens Perales; Álvaro Lafraya Aguado; Julio Polaina Molina
Entity holder of rights: Consejo Superior de Investigaciones Científicas
Nº of application: P201431747
Country of inscription: Spain
Date of register: 25/11/2014

Scientific and technological activities

Scientific production

1 **H index:** 13
Date of application: 2022
Source of H-Index: GOOGLE SCHOLAR

2 **H index:** 11
Date of application: 16/12/2022
Source of H-Index: SCOPUS

Publications, scientific and technical documents

1 Rodríguez-López, M. A.; Coll-Marqués, J. M.,; Talens-Perales, D.; Marín-Navarro, J.; Polaina, J; Vázquez-Contreras, E.. Analysis of Amyloid Fibrillation of Two Family 1 Glycoside Hydrolases. International Journal of Molecular Sciences. 25 - 8536, Multidisciplinary Digital Publishing Institute, 2024.

Type of production: Scientific paper
Corresponding author: No

Impact source: SCOPUS
Impact index in year of publication: 4.8
Category: Biochemistry and Molecular Biology
Journal in the top 25%: Yes

Relevant results: The formation and analysis of amyloid fibers by two β-glucosidases, BglA and BglB, belonging to the GH1 enzyme family, are reported. Both proteins have the (β/α)8 TIM-barrel fold, which is characteristic of this family and is also the most common protein structure. BglA is an octamer, whereas BglB is a monomer. Amyloid fibrillation using pH and temperature as perturbing agents was investigated using fluorescence spectroscopy as preliminary approach and corroborated using wide-field optical microscopy, confocal microscopy, and field- mission scanning electron microscopy. These analyses showed that both enzymes fibrillate at a wide range of acidic and alkaline conditions and at several temperature conditions, particularly at acidic pH (3–4) and at temperatures between 45 and 65 ◦C. Circular dichroism spectroscopy corroborated the transition from an α- elix to a β-sheet secondary structure of both proteins in conditions where fibrillation was observed. Overall, our results suggest that fibrillation is a rather common phenomenon caused by protein misfolding, driven by a transition from an α-helix to a β-sheet secondary structure, that many proteins can undergo if subjected to conditions that disturb their native conformation

2 L Cabrera-Villamizar; A Ebrahimi; A Martínez-Abad; D Talens-Perales; A López-Rubio; M.J. Fabra. Order matters: Methods for extracting cellulose from rice straw by coupling alkaline, ozone and enzymatic treatments. Carbohydrate Polymers. 328 - 121746, ELSEVIER, 2024. Available on-line at: <10.1016/j.carbpol.2023.121746>.

Type of production: Scientific paper
Corresponding author: No

Impact source: SCOPUS
Impact index in year of publication: 22.4
Position of publication: 5
Category: Polymers and Plastics
Journal in the top 25%: Yes
No. of journals in the cat.: 161

3 Talens-Perales, D.; Darós, J. A.; Polaina, J.; Marín-Navarro, J.. Synergistic Enzybiotic Effect of a Bacteriophage Endolysin and an Engineered Glucose Oxidase Against Listeria. Biomolecules. 15 - 24, Multidisciplinary Digital Publishing Institute, 2024.

Type of production: Scientific paper
Format: Journal
Corresponding author: No

Impact source: SCOPUS
Impact index in year of publication: 4,8
Category: Molecular Biology
Journal in the top 25%: Yes

Relevant results: Listeria monocytogenes represents one of the main risks for food safety worldwide. Two enzyme-based antimicrobials (enzybiotics) have been combined in a novel treatment against this pathogenic bacterium, resulting in a powerful synergistic effect. One of the enzymes is an endolysin from Listeria phage vB_LmoS_188 with amidase activity (henceforth A10), and the other is an engineered version of glucose oxidase from Aspergillus niger (GOX). Both enzymes, assayed separately against Listeria innocua, showed antibacterial activity at the appropriate doses. The combination of the two enzybiotics resulted in a synergistic effect with a log reduction in viable cells (log N0/N) of 4, whereas, taken separately, the same dose of A10 and GOX caused only 1.2 and 0.2 log reductions, respectively. Flow cytometry and microscopy analyses revealed that A10 treatment alone induced the aggregation of dead cells. L. monocytogenes showed higher resistance to single treatment with GOX or A10 than L. innocua. However, the synergic combination of A10 and GOX resulted in a high lethality of L. monocytogenes with a log N0/N higher than 5 (below the detection limit in our analysis). Altogether, these results represent a novel efficient and eco-friendly antimicrobial treatment against the most lethal food-borne pathogen. Full article (This article belongs to the Section Enzymology)

4 Production in Nicotiana benthamiana of a thermotolerant glucose oxidase that shows enzybiotic activity against Escherichia coli and Staphylococcus aureus. Current Research in Biotechnology. 6, ELSEVIER, 2023.

Type of production: Scientific paper

Impact source: SCOPUS **Category:** Biotechnology

Impact index in year of publication: 5,6 **Journal in the top 25%:** Yes

Relevant results: Glucose oxidase (GOX) catalyzes the FAD-dependent oxidation of α-D-glucose to D-gluconolactone with pro- duction of hydrogen peroxide. This enzyme encounters many biotechnological applications from glucose sensors to applications in food, pharma and textile industries. For this purpose, recombinant GOX versions, usually derived from Aspergillus niger, are produced in fermentation systems, frequently in filamentous fungi because other production platforms such as bacteria or yeast have rendered meager results. We wondered whether A. niger GOX, more specifically a mutant version with superior thermotolerant properties, could be efficiently produced in Nicotiana benthamiana plants. To this aim, we used a tobacco mosaic virus-derived vector that is inoculated into plant tissues using Agrobacterium tumefaciens. Results exhibited the efficient production of the recombinant GOX in plants and the facile downstream purification when the recombinant protein is targeted to the apoplast, the space between plasma membranes and cell walls. The plant-made recombinant GOX displayed excellent catalytic properties in broad pH and temperature conditions. In addition to establishing a new strategy to produce recombinant GOX in plants as a green alternative to traditional fungal fermentation, we further investigated the potential application of this protein as an ezybiotic. Results exhibited a remarkable bacteriocide activity against Escherichia coli and Staphylococcus aureus.

5 Talens-Perales, David; Nicolau-Sanus, Maria; Polaina, Julio; Daros, Jose-Antonio. Expression of an extremophilic xylanase in Nicotiana benthamiana and its use for the production of prebiotic xylooligosaccharides. SCIENTIFIC REPORTS. 12, 2022. ISSN 2045-2322

DOI: 10.1038/s41598-022-19774-5

PMID: 36131073

Type of production: Scientific paper

Relevant results: En este artículo científico se describe la expresión de una Xilanasa hipertermófila en plantas con actividad significativa a pH 10.5 y 90ºC. Esta enzima permite la degradación de hemicelulosas y la síntesis de xilooligosacáridos con carácter prebiótico a partir de restos vegetales, xilano, etc. La principal ventaja de la producción en plantas es la obtención de una proteína pura mediante un proceso de extracción sencillo y barato. La contribución en este artículo ha sido la caracterización de la enzima, los ensayos de actividad y obtención de los xilooligosacáridos, así como la redacción del manuscrito.

6 Almeida N; Meyer V; Burnet A; Boucher J; Talens-Perales D; Pereira S; Ihalainen P; Levée T; Polaina J; Petit-Conil M; Camarero S; Pinto P. Use of a Novel Extremophilic Xylanase for an Environmentally Friendly Industrial Bleaching of Kraft Pulps.International journal of molecular sciences. 23, 2022.

DOI: 10.3390/ijms232113423

PMID: 36362210

Type of production: Scientific paper

Relevant results: En este artículo se describe el uso de la xilanasa Xyn11, descrita por el grupo previamente (Talens-Perales et al., 2021), para disminuir el uso de dióxido de cloro en el proceso del blanqueamiento de la pulpa de papel. Logrando una disminución de un 25%. La enzima se ha producido a gran escala y se ha testado por empresas papeleras (RAIZ-NAVIGATOR). Mi contribución en este trabajo ha sido caracteriza la enzima producida a nivel industrial, asesorar a las empresas de la dosificación y condiciones de uso de la enzima, y revisión del manuscrito.

7 David Talens Perales; Elena Jiménez Ortega; Paloma Sánchez Torres; Julia Sanz Aparicio; Julio Polaina Molina. Phylogenetic, functional and structural characterization of a GH10 xylanase active at extreme conditions of temperature and alkalinity. Computational and Structural Biotechnology Journa. 19, pp. 2676 - 2686. ELSEVIER, 2021.

Type of production: Scientific paper **Format:** Journal

Corresponding author: No

Impact source: ISI

Category: Science Edition - BIOCHEMISTRY & MOLECULAR BIOLOGY
Impact index in year of publication: 6,01 **Journal in the top 25%:** Yes

8 Maria Jose Fabra; David Talens Perales; Adrián Román Sarmiento; Amparo López Rubio; Julio Polaina Molina. Effect of biopolymer matrices on lactose hydrolysis by enzymatically active hydrogel and aerogels loaded with β-galactosidase nanoflowers. Food Hydrocolloids. 111, pp. 10622. ELSEVIER, 2021.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No
Impact source: ISI **Category:** Science Edition - FOOD SCIENCE & TECHNOLOGY
Impact index in year of publication: 4.728 **Journal in the top 25%:** Yes
Position of publication: 5 **No. of journals in the cat.:** 139
Relevant publication: No

9 Talens-Perales, David; Jose Fabra, Maria; Martinez-Argente, Luis; Marin-Navarro, Julia; Polaina, Julio. Recyclable thermophilic hybrid protein-inorganic nanoflowers for the hydrolysis of milk lactose. INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES. 151, 2020. ISSN 0141-8130
DOI: 10.1016/j.ijbiomac.2020.02.115
PMID: 32061698
Type of production: Scientific paper
Impact source: ISI **Category:** Science Edition - BIOCHEMISTRY & MOLECULAR BIOLOGY
Impact index in year of publication: 5.162

10 Jose Fabra, Maria; Seba-Piera, Isabel; Talens-Perales, David; Lopez-Rubio, Amparo; Polaina, Julio; Marin-Navarro, Julia. Revalorization of cellulosic wastes from Posidonia oceanica and Arundo donax as catalytic materials based on affinity immobilization of an engineered beta-galactosidase. FOOD HYDROCOLLOIDS. 103, 2020. ISSN 0268-005X
DOI: 10.1016/j.foodhyd.2019.105633
Type of production: Scientific paper
Impact source: ISI **Category:** Science Edition - FOOD SCIENCE & TECHNOLOGY
Impact index in year of publication: 7.053 **Journal in the top 25%:** Yes

11 Míguez Amil S.; Jiménez-Ortega E.; Ramírez-Escudero M.; Talens-Perales D.; Marín-Navarro J.; Polaina J.; Sanz-Aparicio J.; Fernandez-Leiro R.. The cryo-EM Structure of Thermotoga maritima β-Galactosidase: Quaternary Structure Guides Protein Engineering. ACS Chemical Biology. 15, pp. 179 - 188. 2020. ISSN 15548929
DOI: 10.1021/acschembio.9b00752
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Science Edition - BIOCHEMISTRY & MOLECULAR BIOLOGY
Impact index in year of publication: 4.43
Source of citations: SCOPUS **Citations:** 2

12 Fabra M.; Pérez-Bassart Z.; Talens-Perales D.; Martínez-Sanz M.; López-Rubio A.; Marín-Navarro J.; Polaina J.. Matryoshka enzyme encapsulation: Development of zymoactive hydrogel particles with efficient lactose hydrolysis capability.Food Hydrocolloids. 96, pp. 171 - 177. 2019. ISSN 0268005X
DOI: 10.1016/j.foodhyd.2019.05.026
Type of production: Scientific paper **Format:** Journal

Impact source: SCOPUS
Category: Science Edition - FOOD SCIENCE & TECHNOLOGY
Impact index in year of publication: 7.053
Journal in the top 25%: Yes
Source of citations: SCOPUS
Citations: 5

13 Martínez-Bailén M.; Jiménez-Ortega E.; Carmona A.; Robina I.; Sanz-Aparicio J.; Talens-Perales D.; Polaina J.; Matassini C.; Cardona F.; Moreno-Vargas A.. Structural basis of the inhibition of GH1 β-glucosidases by multivalent pyrrolidine iminosugars. Bioorganic Chemistry. 89, 2019. ISSN 00452068
DOI: 10.1016/j.bioorg.2019.103026
Type of production: Scientific paper
Format: Journal
Impact source: ISI
Category: Science Edition - BIOCHEMISTRY & MOLECULAR BIOLOGY
Impact index in year of publication: 4.84
Journal in the top 25%: Yes
Source of citations: SCOPUS
Citations: 4

14 Estevinho B.; Samaniego N.; Talens-Perales D.; Fabra M.; López-Rubio A.; Polaina J.; Marín-Navarro J.. Development of enzymatically-active bacterial cellulose membranes through stable immobilization of an engineered β-galactosidase. International Journal of Biological Macromolecules. 115, pp. 476 - 482. 2018. ISSN 01418130
DOI: 10.1016/j.ijbiomac.2018.04.081
Type of production: Scientific paper
Format: Journal
Impact source: ISI
Category: Science Edition - BIOCHEMISTRY & MOLECULAR BIOLOGY
Impact index in year of publication: 5.162
Journal in the top 25%: Yes
Source of citations: SCOPUS
Citations: 10

15 Talens-Perales D.; Marín-Navarro J.; Garrido D.; Almansa E.; Polaina J.. Fixation of bioactive compounds to the cuticle of Artemia. Aquaculture. 474, pp. 95 - 100. 2017. ISSN 00448486
DOI: 10.1016/j.aquaculture.2017.03.044
Type of production: Scientific paper
Format: Journal
Impact source: ISI
Category: Science Edition - MARINE & FRESHWATER BIOLOGY
Impact index in year of publication: 3.224
Source of citations: SCOPUS
Citations: 4

16 Talens-Perales D.; Górska A.; Huson D.; Polaina J.; Marín-Navarro J.. Analysis of domain architecture and phylogenetics of family 2 glycoside hydrolases (GH2). PLoS ONE. 11, 2016.
DOI: 10.1371/journal.pone.0168035
Type of production: Scientific paper
Format: Journal
Impact source: ISI
Category: Science Edition - MULTIDISCIPLINARY SCIENCES
Impact index in year of publication: 2.740
Journal in the top 25%: Yes
Source of citations: SCOPUS
Citations: 9

17 Talens-Perales D.; Polaina J.; Marín-Navarro J.. Structural Dissection of the Active Site of Thermotoga maritima β-Galactosidase Identifies Key Residues for Transglycosylating Activity. Journal of Agricultural and Food Chemistry. 64, pp. 2917 - 2924. 2016. ISSN 00218561
DOI: 10.1021/acs.jafc.6b00222

Type of production: Scientific paper
Format: Journal
Impact source: ISI
Category: Science Edition - FOOD SCIENCE & TECHNOLOGY
Impact index in year of publication: 3.154
Journal in the top 25%: Yes
Source of citations: SCOPUS
Citations: 15

18 Marín-Navarro J.; Roupain N.; Talens-Perales D.; Polaina J.. Identification and structural analysis of amino acid substitutions that increase the stability and activity of aspergillus Niger glucose oxidase. PLoS ONE. 10, 2015.
DOI: 10.1371/journal.pone.0144289
Type of production: Scientific paper
Format: Journal
Impact source: ISI
Category: Science Edition - MULTIDISCIPLINARY SCIENCES
Impact index in year of publication: 2.740
Source of citations: SCOPUS
Citations: 12

19 Marín-Navarro J.; Talens-Perales D.; Polaina J.. One-pot production of fructooligosaccharides by a Saccharomyces cerevisiae strain expressing an engineered invertase. Applied Microbiology and Biotechnology. 99, pp. 2549 - 2555. 2015. ISSN 01757598
DOI: 10.1007/s00253-014-6312-4
Type of production: Scientific paper
Format: Journal
Impact source: ISI
Category: Science Edition - BIOTECHNOLOGY & APPLIED MICROBIOLOGY
Impact index in year of publication: 3.376
Journal in the top 25%: Yes
Source of citations: SCOPUS
Citations: 8

20 Marín-Navarro J.; Talens-Perales D.; Oude-Vrielink A.; Cañada F.J.; Polaina J.. Immobilization of thermostable β-galactosidase on epoxy support and its use for lactose hydrolysis and galactooligosaccharides biosynthesis. World Journal of Microbiology and Biotechnology. 30, pp. 989 - 998. 2014. ISSN 09593993
DOI: 10.1007/s11274-013-1517-8
Type of production: Scientific paper
Format: Journal
Source of citations: SCOPUS
Citations: 31

21 Talens-Perales D.; Polaina J.; Marín-Navarro J.. Enzyme engineering for oligosaccharide biosynthesis. Frontier Discoveries and Innovations in Interdisciplinary Microbiology. pp. 9 - 31. 2015. ISBN 9788132226093
DOI: 10.1007/978-81-322-2610-9_2
Type of production: Book chapter
Format: Book
Source of citations: SCOPUS
Citations: 8

22 Talens-Perales D.; Marín-Navarro J.; Polaina J.. Enzymes: Functions and Characteristics. Encyclopedia of Food and Health. pp. 532 - 538. 2015. ISBN 9780123849472
DOI: 10.1016/B978-0-12-384947-2.00256-7
Type of production: Book chapter
Format: Book
Source of citations: SCOPUS
Citations: 2

Works submitted to national or international conferences

1 **Title of the work:** Expression of an extremophilic xylanase in Nicotiana benthamiana and its use for the production of prebiotic xylooligosaccharides
Name of the conference: 5th Conference of the International Society of Plant Molecular Farming (ISPMF 2022)
City of event: Roma, Italy
Date of event: 26/09/2022
Organising entity: International Society of Plant Molecular Farming
David Talens; Maria Nicolau Sanus; Julio Polaina; Jose Antonio Darós. "Expression of an extremophilic xylanase in Nicotiana benthamiana and its use for the production of prebiotic xylooligosaccharides.".

2 **Title of the work:** Extremozymes for wood-based building blocks: from pulp mill to board and insulation products – WoodZymes European Project
Name of the conference: Bioeconomy Congress
Corresponding author: No
City of event: Stuttgart, Stuttgart, Germany
Date of event: 21/09/2020
Organising entity: University of Hohenheim
1; D. Rodriguez Escribano; A.T. Martínez; G. Marqués; J Recoret; D Talens; J Polaina; P Inhalainen; V Meyer; M Petit-Conil; D Da Silva Perez; G Deroubaix; M Lecourt; N Almeida; S Pereira; P Pinto; R Belaila; R Perrin; M Perez Boada. "Extremozymes for wood-based building blocks: from pulp mill to board and insulation products – WoodZymes European Project".

3 **Title of the work:** Enzymatically active (lactose hydrolyzing) biopolymers for food applications
Name of the conference: The 20th Gums & Stabilisers Conference for the Food Industry
Corresponding author: No
City of event: San Sebastian, Basque Country, Spain
Date of event: 11/06/2019
End date: 11/06/2019
Organising entity: Universidad del País Vasco **Type of entity:** University
City organizing entity: San Sebastian, Basque Country, Spain
Maria Jose Fabra Rovira; Berta Estevinho; Isabel Seba; David Talens Perales; Julia Marín Navarro; Amparo López Rubio; Julio Polaina Molina.

4 **Title of the work:** Coupled hydrolysis-fermentation strategies for the production of ethanol from cellulosic substrates
City of event: Jaén, Spain
Date of event: 2013
Organising entity: Bióptima 2013 en colaboración con la Sociedad Iberoamericana para el Desarrollo de las Biorrefinerías (SIADEB) y la Universidad de Jaén
City organizing entity: Spain
Polaina J.; Marín-Navarro J.; Gurgu L.; Talens-Perales D.II Congreso Iberoame, (Spain): DIPUTACIÓN PROVINCIAL DE JAÉN, 2013, Instituto de Estudios Giennenses,

5 **Title of the work:** Structural dissection of the catalytic site of Thermotoga maritima ?-galactosidase to determine key residues in the synthesis of prebiotic galacto-oligosaccharides.
City of event: Kallithea,
Date of event: 2013

Organising entity: "LeanGreenFood" FP7-PEOPLE-ITN 2008 Marie Curie TÍTULO DEL CONGRESO: Enzymes in Suitanable Food Production, A Lean Green Approach ÁMBITO (Nacional/internacional): Internacional DATOS DE LA PUBLICACIÓ
City organizing entity: Greece
Talens-Perales D.; Marín-Navarro J.; Polaina J.Enzymes in Suitanabl, (Greece):

6 **Title of the work:** Structural modification of enzymes for immobilization on solid supports
City of event: Kallithea,
Date of event: 2013
Organising entity: "LeanGreenFood" FP7-PEOPLE-ITN 2008 Marie Curie TÍTULO DEL CONGRESO: Enzymes in Suitanable Food Production, A Lean Green Approach ÁMBITO (Nacional/internacional): Internacional DATOS DE LA PUBLICACIÓ
City organizing entity: Greece
/ES: Tumolo R.; Talens-Perales D.; Marin-Navarro J.; Polaina J.Enzymes in Suitanabl, (Greece):

7 **Title of the work:** Use of immobilized Thermotoga maritima ß-galactosidase for the generation of lactose-free products and galacto-oligosaccharides.
City of event: Sevilla, Spain
Date of event: 2012
Organising entity: IUBMB-FEBS
Talens-Perales D.; Marín-Navarro J.; Polaina J.Wiley Online Library,

Science Outreach activities

1 **Title of the work:** VISITAS GUIADAS - Alumnos de la Escuela de Verano Nau Jove de la UV
Date of event: 12/07/2021

2 **Title of the work:** VISITAS GUIADAS - Alumnos del Grado de Bioquímica y Ciencia Biomédicas dela Universidad de Valencia
Date of event: 21/10/2019

3 **Title of the work:** VISITAS GUIADAS - Alumnos del Colegio Patronato de la Juventud Obrera
Date of event: 17/12/2018

4 **Title of the work:** VISITAS GUIADAS ConcienciaSé España
Date of event: 09/01/2018

5 **Title of the work:** VISITAS GUIADAS - Alumnos de 2º Bachiller del Colegio La Purísima
Date of event: 15/12/2016

6 **Title of the work:** CICLOS DE CONFERENCIAS Y JORNADAS INFORMATIVAS II Jornadas de Estudiantes Predoctorales
Date of event: 03/07/2015
"Ingeniería molecular de ß-galactosidasa: inmovilización y mejora de su capacidad biosintética".

7 **Title of the work:** CICLOS DE CONFERENCIAS Y JORNADAS INFORMATIVAS 1as Jornadas de Estudiantes Predoctorales IATA-CSIC
Date of event: 04/07/2014
"Ingeniería molecular de ß-galactosidasa: inmovilización y mejora de su capacidad biosintética".

8 **Title of the work:** Desarrollo de sistemas enzimáticos para la hidrólisis de lactosa y la síntesis de galactooligosacáridos prebióticos
Date of event: 24/05/2013

R&D management and participation in scientific committees

Scientific, technical and/or assessment committees

Committee title: Comisión de Divulgación del Instituto de Agroquímica y Tecnología de los Alimentos
Affiliation entity: Instituto de Agroquímica y Tecnología de Alimentos
Type of entity: State agency
Start date: 2019

Organization of R&D activities

1 **Title of the activity:** Expociencia
Convening entity: FUNDACION PARQUE CIENTIFICO UNIVERSITAT DE VALENCIA DE LA COMUNITAT VALENCIANA
Start date: 2024

2 **Title of the activity:** Expociencia
Convening entity: FUNDACION PARQUE CIENTIFICO UNIVERSITAT DE VALENCIA DE LA COMUNITAT VALENCIANA
Start date: 2023

3 **Title of the activity:** Expociencia
Convening entity: FUNDACION PARQUE CIENTIFICO UNIVERSITAT DE VALENCIA DE LA COMUNITAT VALENCIANA
Start date: 2019

4 **Title of the activity:** Ingeniería molecular de enzimas en 3D y aplicaciones industriales
Type of activity: Seminario
Geographical area: Regional
Convening entity: Universidad Católica de Valencia San Vicente Mártir
Type of entity: University
City convening entity: Spain
Start date: 2019

5 **Title of the activity:** Expociencia
Convening entity: FUNDACION PARQUE CIENTIFICO UNIVERSITAT DE VALENCIA DE LA COMUNITAT VALENCIANA
Start date: 2018

6 **Title of the activity:** Ingeniería molecular de enzimas en 3D y aplicaciones industriales
Type of activity: Seminario
Geographical area: Regional
Convening entity: Universidad Católica de Valencia San Vicente Mártir
Type of entity: University
City convening entity: Spain
Start date: 2018

7 **Title of the activity:** Expociencia
Convening entity: FUNDACION PARQUE CIENTIFICO UNIVERSITAT DE VALENCIA DE LA COMUNITAT VALENCIANA
Start date: 2017

8 **Title of the activity:** Expociencia
Convening entity: FUNDACION PARQUE CIENTIFICO UNIVERSITAT DE VALENCIA DE LA COMUNITAT VALENCIANA
Start date: 2016

9 **Title of the activity:** Expociencia
Convening entity: FUNDACION PARQUE CIENTIFICO UNIVERSITAT DE VALENCIA DE LA COMUNITAT VALENCIANA
Start date: 2015

10 **Title of the activity:** Expociencia
Convening entity: FUNDACION PARQUE CIENTIFICO UNIVERSITAT DE VALENCIA DE LA COMUNITAT VALENCIANA
Start date: 2014

11 **Title of the activity:** Expociencia
Convening entity: FUNDACION PARQUE CIENTIFICO UNIVERSITAT DE VALENCIA DE LA COMUNITAT VALENCIANA
Start date: 2013

R&D management

Name of the activity: EXPOCIENCIA
Type of management: Management of R&D&I actions and projects
Performed tasks: Organización y actividades de coordinación en el IATA-CSIC
Entity: PARC CIENTÍFIC DE LA UNIVERSITAT DE VALÈNCIA
Type of entity: University Centres and Structures and Associated Bodies

Other achievements

Stays in public or private R&D centres

Entity: Universidad de Tübingen
City of entity: Tübingen, Tübingen, Germany
Start date: 04/09/2015
Duration: 3 months
Goals of the stay: Doctorate

Obtained grants and scholarships

1 **Name of the grant:** Beca de Formación de Profesoraro Universitario (FPU)
Aims: Pre-doctoral
Awarding entity: Ministerio de Educacion, Cultura y Deporte **Type of entity:** State agency
Conferral date: 29/04/2013
End date: 31/08/2016
Entity where activity was carried out: Instituto de Agroquímica y Tecnología de Alimentos
Faculty, institute or centre: Laboratorio de Estructura y Función de Enzimas

2 **Name of the grant:** Ayuda Estancias Breves
Aims: Pre-doctoral
Awarding entity: Ministerio de Educación, Cultura y Deporte **Type of entity:** State agency
Conferral date: 09/12/2014 **Duration:** 3 months
End date: 04/12/2015
Entity where activity was carried out: Universidad de Tübinga, Alemania
Faculty, institute or centre: Algorithms in Bioinformatics Laboratory

3 **Name of the grant:** JAEPre
Aims: Pre-doctoral
Awarding entity: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
Conferral date: 01/09/2011
End date: 29/04/2013
Entity where activity was carried out: Instituto de Agroquímica y Tecnología de Alimentos
Faculty, institute or centre: Laboratorio de Estructura y Función de Enzimas

4 **Name of the grant:** Beca de colaboración
Aims: Pre-doctoral
Awarding entity: Ministerio de Educación y Cultura **Type of entity:** State agency
Conferral date: 2010
End date: 2011
Entity where activity was carried out: FUNDACIÓN GENERAL DE LA UNIVERSITAT DE VALÈNCIA
Faculty, institute or centre: Facultad de Farmacia

5 **Name of the grant:** Beca JAEintro
Aims: Introducción a la investigación
Awarding entity: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
Conferral date: 01/07/2010
End date: 30/09/2010
Entity where activity was carried out: Centro de Investigación Príncipe Felipe

6 **Name of the grant:** Beca JAEintro
Aims: Introducción a la investigación
Awarding entity: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency

Conferral date: 01/07/2009
End date: 30/09/2009
Entity where activity was carried out: Instituto de Agroquímica y Tecnología de Alimentos
Faculty, institute or centre: Laboratorio de Estructura y Función de Enzimas

Prizes, mentions and distinctions

1 **Description:** Premio Científico Técnico Ciudad de Algemesí
Awarding entity: Ajuntament de la Ciutat de Algemesí
City awarding entity: Algemesí, Valencian Community, Spain
Conferral date: 02/03/2023

2 **Description:** Premio Nacional de fotografía FOTCIENCIA18
Awarding entity: Fundación Española para la Ciencia y la Tecnología **Type of entity:** Fundación
Conferral date: 2022

3 **Description:** Premio Extraordinario de Docotorado
Awarding entity: Universitat de València **Type of entity:** University
Conferral date: 25/01/2019

4 **Description:** Premio nacional de fotografía FOTCIENCIA17
Awarding entity: Fundación Española para la Ciencia y la Tecnología **Type of entity:** Fundación
Conferral date: 2019

5 **Description:** Premio al Mejor Trabajo de Fin de Máster
Awarding entity: Universidad Católica de Valencia San Vicente Mártir **Type of entity:** University
Conferral date: 27/04/2018

Periods of research activity and knowledge transfer

1 **Certifying entity:** Agencia Nacional de Evaluación de la Calidad y Acreditación **Type of entity:** ANECA
Date of recognition: 20/06/2024

2 **Certifying entity:** Agencia Nacional de Evaluación de la Calidad y Acreditación **Type of entity:** Agencia Nacional
City certifying entity: Spain
Date of recognition: 23/05/2022

Obtained accreditations/recognitions

1 **Description:** Acreditación Profesor Contratado Doctor
Accrediting entity: Agencia Nacional de Evaluación **Type of entity:** Agencia Nacional de la Calidad y Acreditación
Date of recognition: 22/03/2021

2 **Description:** Acreditación Profesor de Universidad Privada
Accrediting entity: Agencia Nacional de Evaluación **Type of entity:** Agencia Nacional de la Calidad y Acreditación
Date of recognition: 22/03/2021

3 **Description:** Acreditación Profesor Ayudante Doctor
Accrediting entity: Agencia Nacional de Evaluación **Type of entity:** Agencia Nacional de la Calidad y Acreditación
Date of recognition: 19/07/2017