Maksim Sokolov

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Education

09/2016–09/2017	MSc in Photonics and Optoelectronic Devices with Distinction, University of St Andrews (St Andrews) and Heriot-Watt University (Edinburgh), The United Kingdom.

Thesis: Microoptics for illumination and sensing application.

Overall grade: 17.3 out of 20.0 possible.

09/2012–07/2015	BSc in Physics with Distinction, University of Latvia, Riga, Latvia.

Thesis: First principles modelling of the initial steps of the ODS particle formation process in *bcc*-Fe.

Overall grade: 9.56 out of 10.00 possible.

Work and research experience

10/2020–Present	**Scientific assistant**, Institute of Solid State Physics, Laboratory of Computer Modelling of Electronic Structure of Solids, Riga, Latvia. *Ab initio* calculations of defects in solids, perovskites in particular; water splitting.
02/2019–02/2020	**Data scientist**, Intrum Global Technologies, Riga, Latvia. Customer scoring projects; applying Natural Language Processing to improve efficiency of ticket processing; financial time series forecasts.
05/2018–02/2019	**Scientific assistant**, Institute of Solid State Physics, Laboratory of Computer Modelling of Electronic Structure of Solids, Riga, Latvia. Worked as a part of CO2Excide project http://www.co2exide.eu/, modelling the process of CO_2-based electrosynthesis of ethylene oxide theoretically.
10/2017–02/2019	**Data scientist**, AS 4Finance, Riga, Latvia. Customer scoring projects, scoring automation.
03/2013–05/2018	**Engineer**, Institute of Solid State Physics, Laboratory of Computer Modelling of Electronic Structure of Solids, Riga, Latvia. A*b initio* calculations of ODS steels as a part of EUROfusion project https://www.euro-fusion.org/
05/2017–08/2017	**Degree candidate**, GmbH Osram, Garching, Germany. Working on MSc thesis "Microoptics for illumination and sensing application"
09/2015–09/2016	**Optical engineer**, SIA Bioscience Media, Riga, Latvia. Developing various optical systems for fluorescence and even illumination applications.

Computer skills

Programming and scripting: R, Python, SQL, Docker, C, Wolfram Mathematica, Matlab, Latex.

Quantum chemical modelling packages

VASP

CRYSTAL

Quantum Espresso

Languages

Russian – native

English – fluent (IELTS 8.0 as of 2016)

Latvian – fluent

Publications

M. Sokolov, Y. Mastrikov, A. Gopejenko, D. Bocharov, Y. Zhukovskii, and E. Kotomin, "Ab initio modelling of titanium impurities in α-Fe lattice," *Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms*, vol. 483, pp. 50-54, 2020.

Y. Mastrikov, M. Sokolov, E. Kotomin, A. Gopejenko, and Y. Zhukovskii, "Ab initio modeling of Y and O solute atom interaction in small clusters within the BCC Iron lattice," *Physica Status Solidi (B) Basic Research*, vol. 256, no. 5, 2019.

S. Piskunov, Y. Zhukovskii, M. Sokolov, and J. Kleperis, "Ab initio calculations of Cu_N@Graphene (0001) nanostructures for electrocatalytic applications," *Latvian Journal of Physics and Technical Sciences*, vol. 55, no. 6, pp. 30–34, 2018.

Y. Mastrikov, M. Sokolov, S. Koch, Y. Zhukovskii, A. Gopejenko, P. Vladimirov, V. Borodin, E. Kotomin, and A. Möslang, "Ab initio modelling of the initial stages of the ODS particle formation process," *Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms*, vol. 435, pp. 70–73, 2018.

M. Sokolov, R. Eglitis, S. Piskunov, and Y. Zhukovskii, "Ab initio hybrid DFT calculations of $BaTiO_3$ bulk and BaO-terminated (001) surface F-centers," *International Journal of Modern Physics B*, vol. 31, no. 31, 2017.