JOSÉ LUIS MASCAREÑAS CID – short BIO

José Luis Mascareñas is full Professor in Chemistry at the University of Santiago de Compostela (USC, Galicia, Spain) since 2005, and scientific director of the Center for research in biological chemistry and molecular materials (CiQUS) from February-2014 to April-2025. He completed his PhD at the University of Santiago in 1988, and was a postdoctoral fellow at Stanford University (USA) under the supervision of Prof. Paul Wender (1989-1991). He has been visiting scholar in Harvard University (USA) in the summers of 1992 and 1995, and visiting scientist in the University of Cambridge (UK, 2009) and the MIT (USA, 2013).

He has **supervised 47 PhD theses**, published **over 250 articles** in peer reviewed journals and wrote **26 patent applications** (16 granted, 3 licensed). He has delivered **more than 190 invited lectures**. Along recent years he has received several awards, including: Organic Chemistry award of the Spanish Royal Society of Chemistry (RSEQ, 2009), Advanced grant of the ERC (2014), Galician of the year "Grupo Correo Gallego" (2014), Gold medal of the University of Santiago (2014), Gold Medal of the Spanish Royal Society of Chemistry (2015), award of the Galicia Critic (2018), Research Medal of the Royal Galician Academy of Sciences (2019), EIC Transition (2024) and four further tech-transfer grants: ERC Proof-of-Concept grant (2020), AEI 'Prueba de concepto' (2021), CaixaResearch Consolidate (2021) and AES2024/DTS-VTP by the ISCIII (2024). He has recently, June 2025, received the esteemed **Rei Jaume I award** (Fundamental Research modality) for his contribution to the organometallic chemistry and metal-catalyzed chemistry in living cells. In 2017 he was selected as **member of the European Academy of sciences (EURASC)**, and Spanish responsible of EUCHEMS in Organic Chemistry. He is member of several editorial boards and foundations, founder/first president of the Spanish group of Chemical Biology of the RSEQ and, since 2021, **vicepresident of the RSEQ**. In 2025, he has been the **president of the prestigious 58th Bürgenstock Conference, SCS**.

Success of former students and researchers: One PhD student got an ERC (StG 2019), and three more were finalists; eleven former researchers got the "Ramón y Cajal" fellowship; seven former students got a MSCA postdoctoral fellowship; many others got very distinguished prizes and awards, for instance, four 'RSEQ young researchers' awardees, one 'Thieme Chemistry Award' recipient, one 'Human Frontier Science Program Career Development Award' recipient, one 'European Young Chemistry Award' recipient, eight 'Lilly research award for PhD students' recipients, and many others

His current research interests split into two programs: the discovery and development of metal-catalyzed processes, and a chem-biomed program in cellular catalysis and biosupramolecular chemistry.

JOSÉ LUIS MASCAREÑAS CID – Brief CV

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Education
BSc: July 1984, University of Santiago de Compostela, Chemistry.
PhD: July 1988, University of Santiago de Compostela, Chemistry.

Current Position
- Full Professor (Catedrático), Department of Organic Chemistry, University of Santiago de Compostela, since May 2005.
- **Scientific Director** of the Research Center CIQUS, Feb-2014 to Apr-2025.

Previous Positions
- FPI. Fellow, University of Santiago de Compostela, 1985–1989.
- Postdoctoral Associate Researcher, **Stanford** University (USA), January 1989–October 1990.
- Postdoctoral Associate Researcher, **Harvard** University (USA), June 1992–October 1992
- Assistant Professor, University of Santiago de Compostela, 1991–1993.
- Associated Professor, University of Santiago de Compostela, 1993–May 2005.
- Visiting Scholar, **Harvard** University (USA), June–October 1995.
- Visiting Professor, University of **Cambridge** (UK), July–August 2009.
- Visiting Scientist, **MIT** (USA), July–August 2013.

Major honors and awards
- Habilitation to Full Professor (national competition), Sevilla 2003.
- Janssen Cilag **Organic Chemistry Award** of the Spanish Royal Society of Chemistry (2009).
- President, founder of the **Chemical Biology group** of the Spanish Royal Society of Chemistry (2012).
- **Gold medal** of the University of Santiago de Compostela (2013).
- **Advanced Grant award of the ERC** (2014).
- **Galician** of the year "Grupo Correo Gallego" (2014).
- **GDCh-lecturer**: Humboldt-Universität zu Berlin (January 2015) and Philips Marburg Universität (April 2015).
- **Gold Medal** of the Spanish Royal Society of Chemistry (RSEQ, 2015).
- **Felix Serratosa** Lecturership 2015.
- Highlighted on *Angew. Chem. Int. Ed.* as "Personal Profile" (10.1002/anie.201503243), 2015.
- **Spanish representative of EuChems** in organic chemistry (2015).
- **Selected member of the EURASC** (European Academy of Sciences), 2016.
- **Selected as member of the Kærton** Foundation and the **Gadea** Foundation for Science (2017).
- **Galician Critic Award in research** (2018).
- **IGNICIA tech transfer grant**, by GAIN – Xunta de Galicia (2018).
- **Gold medal of the Galician Royal Academy of Sciences** (2019).
- **Proof of Concept Grant award of the ERC** (2019).
- **ERC Proof-of-Concept Grant** (2020).
- Tech-transfer grants (2021-2025): **'Prueba de concepto' (AEI)**, **CaixaResearch Consolidate ("la Caixa" foundation)**, **AES2024/DTS-VTP (ISCIII)** and **EIC Transition 2024 (EU)**.
- **President** (2025) and vice-president (2024) of the **Bürgenstock Conference**, Switzerland.

Membership and boards

- Member of *American Chemical Society*, the *Spanish Royal Society of Chemistry*, and the *Spanish Society of Biochemistry and Molecular biology*.
- Member of national and international evaluation committees. Committee of ERC Advanced Grants Evaluation (Brussels, 2014 and 2016)
- Member of directing board of the Organic Chemistry group of the Spanish Royal Society of Chemistry, since 2009.
- Member of the steering committee of European Symposium on Bio-organic Chemistry (ESBOC, UK) since 2010, the Marcial Moreno Mañas School since 2008, the Iberian Peptide Meeting (EPI) since 2007 and the group of Chemical Biology of the RSEQ (since 2011).
- President and founder of the Chemical Biology group of the RSEQ.
- Member of the International editorial advisory board of *ChemBioChem* (since 2007), *Asian Journal of Organic Chemistry* (since 2011), and *ACS Omega* (since 2017).
- Scientific Director of the Center for research in Biological Chemistry and Molecular Materials (CiQUS), since 2014.
- Partner of the MB Use Innovations, S. L. technological company, 2015.
- Spanish representative of EuChemS in organic chemistry, since 2015.
- Member of the Scientific committee of the *"Centro de Estudos Avanzados"* (USC), since 2015.
- Member of the Scientific Assessment Committees: CINBIO (Vigo), CIQSO (Huelva) and IQAC (Barcelona).
- Member of the European Academy of Sciences (EurASc), since 2016.
- Honorary Member of the Argentinian Organic Chemistry Society, since 2017.
- Member of the scientific committee of the Kærtor and Gadea Foundations, since 2017.
- Member of the Galician Royal Academy of Pharmacy, since 2020.
- Vice-president of the RSEQ, since October 2021.

Current research

Current research interests split between a synthesis program focused on the development of metal-catalyzed processes, and a chem-biomed program aimed at designing new nucleic acid and protein recognition and sensing tactics and developing cellular probes and biorthogonal metallocatalysts.

Selected recent publications (out of more than 250)

"Bis-CF3-bipyridine Ligands for the Iridium-Catalyzed Borylation of N-Methylamides" D. Marcos-Atanes, G. Jiménez-Osés,* J. L. Mascareñas. ***ACS Catal.,* 2025,** *15 (9),* 7112-7120

"Palladium-Catalyzed Enantioselective C–H Arylations and Alkenylations of 2-Aminobiaryls with atmospheric air as the sole oxidant" L. Goicoechea, P. Losada, M. Gulías, J. L. Mascareñas. ***Angew. Chem. Int. Ed.,* 2025,** *64 (20),* e202425512

"Cobalt-Catalyzed (3 + 2) Cycloaddition of Cyclopropene-Tethered Alkynes: Versatile Access to Bicyclic Cyclopentadienyl Systems and Their CpM Complexes" C. Lázaro-Milla, E. Da Concepción, I. Fernández, J. L. Mascareñas, F. López. ***ACS Catal.,* 2024,** *14 (15),* 11574–11583

"Skeletal and Mechanistic Diversity in Ir-Catalyzed Cycloisomerizations of Allene-Tethered Pyrroles and Indoles" A. Arribas, M. Calvelo, A. Rey, J. L. Mascareñas, F. López. ***Angew. Chem. Int. Ed.,* 2024,** *63 (36),* e202408258

"Intracellular Synthesis of Indoles Enabled by Visible-Light Photocatalysis" C. D'Avino, S. Gutiérrez, M. Feldhaus, M. Tomás, J. L. Mascareñas. ***J. Am. Chem. Soc.,* 2024,** *146 (5),* 2895–2900

"Axially Chiral 2-Hydroxybiaryls by Palladium-Catalyzed Enantioselective C–H Activation" P. Losada, L. Goicoechea, J. L. Mascarenas, M. Gulías. ***ACS Catal.,* 2023,** *13 (21),* 13994-13999

"Iridium-Catalyzed ortho-Selective Borylation of Aromatic Amides Enabled by 5-Trifluoromethylated Bipyridine Ligands" D. Marcos-Atanes, C. Vidal, C. D. Navo, F. Pecatti, G. Jimenez-Osés, J. L. Mascarenas. ***Angew. Chem. Int. Ed.,* 2023,** *62 (18),* e202214510

"Chiral Ligands Based on Binaphthyl Scaffolds for Pd-Catalyzed Enantioselective C–H Activation/Cycloaddition Reactions" J. M. González, X. Vidal, M. A. Ortuño, J. L. Mascareñas, M. Gulías. ***J. Am. Chem. Soc.,* 2022,** *144 (47)*, 21437–21442

"Palladium-Catalyzed Tandem Cycloisomerization/Cross-Coupling of Carbonyl- and Imine-Tethered Alkylidenecyclopropanes" F. Verdugo, R. Rodiño, M. Calvelo, J. L. Mascareñas, F. López. ***Angew. Chem. Int. Ed.,* 2022,** *61 (24),* e202202295

"Transition-Metal-Catalyzed Annulations Involving the Activation of C(sp3)−H Bonds" M. Font, M. Gulías, J. L. Mascareñas. ***Angew. Chem. Int. Ed.,* 2022,** *61 (6),* e202112848

"Exporting Metal-Carbene Chemistry to Live Mammalian Cells: Copper-Catalyzed Intracellular Synthesis of Quinoxalines Enabled by N-H Carbene Insertions" S. Gutiérrez, M. Tomás , J. L. Mascareñas. ***Angew. Chem. Int. Ed.,* 2021,** *60,* 22017–22025

"Bioorthogonal Azide-Thioalkyne Cycloadditions Catalyzed by Photoactivatable Ru(II) Complexes" A. Gutierrez, P. Destito, José R. Couceiro, C. Pérez-González, F. López, J. L. Mascareñas. ***Angew. Chem. Int. Ed.,* 2021,** *60,* 16059–16066

"Intracellular, Ruthenium-Promoted (2+2+2) Cycloadditions" J. Miguel-Ávila, M. Tomás , J. L. Mascareñas. ***Angew. Chem. Int. Ed.***, **2020**, *59*, 17628–17633

"Intracellular reactions promoted by bis-histidine miniproteins stapled with Pd(II) complexes" S. Learte, C. Vidal, A. Gutierrez, J. L. Mascareñas. ***Angew. Chem. Int. Ed.***, **2020**, *59*, 9149–9154

"Ruthenium-catalyzed redox isomerizations inside living cells" C. Vidal, M. Tomás-Gamasa, A. Gutiérrez González, J. L. Mascareñas. ***J. Am. Chem. Soc.*, 2019**, *141*, 5125–5129

"Palladium-Catalyzed, Enantioselective Formal Cycloaddition between Benzyltriflamides and Allenes: Straightforward Access to Enantioenriched Isoquinolines" X. Vidal, J. L. Mascareñas, M. Gulías. ***J. Am. Chem. Soc.*, 2019**, *141*, 1862–1866

"Rhodium(III)-Catalyzed Annulation of 2-Alkenyl Anilides with Alkynes through C-H Activation: Direct Access to 2- Substituted Indolines" M. Font, B. Cendón, A. Seoane, J. L. Mascareñas, M. Gulías. ***Angew. Chem. Int. Ed.*, 2018**, *57*, 8255–8259

"Concurrent and orthogonal gold(I) and ruthenium (II) catalysis inside living cells" C. Vidal, M. Tomas-Gamasa, P. Destito, F. Lopez, J. L. Mascareñas. ***Nature Communications*, 2018**, *9*, 1913

"Metal-dependent DNA recognition and cell internalization of designed, basic peptides" S Learte-Aymamí, N. Curado, J. Rodríguez, M.E. Vázquez, J.L. Mascareñas . ***J. Am. Chem. Soc.* 2017**, *139*, 16188–16193

"Transition metal catalysis in the mitochondria of living cells" M. Tomás Gamasa, M. Martínez, J. Couceiro, J. L. Mascareñas. ***Nature Communications*, 2016**, *7*, 12538

"Rhodium-Catalyzed (5+1) Annulations Between 2-Alkenylphenols and Allenes: A Practical Entry to 2, 2-Disubstituted 2H-Chromenes" N. Casanova, A. Seoane, J. L. Mascareñas, M. Gulías. ***Angew. Chem. Int. Ed.*, 2015**, *54*, 2374–2377

"Rhodium(III)-Catalyzed Dearomatizing (3+2) Annulation of 2-Alkenylphenols and Alkynes" A. Seoane, N. Casanova, N. Quinones, J. L. Mascareñas, M. Gulias. ***J. Am. Chem. Soc.*, 2014**, *136*, 7607–7610

"Rhodium(III)-catalyzed intramolecular annulations involving amide-directed C-H activations: synthetic scope and mechanistic studies" N. Quinones, A. Seoane, R. Garcia-Fandino, J. L. Mascareñas, M Gulias. ***Chem. Sci.*, 2013**, *4*, 2874–2879

"Axially Chiral Triazoloisoquinolin-3-ylidene Ligands in Gold(I)-Catalyzed Asymmetric Intermolecular (4+2) Cycloadditions of Allenamides and Dienes" J. Francos, F. Grande-Carmona, H. Faustino, J. Iglesias-Sigüenza, E. Diez, I. Alonso, R. Fernandez, J. M. Lassaletta, F. Lopez, J. L. Mascareñas. ***J. Am. Chem. Soc.*, 2012**, *134*, 14322–14325

26 patent applications: 16 granted, 3 licensed and 1 on the road to market

Major on-going funding

- IHRC22/00009 (ISCIII, Spain). Start: January 2023, End: December 2025
- PID2022-137318OB-I00 (AEI, MICINN, Spain). Start: September 2023, End: August 2026
- DTS24/00047 (ISCIII, Spain). Start: January 2025, End: December 2027
- ED431C 2025/02 (Xunta de Galicia, Spain). Start: January 2025, End: November 2028
- EIC Transition 2024 nº-101214053 (EU). Start: May 2025, End: April 2028

Supervision and training

- **47 PhD thesis** supervised, and 14 ongoing.
- More than 90 master and undergrad students supervised.
- 30 postdoctoral associates, 8 currently in the group.
- 11 PhD students of the group gained a **Ramón y Cajal** position, and 4 the award of the RSEQ for young investigators.
- 1 PhD student of the group got the **ERC Starting Grant** (Elena Pazos, 2019), and 3 were finalists (Mateo Sánchez, ERC-2021-StG; Olalla Vázquez, ERC-2022-CoG; Jéssica Rodríguez, ERC-2023-StG).
- 1 PhD student of the group received the Thimie Chemistry Award (M. Gulías), another one the Human Frontier Science Program Career Development Award (E. Vázquez), and another, O. Vazquez got the silver medal European Chemistry Award.

- The following former PhD or postdoctoral students have established academic careers as professors: T. Knoerzer (USA), V. Dodero (Argentina, Germany), M. Araya (Chile), G. Bhargava (India), J. Pérez-Sestelo (Spain), A. Rumbo (Spain), M. E. Vázquez (Spain), F. López (Spain), M. Gulías (Spain), O. Vázquez (Marburg, DE), J. B. Blanco (Spain), E. Pazos (Spain), C. Comanezcu (Bucharest), M. Sánchez (Cambridge, UK), J. Mosquera (Spain), M. Martinez (Spain), M. Tomás-Gamasa (Spain), R. Nelson (Chile), F. Verdugo (Chile), A. Seoane (Spain), J. Rodríguez (Spain).
- The following former PhD or postdoctoral students have joined industrial companies: A. M. Collazo (Gain Therapeutics), S. Vázquez (LEITAT Tech. Center, Barcelona), C. Portela (Lilly), J. R. Garrido (Galchimia), A. Caamaño (Galchimia), A. Delgado (Italfarmaco), N. Quiñones (Galchimia), L. Saya (Eurofins Villapharma Res.), H. Faustino (BLC3, Portugal), P. Destito (Celtarys), J. Fernández (Zara, Inditex), J. Francos (DuPont Asturias SL), C. Vidal (MSL at Janssen, J&J), D. Fernández (Pfizer, US), M. Font (grant consultant, ThePaperMill), B. Cendón (Agomab Therapeutics), S. Learte (MSL at Janssen, J&J), S. Gutiérrez (Lilly Pharm.) A. Gutiérrez (AstraZeneca; †2024), E. Da Concepción (CEAMSA).
- The following former PhD or postdoctoral students hold postdoctoral positions: L. Villarino (USC, Spain), I. Alonso (CHUAC-INIBIC, Spain).
- 7 PhD students of the group were granted with a MSCA fellowship. Many others got postdoctoral and research grants.
- 8 PhD students got the Lilly Award to the best doctoral thesis.
- 1 PhD student among the **10 finalists of Reaxis international award** (Jéssica Rodríguez).
- 1 PhD student among the EYCA 2018 finalist (Jéssica Rodríguez).
- 1 PhD student got the Suschem Predoc Mestrelab Award (Noelia Casanova).
- 3 PhD student got the Chemical Biology Award of the RSEQ (Jéssica Rodríguez, 2017; Soraya Learte, 2021, Joan Miguel, 2022).

Lectures

- Over 190 invited and plenary lectures in **Symposiums** and in **Research Centers and Universities**

Organization of international conferences

- 5th Spanish-Italian Symposium on Organic Chemistry (Santiago, 2004). Member of the organizing committee.
- International Iberian Peptide Meeting (Santiago, 6-7th March 2008). **President** of the organizing committee.
- Prospects in Chemical Sciences (Santiago, May 2009). **President** of the organizing committee.
- 4th School on Organometallic Chemistry, Marcial Moreno Mañas (Santiago, 26-29th June 2011). **President** of the organizing committee.
- 1st Biennial Meeting of the RSEQ Chemical Biology Group (Santiago, 8-9th March 2012). **President** of the organizing committee.
- Biological Applications of Supramolecular Chemistry – ESBOC 2013 (Gregynog, UK, 16-18th may 2014). **President** of the scientific committee.
- XXV Biennial meeting of RSEQ Organic Chemistry Group (Alicante, 4-6th June 2014). Member of the scientific committee.
- VIII International School on Organometallic Chemistry Marcial Moreno Mañas (Sevilla, 15-17th June 2015). Member of the steering and scientific committee.
- 8th IUPAC International Symposium on Organometallic Chemistry – OMCOS 18 (Sitges-Barcelona, June 28th-July 2nd 2015). Member of the scientific committee
- XXXV Biennial meeting of Spanish Society of Chemistry (Coruña, 19-23th July 2015). **President** of the scientific committee.
- Euchems Organic Chemistry division, 8th Young Investigator's workshop (Huelva, 16-17th September 2016). Member of the organizing committee.
- Prospects in Chemical Sciences II (Santiago, 2018). **President** of the organizing committee.
- XXXVII Biennial meeting of Spanish Society of Chemistry (San Sebastian, 26-30th May 2019). Member of the scientific committee.
- 1st Symposium "Chemistry at the Frontier" – Celebrating CiQUS' 10th Anniversary (Santiago, March 30th-April 1st 2022). **President** of the organizing committee.
- XIIIth International School on Organometallic Chemistry 'Marcial Moreno Mañas' (Santiago, 15-17th June 2022). Member of the scientific committee.
- SCS Conference on Stereochemistry 2024 – 57th Bürgenstock Conference (Brunnen - Switzerland, April 28th-May 2nd 2024). **Vice-president** of the scientific committee.
- SCS Conference on Stereochemistry 2025 – 58th Bürgenstock Conference (Brunne, CH, 4-8th May 2025). **President** of the scientific committee.