

Dr. HDR. Géraldine DANTELLE - LE SCORNET

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birthdate: 03/12/1980

married, 2 children

RESEARCH ACTIVITIES

Since 2015 **CHARGÉE DE RECHERCHE au CNRS – Institut Néel, Grenoble**

Research projects:

- Synthesis of Ln³⁺-doped nanoparticles by soft chemistry routes (Y₃Al₅O₁₂, Gd₃Sc₂Al₃O₁₂, α-La(IO₃)₃, YBO₃)
- Development of original solvothermal synthesis methods (high pressure, microwave heating)
- Study of the optical properties in powder or on colloidal solutions

Applications: Bio-imaging, Nanothermometry, LED lighting

2009 –2014 **CHARGÉE DE RECHERCHE au CNRS – Lab. de Physique de la Matière Condensée, Palaiseau**

Research projects:

- Synthesis of Ln³⁺-doped nanoparticles by soft chemistry routes (YVO₄, LaPO₄)
- Development of thin film deposition methods: spray-deposition, dip-coating on optical fibers
- Control of light propagation in thin films: guiding, scattering, extraction

Applications: Bio-imaging, lighting

2008 –2009 **POST-DOCTORAL RESEARCH, ENS Paris-Saclay**

Research project: NV centres in nanodiamonds for magnetometry and biology

2006-2008 **POST-DOCTORAL RESEARCH, UNIVERSITY OF OXFORD, UK**

Research project: Luminescent endohedral fullerenes for quantum information processing

EDUCATION

2003-2006 **PhD in Materials Science, IRCP, Univ. P. et M. CURIE, PARIS**

Research project: Nanostructured glass-ceramics for optical amplification

2002-2003 **Master in Materials Science, Univ. P. et M. CURIE, PARIS**

2000-2003 **Master in Chemistry from the Ecole Nationale Supérieure de Chimie de Paris (ENSCP)**

SCIENTIFIC PRODUCTION

- **Publications:** 64 papers published in peer-review international journals + 10 proceedings + 1 book chapter
- **h-factor:** 23 (November 2020)
- **Communications:** 81 oral presentations (13 invited) + 21 posters in national and international conferences
- **Seminars:** 13
- **Actions in popular media:** 10 (video, articles, conference, interview)

AWARDS

- **ENSCP Dufour award**, 2016
- **CNRS bronze medal**, 2014
- **Best poster award** at the HBSM conference, Australia, 2009
- **Best oral communication award** at the E-MRS, France, 2005

SELECTED PUBLICATIONS

- [1] Autofluorescence-free *in vivo* imaging using polymer-stabilized Nd³⁺-doped YAG nanocrystals, A. Cantarano, J. Yao, M. Matulionyte, J. Lifante, A. Benayas, D. Ortgies, F. Vetrone, A. Ibanez, C. Gérardin, D. Jaque, G. Dantelle, *ACS Applied Materials & Interfaces* 12(46) (2020) 51273-51284
- [2] Twofold advantage of gas bubbling for the advanced solvothermal preparation of efficient YAG:Ce nanophosphors A. Cantarano, D. Testemale, S. Sousa Nobre, A. Potdevin, R. Bruyère, A. Barbara, J.-L. Hazemann, A. Ibanez, G. Dantelle, *J. Mat. Chem. C* 8 (2020) 9382-9390
- [3] Evidence of reaction intermediates in microwave-assisted synthesis of SHG-active α -La(IO₃)₃ S. Regny, Y. Suffren, O. Leynaud, I. Gautier-Luneau, G. Dantelle, *Crystal Eng. Comm.* 22 (2020) 2517-2525
- [4] Nd³⁺-doped Gd₃Sc₂Al₃O₁₂ nanocrystals: towards efficient nanoprobe for temperature sensing, G. Dantelle, M. Matulionyte, D. Testemale, A. Cantarano, A. Ibanez, F. Vetrone, *Phys. Chem. Chem. Phys.* 21 (2019) 11132-11141
- [5] Microwave synthesis and up-conversion properties of SHG-active α -(La,Er)(IO₃)₃ nanocrystals, S. Regny, J. Riporto, Y. Mugnier, R. Le Dantec, S. Kodjikian, S. Pairis, I. Gautier-Luneau, [G. Dantelle*](#), *Inorg. Chem.* 58(2) (2019) 1647-1654
- [6] A new solvothermal method for the synthesis of size-controlled YAG:Ce single-nanocrystals G. Dantelle, D. Testemale, E. Homeyer, A. Cantarano, S. Kodjikian, C. Dujardin, J.L. Hazemann, A. Ibanez, *RSC Advances* 8 (2018) 26857-26870
- [7] A strategy to increase phosphor brightness: Application with Ce³⁺-doped Gd₃Sc₂Al₃O₁₂, L. Devys, G. Dantelle, G. Laurita, E. Homeyer, I. Gautier-Luneau, C. Dujardin, R. Seshadri, T. Gacoin, *Journal of Luminescence*, 190 (2017) 62-68
- [8] Nanoparticulate coatings with efficient up-conversion properties G. Dantelle, R. Calderon, C. Zaldo, C. Cascales, T. Gacoin, *ACS Applied Materials and Interfaces* 6(24) (2014) 22483-22489
- [9] How to prepare the brightest luminescent coatings? G. Dantelle, B. Fleury, J.P. Boilot, T. Gacoin, *ACS Applied Materials and Interfaces* 5(21) (2013) 11315-11320
- [10] The local environment of the activator ions in the solid state lighting Y_{3-x}Ce_xAl₅O₁₂ N. George, A.J. Pell, G. Dantelle, K. Page, A. Llobet, M. Balasubramanian, G. Pintacuda, B. F. Chmelka, R. Seshadri, *Chem. Mat.* 25(20) (2013) 3979-3995