

## **Shulzhenko Diana**

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### **Education:**

**2020** – nowadays, PhD student at the department of thermostable polymers and nanocomposites of Institute of Macromolecular Chemistry of the NAS of Ukraine

**2019** – master degree, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” by specialty “Chemical technologies and engineering”.

**2015** – bachelor degree of National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” by specialty “Chemical technologies”.

### **Field of scientific interests**

Synthesis of new thermoset polymers. Investigation of the kinetics of the formation of polymeric composites and their structure and properties. Synthesis of organic-nonorganic nanocomposites based on cyanate ester resins of bisphenols and amino-functionalized polyhedral oligomeric silsesquioxanes; studying the chemical reactions that occur during their synthesis; investigation of their structure and properties.

### **Internship abroad:**

**31.10.22 – 18.11.22** Institut de Chimie et des Matériaux Paris-Est (ICMPE), Thiais, France.

### **Scholarships:**

**10.2022–nowadays:** Scholarship of the President of Ukraine.

### **Publications:**

1. Kinetics of the formation of cyanate ester resin of bisphenol E in the presence of benzoxazine derived from bisphenol A / O.M. Starostenko, O.P. Grigoryeva, D.M. Shulzhenko, O.M. Fainleib. V All-Ukrainian scient. conf. "Actual problems of chemistry: research and perspectives", 15 April, 2021 Zhytomyr, Ukraine. Book of Abstracts, (in Ukrainian). p. 301-304.
2. Mutual influence of cyanate ester and benzoxazine monomers on kinetics of their low temperature polymerization / O. Starostenko, O. Grigoryeva, D. Shulzhenko, A. Fainleib. 7<sup>th</sup> Int. Caucasian Symp. on Polymers & Advanced Materials, Georgia, Tbilisi 2021, 27-30 July, p.94
3. Effect of hexagonal boron nitride nanoparticles on the morphology of thermostable nanocomposites based on cyanate ester resin / O.P. Grigoryeva, A.M. Fainleib, O.M. Starostenko, D.M. Shulzhenko, N.A. Gavrylyuk, An.D. Zolotarenko, D.V. Schur, D. Grande. International scientific conference "Modern achievements in organic synthesis, chemistry of polymers and food additives", 7-8 December, 2021, Lviv, Ukraine.
4. Thermostable cyanate ester resin / hexagonal boron nitride nanocomposites / O.P. Grigoryeva, A.M. Fainleib, O.M. Starostenko, D.M. Shulzhenko, N.A. Gavrylyuk, An.D. Zolotarenko, D.V. Schur, D. Grande. International scientific conference "Modern achievements in organic synthesis, chemistry of polymers and food additives", 7-8 December, 2021, Lviv, Ukraine.
5. Structure-properties relationships for nanocomposites of cyanate ester resin filled with fullerite C<sub>60</sub> / A.M. Fainleib, O.M. Starostenko, O.P. Grigoryeva, D.M. Shulzhenko, N.A. Gavrylyuk, An.D. Zolotarenko, D.V. Schur, D. Grande. International scientific conference "Modern achievements in organic synthesis, chemistry of polymers and food additives", 7-8 December, 2021, Lviv, Ukraine.

6. Curing reaction of cyanate ester resin with benzoxazine / O.M. Starostenko, O.P. Grigoryeva, D. M. Shulzhenko, A.M. Fainleib, D. Grande. International scientific conference "Modern achievements in organic synthesis, chemistry of polymers and food additives", 7-8 December, 2021, Lviv, Ukraine.
7. Kinetic peculiarities of co-curing reaction of cyanate ester resin with benzoxazine/ O. Starostenko, O. Grygorieva, D. Shulzhenko, A. Fainleib, D. Grande. EPF-2022, Prague, 26 June – 1 July, Czech Republic, p.490.
8. Effect of inorganic nano(micro)fillers on kinetics of cyanate ester resin polymerization and thermal properties of polymer networks thereof / O. Starostenko, O. Grygorieva, D. Shulzhenko, L. Michely, A. Fainleib, D. Grande. XI International Scientific and Technical Conference "Progress in Oil and Gas Processing and Petrochemical Industry", 16-20 May, 2022, Lviv, Ukraine, p.199-201.
9. Structure and properties of organic-inorganic nanocomposites based on polycyanurate and amino-POSS / K. Gusakova, O. Grygorieva, D. Shulzhenko O. Starostenko, O. Fainleib XI International Scientific and Technical Conference "Progress in Oil and Gas Processing and Petrochemical Industry", 16-20 May, 2022, Lviv, Ukraine (in Ukrainian), p.170-173.
10. Viscoelastic properties of thermostable nanocomposites based on polycyanurates filled with amino-functionalized POSS / K. Gusakova, O. Grygorieva, D. Shulzhenko, O. Fainleib. XI XI International Scientific and Technical Conference "Progress in Oil and Gas Processing and Petrochemical Industry", 16-20 May, 2022, Lviv, Ukraine (in Ukrainian), p.216-219.
11. Perspectives of using boron nitride in development of porous cyanate ester resins / K. Gusakova, O. Starostenko, P. Teselko, D. Shulzhenko, A. Fainleib, D. Grande. POLY-CHAR 2022 [Halle | Siegen], May 22-25, 2022, Germany, p.31.
12. Thermal properties of nanocomposites based on poly(cyanurate-co-benzoxazine) and amino-POSS/ O. Starostenko, O. Grigoryeva, D. Shulzhenko, A. Fainleib. 2<sup>nd</sup> International Research and Practice Conference «Nanoobjects & Nanostructuring» (N&N-2022) September 25-28, Lviv, 2022, Ukraine, p.92.
13. Curing kinetics of cyanate ester resin in the presence of different inorganic nanoparticles and thermal properties of the nanocomposites synthesized / D. Shulzhenko, O. Starostenko, O. Grigoryeva, L. Michely, A. Fainleib, D. Grande. 2022 IEEE 12th International Conference "Nanomaterials: Applications & Properties" (IEEE NAP-2022), Sep. 11-16, Krakow, Poland, 2022.
14. Kinetics of cyanate monomer polymerization in the presence of reactive or inert nonorganic nanoparticles and thermal properties of synthesized nanocomposites / D. Shulzhenko, O. Grigoryeva, O. Starostenko, L. Michely, O. Fainleib, O. Zolotarenko, D. Grande XV Ukrainian conference on macromolecular compounds with international participation VMS-2022, 25–27 October, Kyiv, 2022 (in Ukrainian), p. 210-212.
15. Study of the kinetic regularities of the formation of the polymer network of bisphthalonitrile in the presence of various types of amino-functionalized nanofillers / O. Starostenko, K. Gusakova, O. Grigoryeva, D. Shulzhenko, O. Fainleib. XV Ukrainian conference on macromolecular compounds with international participation VMS-2022, 25–27 October, Kyiv, 2022 (in Ukrainian), p. 228-230.
16. Microporous cyanate ester resins: effect of boron nitride content / K. Gusakova, D. Shulzhenko, O. Starostenko, O. Grigoryeva, A. Fainleib, V. Maslyuk, N. Svatiuk, D. Grande. POLY-CHAR [Auckland] 2023, 22-26 January, 2023, p. 127.
17. Polycyclotrimerization of cyanate ester resin. Effect of boron nitride filler / O. Starostenko, O. Grigoryeva, L. Michely, D. Shulzhenko, K. Gusakova, A. Fainleib, D. Grande. POLY-CHAR [Auckland] 2023, 22-26 January, 2023, p. 128.