



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE 6299

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Chimica**

Scientist- in - charge: **Prof. Valentina Colombo**

Neus Crespí Sánchez

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Crespí Sánchez
Name	Neus

PRESENT OCCUPATION

Appointment	Structure
Department of Chemistry. University of the Balearic Islands (UIB)	Research Collaborator (Chapter VI)

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	Degree in Chemistry	University of the Balearic Islands	2017
PhD	PhD in Chemistry	University of the Balearic Islands	2023
Master	MSc in Chemical Science and Technology	University of the Balearic Islands	2018

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City
June 2017	Col·legi Oficial de Químics de les Illes Balears	Balearic Islands, Spain
September 2019	Jóvenes Investigadores Químicos (Real Sociedad Española de Química)	Spain

FOREIGN LANGUAGES

Languages	level of knowledge
Spanish	Native (C2)



Catalan	Native (C1)
English	Level B2

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2016	MEC collaboration scholarship (Scholarship from Spanish Ministry of Education and Culture, Spain)
2017	Best grade award in Chemistry Degree (UIB)
2018	FPU Fellowship (PhD scholarship from Spanish Ministry of Education and Culture, Spain)
2019	Best oral flash communication at XVI Simposio Jóvenes Investigadores Químicos
2021	Best Doctorate Poster at the VI UIB Postgraduate Week 2021
2022	Sant Albert Prize for Chemical Research (Col·legi Oficial de Químics de les Illes Balears)
2022	FPU mobility aid (Scholarship from Spanish Ministry of Education and Culture, Spain)

TRAINING OR RESEARCH ACTIVITY

Dr. Neus Crespí Sánchez (NCS) was graduated in chemistry in 2017 from de UIB with the Extraordinary Prize and Best Record of the Promotion. She completed her self-funded doctoral thesis (FPU scholarship) based on the grafting of metal-organic frameworks to enhance their adsorption properties for the elimination of pollutants from water, obtaining her degree in May 2023 with an outstanding Excellent Cum Laude. She has made several stays in prestigious research centres, thus obtaining international doctorate mention.

- Centre for Membrane Separations, Adsorption, Catalysis, and Spectroscopy (KU Leuven, Belgium, ~5 months) with Prof. Rob Ameloot, thanks to a FPU mobility aid. The research group of Prof. Dr. Rob Ameloot (h-index: 48) has experience in advancing applications based on porous materials through a fundamental understanding of their forming processes and properties. The main research line of the PhD stay was the ultrathin film deposition of electrically conductive MOFs via Chemical Vapor Deposition (CVD) to fabricate MOF-based electronic devices.

- Advanced Porous Materials Unit (IMDEA Energy, Spain, 2 months) under the supervision of Dr. Patricia Horcajada (h-index: 72) April-May 2023. During this stay NCS has prepared phosphonate ligands to create novel phosphonate-MOFs.

She has been worked as Postdoc in IMDEA Energy during ~4 months developing new Proton Hybrid Membranes composed of phosphonate Metal Organic Frameworks (MOFs) combined with proton conductor crosslinked polymers for their use in electrochemical devices. Currently, she is a research collaborator at UIB in the Group of Materials Chemistry of Dra. Gemma Isabel Turnes Palomino and Dr. Carlos Palomino Cabello. The proposal of this year is to prepare hybrid materials derived from MOF, through in situ MOF growth in different supports (membranes, foams, 3D-printed devices) or post-synthetic modifications on MOFs, for controlling and monitoring different parameters of environmental interest, as well as for the elimination of pollutants present in water.

She has published 5 JCR articles (+3 JCR under revision/preparation), 3 articles (50%) as a 1st author and 2 articles (33%) are in collaboration with international researchers.

Furthermore, she has performed 240 h of teaching activities at the UIB and has co-supervised 3 BC students or TFGs.

She also has participated in 3 research projects as researcher with contract or as a part of the working team part of the working team and collaborated in 1 educational project (PID212216). She also presented 10 communications at National and International congress (7 posters, 2 flash communications and 1 oral communication) and participated in several dissemination activities. It is important to mention that she participated as member of the organizing committee of the II Divulga NextGen congress. NCS has reviewed



2 articles in JCR journals (J. Environ. Chem. Eng.).

PROJECT ACTIVITY

Year	Project
2023	TED2021-132092B-C21: "H ₂ -MOF: Next Generation of MOF-Based Membranes for H ₂ Technologies: Fuel Cells and Electrolyzers". Ministerio de Ciencia e Innovación - Unión Europea NextGenerationEU - PRTR, PI: P. Horcajada, Y. Pérez (Imdea Energy), 01/12/2022 - 30/11/2024, 206.899,95 €. Participation: researcher with contract.
2020-2023	PID2019-107604RB-I00: "Materiales y tecnologías de fabricación avanzadas para la monitorización y eliminación de contaminantes emergentes en aguas: hacia una economía circular del agua (CE3DMAT)". Ministerio de Ciencia, Innovación y Universidades, PI: G. Turnes Palomino, L. Ferrer Trovato (UIB), 01/06/2020 - 31/05/2024, 217,800.0 €, Participation: researcher, working team.
2020-2023	PRD2018/45: "Hacia una economía circular del agua: Materiales y técnicas de fabricación avanzadas para la monitorización y eliminación en aguas contaminantes clásicos, prioritarios y emergentes". Conselleria d'Innovació, Recerca i Turisme (Govern de les Illes Balears), PI: G. Turnes Palomino, L. Ferrer Trovato (UIB), 01/07/2020 - 30/06/2023, 80,000.00 €. Participation: researcher, working team
2016-2020	CTQ2016-77155-R: "Nuevas tecnologías y materiales avanzados para la automatización de metodologías de análisis medioambiental". Ministerio de Economía y Competitividad, PI: V. Cerdà Martín, G. Turnes Palomino (UIB), 30/12/2016 - 29/12/2020, 165,770.00 €. Participation: researcher, working team

CONGRESSES AND SEMINARS

Date	Title	Place
18th - 21st July 2023	Poster at 25th International Symposium on Advances in Extraction Technologies: "3D-printed device coated with Zn/Co-ZIF for the on-site extraction of fluoroquinolones from water samples prior to HPLC-FL analysis" D. Barzallo, N. Crespi, A. Están, C. Palomino, G. Turnes, E. Palacio, L. Ferrer	Tenerife, Spain
24th - 27th September 2023	Poster at 5th European Conference on Metal Organic Frameworks and Porous Polymers 2023: "ZIF derived carbon for the removal of fluoroquinolones from water" Están, A.; Crespi, N.; Barzallo, D.; Palacio, E.; Ferrer, L.; Palomino, C.; Turnes, G.	Granada, Spain
21st - 24th November 2022	Oral Communication at XVIII Simposio Jóvenes Investigadores Químicos 2022: "Oxidative degradation of Bisphenol A using a carbon derived from a bimetallic Fe/Cu metal-organic framework" Crespi Sánchez, N.; Turnes Palomino, G.; Palomino Cabello, C.	Sevilla, Spain
4th - 7th September 2022	Poster at 8th International Conference on Metal- Organic Frameworks and Open Framework Compounds: "Sulfonic-functionalized MIL-100 for enhanced removal of pharmaceutical products from water" Crespi Sánchez, N.; Palomino Cabello; C.; Turnes Palomino, G.	Dresden, Germany
27th - 30th June 2022	Poster at XXXVIII Reunión Bienal de la Sociedad Española de Química: "Oxidative degradation of Bisphenol A using a carbon derived from a bimetallic Fe/Cu metal-organic framework" Crespi Sánchez, N.; Turnes Palomino, G.; Palomino Cabello, C	Granada, Spain
13th - 15th	Poster at 4th EuroMOF 2021: "NTU-9 derived TiO ₂ coated stirrer as a	Online Event



September 2021	<i>highly efficient device for photocatalysis</i> ” Crespí Sánchez, N.; Turnes Palomino, G.; Palomino Cabello, C.	
21st - 25th June 2021	Poster at 2nd International School on Porous Materials: “ <i>Synthesis and characterization of sulfonic-functionalized MIL-100(Al) metal-organic frameworks for the extraction of diclofenac</i> ” <u>Crespí Sánchez, N.</u> ; Palomino Cabello; C.; Turnes Palomino, G.	Lake Como, Italy
26th - 28th May 2021	Flash communication at I Congreso Divulga NextGen 2021: “ <i>Membranas porosas y su uso en la extracción de contaminantes del agua</i> ” Crespí Sánchez, N.; Guzmán-Mar, J.L.; Hinojosa-Mar, L.; Turnes Palomino, G.; Palomino Cabello, C.	Virtual Event
4th - 7th November 2019	Flash communication at XVI Simposio Jóvenes Investigadores Químicos 2019: “ <i>Carbon composite membrane derived from metal-organic framework for extraction of organic pollutants</i> ” <u>Crespí Sánchez, N.</u> ; Guzmán-Mar, J. L.; Hinojosa-Reyes, L.; Turnes Palomino, G.; Palomino Cabello, C.	Valencia, Spain
11th - 14th June 2019	Poster at the CIS-8 Conference 2019: “ <i>Materials derived from titanium metal-organic frameworks: application for the degradation of organic pollutants</i> ” <u>Crespí Sánchez, N.</u> ; Turnes Palomino, G.; Palomino Cabello, C.	Amantea, Italy
11th - 15th May 2019	Poster at the 6th International Conference on Multifunctional, Hybrid and Nanomaterials: “ <i>Materials derived from MIL-125-NH₂ MOFs as adsorbents and photocatalysts for the extraction and degradation of pollutants</i> ” <u>Crespí Sánchez, N.</u> ; Turnes Palomino, G.; Palomino Cabello, C.	Sitges, Spain

PUBLICATIONS

Articles in reviews
D. Barzallo; A. Están; N. Crespí; C. Palomino; G. Turnes; E. Palacio, L. Ferrer*. “On-site extraction using a 3D printed device coated with Zn/Co-ZIF-derived carbon followed by an on-line SIA-HPLC-FL system for fluoroquinolones determination in wastewater” <i>Talanta</i> (Under review). IF: 6.556 Q1
N. Crespí Sánchez; G.Turnes Palomino; C. Palomino Cabello*. “Sulfonic-functionalized MIL-100-Fe MOF for the removal of diclofenac from water” <i>Microporous and Mesoporous Materials</i> 2023, 348, 112398. IF: 5.2. Q1 Citation: 12 (Google Scholar). Doi: 10.1016/j.micromeso.2022.112398
P. Leo; N. Crespí; C. Palomino; A. Martínez; G. Orcajo; G. Calleja; F. Martínez*. “Catalytic Activity and Stability of Sulfonic-functionalized UiO-66 and MIL- 101 materials in Friedel-Crafts acylation reaction” <i>Catalysis Today</i> 2022, 390-391, 258-264. IF: 5.38. Q1 Citation: 8 (Google Scholar). Doi: 10.1016/j.cattod.2021.10.007
N. Crespí Sánchez; G.Turnes Palomino; C. Palomino Cabello*. “TiO ₂ derived from NTU-9 metal-organic framework as highly efficient photocatalyst” <i>Materials Science and Engineering: B</i> 2021, 273, 115424 - 115431. IF: 3.407 Q2 Citation: 3 (Google Scholar). Doi: 10.1016/j.mseb.2021.115424
H. Martínez-Pérez-Cejuela, O. Mompó-Rosselló, N. Crespí-Sánchez, C. Palomino-Cabello, M. Catalá-Icardo, E.F. Simó-Alfonso, J.M. Herrero- Martínez* “Determination of benzomercaptans in environmental complex samples by combining zeolitic imidazolate framework-8-based solid-phase extraction and high-performance liquid chromatography with UV detection” <i>Journal of Chromatography A</i> 2020, 1631, 461580. IF:4.759 Q1 Citation: 12 (Google Scholar).Doi: 10.1016/j.chroma.2020.461580
N. Crespí Sánchez; J.L. Guzmán-Mar, L. Hinojosa-Reyes; G. Turnes Palomino; C. Palomino Cabello*. “Carbon composite membrane derived from MIL-125-NH ₂ MOF for the enhanced extraction of emerging pollutants” <i>Chemosphere</i> 2019, 231, 510-517. IF:5.778 Q1 Citation: 27 (Google Scholar). Doi: 10.1016/j.chemosphere.2019.05.173



Congress proceedings

G. Turnes, M. Bauzà, N. Crespi, C. Palomino. "Virtualization as a tool to encourage active learning in practical laboratory classes" ICERI2022 Proceedings, 2022, 15th annual International Conference of Education, Research and Innovation, 7-9 November, 2022, Seville, Spain. Doi: [10.21125/iceri.2022.0209](https://doi.org/10.21125/iceri.2022.0209)

OTHER INFORMATION

Disseminative activities:

- Participation in the Jornades de Ciència per a tothom (science outreach fair), University of the Balearic Islands (Mallorca). 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2021 (8 years).
- Scientific committee of the I Congreso Divulga NextGen 2021. May 2021
- Participation in the European Researchers' Night, Imdea Energía (Madrid). September 2023
- Organizing committee of the II Congreso Divulga NextGen 2021. November 2023
- Collaboration in DemoLAB project: Disseminative experiments for high schools in Mallorca. 2015-2017

Postgraduate courses:

- OS4000802 Laboratory Risks II (10 h)
- Smart Polymeric Materials and their application in miniaturized separation techniques and sample preparation (8 h)
- Communication skills in English Written and Oral expression, Modul I (30 h)
- Communication skills in English Written and Oral expression, Modul II (30 h)
- Practical introduction to statistics with R SOFTWARE (10 h)
- Technical seminary on thermal analysis, Mettler Toledo SAE (4 h)
- Single Crystal Diffraction con D8 Venture Bruker Española SA (24 h)
- Experiences of teaching innovation in the field of science UIB (10 h)
- Information searching (25 h)

Synthesis techniques:

- Solvothermal synthesis
- Microwave synthesis
- Chemical Vapor Deposition
- Spin coating process
- 3D printing

Characterization techniques:

- X-ray Diffracton
- Scanning electron microscopy (SEM)
- Transmission electron microscopy (TEM)
- Gas adsorption desorption analysis
- Termogravimetric analysis (TGA)
- FTIR
- UV-Vis spectroscopy



- Photoluminescence

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Please note that CV WILL BE PUBLISHED on the University website and It is recommended that personal and sensitive data should not be included. This template is realized to satisfy the need of publication without personal and sensitive data.

Please DO NOT SIGN this form.

Place and date: Palma de Mallorca, 25th of January of 2024