

# YULIA M. TRUSHKINA

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## Education

**PhD in Materials Chemistry**, Department of Materials and Environmental Chemistry, *Stockholm University*, Sweden. 2014 – Present.

“Studies and structural characterization of defects in iron oxyhydroxide nanoparticles using novel 3DEM techniques”.

**Master's in Molecular Geochemistry and Biogeochemistry**, Department of Crystallography, Geology Faculty, *Saint Petersburg State University*, Russian Federation. 2011-2013.

“Crystallochemical features of fatty acids in homologous series  $C_nH_{2n}O_2$  ( $n = 11-24$ )”.

**Bachelor's in Geology**, Department of Crystallography, Geology Faculty, *Saint Petersburg State University*, Russian Federation. 2007-2011.

“Crystallochemical studies of odd-numbered carbon (fatty) acids and of their binary compositions”.

## Employment history

Laboratory Assistant, Institute of Silicate Chemistry of Russian Academy of Science, Saint Petersburg, Russia. November 2012 – 2013.

Samples of marine antifouling covering were studied by X-Ray diffraction and AFM methods. Samples were prepared by sol-gel method. Also I am involved in researches of electrical insulation and in researches of problems and ways to eliminate the self-discharge pseudocapacitor with nanooxide layer on the electrode surface.

Laboratory Assistant, Biology and Soil Faculty, Saint Petersburg State University. November 2011 – November 2012.

Preparation of chemical solutions and supervising student research experiments.

Laboratory Assistant, Center of Isotopic Research, A.P. Karpinsky Russian Geological Research Institute, Saint Petersburg, Russia. August 2010 – October 2010.

Preparation of samples for isotopic research and analysis and processing of information obtained from research.

## Personal Skills

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- X-Ray and in-situ X-Ray Powder Diffraction
- Microscopy (including AFM, SEM and TEM)
- Crystal growing (mostly from solutions)
- Languages: English (fluent), Swedish (beginner), Russian (native)
- Computer Skills: Digital Micrograph, ImageJ, PDXL, PdWin, Index, Unit Cell, WinGX, FulProf, Atoms, Mercury, MS Office

## Conferences, Workshops and Schools

EMAT Workshop on Transmission Electron Microscopy, Antwerp, Belgium, June 2015.

2d TEM Spectroscopy Workshop in Materials Science, Uppsala, Sweden, May 2015.

“EXAFS for beginners” course, Lund, Sweden, April 2015.

Electron Crystallography School, Darmstadt, Germany, April 2014.

VI All-Russian Conference by Organic Mineralogy, Chernogolovka, Russia, October 2013.

Analysis of Diffraction Data in Real Space, Grenoble, France, March 2013.

Fourth European Conference on Crystal Growth, Glasgow, UK, June 2012.

IV International Symposium «Interactions between biogenic and abiogenic components in natural and anthropogenic systems», Saint-Petersburg, Russia, September 2011.

BIWIC-18 - Proceedings of 18th International Workshop on Industrial Crystallization, Delft, The Netherlands, September 2011.

## Awards and Scholarships

4th European Conference on Crystal Growth (ECCG4), £250, student bursary, June 2012.

Scholarship of St. Petersburg State University, 250\$ per month, since 2012.

1st prize among student research works (twice: 2008 and 2009).

The winner of the Russian Geological Olympiad for pupils (2007).

## Certificates

Certificate of Attendance in Electron Crystallography School – Introduction to electron diffraction tomography, Darmstadt, Germany, April 2014.

Certificate of Attendance in Workshop on Analysis of Diffraction Data in Real Space, Grenoble, France, March 2013.

Certificate of Attendance in 4th European Conference on Crystal Growth, Glasgow, UK, June 2012.

## Publications

1. J.-F. Boily, M. Yesilbas, Md. M. U. Munshi, L. Baiqing, **Y. Trushkina**, G. Salazar-Alvarez. Thin Water Films at Multifaceted Hematite Particle Surfaces // *Langmuir* 31 (48). 2015. 13127–13137.

2. **Y.M. Trushkina**, E.N. Kotelnikova. Morphotropism, polymorphism and behavior on heating of odd monocarboxylic acids  $C_nH_{2n}O_2$  in the homologous series  $n = 11–21$  // *Journal of Structural Chemistry*. V. 55. I. 7. 2014. P. 1260-1267.

3. **J.M. Trushkina**, E.N. Kotelnikova. Polymorphism and morphotropy in homologues series of monobasic carboxylic acids  $C_nH_{2n}O_2$  ( $n = 11–21$ ) // BIWIC 20<sup>th</sup> – Proceedings of International Workshop on Industrial Crystallization. Odense, Denmark. 2013. P. 297-303.

4. **J.M. Trushkina**, E.N. Kotelnikova. Morphotropy, polymorphism and isomorphism of monobasic carboxylic acids // Materials of VI All-Russian Conference by Organic Mineralogy. Chernogolovka, Russia. 2013. P. 156-159.

5. **J.M. Trushkina**, E.N. Kotelnikova. Polymorphic modifications and thermo solid-phase transformations of stearic acid by the data of X-Ray and thermo X-Ray powder diffraction // Proceedings of “Add 2013” conference – Analysis of diffraction data in real space. Grenoble. France. 2013. P. 58.
6. **J.M. Trushkina**, E.N. Kotelnikova. Polymorphic variety of stearic acid by the data of X-ray and thermo-X-ray powder diffractometry // ECCG4 – 4<sup>th</sup> European Conference on Crystal Growth. Glasgow. UK. 2012.
7. E.N. Kotelnikova, **J.M. Trushkina**. Polymorphism of Normal Fatty Acids  $C_nH_{2n}O_2$  ( $n = 12-24$ ) and Their Double Compounds in Binary Even and Odd Systems // BIWIC 18<sup>th</sup> – Proceedings of 18th International Workshop on Industrial Crystallization — Delft. The Netherlands. 2011. P. 254-259.
8. Elena Kotelnikova, **Julia Trushkina**. Odd n-fatty acids  $C_nH_{2n}O_2$  and their alloys on the X-ray powder diffraction data // Acta Crystallographica Section A: Foundations of Crystallography. 2011. P. 269-270.
9. **J.M. Trushkina**, E.N. Kotelnikova. X-ray study of the odd-numbered carbon acids and their binary compositions // Materials of XI conf. of stud. scientific society of Geological faculty. SPbU. St. Petersburg. 2011. P. 48-50.
10. **J.M. Trushkina**, E.N. Kotelnikova. Polymorphic variety of odd carbon acids by the data of X-ray diffractometry // Materials of IV International Symposium «Interactions between biogenic and abiogenic components in natural and anthropogenic systems». SPb. 2011. P. 429-432.
11. V.D. Franke, S.N. Bocharov, **J.M. Trushkina**. Influence of gelatin and aspartic acid on the morphology of calcium carbonate crystals // Materials of Int. Mineralogical Seminar "Mineralogical intervention in micro-and nano-world." Syktyvkar. 2009. P. 504-505.
12. **J.M. Trushkina**. The crystal growth from solution in the presence of gelatin // Materials of student conference of SPbU. St. Petersburg. 2009. P. 16-19.
13. V.D. Franke, A.E. Glikin, A.I. Shugaev. **J.M. Trushkina**. Dynamics of crystallization in natural bile and model solutions // Materials of VI Int. Symposium “Mineralogical museums”. SPb. 2008. P. 261-262.
14. **J.M. Trushkina**. Crystallochemical studies of odd-numbered carbon (fatty) acids and of their binary compositions. Bachelor qualification work (unpublished). 2011.
15. **J.M. Trushkina**. Crystallochemical features of fatty acids in homologous series  $C_nH_{2n}O_2$  ( $n = 11-24$ ). Master’s qualification work (unpublished). 2013.