

Report on Academic Activities of the Banja Luka Mathematicians during 2017

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Abstract. This report presents the academic activities of Banja Luka mathematicians realized in 2017. Several words about academic publications edited and published by the Scientific Society of Mathematicians of Banja Luka are presented. Also, an incomplete list of published texts of the Banja Luka mathematicians has been offered. During 2017, these mathematicians published 22 scientific mathematical articles, 11 articles in the field of ‘Research in Mathematical Education’ and 2 articles within the domain of ‘History of mathematics and mathematics education’.

AMS Subject Classification (2010): **01-00, 01A90**

Key words and phrases: Banja Luka mathematicians, annual report on academic activities

INTRODUCTION

Banja Luka is a university town in the north-western part of Bosnia and Herzegovina. In the town there is one public university and several small private universities. Mathematicians, university lecturers of mathematics and researchers in mathematics education are concentrated at the public university. The Scientific Society of Mathematicians operates in the town area.

This text is a report on the academic activities of Banja Luka mathematicians during 2017. It represents a continuation of informing to the local community and international academic public about the efforts of these mathematicians, lecturers of mathematics and researchers in mathematical education that their activities would be registered and recognizable.

EDITORIAL ACTIVITIES

The Society directly or through the International Mathematical Virtual Institute edited and published the following international journals:

Journal of the International Mathematical Virtual Institute, ISSN (p) 2303-4866, ISSN (o) 2303-4947 (Editor in Chief: Yixun Shi, Bloomsburg, USA). This magazine was founded in 2011. In the year 2017, one volume of this publication was published in over 200 pages with 11 more extensive and more complete mathematical scientific articles by authors from several different countries.

Bulletin of the International Mathematical Virtual institute, ISSN 2303-4874 (p), ISSN (o) 2303-4955 (Editor in Chief: Yixun Shi, Bloomsburg, USA). This journal was founded in 2011 as a continuation of our magazine 'Bulletin of the Society of Mathematicians of Banja Luka', which was published from 1994 to 2010. In the year 2017, one volume of this publication was published with three issues in about 600 pages with 56 mathematical scientific articles by 114 authors from several different countries.

IMVI Open Mathematical Education Notes, ISSN (p) 2303-4882, ISSN (o) 1840-4383 (Editor in Chief: Sergei Abramovich, State University of New York at Potsdam, USA). This journal is edited and published by the Society in cooperation with the School of Education and Professional Studies of the State University of New York at Potsdam, USA. This magazine was founded in 2011. This year, one volume was edited and published in two issues on about 70 pages of text in Research in Mathematics Education domain. In 2017, 6 scientific texts were published. So, there are 20 published scientific articles in this scientific publication (2011-2017).

In domestic magazines

MAT KOL, ISSN 0354-6969 (p), ISSN 1986-5228 (o), founded in 1995 and **IMO**, ISSN (p) 2303-4890, ISSN (o) 1986-518X, founded in 2009 are national journals. In the MAT-KOL 23 texts were published on nearly 270 pages this year. In the second magazine 6 articles were published in 2017.

SCIENTIFIC PRODUCTION

The Banja Luka mathematicians published one book and 21 scientific mathematical texts in 2017 in the journals of international publishers. One mathematical text was published by the domestic publisher. Five scientific texts were published in the domain of Research in Mathematics Education in international publications and six texts in domestic magazines. The published texts are shown in detail below.

Published texts in Mathematics:

Book(s)

- [1] **Z. D. Mitrović**. *KKM theory and some applications in nonlinear analysis*. LAP Lambert Academic Publishing, 2017. ISBN-13: 978-6202055512

In international mathematical journals

- [22] K. Baur and **D. Bogdanić**. *Extensions between Cohen–Macaulay modules of Grassmannian cluster categories*. Journal of Algebraic Combinatorics, ISSN 0925-9899 (p), ISSN 1572-9192 (el), **45**(4)(2017), 965–1005.
- [21] **M. Janjić**. *Some Formulas for Numbers of Restricted Words*. Journal of Integer Sequences, ISSN 1530-7638, **20**(6)(2017), article 17.6.5
- [20] **D. Jojić**, S.T. Vrećica and R.T. Živaljević. *Symmetric multiple chessboard complexes and a new theorem of Tverberg type*. Journal of Algebraic Combinatorics, ISSN 0925-9899 (p), ISSN 1572-9192 (el), **46** (1) (2017), 15-31.
- [19] **D. Jojić**. *Polygon Dissections Complexes are Shellable*. Bulletin of the International

- Mathematical Virtual Institute, ISSN (p) 2303-4874, ISSN (o) 2303-4955, 7(3) (2017), 465-472.
- [18] **D. Jojić**, S.T. Vrećica and R.T. Živaljević. *Multiple chessboard complexes and the colored Tverberg problem*. Journal of Combinatorial Theory, Series A, ISSN: 0097-3165, **145**(2017), 400-425.
- [17] B. Jovanović and **V. Jovanović**. *Virtual billiards in pseudo--Euclidean spaces: Discrete Hamiltonian and contact integrability*. Discrete & Continuous Dynamical Systems – A, ISSN 1078-0947, eISSN 1553-523, **137**(10)(2017), 5163- 5190.
- [16] S. Jakšić, **S. Maksimović**, S. Pilipović and B. Prangoski. *Relations between Hermite and Laguerre expansions of ultradistributions over \mathbf{R}^d and \mathbf{R}^d_+* . Journal of Pseudo-Differential Operators and Applications, ISSN 1662-9981 (p), ISSN 1662-999X (el.), **8**(2)(2017), 275–296.
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- [14] **D. Matić**, J. Kratica and V. Filipović. *Variable Neighborhood Search for solving Bandwidth Coloring Problem*. Computer Science and Information Systems. ISSN 1820-0214 (p), iISSN 2406-1018 (o), **14**(2) (2017), 309-327.
- [13] **D. Matić**, J. Kratica and Z. Maksimović. *Solving the minimum edge-dilation k -center problem by genetic algorithms*. Computers & Industrial Engineering, ISSN: 0360-8352, **113** (2017), 282-293.
- [12] A. Ahmed, **Z. D. Mitrović** and J. N. Salunke. *On some open problems in cone metric space over Banach algebra*. Journal of Linear and Topological Algebra (JLTA), ISSN: 2252-0201 (p), ISSN: 2345-5934 (o), **6**(4)(2017), 261-267.
- [11] **Z. D. Mitrović**. *A common fixed point theorem of Jungck in rectangular b -metric spaces*. Acta Mathematica Hungarica, **153**(2)(2017), 401-407.
- [10] **Z. D. Mitrović** and I. D. Arandjelović. *Generalized scalar equilibrium problem with applications to best and coupled best approximations*. Journal of Fixed Point Theory and Applications, ISSN: 1661-7738 (p), ISSN 1661-7746 (o), **19**(2)(2017), 1613–1624.
- [9] **Z. D. Mitrović** and S. Radenović. *The Banach and Reich contractions in $bv(s)$ -metric spaces*. Journal of Fixed Point Theory and Applications, ISSN: 1661-7738 (p), ISSN 1661-7746 (o), **19**(4)(2017), 3087–3095.
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- [4] **D. A. Romano**. *Normally conjugative relations*. Asian-European Journal of

Mathematics (AEJM), ISSN (p): 1793-5571, ISSN (o): 1793-7183, **10**(2)(2017), ID: 1750036

- [3] **D. A. Romano.** *Weakly isotone and strongly reverse isotone mappings of relational systems.* Bulletin of the International Mathematical Virtual Institute, ISSN (p) 2303-4874, ISSN (o) 2303-4955, **7**(2)(2017), 293-303.
- [2] **D. A. Romano.** *On some mappings between co-quasiordered relational systems.* Bulletin of the International Mathematical Virtual Institute, ISSN (p) 2303-4874, ISSN (o) 2303-4955, **7**(2)(2017), 279-291.

In domestic journals

- [1] **D. A. Romano.** *Finitely dual quasi-normal relations.* MAT-KOL, ISSN 0354-6969, ISSN 1986-5228, **23**(1)(2017), 21-25.

Published texts in the Research in Mathematics Education

International journals

- [11] **D. A. Romano.** *A Review of book 'A realistic environment in the initial teaching of geometry' written by Olivera Đokić* [In Serbian: *Реално окружење у почетној настави геометрије*]. IMVI Open Mathematical Education Notes, ISSN (p) 2303-4882, ISSN (o) 1840-4383, **7**(2)(2017), 63-65.
- [10] **D. A. Romano.** *Notes on Geometrical and Pedagogical Knowledge of Prospective Primary School Teachers in the Republic of Srpska.* IMVI Open Mathematical Education Notes, ISSN (p) 2303-4882, ISSN (o) 1840-4383, **7**(2)(2017), 49-62.
- [9] **D. A. Romano.** *Pre-service teachers understanding of processes with basic geometric concepts.* IMVI Open Mathematical Education Notes, ISSN (p) 2303-4882, ISSN (o) 1840-4383, **7**(1)(2017), 29-42.
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- [6] D. Terpić, **S. Kosić-Jeremić** and M. Ilić. *Extreme influential factors in mastering the learning material into the design geometry in the students of architecture.* [Д. Тепић, С. Косић-Јеремић и М. Илић. *Екстремни утицајни фактори у савладавању градива из нацртне геометрије код студената архитектуре.*] АГГ+, ISSN: 2303-6036, **4**(2016), 21-33.
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- [4] **D. A. Romano.** Pre-service elementary school teachers' cognitive structure on mathematical and their personal perceptions on geometric concept of ray. [Д. А. Романо: *Когнитивне структуре студената програма за образовање учитеља о математичким и њиховим личним перцепцијама геометријске фигуре 'полуправа'*], ИМО – Истраживање математичког образовања, ISSN (p) 2303-4890, ISSN 1986–518X, Vol. **IX** (2017), Број 17, 27-35.
- [3] **D. A. Romano.** Visualization of some irrational numbers [Д. А. Романо. *Визуелизација неких ирационалних бројева*]. MAT-KOL, ISSN 0354-6969, ISSN 1986-5228, **23**(4) (2017), 269-272.
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FINAL OBSERVATION

Since the Society has edited and published 102 academic texts in its own magazines written by authors from many different countries in 2017, we can gladly state that the publications of the Society have become internationally recognizable. *Journal* and *Bulletin* are also presented and referred in the most important international mathematical databases: *Zentralblatt fur mathematik* (European mathematical society), *Mathematics Review* (American mathematical society), *Реферативный журнал – Математика* (Russia).

Reviews of articles published in *IMVI OMEN*, *MAT-KOL* and *IMO* journals can be found in the *Mathematics Education Database*.

In 2017, Banja Luka's mathematicians published their research in internationally recognizable magazines (95.45%) and only one article in the domestic journal (4.54%). Most of these international journals are on the lists of the Thomson's Institute of Citation and / or on the Scopus' lists. Almost all mathematicians have their profile in the Google scholar database. Accordingly, the composer of this report is inclined to point out that the international mathematical community recognizes the scientific activities of Banja Luka mathematicians as a contribution to the general and specific mathematical cultures.

During 2017, a small number of articles written by researchers in mathematics

education were registered. Half of these articles (precisely: 45.45%) have been published in internationally recognized scientific journals in Research in mathematics education domain. Unfortunately, only three researchers in this domen were active. We estimate that this is the reason why most of our working mathematicians are still reserved in accepting that the Research in mathematics education is a science domain.

The Society alone and without any material and financial support from the social and academic communities of the Banja Luka City, the Republic of Srpska and Bosnia and Herzegovina performs all activities related to the editing and publishing the mentioned mathematical journals.

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