Alexander P. BOICHENKO, Dr.
Department of Chemical Metrology
Kharkov V.N. Karazin National University
Svoboda sq., 4
Kharkov 61077
Ukraine
+380509151791
e-mail: boichenko@univer.kharkov.ua
Personal web page: http://www-chemistry.univer.kharkov.ua/staff/boichenko

27 years

Curriculum Vitae

Born: 1982, Lugansk region, Ukraine.
Residence: Kharkov, Ukraine.
Citizenship: Ukraine.
Affiliation: Department of Chemical Metrology, Kharkov V.N. Karazin National University, http://www-chemistry.univer.kharkov.ua/kxm
Position: **2009/2010 - Senior Lecturer**, **Researcher** at the Department of Chemical Metrology.
2008/2009 - Lecturer, **Researcher** at the Department of Chemical Metrology.

Education:

- 2005-2008 – Kharkov V.N. Karazin National University, Ph. D. student, Department of Chemical Metrology;
- 2004-2005 – Kharkov V.N. Karazin National University, M. Sc. student, Department of Chemical Metrology;
- 2000-2004 – Kharkov V.N. Karazin National University, B. Sc. student, Department of Chemical Metrology.

Degrees:

2008 – **Ph. D.** at the Kharkov V.N. Karazin National University, advisor – Prof. Lidia P. Loginova. Ph. D. thesis: *"Retention modeling and optimization of separation in micellar liquid chromatography"*.
2005 – **M. Sc.** at the Kharkov V.N. Karazin National University, advisor – Prof. Lidia P. Loginova. M. Sc. thesis: "*Separation of Amino Acids and Dipeptides by Micellar and Reversed Phase High Performance Liquid Chromatography"* – **with honours**.
2004 – **B. Sc.** at the Kharkov V.N. Karazin National University, advisor – Prof. Lidia P. Loginova. B. Sc. thesis: *"Chromatographic Quantification of Impurities in Substance Drotaverine Hydrochloride"* – **with honours**;

Language capabilities:

- ✓ Russian and Ukrainian – native;
- ✓ English – fluent.

Awards and Scholarships:

- ✓ **Internal scholarship** of School of Chemistry of Kharkov V.N. Karazin National University **(2003-2004)**;
- ✓ **First Prize** on all Ukrainian conference "Modern problems of chemistry", Kiev, **2005**;
- ✓ **Young Chemist Award** for participation in **41st IUPAC World Chemistry Congress, Turin, Italy, 2007**;
- ✓ **Scholarship** from "Yuriy Sapronov Kharkov City Charity Foundation", **2008**;
- ✓ **"The best Young Scientist of Kharkiv Region" Award, 2009;**
- ✓ **Tarapov Scholarship** from "Alumni Association of Kharkov V.N. Karazin National University" for young scientists, **2009**.

Grants:

- ✓ **Grant** for participation in International conference "Instrumental methods of analysis. Modern trends and applications", Iraklion, Crete, Greece, **2005**;
- ✓ **Internal grant** of Kharkov V.N. Karazin National University **(2005-2006)**;
- ✓ **INTAS Young Scientist Fellowship** No. **06-1000019-5962** *"Control of separation with using of microheterogeneous mobile phases in hybrid analysis of biologically active compounds and drugs"* **(2007-2008)**. Supervisors: **Prof. L.P. Loginova** (V.N. Karazin Kharkiv National University, Ukraine); **Dr. A. Berthod** (University of Lyon, France); **Prof. B. Clark** (University of Bradford, UK);
- ✓ **Grant** from scientific committee of conference "**Chemometrics in analytical chemistry – 2008**", Montpellier, France;
- ✓ **Research grant** from **Fund of fundamental, applied and searching research works** of Kharkov V.N. Karazin National University**, Supervisor of the project:** *"Chemometrics tools for image analysis and quantitative description of equilibria in micellar solutions of surfactants"* **(2009).**

International cooperation:

- *A.N. Nesmeyanov Institute of Organoelement Compounds, Russian Academy of Sciences, Moscow, Russia* ***(Dr. A.G. Matveeva). Acid-base equilibria and complexation of aminoalkylidenediphosphonic acids in microheterogeneous micellar solutions of surfactants, 2009-2010***

- *Two months staying in* ***University of Bradford, Institute of Pharmaceutical Innovation, Bradford, United Kingdom (Prof. B.J. Clark), 2008.***

- *Two months staying in* ***Laboratoire des Sciences Analytiques, Universite Claude Bernard, Lyon, France (Dr. A. Berthod), 2007.***

Participation in research works supported by Ministry of Sciences and Education of Ukraine:

- ✓ Determination, theoretical estimation and application in chemical analysis of hydrophobicity characteristics of organic compounds (No. 0104U000662) **(2004-2006)**;
- ✓ Chemometrics grounds of structure-retention-property relationships (No. 0107U000659) **(2007-2009)**;

- ✓ Control of chemical equilibria in heterogeneous and microheterogeneous media promising for test and hybrid methods of analysis (No. 0103U004212) **(2003-2005)**.
- ✓ Control of processes at the interface and optimizations of experimental conditions in hybrid methods of analysis (No. 0106U003109) **(2006-2008).**

Research interests:

- ✓ **Data analysis in chemistry:** chemometrics; metrology of quantitative analysis; quality assurance, modeling and optimization of separation in liquid chromatography.
- ✓ **Chromatography:** micellar, microemuslion and reversed-phase high-performance liquid chromatography, thin-layer chromatography: theory of separation, analysis of drugs and biologically active compounds, plants; investigation of new mobile phase modifiers; chiral separations.
- ✓ **Advanced materials:** synthesis and application of silica monoliths for TLC separation and solid phase extraction.
- ✓ **Equilibria in self-organized solutions:** protolytic and complexation of biologically active substances and drugs in aqueous and micellar solutions of surfactants, micellar characteristics of surfactants (binding of counter-ions, critical micelle concentration), binding of solutes by micellar pseudophases.
- ✓ **Quantitative-structure activity relationships:** characterization of solutes distribution in two-phase and pseudophase systems, description and prediction of retention in chromatography, prediction of the biological activity of compounds by using chromatographic data, retention-hydrophobicity relationships.

Most important publications:

Papers

1. Kulikov A.U., Galat M.N., **Boichenko A.P.** Optimization of Micellar Liquid Chromatography Conditions for the Flavonoid Separation // **Chromatographia** — 2009. — Vol. 70 (3/4) — P. 371-379.

2. Frolova A.M., Chukhlieb M.A., Drobot A.V., Kryshtal A.P., Loginova L.P., **Boichenko A.P.** Producing of monolithic layers of silica for thin-layer chromatography by sol-gel synthesis // **The Open Surface Science Journal** —2009. — Vol. 1. — P. 40-45.

3. Loginova L.P., Yakovleva E.Yu., Galat M.N., **Boichenko A.P.** Effect of aliphatic alcohols and aliphatic carboxylic acids on the critical micelle concentration and counter-ion binding degree of sodium dodecylsulfate // **J. Mol. Liq.** — 2009. — Vol. 145 — P. 177-181.

4. Boichenko A.P., Markov V.V., Le Kong H., Matveeva A.G. , Loginova L.P. Re-evaluated Data of Dissociation Constants of Alendronic, Pamidronic and Olpadronic Acids // **Central European J. Chem.** — 2009. — Vol. 7 (1) — P. 8-13

5. Loginova L.P., Yakovleva E.Yu., Galat M.N., **Boichenko A.P.** Effect of aliphatic alcohols and aliphatic carboxylic acids on the critical micelle concentration and counter-ion binding degree of sodium dodecylsulfate // **J. Mol. Liq.** — 2009. — Vol. 145 — P. 177-181.

6. Loginova L.P., Kulikov A.U., Yakovleva E.Yu., **Boichenko A.P.** MLC determination of preservatives in cranberry foodstuffs // **Chromatographia** — 2008. — Vol. 67. — P. 615-620.

7. Boichenko A.P., Loginova L.P., Kulikov A.U. Micellar liquid chromatography (Review). Part 1. Fundamentals, retention models and optimization of separation // **Methods and objects of chemical analysis** — 2007. — Vol. 2, No. 2 — P. 92-116.

8. Boichenko A.P., Kulikov A.U., Loginova L.P., Iwashchenko A.L. Aliphatic carboxylic acids as new modifiers for separation of 2,4-dinitrophenyl amino acids by micellar liquid chromatography // **J. Chromatogr. A** — 2007. — Vol. 1157. — P. 252-259.

9. Boichenko A.P., Iwashchenko A.L., Loginova L.P., Kulikov A.U. Heteroscedasticity of retention factor and adequate modeling in micellar liquid chromatography // **Anal. Chim. Acta** — 2006. — Vol. 576. — P. 229-238.

10. Loginova L.P., Samokhina L.V., **Boichenko A.P.**, Kulikov A.Yu. Micellar liquid chromatography retention model based on mass-action concept of micelle formation // **J. Chromatogr. A** — 2006. — Vol. 1104. — P. 190-197.

Thesis of reports

1. ***Boichenko A.P.*** Interpretative optimization procedure in micellar liquid chromatography based on new simple retention model // Proc. International conference **«34th International Symposium on High-Performance Liquid Phase Separations and Related Techniques»** — Dresden, Germany — 2009. — P. 286.

2. ***Boichenko A.P.,*** Kulikov A.U., Yakovleva E.Yu., Galat M.N., Loginova L.P. Chemometrics approach for simultaneous optimization of resolution, time of analysis and ruggedness of separation in MLC // Proc. International conference **"Chemometrics for Analytical Chemistry 2008" — Montpellier, France.** — 2008. — P. 391-395.

3. ***Boichenko A.P.***, Loginova L.P., Kulikov A.U., Yakovleva E.Yu. Evaluation of rugged and optimal analysis conditions in micellar liquid chromatography by using interpretative optimization strategy and derringer's desirability function // Proc. International conference **"4th Black Sea Basin conference on analytical chemistry" — Sunny Beach, Bulgaria.** — 2007. — P. O13.

4. ***Boichenko A.P.***, Loginova L.P., Kulikov A.U., Berthod A. Effect of aliphatic carboxylic acids on efficiency and separation selectivity in micellar liquid chromatography in comparison with aliphatic alcohols // Proc. International congress **"41st IUPAC World Chemistry Congress" — Turin, Italy. — 2007.** — P. 187.

5. ***Boichenko A.P.***, Loginova L.P., Kulikov A.U., Iwashchenko A.L., Yakovleva E.Yu. Application of chemometrics in reversed-phase liquid chromatography and related techniques // Proc. International conference **"Modern Physical Chemistry for Advanced Materials" — Kharkiv. — 2007.** — P. 164-166.

6. ***Boichenko A.P.***, Loginova L.P., Kulikov A.Yu. Optimization of separation in micellar liquid chromatography // Proc. International congress **«International Congress on Analytical Sciences (ICAS-2006)» — Moscow.** — 2006. — P. 210.