

## **LIST OF PUBLICATIONS**

### **1. PAPERS PUBLISHED IN ISI JOURNALS**

18. G. Stanciu, F. Voicu, C. A. Brandus, **C. E. Tihon**, S. Hau, C. Gheorghe, G. Croitoru, L. Gheorghe, M. Dumitru, "Enhancement of the laser emission efficiency of Yb:Y<sub>2</sub>O<sub>3</sub> ceramics via multi-step sintering method fabrication," *Opt. Mater.* **109**, 110411 (2020).
17. A. M. Voiculescu, **C. E. Tihon**, S. Hau, G. Stanciu, O. Toma, "Optical study of SrLaGa<sub>3</sub>O<sub>7</sub> ceramic samples doped with Er<sup>3+</sup> and Yb<sup>3+</sup>," *Opt. Mater.* **100**, 109613 (2020).
16. A. M. Voiculescu, S. Georgescu, **C. Matei**, A. Stefan, and O. Toma, "Synthesis and characterization of La<sub>3</sub>Ga<sub>5.5</sub>Ta<sub>0.5</sub>O<sub>14</sub> doped with holmium and ytterbium," *Rom. J. Phys.* **60**(3-4), 495-501 (2015).
15. S. Georgescu, O. Toma, **C. Matei**, A.M. Voiculescu, and A. Ștefan, "Judd-Ofelt analysis of Tm<sup>3+</sup> in La<sub>3</sub>Ga<sub>5.5</sub>Ta<sub>0.5</sub>O<sub>14</sub> ceramic with granular structure," *J. Lumin.* **157**, 35-38 (2015).
14. S. Georgescu, A. Stefan, A. M. Voiculescu, O. Toma, **C. Matei**, R. Birjega, "Peculiarities of the Ho<sup>3+</sup> → Yb<sup>3+</sup> energy transfer in CaSc<sub>2</sub>O<sub>4</sub>:Ho:Yb", *Journal of Luminescence* **154**, 142-147 (2014).
13. S. Georgescu, A. M. Voiculescu, **C. Matei**, A. Stefan, O. Toma, R. Birjega, "Upconversion luminescence in langatate ceramics doped with Tm<sup>3+</sup> and Yb<sup>3+</sup>", *Journal of Luminescence* **154**, 74-79 (2014).
12. S. Georgescu, A. M. Voiculescu, S. Nastase, A. Zanfir, C. Matei, D. Berger, **C. Matei**, A. Stefan, and O. Toma, "Luminescence of Eu-doped langasite nanopowders synthesized by a modified Pechini route," *Journal of Luminescence* **145**, 690-696 (January 2014).
11. S. Georgescu, A. M. Voiculescu, **C. Matei**, C. E. Secu, R. F. Negrea, and M. Secu, "Ultraviolet and visible up-conversion luminescence of Er<sup>3+</sup>/Yb<sup>3+</sup> co-doped CaF<sub>2</sub> nanocrystals in sol-gel derived glass-ceramics", *Journal of Luminescence* **143**, 150-156 (2013).
10. A. M. Voiculescu, S. Georgescu, **C. Matei**, A. G. Stefan, L. Gheorghe, A. Achim, and F. Voicu, "Infrared-excited red, green, violet and UV luminescence from langasite crystal doped with erbium and ytterbium", *Rom. J. Phys.* **58** (1-2), 136-142 (2013).
9. S. Georgescu, A. M. Voiculescu, **C. Matei**, A. G. Stefan, and O. Toma, "Violet and near-ultraviolet upconversion luminescence in La<sub>3</sub>Ga<sub>5.5</sub>Ta<sub>0.5</sub>O<sub>14</sub> codoped with Er<sup>3+</sup> and Yb<sup>3+</sup>," *Physica B* **413**, 55-58 (2013).
8. A. M. Voiculescu, S. Georgescu, S. Nastase, **C. Matei**, D. Berger, C. Matei, A. Stefan, **O. Toma**, "Upconversion luminescence of Er<sup>3+</sup>/Yb<sup>3+</sup> co-doped nanolangasite synthesized by a modified Pechini route", *J. Sol-Gel Sci. Technol.* **64**, 667-672 (2012).
7. S. Georgescu, A. M. Voiculescu, S. Nastase, O. Toma, **C. Matei**, and R. Birjega, "Effect of aluminum substitution on the phase stability and luminescence properties of Eu-doped langanite nano-powders synthesized by a citrate sol-gel method", *Rom. Rep. Phys.* **64** (3), 737-742 (2012).
6. S. Georgescu, O. Toma, A. M. Voiculescu, **C. Matei**, and R. Birjega, "Infrared-excited bright green and red luminescence in La<sub>3</sub>Ga<sub>5.5</sub>Ta<sub>0.5</sub>O<sub>14</sub> doped with erbium and ytterbium," *Physica B - Condensed Matter* **407** (7), 1124-1127 (2012).
5. S. Georgescu, A. M. Voiculescu, O. Toma, L. Gheorghe, A. Achim, **C. Matei**, and S. Hau, "Luminescence efficiency of europium doped LGS, LGT, and LGN crystals," *Optoelectronics and Advanced Materials - Rapid Communications* **4** (12), 1937-1941 (2010).
4. S. Georgescu, A.M. Voiculescu, O. Toma, S. Nastase, **C. Matei**, M. Osiac, "Luminescence of Eu-doped langanite nanopowders synthesized by citrate sol-gel method," *J. Alloys & Compounds* **507** (2), 470-474 (2010).

3. S. Georgescu, E. Cotoi, A. M. Voiculescu, O. Toma, **C. Matei**, "Reflectance spectra of  $\text{YVO}_4:\text{Eu}^{3+}$  phosphors synthesized by direct precipitation," *Romanian Journal of Physics* **55** (7-8), 750-757 (2010).
2. S. Georgescu, A. M. Voiculescu, **C. Matei**, O. Toma, L. Gheorghe, A. Achim, "Reflectance measurements on Europium-doped Langasite, Langanite and Langatate powders," *Rom. Reports in Physics* **62** (1), 128-133 (2010).
1. S. Georgescu, A.M. Voiculescu, O. Toma, C. Tiseanu, L. Gheorghe, A. Achim, **C. Matei**, "Eu-doped langasite, langatate and langanite - possible new red phosphors", *Optoelectronics and Advanced Materials - Rapid Communications*, **3** (12), 1379-1382 (2009).

## **2. PROCEEDINGS OF INTERNATIONAL CONFERENCES**

(Presentations at International Meetings published in extended version)

3. S. Georgescu, A.M. Voiculescu, **C. Matei**, A. G. Stefan, and O. Toma, "Upconversion luminescence in  $\text{La}_3\text{Ga}_{5.5}\text{Ta}_{0.5}\text{O}_{14}$  codoped with  $\text{Er}^{3+}$  and  $\text{Yb}^{3+}$ ," *Proc. SPIE* **8882**, ROMOPTO 2012: Tenth Conference on Optics: Micro- to Nanophotonics III, 888204 (June 10, 2013); doi: 10.1117/12.2032265; <http://dx.doi.org/10.1117/12.2032265>
2. A. L. Carabăț, D. Berger, S. Georgescu, S. Năstase, S. Stoleriu, and **C. Matei**, "Influența condițiilor de precipitare asupra cristalizării și morfologiei ortofosfatului de lantan dopat cu europiu (Influence of precipitation conditions on the crystallization and morphology of europium-doped lanthanum orthophosphate)," *Revista Română de Materiale (Romanian Journal of Materials)* **42** (3), 294-298 (2012).
1. S. Georgescu, A. M. Voiculescu, E. Cotoi, O. Toma, L. Gheorghe, A. Achim, **C. Matei**, I. Enculescu, E. Matei, and M. Osiac, "Optical and morphologic properties of  $\text{YVO}_4:\text{Eu}$  phosphor," *Proc. SPIE* **7469**, Micro- to Nano-Photonics II - ROMOPTO 2009 Conference, August 31 - Sept. 03, 2009, Sibiu, Romania; paper 74690C (2010).

## **3. COMMUNICATIONS AT INTERNATIONAL CONFERENCES**

(Technical Digests, manuscripts up to 3 pages)

38. G. Stanciu, F. Voicu, C.-A. Brandus, **E.-C. Tihon**, S. Hau, C. Gheorghe, G. Croitoru, L. Gheorghe, "Development of a new sintering technique for fabricating high-quality  $\text{Nd}^{3+}$ - and  $\text{Yb}^{3+}$ -doped  $\text{Y}_2\text{O}_3$  Transparent Ceramics," 2021 Conference on Lasers and Electro-Optics/Europe - European Quantum Electronics Virtual Conferences (CLEO@/Europe-EQEC 2021), 21-25 June 2021, presentation CE-P.4 (poster presentation).
37. G. Stanciu, F. Voicu, C. A. Brandus, **C. Tihon**, S. Hau, C. Gheorghe, G. Croitoru, L. Gheorghe, "Enhancement of the laser emission efficiency of  $\text{Yb}:\text{Y}_2\text{O}_3$  ceramics via multi-step sintering method fabrication," 9th EPS-QEOD Europhoton Virtual Conference, 30 August - 4 September 2020; poster presentation Tu-P1.13.
36. G. Stanciu, F. Voicu, C. A. Brandus, **C. Tihon**, L. Gheorghe, and T. Dascalu, "Highly transparent  $\text{Yb}^{3+}$ -doped  $\text{Y}_2\text{O}_3$  sesquioxide ceramics," TIM18 Physics Conference, 24-26 May 2018, Timisoara, Romania; CM-P10, poster presentation.
35. G. Stanciu, L. Gheorghe, F. Voicu, C. A. Brandus, **C. Tihon**, G. Croitoru, and N. Pavel, "Fabrication and laser performance of highly transparent  $\text{Nd}:\text{YAG}$  ceramics," TIM 19 Physics Conference, 29 - 31 May 2019, Timisoara, Romania, presentation CM-P08 (poster presentation).
34. **C. Tihon**, G. Stanciu, G. Ruiu, and A. M. Voiculescu, "Spectroscopic characterization of  $\text{LaGaO}_3$  doped with  $\text{Er}^{3+}$  synthesized by solid state reaction," TIM 19 Physics Conference, 29 - 31 May 2019, Timisoara, Romania, presentation CM-P10 (poster presentation).
33. **C. Matei**, S. Georgescu, A. M. Voiculescu, O. Toma, "Spectroscopic characterization of  $\text{LaGaO}_3:\text{Er}$  synthesized by solid state reaction," The 16<sup>th</sup> International Balkan Workshop on Applied Physics, 7-9 July, 2016, Constanta, Romania; Book of Abstracts, p. 70 (S1 P66, poster presentation).

32. A. M. Voiculescu, **C. Matei**, C. Stanciu, S. Georgescu, "Synthesis and characterization of  $\text{SrY}_2\text{O}_4$  samples doped with rare earth ions," The 16<sup>th</sup> International Balkan Workshop on Applied Physics, 7-9 July, 2016, Constanta, Romania; Book of Abstracts, pp. 29-30 (S1 P4, poster presentation).
31. A. Stefan, S. Georgescu, O. Toma, and **C. Matei**, "Upconversion luminescence in  $\text{CaSc}_2\text{O}_4$  codoped with  $\text{Er}^{3+}$  and  $\text{Yb}^{3+}$ ," The 8th International Conference on Advanced Materials, ROCAM 2015, 7-10 July 2015, Bucharest, Romania; (oral presentation).
30. **C. Matei**, S. Georgescu, C. Vasilescu, G. Stanciu, A.-M. Voiculescu and A. Stefan, "Synthesis and characterization of  $\text{Eu}^{3+}$  doped  $\text{SrY}_2\text{O}_4$  phosphor," TIM 14 Physics Conference - Physics without frontiers, 20-22 November 2014, Timisoara, Romania; presentation CM-P17 (poster presentation).
29. A. Stefan, S. Georgescu, O. Toma, A.M. Voiculescu, and **C. Matei**, "Synthesis by solid state reaction and luminescence properties of calcium scandate ( $\text{CaSc}_2\text{O}_4$ ) doped with  $\text{Ho}^{3+}$  and  $\text{Yb}^{3+}$ ," 5th International Student Conference on Photonics, Orastie, Romania, 23-26 September 2014; presentation P.24 (poster presentation).
28. A. M. Voiculescu, S. Georgescu, **C. Matei**, A. Stefan, and O. Toma, "Synthesis and Characterization of  $\text{La}_3\text{Ga}_{5.5}\text{Ta}_{0.5}\text{O}_{14}$  Doped with Holmium and Ytterbium," The 14<sup>th</sup> International Balkan Workshop on Applied Physics, July 2-4, 2014, Constanta, Romania, presentation S2-P20, Book of Abstracts p. 127 (poster presentation).
27. **C. Matei**, S. Georgescu, A. M. Voiculescu, A. Stefan, and O. Toma, "Luminescence Properties in Langanite Ceramics Doped with  $\text{Tm}^{3+}$  and  $\text{Yb}^{3+}$ ," The 14<sup>th</sup> International Balkan Workshop on Applied Physics, July 2-4, 2014, Constanta, Romania, presentation S2-OP2, Book of Abstracts p. 111 (oral presentation).
26. **C. Matei**, S. Georgescu, A. M. Voiculescu, and A. Stefan, "Blue upconversion luminescence in Langanite and Langanite doped with Tm and Yb," The 13th International Balkan Workshop on Applied Physics, 4-6 July 2013, Constanta, Romania, poster presentation S1-P01, Book of Abstracts, p. 47.
25. A.M. Voiculescu, S. Georgescu, **C. Matei**, A. Stefan, and S. Nastase, "Upconversion processes in Langasite nanopowders doped with Thulium and Ytterbium," The 13th International Balkan Workshop on Applied Physics, 4-6 July 2013, Constanta, Romania, poster presentation S1-P02, Book of Abstracts, pages 47-48.
24. **C. Matei**, S. Georgescu, A. M. Voiculescu, F. Voicu, and R. Birjega, "Upconversion luminescence of Tm, Yb - doped langanite ceramic synthesized by solid state reaction", Materials, Methods & Technologies, 15th International Symposium, 10-14 June 2013, Sunny Beach, Bulgaria, poster presentation - P67.
23. A. M. Voiculescu, S. Georgescu, **C. Matei**, A. Stefan, O. Toma, F. Voicu, and R. Birjega, "Synthesis and characterization of  $\text{La}_3\text{Ga}_{5.5}\text{Ta}_{0.5}\text{O}_{14}$  doped with Yb and Tm for upconversion luminescence", Materials, Methods & Technologies, 15th Int. Symposium, 10-14 June 2013, Sunny Beach, Bulgaria, poster presentation - P66.
22. **C. Matei**, S. Georgescu, A. M. Voiculescu, A. Stefan, and R. Birjega, "Synthesis by solid state reaction and luminescence properties of langanite doped with  $\text{Tm}^{3+}$  and  $\text{Yb}^{3+}$ ", International Conference "MODERN LASER APPLICATIONS" Third Edition, INDLAS 2013, 20-24 May 2013 Bran, Romania, poster presentation - P2.
21. A. M. Voiculescu, S. Georgescu, **C. Matei**, A. Stefan, and R. Birjega, "Upconversion luminescence properties of  $\text{La}_3\text{Ga}_{5.5}\text{Ta}_{0.5}\text{O}_{14}$  doped with Yb and Tm," International Conference "MODERN LASER APPLICATIONS" Third Edition, INDLAS 2013, 20-24 May 2013 Bran, Romania, poster presentation - P5.
20. A. M. Voiculescu, S. Georgescu, **C. Matei**, A. Stefan, O. Toma, and S. Nastase, "Synthesis and characterization of Europium-doped nano Langasite," 3rd International Conference on RARE EARTH MATERIALS (REMAT) Advances in Synthesis, Studies and Applications, 26-28 April 2013, Wroclaw, Poland (poster presentation).
19. **C. Matei**, S. Georgescu, A.M. Voiculescu, and S. Nastase, "Synthesis by Pechini method of  $\text{Eu}^{3+}$ : nanolangasite," Physics Conference TIM-12, 27-30 November 2012, Timisoara, Romania; Abstract book pg. 74, Poster presentation API 74.
18. A. M. Voiculescu, S. Georgescu, **C. Matei**, and S. Nastase, "Upconversion luminescence of nanolangasite doped with  $\text{Er}^{3+}$  and  $\text{Yb}^{3+}$ ," Physics Conference TIM-12, 27-30 November 2012, Timisoara, Romania; Abstract Book pg. 14, Oral presentation API F205.

17. S. Georgescu, A. M. Voiculescu, **C. Matei**, A. G. Stefan, O. Toma, "Upconversion luminescence in  $\text{La}_3\text{Ga}_{5.5}\text{Ta}_{0.5}\text{O}_{14}$  codoped with  $\text{Er}^{3+}$  and  $\text{Yb}^{3+}$ ," International Conference on Optics "Micro- to Nano- Photonics III - ROMOPTO 2012", 3-6 September 2012, Bucharest, Romania, Oral presentation I.I.6.
16. A.M. Voiculescu, S. Georgescu, L. Gheorghe, A. Achim, **C. Matei**, and A. Stefan, "Infrared-excited red, green, violet and UV luminescence from Langasite crystal doped with Erbium and Ytterbium," 3<sup>rd</sup> International Conference on the Physics of Optical Materials and Devices, 3-6 September 2012, Belgrad, Serbia, Book of Abstract ISBN: 978-86-7306-116-0, pg. 145, Poster P1.2-31.
15. A.-M. Voiculescu, S. Georgescu, S. Nastase, O. Toma, **C. Matei**, and A. Stefan, "Upconversion processes in langasite nanopowders doped with erbium and ytterbium," 8<sup>th</sup> International Conference on *f* Elements, 26-31 August 2012, Udine, Italy, presentation OPT 32P; Poster presentation.
14. **C. Matei**, S. Georgescu, D. Berger, S. Nastase, A..M. Voiculescu, and A. Stefan, "Luminescence properties in  $\text{ZrO}_2$  nanoparticles doped with Er and Yb," 8TH International Conference on *f* Elements, 26-31 August 2012, Udine, Italy, presentation OPT 31P; Poster presentation.
13. A.M. Voiculescu, S. Georgescu, S. Mastase, **C. Matei**, and A. Stefan, "Synthesis and characterization of Langasite nanopowders doped with Erbium and Ytterbium," 8th General Conference of Balkan Physical Union - 8th BPU, 5-7 July 2012, Constanta, Romania, presentation SP-P11; Poster presentation.
12. **C.E. Matei**, S. Georgescu, A.M. Voiculescu, O. Toma, and S. Nastase, "Luminescence properties of Eu-doped  $\text{La}_2(\text{Ga}_{1-x}\text{Al}_x)\text{Nd}_{0.5}\text{O}_{14}$  nano-powders syntetized by a citrate sol-gel method," Physics Conference TIM-11, 24-27 November 2011, Timisoara, Romania; Abstract Book, ISBN 978-973-125-354-1, presentation API-P12 (pg. 138).
11. A.M. Voiculescu, S. Georgescu, O. Toma, **C. Matei**, R. Birjega, and L. Petrescu, "Luminescence properties of  $\text{La}_3\text{G}_{5.5}\text{Ta}_{0.5}\text{O}_{14}$  doped with erbium and ytterbium," Physics Conference TIM-11, 24-27 November 2011, Timisoara, Romania; Abstract Book, ISBN 978-973-125-354-1, presentation API-P26 (pg. 149).
10. A.M. Voiculescu, S. Georgescu, R. Birjega, O. Toma, **C. Matei**, L. Petrescu, I. Enculescu, E. Matei, "Infrared-excited bright green and red luminescence in  $\text{La}_3\text{Ga}_{5.5}\text{Ta}_{0.5}\text{O}_{14}$  doped with Erbium and Ytterbium," 12th International Balkan Workshop on Applied Physics (IBWAP), July 6-8, 2011, Constanta, Romania, presentation S1-P39; Book of Abstracts, ISBN 978-973-614-645-9, pages 67-68.
9. **C. Matei**, S. Georgescu, A. M. Voiculescu, O. Toma, S. Nastase, "Luminescence properties of Eu-doped  $\text{La}_3(\text{Ga}_{1-x}\text{Al}_x)_{5.5}\text{Nb}_{0.5}\text{O}_{14}$  nano-powders synthesized by a citrate sol-gel method," International Student Workshop on Laser Applications, 2nd ISWLA 2011, May 31- June 04, 2011, Bran, Romania.
8. A. M. Voiculescu, S. Georgescu, **C. Matei**, O. Toma, S. Nastase, "Upconversion luminescence of langanite powders doped with erbium and ytterbium," International Student Workshop on Laser Applications, 2nd ISWLA 2011, May 31- June 04, 2011, Bran, Romania.
7. **Cristina Matei**, Ana-Maria Voiculescu, Serban Georgescu, Silviu Nastase, Octavian Toma, si Mariana Osiac, "Langatate and langanite doped with  $\text{Eu}^{3+}$ -possible new phosphors," International Student Workshop on Laser Applications ISWLA 2010, May 25 - 28, 2010, Bran, Romania.
6. A. M. Voiculescu, S. Georgescu, E. Cotoi, O. Toma, **C. E. Matei**, O. Sandu, "The upconversion luminescence of  $\text{Y}_2\text{O}_3:\text{Er}:\text{Yb}$  and  $\text{YVO}_4:\text{Er}:\text{Yb}$  nanophosphors," Micro- to Nano-Photonics II - ROMOPTO 2009 Conference, August 31 - Sept. 03, 2009, Sibiu, Romania, presentation III.P.2.
5. A. M. Voiculescu, S. Georgescu, L. Gheorghe, A. Achim, O. Toma, **C. E. Matei**, M. Osiac, "Growth and characterization of the partially disordered  $\text{La}_3\text{Ga}_{5.5-x}\text{Al}_x\text{Ta}_{0.5}\text{O}_{14}$  single crystals doped with  $\text{Eu}^{3+}$ ," Romanian Conference on Adv. Materials, Brasov, Romania, 25-28 August 2009; Abstract Book, ISSN 1842-3574, page 23 (2009)
4. S. Georgescu, A. M. Voiculescu, O. Toma, C. Tiseanu, L. Gheorghe, A. Achim, **C. Matei**, "Eu-doped langasite, langatate and langanite - possible new red phosphors," Romanian Conference on Advanced Materials, Brasov, Romania, 25-28 August 2009; Abstract Book, ISSN 1842-3574, page 28 (2009).
3. C. Tiseanu, A. Voiculescu, **C. Matei**, S. Dobroiu, S. Georgescu, V. I. Parvulescu, "Optical properties of terbium complexes bound to mesostructured silica," Romanian Conference on

Advanced Materials, Brasov, Romania, 25-28 August 2009; Abstract Book, ISSN 1842-3574, page 68 (2009).

2. A. M. Voiculescu, S. Georgescu, E. Cotoi, O. Toma, **C. Matei**, "Reflectance spectra of  $\text{YVO}_4:\text{Eu}$  nanophosphors," 10th International Balkan Workshop on Applied Physics (IBWAP), July 6-8, 2009, Constanta, Romania, presentation S1-P66; Book of Abstracts, ISBN 978-973-614-507-0, page 88 (2009).
1. **C. Matei**, A. M. Voiculescu, S. Georgescu, E. Cotoi, O. Toma, O. Sandu, "Visible luminescence of  $\text{Y}_2\text{O}_3:\text{Er}:\text{Yb}$  si  $\text{YVO}_4:\text{Er}:\text{Yb}$  nanophosphors excited in infrared," 10th International Balkan Workshop on Applied Physics (IBWAP), July 6-8, 2009, Constanta, Romania, presentation S1-P65; Book of Abstracts, ISBN 978-973-614-507-0, page 88 (2009).