Vadim Nemytov

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Education

M.Sc. + Ph.D. Theory and Simulation of Materials	Imperial College London	2013 – 2018
M.Sc. Condensed Matter Theory and Modelling	McGill University, Canada	2011 – 2012
B.Sc. Joint Honours in Mathematics and Physics	McGill University, Canada	2007 – 2011
• 3.72/4.0 GPA (UK 1st class)		
Highschool Diploma	Northview Heights, Canada	2004 – 2007
• average 88/100 (UK A*A*A*)		

Computational Tools

Experienced: Python, Fortran, Mathematica, Matlab, Linux, Bash scripting, Git, HPC[1], OpenMP

Some experience: C++, Deep Learning and AWS (online course Fast.AI)

Experience

Ph.D. Researcher Imperial College London Oct. 2014 – Dec. 2018

- Wrote a Python interface to automatically run software packages and custom codes, linking input/output in a concerted manner, to calculate material properties in simulated experiments
- Wrote an object-oriented Python code to test models' ability to reproduce accurate reference data
- Using test-driven approach, implemented new features into a large, shared Fortran code, via Git
- Trained models by minimizing a gradient-free error function defined on large sets of reference data
- Proposed, implemented an $O(2)$ faster way of finding a self-consistent solution during model fitting
- Enabled computer simulations of a new class of materials – a first of their kind in my field

M.Sc. project Imperial College London Oct. 2013 – Sep. 2014

- Implemented a module in C++ and integrated it (via Git) as part of a group software project

Outreach Postgraduate Ambassador Wohl Reachout Lab, Imperial Oct. 2014 – Dec. 2017

- Designed and delivered day-long workshops for students aged 14 - 17 on a set topic, which consisted of talks, demonstrations, visualizations, exercises and hands-on labs

[1] High Performance Computer

- Developed workshop material for, and trained, newly qualified Outreach Ambassadors

Materials model developer, Researcher — Materials Design s.a.r.l. Internship, Paris — Sep. 2016 – Dec. 2016

- Achieved a set task of parametrizing a pair-additive model for NaCl, novel in its ability to reproduce *both* the solid and the molten states. Integrated it into company's proprietary MedeA software

Funding team leader, School co-organizer — Hermes Summer School 2016 Materials Modelling & Sci. Comm. — Oct. 2014 – Dec. 2017

- Led a funding team, raising £10730, balancing £25900 budget, with a surplus enabling 5 fully-funded scholarships for attendees from developing countries
- Co-designed the summer school, deciding on the topic structure, series of communication workshops and individual and group tasks.

M.Sc. Project — McGill University — June 2011 – Dec. 2012

- Produced a written review of the theory of a recently discovered phase called Topological Insulator
- Implemented a Tight-Binding model in Matlab representing the Bi_2Se_3 Topological Insulator
- Formed a hypothesis that Cd_3As_2 is a new Topological Insulator; confirmed two years later[2]

Visiting Researcher — University of Hong Kong — Oct. 2011 – Dec. 2011

- Extended a Finite Differences Matlab code to simulate quantum transport of electrons in Bi_2Se_3

Sales and Marketing Analyst — XLN Telecom, London — Mar. 2007 – Aug. 2007, May 2008 – Aug. 2008

- Developed the metrics to monitor and analyze the quality and performance of the Sales team
- Analyzed call recordings, selected cases for staff training and team enhancement purposes
- As a Sales Manager's assistant, prepared daily and weekly reports on team related metrics

Awards

- Director's List mention for 80%+ MSc final average, Imperial College 2014
- Rubin Gruber Scholarship (1,000 $), McGill University 2008
- Jeffery Scholarship in Science (2,000 $), McGill University 2008
- J.W. McGonnel Award (1,000 $), McGill University 2008
- Golden Key International Honours Society – membership by invitation 2008

Interests, Languages

- Interests: Football; indoor bouldering; dancing swing, improvised; reading Fiction, Economics, Philosophy, History, Mathematics; discovering own city by bike, country by visiting cities
- Languages: English, Russian, Lithuanian; Beginner's French.

Last updated: January 10, 2019

[2] digitool.library.mcgill.ca/thesisfile114415.pdf, Nature Materials 13, 677 - 681 (2014)