

Candidate application to the ISGS Board of Directors

Dr. Beatriz Julián-López

Age: 41

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CV with main research interests (no longer than 1/2 page)

Short bio. Dr Beatriz Julián-López (1977) obtained her Bachelor's degree in Chemistry (1999) at the University Jaume I (UJI) of Castellón (Spain), where she also received her PhD in Chemistry (2003). Her first studies were focused on the synthesis of ceramic pigments by nonconventional routes, and during her PhD she specialized in sol-gel hybrid organic-inorganic siloxane materials for optical applications. In 2004 she moved to Paris for a post-doctoral formation at Prof. Clement Sanchez's Laboratory (LCMCP at UPMC-CNRS) addressed to get expertise on mesoporous and nanostructured materials. In 2007 she got came back to University Jaume I with a "Ramon y Cajal" research fellowship, and became Associate Professor in 2011. Since 2012, she is group leader of the Group of Multifunctional Materials and, since the foundation in 2015 of the Institute of Advanced Materials-UJI, she is responsible for the Research Division of «Nanoparticles and Nanohybrids».

Research activity. Her main interest addresses the design of functional luminescent inorganic nanoparticles and hybrid organic-inorganic materials, textured at different scales, for their application in photonics, energy, ceramics and catalysis. She has a wide expertise on the synthesis of nanostructured lanthanide-doped metal oxides and halides, by combining Soft Chemistry and self-assembly processes. Her research also addresses the development of easy and fast synthetic routes for nanoparticles and sol-gel derived hybrid nanocomposites as multifunctional materials.

Her research activity has resulted in more than 50 publications in JCR-journals (4 covers, 4 invited reviews – including Top 10 most accessed in J. Mater. Chem.) and 5 books in the field of materials chemistry, receiving more than 3000 citations, an h-index of 23 (WoS). She has several contributions to international conferences, 7 as invited speaker and 2 as organizer. She is expert and evaluator for the European Commission and the Spanish and French National Agencies.

5 representative publications:

1. B. Julián, C. Gervais, E. Cordocillo, P. Escribano, F. Babonneau, C. Sanchez
"Synthesis and characterization of transparent PDMS-Metal Oxo based hybrid organic-inorganic nanocomposites"
Chem. Mater. (2003) 15, 3026-3034
2. C. Sanchez, B. Julián, P. Belleville, M. Popall
"Applications of hybrid organic-inorganic nanocomposites"
J. Mater. Chem (2005) 15, 3559-3592
3. B. Julián-López, C. Boissière, C. Chanéac, D. Grosso, S. Vasseur, S. Miraux, E. Duguet, C. Sanchez
"Mesoporous maghemite-organosilica microspheres: a promising route towards multifunctional platforms for smart diagnosis and therapy"
J. Mater. Chem. (2007) 17, 1563-1569
4. F. Gonell, M. Haro, R. S. Sánchez, P. Negro, I. Mora-Seró, J. Bisquert, B. Julián-López, S. Gimenez
"Photon up-conversion with lanthanide-doped oxide particles for solar H₂ generation",
J. Phys. Chem. C (2014) 118, 11279-11284
5. F. Guzzetta, A. Roig, B. Julián-López
"Ultrafast synthesis and coating of high-quality β -NaYF₄:Yb³⁺,Ln³⁺ short nanorods"
J. Phys. Chem. Lett. (2017) 8, 5730-5735.

Statement of interest

As an active scientist in the sol-gel community and follower of the ISGS actions since its creation in 2003, I present my candidature for the ISGS board. One of the reason for this candidature is to pay back the support received from the sol-gel community, which was of especial importance at the beginning of my professional career. On the other hand, I would like to contribute actively to the promotion of sol-gel science in the coming decades, since SG chemistry is at the heart of so many areas of basic scientific knowledge and extends across a vast landscape of applications. I would like to focus on the involvement of a new generation of young scientists but also on the involvement of the industrial world, spanning from big international companies to the small and medium enterprises, whose contribution to the quotidian life and social well-being is of outstanding importance. Furthermore, I think that an important task to address in the next years is to boost the *J. Sol-Gel Sci. & Technol.* journal and the ISGS Newsletter, as a monthly electronic newsletter (including job offers, fellowships, important contributions, events....).