Curriculum Vitae

Personal information

Elmars Zarins

Work experience

03.2024. – Present. *Medicines Marketing Authorization Department Pharmaceutical Information Division Expert of Variations Sector at State Agency of Medicines of the Republic of Latvia.*

01.2024. – Present. *Senior Researcher in science at Riga Technical University, Faculty of Natural Sciences and Technology, Institute of Chemistry and Chemical Technology. [voluntary]*

2015. – 12.2023. *Senior Researcher in science at Riga Technical University, Faculty of Material Science and Applied Chemistry & Institute of Applied Chemistry.*

01.2021. – 12.2022. *Engineer in science at the Institute of Solid State Physics, University of Latvia, Laboratory of Organic Materials (LOM).*

2012. – 2015. *Researcher in science at Riga Technical University, Faculty of Material Science and Applied Chemistry & Institute of Applied Chemistry.*

2008. – 2012. *Assistant in science at Riga Technical University, Faculty of Material Science and Applied Chemistry & Institute of Applied Chemistry.*

2005. – 2007. *Scientific employee at Riga Technical University, Faculty of Material Science and Applied Chemistry & Institute of Applied Chemistry.*

Country of employment for Riga Technical University and Institute of Solid State Physics is Latvia.

Research activities at Riga Technical University and at the Institute of Solid State Physics were related with synthesis of new organic compounds with their potential applications in photonic devices. Main focus of research activities was devoted to the synthesis of new organic compounds with their potential applications in organic solid-state lasers. Results of the mentioned research activities are available in listed publications.

Education and training

01.2018. – 12.2020. *Post-Doctoral research with European Regional Development Fund supported project "Design and investigation of solution processable light-emitting system components for organic solid state lasers" No. 1.1.1.2/VIAA/1/16/035 (VIAA Project No.1.1.1.2/16/I/001). The post-doctoral research was carried out mainly at Riga Technical University, Faculty of Material Science and Applied Chemistry & Institute of Applied Chemistry, Latvia in close collaboration with Institute of Solid State Physics, University of Latvia, Laboratory of Organic Materials (LOM), Latvia and Kaunas University of Technology, Department of polymer chemistry and Technology, Lithuania.*

International mobility: Part of the necessary research tasks were carried out in Kaunas University of Technology, Lithuania. Duration of the cooperation agreement between Riga Technical University and Kaunas University of Technology from 01.10.2019 to 01.04.2020.

Results: *please see the lists of publications and scientific conferences.*

09.2010. – 12.2014. *Doctoral (PhD) studies at Riga Technical University, Faculty of Material Science and Applied Chemistry & Institute of Applied Chemistry, Latvia. Doctoral Thesis: Synthesis and physical properties of amorphous phase forming glassy organic luminophores and other compounds with photorefractive properties.* ***Obtained degree****: Doctor of chemistry (Dr. chem.), specialization in organic chemistry.*

09.2008. – 07.2010. *Master's studies at Riga Technical University, Faculty of Material Science and Applied Chemistry & Institute of Applied Chemistry, Latvia. Master's Thesis: Synthesis of 4H-pyran-4-ylidene fragment containing luminophores and azo dyes for photonic device materials.* ***Obtained degree****: Master's degree in chemistry.*

09.2004. – 07.2008. *Bachelor's studies at Riga Technical University, Faculty of Material Science and Applied Chemistry & Institute of Applied Chemistry, Latvia. Bachelor's Thesis: Synthesis of derivatives of 2-styryl- and 2,6-distyryl-4H-pyran-4-one for the potential applications in photonic materials.* ***Obtained degree****: Bachelor's degree in chemistry.*

Additional information

Publications

A list of recent and most noteworthy publications where the expert is the first author and corresponding author is provided below:

1. E. Zarins, J. Pervenecka, E. Misina, O. Bezvikonnyi, A. Vembris, K. Balodis, D. Volyniuk, J. V. Grazulevicius, V. Kokars. HAPPY dyes as light amplification media in thin films. *The Journal of Organic Chemistry,* 2021, *86(4)*, 3213-3222. DOI: 10.1021/acs.joc.0c02574.
2. E. Zarins, J. Pervenecka, A. Vembris, V. Kokars. Glass-forming non-symmetric bis-styryl-DWK-type dyes for infra-red radiation amplification systems. *Optical Materials*, 2019, *93*, 85-92.

3. E. Zarins, K. Siltane, J. Pervenecka, A. Vembris, V. Kokars. Glass-forming derivatives of 2-cyano-2-(4H-pyran-4-ylidene) acetate for light-amplification systems. *Dyes and Pigments*, 2019, *163*, 62-70.
4. E. Zarins, T. Puciriuss, J. Pervenecka, A. Vembris, V. Kokars. Glass-forming non-symmetric DWK-dyes with 5,5,5-triphenylpentyl and piparazine moieties for light-amplification studies. *Journal of Photonics for Energy*, 2018, *8(4)*, 046001-1-046001-11.
5. E. Zarins, K. Balodis, A. Ruduss, V. Kokars, A. Ozols, P. Augustovs, D. Saharovs. Molecular glasses of azobenzene for holographic data storage applications. *Optical Materials*, 2018, *79*, 45-52.
6. E. Zarins, A. Tokmakovs, V. Kokars, A. Ozols, P. Augustovs, M. Rutkis. Triphenyl group containing molecular glasses of azobenzene for photonic applications. *Optical Materials*, 2016, *53*, 146-154.
7. E. Zarins, A. Vembris, E. Misina, M. Narels, R. Grzibovskis, V. Kokars. Solution processable 2-(trityloxy)ethyl and tert-butyl group containing amorphous molecular glasses of pyranylidene derivatives with light-emitting and amplified spontaneous emission properties. *Optical Materials*, 2015, 49, 129-137.

For a full list of publications, please see:

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Projects

A list of recent and most important projects where the expert has conducted research is provided below:

1. M-era.Net type project "Enabling a Commercially Viable Long Lifespan and High-Efficiency Omni- Friendly OLED Lighting Source with G2 and G3 Emitters". Role in the project: implementer. *Duration of participation in the project: 01.06.2021. – 31.08.2023.*
2. Post-Doctoral research with European Regional Development Fund supported project "Design and investigation of solution processable light-emitting system components for organic solid state lasers" No. 1.1.1.2/VIAA/1/16/035 (VIAA Project No.1.1.1.2/16/I/001). Role in the project: leader and main implementer. *Duration of participation in the project: 01.01.2018. – 31.12.2020.*
3. Joint Ukraine-Latvia Research & Development program's "Development of novel organic glass forming molecular azobenzene based materials and their evaluation for dynamic holography and design of diffractive and refractive optical elements (project no: LV-UA/2016/3 (RTU 03000-3.1.2/202)". Role in the project: implementer. *Duration of participation in the project: 22.11.2016. – 22.11.2017.*
4. Latvian state research program project on multifunctional materials, composites for photonics and nanotechnologies. Project No. 1: Photonics and materials for photonic applications. Subproject No.1.3 (IMIS2). Role in the project: implementer. *Duration of participation in the project: 01.09.2015. – 22.11.2016.*
5. European Social Fund project No. 2013/0045/1DP/1.1.1.2.0/13/APIA/VIAA/018 – "Design and investigation of glassy low molecular mass organic compounds for photonic applications". Role in the project: implementer. *Duration of participation in the project: 01.10.2013. – 31.08.2015.*

Research activities in the listed projects have been carried out at Riga Technical University, Faculty of Material Science and Applied Chemistry & Institute of Applied Chemistry, Latvia.

Memberships

A list of recent and most important scientific conferences where the expert has participated as the main author and presenter is provided below:

1. "***Materials Science and Applied Chemistry (MSAC) 2020***", 23rd October of 2020, RTU, Kipsala, Riga, Latvia. Participation online with a recorded presentation [due to COVID-19 pandemic at the time of the conference]: E. Zarins, J. Pervenecka, E. Misina, K. Lazdovica, K. Balodis, A. Vembris, V. Kokars. "*Synthesis of 1,4-dihydropyridine derivatives with spontaneous and stimulated emission properties*".
2. "***SPIE Photonics Europe 2020 Digital Forum***", 2020, 6-10 April, Strasbourg, France. Participation online with a recorded presentation [due to COVID-19 pandemic at the time of the conference]: E. Zarins, J. Pervenencka, E. Misina, K. Lazdovica, K. Balodis, A. Vembris, V. Kokars. "*2-(1-Benzyl-2-styryl-6-methylpyridin-4(1H)-ylidene) fragment containing 1H-indene-1,3(2H)-dione and pyrimidine-2,4,6(1H,3H,5H)-trione derivatives with light-emitting and amplified spontaneous emission properties*".
3. "***The 13th International Conference on Optical Probes of Organic and Hybrid Optoelectronic Materials and Applications 2019***", 7-12 July 2019, Vilnius, Lithuania. Participation with a poster presentation: *E. Zarins, D. Alksnis, K. Lazdovica, V. Kokars. "Thermal and optical properties of 6-(tert-butyl)-4H-pyran-4-ylidene fragment containing laser dyes with different electron acceptors and bulky moieties".*
4. "***SPIE Optics + Photonics 2018***", 2018, 19-23 August, San Diego, California, USA. Participation with a poster presentation: *E. Zarins, T. Puciriuss, J. Pervenecka, A. Vembris, V. Kokars. "Solution processable piperazine and triphenyl moiety containing nonsymmetric bis-styryl-DWK type molecular glasses with light-emitting and amplified spontaneous emission properties".*
5. "***8th International Symposium on Flexible Organic Electronics (ISFOE15)***", 6-9 July 2015, Thessaloniki, Greece. Participation with a poster presentation: E. Zarins, A. Vembris, E. Misina, V. Kokars. "*Synthesis and physical properties of glassy triphenyl group containing derivatives of DCM laser dye*".

Co-author of Latvian Academy of Sciences diploma in the category of "***The most significant achievement of Latvian science in practical applications in the year of 2013 – Synthesized and studied new organic glass materials for use in photonic devices***". Awarded in 14.01.2014. Authors: V. Kokars, V. Kampars, K. Traskovskis E. Zariņš, L. Laipniece, A. Vembris, A. Tokmakovs, M. Rutkis.

Other Relevant Information

Current Hirsh index: 8 [by SCOPUS & Web of Science]

The expert has supervised Bachelor's Thesis and Master's Thesis of other students and prepared lecture materials in the field of organic chemistry, applied chemistry, materials chemistry at Riga Technical University, Faculty of Material Science and Applied Chemistry & Institute of Applied Chemistry, Latvia.

The expert has participated in 3 international scientific summer schools (2012 in Poland, 2014 in Poland, 2015 in Greece) related to the field of organic chemistry, applied chemistry, materials chemistry.