

Curriculum Vitae

Name: Ivan Igorov Lesov

Date of Birth/Nationality: 03.07.1985, Bulgarian

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https://www.researchgate.net/profile/Ivan_Lesov

Languages

Bulgarian	Proficiency (<i>native</i>), C2
English	Proficiency, C2
German	Basic language use, A2
Russian	Independent language use, B1

Education

2010-2014	PhD in Theoretical and Physical Chemistry, Sofia University (Bulgaria)
2008-2009	MSc in Colloid chemistry, Sofia University (Bulgaria)
2004-2008	BSc in Chemistry, specialization in “Theoretical and Physical Chemistry”, Sofia University (Bulgaria)

Fellowships and Grants

2014-2015	Sciex Postdoctoral Fellowship, ETH Zurich (Host mentor: Prof. Lucio Isa)
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Professional career

2015-	Postdoctoral researcher, Department of Chemical Engineering, Sofia University
2014-2015	Sciex Postdoctoral Fellow, ETH Zurich (Switzerland), 1 year

Feb. 2014 Visiting researcher, Saint Gobain Recherché (France), 1 week
Jun. 2013 Visiting researcher, Saint Gobain Recherché (France), 1 month
Feb. 2011 Visiting researcher, Saint Gobain Recherché (France), 1 month
2010-2014 Ph.D. student, Department of Chemical Engineering, Sofia University (Bulgaria)
2008-2009 Masters student, Department of Chemical Engineering, Sofia University (Bulgaria)

Participation in research and industrial projects

- ❖ BASF, Germany
- ❖ Cambridge University, United Kingdom
- ❖ Bulgarian National Science Fund, Bulgaria
- ❖ Saint-Gobain Recherché and Saint-Gobain CREE, France
- ❖ Swiss Federal Institute of Technology (ETH Zurich), Switzerland

Short-term collaborations in projects with European comission (FP7, COST) and Unliever.

Research experience

- ❖ Colloidal Probe AFM at Liquid Interfaces
- ❖ Particle-Stabilized Foams as Hierarchical Materials Precursor
- ❖ Foams and Emulsions: Formation, Stability and Applications
- ❖ Phase Transitions and Polymerization in Emulsions

Teaching experience

Participation in the development of more than 35 practical exercises and the following 2 lecture courses. More than 350 hours of teaching and co-teaching in the following practical courses:

- ❖ Applied Thermodynamics (*undergraduate*)
- ❖ Chemical Kinetics (*undergraduate*)
- ❖ Disperse Systems (*undergraduate including lecture course*)

- ❖ Foams, Antifoams and Washing (*graduate, including lecture course*)
- ❖ Transport Phenomena (*undergraduate*)
- ❖ Mechanics of Continuous Phases and Rheology (*undergraduate*)

Department activities

- ❖ Coordination of equipment purchases, equipment maintenance
- ❖ Supervision of students with respect to their work on industrial projects and their theses (2 BSc, 1 MSc and 1 PhD)
- ❖ Participation in the organizing committees of EUFOAM conference (2010), COST workshop CM1101 (2012) and 2 training schools for COST Action P21 (2010) and COST Action D43 (2011)
- ❖ Coordination, organization and involvement in the department visits (*e.g. schedule organization, lab tour guidance, sightseeing, etc.*)

Faculty activities

- 2005-2009 Member of Faculty Student Council
- 2007-2013 Member of Faculty General Assembly
- 2008-2009 Member of Faculty Council

Publications

1. [Highly efficient self-emulsification](#), S. Tcholakova, Zh. Valkova, D. Cholakova, Z. Vinarov, I. Lesov, N. Denkov, S. K. Smoukov, *Nature Communications*, *accepted*
2. [Particle detachment from fluid interfaces: Theory vs. Experiments](#), S. Anachkov,[‡] I. Lesov,[‡] M. Zanini, P. Kralchevsky, N. Denkov, L. Isa, *Soft Matter*, **2016**, DOI: 10.1039/C6SM01716A
‡ Both authors contributed equally.
3. [Control of drop shape transformations in cooled emulsions](#), D. Cholakova, N. Denkov, S. Tcholakova, I. Lesov, S.K. Smoukov, *Adv. Colloid Interface Sci.*, **2016**, doi:10.1016/j.cis.2016.06.002
4. [Self-shaping of oil droplets via the formation of intermediate rotator phases upon cooling](#), N. Denkov, S. Tcholakova, I. Lesov, D. Cholakova, S. Smoukov, *Nature* **2015**, 528, 392–395.

5. [Drying of Particle Loaded Foams for Preparation of Porous Materials: Mechanism and Theoretical Interpretation](#). [I. Lesov](#), S. Tcholakova, N. Denkov, *RSC Advances* **2014**, 4, 811-823.
6. [Factors Controlling the Formation and Stability of Foams, Used as Precursors of Porous Materials](#). [I. Lesov](#), S. Tcholakova, N. Denkov, *J. of Colloid Interface Sci.*, **2014**, 426, 9-21.
7. [Efficient Emulsification of Viscous Oils at High Drop Volume Fraction](#). S. Tcholakova, [I. Lesov](#), K. Golemanov, N. Denkov, S. Judat, R. Engel, T. Daner. *Langmuir* **2011**, 27, 14783-14796.

Patents

1. [UK Patent "A METHOD FOR THE PREPARATION OF PARTICLES WITH CONTROLLED SHAPE AND/OR SIZE"](#). N. Denkov, S. Tcholakova, I. Lesov, D. Cholakova, Zh. Valkova, Filed 18th November **2016**
2. [BG Patent "Method for preparation of liquid, semi-liquid and solid organic particles with controlled size and/or shape"](#). N. Denkov, S. Tcholakova, I. Lesov, D. Cholakova, Zh. Valkova, Filed 19th November **2015**
3. [WIPO & US Patent "High-performance thermal insulation materials"](#). A. Dekoninck, N. Denkov, [I. Lesov](#), S. Tcholakova, K. Golemanov, WO **2013/007958 A1**

Conference participations

1. [I. Lesov](#), S. Anachkov, M. Zanini, N. Denkov, L. Isa "Wetting of solid particles by liquid interfaces, 29-31.10.2015, Symposium Smart and green interfaces: Fundamentals and diagnostics, Sofia, Bulgaria
2. [I. Lesov](#), S. Anachkov, M. Zanini, N. Denkov, L. Isa "Wetting of solid particles by liquid interfaces", 5.10.2015, 17th Swiss Soft Days, Fribourg, Switzerland
3. [I. Lesov](#), S. Anachkov, M. Zanini, N. Denkov, L. Isa , Wetting of Solid Particles by Liquid Interfaces, 17th Swiss Soft Days, Workshop, 5 October, 2015 Fribourg, Switzerland
4. [I. Lesov](#), S. Tcholakova, N. Denkov, Ultralight Porous Ceramics from Wet Foam Precursors, FP7 Beyond Everest Project, 3-6 September, 2014, Nesebar, Bulgaria
5. [I. Lesov](#), S. Tcholakova, N. Denkov, Porous Ceramics from Surfactant-Particle Mixtures, 20th International Symposium on Surfactants in Solution, 22-27 June, 2014, Coimbra, Portugal

6. I. Lesov, S. Tcholakova, N. Denkov, Porous Ceramics from Wet Foam Precursors, XIII Chemistry National Conference for Students, 2014, Sofia, Bulgaria
7. I. Lesov, S. Tcholakova, N. Denkov “Drying of particle Loaded Foams for Preparation of Porous Materials: Mechanism and Theoretical Interpretation”, ECIS, 2–6 September, 2013, Sofia, Bulgaria
8. I. Lesov, S. Tcholakova, N. Denkov, Mechanism of Drying of Silica-Stabilized Foams: Experiment and Theoretical Interpretation, IV International Conference on Colloid Chemistry and Physicochemical Mechanics, 30 June-5 July, 2013, Moscow, Russia
9. I. Lesov, S. Tcholakova, N. Denkov “Mechanism of Drying of Silica-Stabilized Foams: Experiment and Theoretical Interpretation”, 15-17 May, 2013, Sofia, Bulgaria
10. I. Lesov, S. Tcholakova, N. Denkov “Drying of Silica-Stabilized Foams: Experiment and Theoretical Interpretation”, FP7 Beyond Everest Project, 4-7 April, 2013, Pravetz, Bulgaria
11. I. Lesov, K. Golemanov, R. Petkova, M. Kovadjjiiska, S. Tcholakova, N. Denkov, Formation and Stability of Foams Prepared by Concentrated Silica Suspensions, Eufoam 2012 Conference, 8-11 July, 2012, Lisbon, Portugal
12. I. Lesov, K. Golemanov, R. Petkova, M. Kovadjieva, S. Tcholakova, N. Denkov “Formation and Stability of Foams Prepared By Concentrated Silica Suspensions”, XI Chemistry National Conference for Students, May, 2012, Sofia, Bulgaria
13. I. Lesov, M. Kovadjieva, S. Tcholakova, N. Denkov, Formation and Stability of Foams Prepared By Concentrated Silica Suspensions and Surfactant 2, X Chemistry National Conference for Students, May, 2011, Sofia, Bulgaria
14. I. Lesov, K. Golemanov, S. Tcholakova, N. Denkov “Drop Size in Concentrated Emulsions, Obtained by Rotor-Stator Homogenization”, Eufoam 2010 Conference, Borovetz, Bulgaria
15. I. Lesov, K. Golemanov, S. Tcholakova, N. Denkov “Drop Break up in Concentrated Emulsions“, IX Chemistry National Conference for Students, May, 2010, Sofia, Bulgaria
16. I. Lesov, K. Golemanov, S. Tcholakova, N. Denkov” Drop Break up in Concentrated Emulsions“, XI Meeting in Physics, February, 2009, Sofia, Bulgaria
17. I. Lesov, K. Golemanov, S. Tcholakova, N. Denkov, Drop Break up in Concentrated Emulsions”, VIII Chemistry National Conference for Students, May, 2009, Sofia, Bulgaria

Theses

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| 2009 | MSc Thesis, “Drop Breakage in Concentrated Emulsions” |
| 2014 | PhD Thesis, “Preparation of Porous Materials from Particle-Stabilized Foams” |

Participation in training schools

1. ECIS training course: “Colloids and Medical Applications”, 2013 Bulgaria
2. BASF Engineering Academy, 2012 Germany
3. COST Action CM1101: “School on Surface Analytical Techniques”, 2012 Germany
4. COST Action D43: "Fluids and Solid Interfaces", 2011 Bulgaria
5. AFM training course, 2010, Bulgaria
6. COST Action P21: "The Physics of Droplets: Basic and Advanced Topics", 2010 Bulgaria

