



Miguel Álvaro Benito

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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.

Research lines:

Antigen Processing and Presentation: Cellular biology, Immunoepitidomics, Immunogenetics
Past: Glycosyl-Hydrolases; Protein engineering; Microbiology

General indicators of the scientific research output (googlescholar):

peer-reviewed papers: 18 & 1 book chapter (in press)

707 citations (2007-present)

515 citations for the period: 2016-2021

>100 average citations for the period: 2016-2021

14 publications in Q1 of each area

2007-2012 (microbiology and biotechnology)

2013-present (immunology)

H index: 12



Miguel Álvaro Benito

Surname(s): **Álvaro Benito**
 Name: **Miguel**
 ORCID: **0000-0002-6019-3567**

Current professional situation

Employing entity: Freie Universitaet Berlin **Type of entity:** University

Department: Fachbereich Biologie, Chemie und Farmazie

Professional category: Postdoctoral Research Associate and Lecturer

Start date: 15/10/2013

Type of contract: Temporary employment contract **Dedication regime:** Full time

Primary (UNESCO code): 240300 - Biochemistry; 240700 - Cell biology; 240900 - Genetics; 241200 - Immunology; 241206 - Immunisation

Performed tasks: I study the impact of CD4+ T cell responses in human health particularly related to host-pathogen interplay through a multidisciplinary approach. My solid background in immunogenetics has facilitated my transition as well to the study personalized immune responses related to the outcome of immune responses upon stem cell transplantation. I was trained in microbiology and biotechnology, although I shifted my career towards the understanding of biomedical questions related to: 1) the molecular underpinnings of peptide exchange for MHCII antigen presentation, 2) the relevance of peptide-MHCII isomerism and, 3) the development of novel tools to study antigen-specific CD4+ T cell responses. While completing or being close to complete relevant contributions to each of these fields, I have been able to initiate my own research venture in a very unique, albeit central to translational immunology. I have acquired a vast knowledge in proteomics, and methodologies to identify antigen-reactive T cells and their expansion *ex vivo*. I have dedicated a considerable effort to the internalization of my science by establishing different collaborations within my current host country (Germany), Spain, and USA. Furthermore, my commitment to teaching and knowledge transfer is confronted by a broad and international teaching portfolio, activities related to scientific communication and patent applications.

Identify key words: Molecular mechanism of disease; Functional biology; Cell biology; Molecular biology; Proteomics; Helminth pathogens of animals

Previous positions and activities

	Employing entity	Professional category	Start date
1	Freie Universität Berlin	Postdoctoral Research Associate and Lecturer	02/01/2012
2	Universidad Autónoma de Madrid	Postdoctoral Research Associate	22/07/2011
3	Universidad Autónoma de Madrid	Doctoral Research Associate	01/01/2008
4	Universidad Autónoma de Madrid	Doctoral Research Associate	25/04/2006

- 1** **Employing entity:** Freie Universität Berlin
Professional category: Postdoctoral Research Associate and Lecturer
Start-End date: 02/01/2012 - 14/10/2013



- 2** **Employing entity:** Universidad Autónoma de Madrid **Type of entity:** University
Professional category: Postdoctoral Research Associate
Start-End date: 22/07/2011 - 31/12/2011
- 3** **Employing entity:** Universidad Autónoma de Madrid **Type of entity:** University
Professional category: Doctoral Research Associate
Start-End date: 01/01/2008 - 21/07/2011
- 4** **Employing entity:** Universidad Autónoma de Madrid **Type of entity:** University
Professional category: Doctoral Research Associate
Start-End date: 25/04/2006 - 31/12/2007



Education

University education

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

University degree: Higher degree

Name of qualification: Licenciado en Bioquímica

Degree awarding entity: Universidad Autónoma de Madrid **Type of entity:** University

Date of qualification: 30/06/2005

Doctorates

Doctorate programme: Biología Molecular

Degree awarding entity: Universidad Autónoma de Madrid **Type of entity:** University

Date of degree: 21/07/2011

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
German	B2	B2	B2	B2	B2
English	C2	C2	C2	C2	C2

Teaching experience

Experience supervising doctoral thesis and/or final year projects

- Project title:** Association between genetic variation on HLA genes and type 1 diabetes in UK Biobank
Entity: Charité
Student: Jana Stich
Date of reading: 03/03/2020
- Project title:** Comparing the interactions of HLA-DM mutants in cells via confocal FRET microscopy
Entity: Freie Universitaet Berlin
Student: Atanas Valev
Date of reading: 04/05/2017
- Project title:** Understanding the role of small molecules in antigen presentation by MHC class II molecules
Entity: Freie Universitaet Berlin
Student: Marie Urbicht



Date of reading: 17/07/2014

- 4 Project title:** Reconstitution of an in vitro Antigen Processing System for Major Hystocompatibility Class II
Entity: Freie Universitaet Berlin **Type of entity:** University
Student: Rahel Frick
Date of reading: 29/11/2012

Teaching experience in courses and seminars for university teacher training

- 1 Type of event:** Invited Lecture
Name of the event: Uteruswirksame Substanzen. Active Substances in the Uterus.
Organising entity: Freie Universität Berlin **Type of entity:** University
Teaching date: 22/01/2021
- 2 Type of event:** Invited Talk
Name of the event: Impact of the distinct editing function of natural variants of HLA-DM on antigen presentation and T cell activation
Organising entity: University Klinikum Essen **Type of entity:** Healthcare Institutions
Hours of teaching: 2
Teaching date: 2019
- 3 Type of event:** Lectures and practical course (from 2017 to 2019)
Name of the event: Biostatistik für Studierende der Biochemie
Organising entity: Freie Universität Berlin **Type of entity:** University
Target group profile: BSc
Hours of teaching: 30 **Teaching language:** German
Teaching date: 2019
Type of participation: Organizational -Others
- 4 Type of event:** Practical course (since 2013, every semester)
Name of the event: Protein Engineering
Organising entity: Freie Universität Berlin **Type of entity:** University
Target group profile: MSc, BSc
Hours of teaching: 75 **Teaching language:** English
Teaching date: 2019
Type of participation: Organizational -Others
- 5 Type of event:** Seminars (since 2016, every semester)
Name of the event: Immune disorders associated to HLA genes/ Molecular mechanisms of antigen processing and presentation
Organising entity: Freie Universität Berlin **Type of entity:** University
Target group profile: MSc
Hours of teaching: 30 **Teaching language:** English
Teaching date: 2019
Type of participation: Organizational -Others
- 6 Type of event:** Seminar
Name of the event: Grant Writing
Organising entity: Freie Universität Berlin **Type of entity:** University
Target group profile: MSc



Hours of teaching: 60

Teaching date: 2017

Type of participation: Tutoring

Teaching language: English

7 Type of event: Curso Practico

Name of the event: Metodos y técnicas integrados en Biología

Organising entity: Universidad Autónoma de Madrid

Hours of teaching: 56

Teaching date: 2010

Type of entity: University

Teaching language: Spanish

8 Type of event: Curso Practico

Name of the event: Bioquímica Experimental Avanzada I

Organising entity: Universidad Autónoma de Madrid

Hours of teaching: 40

Teaching date: 2008

Type of entity: University

Teaching language: Spanish

9 Type of event: Curso Practico

Name of the event: Microbiología

Organising entity: Universidad Autónoma de Madrid

Hours of teaching: 40

Teaching date: 2007

Type of entity: University

Teaching language: Spanish

10 Type of event: Curso Practico

Name of the event: Microbiología

Organising entity: Universidad Autónoma de Madrid

Hours of teaching: 40

Teaching date: 2006

Type of entity: University

Teaching language: Spanish

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: Beyond the classics: functional profiling of nCHLAll genetic variation

Entity where project took place: Freie Universität Berlin **Type of entity:** Foundation

City of entity: Dresden/Tübingen, Germany

Name principal investigator (PI, Co-PI....): Miguel Alvaro Benito

Nº of researchers: 1

Start-End date: 01/07/2021 - 30/06/2024

Total amount: 240.000 €

2 Name of the project: The role of the palmitoylation switch in activated T cells

Entity where project took place: Freie Universität Berlin **Type of entity:** State agency

City of entity: Berlin, Berlin, Germany

Name principal investigator (PI, Co-PI....): Walter Nickel; Christian Freund

Nº of researchers: 14

Start-End date: 01/01/2017 - 31/12/2020

3 Name of the project: Modular tripartite vaccines

Entity where project took place: Freie Univeristät Berlin **Type of entity:** University

City of entity: Berlin, Berlin, Germany

Name principal investigator (PI, Co-PI....): Leif E Sander; Reiner Haag; Peter Seeberger; Christian Freund

Nº of researchers: 4

Start-End date: 01/01/2015 - 31/12/2016

Total amount: 150.000 €

4 Name of the project: Mechanismus des durch HLA-DM und kleine Moleküle vermittelten MHCII:Peptid-Austausch

Entity where project took place: Freie Universitat Berlin **Type of entity:** State agency

City of entity: Berlin, Berlin, Germany

Name principal investigator (PI, Co-PI....): Christian Freund; Ronald Kühne

Nº of researchers: 2

Start-End date: 01/01/2012 - 31/12/2014

5 Name of the project: Bioingeniería de glicosidasas procedentes de levaduras no convencionales para su aplicación en la producción industrial de azúcares prebióticos y bioetanol.

Entity where project took place: Universidad Autónoma de Madrid **Type of entity:** University

Name principal investigator (PI, Co-PI....): Francisco Plou Gasca; Julia Sáenz Aparicio; Julio Polaina; María Fernández Lobato

Nº of researchers: 4

Start-End date: 2006 - 2011

6 Name of the project: Functional implications of natural variations in non-classical MHCII genes: consequences for adaptive immunity and disease predisposition

Entity where project took place: Freie Universität Berlin **Type of entity:** State agency

City of entity: Berlin, Berlin, Germany

Name principal investigator (PI, Co-PI....): Miguel Alvaro Benito

Nº of researchers: 1

Start date: 01/01/2017

7 Name of the project: Orientation-specific Antibodies Against Peptide-MHCII Complexes

Name principal investigator (PI, Co-PI....): James A Wells; Christian Freund; Miguel Alvaro Benito; Nicholas Rettko

Nº of researchers: 4

Funding entity or bodies:

QBI/UCSF-Freie Universität Berlin

Type of entity: University Research Institute

City funding entity: San Francisco



R&D non-competitive contracts, agreements or projects with public or private entities

- 1 Name of the project:** Impact of SPL-707 in antigen presentation
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): Ursula Bodendorf; Christian Freund; Miguel Alvaro Benito
N° of researchers: 3
Start date: 01/08/2019
- 2 Name of the project:** Improving T cell tetramer staining
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): Miguel Alvaro Benito; Christian Freund; Marek Wieczorek

Results

Industrial and intellectual property

- 1 Title registered industrial property:** Multi-fragment assembly of peptides for the visualization, stimulation or destruction of T cells
Inventors/authors/obtainers: Christian Freund; Miguel Álvaro Benito; Dirk Schwarzer
Entity holder of rights: Freie Universität Berlin
Country of inscription: Germany, Berlin
Date of register: 2015
- 2 Title registered industrial property:** Genetically modified fructofuranosidase for 6-kestose prebiotic production
Inventors/authors/obtainers: Maria Fernandez Lobato; Miguel Alvaro Benito
Entity holder of rights: Fundación Genoma España
N° of application: ES. P0200930929
Country of inscription: Spain, Community of Madrid
Date of register: 2010
- 3 Title registered industrial property:** New fructofuranosidase activity for the 6-kestose prebiotic obtention
Inventors/authors/obtainers: Maria Fernandez Lobato; Miguel Alvaro Benito; Miguel de Abreu; Lucia Fernandez Arrojo; Francisco J. Plou
Entity holder of rights: Fundación Genoma España
N° of application: 200503195 PCT-ES2006/000693
Country of inscription: Spain, Community of Madrid
Date of register: 2008



Scientific and technological activities

Scientific production

Publications, scientific and technical documents

- 1 Friederike Ebner; Eliot Morrison; Miriam Bertazzon; Ankur Midha; Susanne Hartmann; Christian Freund; Miguel Álvaro-Benito. CD4+ Th immunogenicity of the *Ascaris* spp. secreted products. *npj Vaccines*. Springer Nature, 2020.

Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 2 Eliot Morrison; Tatjana Wegner; Ernesto Andrés Zuchetti; Miguel Álvaro Benito; Ashley Zheng; Stefanie Kliche; Brita Brügger; Eberhard Krause; Claire Hivroz; Christian Freund. Dynamic palmitoylation events following T-cell receptor signaling. *Communications Biology*. 3 - 1, pp. 368. 2020.

Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 3 Austin M Graves; Francesca Viridis; Eliot Morrison; Miguel Álvaro Benito; Aly A Khan; Christian Freund; Tatyana Golovkina; Lisa K Denzin. Human Hepatitis B Viral Infection Outcomes Are Linked to Naturally Occurring Variants of HLA-DOA That Have Altered Function. *Journal of Immunology*. 205 - 4, pp. 923 - 935. 2020.

Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 4 Miguel Álvaro Benito; Eliot Morrison; Friederike Ebner; Esam T Abualrous; Marie Urbicht; Marek Wieczorek. Distinct editing functions of natural HLA-DM allotypes impact antigen presentation and CD4+ T cell activation. *Cellular and Molecular Immunology*. Nature publishing group, 2018. Available on-line at: <10.1038/s41423-018-0181-1>.

Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
- 5 Miguel Álvaro Benito; Eliot Morrison; Esam T Abualrous; Benno Kuroepka; Christian Freund. Quantification of HLA-DM-dependent major histocompatibility complex of class II immunopeptidomes by the peptide landscape antigenic epitope alignment utility. *Frontiers in Immunology*. 9 - 872, Frontiers, 2018.

Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 6 Marek Wieczorek; Jana Sticht; Sebastian Stolzenberg; Sebastian Günther; Christoph Wehmeyer; Zeina El Habre; Miguel Álvaro Benito; Frank Noé; Christian Freund. MHC class II complexes sample intermediate states along the peptide exchange pathway. *Nature Communications*. pp. 13224. Nature Publishing group, 2016.

Type of production: Scientific paper **Format:** Journal
Corresponding author: No
- 7 Miguel Álvaro Benito; Marek Wieczorek; Claudia Kipar; Jana Stich; Christian Freund. HLA-DMA polymorphisms differentially affect MHC class II peptide loading. *Journal of Immunology*. 194 - 2, pp. 803 - 816. American Society of Immunologists, 2015.

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



- 8** Miguel Álvaro Benito; Maria Fernández Lobato; Keith Baronian; Gotthard Kunze. Assessment of *Schwanniomyces occidentalis* as a host for protein production using the wide-range Xplor®2 expression platform. *Applied Microbiology and Biotechnology*. 97 - 10, pp. 4443 - 4456. Springer, 2013.
Type of production: Scientific paper **Format:** Journal
- 9** Miguel de Abreu; Miguel Álvaro Benito; Julia Sánchez Aparicio; Francisco J. Plou; Maria Fernandez Lobato; Miguel Alcalde. Synthesis of 6-kestose using a highly efficient beta-fructofuranosidase engineered by directed evolution. *Advanced Synthesis & Catalysis*. 355 - 9, pp. 1698 - 1702. Wiley, 2013.
Type of production: Scientific paper **Format:** Journal
- 10** Miguel Álvaro Benito; Maria Angeles Sainz Polo; David González Perez; Beatriz González; Francisco J. Plou; Maria Fernández Lobato; Julia Sánchez Aparicio. Structural and kinetic insights into beta-fructofuranosidase from *Schwanniomyces occidentalis* depict its unique active site and reveal that the pair Gln228/Asn254 modulates its specificity. *Journal of Biological Chemistry*. 287 - 23, pp. 19674 - 19686. American Society for Molecular Biology and Biochemistry, 2012.
Type of production: Scientific paper **Format:** Journal
- 11** Miguel de Abreu; Miguel Álvaro Benito; Francisco J. Plou; Maria Fernández Lobato; Miguel Alcalde. Screening beta-fructofuranosidase mutant libraries to enhance the transglycosylation yield of beta(2-6) fructooligosaccharides. *Combinatorial Chemistry & High-Throughput Screening*. 14 - 8, pp. 730 - 738. Bentham Science, 2011.
Type of production: Scientific paper **Format:** Journal
- 12** Miguel Álvaro Benito; Miguel de Abreu; Francisco Portillo; Julia Sanz Aparicio; Maria Fernández Lobato. New insights into the fructosyltransferase activity of *Schwanniomyces occidentalis* β -fructofuranosidase emerging from non-conventional codon-usage and directed mutation. *Applied and Environmental Microbiology*. 76 - 22, pp. 7491 - 7499. American Society for Microbiology, 2010.
Type of production: Scientific paper **Format:** Journal
- 13** Miguel Alvaro Benito; Aitana Polo; Beatriz Gonzalez; Maria Fernandez Lobato; Julia Sanz Aparicio. Structural analysis of the invertase of *Schwanniomyces occidentalis* reveals new oligomerization pattern in yeast and the molecular basis of its specificity. *Journal of Biological Chemistry*. 285 - 18, pp. 13930 - 13941. American Society of Biochemistry and Molecular Biology, 2010.
Type of production: Scientific paper **Format:** Journal
- 14** Aitana Polo; Miguel Alvaro Benito; Maria Fernandez Lobato; Julia Sanz Aparicio. Crystallization and preliminary X-ray diffraction analysis of the fructofuranosidase from *Schwanniomyces occidentalis*. *Acta Crystallographica*. F65, pp. 1162 - 1165. International Union of Crystallography, 2009.
Type of production: Scientific paper **Format:** Journal
- 15** Miguel Alvaro Benito; Miguel de Abreu; Lucia Fernandez Arrojo; Francisco J. Plou; Jesus Jimenez Barbero; Julio Polaina; Maria Fernandez Lobato. Characterization of a β -fructofuranosidase from *Schwanniomyces occidentalis* with transfructosylating activity yielding the prebiotic 6-kestose. *Journal of Biotechnology*. 132 - 1, pp. 75 - 81. Elsevier, 2007.
Type of production: Scientific paper **Format:** Journal
- 16** Miguel Alvaro Benito. Etiology of Autoimmune Diseases. Peptide editing and its modulation in CD4+ T cell immune tolerance. 1, Elsevier,
Type of production: Book chapter **Format:** Book
- 17** Miguel Alvaro-Benito; Christian Freund. Revisiting the editing function of non classical MHCII molecules. HLA. Wiley, 2020.
Type of production: Review **Format:** Journal

Corresponding author: Yes

- 18** Marek Wieczorek; Esam T Abualrous; Jana Sticht; Miguel Álvaro Benito; Sebastian Stolzenberg; Frank Noe; Christian Freund. Major Histocompatibility Complex (MHC) Class I and MHC Class II Proteins: Conformational Plasticity in Antigen Presentation. *Frontiers in Immunology*. 8 - 292, pp. 1 - 16. Frontiers, 2017. Available on-line at: <<http://journal.frontiersin.org/article/10.3389/fimmu.2017.00292/full>>. ISSN 1664-3224

Type of production: Review

Format: Journal

Corresponding author: No

- 19** Miguel Álvaro Benito; Eliot Morrison; Marek Wieczorek; Jana Sticht; Christian Freund. Human leukocyte Antigen-DM polymorphisms in autoimmune diseases. *Open Biology*. Royal Society, 2016. Available on-line at: <<http://rsob.royalsocietypublishing.org/content/6/8/160165>>. ISSN 2046-2441

Type of production: Review

Format: Journal

Corresponding author: Yes

Works submitted to national or international conferences

- 1** **Title of the work:** Diverse applications of Crispr/Cas9 mutated cell lines and how you could use them in your daily lab routine
Name of the conference: 98th Meeting of the German Physiological Society
Corresponding author: No
City of event: Ulm, Germany
Date of event: 30/09/2019
End date: 02/10/2019
Organising entity: German Physiological Society
Katharina Krueger; Karin Michaela Kirschner; Lorenzo Catanese; Miriam Bertazzon; Benjamin König; Miguel Álvaro Benito; Christian Freund; Holger Scholz.
- 2** **Title of the work:** MHC Class II Complexes Sample Intermediate States along the Antigenic Peptide Exchange Pathway
Name of the conference: Biophysical Society 62nd Annual Meeting
Corresponding author: No
City of event: San Francisco, United States of America
Date of event: 17/02/2018
End date: 20/02/2018
Organising entity: Biophysical Society
Sebastian Stolzenberg; Marek Wieczorek; Jana Stich; Sebastian Günther; Christoph Wehmeyer; Zeina El Habre; Frank Noé; Miguel Álvaro Benito; Christian Freund.
- 3** **Title of the work:** Natural Variations in HLA-DM and its influence on antigen presentation
Name of the conference: EMBO workshop: Antigen Processing and Presentation
Corresponding author: Yes
City of event: Salamanca, Spain
Date of event: 28/05/2017
End date: 31/05/2017
Organising entity: EMBO
Miguel Álvaro Benito; Eliot Morrison; Atanas Valev; Ebner Friederike; Marek Wieczorek; Christian Freund. "Natural Variations in HLA-DM and their influence on antigen presentation".



- 4** **Title of the work:** Mixing high oligomerization with low resolution, winding way! What's key in invertases?
Name of the conference: 27th European Crystallographic Meeting
Corresponding author: No
City of event: Bergen, Norway
Date of event: 06/08/2012
End date: 11/08/2012
Organising entity: International Union of Crystallography
Maria Angeles Sainz-Polo; Beatriz González; Miguel Álvaro Benito; Maria Fernández Lobato; Alvaro Lafraya; Julia Marín; Julio Polaina; Julia Sáenz Aparicio. "Mixing high oligomerization with low resolution, winding way! What's key in invertases?".
- 5** **Title of the work:** Disecting the invertase mechanism: the key role of its non-catalytic domain
Name of the conference: XXVI International Carbohydrate Symposium
Corresponding author: No
City of event: Madrid, Spain
Date of event: 22/07/2012
End date: 27/07/2012
Organising entity: The International Carbohydrate Organization
Maria Angeles Sainz-Polo; Beatriz Gonzalez; Miguel Alvaro-Benito; Maria Fernandez-Lobato; Alvaro Lafraya; Julia Marin; Julio Polaina; Julia Sanz-Aparicio. "Disecting the invertase mechanism: the key role of its non-catalytic domain".
- 6** **Title of the work:** Structural and kinetic analysis of Schwanniomyces occidentalis invertase reveals a novel oligomerization pattern in yeast and a unique role of its supplementary domain in substrate binding
Name of the conference: International Congress of the Spanish Biophysical Society 2012
Corresponding author: No
City of event: Barcelona, Spain
Date of event: 03/07/2012
End date: 06/07/2012
Organising entity: Spanish Biophysical Society
Maria Angeles Sainz Polo; Beatriz González; Miguel Álvaro Benito; Maria Fernández Lobato; Julia Sáenz Aparicio. "Structural and kinetic analysis of Schwanniomyces occidentalis invertase reveals a novel oligomerization pattern in yeast and a unique role of its supplementary domain in substrate binding".
- 7** **Title of the work:** Dried ALGinate-Entrapped Enzymes (DALGEEs), a new tool for biotransformation of carbohydrates
Name of the conference: Biotrans 2011
City of event: Sicilia, Italy
Date of event: 02/10/2011
End date: 06/10/2011
Organising entity: European Federation of Biotechnology
Lucia Fernández Arrojo; Barbara Rodríguez Colinas; Pamela Torres; Patricia Gutiérrez Alonso; Miguel Álvaro Benito; Maria Fernández Lobato; Miguel Alcalde; Antonio O Ballesteros; Francisco J Plou. "Dried ALGinate-Entrapped Enzymes (DALGEEs), a new tool for biotransformation of carbohydrates".
- 8** **Title of the work:** Non-catalytic domain of invertases: the key for oligomerization and especificity
Name of the conference: XXII Congress and General Assembly of the International Union of Crystallography
Corresponding author: No
City of event: Madrid, Spain
Date of event: 22/08/2011
End date: 30/08/2011

**Organising entity:** International Union of Crystallography

Maria Angeles Sainz Polo; Beatriz González; Miguel Álvaro Benito; Maria Fernández Lobato; Alvaro Lafraya; Julia Marín; Julio Polaina; Julia Sáenz Aparicio. "Non-catalytic domain of invertases: the key for oligomerization and especificity".

- 9** **Title of the work:** Fine-tuning carbohydrate recognition by a glycoside hydrolase of industrial interest
Name of the conference: ZIBI Symposium: Poverty Related Diseases-a global challenge
Corresponding author: Yes
City of event: Berlin, Berlin, Germany
Date of event: 10/06/2010
End date: 14/06/2010
Organising entity: Center of Infection Biology and Immunity
Miguel Álvaro Benito; Aitana Polo; Julia Sáenz Aparicio; Maria Fernández Lobato. "Fine-tuning carbohydrate recognition by a glycoside hydrolase of industrial interest".
- 10** **Title of the work:** Caracterización de una nueva invertasa de la levadura *Rhodotorula gracilis* con actividad fructosiltransferasa
Name of the conference: XXI Congreso Nacional de Microbiología. Sociedad Española de Microbiología (SEM)
City of event: Sevilla, Spain
Date of event: 17/09/2007
End date: 20/09/2007
Organising entity: Sociedad Espanola de Microbiología
Patricia Gutiérrez; Dolores Linde; Miguel de Abreu; Miguel Álvaro Benito; Lucia Fernández Arrojo; Francisco J Plou; Antonio Jiménez; Maria Fernández Lobato. "Caracterización de una nueva invertasa de la levadura *Rhodotorula gracilis* con actividad fructosiltransferasa".
- 11** **Title of the work:** Caracterización molecular de una beta-fructofuranosidasa con capacidad transfructosidasa en la levadura de *Phaffia rhodozyma*
Name of the conference: XXI Congreso Nacional de Microbiología. Sociedad Española de Microbiología (SEM)
City of event: Sevilla, Spain
Date of event: 17/09/2007
End date: 20/09/2007
Organising entity: Sociedad Espanola de Microbiología
Dolores Linde; Patricia Gutierrez; Miguel Álvaro Benito; Miguel de Abreu; Antonio Jiménez; Maria Fernández Lobato. "Caracterización molecular de una beta-fructofuranosidasa con capacidad transfructosidasa en la levadura de *Phaffia rhodozyma*".
- 12** **Title of the work:** On the transfructosylation activity and selectivity of fungal β -fructofuranosidases for the production of prebiotics
Name of the conference: 13th European Congress on Biotechnology
City of event: Barcelona, Spain
Date of event: 17/09/2007
End date: 19/09/2007
Organising entity: European Federation of Biotechnology
Lucia Fernández Arrojo; Miguel Álvaro Benito; Iraj Ghazi; Miguel de Abreu; Dolores Linde; Patricia Gutiérrez; Miguel Alcalde; Jesus Jiménez Barbero; Antonio O Ballesteros; Maria Fernández Lobato; Francisco J Plou. "On the transfructosylation activity and selectivity of fungal β -fructofuranosidases for the production of prebiotics".



- 13** **Title of the work:** Caracterización y aplicación de una fructofuranosidasa de *Schwanniomyces occidentalis* para la obtención de oligosacáridos prebióticos
Name of the conference: XX ZymoMadrid
City of event: Madrid, Spain
Date of event: 05/02/2007
End date: 05/02/2007
Organising entity: Universidad Complutense de Madrid
Type of entity: University
Miguel Álvaro Benito; Miguel de Abreu; Maria Fernández Lobato. "Caracterización y aplicación de una fructofuranosidasa de *Schwanniomyces occidentalis* para la obtención de oligosacáridos prebióticos".
- 14** **Title of the work:** Analysis of the glycosiltransferase activity of two hydrolytic enzymes from *Xantophillomyces dendrorhous*
Name of the conference: 2nd Congress of European Microbiologist (FEMS)
City of event: Madrid, Spain
Date of event: 04/07/2006
End date: 08/07/2006
Organising entity: FEMS
Dolores Linde López; Patricia Gutiérrez Alonso; Dolores Marín; Miguel Álvaro Benito; Miguel de Abreu; Lucia Fernández Arrojo; Miguel Alcalde; Francisco J Plou; Maria Fernández Lobato. "Analysis of the glycosiltransferase activity of two hydrolytic enzymes from *Xantophillomyces dendrorhous*".
- 15** **Title of the work:** The beta-fructofuranosidase (invertase) from *Schwanniomyces occidentalis* shows a fructosyltransferase activity with high selectivity to 6-kestose
Name of the conference: 2nd Congress of European Microbiologist (FEMS)
City of event: Madrid, Spain
Date of event: 04/07/2006
End date: 08/07/2006
Organising entity: FEMS
Miguel Álvaro Benito; Miguel de Abreu; Dolores Linde López; Patricia Gutiérrez Alonso; Lucia Fernández Arrojo; Francisco J Plou; Jesus Jiménez; Maria Fernández Lobato. "The beta-fructofuranosidase (invertase) from *Schwanniomyces occidentalis* shows a fructosyltransferase activity with high selectivity to 6-kestose".
- 16** **Title of the work:** Production of prebiotic 6F- and 6G-fructooligosaccharides by novel α -fructofuranosidases from the yeasts *Xanthophyllomyces dendrorhous* and *Schwanniomyces occidentalis*
Name of the conference: International Symposium on Environmental Biocatalysis: From remediation with enzymes to novel green processes
City of event: Cordoba, Spain
Date of event: 23/04/2006
End date: 26/04/2006
Organising entity: European Federation Biotechnology
Miguel Álvaro; Lucia Fernández Arrojo; Miguel de Abreu; Dolores Linde López; Dolores Marín; Isabel Macias; Patricia Gutiérrez; Miguel Alcalde; Francisco J Plou; Maria Fernández Lobato; Antonio Ballesteros. "Production of prebiotic 6F- and 6G-fructooligosaccharides by novel α -fructofuranosidases from the yeasts *Xanthophyllomyces dendrorhous* and *Schwanniomyces occidentalis*".
- 17** **Title of the work:** Caracterización de una enzima fructofuranosidasa de la levadura *Xantophyllomyces dendrorhous*
Name of the conference: XX Congreso Nacional de Microbiología. Sociedad Española de Microbiología (SEM)
City of event: Caceres, Spain
Date of event: 19/09/2005
End date: 22/09/2005



Organising entity: Sociedad Española de Microbiología

Maria Isabel Macias Borrego; Beatriz Álcala Martínez; Dolores Linde; Miguel Álvaro Benito; Maria Fernández Lobato. "Caracterización de una enzima fructofuranosidasa de la levadura Xantophylomyces dendrorhous".

R&D management and participation in scientific committees

Scientific, technical and/or assessment committees

- 1** **Committee title:** PhD defense committee: analysis of serum interferon gamma levels during T cell-mediated rejection of solid tumors
Primary (UNESCO code): 241200 - Immunology
Affiliation entity: Freie Universität Berlin **Type of entity:** University
City affiliation entity: Berlin, Berlin, Germany
Start-End date: 11/04/2019 - 11/04/2019
- 2** **Committee title:** PhD defense committee: Glycomimetic langerin ligands for langerhans cell targeting
Primary (UNESCO code): 241200 - Immunology
Affiliation entity: Freie Universität Berlin **Type of entity:** University
City affiliation entity: Berlin, Berlin, Germany
Start-End date: 12/09/2017 - 12/09/2017
- 3** **Committee title:** PhD defense committee: Authentic full-length immunoglobulin light chains: characterization, aggregation behavior and drug intervention
Primary (UNESCO code): 241200 - Immunology
Affiliation entity: Freie Universität Berlin **Type of entity:** University
City affiliation entity: Berlin, Berlin, Germany
Start-End date: 10/08/2017 - 10/08/2017
- 4** **Committee title:** PhD defense committee: The endocytic adaptor stonin 1 regulates cell signalling and focal adhesion dynamics
Primary (UNESCO code): 240700 - Cell biology
Affiliation entity: Freie Universität Berlin **Type of entity:** University
City affiliation entity: Berlin, Berlin, Germany
Start-End date: 27/07/2017 - 27/07/2017
- 5** **Committee title:** PhD defense committee: Role and regulation mechanisms of peptidoglycan recognition proteins in pneumococcal pneumonia
Primary (UNESCO code): 241200 - Immunology
Affiliation entity: Freie Universität Berlin **Type of entity:** University
City affiliation entity: Berlin, Berlin, Germany
Start-End date: 09/12/2015 - 09/12/2015
- 6** **Committee title:** PhD defense committee: Function of Titin in striated muscles in health and disease
Primary (UNESCO code): 241110 - Muscle physiology
Affiliation entity: Freie Universität Berlin **Type of entity:** University
City affiliation entity: Berlin, Berlin, Germany
Start-End date: 29/10/2015 - 29/10/2015



- 7** **Committee title:** PhD defense committee: Design and synthesis of cryptophane-based functionalized Xenon host for MRI application
Primary (UNESCO code): 240600 - Biophysics
Affiliation entity: Freie Universität Berlin **Type of entity:** University
City affiliation entity: Berlin, Berlin, Germany
Start-End date: 27/10/2015 - 27/10/2015
- 8** **Committee title:** PhD defense committee: Host responses to presentation of particulate virulence factors of bacteria and parasites
Primary (UNESCO code): 241200 - Immunology
Affiliation entity: Freie Universität Berlin **Type of entity:** University
City affiliation entity: Berlin, Berlin, Germany
Start-End date: 20/10/2015 - 20/10/2015
- 9** **Committee title:** PhD defense committee: MRI cell-labelling with Xenon nanocarriers
Primary (UNESCO code): 241500 - Molecular biology
Affiliation entity: Freie Universität Berlin **Type of entity:** University
City affiliation entity: Berlin, Berlin, Germany
Start-End date: 10/06/2015 - 10/06/2015
- 10** **Committee title:** PhD defense committee: Investigation of the binary protein-protein interactions of the yeast and the human nuclear pore complex
Primary (UNESCO code): 240600 - Biophysics
Affiliation entity: Freie Universität Berlin **Type of entity:** University
City affiliation entity: Berlin, Berlin, Germany
Start-End date: 11/02/2015 - 11/02/2015

Organization of R&D activities

- 1** **Title of the activity:** QBI-Freie Universität Symposium
Type of activity: Scientific Symposium
Convening entity: Freie Universität **Type of entity:** University
City convening entity: Berlin, Berlin, Germany
Type of participation: Chairman
Start-End date: 27/05/2019 - 29/05/2019 **Duration:** 3 days
- 2** **Title of the activity:** Major histocompatibility complex class II antigen processing and presentation modulates immune system function and dysfunction
Type of activity: Biochemie Kollokium
City of event: Berlin, Berlin, Germany
Convening entity: Freie Universität Berlin **Type of entity:** University
Type of participation: Chairman
Start date: 05/06/2019 **Duration:** 3 days
- 3** **Title of the activity:** Decoding Intercellular Immune Signaling Networks by Quantitative Proteomics
Type of activity: Lise Meitner Kollokium
City of event: Berlin, Berlin, Germany
Convening entity: Freie Universität Berlin **Type of entity:** University
Type of participation: Chairman
Start date: 15/03/2019 **Duration:** 4 days



- 4** **Title of the activity:** Immune disorders associated to HLA genes/Molecular mechanisms of antigen processing and presentation
Type of activity: Seminar
City of event: Berlin, Berlin, Germany
Convening entity: Freie Universität Berlin **Type of entity:** University
Type of participation: Organiser
N° assistants: 12
Start date: 01/10/2016 **Duration:** 1 year

R&D management

- Name of the activity:** Project management
Type of management: Management of R&D&I actions and projects
Performed tasks: Research design, funds acquisition, perform and coordinate experiments, write final report, publish the result
Entity: Freie Universität Berlin **Type of entity:** University
Start date: 24/07/2017

Evaluation and revision of R&D projects and articles

- 1** **Performed tasks:** Peer Review
Entity where activity was carried out: Journal of Proteome Research
Start date: 2019
- 2** **Name of the activity:** Journal paper
Performed tasks: Peer review
Entity where activity was carried out: Journal of Proteomics
Start date: 2019
- 3** **Name of the activity:** Journal paper
Performed tasks: Peer review
Entity where activity was carried out: Scientific Reports **Type of entity:** Scientific Journal
Start date: 2017
- 4** **Name of the activity:** Journal paper
Performed tasks: Peer review
Entity where activity was carried out: Biotechnology and Applied Biochemistry **Type of entity:** Scientific Journal
Start date: 2014



Other achievements

Stays in public or private R&D centres

- 1** **Entity:** IPK Gatersleben **Type of entity:** R&D Centre
Faculty, institute or centre: Leibniz-Institut für Pflanzengenetik und Kulturpflanzenforschung
City of entity: Gatersleben, Magdeburg, Germany
Start-End date: 23/08/2010 - 26/11/2010 **Duration:** 3 months
Goals of the stay: Doctorate
- 2** **Entity:** IPK Gatersleben **Type of entity:** R&D Centre
Faculty, institute or centre: Leibniz-Institut für Pflanzengenetik und Kulturpflanzenforschung
City of entity: Gatersleben, Magdeburg, Germany
Start-End date: 14/09/2009 - 18/12/2009 **Duration:** 3 months
Goals of the stay: Doctorate