Marija Bliznac Trebješanin

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Research Interests

○ Diophantine equations– especially Diophantine m-tuples, i.e. sets with the property that the product of any two of its distinct elements is one less than a square.

Education

Department of Mathematics, Faculty of Science, University of Zagreb

PhD, Thesis: Diophantine D(4)-m-tuples and related problems (in Croatian)   *2014-2018*

Doctoral program in Mathematics. *Supervisor*: Professor dr. sc. Alan Filipin.

Faculty of Science, University of Split

Master's degree, 5.00/5.00   *2012–2014*

Graduate Studies in Mathematics, Computer Course

Faculty of Science, University of Split

Bachelor's degree, 4.94/5.00   *2009–2012*

Undergraduate Studies in Mathematics and Computer Science.

Work experience

Faculty of Science, University of Split

Assistant professor   *April 2019-*

Faculty of Science, University of Split

Research and teaching assistant   *March 2017-2019*

Faculty of Civil Engineering, University of Zagreb

Research assistant   *February 2015–March 2017*

I am PhD student and a member of the Croatian Science Foundation project „Diophantine m-tuples, elliptic curves, Thue and index form equations".

Faculty of Science, University of Split

Teaching Assistant   *October 2014.– February 2015.*

I was a teaching assistant for undergraduate and graduate courses "Introduction to Number Theory", "Cryptography" and "Introduction to Analytic Geometry and Algebra".

Publications

○ M. Bliznac, A. Filipin, *An upper bound for the number of Diophantine quintuples*, Bull. Aust. Math. Soc., 94(3) (2016), 384–394., doi:10.1017/S0004972716000423

○ M. Bliznac Trebješanin, A. Filipin, A. Jurasic, *On the polynomial quadruples with the property $D(-1;1)$*, Tokyo J. Math. 41 (2018), 527-540. doi:10.3836/tjm/1502179250

○ M. Bliznac Trebješanin, A. Filipin, *Nonexistence of D(4)-quintuples*, J. Number Theory 194 (2019), 170-217 doi:10.1016/j.jnt.2018.07.013

- M. Bliznac Trebješanin, *Extension of a Diophantine triple with the property* $D(4)$, Acta Math. Hungar. 163 (2021), 213-246. doi:10.1007/s10474-020-01128-0
- M. Bliznac Trebješanin, *D(4)-triples with two largest elements in common*, Mathematica Slovaca 2022., to appear

Conference Talks and Posters

- *Upper bound on number of $D(4)$-quintuples*, poster presentation, 6th Croatian Mathematical Congress, Faculty of Science, University of Zagreb (July 2016.)
- *Nonexistence of $D(4)$-quintuples*, short talk, 30th Journées Arithmétiques, University of Caen, France, (July 2017.)
- *Diophantine $D(4)$-m-tuples*, poster presentation, 20th International Workshop for Young Mathematicians "Number Theory"., Jagiellonian University, Krakow, Poland, (September 2017.)
- *Extensions of a $D(4)$-triple*, short talk, Representation Theory XVI, Dubrovnik, Croatia, (June 2019.)

Other Talks

- *The number of D(4)-quintuples*, Seminar on Number Theory and Algebra, University of Zagreb. (March 2016.)
- *There does not exist a D(4)-quintuple* , Seminar on Number Theory and Algebra, University of Zagreb. (April 2017.)

Conferences and Workshops Attended

- Workshop on Number Theory and Algebra, University of Zagreb, Zagreb, Croatia, 11.2014.
- Galois Theory and Number Theory, University of Konstanz, Konstanz, Germany, 7.2015.
- 6th Croatian Mathematical Congress, University of Zagreb, Zagreb, Croatia 6.2016.
- 30th Journées Arithmétiques, Caen, France, 7.2017.
- Workshop for Young Mathematicians "Number Theory", Jagiellonian University, Krakow, Poland, 9.2017.
- Torsion groups and Galois representations of elliptic curves, University of Zagreb, Zagreb, Croatia 6.2018.
- Representation Theory XVI, Dubrovnik, Croatia, 6.2019.

Scientific Research Experience

2018–today	"Diophantine Geometry And Applications", Croatian Science Fundation project, Grant no. IP-2018-01-1313, (Principal investigator: Matija Kazalicki)
2020–2022	"A contemporary approach to some classical Diophantine problems", joint austrian-croatian project,
2014–2018	"Diophantine m-tuples, elliptic curves, Thue and index form equations", Croatian Science Fundation project, Grant no. 6422, (Principal investigator: Andrej Dujella)
2016–2017	project " Classical Problems of Diophant, Fermat and Ritt using New Analytic and Algebraic Techniques"- joint austrian-croatian project

Relevant Skills

Languages: English, Croatian
Computer skills: LaTex, Wolfram Mathematica, C#, Python