

# María Jesús Pascual Francisco

Last Update- 31<sup>st</sup> January 2019

**Tenured Scientist** since 2007  
Ceramics and Glass Institute (ICV)  
Consejo Superior de Investigaciones Científicas (CSIC)  
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## Education

PhD Chemistry, Universidad Autónoma de Madrid UAM (2000)  
BSc Electrochemistry, UAM (1996)  
Degree in Chemistry, UAM (1994)

## Former positions

Autónoma University	Research Fellow	Minor Thesis in Electrochemistry (MsC)	Madrid, Spain	1993-1995
Institute of Ceramics and Glass	Research Fellow	PhD Thesis	Madrid, Spain	1996-2000
Otto-Schott-Institute (Jena University)	Postdoctoral Fellow	Glass materials research	Jena, Germany	2000-2002 (14 months)
Institute of Ceramics and Glass	Postdoctoral Fellow	Glass materials research	Madrid, Spain	2001-2002
LaMaV (UFSCar, Brazil)	Postdoctoral Fellow	Glass materials research	Sao Carlos, Sao Paulo, Brazil	2001-2004 (3 months)
Aveiro University	Postdoctoral Fellow	Glass materials research	Aveiro, Portugal	2004-2005 (8 months)
Institute of Ceramics and Glass	Researcher "Ramón y Cajal"	Glass materials research	Madrid, Spain	2006-2007 (17 months)

## Research interests

- Glasses and glass-ceramics: melting, thermal properties, phase separation, crystallization, sintering etc.
- Glasses and glass-ceramics for sealing metallic and ceramic components (low and high temperature applications)
- Glass-ceramics for optics and photonics
- Energy saving and environmental improvements in glass melting processes

## Memberships

- Member of the Technical Committee on Glass-ceramics and Crystallization (TC07) of the International Commission on Glass (ICG)
- Secretary of the Glass Section of the Spanish Society of Ceramics and Glass (from 2008 to 2016). Vicepresident of the Glass Section of SECV since October 2016. [www.secv.es](http://www.secv.es)
- ICG Treasurer since September 2015. Member of the Management Board and Steering Committee of the ICG. <http://www.icglass.org/>

## Prizes

Gottardi Prize 2010, International Commission on Glass (ICG)

## Selected projects

### Participation in National projects

1. MAT2010-20459. "Structural bases of the transport properties in glasses with technological interest (PROGLASS)". 2011-2013. 80000 €. Principal investigator (PI)
2. MAT2013-48246-C2-1-P. "Effect of processing on the structure and properties of glasses and glass-ceramics with photonic applications (VITROPHOTONICS)". 2014-2017. 118530 €
3. MAT2017-87035-C2-1-P. "Luminiscent glasses and glass-ceramics of high optical quality for photonic applications (VITROPHOTON-Q+)". 2018-2020. 108.900,00€. (PI)

## Participation in International projects

1. FP6-NMP3-CT-2006-033200 (Strep Project). "Interface controlled nucleation and crystallisation (Intercony)". 2007-2009. 1399807 € (226471 € ICV)
2. FP7- 278525 FCH-JU-2010-1. "Working towards Mass Manufactured, Low Cost and Robust SOFC stacks (MMLRC=SOFC)". FP7-JTI-CP-FCH. 2012-2015. 2067976 € (162740 € CSIC). (PI)
3. Science without borders- Grant in Country (Special visiting research-PVE), project reference 400590/2013-1, PVE reference 31355/2013-3. "Strengthening and residual stresses in glass-ceramics sealants for SOFC". CNPq (Brasil). 2013- 2016. 150000 reales + 7 months PVE stage+sandwich doctorate. 285941,11 reales (92930 €). (PI)
- 4.H2020-WIDESPREAD-2014-1-SGA-CSA. Proposal 664439/664440. "Centre for functional and surface-functionalized glasses (FunGLASS-Phase 2). 2017-2013. 25 millions € (687724 € CSIC)

## Contracts

1. "Modification and optimization of glass compositions for bottles". Technological support contract with the glass factory Ramón Clemente S.A. 2011. (PI)
2. "Energetic, economic, environmental and quality improvements in glass furnaces". CDTI-IDI- 20111421. 2011-2013.
3. "Study and design of a glass furnace with high energetic and environmental performance". Associated company: VICRILA. CDTI. 2013-2015.
4. "Enamels and ceramic pigments with luminescence properties". I+D contract with Coloronda S.L. 2016-2018. (PI)
5. "Characterization of glass-metal joints for hermetic components". Technological support contract with Vac-tron S.A and ICV (CSIC). 2018. (PI)

## Direction of PhD Theses

1. C. Lara López. "Sellos vitrocerámicos del sistema RO-BaO-SiO<sub>2</sub> (R= Mg, Zn) para pilas de combustible de óxido sólido (SOFC)". UAM. 2006. Supervisors: A.Duran and M.J.Pascual
2. A.de Pablos-Martín. "Vidrocerámicos transparentes del sistema SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>-Na<sub>2</sub>O-K<sub>2</sub>O- LaF<sub>3</sub>/YF<sub>3</sub>: Mecanismos de cristalización y propiedades ópticas". UAM. 2012. European mention. Supervisor: M.J.Pascual

3. S. Rodríguez-López. "Propiedades termo-mecánicas de sellos vitrocerámicos del sistema RO-MgO-B<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> (R= Ba, Sr) para SOFC". UAM. 2016. International mention. Supervisor: M.J.Pascual

4. Giulio Gorni. "Transparent glass-ceramic materials for melting and sol-gel". UAM. Defense in 2019. Supervisors: M.J.Pascual and Y.Castro

5. Virginia Moreira Justo. "Reinforcement and residual stresses in glass-ceramic seals". Thesis in cotutela (UAM and UEPG, Brazil). Defense in 2019. Supervisors: F.Serbena and M.J.Pascual

6. Laura Fernández Rodríguez. "Propiedades luminiscentes de vitrocerámicos del sistema MgO-SrO/BaO-SiO<sub>2</sub>". Defense in 2021. Supervisors: M.J.Pascual

## Teaching experience

Invited teacher in 9<sup>th</sup> ICG Montpellier Summer School. Glass formation, structure and properties and how numerical modeling can respond to the technological challenges in glasses. 3-7<sup>th</sup> July 2017- Montpellier University, France.

Invited teacher in ICG-CGCRI tutorial on Glass Science and Technology. Lessons on Nucleation, growth and crystallization of glasses/glass-ceramics: their manufacture and properties. 19-21<sup>st</sup> January 2017-CSIR-Kolkata, India.

Invited teacher in ACerS Winter Workshop on Advanced Characterization. 22<sup>nd</sup>-25<sup>th</sup> January 2016, University of Central Florida, Orlando, USA.

Invited teacher in ECERS Summer on School Ceramic and Glass Science and Technology, Application to Bioceramics and Bioglasses. 17-19 June 2015, Inst. Cerámica y Vidrio (CSIC), Madrid.

Teacher in the UAM Master Program Advanced Materials. Subject: Ceramic and glass materials. 2002-2018.

Teacher in the CSIC –UIMP Master on Renewable energies, fuel cells and hydrogen. Subject: Characterization and diagnosis of sealants for SOFC and MCFC. 2004-2018.

## Participation in organizing scientific committees

- **Chair** of the "12th International Symposium on Crystallization in Glasses and Liquids" (Crystallization 2017), Sept. 10-13, 2017, Segovia, Spain.
- Member of the local organizing committee of the International Conference European Ceramic Society (ECERS 2015), 21-25 June 2015, Toledo.

- Member of the organizing committee of Summer School Ceramic and Glass Science and Technology, Application to Bioceramics and Bioglasses. 17-19 June 2015, Inst. Cerámica y Vidrio (CSIC), Madrid.
- Member of the organizing committee of LII Annual Congress SECV, 3-6 October 2012, Burgos.
- Member of the organizing committee of IV CLECV Portuguese-Spanish congress on Ceramics and Glass, 16-18 November 2011, Aveiro (Portugal).
- Member of the organizing committee of 50th Congress of the SECV, Madrid 2010.

## SCI Publications

Co-author of 95 SCI papers. H factor (Scopus)= 27, total number of citations 1887.

1. Influence of organic adsorbates on the under and overpotential deposition of copper on polycrystalline platinum electrodes. C.Alonso, M.J.Pascual, H.D.Abruña. *Electrochimica Acta*, 42, 11, 1739-1750 (1997).

2. Cyclic voltammetry and XPS studies of monolayers deposited on gold and platinum electrodes displaced by mercaptopyridines. C.Alonso, M.J.Pascual, A.B.Salomón, H.D.Abruña, A.Gutierrez, M.F.López, M.C.García-Alonso, M.L.Escudero. *Journal of Electroanalytical Chemistry*, 435, 241-254 (1997).

3. Sol-Gel Coatings on 316L Steel for Clinical Applications. P.Galiano, J.J. de Damborenea, M.J.Pascual, A.Durán. *Journal of Sol-Gel Science and Technology* 13, 723-727 (1999).

4. Determination of viscosity-temperature curve for glasses, on the basis of fixed viscosity points determined by hot-stage microscopy. M.J.Pascual, L.Pascual, A.Durán. *Physics and Chemistry of Glasses*, 42, 1, 61-66 (2001).

5. Viscosity and thermal properties in the system  $R_2O-B_2O_3-SiO_2$ , R= Li, K, Na. M.J.Pascual, A. Durán, L. Pascual. *Physics and Chemistry of Glasses*, 43, 1, 25-31 (2002).

6. Sintering process of glasses in the system  $Na_2O-B_2O_3-SiO_2$ . M.J.Pascual, A.Durán, L.Pascual. *Journal of Non-Crystalline Solids*, 306, 58-69 (2002).

7. Sintering behaviour of composite materials borosilicate glass-ZrO<sub>2</sub> fibre. M.J.Pascual, A. Durán, L.Pascual. *Journal of the European Ceramic Society* 22, 9-10, 1513-1524 (2002).

8. Alumina and zirconia as inhibitors of crystallization during sintering of borosilicate glasses. M.J.Pascual, L.Pascual, A.Durán, P.Wange, C.Rüssel. *Glastechnische Berichte. Glass Science and Technology* 75, 2, 69-74 (2002).

9. Corrosion mechanism of borosilicate sealing glasses in molten carbonates studied by impedance spectroscopy. R.Keding, M.J.Pascual, L.Pascual, A.Durán, C.Rüssel. *Journal of Electroanalytical Chemistry*, 528, 1-2, 184-189 (2002). doi:10.1016/S0022-0728(02)00714-3

10. Sealing glass system for molten carbonate fuel cells (MCFC). M.J.Pascual, A. Durán, L.Pascual. *Glass Technology*, 43C, 248-254 (2002).

11. Phase separation and crystallisation of glasses in the system  $R_2O-B_2O_3-SiO_2$ , R= Li, K, Na. Influence on thermal properties. M.J.Pascual, L.Pascual, A.Durán. *Glastechnische Berichte. Glass Science and Technology*, 75, 6, 280-289 (2002).

12. Corrosion of borosilicate sealing glasses for molten carbonate fuel cells. M.J.Pascual, A. Durán, F.J. Valle, R. Berjoin, L.Pascual. *Journal of the American Ceramic Society*, 86, 11, 1918-1926 (2003). DOI: 10.1111/j.1151-2916.2003.tb03582.x

13. Glass and glass-ceramic sealants for solid oxide fuel cells (SOFC). C. Lara, M.J. Pascual, A.Durán. *Boletín de la Sociedad Española de Cerámica y Vidrio*, 42, 2, 133-144 (2003).

14. Sintering with concurrent crystallisation of a borosilicate glass. M.J.Pascual, A. Durán. *Physics and Chemistry of Glasses*, 44, 6, 409-415 (2003).
15. Sintering of glasses in the system RO-Al<sub>2</sub>O<sub>3</sub>-BaO-SiO<sub>2</sub> (R= Ca, Mg, Zn) studied by hot-stage microscopy. C.Lara, M.J.Pascual, M.O.Prado, A.Durán. *Solid State Ionics*, 170, 201-208 (2004). doi:10.1016/j.ssi.2004.03.009
16. Glass-forming ability, sinterability and thermal properties in the systems RO-BaO-SiO<sub>2</sub> (R= Mg, Zn). C.Lara, M.J.Pascual, A.Durán. *Journal of Non-Crystalline Solids*, 348, 149-155 (2004). doi:10.1016/j.jnoncrysol.2004.08.140
17. Model for sintering devitrifying glass matrix with embedded rigid fibers.M.J.Pascual, A. Durán, M.O. Prado, E.Zanotto.*Journal of the American Ceramic Society*, 88, 6, 1427-1434 (2005). DOI: 10.1111/j.1551-2916.2005.00322.x
18. A new method for determining fixed viscosity points of glasses. M.J.Pascual, A.Durán, M.O. Prado. *Physics and Chemistry of Glasses*, 46, 5, 512-520(9) (2005).
19. Electrical behaviour of glass-ceramics in the systems RO-BaO-SiO<sub>2</sub> (R= Mg, Zn) for sealing SOFC. C.Lara, M.J.Pascual, R.Keding, A.Durán. *Journal of Power Sources*, 157, 377-384 (2006).doi:10.1016/j.jpowsour.2005.07.084
20. Transport properties of sealants for high-temperature electrochemical applications: RO-BaO-SiO<sub>2</sub> (R= Mg, Zn) glass-ceramics. M. J. Pascual, V. V. Kharton, E. Tsipis, A. A. Yaremchenko, C. Lara, A. Durán, J. R. Frade. *Journal of the European Ceramic Society*, 26, 3315-3324 (2006). doi:10.1016/j.jeurceramsoc.2005.11.002
21. Non-isothermal crystallization kinetics of devitrifying RO-BaO-SiO<sub>2</sub> (R= Mg, Zn) glasses. M.J.Pascual, C.Lara, A.Durán. *Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B*, 47, 5, 572-581 (2006).
22. Sintering of glasses in the system RO-BaO-SiO<sub>2</sub> (R= Mg, Zn) for sealing SOFC. C.Lara, M.J.Pascual, A.Durán. *Boletín de la Sociedad Española de Cerámica y Vidrio*, 46, 2, 62-70 (2007). doi: 10.3989/cyv.2007.v46.i2.251
23. Optimization of glass-ceramic compositions in the system MgO-BaO-SiO<sub>2</sub> for sealing SOFC.M.J.Pascual, A.Guillet, A.Durán. *Journal of Power Sources* 169, 1, 40-46 (2007). doi:10.1016/j.jpowsour.2007.01.040
24. Chemical compatibility of RO-BaO-SiO<sub>2</sub> (R= Mg, Zn) glass-ceramics sealings with SOFC components. C.Lara, M.J.Pascual, A.Durán. *Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B*, 48, 4, 218-224 (2007).
25. Pressureless Sintering of Apatite/Wollastonite-Phlogopite Glass-ceramics. A. Faeghi-Nia, V.K.Marghussian, E.Taheri-Nassaj, M.J.Pascual, A.Durán. *Journal of the American Ceramic Society*, 92, 7, 1514-1518 (2009). doi:10.1111/j.1551-2916.2009.03018.x
26. Sintering and oxygen transport in Ce<sub>0.8</sub>Pr<sub>0.2</sub>O<sub>2-d</sub>: a comparative study of Mn and Co oxide additives. D. Fagg, M. J. Pascual, S.García, V. Kharton, J. Frade. *Journal of The Electrochemical Society*, 156, 3, F47-F-53 (2009). Doi:10.1149/1.3068396
27. Processing of transparent glass-ceramics by nanocrystallisation of LaF<sub>3</sub>. N. Hémono, G. Pierre, F. Muñoz, A. de Pablos-Martín, M. J. Pascual, A. Durán. *Journal of the European Ceramic Society*, 29, 2915-2920 (2009). Doi:10.1016/j.jeurceramsoc.2009.05.013
28. Nano-crystallization in LaF<sub>3</sub>-NaO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> glass. S. Bhattacharyya, Th. Höche, N.Hemomo, M.J.Pascual, P.A. van Aken. *Journal of Crystal Growth*, 311, 4350-4355 (2009). doi:10.1016/j.jcrysgr.2009.07.027
29. Sintering and crystallization behavior of CaMgSi<sub>2</sub>O<sub>6</sub>-NaFeSi<sub>2</sub>O<sub>6</sub> based glass-ceramics. A.Goel, A. Ferrari, I. Kansal, M. J. Pascual, L. Barbieri, F. Bondioli, I. Lancellotti, M.J. Ribeiro, J.M.F. Ferreira. *Journal of Applied Physics*, 106, 093502-1- 093502-7 (2009). <http://dx.doi.org/10.1063/1.3239852>
30. Hydrogen-permeating characteristics of a SrCeO<sub>3</sub>-based ceramic separation membrane: thermal, ageing and surface-modification effects. G. C. Mather, D. Poulidi, A. Thursfield, M.J.Pascual, J.R.Jurado, I.S. Metcalfe. *Solid State Ionics*, 181, 230-235 (2010). doi:10.1016/j.ssi.2009.03.014

31. Laser cladding of bioactive glass coatings. R Comesaña, F. Quintero, F Lusquiños, M.J.Pascual, M. Boutinguiza, A.Durán, J.Pou. *Acta Biomaterialia*, 6, 953-961 (2010). doi:10.1016/j.actbio.2009.08.010
32. Development and performance of diopside based glass-ceramic sealants solid oxide fuel cells. A.Goel, D.U.Tulyaganov, M.J.Pascual, E.R.Shaaban, F.Muñoz, A.Lü, J.M.F.Ferreira. *Journal of Non-Crystalline Solids*, 356, 1070-1080 (2010). doi: 10.1016/j.jnoncrysol.2010.01.012
33. Development and testing of an intermediate temperature glass sealant for use in mixed ionic and electronic conducting membrane reactors. J.Hatcher, M.J.Pascual, D.Poulidi, I.S.Metcalf. *Solid State Ionics*, 181, 767-774 (2010). doi:10.1016/j.ssi.2010.03.031
34. Crystallization and processing of SOFC sealing glasses. S.T.Reis, M.J.Pascual, R.K.Brow, C.S.Ray, T.Zhang. *Journal of Non-Crystalline Solids*, 356, 3009-3012 (2010). doi:10.1016/j.jnoncrysol.2010.02.028
35. Design of oxy-fluoride glass-ceramics containing NaLaF<sub>4</sub> nano-crystals. A. de Pablos-Martín, G.C.Mather, F.Muñoz, S.Bhattacharyya, Th.Höche, J.R.Jinschek, T.Heil, A.Durán, M.J. Pascual. *Journal of Non-Crystalline Solids*, 356, 3071-3079 (2010). doi:10.1016/j.jnoncrysol.2010.04.057
36. Structural analysis and thermal behaviour of diopside-fluoroapatite-wollastonite based glasses and glass-ceramics. Ishu Kansal, Dilshat U.Tulyaganov, Ashutosh Goel, M.J.Pascual, J.M.F.Ferreira. *Acta Biomaterialia* 6, 4380-4388 (2010). doi:10.1016/j.actbio.2010.05.019
37. Stable glass-ceramic sealants for solid oxide fuel cells: Influence of Bi<sub>2</sub>O<sub>3</sub> doping. A.Goel, M.J.Pascual, J.M.F.Ferreira. *International Journal of Hydrogen Energy* 35, 6911-6923 (2010). doi:10.1016/j.ijhydene.2010.04.106
38. Effect of Al<sub>2</sub>O<sub>3</sub> and K<sub>2</sub>O content on structure, properties and devitrification of glasses in the Li<sub>2</sub>O-SiO<sub>2</sub> system. H.R.Fernandes, D.U.Tulyaganov, A.Goel, M.J.Ribeiro, M.J.Pascual, J.M.F.Ferreira. *Journal of the European Ceramic Society*, 30, 2017-2030 (2010). doi:10.1016/j.jeurceramsoc.2010.04.017
39. Tm<sup>3+</sup> doped oxy-fluoride glass-ceramics containing NaLaF<sub>4</sub> nano-crystals. A. de Pablos-Martín, M.O Ramírez, A. Durán, L.E Bausá, M.J. Pascual. *Optical Materials*, 33, 180-185 (2010). doi:10.1016/j.optmat.2010.08.004
40. NMR investigation of the crystallization mechanism of LaF<sub>3</sub> and NaLaF<sub>4</sub> phases in aluminosilicate glasses. F.Muñoz, A.de Pablos-Martín, N.Hémono, M.J.Pascual, A.Durán, L.Delevoye, L. Montagne. *Journal of Non-Crystalline Solids*, 357, 1463-1468 (2011). (doi: 10.1016/j.jnoncrysol.2010.11.024)
41. Sintering behavior and devitrification kinetics of iron containing clinopyroxene based magnetic glass-ceramics. A.Goel, E.R.Shaaban, J.B.Oliveira, M.A.Sá, M.J.Pascual, J.M.F.Ferreira. *Solid State Ionics*, 186, 59-68 (2011). (doi:10.1016/j.ssi.2011.01.009)
42. Crystallisation kinetics of LaF<sub>3</sub> nanocrystals in an oxyfluoride glass. A. de Pablos-Martín, N. Hémono, S.Bhattacharyya, T. Höche, G. C. Mather, J.Deubener, H.Bornhöft, F. Muñoz, A. Durán, M. J. Pascual. *Journal of the American Ceramic Society* 94 [8] 2420-2428 (2011). (doi:10.1111/1551-2916.2011.04547.x)
43. Diopside (CaO.MgO.2SiO<sub>2</sub>)-fluoroapatite (9CaO.3P<sub>2</sub>O<sub>5</sub>.CaF<sub>2</sub>) glass-ceramics: Potential materials for bone tissue engineering. I. Kansal, A.Goel, D.U. Tulyaganov, M.J. Pascual, H. Lee, H. Kim, J.M.F. Ferreira. *Journal of Materials Chemistry*, 21 (40) 16247-16256 (2011). doi:10.1039/C1JM11876E
44. Alkali-free bioactive glasses for bone tissue engineering: A preliminary investigation. A.Goel, S.Kapoor, R. R. Rajagopal, M.J.Pascual, H.W.Kim, J.M.F. Ferreira. *Acta Biomaterialia* 8 361-372(2012). (doi: 10.1016/j.actbio.2011.08.026)
45. Nanocrystallisation in oxyfluoride systems. Mechanisms of crystallization and photonic properties (paper review). A. de Pablos-Martín, A.Durán, M.J.Pascual. *International Materials Review* 57 [3] 165-186 (2012). (doi: 10.1179/1743280411Y.0000000004)
46. Crystallisation mechanism of a multicomponent lithium aluminosilicate glass. R.Wurth, M.J.Pascual, G.C.Mather, A. de Pablos-Martín, F.Muñoz, A.Durán, G.Cuello, C.Rüssel. *Journal of Materials Chemistry and Physics* 134 1001-1006 (2012). (doi:10.1016/j.matchemphys.2012.03.103)
47. Sintering behavior of lanthanide-containing glass-ceramic sealants for solid oxide fuel cells. Ashutosh Goel, Allu Amarnath Reddy, Maria J. Pascual, Laurent Gremillard, Annie Malchere, José M.F. Ferreira. *Journal of Materials Chemistry* 22 [19] 10042-10054 (2012). (doi:10.1039/c2jm16300d)

48. The role of  $K_2O$  on sintering and crystallization of glass powder compacts in the system  $Li_2O-K_2O-Al_2O_3-SiO_2$ . H.R.Fernandes, D.U.Tulyaganov, M.J.Pascual, V.V.Kharton, A.A.Yaremchenko, J.MF.Ferreira. *Journal of the European Ceramics Society* 32 [10] 2283-2292 (2012). (doi: 10.1016/j.eurcermasoc.2012.02.003)
49. Diopside - Mg orthosilicate and Diopside - Ba disilicate glass-ceramics for sealing applications in SOFC: sintering and chemical interactions studies. Allu Amarnath Reddy, Dilshat U. Tulyaganov, Ashutosh Goel, Maria J. Pascual, Vladislav V. Kharton, Ekaterina V. Tsipis, José M. F. Ferreira. *International Journal of Hydrogen Energy* 37 [17] 12528-12539 (2012). <http://dx.doi.org/10.1016/j.ijhydene.2012.05.130>
50. Study of melilite based glasses and glass-ceramics nucleated by  $Bi_2O_3$  for functional application. Allu Amarnath Reddy, Dilshat U. Tulyaganov, Saurabh Kapoor, Ashutosh Goel, Maria J. Pascual, Vladislav V. Kharton, José M. F. Ferreira. *RSC Advances*, 2012, 2, 10955–10967. (doi: 10.1039/c2ra22001f)
51. Transparent glass-ceramics of the system  $SiO_2-Al_2O_3-Na_2O-K_2O-LaF_3/YF_3$ : crystallization mechanisms and optical properties. A.De Pablos-Martín, S.Soria, M.O. Ramírez, D. Ristic, G.C. Righini, L.E. Bausá, M. Ferrari, Th. Höche, A.Durán, M. J. Pascual. *SPIE Newsroom*, 9 October 2012. (doi: 10.1117/2.1201209.004335).
52. Non-isothermal sinter-crystallization of jagged  $Li_2O-Al_2O_3-SiO_2$  glass and simulation using a modified form of the Clusters model. V.O.Souares, R.C.V. M. Reis, E. D. Zanotto, M.J.Pascual, A.Durán. *Journal of Non-Crystalline Solids* 358, 23, 3234-3242 (2012). (<http://dx.doi.org/10.1016/j.jnoncrysol.2012.09.010>)
53. Effects of  $Tm^{3+}$  additions on the crystallisation of  $LaF_3$  nanocrystals in oxyfluoride glasses. Optical characterisation and Up-conversion. A. de Pablos-Martín, D. Ristic, S.Bhattacharyya, Th. Höche, G. Mather, M.Ramírez, S.Soria, M. Ferrari, G.C. Righini, L.Bausá, A. Durán, M.J. Pascual. *Journal of the American Ceramic Society*, 96, 2, 447-457 (2013). DOI: 10.1111/jace.12120.
54. Diopside–Ba disilicate glass–ceramic sealants for SOFCs: Enhanced adhesion and thermal stability by Sr for Ca substitution. Allu Amarnath Reddy, Dilshat U. Tulyaganov, Maria J. Pascual, Vladislav V. Kharton, Ekaterina V. Tsipis, Vladislav A. Kolotygin, José M.F. Ferreira. *International Journal of Hydrogen Energy* 38, 7, 3073-3086 (2013). <http://dx.doi.org/10.1016/j.ijhydene.2012.12.074>
55. Characterization of a soldering system consisting of a glass from the system  $CaO-Al_2O_3-B_2O_3-SiO_2$  and wollastonite. A. Schusser, M.J. Pascual, A. Prange, A. Durán and R. Conradt. *Ceramics International* 39, 4, 3753-3758 (2013). (<http://dx.doi.org/10.1016/j.ceramint.2012.10.213>)
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## Book Chapters

**Teaching glass better.** Edited by ICG 2018. Chapter 12. Phase separation in glasses.

## Editorial activities

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