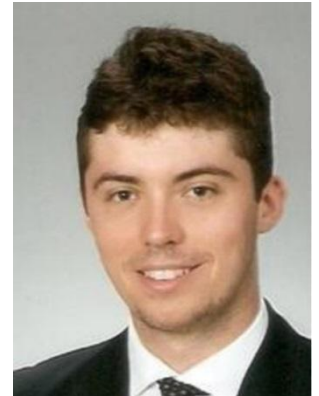


# Curriculum Vitae (list of publ. included) of Piotr Mizerka

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## EXPERIENCE

2024.12 – now	<b>Faculty of Mathematics and Computer Science, Adam Mickiewicz University in Poznań</b> Assistant Professor
2023.01 – 2023.06	<b>Mathematical Institute, University of Oxford</b> Visiting researcher under the supervision of prof. Dawid Kielak
2022.12 – 2024.12	<b>Institute of Mathematics of the Polish Academy of Sciences</b> Principal Investigator in the NCN SONATINA 6 Grant entitled “Algebraic spectral gaps in group cohomology”
2022.08 – 2023.01	<b>Institute of Mathematics of the Polish Academy of Sciences</b> Post-doc in the NCN MAESTRO 13 Grant entitled “Analysis on groups” whose Principal Investigator is prof. Piotr Nowak
2021.06 – 2022.07	<b>Institute of Mathematics of the Polish Academy of Sciences</b> Post-doc in the ERC Starting Grant entitled “Rigidity of groups and higher index theory” whose Principal Investigator was prof. Piotr Nowak

## EDUCATION

2017 - 2021	<b>Adam Mickiewicz University in Poznań</b> Mathematics, PhD - thesis title: “Excluding and constructing od exotic group actions on spheres”, available here: <a href="http://repozytorium.amu.edu.pl/handle/10593/26186">repozytorium.amu.edu.pl/handle/10593/26186</a> , - software concerning exclusions of one fixed point actions on spheres which was applied in the thesis: <a href="https://github.com/piotrmizerka/one_fixed_point_spheres_scripts">github.com/piotrmizerka/one_fixed_point_spheres_scripts</a>
2015 - 2017	<b>Adam Mickiewicz University in Poznań</b> Mathematics, Msc - thesis title: “Smith sets of finite groups”
2012 - 2016	<b>Adam Mickiewicz University in Poznań</b> Computer Science, Eng - specialization: modeling and optimization of systems

2012 - 2015	Adam Mickiewicz University in Poznań Mathematics, Bsc
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## PUBLICATIONS AND PREPRINTS

2025	<p>Inducing spectral gaps for the cohomological Laplacians of <math>Sp_{2n}(\mathbb{Z})</math></p> <p>P. Mizerka, J. Szymański, <i>preprint</i></p> <p>- arXiv: <a href="https://arxiv.org/abs/2504.16625">https://arxiv.org/abs/2504.16625</a></p>
2024	<p>Non-vanishing unitary cohomology of low-rank integral special linear groups</p> <p>B. Brück, S. Hughes, D. Kielak, P. Mizerka, <i>preprint</i></p> <p>- arXiv: <a href="https://arxiv.org/abs/2410.22310">https://arxiv.org/abs/2410.22310</a></p>
2024	<p>Inducing spectral gaps for the cohomological Laplacians of <math>SL_n(\mathbb{Z})</math> and <math>SAut(F_n)</math></p> <p>P. Mizerka, accepted in <i>Journal of Topology and Analysis</i></p> <p>- arXiv: <a href="https://arxiv.org/abs/2404.10287">https://arxiv.org/abs/2404.10287</a></p>
2024	<p>On order units in the augmentation ideal</p> <p>P. Mizerka, P. W. Nowak, <i>Proceedings of the American Mathematical Society</i>, 152 (5)</p> <p>- link: <a href="https://www.ams.org/journals/proc/2024-152-05/S0002-9939-2024-16699-5/home.html">https://www.ams.org/journals/proc/2024-152-05/S0002-9939-2024-16699-5/home.html</a></p> <p>- arXiv: <a href="https://arxiv.org/abs/2301.07590">https://arxiv.org/abs/2301.07590</a></p>
2024	<p>Spectral gap for the cohomological Laplacian of <math>SL_3(\mathbb{Z})</math></p> <p>M. Kaluba, P. Mizerka, P. W. Nowak, <i>Experimental Mathematics</i></p> <p>- link: <a href="https://www.tandfonline.com/doi/full/10.1080/10586458.2024.2333722?src=">https://www.tandfonline.com/doi/full/10.1080/10586458.2024.2333722?src=</a></p> <p>- arXiv: <a href="https://arxiv.org/abs/2207.02783">arxiv.org/abs/2207.02783</a></p>
2023	<p>Exclusions of smooth actions on spheres of the non-split extension of <math>C_2</math> by <math>SL(2,5)</math></p> <p>P. Mizerka, <i>Osaka Journal of Mathematics</i>, vol. 60(1), pp. 1 – 14</p> <p>- link: <a href="https://projecteuclid.org/journals/osaka-journal-of-mathematics/volume-60/issue-1/Exclusions-of-smooth-actions-on-spheres-of-the-non-split/5556ojm.full">https://projecteuclid.org/journals/osaka-journal-of-mathematics/volume-60/issue-1/Exclusions-of-smooth-actions-on-spheres-of-the-non-split/5556ojm.full</a></p>
2020	<p>A new family of finite Oliver groups satisfying the Laitinen Conjecture</p> <p>P. Mizerka, <i>Topology and its Applications</i>, vol. 283, Article 107336,</p> <p>- link: <a href="https://www.sciencedirect.com/science/article/abs/pii/S0166864120302790">sciencedirect.com/science/article/abs/pii/S0166864120302790</a></p>
2020	<p>The Role of Bitcoin on Developed and Emerging Markets – on the Basis of a Bitcoin Users Graph Analysis</p> <p>J. Mizerka, P. Mizerka, A. Stróżyńska-Szajek, <i>Finance Research Letters</i>, vol. 35, Article 101489,</p> <p>- link: <a href="https://www.sciencedirect.com/science/article/abs/pii/S1544612319307408">sciencedirect.com/science/article/abs/pii/S1544612319307408</a></p> <p>- software to create the users' graph: <a href="https://github.com/piotrmizerka/blockchain_software">github.com/piotrmizerka/blockchain_software</a></p>
2018	<p>Nonexistence of smooth effective one fixed point actions of finite Oliver groups on low-dimensional spheres</p> <p>A. Borowiecka, P. Mizerka, <i>Bulletin Polish Acad. Sci. Math.</i>, 2018, vol. 66, pp. 167-177</p> <p>- link: <a href="https://impan.pl/pl/wydawnictwa/czasopisma-i-serie-wydawnicze/bulletin-polish-acad-sci-math/all/66/2/112667/nonexistence-of-smooth-effective-one-fixed-point-actions-of-finite-oliver-groups-on-low-dimensional-spheres">impan.pl/pl/wydawnictwa/czasopisma-i-serie-wydawnicze/bulletin-polish-acad-sci-math/all/66/2/112667/nonexistence-of-smooth-effective-one-fixed-point-actions-of-finite-oliver-groups-on-low-dimensional-spheres</a></p> <p>- an extended version on arXiv: <a href="https://arxiv.org/pdf/1805.00447.pdf">arxiv.org/pdf/1805.00447.pdf</a></p>

## TALKS AT CONFERENCES AND OTHER MEETINGS

2025	<p><b>95<sup>th</sup> Annual Meeting of the International Association of Applied Mathematics and Mechanics (GAMM), Poznań</b></p> <p>- talk title: "Spectral gaps for Laplacians of symplectic groups":  <a href="https://jahrestagung.gamm.org/wp-content/uploads/2025/04/GAMM2025-BoA.pdf">https://jahrestagung.gamm.org/wp-content/uploads/2025/04/GAMM2025-BoA.pdf</a></p>
2025	<p><b>"Groups, Dynamics and Topology" Seminar of the Dioscuri Centre "Random walks in Geometry and Topology", Kraków</b></p> <p>- talk title: "Non-vanishing of group cohomology of <math>SL_n(\mathbb{Z})</math> in the rank":  <a href="https://sites.google.com/view/dcrwgt/seminar-archive">https://sites.google.com/view/dcrwgt/seminar-archive</a></p>
2024	<p><b>Geometry seminar at University of Gdańsk</b></p> <p>- talk title (in Polish): "Jedności porządkowe w ideale augmentacyjnym" (transl."On order units in the augmentation ideal")</p>
2024	<p><b>LiT II: Lost in Topology, Pisa</b></p> <p>- lightning talk: "Nonvanishing of group cohomology of <math>SL_n(\mathbb{Z})</math>":</p>
2024	<p><b>9. Forum Matematyków Polskich, Katowice</b></p> <p>- talk title (in Polish): "Nieznikanie kohomologii grupy <math>SL_n(\mathbb{Z})</math>":  <a href="https://9forum-ptm.us.edu.pl/images/document/10741243/Book_of_abstracts_11-09-24.pdf#page=89">https://9forum-ptm.us.edu.pl/images/document/10741243/Book_of_abstracts_11-09-24.pdf#page=89</a></p>
2024	<p><b>SAGA Seminar at Adam Mickiewicz University in Poznań</b></p> <p>- talk title: "Induction of spectral gaps for the cohomological Laplacians of <math>SL_n(\mathbb{Z})</math> and <math>SAut(F_n)</math>":  <a href="https://gajda.faculty.wmi.amu.edu.pl/Saga/p_mizerka_2024.php">https://gajda.faculty.wmi.amu.edu.pl/Saga/p_mizerka_2024.php</a></p>
2024	<p><b>Groups and Topological Groups</b></p> <p>- talk title: "Induction of spectral gaps for the cohomological Laplacians of <math>SL_n(\mathbb{Z})</math> and <math>SAut(F_n)</math>":  <a href="https://sites.google.com/view/gtg-2024/abstracts">https://sites.google.com/view/gtg-2024/abstracts</a></p>
2024	<p><b>Geometry seminar of the University of Wrocław</b></p> <p>- talk title: "Group ring aspects of cohomological properties":  <a href="https://dgt.math.uni.wroc.pl/abstracts/240129.pdf">https://dgt.math.uni.wroc.pl/abstracts/240129.pdf</a></p>
2023	<p><b>Spanish+Polish Mathematical Meeting</b></p> <p>- talk title: "Induction of spectral gaps for the cohomological Laplacians of <math>SL_n(\mathbb{Z})</math> and <math>SAut(F_n)</math>":  <a href="https://es-pl.math.uni.lodz.pl/ES_PL_abstracts.pdf#page=321">https://es-pl.math.uni.lodz.pl/ES_PL_abstracts.pdf#page=321</a></p>
2023	<p><b>Two-Day Geometry Meeting</b></p> <p>- lightning talk: "Spectral gaps for cohomological Laplacians of <math>SL(n, \mathbb{Z})</math>":  <a href="https://www.bristol.ac.uk/math/events/2023/two-day-geometry-meeting.html">https://www.bristol.ac.uk/math/events/2023/two-day-geometry-meeting.html</a>  - venue: University of Bristol</p>
2023	<p><b>Junior Topology and Group Theory Seminar, University of Oxford</b></p> <p>- talk title: "Vanishing of group cohomology, Kazhdan's Property (T), and computer proofs":  <a href="https://www.maths.ox.ac.uk/node/63947">https://www.maths.ox.ac.uk/node/63947</a></p>
2022	<p><b>Noncommutative geometry: metric and spectral aspects</b></p> <p>- talk title: "Spectral gaps for higher Laplacians and group cohomology":  <a href="https://indico.cern.ch/event/1158254/contributions/5046841/">https://indico.cern.ch/event/1158254/contributions/5046841/</a>  - venue: Jagiellonian University</p>
2022	<p><b>Applied Topology in Będlewo</b></p> <p>- talk title: "Fox derivatives, group cohomology, and higher property (T)":  <a href="https://dropbox.com/s/u7zpr2zfxkg80bo/conference_schedule.pdf?dl=0">dropbox.com/s/u7zpr2zfxkg80bo/conference_schedule.pdf?dl=0</a></p>

2022	<p><b>Groups &amp; Algebras in Bicocca for Young algebraists (GABY 2022)</b>  - talk title: “Fox derivatives, group cohomology, and higher property (T)”:  <a href="http://staff.matapp.unimib.it/~gaby/gaby2022/index.html">staff.matapp.unimib.it/~gaby/gaby2022/index.html</a></p>
2022	<p><b>Algebraic Topology seminar at University of Warsaw</b>  - talk title: “Vanishing of group cohomology and decompositions into sums of squares”:  <a href="http://mimuw.edu.pl/aktualnosci/seminaria/fox-derivatives-group-cohomology-and-kazhdans-property-t">mimuw.edu.pl/aktualnosci/seminaria/fox-derivatives-group-cohomology-and-kazhdans-property-t</a></p>
2021	<p><b>Topology retreat 2.0</b>  - talk title: “Vanishing of group cohomology and decompositions into sums of squares”  - venue: Będlewo, Poland  - it was an informal meeting of the IM PAN topology group with the topology group from Karlsruhe Institute of Technology</p>
2021	<p><b>kpa70 online conference</b>  - talk title: “New results on one and two fixed point actions on spheres”:  <a href="http://kpa70.wmi.amu.edu.pl/">kpa70.wmi.amu.edu.pl/</a></p>
2020	<p><b>Geometry seminar at University of Gdańsk</b>  - talk title: “On exotic group actions on spheres”:  <a href="https://mat.ug.edu.pl/aktualnosci/seminaria/geometria/">https://mat.ug.edu.pl/aktualnosci/seminaria/geometria/</a></p>
2019	<p><b>Group Action Forum Workshop</b>  - talk title: “Finding suitable dimensions for the Smith problem”  - venue: Adam Mickiewicz University in Poznań</p>
2019	<p><b>INFINITI Conference on International Finance</b>  - talk title: “Hedging Capabilities of Bitcoin for Central and East European Markets”, joint work with B. Bidasiewicz, J. Mizerka and A. Stróżyńska-Szajek  - venue: University of Glasgow</p>
2018	<p><b>The 2nd INFINITI Conference on International Finance ASIA-PACIFIC</b>  - talk title: “Bitcoin – analysis of users’ graph”, joint work with B. Bidasiewicz and J. Mizerka  - venue: University of Sydney</p>
2018	<p><b>UMI/SIMAI-PTM Joint Meeting</b>  - talk title: “Excluding smooth effective one fixed point actions of finite Oliver groups on low-dimensional spheres”: <a href="http://umi-simai.ptm.org.pl/program/sessions/#119">http://umi-simai.ptm.org.pl/program/sessions/#119</a>  - venue: University of Wrocław, Wrocław University of Technology</p>
2018	<p><b>Glances@Manifolds III</b>  - talk title: “Excluding smooth effective one fixed point actions of finite Oliver groups on low-dimensional spheres”  - venue: Jagiellonian University</p>

## REVIEWING

2023 – now	<b>MathSciNet Mathematical Reviews</b>
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## HONORS AND AWARDS

2017	<b>Nicolai Copernici International Students Contest</b> - Honorable Mention
2017	<b>Medal for outstanding achievements and participation in the University life</b> - Adam Mickiewicz University in Poznań
2017	<b>Vojtech Jarnik International Mathematical Competition</b> - 45 <sup>th</sup> place out of 79 contestants - competition website: <a href="http://vjimc.osu.cz/">vjimc.osu.cz/</a>
2016	<b>Mirror of the William Lowell Putnam Mathematical Competition</b> - 96 <sup>th</sup> place out of 241 contestants
2015 - 2016	<b>International Mathematics Competition for University Students</b> - Honorable Mention: - 2015: <a href="http://imc-math.org.uk/?year=2015&amp;section=results&amp;item=bysum">imc-math.org.uk/?year=2015&amp;section=results&amp;item=bysum</a> - 2016: <a href="http://imc-math.org.uk/?year=2016&amp;section=results&amp;item=bysum">imc-math.org.uk/?year=2016&amp;section=results&amp;item=bysum</a>
2015	<b>Ogólnopolski Konkurs Matematyczny Koła Naukowego Matematyków Politechniki Łódzkiej</b> - finalist's title
2014 - 2015	<b>Mistrzostwa Wielkopolski w Programowaniu Zespołowym</b> - it is a regional programming contest - 32 <sup>nd</sup> place with the team "Halibutń" out of 147 teams in 2014 - 63 <sup>rd</sup> place with the team "Compania del Anillo" out of 133 teams in 2015 - venue: Adam Mickiewicz University in Poznań, Poznań University of technology
2014	<b>IV Edycja Konkursu Matematycznego Continuum</b> - finalist's title - it was a contest organized by the Scientific Circle of Mathematicians of the Wrocław University of Technology
2014	<b>Central Europe Regional Contest</b> - it is a programming contest for Central Europe - 53 <sup>rd</sup> place with the team "UAM 3" out of 79 teams - venue: Jagiellonian University in Cracow
2014	<b>Akademickie Mistrzostwa Polski w Programowaniu Zespołowym</b> - it is a programming contest for students of Polish universities - 37 <sup>th</sup> place with the team "UAM 3" out of 59 teams - venue: Warsaw University

## CONFERENCE ORGANIZING

2021	<b>kpa70 online conference via Zoom</b> - chairman of the last day of the conference - technical support - maintenance of the conference website: <a href="http://kpa70.wmi.amu.edu.pl/">kpa70.wmi.amu.edu.pl/</a> - source code of the website: <a href="https://github.com/piotrmizerka/kpa70">github.com/piotrmizerka/kpa70</a>
2017	<b>Applied Topology in Będlewo</b> - help in organizing
2014	<b>Joint Meeting of Polish and German Mathematical Societies</b> - help in organizing

## SCHOLARSHIPS

2017 - 2021	scholarship for the best PhD students of Adam Mickiewicz University
2013 - 2017	scholarship for the best students of Adam Mickiewicz University
2015	scholarship of Minister of Science and Higher Education of Poland

## PROGRAMMING SKILLS

Julia, GAP, Python, C++, .NET, C#, MVC, HTML, CSS, JavaScript

## LANGUAGES

English	advanced
German	intermediate
Italian	intermediate

## TEACHING

2025	Invitation to Topological Data Analysis
2025	Paradigms of programming
2025	Linear algebra with applications
2025	Elements of algebra and number theory
2022 - 2023	Modern methods of data analysis
2020 - 2021	<b>Basics of mathematics</b> (elements of logic, set theory, calculus and probability theory)
2020 - 2021	<b>Introduction to mathematics</b> (elements of logic, set theory, calculus and probability theory)
2018 - 2021	<b>Review of the elementary mathematics</b> (a repetition of math course from school for the first year students)
2017 – 2019, 2024/2025	<b>Introduction to algebra and number theory</b>
2017	<b>Introduction to mathematics</b> (elements of logic and set theory)

## OTHER ACTIVITIES

2012 - 2024	<b>Mathematics League of Greater Poland</b> <ul style="list-style-type: none"><li>- it is a regional mathematics competition for school students</li><li>- website (in Polish): <a href="http://wlm.wmi.amu.edu.pl/">wlm.wmi.amu.edu.pl/</a></li><li>- inventing tasks for the competition</li><li>- grading students' solutions</li></ul>
2019 - now	<b>Polish Mathematical Olympiad</b> <ul style="list-style-type: none"><li>- website (in Polish): <a href="http://om.mimuw.edu.pl/">om.mimuw.edu.pl/</a></li><li>- grading solutions of students from regional schools</li><li>- handling the second stage of the Olympiad</li></ul>
2012 - 2017	<b>Scientific Circle of Mathematicians of Adam Mickiewicz University</b>