MULTI2HYCAT

MULTI-site organic-inorganic HYbrid CATalysts for MULTI-step chemical processes

MULTI2HYCAT
Summer School
Hybrid Materials for Catalytic Processes
5th and 6th July 2018
Valencia, Spain

MULTI2HYCAT SUMMER SCHOOL

THE SUMMIT OF 18 PROJECT MONTHS OF MULTI2HYCAT

SCIENTIFIC DISCUSSIONS AND TUTORIAL LECTURES IN A FAMILIAR ATMOSPHERE

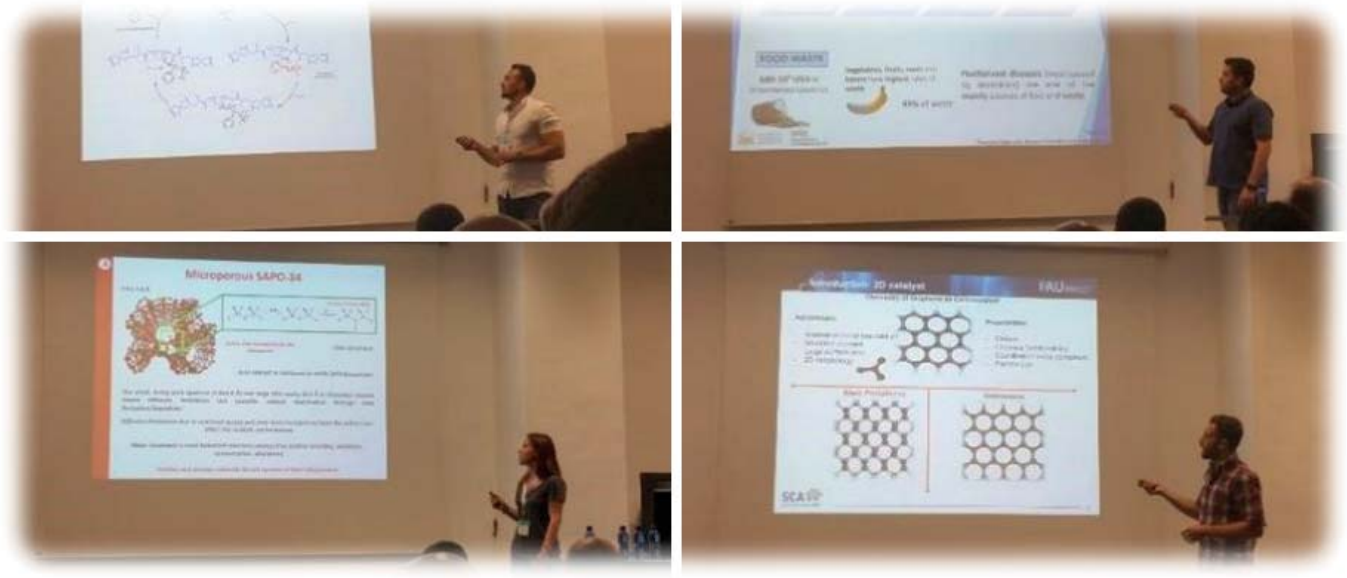
On Thursday, 5th of July 2018, directly after a successful 18-month project meeting in the beautiful and sunny city of Valencia with fruitful discussion between the MULTI2HYCAT project partners, the EU officer and the EU expert, the MULTI2HYCAT Summer School was about to start. First participants have already arrived and set up their posters - and the discussions were in full swing.

The MULTI2HYCAT Summer School was held at the Institute of Chemical Technology (ITQ) of the Polytechnic University of Valencia.

After final preparations, Prof. Fernando Rey, MULTI2HYCAT partner and the director of the ITQ, opened the event with a warm welcome to all participants and introduced Prof. Leonardo Marchese, the MULTI2HYCAT project coordinator from the

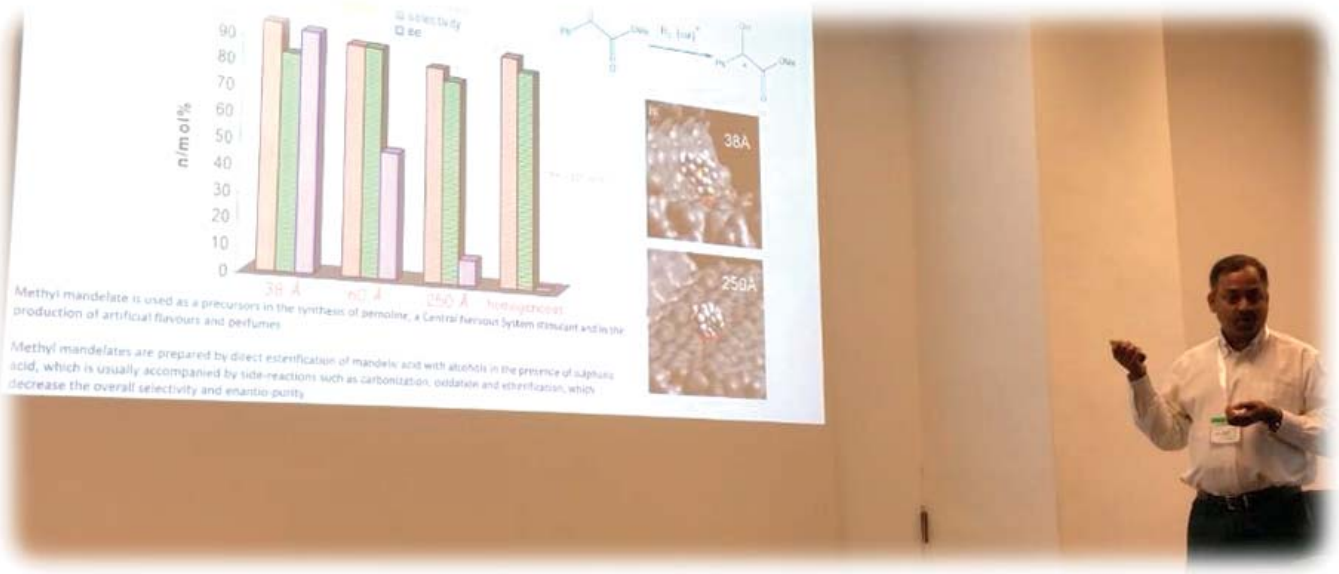
University of Piemonte Orientale "Amedeo Avogadro" (UPO), who gave the first tutorial talk entitled "Multidisciplinary approach for the physico-chemical characterisation of porous and hybrid materials", where we learned about the importance of the use of complementary techniques, i.e., ssNMR, FT-IR and computational modelling, for understanding structure-property relationships and gaining full insights in materials characteristics and behaviour.

Prof. Marcheses talk was directly followed by short oral presentations of five participants: Chiara Ivalidi (UPO, Italy), José María Moreno (ITQ-UPV/CSIC, Spain), Sebastián Llopis (ITQ-UPV/CSIC, Spain), Vicent Lloret Segura (FAU, Germany) and Jose L. Cerrillo (ITQ-UPV/CSIC, Spain) presenting results on various nanoporous materials, innovative synthetic routes and catalytic applications, and although the coffee break was in sight, the auditory was captivated by the appealing talks.



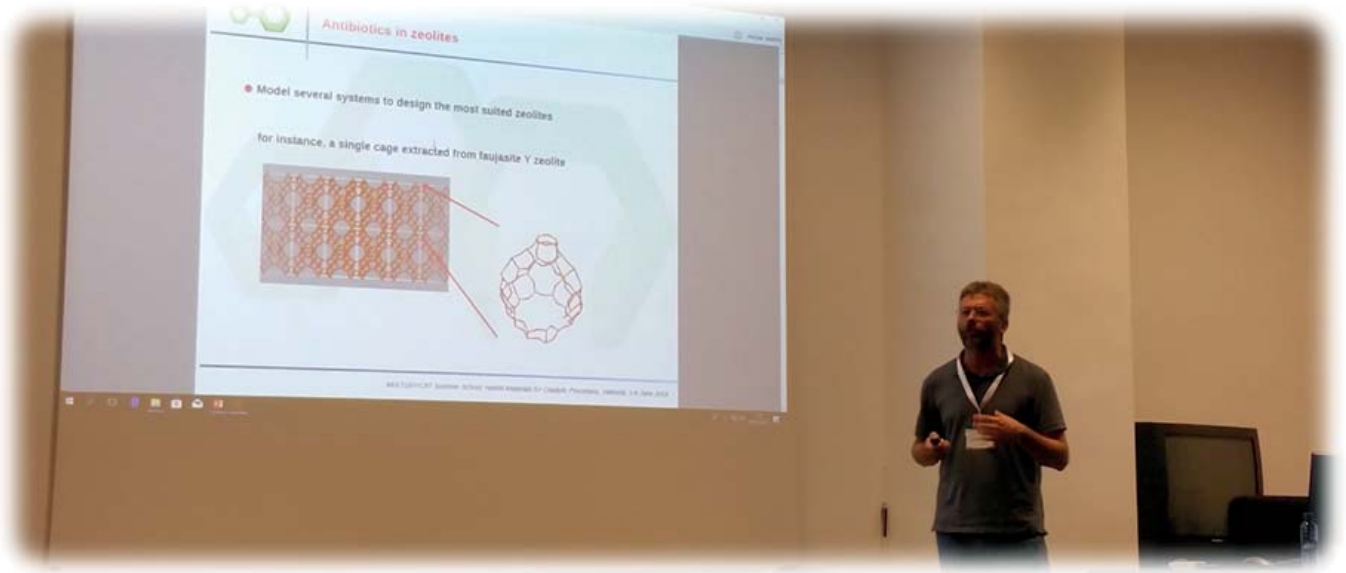
After a short refreshment and a good Spanish coffee, Dr. Maribel Crespo, MULTI2HYCAT project partner representing Almirall S.A., took the auditory on a "journey of a medicine: from the invention to the market". Dr. Crespo lectured about the R&D process of a drug, from the lab testing of thousands of compounds over pre-clinical and clinical studies of promising candidates and the regulatory hurdles that must be taken before a medical treatment can finally be introduced into the market.

The second day of the MULIT2HYCAT Summer School started with the 3rd tutorial lecture, given by Prof. Robert Raja, representing the University of Southampton in the MULTI2HYCAT project. His talk focussed on the influence of material properties on conversion and selectivity of specific reactions. He demonstrated how pore widths and acid site strength can influence the enantioselectivity and how to design and tailor materials to obtain the desired final products.



Prof Raja's talk was followed by another four short presentations of Silvia Gutierrez (ITQ-UPV/CSIC), Spain), Maria Tejeda-Serrano (ITQ-UPV/CSIC), Miguel A. Rivero-Crespo (ITQ-UPV/CSIC) and Majd Al-Naji (MPIKG, Germany) about novel catalyst concepts, single site catalysis and mechanistic concepts thereof, as well as zeolites as catalysts for biomass valorisation.

The MULTI2HYCAT Summer School was finished with two last tutorials given by Prof. Maurizio Cossi (UPO, Italy) and Dr. Guillermo Mínguez Espallaragas (ICMol-UV). Prof. Cossi elucidated the benefits of computational techniques for modern chemistry, but also emphasizing the potential pitfalls. With modern IT simulations a broad range of experimental results can be simulated and explained, if the functional and basic sets are chosen or developed properly. In particular to MULTI2HYCAT, Prof. Cossi showed how the podality of organic moieties on a solid surface, i.e., the number of linking groups of the organic molecule in the hybrid catalyst, influences the structure of the catalytically active species and, consequently, its activity.



The MULTI2HYCAT Summer School was finished with the tutorial talk of Dr. Minguez, who presented new insights in 1D, 2D and 3D coordination polymers and their innovative synthesis routes. He showed the versatility and stability that can be achieved with these materials so far. The continuous breathing behaviour of MUV-2 upon gas and solvent adsorption, for example, is a remarkable feature that influences both adsorption capacities as well as oxidation potential of the material.

Besides these captivating talks, a poster session has been held. The poster presented by Bogdan Samojeden (AGH UST, Poland), R. Greco (ITQ-UPV/CSIC), Beatriz Villoria-del-Álamo (ITQ-UPV/CSIC), Christian Martínez-Hernández (ICMol-UV, Spain) Andrea Jouave (UNIMI, Italy) and Antonio Valverde (ITQ-UPV/CSIC and ICMM/CSIC) attracted quite some attention and provided space for lively discussions.

To get more information about the speakers, the program and the city of Valencia visit www.multi2hycat-summerschool.eu. There you can also download the Book of Abstracts and get more information about the project partners.

For project-specific news, upcoming events and public documents visit www.multi2hycat.eu.

THE SOCIAL EVENING OF THE MULTI2HYCAT SUMMER SCHOOL

With the same familiarity as in the previous scientific session of the MULTI2HYCAT Summer School, the participants met for the non-scientific evening event at the restaurant La Ferradura near the Valencian beach. Professors, senior and young scientists enjoyed the tapas dinner, laughed together and had a wonderful evening in the warm Valencian breeze. Enjoy the following pictures!

FINALLY: "THANK YOU ALL!"