CV. SUMMARY

The scientific interests of Dr. Hidalgo are focused on the design of porous materials (Metal-Organic Frameworks, MOFs) for the macromolecule protection & immobilization (proteins, enzymes, drugs) along with their potential biomedical/environmental applications (drug delivery, targeted therapy, nanosafety, decontamination). She´s co-author of 30 scientific articles (H-index:17; 5-accepted this 2024 & 1 under revision, 3 as corresponding author) in high impact journals (*ACS Nano*, *JACS*, *Chem.Sci.*), being presented at 11-national/15-international congresses (2 Invited, 14-*Oral* communication). Moreover, she has co-supervised students at different levels (5 PhD stages, 3 research in training, 7 MSc, 3 BSc & 5 technicians), enrolled as official PhD co-director in 2021 for water decontamination & brain delivery in 2023. Since 2012, she has led and/or participated in 12 National and 8 EU research projects, 8 as (co)principal investigator and 2 R&D contracts with industry.

Leadership. She´s an experienced junior researcher with an excellent background in *Material science*, *Nanomedicine* or *Immunology*. Biologist by nature, developed her Joint PhD (France & Spain) in a completely new area like the synthesis & characterization of hybrid solids for their biopharmaceutical applications, under the supervision of Dr. Horcajada (H=74) & Dr. Serre (H=123), leaders in the MOF field and their bioaplication, along with Prof. Alonso (H=98), internationally recognized galenist. She has acquired experience not only on the nanocarrier design & characterization, encapsulation & release of multiple therapeutic molecules or their bypass on diverse physiological barriers *(i.v.,* oral, cutaneous vias), but also on the material stability and potential *in vitro*/*ex vivo* performance (cyto, immune & genotoxicity). During her short & productive postdoctoral experience (2016/20), she was awarded with a MedTrain MSCA-COFUND under the supervision of Prof. O´Driscoll (H=47, Ireland), focusing on the cyclodextrins to deliver nucleic acids to the brain (identified as "*Key Innovator*" in the category of "Creation" by the EU's Innovation Radar). Her impressive scientific production/research (30 articles, average 6.9 IF) has been the fruit of strong collaborations with internationally recognized groups, where she had the opportunity to perform some scientific stays during her career such as: 1) Prof. Alonso (H=98;USC) for drug release & *in vitro* assays; 2) Immunotoxicty with Prof. González (H=38;CINBIO); 3) Biological bypass with Prof. Blanco-Prieto (H=56;UNAV); 4) Viral culture with Dr. Alcami (H=46;CBMSO); 5) Prof. Battaglia (H=59; IBEC) for the *in vitro* self-propelled MOF assays; 6) Dr. Kentaro (H=27;Stockholm) for cytotoxic studies of ecofriendly MOFs; 7) Dr. Maspoch/Carné (H=57&28;ICN_2) for the MOP evaluation in diverse administration routes; 8) Dr. Rodríguez/Rojas (H=37&19;UGR) for diverse *in vitro*/*ex vivo* performances; 9) Prof. Rosal (H=49;Alcalá) for antibacterial assays); 10) Prof. Quiroga (H=27;UAM) for chemotherapy of diverse metallic NPs; 11) Dr. Devic (H=68;Nantes) for the antioxidant assays; 12) Dr. Villa (H=25;ICIQ) for the MOF-Au NP nanomotor design & bioactivity.

Since 2019, she´s integrated at APMU through a regional Talento Junior Fellowship (Mode 2) from the Community of Madrid with the aim of bringing talented younger researcher to Spain. From her initial stage (H=8), outstanding outcomes were obtained related to the macromolecule@MOF association and toxicological profile (2022-*Chem.Sci*, 2020-*Nanoscale*), evidencing her relevant role in the MOF biomedical field, achieving even to integrate her experience into a new research line inside of Horcajada' team (2021/22) based on unveiling engineered MOF platforms for crossing unexplored physiological barriers, evaluating their biosafe impact at toxic level (cellular-, immune-, geno-) as their in vitro/in vivo DDS efficacy. This relevance has been reflected by her promotion to Senior Research Assistant thanks to the prestigious MSCA-IF (NeuroMOF), where she addressed the blood-brain barrier by MOF targeting/motion through a suitable macromolecule immobilization. Actively progressing in this new domain (recently enrolled in this topic as co-PhD Director), she is gaining skills on micro/nanomotors design, 3D *in vitro* models or attractive engineered nanocarriers. At her Unit / Institutional level, she has undertaken diverse responsibilities: 1) *Ongoing projects* (drug loading, stabilities, chemo/bactericide effect); 2) active in *research calls* (*eg.* Covid-REACT, M-ERANET, MSCA-IF & COFUND), budgets, staff *recruitment*; 4) Member of diverse *committees* (*eg.* Ethics/Claims at IME (2020/24), CURAM Postdoc Delegate (2017/18), Young Scientific Committee of Controlled Release (2017-24; 2022/24-Treasure), Spanish Royal Society of Chemistry (Nanoscience/Molecular materials, Madrid team), MSCA-Alumni (Spanish-Portugal Chapter) or Women Researchers & Technologists Association; lastly, 5) in line with outreach activities, she´s member of the Pint of Science board (Madrid-2019; 2022/24-Treasure), participating yearly at IME for the Women in Science, Madrid Science Exhibition, European Researcher Night, Science Week or Madrid+D events.