

LIST OF PUBLICATIONS

A. PAPERS PUBLISHED IN PEER-REVIEW JOURNALS

34. A. Broasca, M. Grecaleasa, **F. Voicu**, C. Gheorghe and L. Gheorghe, "Pure and Yb-Doped $\text{La}_x\text{Y}_y\text{Sc}_{4-x-y}(\text{BO}_3)_4$ Crystals: A Review of Recent Advances," Crystals **13**(2), 169 (2023).
33. C. Gheorghe, S. Hau, L. Gheorghe, **F. Voicu**, M. Grecaleasa, A. Broasca, and G. Stanciu, "RE³⁺-Doped $\text{Ca}_3(\text{Nb,Ga})_5\text{O}_{12}$ and $\text{Ca}_3(\text{Li,Nb,Ga})_5\text{O}_{12}$ Crystals (RE = Sm, Dy, and Pr): A Review of Current Achievements," Materials **16**(1), 269 (2023).
32. A. Broasca, M. Grecaleasa, **F. Voicu**, G. Stanciu, S. Hau, C. Gheorghe, L. Gheorghe, "Pr:LGSB as a new nonlinear optical crystal: Czochralski growth and optical characterization," J. Alloys & Comp. **908**, 164633 (2022).
31. A. Broasca, M. Grecaleasa, **F. Voicu**, G. Stanciu, S. Hau, C. Gheorghe, C. A. Brandus, N. Pavel, M. Enculescu, L. Gheorghe, "Growth and characterization of 3.5 at.% Nd:LGSB bifunctional crystal," Opt. Mat. **123**, 111832 (2022).
30. C. A. Brandus, M. Grecaleasa, A. Broasca, **F. Voicu**, L. Gheorghe, and N. Pavel, "Diode-pumped bifunctional Nd:LGSB laser passively Q-switched by a Cr⁴⁺:YAG saturable absorber," Opt. Mater. Express **11**(3), 685-694 (2021).
29. 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:Y₂O₃ ceramics via multi-step sintering method fabrication," Opt. Mater. **109**, 110411 (2020).
28. A. Broasca, M. Grecaleasa, **F. Voicu**, S. Hau, G. Croitoru, C. Gheorghe, N. Pavel, L. Gheorghe, "Efficient near-infrared laser emission and nonlinear optical properties of a newly developed Yb:LYSB laser crystal," J. Alloys & Comp. **844**, 156143 (2020).
27. M. Grecaleasa, A. Broasca, **F. Voicu**, S. Hau, G. Croitoru, G. Stanciu, C. Gheorghe, N. Pavel, L. Gheorghe, "Bifunctional $\text{La}_x\text{Nd}_y\text{Gd}_z\text{Sc}_{4-x-y-z}(\text{BO}_3)_4$ crystal: Czochralski growth, linear and nonlinear optical properties, and near-infrared laser emission performances," Opt. & Laser Techn. **131**, 106433 (2020).
26. L. Gheorghe, A. Broasca, M. Grecaleasa, **F. Voicu**, G. Stanciu, S. Hau, G. Croitoru, C. A. Brandus, C. Gheorghe, F. Khaled, P. Loiseau, G. Aka, "Czochralski-grown $\text{La}_x\text{Gd}_y\text{R}_z\text{Sc}_{4-x-y-z}(\text{BO}_3)_4$ (R = Yb, Nd) crystals - A review of recent developments," Opt. Mat. X **7**, 100052 (2020).
25. C. A. Brandus, S. Hau, A. Broasca, M. Grecaleasa, **F. M. Voicu**, C. Gheorghe, L. Gheorghe, and T. Dascalu, "Efficient 1 μm Laser Emission of Czochralski-Grown Nd:LGSB Single Crystal," Materials **12**(12), 2005 (2019).
24. L. Gheorghe, M. Grecaleasa, A. Broasca, **F. Voicu**, G. Stanciu, K. N. Belikov, E. Yu. Bryleva, and O. Gaiduk, "Incongruent Melting $\text{La}_x\text{Y}_y\text{Sc}_{4-x-y}(\text{BO}_3)_4$ - LYSB Nonlinear Optical Crystal Grown by the Czochralski Method," ACS Appl. Mat. Interfaces, **11**(23), 20987-20994 (2019).
23. S. Hau, C. Gheorghe, L. Gheorghe, **F. Voicu**, M. Grecaleasa, G. Stanciu, A. Broasca, M. Enculescu, "Spectroscopic investigations of Pr³⁺ ions doped CNGG and CLNGG single crystals," J. Alloy. Compd. **799**, 288-301 (2019).
22. G. Stanciu, L. Gheorghe, **F. Voicu**, S. Hau, C. Gheorghe, G. Croitoru, M. Enculescu, and R.P. Yavetskiy, "Highly transparent Yb:Y₂O₃ ceramics obtained by solid-state reaction and combined sintering procedures," Ceramics International **45**(3), 3217-3222 (2019).
21. L. Gheorghe, M. Grecaleasa, **F. Voicu**, C. Gheorghe, S. Hau, A. M. Vlaicu, K. N. Belikov, E. Yu. Bryleva, O. V. Gaiduk, "Crystal growth and structural characterization of Sm³⁺, Pr³⁺ and Dy³⁺-doped CNGG and CLNGG single crystals," Opt. Mater. **84**, 335-338 (2018).

20. C. Gheorghe, S. Hau, L. Gheorghe, **F. Voicu**, M. Greculeasa, M. Enculescu, K. N. Belikov, E. Yu. Bryleva, O. V. Gaiduk, "Yellow laser potential of cubic $\text{Ca}_3(\text{Nb,Ga})_5\text{O}_{12}:\text{Dy}^{3+}$ and $\text{Ca}_3(\text{Li,Nb,Ga})_5\text{O}_{12}:\text{Dy}^{3+}$ single crystals," *J. Alloys & Comp.* **739**, 806-816 (2018).
19. C. Gheorghe, S. Hau, L. Gheorghe, **F. Voicu**, M. Greculeasa, A. Achim, M. Enculescu, "Optical properties of Sm^{3+} doped $\text{Ca}_3(\text{Nb,Ga})_5\text{O}_{12}$ and $\text{Ca}_3(\text{Li,Nb,Ga})_5\text{O}_{12}$ single crystals," *J. Lumin.* **186**, 175-182 (2017).
18. F. Khaled, P. Loiseau, **F. Voicu**, A. Achim, S. Hau, C. Gheorghe, G. Croitoru, N. Pavel, L. Gheorghe, G. Aka, "Spectroscopic properties and laser performances of Yb:LGSB nonlinear optical crystal," *J. Alloys & Comp.* **688** (Part A), 510-517 (2016).
17. L. Gheorghe, F. Khaled, A. Achim, **F. Voicu**, P. Loiseau, and G. Aka, "Czochralski Growth and Characterization of Incongruent Melting $\text{La}_x\text{Gd}_y\text{Sc}_z(\text{BO}_3)_4$ ($x + y + z = 4$) Nonlinear Optical Crystal," *Cryst. Growth Des.* **16** (6), 3473-3479 (2016).
16. C. Gheorghe, A. Lupei, S. Hău, **F. Voicu**, L. Gheorghe, A. M. Vlaicu, "Compositional dependence of optical properties of Sm^{3+} -doped $\text{Y}_3\text{Sc}_x\text{Al}_{5-x}\text{O}_{12}$ polycrystalline ceramics," *J. Alloys Compd.* **683**, 547-553 (2016).
15. A. Lupei, V. Lupei, S. Hau, C. Gheorghe, **F. Voicu**, "Structure and temperature effects on Nd^{3+} spectra in polycrystalline mixed scandium aluminum garnets $\text{Y}_3\text{Sc}_x\text{Al}_{5-x}\text{O}_{12}$," *Opt. Mat.* **47**, 465-472 (2015).
14. A. Achim, L. Gheorghe, **F. Voicu**, and G. Stanciu, "Blue light production by type-I non-critical phase matching second-harmonic generation in $\text{La}(\text{Ca}_{1-x}\text{Sr}_x)_4\text{O}(\text{BO}_3)_3$ single crystals," *CrystEngComm.* **17**, 4098-4101 (2015).
13. N. Pavel, G. Salamu, **F. Voicu**, F. Jipa, and M. Zamfirescu, "Cladding waveguides realized in Nd:YAG laser media by direct writing with a femtosecond-laser beam," *Proceedings of the Romanian Academy Series A - Mathematics Physics Technical Sciences Information Science* **15** (2), 151-158 (2014).
12. C. Gheorghe, A. Lupei, **F. M. Voicu**, and C. Tiseanu, "Emission properties and site occupation of Sm^{3+} ion doped Lu_2O_3 translucent ceramics," *J. Alloys and Comp.* **588**, 388-393 (2014).
11. G. Salamu, **F. Voicu**, N. Pavel, T. Dascalu, F. Jipa, and M. Zamfirescu, "Laser emission in diode-pumped Nd:YAG single-crystal waveguides realized by direct femtosecond-laser writing technique," *Rom. Reports in Physics* **65** (3), 943-953 (2013).
10. N. Pavel, G. Salamu, **F. Voicu**, F. Jipa, M. Zamfirescu, and T. Dascalu, "Efficient laser emission in diode-pumped Nd:YAG buried waveguides realized by direct femtosecond-laser writing," *Laser Physics Letters* **10** (9), 095802 (2013).
9. 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).
8. F. Stokker-Cheregi, A. Nedelcea, **F.-M. Voicu**, D.-M. Marin, R. Birjega, and M. Dinescu, "Structure and morphology of indium nitride thin films grown by plasma assisted PLD: the impact of nitrogen flow and substrate temperature," *Rom. Reports in Physics* **65** (1), 213-218 (2013).
7. T. Dascalu, G. Salamu, O. Sandu, **F. Voicu**, and N. Pavel, "Novel laterally pumped by prism laser configuration for compact solid-state lasers," *Laser Physics Letters* **10** (5), 05580 (2013).
6. A. Lupei, C. Tiseanu, C. Gheorghe, and **F. Voicu**, "Optical spectroscopy of Sm^{3+} in C_2 and C_{3i} sites of Y_2O_3 ceramics," *Appl. Phys. B*, **108** (4), 908-918 (2012).
5. C. Gheorghe, A. Lupei, **F. Voicu**, M. Enculescu, " Sm^{3+} -doped Sc_2O_3 polycrystalline ceramics: spectroscopic investigation," *J. Alloys & Comp.* **535**, 78-82 (2012).
4. G. Salamu, O. Sandu, **F. Voicu**, M. Dejanu, D. Popa, S. Parlac, C. Ticos, N. Pavel, T. Dascalu, "Study of Flame Development in 12% Methane-Air Mixture Ignited by Laser," *Optoelectronics and Advanced Materials - Rapid Communications* **5** (11), 1166-1169 (2011).
3. L. Gheorghe, A. Achim, **F. Voicu**, and G. Aka, "Growth and type-I non critical phase matching second harmonic generation of $\text{Y}_{1-x}\text{R}_x\text{Ca}_4\text{O}(\text{BO}_3)_3$ (R= Sc or Lu) crystals," *Optoelectronics and Advanced Materials - Rapid Communications* **5** (2), 103-105 (2011).
2. A. Achim, L. Gheorghe, S. Georgescu, and **F. Voicu**, "Growth and characterization of $\text{Y}_{0.7}\text{Sc}_{0.3}\text{Ca}_4\text{O}(\text{BO}_3)_3$ single crystal for nonlinear optical applications," *Optoelectronics & Advanced Materials - Rapid Communications* **4** (12), 1977-1980 (2010).

1. L. Gheorghe, A. Achim, **F. Voicu**, C. Ghica, "Growth and structural characterization of $Y_{0.6}Lu_{0.4}Ca_4O(BO_3)_3$ new nonlinear crystal," Journal of Optoelectronics and Advanced Materials **12** (8), 1680-1683 (2010).

B. PROCEEDINGS OF INTERNATIONAL CONFERENCES

(Presentations at International Meetings published in extended version)

1. G. Salamu, **F. Voicu**, F. Jipa, M. Zamfirescu, T. Dascalu, and N. Pavel, "Laser emission from diode-pumped Nd:YAG cladding waveguides obtained by direct writing with a femtosecond-laser beam," Proc. SPIE **9135**, Laser Sources and Applications II, 91351F (May 1, 2014); doi:10.1117/12.2052250; <http://dx.doi.org/10.1117/12.2052250>

C. COMMUNICATIONS AT INTERNATIONAL CONFERENCES

(Technical Digests, manuscripts up to 3 pages)

86. L. Gheorghe, A. Broasca, M. Greculeasa, **F. Voicu**, C. Gheorghe, S. Hau, G. Stanciu, C. A. Brandus, N. Pavel, "Czochralski-grown LGSB crystals as high-performance NIR laser crystals and SFD crystals in the VIS spectral range," International Conference on Crystal Growth and Epitaxy - ICCGE-20, 30 July - 04 August 2023, Naples, Italy (poster presentation PS 1 - P49).
85. G. Stanciu, **F. Voicu**, C. A. Brandus, C. E. Tihon, S. Hau, C. Gheorghe, G. Croitoru, L. Gheorghe, N. Pavel, "Rare-earths doped Y_2O_3 laser materials," International Conference on Crystal Growth and Epitaxy - ICCGE-20, 30 July - 04 August 2023, Naples, Italy; (poster presentation PS 2 - P30).
84. C. Gheorghe, S. Hau, A. Broasca, M. Greculeasa, **F. Voicu**, M. Enculescu, L. Gheorghe, " $Ca_3(Ta,Ga)_5O_{12}:Pr^{3+}$ as potential laser crystal emitting in the blue and red spectral domains," International Conference on Crystal Growth and Epitaxy - ICCGE-20, 30 July - 04 August 2023, Naples, Italy; (poster presentation PS 3 - P15).
83. A. Broasca, M. Greculeasa, **F. Voicu**, S. Hau, G. Stanciu, C. Gheorghe, G. Croitoru, N. Pavel, L. Gheorghe, "Growth and optical properties of Nd:LYSB as a new laser and nonlinear optical borate crystal," International Conference on Crystal Growth and Epitaxy - ICCGE-20, 30 July - 04 August 2023, Naples, Italy; (oral presentation Optical Crystals 4 - O3).
82. M. Greculeasa, A. Broasca, **F. Voicu**, G. Stanciu, S. Hau, C. Gheorghe, G. Croitoru, N. Pavel, L. Gheorghe, "Development of LYSB and Yb-doped LYSB crystals as new candidates for the next generation of nonlinear optical and/or laser crystals," International Conference on Crystal Growth and Epitaxy - ICCGE-20, 30 July - 04 August 2023, Naples, Italy; (oral presentation Optical Crystals 6 - O4).
81. G. Croitoru, I. Anghel, **F.-M. Voicu**, M. Greculeasa, A. Broasca, L.-M. Gheorghe, N. Pavel, "Buried Depressed-Cladding Waveguides Fabricated in RE^{3+} :CLNGG Laser Crystals using Direct Laser Writing Technique," 2023 Conference on Lasers and Electro-Optics/Europe - European Quantum Electronics Conferences (CLEO@/Europe-EQEC 2023), 26-30 June 2023, presentation CA-P.4 (poster presentation)); doi: 10.1109/CLEO/Europe-EQEC57999.2023.10232516.
80. L. M. Gheorghe, A. Broasca, M. Greculeasa, **F. Voicu**, G. Croitoru, S. Hau, C. Gheorghe, N. Pavel, "Yb- and Nd-doped $La_xGd_ySc_{4-x-y}(BO_3)_4$ (LGSB) as new high performance near-infrared laser crystals," The 9th Tiny Integrated Laser and Laser Ignition Conference 2022, 19-21 April 2023, Pacifico Yokohama, Yokohama, Japan, presentation TILA-LICp-01 (poster presentation).
79. G. Stanciu, **F. Voicu**, C. A. Brandus, C. E. Tihon, S. Hau, C. Gheorghe, G. Croitoru, L. M. Gheorghe, N. Pavel, " $RE^{3+}:Y_2O_3$ transparent ceramic media realized via a multi-step sintering method," The 9th Tiny Integrated Laser and Laser Ignition Conference 2022, 19-21 April 2023, Pacifico Yokohama, Yokohama, Japan, presentation TILA-LICp-02 (poster presentation).
78. G. Croitoru, I. Anghel, **F. Voicu**, M. Greculeasa, A. Broasca, L. M. Gheorghe, N. Pavel, "Waveguides realized in RE^{3+} :CLNGG laser crystals by direct writing with a fs-laser beam," The 9th Tiny Integrated Laser and Laser Ignition Conference 2022, 19-21 April 2023, Pacifico Yokohama, Yokohama, Japan, presentation TILA-LICp-03 (poster presentation).
77. L. Gheorghe, A. Broasca, M. Greculeasa, **F. Voicu**, G. Stanciu, S. Hau, C. Gheorghe,

- "Czochralski growth and characterization of newly developed Pr:LGSB nonlinear optical and laser crystal," 7th European Conference on Crystal Growth - ECCG7, 25-27 July 2022, Paris, France; oral presentation.
76. S. Hau, M. Greculeasa, A. Broasca, **F. Voicu**, G. Stanciu, D. Avram, M. Enculescu, L. Gheorghe, C. Gheorghe, "Pr³⁺-doped Ca₃(Ta, Ga)₅O₁₂ single crystal as potential laser material in the visible range," 7th European Conference on Crystal Growth - ECCG7, 25-27 July 2022, Paris, France; presentation P20.
 75. S. Hau, C. Gheorghe, L. Gheorghe, **F. Voicu**, M. Greculeasa, A. Broasca, G. Stanciu, M. Enculescu, "Spectroscopic Characterizations of Pr³⁺ and Dy³⁺ doped Calcium Tantalum Gallium Garnet- Ca_{2.85}Ta_{1.80}Ga_{3.10}O₁₂ Single Crystals," 20th International Balkan Workshop on Applied Physics and Materials Science (IBWAP 2022), July 12-15, Constanta, Romania; presentation S1-P7.
 74. A. Broasca, M. Greculeasa, **F. Voicu**, G. Stanciu, S. Hau, C. Gheorghe, and L. Gheorghe, "Growth and optical properties of the newly developed Pr:LGSB bifunctional crystal," 10th EPS-QEOD EUROPHOTON Conference, 28 Aug. - 2 Sept. 2022, Hannover, Germany; presentation TUE-P-1.8.
 73. M. Greculeasa, A. Broasca, **F. Voicu**, G. Stanciu, S. Hau, C. Gheorghe, C.A. Brandus, N. Pavel, and L. Gheorghe, "Development of Czochralski-grown La_{0.733}Nd_{0.035}Gd_{0.452}Sc_{2.75}(BO₃)₄ as a new bifunctional laser and nonlinear crystal," 10th EPS-QEOD EUROPHOTON Conference, 28 Aug. - 2 Sept. 2022, Hannover, Germany; presentation TUE-P-1.9.
 72. G. Stanciu, **F. Voicu**, C. A. Brandus, C. E. Tihon, S. Hau, C. Gheorghe, G. Croitoru, L. Gheorghe, N. Pavel, "Fabrication and laser performances of Nd- and Yb-doped Y₃Al₅O₁₂ transparent ceramics," International Conference on Laser, Plasma and Radiation - Science and Technology, June 7-10, 2022 Bucharest, Romania; poster presentation P2-06.
 71. M. Greculeasa, A. Broasca, **F. Voicu**, G. Stanciu, S. Hau, C. Gheorghe, C.A. Brandus, N. Pavel, M. Enculescu, L. Gheorghe, "Crystal Growth and Characterization of La_{0.733}Nd_{0.035}Gd_{0.452}Sc_{2.78}(BO₃)₄ as a New Bifunctional Laser and Nonlinear Optical Crystal," International Conference on Laser, Plasma and Radiation - Science and Technology, June 7-10, 2022 Bucharest, Romania; poster presentation P2-05.
 70. A. Broasca, M. Greculeasa, **F. Voicu**, G. Stanciu, S. Hau, C. Gheorghe, L. Gheorghe, "Czochralski Growth and Characterization of new Pr:LGSB Nonlinear Optical Crystal," International Conference on Laser, Plasma and Radiation - Science and Technology, June 7-10, 2022 Bucharest, Romania; poster presentation P2-04.
 69. S. Hau, C. Gheorghe, L. Gheorghe, **F. Voicu**, M. Greculeasa, A. Broasca, G. Stanciu, D. Avram, M. Enculescu, "Luminescence and optical thermometry of the Pr³⁺ ions doped Ca₃(M,Ga)₅O₁₂ (M⁵⁺ = Nb, Ta) garnet phosphors," International Conference on Laser, Plasma and Radiation - Science and Technology, June 7-10, 2022 Bucharest, Romania; poster presentation P2-01.
 68. A. Broasca, M. Greculeasa, **F. Voicu**, G. Stanciu, S. Hau, C. Gheorghe, G. Croitoru, N. Pavel, L. Gheorghe, "LYSB and Yb-Doped LYSB crystals: Czochralski growth, optical characterization and laser emission performances," OSA Laser Congress Virtual Event, 03 Oct. - 07 Oct. 2021; oral presentation ATh1A.6.
 67. 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 Nd³⁺- and Yb³⁺-doped Y₂O₃ 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).
 66. M. Greculeasa, A. Broasca, **F. Voicu**, S. Hau, G. Croitoru, C. Brandus, G. Stanciu, C. Gheorghe, L. Gheorghe, "RE-doped LGSB (RE = Nd, Yb) as new high performance near-infrared laser crystals," 2021 Conference on Lasers and Electro-Optics/Europe - European Quantum Electronics Virtual Conferences (CLEO@/Europe-EQEC 2021), 21-25 June 2021, presentation CA-P.7 (poster presentation).
 65. C. A. Brandus, M. Greculeasa, A. Broasca, **F. Voicu** and L. Gheorghe, "Self-frequency-doubling Nd:LGSB laser passively Q-switched by Cr⁴⁺:YAG saturable absorber," OSA Laser Congress, 13 - 16 Oct. 2020, oral presentation AF2A.6.
 64. C. A. Brandus, M. Greculeasa, A. Broasca, **F. Voicu**, L. Gheorghe, "Infrared and self-frequency-doubling emission characteristics of diode-pumped Nd:LGSB laser crystal," 9th EPS-QEOD Europhoton Virtual Conference, 30 August - 4 September 2020; poster presentation Tu-P1.11.

63. A. Broasca, M. Greculeasa, **F. Voicu**, S. Hau, G. Croitoru, C. Gheorghe, N. Pavel, L. Gheorghe, "New Yb:LYSB bifunctional crystal for efficient near-infrared laser emission and self-frequency doubling conversion," 9th EPS-QEOD Europhoton Virtual Conference, 30 August - 4 September 2020; poster presentation Tu-P1.12.
62. G. Stanciu, **F. Voicu**, C. A. Brandus, C. Tihon, S. Hau, C. Gheorghe, G. Croitoru, L. Gheorghe, "Enhancement of the laser emission efficiency of Yb:Y₂O₃ ceramics via multi-step sintering method fabrication," 9th EPS-QEOD Europhoton Virtual Conference, 30 August - 4 September 2020; poster presentation Tu-P1.13.
61. M. Porębski, M. Kowalczyk, L. Gheorghe, M. Greculeasa, A. Broasca, **F. Voicu**, and J. Sotor, "Passively mode-locked self-frequency doubling Yb:LGBS laser," CLEO Europe - EQEC 2019 Conference, 23-27 June 2019, München, Germany, presentation CA-P.23 (poster presentation).
60. C. A. Brandus, C. Gheorghe, S. Hau, A. Broasca, M. Greculeasa, **F. Voicu**, L. Gheorghe, and N. Pavel, "Highly efficient laser emission from a Novel Nd:LGSB crystal," CLEO Europe - EQEC 2019 Conference, 23-27 June 2019, München, Germany, presentation CA-P.44 (poster presentation).
59. L. Gheorghe, M. Greculeasa, A. Broasca, **F. Voicu**, G. Stanciu, S. Hau, C. Gheorghe, G. Croitoru, and N. Pavel, "Pure, Yb- and Nd-doped La_xGd_ySc_{4-x-y}(BO₃)₄ Czochralski-grown nonlinear optical and laser crystals," TIM 19 Physics Conference, 29 - 31 May 2019, Timisoara, Romania, presentation CM-I02 (invited presentation).
58. A. Broasca, L. Gheorghe, M. Greculeasa, **F. Voicu**, and G. Stanciu, "Czochralski growth and optical properties of nonlinear La_xY_ySc_{4-x-y}(BO₃)₄ - LYSB single crystal," TIM 19 Physics Conference, 29 - 31 May 2019, Timisoara, Romania, presentation CM-P03 (poster presentation).
57. **F. M. Voicu**, L. Gheorghe, M. Greculeasa, A. Broasca, C. Gheorghe, S. Hau, and G. Croitoru, "Nd³⁺ doped La_xGd_ySc_{4-x-y}(BO₃)₄ as bifunctional laser and nonlinear crystal," TIM 19 Physics Conference, 29 - 31 May 2019, Timisoara, Romania, presentation CM-P06 (poster presentation).
56. G. Stanciu, L. Gheorghe, **F. Voicu**, C. A. Brandus, C. Tihon, G. Croitoru, and N. Pavel, "Fabrication and laser performance of highly transparent Nd:YAG ceramics," TIM 19 Physics Conference, 29 - 31 May 2019, Timisoara, Romania, presentation CM-P08 (poster presentation).
55. S. Hau, C. Gheorghe, L. Gheorghe, **F. Voicu**, M. Greculeasa, G. Stanciu, and M. Enculescu, "Luminescence properties of Pr³⁺ doped Ca₃(Li,Nb,Ga)₅O₁₂ single crystal," TIM 19 Physics Conference, 29 - 31 May 2019, Timisoara, Romania, presentation CM-P09 (poster presentation).
54. M. Greculeasa, L. Gheorghe, A. Broasca, **F. Voicu**, C. Gheorghe, S. Hau, and G. Stanciu, "Czochralski growth and characterization of Yb-doped LYSB single crystals," TIM 19 Physics Conference, 29 - 31 May 2019, Timisoara, Romania, presentation CM-P11 (poster presentation).
53. M. Greculeasa, L. Gheorghe, **F. Voicu**, A. Achim, G. Stanciu, "Growth and SHG in NCMP conditions in La(Ca_{1-x}Sc_x)₄O(BO₃)₃ single crystals," ROCAM 2017, 11-14 July 2017, Bucharest, Romania; poster presentation.
52. L. Gheorghe, **F. Voicu**, M. Greculeasa, A. Achim, F. Khaled, P. Loiseau, and G. Aka, "La_xGd_ySc_z(BO₃)₄ (x+y+z= 4) nonlinear optical crystals grown by the Czochralski method," ROCAM 2017, 11-14 July 2017, Bucharest, Romania, oral presentation.
51. **F. Voicu**, L. Gheorghe, A. Achim, C. Gheorghe, S. Hau, P. Loiseau, F. Khaled, G. Aka, G. Croitoru, "Optical and laser performances of Yb:LGSB nonlinear optical crystal," ROCAM 2017, 11-14 July 2017, Bucharest, Romania; poster presentation.
50. G. Stanciu, C. Stanciu, C. A. Brandus, **F. Voicu**, T. Dascalu, "Laser Gain Transparent Ceramics Media," The 5th Laser Ignition Conference, 20-23 June 2017, Bucharest, Romania, presentation LWA5.5 (poster presentation).
49. L. Gheorghe, **F. Voicu**, M. Greculeasa, A. Achim, F. Khaled, P. Loiseau, G. Aka, S. Hau, C. Gheorghe, G. Croitoru, "Pure and Yb-doped La_xGd_ySc_{4-x-y}(BO₃)₄ incongruent Borate type crystal: Czochralski growth, NLO properties and laser performances", TIM 17 Physics Conference, 25 - 27 May 2017, Timisoara, Romania, invited talk CM-I01.
48. M. Greculeasa, L. Gheorghe, F. Khaled, A. Achim, **F. Voicu**, P. Loiseau, G. Aka, "Czochralski growth of La_xGd_ySc_z(BO₃)₄ (x+y+z=4) nonlinear optical crystal," TIM 17 Physics Conference, 25 - 27 May 2017, Timisoara, Romania, poster presentation CM-P07.
47. **F. Voicu**, L. Gheorghe, M. Greculeasa, A. Achim, C. Gheorghe, S. Hau, "Growth and optical properties of Sm³⁺ doped Ca₃(Nb,Ga)₅O₁₂ and Ca₃(Li,Nb,Ga)₅O₁₂ single crystals," TIM 17 Physics Conference, 25 - 27 May 2017, Timisoara, Romania, poster presentation CM-P08.

46. L. Gheorghe, F. Khaled, A. Achim, **F. Voicu**, P. Loiseau, G. Aka, "Czochralski growth and NLO properties of incongruent melting $\text{La}_x\text{Gd}_y\text{Sc}_z(\text{BO}_3)_4$ ($x + y + z = 4$) crystal," 7th EPS-QEOD EUROPHOTON CONFERENCE, Solid State, Fibre, and Waveguide Coherent Light Sources, 21-26 August, 2016, Vienna, Austria; presentation PO-2.27 (poster presentation).
45. S. Hau, C. Gheorghe, L. Gheorghe, A. Achim, **F. Voicu**, M. Greculeasa, M. Enculescu, O. Toma, "Crystal growth and spectroscopic investigations of Sm^{3+} doped CNGG and CLNGG single crystals," The 16th International Balkan Workshop on Applied Physics, 7-9 July, 2016, Constanta, Romania; Book of Abstracts, p. 65 (S1 P58, poster presentation).
44. P. Loiseau, F. Khaled, G. Aka, L. Gheorghe, **F. Voicu**, G. Salamu, A. Achim, and N. Pavel, "Nonlinear optical borates suitable for crystal growth by Czochralski method frequency doubling and self-frequency doubling in the visible range," 7th International Symposium on Optical Materials, 29 Feb. - 04 March 2016, Lyon, France; invited talk I-7.
43. C. Gheorghe, A. Lupei, S. Hau, **F. Voicu**, A. M. Vlaicu, M. Enculescu, and L. Gheorghe, "Compositional dependence of optical properties of Sm^{3+} -doped $\text{Y}_3\text{Sc}_x\text{Al}_{5-x}\text{O}_{12}$ polycrystalline ceramics," 4th International conference on RARE EARTH MATERIALS, REMAT 2015, Wroclaw, Poland, 26-28 October 2015 (poster presentation).
42. L. Gheorghe, A. Achim, **F. Voicu**, G. Stanciu, "Advanced NLO Crystals for Efficient Blue Laser Sources Based on SHG Processes," Advanced Solid State Lasers Conference and Exhibition (ASSL), 04 - 09 October 2015, WISTA-Technology Park, Adlershof-Berlin, Germany; presentation ATu2A.3 (poster presentation).
41. V. Lupei, A. Lupei, S. Hau, C. Gheorghe, **F. Voicu**, "Compositional disorder effects in the spectra of Nd^{3+} in $\text{Y}_3\text{Sc}_x\text{Al}_{5-x}\text{O}_{12}$ ceramics," 9th International Conference on F-Elements, 06 - 09 September 2015, UK, Oxford; poster presentation.
40. N. Pavel, G. Salamu, **F. Voicu**, O. Grigore, T. Dascalu, F. Jipa, and M. Zamfirescu, "Depressed-cladding waveguides inscribed in Nd:YAG and Nd:YVO₄ by femtosecond-laser writing technique. Realization and laser emission," ROMOPTO 2015, 11th International Conference on Optics "Micro- to Nano-Photonics IV", September 1-4, 2015, Bucharest, Romania; presentation I.I.7 (invited presentation).
39. T. Dascalu, A. Ionescu, G. Salamu, O. Grigore, M. Dinca, **F. Voicu**, C. Brandus, and N. Pavel, "Novel Thin Disk Lens Shaped Composite Nd:YAG/YAG Ceramic Laser," CLEO Europe - EQEC 2015 Conference, 21-25 June 2015, München, Germany, presentation CA-10.4 (oral presentation).
38. **F. Voicu**, C. Gheorghe, S. Hau, L. Esposito, and J. Hostasa, " Sm^{3+} :YSAG transparent ceramic," 10th Laser Ceramics Symposium (LCS), 1-5 December, 2014, Wroclaw, Poland; presentation P-18T (poster presentation).
37. A. Achim, L. Gheorghe, G. Stanciu and **F. Voicu**, "Blue light production by type-I non-critical phase matching second-harmonic generation in $\text{La}(\text{Ca}_{1-x}\text{Sr}_x)_4\text{O}(\text{BO}_3)_3$: Crystal growth and nonlinear characterization," TIM 14 Physics Conference - Physics without frontiers, 20-22 November 2014, Timisoara, Romania; presentation CM-O03 (oral presentation).
36. L. Gheorghe, C. Gheorghe, A. Achim, **F. Voicu** and G. Stanciu, "Novel crystals for yellow-orange lasers," TIM 14 Physics Conference - Physics without frontiers, 20-22 November 2014, Timisoara, Romania; presentation CM-IO6 (invited presentation).
35. **F. Voicu**, C. Gheorghe, S. Hau, L. Esposito, and J. Hostasa, "Preliminary results on Sm^{3+} :YSAG transparent ceramic," 5th International Student Conference on Photonics, Orastie, Romania, 23-26 September 2014; presentation P.09 (poster presentation).
34. G. Salamu, **F. Voicu**, A. Achim, L. Gheorghe, N. Pavel and T. Dascalu, "Efficient laser emission from a disordered Yb:CLNGG crystal," 5th International Student Conference on Photonics, Orastie, Romania, 23-26 September 2014; presentation P.07 (poster presentation).
33. G. Salamu, F. Jipa, M. Zamfirescu, **F. Voicu**, and N. Pavel, "Laser emission from diode-pumped Nd:YAG waveguide lasers realized by femtosecond-writing technique," 5th International Student Conference on Photonics, Orastie, Romania, 23-26 September 2014; presentation O.02 (oral presentation).
32. L. Gheorghe, A. Achim, G. Stanciu, **F. Voicu**, and C. Gheorghe, " Sm^{3+} -doped $\text{Sr}_{1-x}\text{La}_x\text{Mg}_x\text{Al}_{12-x}\text{O}_{19}$ (ASL) single crystals for visible yellow-orange lasers," 5th International Student Conference on Photonics, Orastie, Romania, 23-26 September 2014; presentation I.05 (invited presentation).
31. N. Pavel, G. Salamu, F. Jipa, M. Zamfirescu, **F. Voicu**, and T. Dascalu, "Efficient laser emission in diode-pumped Nd:YAG cladding waveguides fabricated by direct writing with a helical

- movement technique," 6th EPS-QEOD EUROPHOTON CONFERENCE, Solid State, Fibre, and Waveguide Coherent Light Sources, 24-29 August, 2014, Neuchâtel, Switzerland, presentation TuP-T2-P-02 (poster presentation); Europhysics Conf. Abstract Vol. 38 E; ISBN 2-914771-89-4.
30. C. A. Brandus, L. Gheorghe, **F. Voicu**, and T. Dascalu, "Laser Emission at 1.06 μm in Nd:GdLuCOB and Nd:GdCOB Crystals," The 14th International Balkan Workshop on Applied Physics, July 2-4, 2014, Constanta, Romania, presentation S2-OP4, Book of Abstracts p. 113 (oral presentation).
 29. N. Pavel, G. Salamu, **F. Voicu**, T. Dascalu, F. Jipa, and M. Zamfirescu, "Waveguides Fabricated in Nd:YAG by Direct fs-Laser Writing - Realization and Laser Emission under Diode-Laser Pumping," The 14th International Balkan Workshop on Applied Physics, July 2-4, 2014, Constanta, Romania, presentation S2-L07, Book of Abstracts p. 106 (invited presentation).
 28. L. Gheorghe, A. Achim, G. Stanciu, **F. Voicu**, P. Loiseau and G. Aka, "Development of new nonlinear optical crystals for the design of laser devices emitting in the visible and ultraviolet," 17th International Conference on Crystal Growth and Epitaxy, ICCGE-17, 11-16 August 2013, Warsaw, Poland. Scientific Program and Book of Abstracts, ISBN 83-89585-36-7, p. 430 (oral presentation).
 27. A. Lupei, V. Lupei, C. Gheorghe, A. Ikesue, and **F. Voicu**, "Thermal effects on Sm³⁺-doped ceramic laser materials for ASE suppression," Advanced Solid State Lasers (ASSL) Congress, 27 October - 1 November 2013, Paris, France, presentation AM4A.02 (poster presentation).
 26. A. M. Voiculescu, S. Georgescu, C. Matei, A. Stefan, O. Toma, **F. Voicu**, and R. Birjega, "Synthesis and characterization of La₃Ga_{5.5}Ta_{0.5}O₁₄ doped with Yb and Tm for upconversion luminescence", Materials, Methods & Technologies, 15th International Symposium, 10-14 June 2013, Sunny Beach, Bulgaria, poster presentation - P66.
 25. 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.
 24. C. A. Brandus, **F. Voicu**, L. Gheorghe, and T. Dascalu "CW laser emission at 1061 nm in a compact Nd:GdLuCOB laser pumped by high power laser diode," International Conference "Modern Laser Applications" Third Edition, INDLAS 2013, 20-24 May 2013, Bran, Romania, presentation O10 (oral presentation).
 23. A. Achim, L. Gheorghe, G. Stanciu, and **F. Voicu**, "Efficient second harmonic generation of blue-violet light in type-I noncritical phase matching," International Conference "Modern Laser Applications" Third Edition, INDLAS 2013, 20-24 May 2013, Bran, Romania, presentation P3 (poster presentation).
 22. **F. Voicu**, A. Lupei, C. Gheorghe, C. Luculescu and M. Dumitru, "Sm³⁺ doped YAG and sesquioxides translucent ceramics," International Conference "Modern Laser Applications" Third Edition, INDLAS 2013, 20-24 May 2013, Bran, Romania, presentation O11 (oral presentation).
 21. G. Salamu, **F. Voicu**, N. Pavel, T. Dascalu, F. Jipa, and M. Zamfirescu, "Diode-pumped laser emission in femtosecond-laser inscribed Nd:YAG waveguides," International Conference "Modern Laser Applications" Third Edition, INDLAS 2013, 20-24 May 2013, Bran, Romania, presentation O1 (oral presentation).
 20. T. Dascalu, G. Salamu, N. Pavel, O. Sandu, and **F. Voicu**, "Compact 'prism-by side-pumped' solid-state laser," CLEO Europe - EQEC 2013 Conference, 12-16 May 2013, München, Germany, presentation CA-9.5 (oral presentation).
 19. C. Gheorghe, A. Lupei, **F. Voicu**, and C. Tiseanu, "Sm³⁺ Emission from different sites in Lu₂O₃ Ceramics," 3rd International Conference on RARE EARTH MATERIALS (REMAT) Advances in Synthesis, Studies and Applications, 26-28 April 2013, Wroclaw, Poland (poster presentation).
 18. A. Achim, L. Gheorghe, and **F. Voicu**, "Second harmonic generation in new nonlinear optical crystals of Y_{1-x}R_xCa₄O(BO₃)₃ (R = Lu, Sc) through non-critical phase matching," the 7th International Conference on Advanced Materials, ROCAM 2012, 28-31 August 2012, Brasov, Romania; Abstract Book, ISSN 1842-3574, p. 19 (2012) (poster presentation).
 17. A. Lupei, C. Tiseanu, C. Gheorghe, **F. Voicu**, "Spectroscopic analysis of Sm³⁺ in C₂ and C_{3i} sites of Y₂O₃," 8th International Conference on f-Elements, 26-31 August, 2012, Udine, Italy, OPT 23P, (poster presentation).
 16. V. Lupei, A. Lupei, A. Ikesue, C. Gheorghe, L. Gheorghe, A. Achim, **F.M. Voicu**, "Nd³⁺ and Yb³⁺ in

- disordered garnet crystals and ceramics," 8th International Conference on f-Elements, 26-31 August, 2012, Udine, Italy, OPT 26P (poster presentation).
15. N. Pavel, G. Salamu, O. Sandu, A. Ionescu, C. Brandus, **F. Voicu**, and T. Dascalu, "Efficient, simultaneous dual-wavelength emission at 1.06 and 1.34 μm in Nd:GdVO₄ laser crystal," 5th EPS-QEOD EUROPHOTON CONFERENCE, Solid State, Fibre, and Waveguide Coherent Light Sources, Stockholm, 2012, Sweden, presentation TuP.11 (poster presentation).
 14. **F. Voicu**, C. Gheorghe, and A. Crisan, "Preparation of Nd³⁺:YAG and Sm³⁺:Sc₂O₃ transparent ceramics," International Student Conference on Photonics 2012, SPIE Student Chapter, 8-11 May 2012, Sinaia, Romania. Book of abstracts, ISSN 2284-9750, p. 71; poster presentation.
 13. A. Achim, L. Gheorghe, **F. Voicu**, "Second harmonic generation in new nonlinear optical crystals of Y_{1-x}R_xCa₄O(BO₃)₃ (R= Lu, Sc) through non-critical phase matching," International Student Conference on Photonics 2012, SPIE Student Chapter, 8-11 May 2012, Sinaia, Romania; Book of abstracts, ISSN 2284-9750, pg. 53; Poster presentation.
 12. G. Salamu, O. Sandu, M. Dejanu, **F. Voicu**, C. Ticos, D. Popa, S. Parlac, N. Pavel, and T. Dascalu, "Study of combustion process for a methane-air mixture using a microlaser system," International Student Conference on Photonics 2012, SPIE Student Chapter, 8-11 May 2012, Sinaia, Romania; Book of abstracts, ISSN 2284-9750, p. 17; Oral presentation.
 11. A. Achim, L. Gheorghe, and **F. Voicu**, "Efficient second harmonic generation of blue-violet light in noncritical type-I phase matching," Physics Conference TIM-11, 24-27 November 2011, Timisoara, Romania; Abstract Book, ISBN 978-973-125-354-1, presentation API-P01 (pg. 129).
 10. G. Salamu, O. Sandu, M. Dejanu, **F. Voicu**, C. Ticos, D. Popa, S. Parlac, N. Pavel, and T. Dascalu, "Investigation of laser ignition for methane-air mixture and development of a microlaser system," Physics Conference TIM-11, 24-27 November 2011, Timisoara, Romania; Abstract Book, ISBN 978-973-125-354-1, presentation API-O06 (pg. 125).
 9. **F. Voicu**, C. Gheorghe, and C. Florica, "Preliminary study in preparation of N³⁺:YAG and Sm³⁺:Y₂O₃ transparent ceramics," Physics Conference TIM-11, 24-27 November 2011, Timisoara, Romania; Abstract Book, ISBN 978-973-125-354-1, presentation CMP-P38 (pg. 84).
 8. C. Gheorghe, A. Lupei, and **F. Voicu**, "Sm³⁺-doped Sc₂O₃ polycrystalline ceramics: Spectroscopic investigation," Physics Conference TIM-11, 24-27 November 2011, Timisoara, Romania; Abstract Book, ISBN 978-973-125-354-1, presentation CMP-P12 (pg. 61).
 7. L. Gheorghe, A. Achim, and **F. Voicu**, "A new promising nonlinear optical (NLO) crystal for visible and ultraviolet (UV) regions," Physics Conference TIM-11, 24-27 November 2011, Timisoara, Romania; Abstract Book, ISBN 978-973-125-354-1, presentation CMP-102 (pg. 43).
 6. C. Gheorghe, A. Lupei, L. Gheorghe, A. Achim, **F. Voicu**, "Preliminary spectroscopic investigations of Sm³⁺ doped ASL single crystal," 12th International Balkan Workshop on Applied Physics (IBWAP), July 6-8, 2011, Constanta, Romania, presentation S1-P42; Book of Abstracts, ISBN 978-973-614-645-9, pages 69-70.
 5. A. Achim, L. Gheorghe, **F. M. Voicu**, and L. Chircus, "Second harmonic generation of blue-violet light in new non-linear optical crystals of Y_{1-x}R_xCa₄O(BO₃)₃ (R = Lu, Sc) through noncritical phase matching," 12th International Balkan Workshop on Applied Physics (IBWAP), July 6-8, 2011, Constanta, Romania, presentation S1-P41; Book of Abstracts, ISBN 978-973-614-645-9, pg. 69.
 4. A. Achim, V. Lupei, A. Lupei, C. Gheorghe, L. Gheorghe, **F. M. Voicu**, "Growth and spectroscopy of Nd³⁺ and Yb³⁺ in disordered garnet crystals," 12th International Balkan Workshop on Applied Physics (IBWAP), July 6-8, 2011, Constanta, Romania, presentation S1-P40; Book of Abstracts, ISBN 978-973-614-645-9, page 69.
 3. L. Gheorghe, A. Achim, **F. Voicu**, L. Chircus, "La_xGd_ySc_z(BO₃)₄ (x+y+z= 4)-LGSB: A new promising nonlinear optical (NLO) crystal," 12th International Balkan Workshop on Applied Physics (IBWAP), July 6-8, 2011, Constanta, Romania, presentation S1-OP03; Book of Abstracts, ISBN 978-973-614-645-9, page 49.
 2. G. Salamu, O. Sandu, M. Dejanu, **F. Voicu**, C. Ticos, D. Popa, S. Parlac, N. Pavel, and T. Dascalu, "Study of laser ignition and flame kernel development in methane-air mixture," International Student Workshop on Laser Applications, 2nd ISWLA 2011, May 31-June 04, 2011, Bran, Romania.
 1. G. Salamu, **F. Voicu**, A. Leca, O. Sandu, N. Pavel, T. Dascalu, M. Dejanu, D. Popa, and S. Parlac, "Characteristics of methane-air combustion measured by Schlieren method," International Student Workshop on Laser Applications ISWLA 2010, May 25-28, 2010, Bran, Romania,

presentation P24.

PATENTS

2. T. Dascalu, N. Pavel, G. Salamu, O. Grigore, **F. Voicu**, M. Dinca, "Sistem Laser cu Doua Fascicule pentru Ignitia Motoarelor cu Ardere Interna / Laser System with Two Beams for Igniting the Internal Combustion Engines," Romanian patent, No. **RO129307B1/30.12.2019 BOPI 12/2019**; Application number: **a 2013 00417/30.05.2013**.
1. T. Dascalu, O. Sandu, **F. Voicu**, N. Pavel, G. Salamu, M. Dinca, "Sistem Laser pentru Ignitia Motoarelor cu Ardere Interna / Laser System for Igniting the Internal Combustion Engines," Romanian patent, No. **RO126373 / 30.08.2018 BOPI 8/2018**; Application number: **a 2010 01326/13.12.2010** published in BOPI 6/2011, 30/06.2011; International Patent Classification: A61M-005/31; B65B-003/04. Derwent Primary Accession Number: 2011-Q13136.