CURRICULUM VITAE

Dr. **Igor Gvozdovskyy**
Senior Scientist
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EDUCATION:

2002 Ph.D.Thesis "***UV-induced effects in the nematic liquid crystals with dopants of the steroid biomolecules***" for Physics and Mathematics candidate's degree on the speciality 01.04.15 Molecular and Liquid Crystal Physics, Institute of Physics, National Academy of Sciences, Ukraine, Kyiv.

1998 – 2001 post-graduate student at the Physico-Technical Educational Center, National Academy of Sciences of Ukraine, Kyiv, Ukraine;

1992 – 1998 Yuriy Fedcovych Chernivtsi State University, Chernivtsi, Ukraine.
Honours Diploma of M.S. in physics;
Diploma of M.S. in ecology.

EXPERIENCE:

2015-p.t. referee in Journals: Optics Express, Optical Materials Express, Journal of Molecular Liquids, Liquid Crystals and ChemistrySelect;

2013-2016 participation at the Scientific and Technological Centre of Ukraine project P585 - "*Photorefractive two-beam coupling in the infrared* ";

2012.04.26 official opponent of PhD thesis "*Influence of ferroelectric particles $Sn_2P_2S_6$ on the properties of nematic and cholesteric liquid crystals*" (author O.V. Kurochkin);

2010-p.t. senior scientist at the Department of Optical Quantum Electronics, Institute of Physics, National Academy of Sciences of Ukraine;

2009 - 2010 scientific researcher at the Department of Optical Quantum Electronics, Institute of Physics, National Academy of Sciences of Ukraine;

2008 – 2009 member of the XIII Ukrainian Antarctic Expedition;
researcher of the ozone hole at Vernadsky station (Galindes Island, Argentina Islands water area);
State target scientific and technical program of research in Antarctica for 2002-2010;

2005 scientific researcher at the Department of Optical Quantum Electronics, Institute of Physics, National Academy of Sciences of Ukraine;

2003 - 2004 member of the VIII Ukrainian Antarctic Expedition; researcher of the ozone hole and UV-radiation at Vernadsky station (Galindes Island, Argentina Islands water area); *State target scientific and technical program of research in Antarctica for 2002-2010*;

2002 – 2005 participation at the Scientific and Technological Centre of Ukraine project Gr0-50(j) - "*Ecological monitoring of biologically active UV solar and artificial UV radiation and elaboration of the "VitaD" biodosimeter*";

2002 Ph.D, junior scientist at the Department of Optical Quantum Electronics, Institute of Physics, National Academy of Sciences of Ukraine;

2000 - 2002 engineer at the Department of Optical Quantum Electronics, Institute of Physics, National Academy of Sciences of Ukraine;

1999 – 2002 teacher of physics and mathematics at the Ukrainian Physico-Technical School, Kyiv, Ukraine;

1998 – 2002 postgraduate student at the Physico-Technical Scientific and Educational Center of the National Academy of Sciences of Ukraine, Kyiv, Ukraine.

FIELDS OF SCIENTIFIC ACTIVITIES:

Liquid Crystals:

- Chiral dopants; Cholesteric liquid crystals; Photosensitive cholesteric liquid crystals; Photosensitive chiral nematic colloids and suspensions; Cholesteric diffraction gratings.
- Lehmann-type effects; Rotation of single crystals of chiral (or non-chiral) dopants at the top of a nematic (cholesteric and blue phase) droplet.
- Blue phases; Blue phase of polymer-stabilized cholesteric liquid crystals.
- Uniform lying helix (ULH).
- Hybrid photorefractive/liquid crystal cells (CdTe-LC-CdTe); Liquid crystal light valve (based on the photoconductive GaAs substrate).
- Photoalignment of the nematic liquid crystals; Contact angle and wetting of liquid crystals on photoaligning surfaces.
- The alignment of nematic liquid crystals by layers processed by means of the nonlinear laser lithography.

Spectroscopy:

- Photoisomerization of provitamin D; UV-biodosimetry.
- Ozone hole in Antarctica (Dobson ozone spectrophotometer).

HONORS, AWARDS, SCHOLARSHIPS:

2016 The manuscript of the *author: I. Gvozdovskyy* "*'Blue phases' of highly chiral thermotropic liquid crystals with a wide range of near-room temperature.*" Liquid Crystals, 2015, Vol.42, N 10, pp.1391-1404 (doi: 10.1364/AO.55.001076) is **most read in 2015**

2015 The manuscript of the *author: I. Gvozdovskyy* "*Influence of the anchoring energy on jumps of the period of stripes in thin planar cholesteric layers under the alternating electric field.*" Liquid Crystals, 2014, Vol.41, N 10, pp.1495-1504 (doi: 10.1080/02678292.2014.927930) was **one of eight others that were highly commendated by the Selection Committee during award the Luckhurst-Samulski Prize** for the best published each year in the journal Liquid Crystals;

23.01-17.02.2012 Research visiting to "Jošef Stefan" Institute. "Photoinduced chiral nematic colloids" (PR-02385 in P1-0099);

06.2011 Book of Oleg Zhariy "*Digital HDR-photography and Panorama*", as a winner of the Photographic competition "Long competition of long panorams";

22.06.2006 Medal - Ukrainian Antarctic Station "Akademic Vernadsky";

2005-2007 President of Ukraine Scholarship;

2004 Vitesse Re-Skilling™ Certificate presented to Gvozdovskyy Igor who has successfully complited the NATO Advanced Study Institute in Biophotonics Sept. 29 - October 9, 2004, Ottawa, Ontario, Canada;

2004 NATO travel Grant N82;

2004 Diploma Ministry of Education and Sciences of Ukraine N90061.

PERSONAL DATA:

Fist name:	**Igor**
Last name:	**Gvozdovskyy**
Data and place of Birth:	25 July 1975, Ukraine
Marriage Status:	married
Chirldren:	daughter, son
Citizenship:	Ukraine
E-mail:	igvozd@gmail.com, igvozd@iop.kiev.ua
Languages:	Ukrainian (native speaker); Russian (good); English (active).
Hobbies:	Drawing in pencil and indian ink, cactus cultivation, mountaineering, photography

PUBLICATIONS:

1. **Igor Gvozdovskyy** "Electro- and photoswitching of undulation structures in planar cholesteric layers aligned by a polyimide film possessing various values of the anchoring energy" *Liquid Crystals*, 2017, Vol., N, pp.-. (*Published online*) (doi:10.1080/02678292.2017.1359691)
2. Konstantin Shcherbin, **Igor Gvozdovskyy** and Dean R. Evans "Optimization of the liquid crystal light valve for signal beam amplification" *Optical Materials Express*, 2016, Vol. **6**, N11, 3670-3675. (http://dx.doi.org/10.1364/OME.6.003670)
3. **Igor Gvozdovskyy "**Role of the photopolymerisation conditions in the broadening of the temperature range of the 'blue phases'" *Liquid Crystals*, 2016, Vol. **43**, N12, pp.1813-1830. (doi:10.1080/02678292.2016.1213431)
4. K. Shcherbin, **I. Gvozdovskyy** and D. R. Evans "Dynamic gratings recording in liquid crystal light valve with semiconductor substrate" *Proc. SPIE* 9771, Practical Holography XXX: Materials and Applications, 97710U (March 7, 2016). (doi:10.1117/12.2209552)

(From Conference Volume 9771, Practical Holography XXX: Materials and Applications, Hans I. Bjelkhagen; V. Michael Bove, San Francisco, California, United States | February 13, 2016)

5. K. Shcherbin, **I. Gvozdovskyy** and D. Evans "Infrared sensitive liquid crystal light valve with semiconductor substrate" *Appl. Opt*., 2016, Vol. **55**, N5, pp.1076-1081. (doi: 10.1364/AO.55.001076)
6. **Igor Gvozdovskyy** "Blue phases" of highly chiral thermotropic liquid crystals with a wide range of near-room temperature" *Liquid Crystals*, 2015, Vol. **42**, N10, pp.1391-1404. (doi: 10.1080/02678292.2015.1053001)
7. **Igor Gvozdovskyy** "Influence of the anchoring energy on jumps of the period of stripes in thin planar cholesteric layers under the alternating electric field" *Liquid Crystals*, 2014, Vol. **41**, N 10, pp.1495-1504. (doi**:** 10.1080/02678292.2014.927930)
8. **I. Gvozdovskyy**, V.S.R. Jampani, M. Škarabot and I. Muševič "Light-induced rewiring and winding of Saturn ring defects in photosensitive chiral nematic colloids" *European Physical Journal E*, 2013, Vol. **36**, N9, pp.13097-8. (doi: 10.1140/epje/i2013-13097-8)
9. Oleg Yaroshchuk, Sergiy Tomylko, **Igor Gvozdovskyy** and Rumiko Yamaguchi "Cholesteric liquid crystal–carbon nanotube composites with photo-settable reversible and memory electro-optic modes" *Applied Optics*, 2013, Vol. **52**, Issue 22, pp. E53-E59. (doi: 10.1364/AO.52.000E53)
10. **Igor Gvozdovskyy**, Oleg Yaroshchuk, Marina Serbina and Rumiko Yamaguchi "Photoinduced helical inversion in cholesteric liquid crystal cells with homeotropic anchoring" *Optics Express*, 2012, Vol. **20**, N4, pp. 3499- 3508. (doi: 10.1364/OE.20.003499)
11. Sergiy Tomylko, **Igor Gvozdovskyy**, Oleg Yaroshchuk, and Rumiko Yamaguchi "Two-mode photo-switchable LCD on the base of liquid crystals with a minute amount of carbon nanotubes" *IMID 2011 DIGEST*, 2011, P1-72, pp. 681-682.
12. **Igor Gvozdovskyy**, Oleg Yaroshchuk and Marina Serbina "Light-induced nematic - cholesteric structural transitions in the LC cells with homeotropic anchoring" *Mol. Crys. Liq. Crys.*, 2011, Vol. **546**, pp. 202/[1672] - 208/[1678]. (doi: 10.1080/15421406.2011.571161)
13. **I. Gvozdovskyy,** K. Shcherbin, D.R. Evans, G. Cook "Infrared sensitive liquid crystal photorefractive hybrid cell with semiconductor substrates" *Appl. Phys. B*, 2011, Vol. **104**, Issue 4, pp. 883-886. (doi: 10.1007/s00340-011-4374-x)
14. M.I. Serbina, L.N. Lisetski, **I.A. Gvozdovskyy**, A.V. Koval'chuk, G.S. Chilaya "Effect of UV radiation on selective reflection and dielectric properties of cholesterol ester mixtures with photoactive nematics" *J. Functional Materials*, 2010, Vol. **17**, Issue 4, pp. 449-453.
15. **I. Gvozdovskyy**, Yu. Kurioz, and Yu. Reznikov "Exposure and temperature dependences of contact angle of liquid crystals on photoaligning surface" *Opto-electronics review*, 2009, Vol. 17, Issue 2, pp.116-119. (doi: 10.2478/s11772-008-0065-5)
16. L.N. Lisetski, **I.A. Gvozdovskyy** "Rotation of small crystals of non-chiral substances at the top of a cholesteric droplet: an inverse case of the Lehmann-type effect" *J. Functional Materials*, 2008, Vol. **15**, Issue 3, pp. 388-391.
17. **I.A. Gvozdovskyy**, L.N. Lisetski "Rotation of single crystals of chiral dopants at the top of a nematic droplet: a hydrodynamical analogy" *J. Functional Materials*, 2007, Vol. **14**, Issue 3, pp. 332-337.

18. **I.A. Gvozdovskyy**, L.N. Lisetski "Rotation of single crystals of chiral dopants at the top of a nematic droplet: factors affecting the angular velocity" *Mol. Crys. Liq. Cryst.*, 2007, Vol. **475**, pp. 113-122. (doi: 10.1080/15421400701681331)

19. **I.A. Gvozdovskyy**, L.N. Lisetski "Rotation of single crystals of chiral dopants at the top of a nematic droplet: analogy with Lehmann effect" *European Physical Journal E*, 2007, Vol. **24**, N3, pp.211-215. (doi: 10.1140/epje/i2006-10253-3)

20. N.A. Kasyan, V.D. Panikarskaya, L.N. Lisetski, V.S. Manzhara, **I.A. Gvozdovskyy**. "Temperature-induced transformations of chromenoacridines in liquid crystalline solvents" *Liquid Crystals and Their Application*, 2005, Issue 3-4 (13-14), pp. 93-99.

21. I. Terenetskaya, T. Orlova, **I. Gvozdovskyy**, G. Milinevsky, "Solar UVB radiation and vitamin D synthesis: direct monitoring of the vitamin D synthetic capacity of sunlight in Kiev and in Antarctic" *Annalen der Meteorologie*, 2005, Vol. **2**, N 41, pp.676–678.

22. **I. Gvozdovskyy**, T. Orlova, E. Salkova, I. Terenetskaya, G. Milinevsky. "Ozone and solar UV-B radiation: monitoring of the vitamin D synthetic capacity of sunlight in Kiev and Antarctica" in: *International Journal of Remote Sensing*, 2005, Vol. **26**, N 16, pp. 3555-3559. (doi: 10.1080/01431160500076863)

23. **I. Gvozdovskyy**, T. Orlova, I. Terenetskaya, "Features of Previtamin D *cis-trans* isomeriztaion in the nematic LC matrices: orientation and cholesteric order effects" *Mol. Cryst. Liq. Cryst,* 2005, Vol. **434**, pp. 325-332. (doi: 10.1080/15421400590955361)

24. **I. Gvozdovskyy**, T. Orlova, I. Terenetskaya. "UV induced photoalignment and color change in nematic liquid crystals with provitamin D dopant" *Mol. Crys. Liq. Cryst.*, 2005, Vol. **430**, pp. 199-203. (doi: 10.1080/15421400590946389)

25. M. Aronishidze, A. Chanishvili, G. Chilaya, G. Petriashvili; S. Tavzarashvili, L. Lisetski, N.Kireyeva, **I. Gvozdovskyy**, I. Terenetskaya "Colour change effect based on provitamin D phototransformation in right and left-handed cholesteric liquid crystalline mixtures" *Proceedings of the Institute of Cybernetics of the Georgian Academy of Sciences* 2004, Vol. **3**, N 2, p.8.

26. M. Aronishidze, A. Chanishvili, G. Chilaya, G. Petriashvili, S. Tavzarashvili, L. Lisetski, **I. Gvozdovskyy**, I. Terenetskaya "Color change effect based on provitamin D phototransformation in cholesteric liquid crystalline mixtures" *Mol. Crys. Liq. Cryst.*, 2004, Vol. **420**, pp. 47-53. (doi: 10.1080/15421400490478353)

27. **Gvozdovskyy I.A**., Terenetskaya I.P., Reshetnyak, V.Y. "Dissolution of steroid crystals in nematic droplet: effect of rotation" *Proceedings - SPIE the International Society for Optical Engineering*, 2003, Vol. **5257**, pp. 102-109. (doi: 10.1117/12.545829)

28. **I.Gvozdovskyy**, I. Terenetskaya "Steroid motor: dynamics of cholesteric helix induction in the nematic droplet" *Liquid Crystals Today* 2002, Vol. **11**, N 4, pp. 8-12(5). (doi: 10.1080/146451802100006824)

29. **I.A. Gvozdovsky**, I.P. Terenetskaya "UV-induced orientation effects in nematic liquid crystals dye to photo-changes adsorbed of provitamin D_3" *J. Scientific and Applied Photography,* 2002, Vol. **47**, N 2, pp. 45-50 (in Russian).

30. **I.A. Gvozdovsky,** I.P. Terenetskaya "Effect of rotation of steroid microcrystals in nematic droplet" *Ukrainian J. Phys.*, 2002, Vol. **47**, N 8, pp. 751-754 (in Ukrainian).

31. **I.A. Gvozdovsky** and I.P. Terenetskaya "Liquid crystal photoorientation mediated by UV irradiation of the composed film PMMA+provitamin D_3" *Journal of Surface Investigation: X-Ray, Synchrotron and Neutron Techniques*, 2002, N 2, pp.80-83 (in Russian).

32. **Igor Gvozdovskyy** and Irina Terenetskaya "Development of personal UVB sensor: detection of previtamin D photosynthesis" *Kluwer Academic Publishers*, 2001, P. 341-353.
33. I.P. Terenetskaya and **I.A. Gvozdovskyy** "In-situ monitoring of biologically active solar UV-B radiation: a new biosensor of vitamin D synthetic capacity" *SPIE Proceedings the International Society for Optical Engineering,* 2001, Vol. **4425**, pp. 183-188. (doi: 10.1117/12.429721)
34. I. Terenetskaya**, I. Gvozdovsky "**Development of personal UV biodosimeter based on vitamin D photosynthesis" *Mol. Cryst. Liq. Cryst,* 2001. – Vol. **368. –** pp. 551-558. (doi: 10.1080/10587250108029987)
35. **I.A. Gvozdovsky**, I.P. Terenetskaya. "Comparative study of the provitamin D photoisomerization kinetics in ethanol and liquid crystal" *J. Functional Materials*. 2000. - Vol. **7**, N 3. pp. 508-512.
36. A.G. Dyadyusha, **I.A. Gvozdovsky**, E.N. Salkova, I.P. Terenetskaya "Development of personal biodosimeter of UV radiation based on vitamin D photosynthesis in nematic liquid crystal matrix" *Semiconductor Physics, Quantum Electronics & Optoelectronics,* 1999, Vol. **2**, N4, pp.91-95.

REPORTS AT THE CONFERENCES:

1. SPIE International Conference "Advanced Materials", 3-7 October 1999, Kiev, Ukraine.
2. VIII International Symposium "Advanced Display Technologies", 10-14 October 1999 Crimea, Ukraine.
3. 18th International Conference on Liquid Crystal, 24-28 July 2000, Sendai, Japan.
4. SPIE International Symposium "Smart Sensing 2000", 26-30 September 2000, Kiev, Ukraine.
5. 8th International Conference "Nonlinear Optics of Liquid and Photorefractive Crystals", 2-6 October 2000, Crimea, Ukraine.
6. IX Russian National Conference on Crystal Growing, 16-20 October 2000, Moscow, Russia.
7. First Ukrainian Antarctic Metting 1UAM2001, 4-7 June 2001, Kyiv, Ukraine.
8. Biologic Effects of Light Boston, Massachusetts, 15-17 June 2001, Boston, USA.
9. XV International School-Seminar "Spectroscopy of molecules and crystals" (XVISSSMC) 23-30 June 2001, Chernihiv, Ukraine.
10. 9th ECSBM September 2001, Prague, Czech Republic.
11. XX Internetional Conference on Photochemistry (ICPXX), Moskow, July 30 – August 4, 2001.
12. VIII European Conference on Organised Films (ECOF8), Otranto, (Lecce) Italy, 3-7 September 2001.
13. XIV Conference on Liquid Crystals (Chemistry, Physics and Applications) (CLC 2001), Zakopane, Poland 3-7 September 2001.
14. 19th International Liquid Crystal Conference 30 June - 5 July 2002, Edinburgh, UK.
15. 9th International Conference "Nonlinear Optics of Liquid and Photorefractive Crystals", September 30 - October 4, 2002, Crimea, Ukraine.

16. Ozone Symposium, 1-8 June 2004, Kos, Greece.
17. International Symposium «Atmospheric radiation» (MCAP-2004), 22-25 June 2004, Saint-Petersburg, Russia.
18. 20th International Conference on Liquid Crystal (ILCC 2004), 4-9 July 2004, Ljubljana, Slovenia.
19. 4th International Symposium on Photochromism (ISOP' 04) "Photoswichable Molecular Systems and Devices", 12-15 September 2004, Arcachon, France.
20. 11th International Topical Meeting on Optics of Liquid Crystals, 2-7 October 2005, Florida, USA.
21. 5-а Різдв'яна Конференція з Рідких Кристалів (РКРК-5), 20-21грудня 2005, м. Київ, Інститут фізики НАН України.
22. International Conference "Modern Problems of Condensed Matter Optics" MPCMON. April 26-28, 2006, Kyiv, Ukraine.
23. 21 International Liquid Crystal Conference (ILCC 2006), 2-7 July 2006, Keystone, Colorado, USA.
24. XVII Conference on Liquid Crystals (Chemistry, Physics and Applications) (CLC 2007), Augustow, Poland 17-22 September 2007.
25. 8-th International Conference "Elecrtonic processes in organic and inorganic materials" (ICEPOM-8). 17-22 May 2010, Residence Synyogora, Ivano-Frankivsk, Ukraine.
26. 23 International Liquid Crystal Conference (ILCC 2010), 11-16 July 2010, Krakow, Poland.
27. 10 Всеукраїнська наукова конференція "Актуальні питання історії науки і техніки", 6-8 жовтня, 2011, Київ.
28. The 11th International Meeting on Information Display, 11-15 October 2011, KINTEX, Seoul, Korea.
29. Topical Meeting Photorefractive Materials, Effects, and Devices "Light in Nonlinear Structured Materials" (PR-11), 13-15 October 2011, Ensenada, Mexico.
30. 12th European Conference on Liquid Crystals, 22-27 September 2013, Rhodes, Greece.
31. Topical Meeting Photorefractive Materials, Effects, and Devices "Light in Nonlinear Structured Materials" (PR-12), 9-13 June 2014, Key Largo, Florida, USA.
32. Photorefractive photonics (PR-15), 16-19 June 2015, Villars, Switzerland.
33. XXII Galyna Puchkovska International School-Seminar "Spectroscopy of Molecules and Crystals" (XXII ISSSMC), September 27- October 4, 2015, Mukachevo, Zakarpattia, Ukraine.
34. 1st International Conference on Optics, Photonics and Materials, October 26-28, 2016, Nice, France.