

## **CURRICULUM VITAE      Prof., Dr., Olexandr (Alexander) Shtemenko**

### **Affiliation and official address**

Ukrainian State University of Chemical Technology  
Department of Inorganic Chemistry  
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### **Date and place of birth**

10 of July, 1954 year, Dnipropetrovs'k-region, Ukraine

### **Education**

1971-1975 student of Dnipropetrovs'k State University, Chemical Department, (Red diploma), Dnipropetrovs'k  
1977-1981 post graduate of Kurnakov's Institute of General and Inorganic Chemistry Academy of Sciences of the USSR, Moscow (diploma of PhD of Chemistry, 03.1981). Title of doctor's dissertation: Synthesis and properties of dinuclear halogenocarboxylates of Rhenium(III).  
1996 defense of doctor's thesis: Chemistry of Clusters and Complexes Compounds of Rhenium. (Diploma of Doctor of Science (Chemistry), Kyiv, Vernadsky's Institute of General and Inorganic Chemistry National Academy of Sciences of Ukraine.  
2001 title of Professor of the Department of Inorganic Chemistry, Ukrainian State University of Chemical Technology, Dnipropetrovs'k, Ukraine.

### **Career/Employment**

1971-1976 student of the Dnipropetrovs'k State University, Chemical Department, Dnipropetrovs'k  
1977-1981 post graduate of Kurnakov's Institute of General and Inorganic Chemistry Academy of Sciences of the USSR, Moscow (diploma of Ph.D. Doctor of Chemistry, supervisor – Dr. A. Kotel'nikova).  
1981-1989 junior researcher, then junior lecturers of the Ukrainian State University of Chemical Technology, Dnipropetrovs'k.  
1989-1999 docent, then professor of the Department of Inorganic Chemistry, Ukrainian State University of Chemical Technology, Dnipropetrovs'k.  
1999-till now head of the Department of Inorganic Chemistry, Ukrainian State University of Chemical Technology, Dnipropetrovs'k, Ukraine.

### **Membership**

1992-1999 member of the scientific council on defenses of dissertations at the, Ukrainian State University of Chemical Technology, Dnipropetrovs'k, Ukraine.  
1998-till now member of Editorial Board scientific journal "Physics and Chemistry of Solid State", Ivano-Frankivs'k, Ukraine.  
1999-till now member of Editorial Board scientific journal "Voprosy Khimii i Khimicheskoi Tekhnologii", Dnipropetrovs'k, Ukraine.  
1999-till now member of the scientific council on the "Problem of Inorganic Chemistry" National Academy of Science of Ukraine, Kyiv, Ukraine.  
2000-2014 member of Editorial Board scientific journal "Naukovi pratsi" DonNTU. Series: Khimiya i Khimichna Tekhnologiya", Donetsk, Ukraine.  
2000-2017 vice-chairman of the scientific council on defenses of dissertations at the Ukrainian State University of Chemical Technology, Dnipropetrovs'k.  
2000-2014 member of the scientific council on defenses of dissertations at DonNTU, Donetsk, Ukraine.  
2001-till now director of "School of Chemists" at the Ukrainian State University of Chemical Technology, Dnipropetrovs'k, Ukraine.

### Specialization (specify)

*Main field:* chemistry of clusters and complexes compounds of rare transition metals *Other fields:* CVD-processes of complex compounds, metalloorganic synthesis, and bioinorganic chemistry

*Current research interest:* synthesis of complex rhenium compounds with nucleobases, aminoacids, phosphates, adamantanic and others ligands. Investigation of mechanisms of action of these compounds with biological molecules and free radicals.

### List of selected scientific publications of Prof., Dr. Shtemenko O.V. (total over 300)

- Nefedov V.I., Salyn Ya.V., **Shtemenko A.V.**, Kotel'nikova A.S. X - Ray photoelectron study of trans - influence of Re - Re multiple bond // *Inorg. Chim. Acta.* – 1980. – Vol. 45. - № 2. – P. 49 - 50. (<http://www.sciencedirect.com/science/article/pii/S0020169300800900>)
- Shtemenko O.V.**, Bovykin B.A. Chemistry of Binuclear Rhenium Clusters // *Rhenium and Rhenium Alloys.* - TMS Publication: Pensilvania. - 1997. - P. 189 - 197. (<http://onlinelibrary.wiley.com/doi/10.1002/chin.199818296/abstract>)
- Shtemenko O.V.** Binuclear Rhenium Clusters as a Basis for Metal Coatings // *Rhenium and Rhenium Alloys.* -TMS Publication: Pensilvania. - 1997. - P. 173 - 178.
- Shtemenko A.V.**, Golichenko A.A., Domasevitch K.V. Synthesis of Novel Tetracarboxylato Dirhenium(III) Compounds and Crystal Structure of  $[\text{Re}_2(1\text{-Adamantylcarboxylate})_4\text{Cl}_2]\cdot 4\text{CHCl}_3$  // *Z. Naturforsch.* - 2001. - Vol. 56b. - № 4/5. - P. 381 - 385. (<https://www.degruyter.com/view/j/znb.2001.56.issue-4-5/znb-2001-4-510/znb-2001-4-510.xml>)
- Shtemenko A.V.**, Kozhura O.V., Pasenko A.A., Domasevitch K.V. New octachlorodirhenate(III) salts: solid state manifestation for a certain conformational flexibility of the  $[\text{Re}_2\text{Cl}_8]^{2-}$  ion // *Polyhedron.* - 2003. – 22 - P. 1547 - 1552. (<http://www.sciencedirect.com/science/article/pii/S0277538703002882>)
- Golichenko A.A., **Shtemenko A.V.** Cluster Rhenium(III) Complexes with Adamantanecarboxylic Acids: Synthesis and Properties // *Russian Journal of Coordination Chemistry.* – 2006. – Vol. 32, No. 4, pp. 242–249. (<https://link.springer.com/article/10.1134/S1070328406040038>)
- Shtemenko A.V.**, Stolyarenko V.G., Domasevich K.V. Structure and Spectral Characteristics of  $(\text{NH}_4)_2[\text{Re}_2(\text{HPO}_4)_4\cdot 2\text{H}_2\text{O}]$  // *Russian Journal of Inorganic Chemistry*, 2006, Vol. 51. - №. 7. - P. 1014–1019. (<https://link.springer.com/article/10.1134/S0036023606070072>)
- Shtemenko N., Collery P., **Shtemenko A.** Dichlorotetra- $\mu$ -isobutiratodirhenium(III): Enhancement of Cisplatin Action and RBC– stabilizing Properties // *Anticancer Research.* – 2007. – V. 27 – P. 2487-2492. (<http://ar.iijournals.org/content/27/4B/2487.full.pdf+html>)
- Shtemenko N.I., Zabitskaya E.D., Berzenina O.V., Yegorova D.E., **Shtemenko A.V.** Liposomal Forms of Rhenium Cluster Compounds: Enhancement of Biological Activity // *Chemistry & Biodiversity.* – 2008. - – 5. - №8. – P. 1660 – 1667. (<http://onlinelibrary.wiley.com/doi/10.1002/cbdv.200890153/abstract>)
- Shtemenko A.V.**, Collery P., Shtemenko N.I., Domasevitch K.V., Zhabitskaya E.D. and Golichenko A.A. Synthesis, structure and antitumor properties of the cluster rhenium compound with GABA ligands // *Dalton Trans.* – 2009. – P. 5132 – 5136. (<http://pubs.rsc.org/en/Content/ArticleLanding/2009/DT/b821041a>)
- Malay Patra, Gilles Gasser, Dmytro Bobukhov, Klaus Merz, **Alexander V. Shtemenko** and Nils Metzler-Nolte. Sequential insertion of three different organometallics into a versatile building block containing a PNA backbone // *Dalton Trans.* – 2010. - Vol. 39. P. 5617–5619. (<http://pubs.rsc.org/en/Content/ArticleLanding/2010/DT/c003598j>)
- Ivchuk V.V., Polishko T.N., Golichenko O.A., **Shtemenko O.V.**, Shtemenko N.I. Influence of antitumor system rhenium-platinum on the biochemical state of liver // *Ukr. Biokhim. Zh.* – 2011. – V.83. - №3. – P. 76–84. (<http://ubj.biochemistry.org.ua/index.php/journal-archiveac/2011/3-qwe/3647-sp-216>)
- Leus I.V., Klenina I.O., Zablotska K.A., Golichenko O.A., **Shtemenko O.V.**, Shtemenko N.I. Interaction of serum albumins with cluster rhenium compounds of cis- and trans-configuration // *Biopolymers and Cell.*– 2011.– Vol.27, N6.– P. 465–471. (<http://biopolymers.org.ua/content/27/6/465/>)
- Leus I.V., Shamelashvili K.L., Skorik O.D., Tretyak S.Y., Golichenko O.A., **Shtemenko O.V.**, Shtemenko N.I. Antioxidant and antitumor activity of dirhenium dicarboxylate in animals with Guerin carcinoma // *Ukr. Biokhim. Zh.* – 2012. – V.84, N3. – P.87–96. (<http://ukrbiochemjournal.org/2016/04/antioxidant-and-antitumor-activity-of-dirhenium-dicarboxylates-in-animals-with-guerin-carcinoma.html>)
- D.A.Kutolei and **A.V. Shtemenko.** Heteroligand Copper(II) Complexes with Hydroxyethyleneiminodiacetic Acid and Bidentate Nitrogen-Containing Ligands: Structure and Properties

- //Russian Journal of Coordination Chemistry. – 2013. – Vol.39,N12. – P. 857 – 866. (<https://link.springer.com/article/10.1134%2FS1070328413120026>)
- N.I.Shtemenko, K.V.Domasevitch, A.A.Golichenko, S.A.Babiy, Zh.Li, K.V.Paramonova, **A.V.Shtemenko**, H.T.Chifotides, K.R. Dunbar. Synthesis, X-ray Structure, Interactions with DNA, Remarkable *in vivo* Tumor Growth Suppression and Nephroprotective Activity of *cis*-Tetrachlorodipivalato Dirhenium(III) // Journal of Inorganic Biochemistry. – 2013. – Vol.129. – P. 127 – 134. (<http://www.sciencedirect.com/science/article/pii/S0162013413002341>)
- K. Piletska, K. V. Domasevitch, **A. V. Shtemenko**. Crystal structure of bromido-fac-tricarbonyl-[5-phenyl-3-(pyridin-2-yl)-1H-1,2,4-triazole]2N,N0]rhenium(I) // Acta Cryst. – 2014. – Vol. E70. – P. 587-589. (<http://scripts.iucr.org/cgi-bin/paper?S1600536814025604>)
- A.A. Golichenko, K. V. Domasevitch, D. E. Kytova, **A. V. Shtemenko** / Crystal structure of *cis*-bis( $\mu$ - $\beta$ -alanine- $\kappa^2$ O:O')bis[trichloridorhenium(III)](Re–Re) sesquihydrate / Acta Cryst. – 2015. – Vol. E71. – P. 45-47. (<http://scripts.iucr.org/cgi-bin/paper?S2056989014026620>)
- Li Z., Shtemenko N.I., Yegorova D.Y., Babiy S.O., Brown A.J., Yang T., **Shtemenko A.V.**, Dunbar K.R.. Liposomes Loaded with a Dirhenium Compound and Cisplatin: Preparation, Properties and Improved *in vivo* Anticancer Activity // Journal of Liposome Research. – 2015, Vol. 25, No. 1, P.78-87. (<http://informahealthcare.com/doi/abs/10.3109/08982104.2014.954127>)
- A.V. Shtemenko**, H.T. Chifotides, D.E. Yegorova, N.I. Shtemenko, K.R. Dunbar. Synthesis and X-ray crystal structure of the dirhenium complex  $\text{Re}_2(\text{i-C}_3\text{H}_7\text{CO}_2)_4\text{Cl}_2$  and its interactions with the DNA purine nucleobases // Journal of Inorganic Biochemistry. - 2015, -Vol. 153. - P. 114-120. (<http://www.sciencedirect.com/science/article/pii/S0162013415300167>)
- Piletska K.O., Domasevitch K.V., Gusev A.N., Shul'gin V.F., **Shtemenko A.V.** fac-Tricarbonyl rhenium(I) complexes of triazole-based ligands: synthesis, X-ray structure and luminescent properties // Polyhedron. – 2015. – Vol. 102. – P. 699-704. <http://www.sciencedirect.com/science/article/pii/S0277538715006117>
- Golichenko A.A., **Shtemenko A.V.** Crystal structure of di- $\mu$ -isobutyrate- $\kappa^4$ O:O'-bis[cis-dichlorido(dimethylsulfoxide- $\kappa$ S)]rhenium(III) // Acta Crystallographica Section E: Crystallographic Communications. – 2015. – Vol. E71. – P. 1219-1221. (<http://journals.iucr.org/e/issues/2015/10/00/rz5165>)
- Voronkova Y.S., Babiy S.O., Ivans'ka L.V., **Shtemenko O.V.**, Shtemenko N.I. Antioxidant properties of cluster rhenium compounds and their influence of erythropoiesis of rats with Guerin carcinoma // Ukrainian Biochemical Journal. – 2015.– Vol. 87, № 1.– P. 45-54. (<http://ukrbiochemjournal.org/2015/05/antioxidant-properties-of-cluster-rhenium-compounds-and-their-influence-of-erythropoiesis-of-rats-with-guerin-carcinoma.html>)
- Piletska K.O., Domasevitch K.V., **Shtemenko A.V.** Crystal structure of *fac*-aquatricarbonyl-[(S)-valinato- $\kappa^2$ N,O] rhenium(I) // Acta Crystallographica Section E: Crystallographic Communications. – 2016. – Vol. E72. – P. 590-592. (<http://scripts.iucr.org/cgi-bin/paper?S2056989016005235>)
- Golichenko A.A., Kravchenko A.V., Omelchenko I.V., Chudak D.M., Starodub V.A., Barszcz B., **Shtemenko A.V.** Crystal structure of bis(ethylenedithio)tetrathiafulvalenium  $\mu_2$ -acetato-bis[tribromidorhenate(III)] 1,1,2-trichloroethane hemisolvate // Acta Crystallographica Section E: Crystallographic Communications. – 2016. – Vol. E72. – P. 712-715. (<http://scripts.iucr.org/cgi-bin/paper?S2056989016006058>)
- Shamelashvili K.L., Shtemenko N.I., Leus I.V., Babiy S.O., **Shtemenko O.V.** Changes in oxidative stress intensity in blood of tumor-bearing rats following different modes of administration of rhenium-platinum system // Ukrainian Biochemical Journal. – 2016.– Vol. 88, № 4.– P. 29-39. (<http://ukrbiochemjournal.org/2016/09/changes-in-oxidative-stress-intensity-in-blood-of-tumor-bearing-rats-following-different-modes-of-administration-of-rhenium-platinum-system.html>)
- M. Iziumskyi, A. Baskevich, S. Melnyk, **A. Shtemenko** Thermodynamic properties of trans-tetrachlorodi- $\mu$ -carboxylate dirhenium(III) complexes // New J. Chem. – 2016. – Vol. 40. – P. 10012–10015. (<http://pubs.rsc.org/en/Content/ArticleLanding/2016/NJ/C6NJ02393B>)
- Kharlova M.I., Piletska K.O., Domasevitch K.V., **Shtemenko A.V.** Crystal structure of bromido-fac-tricarbonyl- [5-(3,4,5-trimethoxyphenyl)-3-(pyridin-2-yl)-1H-1,2,4-triazole-j2 N2 ,N3 ]rhenium(I) methanol monosolvate / Acta Cryst. – 2017. – №73. – P. 484–487. (<http://scripts.iucr.org/cgi-bin/paper?S2056989017003371>)
- A. V. Shtemenko**, N. I. Shtemenko Rhenium–platinum antitumor systems // Ukr. Biochem. J. – 2017. – Vol. 89. – №.2. – P. 5–30. <http://ukrbiochemjournal.org/2017/04/rhenium-platinum-antitumor-systems.html>)

St. Daum, S. Babiy, H. Konovalova, W. Hofer, **A. Shtemenko**, N.a Shtemenko, Ch. Janko, Ch.Alexiou, A. Mokhir Tuning the structure of aminoferrocene-based anticancer prodrugs to prevent their aggregation in aqueous solution // Journal of Inorganic Biochemistry. – 2018. – Vol. 178. – P. 9–17. (<http://www.sciencedirect.com/science/article/pii/S0162013417301939>)

### Patents

I have 17 national patents and 2 international ones:

Patent WO 2007/135095 A1 World, A61K33/24; A61P35/00. Use of cis-rhenium(III) diadamantate compounds for potentiating the antitumoral activity of platinum complexes / Philippe Collery (France), **Alexander V Shtemenko** (Ukraine), Natalia I Shtemenko (Ukraine); Societe De Coordination De Recherches Therapeutiques (France).- № PCT/EP2007/054828; Filing Date 18.05.2007; Publication Date 29.11.2007.- Pages: 14.

Patent EP 2068894 B1 Europe, A61K33/24; A61P35/00. Use of cis-rhenium(III) diadamantate compounds for potentiating the antitumoral activity of platinum complexes / Philippe Collery (France), **Alexander V Shtemenko** (Ukraine), Natalia I Shtemenko (Ukraine); Societe De Coordination De Recherches Therapeutiques (France).- № EP20070729273; Filing Date 18.05.2007; Publication Date 21.07.2010.- Bulletin 2010/29.- Pages: 12.

### Presentations on international conferences

Bovykin B.A., Omel'chenko A.M., **Shtemenko O.V.** Mode of action of metallic ions and biocoordinated compounds upon the phospholipid membranes // Abstracts of Papers. XXV International Conference on Coordination Chemistry. China. Nanjing. – 1987. – P. 617.

**Shtemenko A.V.** Binuclear rhenium clusters as a basis for metal coatings and new functional materials // TMS Annual Meeting: “International Symposium On Rhenium And Rhenium Alloys”, Orlando, USA. – 1997. (<http://www.tms.org/Meetings/Annual-97/Program/Sessions/TA232C.III.html>)

Bovykin B.A., Kilivnik K.Y., **Shtemenko O.V.** Influence of Cobalt(III) and Rhenium(V) complexes ionic homeostasis // Metal Ions in Biology and Medicine. John Libbey Eurotext. Paris:–1998.– Vol.5.– P.128–132. ([http://www.jle.com/en/ouvrages/e-docs/metal\\_ions\\_in\\_biology\\_and\\_medicine\\_volume\\_5\\_20325/ouvrage.phtml](http://www.jle.com/en/ouvrages/e-docs/metal_ions_in_biology_and_medicine_volume_5_20325/ouvrage.phtml))

**Shtemenko A.V.**, Shtemenko N.I., Golichenko A.A., Tretyak S.Y. Interaction of cluster Rhenium compounds with radicals in vitro and in vivo // 13th International Conference on Biological Inorganic Chemistry.– Vienna.– 2007.– P.191. ([http://www.icbic13.ac.at/html/program\\_preliminarySchedule.html](http://www.icbic13.ac.at/html/program_preliminarySchedule.html))

Natalia I. Shtemenko, Philippe Collery, **Alexander V.Shtemenko**. The novel Rhenium and Platinum antitumor system // 13th International Conference on Biological Inorganic Chemistry.– Vienna.– 2007.– P.22. ([http://www.icbic13.ac.at/html/program\\_preliminarySchedule.html](http://www.icbic13.ac.at/html/program_preliminarySchedule.html))

D.Yegorova, N. Shtemenko, **A. Shtemenko**. In Vitro Interactions of Rhenium(III) Compounds with Phospholipids and Nucleic Bases Derivatives // 5th International Symposium: abstract 5th International Symposium on Bioorganometallic Chemistry (July 05 – 09. 2010).- Ruhr-Universitat Bochum (Germany), 2010.-P.135. (<http://www.ruhr-uni-bochum.de/isbomc10/program.html>)

M.Randarevych, K.Zablotska, K. Domasevitch, **A. Shtemenko** . Synthesis, Characterization and Properties of the Cluster Rhenium(III) Compound with  $\alpha$ -Alanine Ligands // 5th International Symposium: abstract 5th International Symposium on Bioorganometallic Chemistry (July 05 – 09. 2010).- Ruhr-Universitat Bochum (Germany), 2010.-P.117. (<http://www.ruhr-uni-bochum.de/isbomc10/program.html>)

D.Bobukhov, M. Izumsky , **A.Shtemenko**. Synthesis, Characterization and Biological Evaluation of New Organometallic Rhenium(I) Complex with Ferulic Acid.// 5th International Symposium: abstract 5th International Symposium on Bioorganometallic Chemistry (July 05 – 09. 2010).- Ruhr-Universitat Bochum (Germany), 2010.-P.69. (<http://www.ruhr-uni-bochum.de/isbomc10/program.html>)

M. Patra,G. Gasser, D.V. Bobukhov , K. Merz, **A.V. Shtemenko**, J.E. Bandow, N. A. Metzler-Nolte. Triorganometallic Derivative Containing a PNA Backbone: Synthesis and Antibacterial Activity. // 5th International Symposium: abstract 5th International Symposium on Bioorganometallic Chemistry (July 05 – 09. 2010).- Ruhr-Universitat Bochum (Germany), 2010.-P.108. (<http://www.ruhr-uni-bochum.de/isbomc10/program.html>)

N.I. Shtemenko, **A.V. Shtemenko**. Influence of the Rhenium-Platinum antitumor system on tumor growth and blood antioxidant state.// 5th International Symposium: abstract 5th International Symposium on Bioorganometallic Chemistry (July 05 – 09. 2010).- Ruhr-Universitat Bochum (Germany), 2010.-P.27. (<http://www.ruhr-uni-bochum.de/isbomc10/program.html>)

Yegorova D., Shtemenko N., **Shtemenko A.**, Leszczynska D. / Solid lipid nanoparticles loaded with cluster rhenium(III) compounds / 11-th Souther School: abstract 11-th Souther School on Computation Chemistry and Materials Science 2011.- Jackson, MS (USA), 2011.- P.69. (<http://icnanotox.org/2011/10th-southern-school-on-computational-chemistry-and-materials-science/>)

Shtemenko NI, **Shtemenko AV** Redox-Activated Interaction with DNA, Antitumor Properties *in vivo* and Unusual Nephroprotective Activity of the Dirhenium(III) Dicarboxylate // Medicinal Redox Inorganic Chemistry 2013, Redox Modulation of Health and Disease: From Inorganic Chemistry to Translational Medicine, 20 - 22 July 2013, Erlangen-Nurnberg Germany, Satellite Conference of ICBIC 16, - P. 15 -18. (<http://icbic16.com/program.htm>)

D. Yegorova, **A. Shtemenko**, N. Shtemenko D. Preparation and Use of the Nanoliposomes and Solid Lipid Nanoparticles Loaded with Dirhenium Clusters in Antitumour Therapy. // 2<sup>nd</sup> International Symposium on Functional Metal Complexes that Bind to Biomolecules – Zurich., 2014. – P.96 ([http://www.imotif.org/eurobic/?page\\_id=210](http://www.imotif.org/eurobic/?page_id=210))

**Shtemenko**, D. Yegorova, N. Shtemenko. Interaction of Dirhenium Clusters with Nucleobases. // 2<sup>nd</sup> International Symposium on Functional Metal Complexes that Bind to Biomolecules. – Zurich., 2014. – P.99. ([http://www.imotif.org/eurobic/?page\\_id=210](http://www.imotif.org/eurobic/?page_id=210))

Natalia Shtemenko, **Alexander Shtemenko**. Nanobased Combinational Antitumor Therapy with the Use of the Quadruple Bonding Rhenium Cluster Compounds // 11th International Symposium on Recent Advances in Environmental Health Research, Jackson State University (JSU) (September 14-18, 2014), Mississippi, USA – P. 24. (<http://ehr.cset.jsums.edu/pdfs/Faculty%2017.pdf>)

Natalia Shtemenko, **Alexander Shtemenko**. Antitumor Redox-Activated and Nephroprotective Properties of the Rhenium Cluster Compounds // 11th International Symposium on Recent Advances in Environmental Health Research, Jackson State University (JSU) (September 14-18, 2014), Mississippi, USA – P. 32. (<http://ehr.cset.jsums.edu/pdfs/Oral%2011.pdf>)

N. Shtemenko, S. Babiy, A. Golichenko, **A. Shtemenko**. New data about mechanism of biological activity of binuclear Rhenium(III) clusters // 3<sup>st</sup> Sympos. On Functional Metal Complexes That Bind To Biomolecules (April 28–29, 2016), Palma de Mallorca, Spain. – P. 107. (<http://4thwham.uib.eu/Program/>)

#### **Funding received so far**

National funds from Ministry of Education and Sciences (every 3 years from 1999 till now) and International ones, pointed above.

Grant STCU #3069; 2005 – 2006 years

Grant CRDF 2008 year

**Supervising, mentoring activity** I deliver lectures on General and Inorganic Chemistry, Chemistry of Rare and Trace Elements, Inorganic Chemistry with Biogeochemistry Aspects.

I was a supervisor of **13 PhD** dissertations:

1. **Chasova E.V.** Synthesis and investigation complex compound of Rhenium(V) with o-phenantroline, nicotineamide and benzimidazole. – Dnipropetrovsk, 1996.
2. **Kozhura O.V.** Synthesis, structure and properties of dinuclear complex compounds of Rhenium(III) with aminoacids. – Dnipropetrovsk, 2000.
3. **Golichenko A.A.** Synthesis, structure and properties of dinuclear complex compounds of Rhenium(III) with adamantancarboxylic acids. – Dnipropetrovsk, 2004.
4. **Stolyarenko V.G.** Synthesis, structure and properties of dinuclear complex compounds of Rhenium(III) with phosphates ligands – Dnipropetrovsk, 2006.
5. **Tretyak S.Yu.** Interaction of dinuclear Rhenium(III) clusters which contains multiple metal-metal bond with free radicals.- Dnipropetrovsk, 2009.
6. **Yegorova D.Ye.** Interaction of dinuclear Rhenium(III) clusters which phospholipids and high carboxylic acids under liposomes formation. - Dnipropetrovsk, 2010.
7. **Kuprin O.V.** Technology of energy- saturated emulsive system on the base of ammonium nitrate.- Dnipropetrovsk, 2011.
8. **Khmarska L.O.** Influence of Ni(II), Cu(II), Zn(II) complex compounds on conductivity of bilayer lipid membrane.- Dnipropetrovsk, 2011.
9. **Bobukhov D.V.** Synthesis, structure and properties of carbonyl derivatives of Rhenium. - Dnipropetrovsk, 2012.
10. **Kutoley D.O.** Synthesis and properties of mixed ligands compounds of Cu(II) on the base of complexones. - Donetsk, 2014.

11. **Velichko O.V.** Synthesis and investigations of coordination compounds of Re(III) with derivatives of adamantylcarboxylic acids. - Dnipropetrovsk, 2015.

12. **Piletska K.O.** Synthesis and properties Re(I) carbonyl derivatives.- Kyiv, 2017.

13. **Ovcharenko A.O.** Synthesis and properties Re(III) clusters with ionogenic aminoacids. Odessa, 2017.

Now I have 2 post-graduate students.

### **Honors and Awards**

1985-1987 postdoctoral fellowship on research work at East China University of Chemical Technology, Shanghai, China

1997- Individual Grant NSF (USA)

2002- "Faustus Prize" for the most promising work in the field of anticancer research (International Conference "Metal Ions in Biology and Medicine.")

2008- Individual Grant DAAD, Technical University Dortmund, Dortmund, Germany  
(work in the research group of Prof. B.Lippert)

2010- Individual Grant of Cambridge Colleges Hospitality Scheme, University of Cambridge, GB

2013- Grant of the Ministry of Education and Science of Ukraine, Texas A&M University (USA)  
(work in the research group of Prof. K.Dunbar)

2012-2016 Grants for participation in COST Action CM 1105 as a Management Committee Member:

Second WhAM COST Action CM1105 – Barcelona-2013

Third WhAM COST Action CM 1105 – Zurich – 2014

Final meeting of COST Action CM 1105 – Palma de Mallorca – 2016

### **Personal skills:**

Mother languages: **Ukrainian and Russian**

Other languages:

**English - B2**

**Spanish – A2**

**Chinese – A1**