

Welcome to the latest edition of the newsletter! In this issue, we are excited to share the remarkable achievements and ongoing projects within our community.

CEMBIO continues to make significant advancements in the field of metabolomics and bioanalysis. Among our highlights, we proudly celebrate the CEMBIO submission of PhD theses by three of our dedicated predoctoral students—an important milestone as they approach the final step to becoming PhDs.

This year, we also had the pleasure of gathering for our traditional Christmas dinner, a wonderful occasion to strengthen the bonds within our team, made even more special by the delightful contributions of our very own Santa. As we reflect on these successes, we eagerly look ahead to a new year filled with exciting opportunities and challenges.

On behalf of the entire CEMBIO team, I extend our warmest wishes for a joyful Christmas and a prosperous 2025!

Coral



Spotlight

Congratulations to our leader **Coral Barbas** for being recognized as a **Highly Cited Researcher for 2024 by Clarivate Analytics**. This prestigious accolade places her among the top 1% of the most cited researchers globally. Currently, she is one of 96 Spanish researchers and one of 6,886 scientists from 59 countries who have demonstrated significant influence through the publication of multiple impactful papers.

Projects

- CEMBIO seminars**
- ✓ Our periodic seminars have resumed after the summer break, welcoming new participants who were eager to share their work
 - ✓ Until December, **Sara Martínez, Sara Moreno** and **Beatriz Linillos** had the opportunity to share their research. → **And more seminars will come!**
- European Researchers Night 2024**
- ✓ On the **27th of September**, some of our mates were involved in the design and organization of an activity for all audiences, specially kids, entitled: '**¿Metabo...qué? Conociendo a los metabolitos: las piezas del puzzle de la vida**'.
 - ✓ CEMBIO researchers involved: **Victor González, María Bajo, Constanza Fernández, David Chamoso, María Morán, Laura Mayo, Luz Alonso, Sara Moreno, Henrique Dos Santos, Miguel Fernández, Sara Londoño, Cristina Muñoz, David Vicente, Abdellah Ezzanad, Fernanda Rey-Stolle, Carolina González** and **Javier Rupérez**.
- ✓ **New biomarkers to predict which patients will develop invasive pulmonary aspergillosis. "la Caixa" Foundation.** CEMBIO is a member of this research project led by Portuguese researcher Agostinho Carvalho from Life and Health Sciences Research Institute (ICVS), which will investigate the role of genetic variability in individual response to invasive pulmonary aspergillosis.
 - On the 12th of November, the Caixa Research 2024 ceremony took place, during which this project was granted. **Coral Barbas** and **Victor González** attended this event.
 - ✓ **Explorando el "dark metabolome" para entender los mecanismos de la infertilidad (Grant by Ministerio de Ciencia, Innovación y Universidades).** CEMBIO researchers involved: **Victor González, Miguel Fernández, Cristina Muñoz, Luz Alonso** and **Isabel Fernández**.
 - ✓ **Renewal → Nuevas estrategias diagnósticas y terapéuticas en enfermedad renal crónica INNOREN-CM (Grant by Community of Madrid).** CEMBIO researchers involved: **Beatriz Linillos** and **Coral Barbas**.
 - ✓ **Renewal → Abordaje multiómico y estructural al estudio de los mecanismos de respuesta del hepatocito al daño inflamatorio TomoXliver2-CM (Grant by Community of Madrid).** CEMBIO researchers involved: **Sara Moreno, David Chamoso, Javier Rupérez** and **Angeles López**.
 - ✓ **Renewal → Avanzando en el conocimiento de nuevos mediadores, mecanismos e interactoma tisular en situaciones de Resistencia a Insulina MOIR-ACTOME-CM (Grant by Community of Madrid).** CEMBIO researchers involved: **Constanza Fernández, Henrique Dos Santos, Miguel Fernández, María Bajo, Laura Mayo, Mª Fernanda Rey-Stolle, Mª Paz Lorenzo** and **Antonia García**.
 - ✓ **Redes de Investigación Cooperativa Orientadas al Resultado en Salud (RICORS) (Grant by Instituto de Salud Carlos III, Ministerio de Ciencia, Innovación y Universidades and UE).** **Alma Villaseñor** and **Antonia García**, as CEMBIO members, are partners of this red.



Interviews

Coral Barbas and Rosa Visiedo interviewed by "Expansion" Newspaper (September 3rd). Check it out [here](#).



Conferences

- September 5 - 6th, 2024 | International Symposium of Molecular Allergy – European Rhinallergy joint meeting (ISMA-RHINA), Helsinki, Finland.**
 - **Invited speaker:** 'Metabolomics in allergic diseases' and 'Use of omics in research and diagnostics'. **María Isabel Delgado Dolset**.
- September 9 - 12th, 2024 | 34th International Symposium on Pharmaceutical and Biomedical Analysis. Geneva, Switzerland.**
 - **Plenary lecture:** 'Information Quality: The Analytical Chemistry Challenge in Metabolomics'. **Coral Barbas**.
 - **Oral presentation:** 'Exploring seminal liquid as a matrix for early detection of testicular cancer metabolism'. **Victor González Ruiz**.
- September 20th, 2024 | Mª Cruz Moreno-Bondi Award for the Best Doctoral Thesis in Chemistry defended in the Community of Madrid (2022-2023).**
 - **Plenary lecture:** 'Química Analítica, la ciencia de la información en Química. nuevos retos'. **Coral Barbas**.
- October 6 - 10th, 2024 | 34th International Symposium on Chromatography – ISC 2024. Liverpool, United Kingdom.**
 - **Keynote:** 'The Power of Separation Techniques in Metabolomics'. **Coral Barbas**.
- October 7 - 9th, 2024 | European SIFT-MS Symposium. Prague, Czech Republic.**
 - **Poster presentation:** 'Determination of oral microbiome volatile in saliva by SIFT-MS: Comparison between oral hygiene practices'. **María Bajo Fernández, Munir Tarazi, Ilaria Belluomo, Rhys Giles, Ziqian Peng, Mª Fernanda Rey-Stolle, Antonia García, Bhamini Vadhvana, Patrik Spanel, George B Hanna**.
- October 16th, 2024 | Universidad CEU Fernando III (Sevilla)**
 - **Inaugural lecture:** 'El Viaje de la Investigación en la Universidad: Retos y Oportunidades' **Coral Barbas**.
- October 14 - 18th 2024 | 2nd Annual plenary meeting of Marie Skłodowska-Curie Actions Doctoral Networks (MSCA-DN) 2021-Europe Horizon. London, United Kingdom**
 - **Sara Londoño, Ana Gradillas** and **Antonia García** represented CEMBIO in this anual meeting in the Imperial College's London, South Kensington campus.
 - **Sara Londoño** is a beneficiary of a Marie Skłodowska-Curie fellowship and she is part of the Project 'Harmonising and Unifying Blood Metabolomic Analysis Networks (HUMAN)'.
- October 23 - 25th 2024 | 23rd Meeting of the Spanish Society of Chromatography and Related Techniques - SECYTA 2024, Pamplona**
 - **Oral presentation:** 'Systematic evaluation of the metabolome of polar compounds in two sepsis liver models using multiplatform chromatographic techniques coupled to high-resolution mass spectrometry'. **Sara Moreno Talavera, Francisco J. Cueto, Eduardo López-Collazo, Ángeles López-González, Francisco J. Rupérez**.
- November 6 - 9th 2024 | Meeting of the Spanish Society of Allergy and Clinical immunology "Life-threatening Allergic Diseases" - SEAIC 2024, Bilbao**
 - **Invited speaker:** 'Estudio de metabolitos en la anafilaxia'. **Alma Villaseñor**.
- November 25th 2024 | EpilipidNET bimonthly meeting- Lipidomics Task Group, Metabolomic Society (online)**
 - **Oral presentation:** 'Highly reliable LC-MS lipidomics database for efficient human plasma profiling based on NIST SRM 1950'. **Sara Martínez, Miguel Fernández-García, Sara Londoño-Osoño, Coral Barbas, Ana Gradillas.** Presented by **Coral Barbas**.

Spotlight

- Congratulations on their successful dissertation submissions! We are all eagerly looking forward to witnessing their defense next year!
- ✓ **Laura Mayo Martínez, María Morán Garrido** and **David Chamoso Sánchez**
- ✓ **Antonia García** has been named director of *Máster Universitario en Ciencias y Tecnologías Analíticas y Bioanalíticas* in September 2024.
 - ✓ **Alma Villaseñor** has been named Chair of the European Academy of Allergy & Clinical Immunology (EAACI).
 - ✓ **Cristina Muñoz** has been accredited as a *Profesora Contratada Doctora (PCD) and Profesora de Universidad Privada (PUP)* by the *Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA)*.
 - ✓ **David Chamoso** and **Belén Fernández** have promoted to *Personal Docente Investigador (PDI)* at CEU San Pablo University.
 - ✓ **Carmela Pablo Torres** and **Alba Couto Rodríguez** successfully presented their thesis. We wish you the best!
 - ✓ **Hana Cermakova**, Pharmacy degree student, received the intern student fellowship from *Ministerio de Universidades, Ciencia e Innovación*.
- **Let's close the year with the traditional Christmas dinner and the Secret Santa !!!!**

Congratulations



Publications

Available links on papers, click in DOI!

<p>Severe Allergy as a Chronic Inflammatory Condition from a Systems Biology Perspective</p> <p>María Isabel Delgado Dolset, Carmela Pablo-Torres, Nuria Contreras, Alba Couto Rodríguez, ... Andrea Macías Cámara, ... Alma Villaseñor, ... María Marta Escribese.</p> <p>Clin Exp Allergy, August, 2024 DOI: 10.1111/cea.14517</p>	<p>Protein Kinase D2 modulates hepatic insulin sensitivity in male mice</p> <p>Patricia Rada, Elena Carceller López, ... Constanza Fernández Hernández, ... Antonia Garcia, ... Ángela M. Valverde.</p> <p>Mol Metab, October, 2024 DOI: 10.1016/j.molmet.2024.102045</p>
<p>New insight into primary hyperparathyroidism using untargeted metabolomics</p> <p>Marta Wielogórska Parzyka, Joanna Godzien, ... Coral Barbas, ... Adam Kretowski</p> <p>Sci Rep, September, 2024 DOI: 10.1038/s41598-024-71423-1</p>	<p>Altered blood microbiome in patients with HCV-related Child-Pugh class B cirrhosis</p> <p>Oscar Brochado Kith, Maria Rava, ... David Rojas, ... Coral Barbas, ... Mª Angeles Jiménez Sousa.</p> <p>J Infect Public Health, October, 2024 DOI: 10.1016/j.jiph.2024.102524</p>
<p>Identification of SYNJ1 in a Complex Case of Juvenile Parkinsonism Using a Multiomics Approach</p> <p>Ester Lenia Durán, Luisa Arrabal, ... Jorge Sáiz, Coral Barbas, ... Luis Javier Rodríguez González.</p> <p>Int J Mol Sci, September, 2024 DOI: 10.3390/ijms25179754</p>	<p>CE-MS-Based Clinical Metabolomics of Human Plasma</p> <p>Maricruz Mamani-Huana, Sara Martínez, Ángeles López López, Ángeles López-González, Oihane E Albóniga, Ana Gradillas, Coral Barbas, Victor González-Ruiz.</p> <p>Methods Mol Biol, October, 2024 DOI: 10.1007/978-1-0716-4116-3_23.</p>
<p>Untargeted metabolomics analysis of serum and urine unveils the protective effect of cilastatin on altered metabolic pathways during cisplatin-induced acute kidney injury</p> <p>Estefanía Moreno Gordaliza, Mª Ángeles González Nicolás, Alberto Lázaro, Coral Barbas, ... Angeles López González.</p> <p>Biochem Pharmacol, September, 2024 DOI: 10.1016/j.bcp.2024.116493</p>	<p>Deeper Insights into the Stability of Oxylipins in Human Plasma across Multiple Freeze-Thaw Cycles and Storage Conditions</p> <p>María Moran-Garrido, Sandra M. Camuñas-Alberca, Jorge Sáiz, Ana Gradillas, Ameer Y. Taha, Coral Barbas.</p> <p>JPBA, November, 2024 DOI: 10.1016/j.jpba.2024.116587</p>
<p>Spatially resolved distribution of pancreatic hormones proteoforms by MALDI-imaging mass spectrometry</p> <p>Tháyna Sinande, Felipe Lopes Brum, ... Ronaldo Mahana Borges, ... Luís Maurício T.R. Lima.</p> <p>Anal Biochem, September, 2024 DOI: 10.1016/j.ab.2024.115570</p>	<p>Macrophages are activated toward phagocytic lymphoma cell clearance by pentose phosphate pathway inhibition</p> <p>Anna C. Beletstein, ... Carolina Raissa Costa Picossi, Jorge Sáiz, ... Alma Villaseñor, ... Coral Barbas, Christian P. Pokorsch.</p> <p>Cell Rep Med, November, 2024 DOI: 10.1016/j.crm.2024.101830</p>
<p>Probiotic Lactobacillus plantarum 299v supplementation in patients with major depression in a double-blind, randomized, placebo-controlled trial: A metabolomics study</p> <p>Joanna Godzien, Bartłomiej Kotaska, ... Cecilia Barbas-Bernardos, ... Angeles Lopez-Gonzalez, ... Antonia Garcia, ... Coral Barbas, Dariusz Pawlak.</p> <p>Journal of Affective Disorders, September, 2024 DOI: 10.1016/j.jad.2024.09.058</p>	<p>Bone fragility in Type 2 Diabetes Mellitus. Influence of sex and cardiovascular disease in a pilot study using metabolomics</p> <p>Nicolás Redecilla-Montoya, Cristina García-Fontana, Tomás Clive Barker-Tejada, Andrea Macías-Cámara, ... Mª Fernanda Rey-Stolle, ... Ana Gradillas, Coral Barbas, Beatriz García-Fontana, Manuel Muñoz-Torres, Alma Villaseñor.</p> <p>Talanta Open, December, 2024 DOI: 10.1016/j.talo.2024.100381</p>
<p>Highly reliable LC-MS lipidomics database for efficient human plasma profiling based on NIST SRM 1950</p> <p>Sara Martínez, Miguel Fernández García, Sara Londoño Osoño, Coral Barbas, Ana Gradillas.</p> <p>J Lipid Res, October, 2024 DOI: 10.1016/j.ljr.2024.100671</p>	<p>Multi-omic Integration Analysis for Monitoring Severe Asthma Treated with Mepolizumab or Omalizumab.</p> <p>Nuria Contreras, ... María Isabel Delgado Dolset, David Obeso, ... Coral Barbas, ... Alma Villaseñor, María Marta Escribese Alonso.</p> <p>Clin Exp Allergy, December, 2024 DOI: 10.1111/all.16434</p>

Welcome New Members

- ✓ **Beatriz Linillos Pradillo**
Postdoctoral Research Assistant, supported by INNOREN-CM. Under the supervision of Coral Barbas.
- ✓ **Jaime Morillas Armenta (PhD Student)**
Predoctoral Research Assistant. Under the supervision of María Marta Escribese and Alma Villaseñor Solis. Supported by CEU University (FPI).
- ✓ **Isabel Fernández Prades (PhD Student)**
Predoctoral Research Assistant. Under the supervision of Victor González and Coral Barbas. Supported by CEU University (FPI).
- ✓ **Laura Amorós Hernández (PhD Student)**
Predoctoral Research Assistant. Under the supervision of Antonia García and Mª Fernanda Rey-Stolle. Supported by CEU University (FPI).

Members Corner

Farewell (not goodbye)

We would like to extend a heartfelt farewell to our colleague **Abdellah Ezzanad, Laura Mayo, María Morán** and **David Vicente**.

We wish you the very best on your upcoming journey!!

Congratulations

Celebrating:

- ✓ **David Chamoso** and **Belén Fernández** teaching assistants and research collaborators at Pharmacy faculty and CEMBIO.
- ✓ **Antonia García** as Guest Editor for the Elsevier publication journal of Pharmaceutical and Biomedical Analysis. Contribution to a special issue titled 'Multiomics in modern bioanalytics'.
- ✓ **María Bajo, Sandra Camuñas, Nuria Contreras, Belén Fernández, Andrea Macías**, and **Sara Martínez** for being 3 years at CEU.

Training Students

- ✓ Bachelor's thesis: **Javier Marín Trejo**, from Pharmacy Bachelor's degree, under the supervision of Victor González and Ángeles López González.
- ✓ Bachelor's thesis: **Andrés López**, from Biotechnology Bachelor's degree, under the supervision of Ana Gradillas.

Research Mobilities - Incoming

- ✓ **Ainhoa Gallego Alguacil**
Research Assistant in Vascular Metabolism group and CEMBIO, CEU San Pablo University.
- ✓ **Daniel Marques De Sá e SILVA**
PhD International Mobility, from Center for Interdisciplinary Research and Innovation (CIRI-AUTH), part of the HUMAN doctoral network. Under the supervision of Coral Barbas and Ana Gradillas.
- ✓ **Bruno Prado Eleuterio**
PhD International Mobility from Universidade de São Paulo, Brasil. Under the supervision of Ángeles López González.
- ✓ **Domniki Gallou**
PhD International Mobility, from Center for Interdisciplinary Research and Innovation (CIRI-AUTH), part of BIACEM project. Under the supervision of Ana Gradillas.
- ✓ **Sara Amata**
PhD International Mobility, Università degli studi di Palermo. Under the supervision of Carolina González Riaño.