

CURRICULUM VITAE OF MAŽENA MACKOIT SINKEVIČIENĖ

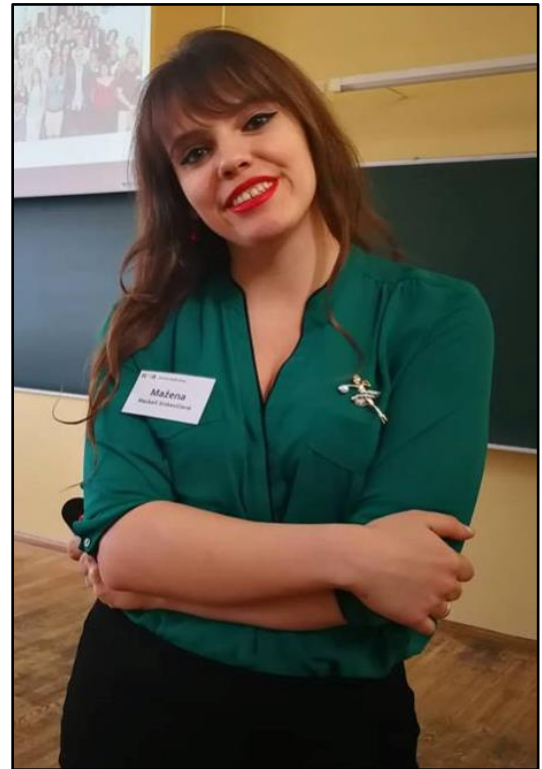


Personal information

- Date of Birth: 1991-05-22, Vilnius
- Telephone: +37067935705
- Nationality: Lithuanian (EU)
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Scientific experience

- 2018-02-01– now **Solid State Physics course Assistant**
2019 received Award “Talent of the Year”
Vilnius university, Faculty of Physics
Giving lectures/exercises/laboratory work on
Solid State Physics,
Quantum Mechanics for Bachelor students.
- 2016-01-01– now **Junior Researcher**
Electronic Structure Theory Group
Fundamental Research division
Center for Physical Sciences and Technology
Materials for single photon emitters.
Density functional theory and electronic
structure methods. Theory of point defects
for quantum information processing.
- 2015-11-02–2015-12-31 **Engineer**
Semiconductor Physics Institute
Center for Physical Sciences and Technology
Two dimensional materials for optoelectronics. Ab-initio calculations.
- 2012-09-01–2015-01-10 **Technician**
Vilnius University, Institute of Applied Research
Luminescence spectroscopy group
Luminescence properties of group III-nitride semiconductors: GaN,
AlGaIn-GaN, InGaIn. Investigation of nonequilibrium carrier dynamics.



Education

- 2016-10-01- now **PhD in Physics**
Center for Physical Sciences and Technology (CPST).
Title “*Point defects as single photon sources in hexagonal boron nitride*”.
- 2014-09-01–2016-06-21 **Master of Science in Physics, Magna Cum Laude diploma**
Faculty of Physics, Vilnius University. Course: Materials and Technology of
Optoelectronics. Thesis: “*Theoretical study of boron and nitrogen vacancies in*
h-BN”. Supervisor: dr. A. Alkauskas.
- 2010-09-01–2014-06-30 **Bachelor of Science in Physics, Cum Laude diploma**
Faculty of Physics, Vilnius University. Course: Applied Physics. Thesis:
“*Nonequilibrium carrier dynamics in GaN epilayers with different equilibrium*
carrier densities”. Supervisor: prof. habil. dr. G.Tamulaitis.
- 2003-09-01–2010-05-31 **Middle School, Certificate with Honors**
Juzefo Ignacijaus Kraševskio middle school, Vilnius, Lithuania
School for young Physicists “Fotonas/Photon” (2007-2010).
School for gifted Young Mathematicians “LJMM” (2010)

Main Publications

- Z. Shotan, H. Jayakumar, C. R. Considine, M. Mackoīt, H. Fedder, J. Wrachtrup, A. Alkauskas, M. W. Doherty, V. M. Menon, and C. A. Meriles "Photo-induced modification of single-photon emitters in hexagonal boron nitride", **ACS Photonics** **3** (12), 2490–2496 (2016).
- L. Weston, D. Wickramaratne, M. Mackoīt, A. Alkauskas, and C. G. Van de Walle, "Native point defects and impurities in hexagonal boron nitride", **Phys. Rev. B** **97**, 214104 (2018).
- L. Skuja, K. Smits, A. Trukhin, F. Gahbauer, R. Ferber, M. Auzins, L. Razinkovas, M. Mackoīt, and A. Alkauskas, "Dynamics of singlet oxygen molecule trapped in silica glass, studied by luminescence polarization anisotropy and density functional theory", **Journal of Physical Chemistry** is submitted (2019).

International and National Conferences

- M. Mackoīt (presenter), L. Weston, D. Wickramaratne, L. Razinkovas, M. W. Doherty, C. G. Van de Walle, A. Alkauskas, "Optical properties of boron vacancy-related defects in hexagonal boron nitride", International conference Advanced Properties and Processes in Optoelectronic Materials and Systems **APROPOS-16**, Vilnius, Lithuania (October 10-12, 2018).
- M. Mackoīt (presenter), L. Weston, D. Wickramaratne, L. Razinkovas, M. W. Doherty, C. G. Van de Walle, A. Alkauskas, "Optical properties of boron vacancy-related defects in hexagonal boron nitride", **E-MRS Fall Meeting**, Warsaw, Poland (September 16-21, 2018).
- M. Mackoīt (presenter), L. Weston, D. Wickramaratne, A. Alkauskas, C. G. Van de Walle, A. Alkauskas, "Native point defects and impurities in h-BN", **Humboldt Kolleg** Controlling quantum matter: From ultracold atoms to solids, Vilnius, Lithuania (July 29- August 2, 2018).
- M. Mackoīt (presenter), L. Weston, D. Wickramaratne, M. W. Doherty, C. G. Van de Walle, A. Alkauskas, "Optical properties of single photon sources in h-BN", 7th European Physical Society Young Minds Leadership **EPS-YM Meeting**, Czech Technical University in Prague, Prague, Czech Republic (May 3-5, 2018).
- M. Mackoīt (presenter), L. Weston, D. Wickramaratne, A. Alkauskas, C. G. Van de Walle, "Native point defects in hexagonal boron nitride", 61st Scientific Conference of Physics and Natural Sciences "Open Readings", Vilnius (2018).
- M. Mackoīt (presenter), L. Weston, D. Wickramaratne, M. W. Doherty, C. G. Van de Walle, A. Alkauskas, "Optical properties of point defects in h-BN", **Infobalt** contest for Young Scientists, Vilnius (2018).
- M. Mackoīt (presenter), L. Weston, D. Wickramaratne, M. W. Doherty, C. G. Van de Walle, A. Alkauskas, "Point defects as single photon sources in h-BN", **Lithuanian Academy of Sciences** 8th Conference of Young Scientists "Physical and Technological Sciences Interdisciplinary Research", Lithuanian Academy of Sciences (2018).
- M. Mackoīt (presenter), A. Alkauskas "Optical properties of native point defects in h-BN", 7th Center for Physical Sciences and Technology PhD students and young scientists conference "**FizTech'17**", Vilnius (2017).
- M. Mackoīt (presenter), L. Weston, D. Wickramaratne, A. Alkauskas, C. G. Van de Walle, "Native point defects and impurities in hexagonal boron nitride", **E-MRS Fall Meeting**, Warsaw, Poland (2017).
- M. Mackoīt (presenter), A. Alkauskas, L. Weston, D. Wickramaratne, M. W. Doherty, C. G. Van de Walle, "Optical properties of boron vacancies and boron vacancy complexes in hexagonal boron nitride", 42nd **Lithuanian National Conference of Physics**, NFTMC (2017).
- M. Mackoīt (presenter), A. Alkauskas, "Optical properties of boron vacancies and boron vacancy complexes in hexagonal boron nitride", Deutsche Physikalische Gesellschaft **DPG conference**, Dresden (2017).
- H. Jayakumar (presenter), Z. Shotan, C. Considine, M. Mackoīt, H. Fedder, J. Wrachtrup, A. Alkauskas, M. Doherty, V. Menon, C. Meriles, "Optical spectroscopy and photo modification of individual single-photon emitters in hexagonal boron nitride", **APS March Meeting** 2017, New Orleans, Louisiana, USA (2017).
- M. Mackoīt (presenter), "Photo-induced modification of single-photon emitters in hexagonal boron nitride", Project "Metrology at the Nanoscale with Diamonds" **MyND Workshop**, Ryga, Latvia (2017).

- M. Mackoit (presenter), A. Alkauskas "*Photo-induced modification of single-photon emitters in hexagonal boron nitride*", **Lithuanian Academy of Sciences** 7th Conference of Young Scientists "Physical and Technological Sciences Interdisciplinary Research", Lithuanian Academy of Sciences (2017).
- M. Mackoit (presenter), A. Alkauskas "*Photo-induced modification of single-photon emitters in hexagonal boron nitride*", 6th Center for Physical Sciences and Technology PhD students and young scientists conference "*FizTech'16*", Vilnius (2016).
- M. Mackoit (presenter), A. Alkauskas, "*First-principles calculations of point defects in h-BN*", **The Coins** International Conference of Natural and Life Sciences, Joint Life Sciences Centre, Vilnius (2016).
- M. Mackoit (presenter), A. Alkauskas, "*Ab-initio studies of point defects in h-BN*", 59th Scientific Conference of Physics and Natural Sciences "**Open Readings**", Vilnius (2016).
- M. Mackoit (presenter), A. Alkauskas, "*Theoretical study of boron and nitrogen vacancies in h-BN*", 18th International Conference-School **Advanced Materials and Technologies**, Palanga (2016).
- M. Mackoit (presenter), G. Tamulaitis, "*Nonequilibrium carrier dynamics in GaN epilayers with different equilibrium carrier densities*", 57th Scientific Conference of Physics and Natural Sciences "**Open Readings**", Vilnius (2014).

Projects

- 2015–2018 The Research Council of Lithuania project „**Metrology at the Nanoscale with Diamonds**” (MyND) (Nr. 2215, Nr. M-ERA.NET-1/2015, FTMC: 3500-P302).
- 2014 TEMPUS project “**Development of Training for Improving Education in Energy Efficiency**” (Grant Nr. 530379-TEMPUS-1-2012-1-LVTEMPUS-JPCR).
- 2014 The Research Council of Lithuania project "**Enhancement of light emission efficiency in wide-band-gap nitride semiconductors**" (MIP-054/2012, 2012-2015). Institute of Applied Research, Division of Semiconductor Optoelectronics, Luminescence spectroscopy group, Technician.
- 2013 Students’ Scientific Practice (SMP 045/SMP13, Supervisor: G. Tamulaitis, J. Mickevičius) “**Spatially resolved luminescence in LGSO:Ce crystals**”, The Research Council of Lithuania.
- 2012 Students’ Scientific Practice (SMP 030/SMP12-090, project Nr. VP1-3.1-ŠMM-01-V-02-003, The Research Council of Lithuania) “**Luminescence studies of different profiles InGaN QWs**”.
- 2012 Students’ Scientific Research (SMP 024, Supervisor: G. Tamulaitis, J. Mickevičius) “**Photoluminescence spatial distribution in InGaN layers, grown in different temperatures**”, The Research Council of Lithuania.

Awards

- Vilnius University, Faculty of Physics **Award „Talent of the year“** (2018).
- „**Graduate Student Award**” European Materials Research Society 2018 Fall Meeting, Warsaw, Poland (2018).
- **Scholarship of the Lithuanian Academy of Sciences** for Academic Achievements (2018).
- **INFOBALT scholarship** for Young Scientist award **3rd place** (2018).
- **The Best Young Scientist Award** (2018) - work was selected during the Conference of Young Scientists of the Lithuanian Academy of Sciences.
- **European Physical Society „Best Activity Award“** for leading EPS Young Minds in Lithuania (2017).
- **International Dr. Karl Mey Scholarship** for the participation in the Deutsche Physikalische Gesellschaft (DPG) Spring Meeting of the Condensed Matter Section in Dresden, Germany (2017).
- **Vilnius University Rector's acknowledgement** for outstanding achievements in science and studies (2016).
- **Best Oral Presentation Award** in 59th Scientific Conference of Physics and Natural Sciences Open Readings, topic: "**Ab-initio studies of point defects in h-BN**" (2016).
- **Best Poster Presentation Award** in 57th Scientific Conference of Physics and Natural Sciences Open Readings, topic: "Nonequilibrium carrier dynamics in GaN epilayers with different equilibrium carrier densities" (2014).
- **Honorary Diploma** in *Lithuanian Mathematical olympiad*, Vilnius, City tour (2010).
- **3rd place** in Lithuanian Physics Olympiad, Vilnius, City tour (2009).

Activities

- **President** of European Physical Society Young Minds Chapter in Lithuania (2016 - now).
- **Board Member** of Lithuanian Physical Society (2018- now).
- SPIE. Chapter, Vilnius University, **Member**.
- Café Scientifique Organizer (2018-now).
- **Invited speaker/lecturer** at National Student Academy, Physics division (2019).

International Schools

- 18th International Conference-School Advanced Materials and Technologies, Palanga (2016 08 27-31), Kaunas University of Technology, Lithuanian Materials Research Society, Vilnius University, University of Latvia, Riga Technical University, Tartu University, Center for Physical Sciences and Technology.
- 19th International Conference-School Advanced Materials and Technologies, Palanga (2017 08 27-31), Kaunas University of Technology, Lithuanian Materials Research Society, Vilnius University, University of Latvia, Riga Technical University, Tartu University, Center for Physical Sciences and Technology

Organized conferences

- 62st International Scientific Conference for Students of Physics and Natural Sciences "**Open Readings**", organizing committee (2019). Invited: Gerard Mourou (Nobel Prize in Physics 2018).
- 14th annual national conference "**Lasers: Science and Technology**", local organizing committee (2018).
- **International Humboldt Kolleg** "*Controlling quantum matter: From ultracold atoms to solids*", local organizing committee (2018). Assistant at public lecture given by W.Ketterle (Nobel Prize in Physics, professor MIT).
- 61st International Scientific Conference for Students of Physics and Natural Sciences "**Open Readings**", organizing committee (2018).
- "11th **Lithuanian II day championship**", organizing committee (2018).
- 42nd **Lithuanian National Conference of Physics**, NFTMC, organizing committee (2017)
- 7th Center for Physical Sciences and Technology PhD Students and Young Scientists conference "**FizTech'17**", head of the organizing committee (2017).
- 60th International Scientific Conference for Students of Physics and Natural Sciences "**Open Readings**", organizing committee (2017).
- "10th **Lithuanian II day championship**", organizing committee (2017).
- 3 years of "**Sunrise Valley Semiconductor Physics Seminars**", organizing committee (2015-2018).
- 6th Center for Physical Sciences and Technology PhD Students and Young Scientists conference "**FizTech'16**", head of the organizing committee (2016).

Science popularization

- Interview for zw.lt „Stereotypical image – what a scientist should look like?“. <http://zw.lt/zw-tv/wszedzie-dobrze-ale-w-domu-najlepiej-marzena-mackojc-sinkeviciene/>
- Interview for zw. It about receiving award „Talent of the year“ at Vilnius University, Faculty of Physics <http://zw.lt/wilno-wilenszczyzna/marzena-mackojc-sinkeviciene-talentiem-roku-na-wydziale-fizyki-uw/?fbclid=IwAR0VB6UHLx98TVyJ7z-48a9F05qfZFuRtXWKiZW31LbQc96cG06JdSN5Qwk>
- Interview for Lithuanian National Television lrt.kultūra about my passion for Physics: <https://www.lrt.lt/mediateka/irasas/1013685505/misija-vilnija-2018-02-20#wowzaplstart=708000&wowzaplstart=237000>
- Interview for Bussiness News (Verslo Žinios) newspaper „Mažena - 25 years old Scientist knows how to destroy stereotypes“: <https://www.vz.lt/laisvalaikis/akiraciai/2017/05/27/25-eriu-mokslininke-zino-kaip-griauti-stereotipus>
- Interview for „Žinių radijas“ radio station „Mažena – physicist, poet and future of Lithuania“ <https://www.ziniuradijas.lt/laidos/man-20-keli/mazena-fizike-poete-ir-lietuvos-ateitis?video=1>
- Interview for Science Soup about organization of Pi championship, Open Readings conference and Physics: <https://www.youtube.com/watch?v=-Sfy6KUAraE&t=126s>
- Interview about organising Humboldt Kolleg "*Controlling quantum matter: From ultracold atoms to solids*", and my work as assistant at public lecture given by W.Ketterle (Nobel Prize in Physics)

<http://zw.lt/wilno-wilenszczyzna/laureat-nagrody-nobla-na-litwie-wsrod-organizatorow-polska-fizyczka-z-wilna/>

▪ Interview about Science and Poetry, path between them:

<http://124.lt/pl/spoleczenstwo/item/235871-siostry-agnieszka-i-marzena-mackojc-pomiedzy-liryka-a-nauka> (in polish)

▪ <http://124.lt/lt/visuomene/item/235787-moterys-vyru-dominuojamame-pasaulyje-seserys-mackoit-tarp-lyrikos-ir-mokslo> (in lithuanian)

▪ My article about Open Readings conference: <http://www.epsnews.eu/2017/10/60th-international-conference-for-students-of-physics-and-natural-sciences-open-readings/#>

▪ My article about Open Readings conference: <http://www.bernardinai.lt/straipsnis/2017-01-12-pasauliniai-mokslo-milzinai-atvyksta-i-lietuva/154066>

<http://naujienos.vu.lt/konferencija-open-readings-2017-suburs-pasaulio-mokslininku-elita/>

<http://www.lrt.lt/naujienos/mokslas-ir-it/1/160038/pasauliniai-mokslo-milzinai-atvyksta-i-lietuva>

▪ Gave a talk for students of Physics Faculty (Vilnius university) „*How to become a scientist*“.



*Invitation to meet with President of the Republic of Lithuania
D. Grybauskaite and with President of Poland A. Duda and his wife A. Kornhauser-Duda.*

Hobbies

- World Poetry Unesco Award, Warsaw, Poland (2013)
- Award for the Best Debut in Poetry at Slavic Poetry Festival, Warsaw, Poland (2011).
- Author of 5 Poetry books (countries: Lithuania, Poland, Romania, Bulgaria).
- Leader of Young Poets Organisation „New Vilnius Avantgarde“