

Curriculum Vitae

Dawid Borycki

Neurophotonics Lab, Department of Biomedical Engineering, University of California, Davis
Room 3302 GBSF, 451 East Health Sciences Drive, Davis, CA 95616 USA

e-mail: dborycki@ucdavis.edu

mobile: +1 530 312 9402

Education

- 2007 – 2011** Nicolaus Copernicus University, Faculty of Physics, Astronomy and Informatics, ul. Grudziadzka 5, 87-100 Toruń, Poland,
Ph. D. (Physics) **with honors (*cum laude*)**. My final assessment was ranked among the top 5% of the university PhD graduates.
Thesis title: *A BCS superconductor perturbed by magnetic impurities*. Supervisor: prof. Jan Maćkowiak.
- 2002 – 2007** Nicolaus Copernicus University, Faculty of Physics, Astronomy and Informatics, ul. Grudziadzka 5, 87-100 Toruń, Poland,
M. Sc. in theoretical and computational physics.
Thesis title: *A superconductor with 4-fermion attraction weakly perturbed by magnetic impurities*. Supervisor: prof. Jan Maćkowiak.

Employment history /academia/

- 01/2014 – present** University of California, Davis, USA. Neurophotonics Laboratory, Department of Biomedical Engineering, **postdoctoral scholar**.
Advisor: Prof. Vivek Srinivasan.
- 08/2012 – present** Nicolaus Copernicus University, Faculty of Physics, Astronomy and Informatics, ul. Grudziadzka 5, 87-100 Toruń, Poland, **assistant professor** at Optical Biomedical Imaging Group.
Advisor: prof. M. Wojtkowski.
- Developed novel method for controlling the optical field by spatiotemporal light modulation

- Part-time work within the project entitled *Development of methods for optical interferometry to study the dynamics of biological systems (supported by The National Centre for Research and Development, Poland)* as software developer: responsible for SLO and OCT/OCM control and data acquisition

10.2011 – 07.2012

Nicolaus Copernicus University, Faculty of Physics, Astronomy and Informatics, ul. Grudziądzka 5, 87-100 Toruń, Poland, ***teaching and research assistant:***

- Research work in strongly correlated electron systems
- Teaching: Programming in C/C++, Linux/Unix and network services, .NET programming with C# (Visual C#), Introduction to mathematics, Introduction to higher mathematics, discrete mathematics, mathematical analysis.

Employment history /industry/

01/2012 – 03/2012

Canon Inc., 30-2, Shimomaruko 3-chome, Ohta-Ku, Tokyo 146-8501, Japan, ***software engineer, internship:***

- Improved signal and image processing algorithms for OCT-HS100

02/2010 – 07/2012

Optopol Technology Inc. (Canon Group), Research Division, R&D Center, Branch Office in Toruń, ul. Grudziądzka 5, 87-100 Toruń, Poland, ***software engineer:***

- Designed and developed several automatic alignment algorithms for Canon's OCT-HS100 device, i.e.: automatic eye alignment and tracking, fundus tracking, automatic focus adjustment

10/2008 – 01/2010

Nicolaus Copernicus University, The Center for Information Technology, pl. Rapackiego 1, 87-100 Torun, Poland. ***software engineer.***

Publications

2014

1. D. Borycki, *Enhancement of superconductivity by an external magnetic field in magnetic alloys*, accepted for publication in Eur. Phys. J. B.
2. D. Borycki, *Microsoft Office 2013. Practical programming of macros and add-ins (book, in polish)*, Helion Inc. Publishing Group, Gliwice, Poland, 03/2014.
3. D. Borycki, *JavaScript/jQuery. A complete guide to programming interactive web applications (book in polish)*, Helion Inc. Publishing Group, Gliwice, Poland, 02/2014.
4. J. Matulewski, M. Grabek, M. Pakulski, D. Borycki, *ASP.NET Web Forms. A complete guide to programming interactive web applications (book in polish)*, Helion Inc. Publishing Group, Gliwice, Poland, 01/2014.

2013

5. D. Borycki, M. Nowakowski, M. Wojtkowski, *Control of the optical field coherence by spatiotemporal light modulation*, Opt. Lett. 15 (2013) 4817.
6. D. Bukowska, D. Rumiński, Bartosz L. Sikorski, I. Gorczyńska, D. Borycki, M. Szkulmowski, M. Wojtkowski, *Angio-OCT as a noninvasive tool for three-dimensional vascular network visualization in retinal diseases*, Proc. SPIE 8802 (2013) 88020H1.
7. D. Borycki, J. Matulewski, M. Pakulski, M. Grabek, *ASP.NET MVC. A complete guide to programming interactive web applications (book in polish)*, Helion Inc. Publishing Group, Gliwice, Poland, 12/2013.

2012

8. J. Maćkowiak, D. Borycki, *Dressed Bosons and Effective Temperature – a Formalism for Helium II*, Int. J. Phys. Mod. B, Int. J. Mod. Phys. B 26 (2012) 1250119.

2011

9. D. Borycki, J. Maćkowiak, *Reentrant behavior of superconducting alloys*, Supercond. Sci. Technol. 24 (2011) 035007.
10. J. Matulewski, D. Borycki, G. Krause, M. Grabek, M. Pakulski, M. Warczak, J. Lewandowski, S. Orłowski, *Visual Studio 2010 for C# programmers, (book, in polish)* Helion Inc. Publishing Group, Gliwice, Poland (2011).

2010

11. J. Maćkowiak, D. Borycki, *A refined BCS approach to the doping dependence of T_c in high- T_c superconductors*, Mod Phys Lett B 24 (2010) 2131.
12. J. Matulewski, M. Pakulski, D. Borycki, B. Biały, P. Pełowski, M. Matuszak, D. Szlag, D. Urbański, *Visual C++. Windows programming, (book, in polish)*, Helion Inc. Publishing Group, Gliwice, Poland (2010).
13. D. Borycki, J. Maćkowiak, *Physica C, The critical magnetic field of a superconductor with 4-fermion attraction weakly perturbed by magnetic impurities*, Physica C 470 (2010) S925.

2008

14. D. Borycki, *A superconductor with 4-fermion attraction weakly perturbed by magnetic impurities*, Eur. Phys. J. B, 65 (2008) 29-38.

Patents

1. M. Wojtkowski, M. Nowakowski, D. Borycki, *Interferometric method and apparatus for spatio-temporal optical coherence modulation*, PCT/EP2013/073710, filing date: 11/14/2014.
2. D. Borycki, Yasuhiro Nakahara, *Optical coherence tomographic imaging apparatus and control method thereof*, US 2014/0063507 A1, filing date: 08/14/2013.
3. D. Borycki, Hiroshi Aoki, *Ophthalmic apparatus, method of controlling ophthalmic apparatus and storage medium*, US 2014/0063460 A1, filing date: 08/14/2013.
4. Yasuhiro Nakahara, D. Borycki, *Optical coherence tomographic imaging apparatus and control method thereof*, EP 2 702 933 A1, filing date: 08/16/2013.
5. D. Borycki, Hiroshi Aoki, *Ophthalmic apparatus, method of controlling ophthalmic apparatus and storage medium*, EP 2 702 930 A1, filing date: 08/16/2013.
6. D. Borycki, Hiroshi Aoki, *Ophthalmologic device, ophthalmologic device control method and program*, JP 2012-190617, filing date: 08/2012.
7. D. Borycki, Yasunora Otsuka, *Optical tomographic imaging apparatus and its control method*, JP 2012-190616, filing date: 08/2012.

Grants and awards

1. Conference grant at Eurasia-Pacific Summer School & Workshop on Strongly Correlated Electrons. A Joint Organization of ITAP, APCTP (South Korea) & Academia Sinica (Taiwan), Turunc-Marmaris, Turkey, August, 2012.
2. The award of NCU rector for teaching and educational achievements, NCU, 11/14/2011.

3. Scholarship for Ph.D. students, NCU 2010/2011.
4. The Scholarship funded by the European Social Fund and the budget of Poland within the Human Capital Programme, "Scholarships for Ph.D. students", 2010/2011.
5. Conference grant at Electronic/Optical Coherence in Low Dimensional Semiconductors and Atomic Gases, A Cambridge University-ITAP Joint School for Young Researchers, Institute of Theoretical and Applied Physics (ITAP), Turunc-Marmaris, Turkey, September, 2009.
6. Conference grant at 9th International Conference on Materials and Mechanisms of Superconductivity, 7-12.09.2009, Tokyo, Japan.
7. Conference grant at the Advanced Quantum Mechanics for Condensed Matter Physicists summer school, Institute of Theoretical and Applied Physics (ITAP), Turunc-Marmaris, Turkey, July 2009.
8. The Scholarship funded by the European Social Fund and the budget of Poland within the Integrated Regional Operational Programme, measure 2.6 "Regional Innovation Strategies and transfer of knowledge" under the project of Kujawsko-Pomorskie voivodship "Scholarships for Ph.D. students 2008/2009-IROP".
9. Scholarship for Ph.D. students, NCU 2008/2009.

Professional certifications

1. Microsoft Certified Professional (MCP) since 04/16/2012
2. Microsoft Technology Associate (MTA): Software Development Fundamentals, 01/19/2011.
3. Microsoft Technology Associate (MTA): Windows Development Fundamentals, 01/21/2011.
4. Microsoft Technology Associate (MTA): Web Development Fundamentals, 01/21/2011.

Technical expertise

- **Programming languages:** C/C++, C++/CLI, C#, SQL/T-SQL, LabView, JavaScript, PHP, HTML
- **Software tools supporting research work:** Wolfram Mathematica, Origin
- **Software components:** ADO.NET, ADO.NET Entity Framework, .NET Framework 2.0/3.5/4.0/4.5/4.5.1, Visual Studio Tools for Office, ASP.NET, ASP.NET MVC 3/4/5, Visual Basic for Applications, SQL Server, Reporting Services, jQuery, AJAX, Intel Integrated Performance Primitives (Intel IPP 7.0), OpenCV, Jungo WinDriver (USB), Widows Driver Kit (USB)
- **Development environments:** Visual Studio 2008/2010/2012/2013 with Team Foundation System

- ***Operating systems:*** LINUX/UNIX, Windows Server 2008, Windows 95/98/NT/XP/Vista/7/8/8.1
- ***Others:*** MS Office 2003/2007/2010/2013