

# Bartosz Naskręcki

## PERSONAL DATA

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Date of Birth: 11 May 1986  
Place of Birth: Poznań, Poland  
E-mail: [nasqret@gmail.com](mailto:nasqret@gmail.com)  
Address: Collegium Mathematicum, Building B  
Umultowska 87, 61-614 Poznań  
Nationality: Polish

## EMPLOYMENT

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since Oct 2014 | Assistant professor at Adam Mickiewicz University  
2016–2017 | Research Associate at University of Bristol  
2014–2016 | Postdoctoral Research Fellow at Universität Bayreuth

## EDUCATION

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2010–2014 | Ph. D. student at [Adam Mickiewicz University \(AMU\)](#), Faculty of Mathematics and Computer Science ([Scholarship Funded by EU](#))  
Jun 2010 | M. Sc., Faculty of Mathematics and Computer Science, AMU  
2005–2010 | M. Sc. Programme in Mathematics at AMU  
2002–2005 | VIII Secondary School in Poznań, mathematical and computer science profile

## RESEARCH EXPERIENCE

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2013–2015 | National Science Centre research grant PRELUDIUM "*Formy modularne i rangi krzywych eliptycznych.*", 2012/05/N/ST1/02871  
2010–2014 | *Ranks in families of elliptic curves and modular forms*, Ph.D. Thesis  
Advisor: Professor Wojciech Gajda  
2009–2010 | *On a certain diophantine equation*, M.Sc. Thesis  
Advisor: Professor Wojciech Gajda

## PUBLICATIONS

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1. *Divisibility sequences of polynomials and heights estimates*, [New York J. Math.](#) 22 (2016) 989–1020.
2. *Distribution of Mordell-Weil ranks of families of elliptic curves*, [Banach Center Publications](#) 108 (2016), 201–229.
3. *On higher congruences between cusp forms and Eisenstein series*, in volume [Computations with Modular Forms](#), Springer, Contributions in Mathematical and Computational Sciences, 6 (2014) 257–277.
4. *Mordell-Weil ranks of families of elliptic curves associated to Pythagorean triples*, [Acta Arithmetica](#), 160, No. 2 (2013), 159–183.
5. *Infinite family of elliptic curves of rank at least 4*, [Involve](#), 3, No. 3 (2010), 297–316.

- Preprints
6. *On a certain hypergeometric motive of weight 2 and rank 3*, submitted, 27 pp.
  7. *The generalized Fermat equation with exponents 2, 3, n* (with Nuno Freitas and Michael Stoll), submitted, 39 pp.
  8. *Mordell-Weil ranks of families of elliptic curves parametrized by binary quadratic forms*, submitted, 24 pp.
  9. *On higher congruences between cusp forms and Eisenstein series II*, submitted, 23 pp.

## PRIZES AND AWARDS

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| 2017 | STEM Bronze Award for Mathematical Sciences, UK Parliament, London                               |
| 2014 | <i>Young Mathematicians Prize of Polish Mathematical Society</i>                                 |
| 2013 | Scholarship of <i>Adam Mickiewicz University Foundation</i>                                      |
| 2010 | <i>J. Marcinkiewicz Award for the Outstanding Undergraduate Mathematical Paper (Distinction)</i> |
| 2010 | Medal for Outstanding Graduates "Sapere Aude", Adam Mickiewicz University                        |
| 2009 | Scholarship of Kulczyk Family Fund, Adam Mickiewicz University                                   |
| 2009 | Ministry of Science and Higher Education Award (scholarship) for scientific achievements         |
| 2008 | <i>Honourable Mention, International Mathematics Competition</i> , Blagoevgrad, Bulgaria         |
| 2008 | Ministry of Science and Higher Education Award (scholarship) for scientific achievements         |
| 2007 | <i>Third Prize, International Mathematics Competition</i> , Blagoevgrad, Bulgaria                |
| 2007 | Ministry of Science and Higher Education Award (scholarship) for scientific achievements         |

## SELECTED TALKS

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| Sep 2017  | <i>Introduction to Computer Algebra System</i> , Izmir Autumn School on Computational Number Theory, Izmir, Turkey                         |
| Oct 2016  | <i>Generalized Fermat's equation of type (2,3,n)</i> , Linfoot seminar, University of Bristol, UK  |
| Nov 2015  | <i>Zeta functions, Weil conjectures and how to apply them</i> , Workshop on Modern Applied Mathematics PK 2015, Kraków, Poland             |
| Oct 2015  | <i>Generalized Fermat equations <math>x^2+y^3=zp</math> – a progress report</i> , Jahrestagung SPP 1489, Osnabrück, Germany                |
| Sept 2014 | <i>Mordell-Weil ranks in families of elliptic curves parametrized by binary quadratic forms</i> , DMV-PTM Joint Meeting, Poznań, Poland    |
| Jun 2014  | <i>Mordell-Weil ranks in families of elliptic curves parametrized by binary quadratic forms</i> , ALANT 2014, Będlewo, Poland              |
| Jul 2013  | <i>Mordell-Weil ranks of families of elliptic curves associated to Pythagorean triples</i> , Journées Arithmétiques 2013, Grenoble, France |
| Jun 2013  | <i>On higher congruences between cusp forms and Eisenstein series</i> , Workshop on Galois representations modulo prime powers, Luxembourg |
| May 2013  | <i>Mordell-Weil ranks of families of elliptic curves associated to Pythagorean triples</i> , Heilbronn seminar, Bristol, UK                |

Mar 2013	<i>On higher congruences between cusp forms and Eisenstein series</i> , “Explicit Methods for Modular Forms”, Warwick, UK
Jun 2012	<i>Mordell-Weil ranks of families of elliptic curves associated to Pythagorean triples</i> , Algebraic and Arithmetic Geometry, Kraków, Poland
Jul 2011	<i>Sphere packings and codes</i> , 14th International Workshop for Young Mathematicians "Algebra", Kraków, Poland
Sep 2010	<i>A computer can do more than the mathematician?</i> , 13th International Workshop for Young Mathematicians "Logic and Foundations of Mathematics", Kraków, Poland
Nov 2009	<i>Infinite family of elliptic curves</i> , Workshop on Ranks, Faculty of Mathematics and Computer Science, AMU, Poznań
Sep 2009	<i>Enchained in Markov Chains</i> , 12th International Workshop for Young Mathematicians "Probability Theory and Statistics", Kraków, Poland
Sep 2008	<i>Elliptic curves cryptography</i> , 11th International Workshop for Young Mathematicians "Number Theory", Kraków, Poland

## WORKSHOPS AND CONFERENCES

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May 2017	<i>Modular forms are everywhere</i> , Bonn, Germany
Mar 2017	<i>New Trends in Arithmetic and Geometry of Algebraic Surfaces</i> , Banff, Canada
Sep 2016	<i>Recent Developments on Elliptic Curves</i> , Oxford, UK
Jun 2016	<i>Arithmetic statistics and the Cohen-Lenstra heuristics</i> Warwick, UK
May 2016	<i>LMFDB Workshop</i> , San Jose, California, USA
Apr 2016	<i>Explicit Methods in Number Theory: Conference in Honour of John Cremona's 60th Birthday</i> , Warwick, UK
Mar 2016	<i>British Mathematical Colloquium</i> , Bristol, UK
Nov 2015	<i>Workshop on Modern Applied Mathematics PK 2015</i> , Kraków, Poland
Nov 2014	<i>Workshop on Galois representations</i> , Luxembourg
Sept 2014	<i>DMV-PTM Joint Meeting</i> , Poznań, Poland
Jun 2014	<i>Alant 2014</i> , Będlewo, Poland
Oct 2013	<i>Kosmos Summer School: MZV in Mathematics and Physics</i> , Berlin, Germany
Jul 2013	<i>Sage Days: Algorithms in Arithmetic Geometry</i> , Leiden, Netherlands
Jul 2013	<i>Journées Arithmétiques 2013</i> , Grenoble, France
Jun 2013	<i>Workshop on Galois representations modulo prime powers</i> , Luxembourg
Mar 2013	<i>Explicit Methods for Modular Forms</i> , Warwick, UK
Jun 2012	<i>6th European Congress of Mathematics</i> , Kraków, Poland
Feb 2012	<i>Winter School on Galois Theory</i> , University of Luxembourg, Luxembourg
Aug 2011	<i>Summer School and Conference "Computations with Modular Forms 2011"</i> , University of Heidelberg, Heidelberg, Germany
Jun 2011	<i>Abelian Varieties &amp; Galois Actions</i> , Adam Mickiewicz University, Poznań, Poland
Mar 2011	<i>Spring School on higher dimensional class field theory</i> , University of Mainz, Mainz, Germany
Mar 2011	<i>School and Conference on Modular Forms and Mock Modular Forms and their Applications in Arithmetic, Geometry and Physics</i> , ICTP, Trieste, Italy
Feb 2011	<i>MSRI Arithmetic Statistics: Introductory Workshop</i> , MSRI, Berkeley, California, USA
Jan 2011	<i>MSRI Arithmetic Statistics: Connections for Women</i> , MSRI, Berkeley, California, USA
Jun 2010	<i>Advanced Courses on Modularity</i> , Universitat Autònoma de Barcelona, Barcelona, Spain
Feb 2010	<i>Advanced Course on Arithmetic Geometry for Function Fields of Positive Characteristic</i> , Universitat Autònoma de Barcelona, Barcelona, Spain
Oct 2009	<i>Advanced Course on Shimura Varieties and L-functions</i> , Universitat Autònoma de Barcelona, Barcelona, Spain
Jun 2009	<i>Clay Institute Summer School 2009 "Galois representations"</i> , Honolulu, Hawaii, USA

## EXPERIENCE

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2016–	Contributions to L-functions Modular Forms Database project, mod $\ell$ modular forms section (joint work with Samuele Anni and Anna Medvedovsky).
2008	Coauthor of interactive presentation module for Calculus courses (Computer Science programme) created in Mathematica system: <a href="#">Module 1</a> (pl), <a href="#">Module 2</a> (pl)
Wolfram Demonstration Project applets:	<ol style="list-style-type: none"><li>1. <i>Motion of a Simple Pendulum with Damping</i> from <a href="#">The Wolfram Demonstrations Project</a></li><li>2. <i>Work in an Attractive Inverse-Square Field</i> from <a href="#">The Wolfram Demonstrations Project</a></li><li>3. <i>Driven Damped Oscillator with Resonance Effect</i> from <a href="#">The Wolfram Demonstrations Project</a></li><li>4. <i>Numerical Integration using Rectangles, the Trapezoidal Rule, or Simpson's Rule</i> from <a href="#">The Wolfram Demonstrations Project</a></li></ol>

## TEACHING EXPERIENCE

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Teaching at University of Bristol:

Fall/Winter 2016–2017	<i>Maths Single Honours Tutorial</i> (Analysis and Foundations and Proof)
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Teaching at Adam Mickiewicz University:

Fall/Winter 2014–2015	<i>Computer assisted mathematics</i> , Exercise classes, undergraduate course
Fall/Winter 2014–2015	<i>Introduction to algebra and number theory</i> , Exercise classes, undergraduate course
Fall/Winter 2014–2015	<i>Introduction to mathematics</i> , Exercise classes, undergraduate course
Fall/Winter 2011–2012	<i>Linear algebra</i> , Exercise classes, undergraduate course
Fall/Winter 2011–2012	<i>Galois theory</i> , Exercise classes, undergraduate course