

CURRICULUM VITAE



Oleh Vovk

Affiliation and official address:

Senior Scientific Researcher at Department for Optical and Laser Crystals, Institute for Single Crystals, National Academy of Sciences (NAS) of Ukraine,
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Education (degrees, dates, universities)

- 1984 – M. S. Moscow State University named after M.V.Lomonosov (Chemistry), USSR
1988 – Ph. D. Moscow State University named after M.V.Lomonosov (Physical Chemistry), USSR
2018 – Diploma of Senior Researcher (Physics & Astronomy), Institute for Single Crystals NAS of Ukraine, Kharkiv

Career/Employment (employers, positions and dates)

1989-1989	Senior Engineer	Institute for Physics and Mechanics, NAS of Ukraine, Lviv, Ukraine
1989-2001	Scientific Researcher	Institute for Low Temperature Physics and Engineering, NAS of Ukraine, Kharkiv, Ukraine
2001-2004	Senior Scientific Researcher	Institute for Low Temperature Physics and Engineering, NAS of Ukraine, Kharkiv, Ukraine
2004	Invited Scientist	Korea Institute for Science and Technology, Seoul, Republic of South Korea.
2005	Senior Scientific Researcher	Institute for Low Temperature Physics and Engineering, NAS of Ukraine, Kharkiv, Ukraine
2006	Invited Scientist	Korea Institute for Science and Technology, Seoul, Republic of South Korea.
2007 – 2015	Senior Scientific Researcher	Institute for Single Crystals, NAS of Ukraine, Kharkiv, Ukraine
2015 – 2016	Head of Laboratory	Institute for Single Crystals NAS of Ukraine, Kharkiv, Ukraine
2016-so far	Senior Scientific Researcher	Institute for Single Crystals NAS of Ukraine, Kharkiv, Ukraine

Main field of activity and current research interest

Solid-state chemistry and physics, development of optical ceramics and crystals based on metal oxides for laser and optical applications. Current interest is developing phosphors as materials of light conversion in the high power white lighting.

Publications and patents:

93 original articles, 1 patent

<https://orcid.org/0000-0002-0715-0613>

<https://www.scopus.com/authid/detail.uri?authorId=36864124800> h-index:14

<https://publons.com/researcher/AAY-4749-2020/> h-index:13

<https://scholar.google.com/citations?user=R30GV0YAAAAJ&hl=uk> h-index:15

Selected recent publications:

1. M. Chaika, R. Tomala, **O. Vovk**, S. Nizhankovskiy, G. Mancardi, and W. Strek. 'Upconversion Luminescence in Cr³⁺:YAG Single Crystal under Infrared Excitation'. *Journal of Luminescence* 226 (2020): 117467. <https://doi.org/10.1016/j.jlumin.2020.117467>. **Q2**
2. M.A. Chaika, G. Mancardi, and **O.M. Vovk**. 'Influence of CaO and SiO₂ Additives on the Sintering Behavior of Cr,Ca:YAG Ceramics Prepared by Solid-State Reaction Sintering'. *Ceramics International* 46, no. 14 (2020): 22781–86. <https://doi.org/10.1016/j.ceramint.2020.06.045>. **Q1**
3. M. Chaika, G. Mancardi, R. Tomala, W. Strek, and **O. Vovk**. 'Effects of Divalent Dopants on the Microstructure and Conversion Efficiency of Cr⁴⁺ Ions in Cr,Me:YAG (Me - Ca, Mg, Ca/Mg) Transparent Ceramics'. *Processing and Application of Ceramics* 14, no. 1 (2020): 83–89. <https://doi.org/10.2298/PAC2001083C>. **Q3**
4. M. Chaika, **O. Vovk**, G. Mancardi, R. Tomala, and W. Strek. 'Dynamics of Yb²⁺ to Yb³⁺ Ion Valence Transformations in Yb:YAG Ceramics Used for High-Power Lasers'. *Optical Materials* 101 (2020). <https://doi.org/10.1016/j.optmat.2020.109774>. **Q1**
5. M.A. Chaika, P. Dluzewski, K. Morawiec, A. Szczepanska, K. Jablonska, G. Mancardi, R. Tomala, ...**O.Vovk** 'The Role of Ca²⁺ Ions in the Formation of High Optical Quality Cr⁴⁺,Ca:YAG Ceramics'. *Journal of the European Ceramic Society* 39, no. 11 (2019): 3344–52. **Q1**
6. Y. Boyarintseva, S. Neicheva, P. Zhmurin, P. Arhipov, I. Gerasymov, S. Tkachenko, O. Sidletskiy, V. Baumer, **O. Vovk**, and S. Nizhankovskiy. 'Optical Study of Y₃-XGdxAl₅O₁₂:Ce Crystals Grown from the Melt'. *Optical Materials* 96 (2019). <https://doi.org/10.1016/j.optmat.2019.109283>. **Q1**
7. M. Chaika, W. Paszkowicz, W. Strek, D. Hreniak, R. Tomala, N. Safronova, A. Doroshenko, ... **O Vovk** 'Influence of Cr Doping on the Phase Composition of Cr,Ca:YAG Ceramics by Solid State Reaction Sintering'. *Journal of the American Ceramic Society* 102, no. 4 (2019): 2104–15. <https://doi.org/10.1111/jace.16024>. **Q1**
8. M.A. Chaika, P. Dluzewski, K. Morawiec, A. Szczepanska, K. Jablonska, G. Mancardi, R. Tomala, ...**O.Vovk**. 'The Role of Ca²⁺ Ions in the Formation of High Optical Quality Cr⁴⁺,Ca:YAG Ceramics'. *Journal of the European Ceramic Society* 39, no. 11 (2019): 3344–52. <https://doi.org/10.1016/j.jeurceramsoc.2019.04.037>. **Q1**
9. M.A. Chaika, N.A. Dulina, A.G. Doroshenko, S.V. Parkhomenko, O.V. Gayduk, R. Tomala, W. Strek, D. Hreniak, G. Mancardi, and **O.M. Vovk**. 'Influence of Calcium Concentration on Formation of Tetravalent Chromium Doped Y₃Al₅O₁₂ Ceramics'. *Ceramics International* 44, no. 12 (2018): 13513–19. <https://doi.org/10.1016/j.ceramint.2018.04.182>. **Q1**
10. Chaika, M.A., R. Tomala, W. Strek, D. Hreniak, P. Dluzewski, K. Morawiec, P.V. Mateychenko, ...**O.Vovk**. 'Kinetics of Cr³⁺ to Cr⁴⁺ Ion Valence Transformations and Intra-Lattice Cation Exchange of Cr⁴⁺ in Cr,Ca:YAG Ceramics Used as Laser Gain and Passive Q-Switching Media'. *Journal of Chemical Physics* 151, no. 13 (2019). <https://doi.org/10.1063/1.5118321>. **Q1**
11. M.A. Chaika, **O.M. Vovk**, A.G. Doroshenko, V.K. Klochkov, P.V. Mateychenko, S.V. Parkhomenko, and O.G. Fedorov. 'Influence of Ca and Mg Doping on the Microstructure and Optical Properties of YAG Ceramics'. *Functional Materials* 24, no. 2 (2017): 237–43. <https://doi.org/10.15407/fm24.02.237>. **Q4**
12. Chaika, M.A., **O.M. Vovk**, N.A. Safronova, S.V. Parkhomenko, A.G. Doroshenko, and A.V. Tolmachev. 'Mutual Influence of Additives of Ca and Si on Properties of Cr-Doped YAG Ceramics'. *Functional Materials* 23, no. 3 (2016): 398–403. <https://doi.org/10.15407/fm23.03.398>. **Q4**