

CURRICULUM VITAE

First name: Vitaliy

Surname: Sechenyh

Present occupation: Research Associate at ENS Lyon

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<https://scholar.google.com/citations?user=P-wn4ToAAAAJ&hl=eng>

Areas of the professional expertise:

1. Chemical engineering: fluid mechanics, thermal analysis, mass transfer in fluids and thermodynamics.
2. Experimental physics: microscopy, image analysis, interferometry, FT-IR spectroscopy, high-pressure liquid chromatography and microcantilever sensors.

1. Research experience

1.1. Research associate, April 2015 – Present time, Laboratoire de Physique, ENS Lyon, 46 allée d'Italie, 69007 Lyon, France.

Website: <http://www.ens-lyon.fr/PHYSIQUE/presentation>

Duties and responsibilities: Experimental study of thermal fluctuations in very confined liquids (micelles and colloidal solutions); design and development of different optical systems; analysis and processing of the experimental data; writing of articles for publication in peer-review journals.

1.2. Research associate, January 2014 – March 2015, Department of Mechanical Engineering, 425 Life Sciences Building, 4700 Keele St., North York, ON, M3J 1P3.

Website: <http://amirfazli.apps01.yorku.ca/>

Duties and responsibilities: Experimental study of a drop onto a particle interactions under laboratory conditions; supervising the research work of junior students; aiding in

development of research proposals and general operations of the Surface Engineering & Instrumentation Laboratory producing technical reports and scholarly publications.

1.3. Research associate, March 2010-December 2013. Microgravity Research Center, Physical Chemistry Department, Applied Science Faculty, Université Libre de Bruxelles, CP 165/62, Avenue FD Roosevelt, 50 B-1050 Bruxelles, Belgium.

Website: <http://67.199.102.30/mrc/fr/index.cfm>

Duties and responsibilities: Conducting experimental measurements of optical properties of liquids. Performing of experimental measurements of mass diffusion coefficients in multicomponent mixtures of alcohols, saturated and aromatic hydrocarbons. Analysis and processing of data obtained during the IVIDIL experiment on the International Space Station. Attending the project meetings and participation in scientific conferences. Design and development of different experimental equipment. Analysis and processing of the experimental data. Writing of articles for publication in peer-review journals. Writing of special reports for project meetings. Managing a project team based on participants from different organizations and educational institutions. Monitoring of the project budget. Writing of the project proposal for funding agency. Organization of the project meetings and participation in scientific conferences.

Participation in projects:

- **DCMIX** (Diffusion coefficients in mixtures) performing on the ISS (International Space Station), supported by ESA (European Space Agency)

Website of the project: <http://67.199.102.30/mrc/fr/projects.cfm?id=1013>

- **IVIDIL** (Influence Vibration on Diffusion in Liquids) was performed on the ISS (International Space Station) in September 2009-January 2010, supported by ESA (European Space Agency)

Website of the project: <http://www.eusoc.upm.es/en/e-usoc/spacemission/sodi-ividil.html>

- **KIBILI** (Kinetic of Thermodiffusion in a Binary Liquid near the Critical Point).

Project was sponsored by [FNRS “Appel Crédits et Projets 2011”](#) (Fonds de la Recherche Scientifique, Belgique) – Sémaphore 7012249. Project was developed for in-orbit demonstration on-board of nanosatellite, part of the project QB50 supported by ESA (European Space Agency) and European Commission.

Website of the project: <https://www.qb50.eu/>

1.4. Research assistant, November 2007–March 2010. Department of Thermal Physics and Applied Ecology, Odessa National Academy of Food Technologies, Odessa, Ukraine

Duties and responsibilities: Conducting experimental measurements of thermophysical properties of liquid mixtures: refractive index, density, dynamic viscosity, saturated vapor pressure, surface tension. Analysis and modelling of the experimental data. Attending the project meetings and participation in scientific conferences.

Participation in projects:

- “Development of the Design Physical Properties Data for the Improvement of Propylene Oxide Technology” supported by CRDF (2005) (U.S. Civilian Research & Development Foundation) Award № UKC1-5048-OD-04
- “Developing of standard and reference data on thermophysical properties of different chemical compounds”, sponsored by Ukrainian government (2005-2006). Research projects № 0105U007471 and № 0106U002619.

2. Teaching experience

November 2007–June 2010, Assistant teacher, Department of Heat and Mass Transfer, Odessa National Academy of Food Technologies, Odessa, Ukraine.

Teaching disciplines: “Heat and mass transfer”, “Fluid mechanics”, “The basic principles of scientific research”.

3. Education

Ph.D. in Engineering (Thermal Science), October 2008. Department of Thermal Physics and Applied Ecology, Odessa National Academy of Food Technologies, Odessa, Ukraine.

Speciality by diploma: “Technical thermal physics and industrial heat-and-power engineering”.

Thesis: “Investigation of rheological properties of complicated thermodynamic systems”.

M.Sc. in Engineering (Thermal Science), June 2004, Department of Thermal Physics and Applied Ecology, Odessa National Academy of Food Technologies, Odessa, Ukraine.

Speciality by diploma: “Thermal physics”.

M.S. thesis: “An experimental investigation of a heat of mixing for saturated and unsaturated [hydrocarbons](#)”

4. Languages

- Russian: native
- Ukrainian: native
- English: fluent
- French: basic

5. Computer skills

- Matlab, LabVIEW
- AutoCAD, Solidworks, Photoshop, CorelDraw
- MS Office (Word, Excel, PowerPoint), LATEX, ORIGIN
- [ClarityChrom chromatography software](#)
- Computer administration and hardware modification

6. Scientific awards and research grants

- Scholarship from the Cabinet of Ministers of the Ukraine for young scientists, 2008
- Research grant from [FNRS \(“Fonds de la Recherche Scientifique”, Belgium\) “Appel Crédits et Projets 2011”](#) – Sémaphore 7012249.

7. Publications

Papers in peer reviewed journals: 30

Proceedings of the international conferences: 26

Special reports: 2