Curriculum Vitae

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EXPERIENCE:

2011 – p.t.	***scientific researcher*** at the Department of Optical Quantum Electronics, Institute of Physics NASU;
2011	***visiting researcher*** at the Dept. Radiation Biology, Institute for Cancer research, Norwegian Radium Hospital, Oslo University Hospital from 01 February till 31 July (supported by the Research Council of Norway, Yggdrasyl programme, Personal mobility grant 202615);
2008 – 2011	***scientific researcher*** at the Department of Optical Quantum Electronics, Institute of Physics NASU;
2005 – 2008	***junior researcher*** at the Department of Optical Quantum Electronics, Institute of Physics NASU.

EDUCATION:

2007	***Ph.D. (Physics and Mathematics)***, Institute of Physics, NASU. Thesis title ***'Optical and spectral properties of liquid crystals with photosensitive chiral steroid dopant';***
2002 – 2005	PhD student at Physical Engineering Training-and-Research Center NASU, av. Ac. Vernadskyy 36, Kyiv-142, 03680 Ukraine;
2001 – 2002	***M.Sc. with Honours (Physics)***, Volodymyr Dahl East-Ukrainian National University, Molodizhnyi kvartal 20-a, Luhansk, 91034 Ukraine; Diploma title *'Z-pinch dynamics in BiSb under conditions of transverse breakdown: nature of an S-shaped volt-ampere characteristic';*
1997 – 2001	***B.Sc. with Honours (Physics),*** Volodymyr Dahl East-Ukrainian National University, Molodizhnyi kvartal 20-a, Luhansk, 91034 Ukraine.

GRANTS AND PROJECTS:

2012	Grant of President of Ukraine for young scientists;
2012	consultant of the STCU project P344a;
2011	personal mobility grant 202615, Yggdrasyl programme, the Research Council of Norway, on period from 01 February till 31 July 2011 at the Dept. Radiation Biology, Institute for Cancer research, Norwegian Radium Hospital, Oslo University Hospital;

2007 – 2010 basic participant of the STCU project P344 ‘The development of a bio-equivalent ultraviolet dosimeter to monitor the capacity for Vitamin-D synthesis of sunlight’;

2006 – 2008 NAS Ukraine Grant for young scientists;

2003 – 2005 participant of the STCU project Gr0-50(j) ‘Ecological monitoring of biologically active antirachitic UV radiation and elaboration of the ‘VitaD’ biodosimeter’;

2002 participant of the Greece – Ukraine joint project ‘Monitoring of biologically active solar UV-B radiation: intercalibration of broad-band radiometer and ‘Vitamin D’ biodosimeter’.

PATENTS:

2011 Ukrainian Patent №93569 ‘A method for *in situ* determination of the vitamin-D-synthetic dose of natural and artificial ultraviolet irradiation and its implementation in a personal bio-dosimeter’
Authors: Terenetska I.P., Orlova T.N., Kirilenko E.K., Eremenko A.M., Galich G.A.
Date of filling Ukrainian patent application is 23.04.2009. Date of effective is 25.02.2011.

AWARDS:

2008 Best Presentation Award for Young Scientist (Poster Session) at the 18th International Congress of Biometeorology (September 22-26, 2008, Tokyo, Japan).

RESEARCH INTERESTS:

Photochemistry in organized and constrained media, Provitamin D photoisomerization, Conformational dynamics of biomolecules;
Liquid crystals: Chiral dopants, Cholesteric Liquid Crystals, Optics of Liquid Crystals;
Porous and polymer films;
Vitamin D synthesis, Bioactivity and dosimetry of UV radiation;
Computer simulations.

PERSONAL DATA:

Date of Birth	October 25, 1982
Place of Birth	Luhansk, Ukraine
Citizenship	Ukraine
Languages	Russian – native, Ukrainian – fluent, English – active.

PUBLICATIONS AND PROCEEDINGS:

1. **Orlova T.**, Moan J., Lagunova Z., Aksnes L., Terenetskaya I., Juzeniene A. "Increase in serum 25-hydroxyvitamin-D_3 in humans after sunbed exposures compared to previtamin D_3 synthesis *in vitro*", *J. Photochem. Photobiol. B: Biology*, 122, 32-36 (2013).
2. Kapinos P., **Orlova T.**, Terenetskaya I. "Method for the measurement of the vitamin-D synthetic capacity of UV radiation", *Lighting engineering and power engineering*, 1(29), 25-33 (03.2012).
3. Terenetskaya I., **Orlova T.**, Kapinos P. "Adequate UV exposures for healthy life: *in situ* monitoring and model calculation of the vitamin-D-synthetic capacity of sunlight", *Chemistry Journal of Moldova*, 7 (1), 98-103 (2012).
4. **Orlova T.N.**, Terenetskaya I.P. "Polarization properties and structure changes of plane-oriented nematic LCs with provitamin D_3 chiral dopant", *Mol. Cryst. Liq. Cryst.*, 547, 10 [1700] – 17 [1707] (2011).
5. Terenetskaya I.P., **Orlova T.N.** "Collective character of previtamin D *cis-trans* isomerization in liquid-crystalline matrices", *Mol. Cryst. Liq. Cryst.*, 541, 96 [334] – 103 [341] (2011).
6. Terenetskaya I., **Orlova T.** "Variability of solar UV-B irradiance: in situ monitoring and model calculation of the vitamin D synthetic capacity of sunlight", *Int. J. Remote Sensing*, 32, № 21, 6205-6218 (2011).
7. Melnikova I., Terenetskaya I., **Orlova T.** "Modelling and observations of biologically active solar UV radiation: towards balancing between health risks and benefits", *Proc. 34th International Symposium on Remote Sensing of Environment „The GEOSS Era: Towards Operational Environmental Monitoring", paper 00535 pp.1-4*, Sydney, Australia, 10-15 April 2011.
8. **Orlova T.N.**, Terenetskaya I.P., Eremenko A.M., Surovtseva N. I., "Provitamin D doped silica and polymeric films: new materials for UV biosensor", *Mat. Sci. Appl.*, 1, 267-271 (2010).
9. Mukha Yu.P., Eremenko A.M., Smirnova N.P., Doroshenko A.O., Valakh M.Ya., Dzhagan V.I., Terenetskaya I.P., **Orlova T.N.** " Influence of gold nanoparticles in SiO2 matrix on the spectral properties and photochemistry of adsorbed molecules of Rhodamine 6G and provitamin D", *Nanosystems, Nanomaterials, Nanotechnologies*, 8, Issue 4, 813 – 828 (2010).
10. **Orlova T.N.**, Terenetskaya I.P. "Numerical simulations of provitamin D_3 photoisomerization kinetics: specific features of *cis-trans* isomerization in liquid crystals", *Vestnik SNU*, 8 (150), part 2, 36-43 (2010) [in Russian].
11. **Orlova T.N.**, Terenetskaya I.P. "Specific features of provitamin D_3 photoisomerization in a cholesteric liquid crystal", *Opt. Spectr.*, 108, 608-612 (2010).
12. **Orlova T.N.**, Terenetskaya I.P. "Possible use of provitamin D3 photoisomerization for spectral dosimetry of bioactive antirachitic UV radiation", *J. Applied Spectroscopy*, 76, Issue 2, 240-244 (2009).
13. **Orlova T.N.**, Terenetskaya I.P. "Useful algorithm for calculations the vitamin-D synthetic capacity of sunlight", *Proc. 18th Int. Congress of Biometeorology, Ecosystem Eco-P06*, pp.1-4, 22-26 September, 2008, Tokyo, Japan.
14. **Orlova T.N.**, Terenetskaya I.P. **"**UV-biosensor for visual indication of vitamin D synthesis", *Proc. SPIE*, 7003, 70031O-1 – 70031O-8 (2008).
15. Terenetskaya I.P., **Orlova T.N.** "Personal UV biodosimeter for healthy indoor tanning", *Proc. SPIE*, 6991, 69911F-1 – 69911F-8 (2008).

16. Zavora L.N., Kasyan N.A., Lisetski L.N., Panikarskaya V.D., Terenetskaya I.P., **Orlova T.N.**, Torgova S.I. "Photoinduced phase transition smectic A – cholesteric in liquid crystal matrices containing provitamin D", *Liquid Crystals and Their Applications,* 3 (25), 39-44 (2008) [in Russian].
17. **Orlova Tatiana N.** "Optical and spectral properties of liquid crystals with photosensitive chiral steroid dopant", *EPA Newsletters,* 12, 38-39 (2007).
18. Egorov R.I., **Orlova T.N.**, Terenetskaya I.P. "Stokes-polarimetry of UV-induced cholesteric pitch changes", *NASU Reports,* 11, 73-78 (2006) [in Russian].
19. **Orlova T.N.**, Terenetskaya I.P. "Specific features of photoisomerization of provitamin D_3 in a nematic liquid crystal", *Opt. Spectr.,* 100, 584-589 (2006).
20. Terenetskaya I., **Orlova T.** "UV radiation, vitamin D and cancer: how to measure the vitamin D synthetic capacity of UV sources?" *Proc. SPIE,* 5969, 465-471 (2005).
21. Terenetskaya I., **Orlova T.**, Gvozdovskyy I., Milinevsky G. "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,* 2, № 41, 676-678 (2005).
22. Gvozdovskyy I., **Orlova T.**, Salkova E., Terenetskaya I., Milinevsky G. "Ozone and solar UVB radiation: monitoring of the vitamin D synthetic capacity of sunlight in Kiev and Antarctica", *Int. J. Remote Sensing,* 26, № 16, 3555-3559 (2005).
23. Gvozdovskyy I., **Orlova T.**, Terenetskaya I. "Features of previtamin D cis-trans isomerization in the nematic LC matrices: orientation and cholesteric order effects", *Mol. Cryst. Liq. Cryst.,* 434, 325/[653]-332/[660] (2005).
24. Gvozdovskyy I., **Orlova T.**, Terenetskaya I. "UV induced photoalignment and colour change in nematic liquid crystals with provitamin D dopant", *Mol. Cryst. Liq. Cryst.,* 430, 199-203 (2005).

CONFERENCES:

1. VII Open Ukrainian Conference of Young Scientists on Polymer Science VMS-2012, October 15-18, 2012, Kyiv, Ukraine.
2. The First All-Russian Conference on Liquid Crystals, September 17-21, 2012, Ivanovo, Russia.
3. The 3-rd International Symposium "Molecular Photonics" dedicated to academician A.N. Terenin, June 24–29, 2012, Repino, St. Petersburg, Russia.
4. 2nd International Conference "Nanobiophysics: fundamental and applied aspects", October 6-9, 2011, Kiev, Ukraine.
5. 34th International Symposium on Remote Sensing of Environment "The GEOSS Era: Towards Operational Environmental Monitoring", April 10-15, 2011, Sydney Convention and Exhibition Centre, Australia.
6. 2nd International Scientific Conference Nanostructured Materials-2010: Belarus-Russia-Ukraine, "NANO-2010", October 22-26, 2010, Kiev, Ukraine.
7. 7^{th} Aegean Analytical Chemistry Days, Sept. 29 – Oct.03, 2010, Lesvos, Greece.
8. 23th International Liquid Crystal Conference, July 11-16, 2010, Krakow, Poland.
9. XXIV International Conference on Photochemistry, July 19-24, 2009, Toledo, Spain.
10. 15th International Congress on Photobiology, June 18-23, 2009, Dusseldorf, Germany.
11. 18th International Congress of Biometeorology, September 22-26, 2008, Tokyo, Japan.
12. SPIE Conference "Photonics Europe", April 7-11, 2008, Strasbourg, France.

13. VII International Crimean Conference “Cosmos and biosphere”, October 1-6, 2007, Sudak, Crimea.
14. International Symposium on Molecular Photonics devoted to the memory of acad. A.N. Terenin, June 28 – July 02, 2006, St. Petersburg, Russia.
15. International Symposium of CIS Countries “Atmospheric Radiation”, June 27-30, 2006, St. Petersburg, Russia.
16. International conference “Modern Problems of Condensed Matter Optics” devoted to Centerary of birthday of Honoured famous Scientists, academician NASU A.F. Pryhot’ko, April 26–28, 2006, Kiev, Ukraine.
17. SPIE Conference “Photonics North”, September 12 - 14, 2005, Toronto, Canada.
18. 17th International Congress of Biometeorology, September 5-9, 2005, Garmisch-Partenkirchen, Bavaria, Germany.
19. International Conference “Molecular Crystals Spectroscopy: Dielectrics, Metals and Superconductors”, December 2-3, 2004, Chernogolovka, Russia.
20. 4th International Conference on Photochromism, September 12-15, 2004, Arcachon, France.
21. XX IUPAC Symposium on Photochemistry, July 17-22, 2004, Granada, Spain.
22. 20th International Liquid Crystal Conference, July 4-9, 2004, Ljubljana, Slovenia.
23. International Symposium of CIS Countries “Atmospheric Radiation”, June 22-25, 2004, St. Petersburg, Russia.
24. XII Symposium on intermolecular interaction and molecular conformations, June 14-16, 2004, Pushchino, Russia.
25. International Quadrennial Ozone Symposium, June 01-08, 2004, the island of Kos, Greece.