

Candidate application to the ISGS Board of Directors

Prof. Verónica de Zea Bermudez

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

Verónica de Zea Bermudez (<http://vdezeabermudez-researchgroup.weebly.com/>) graduated in Chemical Engineering in 1980 from the Instituto Superior Técnico in Lisbon. She received her MSc. degree in *Chemistry of the Catalytic Processes* from the Instituto Superior Técnico in 1985 and her PhD. degree in *Electrochemistry* from the Institut Polytechnique de Grenoble (France) in 1992.

In 1993 she joined the University of Trás-os-Montes e Alto Douro as Assistant Professor where she assumed responsibility for the Chair of *Materials Science* in the Department of Chemistry. She received her Habilitation in *Materials Chemistry* in 2008 and became Full Professor in June 2012. She has been Principal Investigator of the Materials Chemistry Research Group of the Chemistry Center of Vila Real since 2003.

Since 1993 her scientific activity has evolved through the synthesis and characterization of sol-gel derived organic/inorganic hybrids with applications in the domains of solid state electrochemistry (essentially, batteries, electrochromic devices and fuel cells) and optics. In recent years she has been particularly interested in the development of ordered hybrid materials prepared through the combination of sol-gel chemistry reactions and self-assembly routes from commercial or click chemistry-derived organosilanes. Current interests are also focused on the bio-inspired deposition of biominerals on biopolymers and biohybrids for biomedical applications. She is particularly attracted by complexity, emergence, self-organization, metastability and fractality in organic/inorganic hybrid materials. She co-authored two patents. She published 8 book chapters (plus 1 in press) and 164 articles in international journals indexed in the SCI (h-index of 34 and 3725 citations (excluding self-citations)).

5 Recent publications

Book Chapter

S. C. Nunes, P. Almeida, **V. de Zea Bermudez**, "Ordered Mesoporous Sol-Gel Materials: From Molecular Sieves to Crystal-Like Periodic Mesoporous Organosilicas", In *The Sol-Gel Handbook, Volume 1: Synthesis, Characterization, and Applications*, D. Levy and M. Zayat Eds., Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, Germany, Chapter 18, 2015, ISBN: 978-3-527-33486-5
<http://dx.doi.org/10.1002/9783527670819.ch1810.1002/9783527670819.ch18>

Regular Papers

S. C. Nunes, G. Toquer, M. A. Cardoso, A. Mayoral, R. A. S. Ferreira, L. D. Carlos, P. Ferreira, P. Almeida, X. Cattoën, M. Wong Chi Man, **V. de Zea Bermudez**, "Structuring of alkyl-triazole bridged silsesquioxanes", *Chemistry Select*, 2 (2017) 432-442

S. C. Nunes, J. Hümmer, V. T. Freitas, R. A. S. Ferreira, L. D. Carlos, P. Almeida, **V. de Zea Bermudez**, "Di-amidosils with Tunable Structure, Morphology and Emission Quantum Yield: The Role of Hydrogen Bonding ", *Journal of Materials Chemistry C*, 3 (2015) 6844-6861

S. C. Nunes, C. B. Ferreira, R. A. S. Ferreira, L. D. Carlos, M. C. Ferro, J. F. Mano, P. Almeida, **V. de Zea Bermudez**, "Fractality and Metastability of a Complex Amide Cross-linked Dipodal Alkyl/Siloxane Hybrid", *RSC Advances*, 4 (2014) 59664-59675

S. C. Nunes, C. B. Ferreira, J. Hümmer, R. A. S. Ferreira, L. D. Carlos, P. Almeida, **V. de Zea Bermudez**, "Lamellar mono-amidosil hybrids incorporating monomethinecyanine dyes", *Journal of Materials Chemistry C*, 1 (2013) 2290-2301

Statement of interest

I first became acquainted with sol-gel chemistry and hybrid materials back in 1989, when I started my PhD at the Laboratoire d'Ionique et d'Electrochimie du Solide (LIES), of the École d'Électrochimie, Institut National Polytechnique de Grenoble (INPG), France. After working for more than 28 years with this very attractive synthesis method, I would like to contribute to the community of sol-gel in a more effective way. I believe I might help recruiting more members for the ISGS in Portugal and increasing the membership of Portuguese-speaking countries from all over the world. I would also like to promote a greater commitment of young researchers in activities related to sol-gel chemistry. Finally I would very much like to create a series of regular Sol-Gel Schools for students, with low inscription fees, starting in Portugal and then spreading to other countries.
