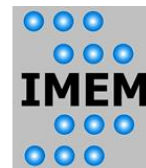




UNIVERSITAT POLITÈCNICA  
DE CATALUNYA  
BARCELONATECH

Barcelona East School of Engineering



Department of Chemical Engineering

March 29, 2021

**Re: A reference letter for Mr. Jaume Villasante Canovas**

It is a great pleasure for me to write this letter of reference on behalf of Mr. Jaume Villasante Canovas for the Master's position that he has applied in the "Quantum Science and Technology" Master Programme of the University of Barcelona (UB). Let me state right at the start that I most strongly believe that Mr. Jaume Villasante is highly deserving of this opportunity. Indeed, it would be difficult to find a more deserving candidate.

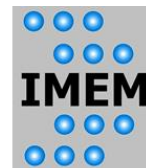
Let me begin by briefly introducing myself and establishing my qualifications to render this letter of testimony. I am a Full Professor of Physical Chemistry at the Universitat Politècnica de Catalunya, Spain. I have been a principal investigator and key researcher in numerous projects funded by the Department of Universities of the Catalanian Government, Spanish Ministry of Science and Education, the National Institute of Health, National Cancer Institute (NIH, NCI), the European Community and several private chemical companies (*e.g.* Hewlett-Packard, B Braun Surgical, FarmHispania, Onalabs, TMB, and MecWins). Currently, my laboratories, which are located at the Engineering School of Barcelona East (EEBE) involve around 30 scientists. I have published around 600 papers in prestigious journals (more than a half in journals edited by the American Chemical Society and the Royal Chemical Society) and conferences. I served as proposal reviewer of Catalanian, Spanish, European and American scientific organizations in the last years, and program committee member for several local and international conferences. I am the recipient of the Distinction of the Catalanian Government (Generalitat de Catalunya) to the Promotion of the University Research, I3 Research Intensification Award and ICREA Academia Awards two times (2008 and 2015). I am Director of the Environment Centre Laboratory of UPC, Associated Researcher at IBEC, Director of a TECNIO group involving several Departaments at UPC, and Manager of the Scientific and Technical Coordination, Evaluation and Monitoring Division of the *Agencia Estatal de Investigación*.

In the first semester of the 2020-2021 year, I taught the subject for Advanced Materials, of which I am the coordinator. Jaume was one of the students of this subject. Our interaction during the course confirmed my earlier impression: Jaume is an exceptionally outstanding, original and creative student. He is technically superb, has a critical judgment and is blessed with an unusual insight into Materials Physics and Technological problems. His ability to present the work, the quality of his thoughts, and clarity of his concepts were exceptional. Further, he is exceptionally imaginative, knowledgeable and above all, has a clear ability to develop new concepts extrapolating and combining tools and schemes from different fields. As a result, Jaume reached a very high score (Excellent; mark: 9.8).



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In addition, I should remark that Jaume has achieved an outstanding Graduation title in the most sophisticated and advanced Engineering career at UPC: Physical Engineering.

At present time, Jaume is successfully developing his Graduation Thesis in the ICFO, which is one of the most prestigious research centers involved in the Barcelona Institute of Science and Technology (BIST). He is currently working in the utilization of spectroscopy with spatial modes of light, under the supervision of Prof. J. Pérez Tórres.

In conclusion, based on Mr. Villasante consistent records and groundbreaking achievements in Advanced Materials course and the successful studies that he is developing in the ICFO, I have no hesitation in attesting that Jaume is an outstanding young student with extraordinary abilities in the field of Physics Science and Technology. I therefore strongly support this application. Please feel free to contact me if you require additional information.

Sincerely yours,

Prof. Carlos Alemán,

Full Professor of Physical Chemistry  
Department of Chemical Engineering  
EEBE  
Polytechnic University of Catalonia, Barcelona, Spain

Associate Researcher at the Institute of BioEngineering of Catalonia  
(IBEC-BIST)

Director of the Environment Center Laboratory

Manager of the Agencia Estatal de Investigación

Director of the IMEM-CIEFMA TECNIO GROUP