Curriculum Vitae

Docent, Doctor of Chemical Sciences,
Head of the Department of physical and inorganic chemistry,
Andriy Borisovich Vishnikin

Family name: Vishnikin (Vyshnikin in international passport)
First name: Andriy (Andrii in international passport)
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Personal information:
Date of Birth: January 8, 1960
Place of Birth: Magdeburg, Germany
Sex: Male
Citizenship: Ukrainian
Marital status: Married with 1(One) daughter of 19 years old
Command of languages: fluent in Russian, Ukrainian, German, English. Good written and oral communication skills.

Higher Education:

Dates	Locations	Universities	Degrees
1982	Dnipropetrovsk	Dnipropetrovsk National University	MSc in Organic Chemistry "IR spectroscopic investigation of hydrogen bond in peracids associates"
1988	Dnipropetrovsk	Ukrainian State Chemical-Technological University	PhD degree in Analytical Chemistry. Thesis "Reactions of formation and reduction of binary and mixedligand heteropolycomplexes of gallium and thallium(III)"
2012	Odessa	A.V. Bogatsky Physico-Chemical Institute of the national Academy of Sciences of Ukraine	Degree of Doctor of Chemical Sciences in Analytical Chemistry. Thesis «Modified forms of heteropoly anions in spectroscopic methods of analysis»

Employment:

Dates	Locations	University	Degrees
1982-2013	Dnipropetrovsk	Chemical Faculty Dnipropetrovsk National University	Progressive promotion from PhD Student (1982-1985), through junior research assistant (1985-1987), junior lecturer (1987-1991), senior lecturer (1991-2012) to professor, Head of the department of physical

			and inorganic chemistry (2012)
1990-1991 1(one) year	Berlin, Germany	Humboldt University, Institute of Inorganic Chemistry	Research assistant
2008, 2 months	Košice, Slovak Republic, Hradec Kralove, Czech Republic	Pavol Jozef Šafárik University in Košice, Institute of Science, Department of Analytical Chemistry	Research assistant
2011, 2 months	Košice, Slovak Republic, Hradec Kralove, Czech Republic	Pavol Jozef Šafárik University in Košice, Institute of Science, Department of Analytical Chemistry	Research assistant
2012, 3 months	Berlin, Germany	Technical University, Institute of Environmental Engineering	Research assistant
2013, 3 months	Košice, Slovak Republic	Pavol Jozef Šafárik University in Košice, Institute of Science, Department of Analytical Chemistry	Research assistant

Teaching and Supervision:

Twenty six years experience in analytical chemistry teaching, especially in spectrophotometry, spectroscopic methods of analysis, chemical methods of analysis, statistical methods of data evaluation, computer methods for chemical data treatment.

1. Lecture course: "Modelling of experiment in chemistry by means of computer".
2. Lecture course: "Inorganic and analytical chemistry" for students of geological and biological faculties.
3. Lecture course: "Statistic in analytical chemistry".
4. Lecture course: "Spectrophotometric analysis".
5. Lecture course: "Theoretical fundamentals of analytical chemistry".
6. Lecture course: "Methods of separation in analysis"
7. Lecture course: "Methods for the determination of organic compounds"

List of PhD students worked under supervision of A. Vishnikin and were awarded PhD degree includes:

1. Kirilova V.V. 1995. Investigation of monoligand and mixed molybdotungstic heteropoly complexes of gallium having Keggin structure and their using in the analysis. (in collaboration with prof. Tsiganok L.P.)

2. Koltsova E.G. 1998. Extraction of molybdotungstic heteropoly complexes of gallium and its using in the analysis. (in collaboration with prof. Tsiganok L.P.)

3. Vishnikina E.V. 2006. Indirect determination of phosphorus with heteropoly complexes by using extraction and sorption. (in collaboration with prof. Chmilenko F.A.)

4. Al-Shwaiyat M.K.E.A. 2007. Nonextraction spectrophotometric determination of phosphorus and arsenic with heteropoly complexes.

5. Starova T.V. 2008. Spectrophotometric and sorption-spectroscopic determination of arsenic(V) and phosphorus(V) by using their heteropoly anions. (in collaboration with prof. Tsiganok L.P.)

6. Svinarenko T.Ye. 2011. Metalsubstituted heteropoly complexes of phosphorus and gallium as analytical forms or reagents for the analysis.

7. Khlyntseva S.V. 2012. Speciation analysis of phosphorus(V) compounds by using reactions of the formation of ion associates between heteropoly anions and polymethine dyes.

8. Selivanova T.V. 2013. Ion associates of heteropoly molybdates as analytical forms for the determination of silicon and germanium in various objects.

List of scientific research projects of Ministry for Education and Science of Ukraine in which Vishnikin A. has participated as leading investigator

1. 2002-2004. State registration number 0102U004423. Keggin's Heteropolyanions and their associates with inorganic and organic cations modified by means of non-ionic surface active substances, application to the analysis of bioactive species and environment objects.

2. 2005-2007. State registration number 0105U000377. Regularities of P(V), As(V), Si(IV) heteropolycomplexes formation , their associates with organic dyes in water and micellar solutions, application to the analysis and catalysis.

3. 2008-2010. State registration number 0108U000636. Monoligand, mixed and metalsubstituted heteropolyanions of P(V), As(V), Si(IV), Ge(IV), Ga(III), their associates with cationic dyes, application to the analysis.

4. 2011-2013. State registration number 0111U001149. Heteropoly anions as analytical forms and reagents in spectroscopic and automated flow analytical methods.

Scientific interests.

1. All aspects of the chemistry of polyoxometalates.

2. Spectrophotometry. Methods of separation and preconcentration: sorption and extraction, membrane separation. Ion chromatography. Chemistry of ion associate complexes.

3. Flow/Sequential/Flow-batch Injection Analysis.

List of most important pulblications
(general number - 248 publications)

Books

1. Цыганок Л.П. Особенности реакций образования и восстановления гетерополикомплексов элементов III-А группы Периодической системы / Л.П. Цыганок, **А.Б. Вишникин.** – Днепропетровск: ДГУ, 1996. – 202 с.

Tsiganok L.P., Vishnikin A.B. Pecularіries of the formation and reduction reactions of heteropolycomplexes of III A Group elements of Periodic table. Dnipropetrovsk, DSU, 1996. – 202 p (in russian).

2. Ткач В.І. Використання гетерополікомплексів структури Кеггіна в аналізі органічних та неорганічних речовин / В.І. Ткач, Н.І. Карандеєва, Л.П. Циганок, **А.Б. Вишнікін**. – Дніпропетровськ: УДХТУ, 2002. – 180 с.

Tkach V.I., Karandeeva N.I., Tsiganok L.P., Vishnikin A.B. Use of heteropolycomplexes having Keggin structure in analysis of organic and inorganic compounds. Dnipropetrovsk, USCTU, 2002. – 180 p (in ukrainian).

Articles

1. **Vishnikin A.B.** Novel indirect spectrophotometric methods for determination of phosphate and arsenate using polyoxometalates and micellar medium / A.B. Vishnikin // J. Molec. Liquids – 2005. – Vol. 118, N 1-3. – P. 51-55.

2. L.P. Tsiganok, A.N. Vakulich, **A.B. Vishnikin,** E.G. Koltsova. Spectrophotometric determination of tungsten based on molybdotungsten isopolyanions in presence of non-ionic surfactant // Talanta – 2005. - Vol. 65, N 1. – P. 267-270.

3. **Vishnikin A.B.**, Al-Shwaiyat M.E.A., Bazel Ya.R., Andruch V. Rapid, sensitive and selective spectrophotometric determination of phosphate as an ion associate of 12-molybdophosphate with Astra Phloxine // Microchimica Acta. – 2007. – Vol. 159. № 3-4. – P. 371-378.

4. Svinarenko T.E., **Vishnikin A.B.**, Timofeeva M.N. Synthesis and physicochemical study of the $PMo_{11}(TiO)O_{39}^{5-}$ heteropolyanion. Russ. J. Inorg. Chem. 2008. Vol. 53, N 9. P. 1359-1365.

5. S. V. Khlyntseva, Ya. R. Bazel, **A. B. Vishnikin**, V. Andruch. Methods for the determination of adenosine triphosphate and other adenine nucleotides. J. Analyt. Chem. 2009. Vol. 64, No. 7. P. 657–673 (Review).

6. **A.B. Vishnikin**, T.Ye. Svinarenko**,** H. Sklenářová, P. Solich, Ya.R. Bazel, V. Andruch. 11-Molybdobismuthophosphate - a new reagent for the determination of ascorbic acid in batch and sequential injection systems // Talanta. – 2010. – Vol. 80, № 5. – P. 1838-1845.

7. T.V. Selivanova, **A.B. Vishnikin** and L.P. Tsyganok. Sorption—spectrophotometric and visual test determination of trace silicon as an ion associate of 12-molybdosilicate with crystal violet // J. Analyt. Chem. – 2010. – Vol. 65, N 2. – P. 142-147.

8. A. V. Bulatov, P. A. Ivasenko, K. A. Subbotina, **A. B. Vishnikin** and L. N. Moskvin. Photometric cyclic-injection trace determination of phosphate ions in natural waters as an ion associate of phosphomolybdate with Astra Phloxine. // J. Analyt. Chem. – 2010. – Vol. 65, N 10. – P. 234-238.

9. Khlyntseva S.V., **Vishnikin A.B.**, Al-Shwaiyat M.K.E.A., Sklenarova H., Solich P., Bazel Ya.R., Andruch V. Sequential injection determination of orthophosphate as ion associate of 12-molybdophosphate with Astra Phloxine // Talanta. – 2011. – Vol. 84, N 5. – P. 1355-1360.

10. **Vishnikin A.B.** Determination of ascorbic acid with Wells-Dawson type molybdophosphate in sequential injection system / Vishnikin A.B., Sklenařova H., Solich P., Petrushina G.A., Tsiganok L.P. // Anal. Lett. – 2011. – Vol. 44. – N 1-3. – P. 514-527.

11. A.V. Bulatov, U.M. Strashnova, **A.B. Vishnikin**, G.M. Alekseeva, T.D. Sineva, A.L. Moskvin, and L.N. Moskvin. Stepwise injection photometric determination of ascorbic acid in drugs. J. Analyt. Chem. 2011. Vol. 66, N 3. P. 275-279.

12. Nesterova E.Yu., Kositsyna E.S., Tsyganok L.P., **Vishnikin A.B.** Copper(II) and Cobalt(II) Salt Complexes with 2,6-Dimethyl-3.5-pyridinedicarboxylic Acid Dihydrazide // Russ. J. Inorg. Chem. – 2012. – Vol. 57, N 3. – P. 350-357.

13. Bulatov A.V., Petrova A.V., **Vishnikin A.B.,** Moskvin A.L., Moskvin L.N. Stepwise injection spectrophotometric determination of epinephrine // Talanta. – 2012. – Vol. 96. – P. 62-67.

14. **Vishnikin A.B.,** Al-Shwaiyat M.K.E.A., Petrushina G.A., Tsiganok L.P., Andruch V., Bazel Ya.R., Sklenarova H., Solich P. Highly sensitive sequential injection determination of p-aminophenol in paracetamol formulations with 18-molybdodiphosphate heteropoly anion based on elimination of Schlieren effect // Talanta. – 2012. – Vol. 96. – P. 230-235.

15. **Vishnikin A.** Organized systems on the basis of heteropoly anions and their analytical application // Proceedings. Week of Doctoral Studies 2012. – Novỳ Smokovec, Slovakia, 2012. – P. 48-55.

16. Burdel M., Šandrejová J., Balogh I.S., Bazeľ Y, **Vishnikin A.**, Andruch V.A. Comparison of various modes of liquid–liquid based microextraction techniques. Determination of picric acid // J. Sep. Sci. – 2013. – Vol. 36. – P. 932-938.

17. Bulatov A.V., Petrova A.V., **Vishnikin A.B.**, Moskvin L.N. Stepwise injection spectrophotometric determination of cysteine in biologically active supplements and fodders // Microchem. J. – 2013. – Vol. 108. – P. 213-217.

List of the selected meeting presentations

1. Vishnikina E.V., Svinarenko T.E., **Vishnikin A.B.**, Chmilenko F.A. Elucidation of the heteropoly blue nature and extraction-spectrophotometric determination of phosphate using mixed heteropolyanions // Abstracts of International Conference "Analytical chemistry and chemical analysis" (AC&CA) devoted to 100 anniversary of Anatoly Babko. - Kyiv, Ukraine, 2005. – P. 156.

2. **Vishnikin A.B.,** Simanenko T.V., Tsiganok L.P. Spectrophotometric and reflectance spectroscopic determination of phosphate using absorption of 11-molybdobismuthophosphate or its ion association complex with crystal violet into the polyurethane foam / Book of Abstracts International Congress on Analytical Sciences ICAS-2006. - Moscow, Russia. – V 2, P.509-510

3. **Vishnikin A.B.,** Al-Shwaiyat M.E.A., Khlyntseva S.V., Selivanova T.V., Tsiganok L.P. Rapid and sensitive determination of phosphorus(V), silicon(IV) and arsenic(V) as an ion associates of heteropolyanions with polymethine dyes // Abstracts of 14 Int.Conf. on Flow Injection Analysis. Berlin, Germany, 2007 – P. 93.

4. Khlyntseva S.V., **Vishnikin A.B.,** Bazel Ya.R., Andruch V. Spectrophotometric determination of adenosine triphosphate using ion associate of astra phloxine FF with molybdophosphate // Abstracts of XIXth Slovak-Czech spectroscopic conference. – Casta-Papiernicka, Slovakia, 2008. - P. 80.

5. Subbotina K.A., **Vishnikin A.B.,** Protsenko Y.K., Moskvin L.N. Stepwise injection photometric analysis on principles of heteropolycompound formations // Abstracts of 15th Int.Conf. on Flow Injection Analysis. – Nagoya, Japan, 2008. – P. 73.

6. Khlyntseva S.V., Al-Shwaiyat M.K.E.A., **Vishnikin A.B.,** Sklenarova H., Solich P., Bazel Ya.R., Andruch V. Sequential injection determination of orthophosphate with ion association complex of 12-molybdophosphate and Astra Phloxine // Abstracts of 16th Int.Conf. on Flow Injection Analysis. – Pattaya, Thailand, 2010. – P. 73.

7. Khlyntseva S.V., **Vishnikin A.B.**, Sklenářová H., Solich P., Bazel Ya.R., Andruch V. Determination of phosphate as ion associate between Astra Phloxine and molybdophosphate by light-scattering detection and fluorescence quenching // Abstracts of XIV Int. Symposium on Luminescence Spectrometry. Prague, Czech Republic, 2010. – P. 123.

8. Al-Shwaiyat M.K.E.A. Determination of some drugs using Wells-Dawson molybdophosphate / M.K.E.A. Al-Shwaiyat, **A.B. Vishnikin,** L.P. Tsiganok, G.A. Petrushina, Ya.R. Bazel, V. Andruch // Abstracts of 17th Int.Conf. on Flow Injection Analysis. – Krakow, Poland, 2011. – P. 77.

9. Bulatov A. Stepwise injection photometric analysis of medical products by the reaction of formation of reduced forms of heteropolyacids / A. Bulatov, A. Petrova, **A. Vishnikin**, A. Moskvin, L. Moskvin // Abstracts of 17th Int.Conf. on Flow Injection Analysis. – Krakow, Poland, 2011. – P. 65.

10. Petrova A. Stepwise injection photometric determination of cysteine in fodder and biologically active supplements / A. Petrova, A. Bulatov, **A. Vishnikin,** L. Moskvin // Abstracts of 12th Int. Conf. on Flow Analysis. – Thessaloniki, Greece, 2012. – P. 128.

11. **Vishnikin A.** Organized systems on the basis of heteropoly anions and their analytical application // Proceedings. Week of Doctoral Studies 2012. – Novỳ Smokovec, Slovakia, 2012. – P. 48-55.

12. M.K.E.A. Al-Shwaiyat, **A.B. Vishnikin,** T. Denisenko, L.P. Tsiganok, V. Andruch, Y. Bazel. New methods for simultaneous determination of several analytes by using flow

analysis and Dawson heteropoly anions. Abstracts of 18th Int.Conf. on Flow Injection Analysis. – Porto, Portugal, 2013. – P. 82.