MATHEMATICIANS
at UP IAM and UP FAMNIT

REPORT 2017

UNIVERSITY OF PRIMORSKA

FACULTY OF MATHEMATICS, NATURAL SCIENCES AND INFORMATION TECHNOLOGIES (UP FAMNIT)
Glagoljaška 8, SI-6000 Koper, Slovenia
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ANDREJ MARUŠIČ INSTITUTE (UP IAM)
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Mathematicians at UP IAM/UP FAMNIT Report 2017
Edited by Slobodan Filipovski, dr. Boštjan Frelih, dr. Samir Hodžić, dr. Ademir Hujdurović, Safet Penjić, Alejandra Ramos Rivera, Ana Zalokar
Koper, April 2018.

Contents

UNIVERSITY OF PRIMORSKA (UP)

The University of Primorska (Univerza na Primorskem; Universita del Litorale; UP) was established by the Slovenian parliament on January 29, 2003 and was registered at the District Court of the city Koper on March 3, 2003 thus becoming a legal entity.

The UP is a public institution, financed by the Slovenian Government. The activities of the UP are focused on offering high-quality study programmes, active inclusion of students in research work and researchers in teaching, and on internationally comparable achievements in the fields of research and education.

Members of the University of Primorska:

- Faculty of Built Environment;
- Faculty of Humanities;
- Faculty of Management;
- Faculty of Mathematics, Natural Sciences and Information Technologies;
- Faculty of Education;
- Faculty of Tourism Studies;
- Faculty of Health Sciences;

- Andrej Marušič Institute;

- University Library;
- Student Residences;

2 associate members:

- College of Design Ljubljana;
- Orthopaedic Hospital Valdoltra.

International Cooperation

The UP strives to strengthen the international and cross-border cooperation and projects.

- Fields of project cooperation: Research, Education, Applied Sciences, Student and Faculty Mobility.
- Themes of project cooperation: Intercultural dialogue, Languages, Cultural heritage, History, Anthropology, Geography, Education, Sociology, Management, Tourism, Environment, Agriculture, Health, Mathematics, Informatics, Kinesiology and Ergonomics, etc.
- Partner institutions from: Austria, Croatia, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, Netherlands, Norway, Poland, Russia, Spain, UK, etc.

FACULTY OF MATHEMATICS, NATURAL SCIENCES AND INFORMATION TECHNOLOGIES (UP FAMNIT)

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The Faculty of Mathematics, Natural Sciences and Information Technologies (UP FAMNIT) was established by the UP in 2006 for the purpose of balancing the social sciences with the natural sciences. The Faculty is committed to integrating mathematics (the universal language of science) with computer science (the modern language of computation and information technology) into study programmes. This provides graduate students of UP FAMNIT as well as UP with exceptional knowledge of these essential disciplines.

The Faculty works closely with the Andrej Marušič Institute (UP IAM) to provide opportunities for research experience to students. The Faculty is also benefiting and constantly improving from close collaboration with UP IAM through involvement in interdisciplinary research and exposure to current research. Nowadays it is not enough to excel in one field or sector - an interdisciplinary approach is needed. The fundamental questions that face humanity today are too complex to be answered through just one sector of expertise.

The Faculty operates five departments:
- Department of Applied Natural Sciences,
- Department of Biodiversity,
- Department of Information Sciences and Technologies,
- Department of Mathematics,
- Department of Psychology.

The total number of employees in the current academic year (2017/18) is: 128 university teachers, colleagues and researchers, and 20 professional/technical and administrative staff.

Educational Activities

The first generation of students were enrolled in UP FAMNIT in the academic year 2007/08. In the current academic year (2017/18), the Faculty offers seven undergraduate university programmes (BA), seven Master (MS) and two PhD programmes:

Undergraduate university programmes (BA) (3 years):
- Mathematics (also available in English)
- Mathematics in Economics and Finance
- Computer Science (also available in English)
- Bioinformatics (also available in English from 2018/19)
- Conservation Biology
- Biopsychology
- Mediterranean Agriculture

Master's (MS) programmes (2 years):

- Mathematical Sciences (also available in English)
- Computer Science
- Nature Conservation
- Mathematics with Financial Engineering
- Biopsyhology
- Applied Psychology
- Sustainable Built Environments

Doctoral (PhD) programmes (3 years):

- Mathematical Sciences (also available in English)
- Computer Science

In the 2017/18 academic year, 542 students have been enrolled in study programmes at UP FAMNIT, of which 385 are in undergraduate programmes, 148 in master's programmes, and 9 in doctoral programmes. All undergraduate and master's programmes are offered on a full-time basis. The doctoral programmes are offered only on a part-time basis. All courses/programmes are designed in accordance with Bologna Declaration. The undergraduate programmes Mathematics and Computer Science, master's (MS) programme Mathematical Sciences and doctoral (PhD) programme Mathematical Sciences are offered also in English. Also from the 2018/19 academic year, the undergraduate programme Bioinformatics will be offered in English.

Research

Research data / indicators as of December 31, 2017:

- The number of registered researchers: 109.
- Average number of points according to the methodology SICRIS per registered researcher at ARRS in 2017 = 77,76 points.
- Effectiveness based on ARWU methodology - total number of published work of our researchers in journals that are indexed in databases SCI, SSCI and AHCI in 2017 = 161 publications.
- Average number of pure citations per registered researcher (within the last 10 years) = 327,77 citations.

International and inter-university cooperation

High international mobility of professors and researchers has been one of the basic policies of the Faculty since its establishment.

The teaching and research staff at the Faculty is highly international. The Faculty is involved in a number of bilateral projects, both independently and in collaboration with the University of Primorska, Andrej Marušič Institute (UP IAM).

As at any faculty included in the sphere of international educational, the students, graduates, teachers and researchers can integrate into the European Higher Education Area and beyond through UP FAMNIT, as well as incorporate their courses with the programmes in universities abroad.

Professors and colleagues actively participate in international scientific conferences, meetings and summer schools in their scientific field. They also feature as keynote speakers in several international conferences, and lecture at universities abroad as visiting lecturers.

The international integration of the Faculty is also reflected in the attractiveness for its doctoral and postdoctoral training for foreigners. In recent years, UP FAMNIT has hosted several foreign PhD's (from Hungary, China, USA, etc.) for postdoctoral training. We also have several international students pursuing doctoral studies in mathematics. Of the seven Young Researchers at UP FAMNIT and UP IAM in 2017/2018, four are foreigners (from three different countries: Bosnia and Herzegovina, Macedonia, and Mexico).

The Faculty is an organiser and co-organiser of resounding international conferences.

Successful international cooperation is also reflected in the numerous contacts our professors and researchers have with scientists from prestigious foreign universities and their visits to UP FAMNIT and UP IAM: Eötvös Loránd University, Budapest, Hungary; University of Pécs, Hungary; University of Leoben, Austria; Matej Bel University, Banská Bystrica, Slovakia; Comenius University in Bratislava, Slovakia; Luleå University of Technology, Sweden; Rutgers, The State University of New Jersey, USA; Mississippi State University, Starkville, USA; Northern Arizona University, Flagstaff, USA; University of Wisconsin, Madison, USA; Colgate University, New York, USA; University of Washington, Seattle, USA; University of Lethbridge, Canada; Beijing University, China; Capital Normal University, Beijing, China; Beijing Jiaotong University, China; Pohang University of Science and Technology, South Korea; University of the Basque Country, Bilbao, Spain; Moscow State University, Russia; Louisiana State University, USA; University of Western Australia, Perth, Australia; Netanya Academic College, Israel; Utrecht University, Netherlands; University of Amsterdam, Netherlands; National University of La Plata, Argentina; University of Salerno, Italy; University of Zagreb, Zagreb, Croatia; University of Rijeka, Rijeka, Croatia and many others.

UP FAMNIT has adopted the Erasmus programme aimed at the cooperation and exchange of students and teaching staff in higher education, the CEEPUS programme, a Central European programme for the exchange of students and professors, and has signed bilateral agreements with many foreign institutions.

ANDREJ MARUŠIČ INSTITUTE (UP IAM)
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UP PINT (University of Primorska, Primorska Institute for Natural and Technical Sciences) was founded in 1999 as an independent public research institution and as such registered in the register of the District Court of Koper on September 27, 1999. On October 14, 2011 the UP PINT was renamed to the University of Primorska, Andrej Marušič Institute (UP IAM). As from this date the Institute legally operates under the new name (hereinafter referred to as UP IAM).

UP IAM carries out fundamental and applied research, is involved in international scientific cooperation, and establishes connections with similar organizations around the world, in line with its development programme. With its researchers, habilitated teachers and assistants, the UP IAM is involved in educational activities of the University of Primorska (UP) and cooperates with members and Associated members of the UP in designing proposals for new courses and new programmes of UP, as well as in establishing new faculties.

Natural sciences and technology are foundations on which industry is based, therefore their high quality development is of strategic importance. In the UP, UP FAMNIT and UP IAM are responsible for development of natural sciences and technology. Both institutions are committed to making continuous efforts towards excellent work quality and to persisting in their efforts to move closer to the top of the scientific world. Being on top entails not only being successful within one field, but requires an excellent interdisciplinary performance, which involves working beyond traditional and sharp divisions among the basic areas of human science (natural sciences, technology, social sciences, and humanities). Basic questions of humankind are simply too complex to allow for answers only using tools or through the perspective of a single scientific discipline. Therefore, both institutions seek primarily to develop a single, uniform or linked science.

Research activities at the institute are organized into four research and development units: Department of Technology, Department of Mathematics, Department of Information Science and Technologies, and Department of Health Study. All units are strongly tied in interdisciplinary studies. Within the institute there are also three centers. The Slovene Center for Research of Suicide (SCRS), founded in 2011, is the first such center in Slovenia, which field is capturing above all innovative manners in approach to research of problem of suicide. The Center for Industrial Applications (CIA) was founded in 2012, with aim to strenghten the transfer of knowledge and good practices from research to industry. The Center for Applications Development and Design was founded in 2015. The process of transforming UP IAM in a doctoral school has begun in 2016.

At the Department of Mathematics research is carried out mainly in algebra, combinatorics and graph theory with probability theory and is strongly connected with all other departments. Department of Information Science and Technologies conducts research on data structures, data mining, large-scale distributed GRID architectures, and in collaboration with Department of Health Study in the field of e-health. The core activity of the Department of Technology is environment protection and the technology associated with it.

MATHEMATICIANS AT UP IAM/UP FAMNIT

UP IAM and UP FAMNIT included 69 mathematicians in 2017:

Prof. BATAGELJ Vladimir
Prof. DOBSON Edward
Prof. GRAVNER Janko
Prof. JAJCAY Robert
Prof. JANEŽIČ Dušanka
Prof. KUTNAR Klavdija, Dean UP FAMNIT
Prof. KUZMA Bojan
Prof. MALNIČ Aleksander
Prof. MARUŠIČ Dragan, Rector UP
Prof. MIKLAVIČ Štefko
Prof. PISANSKI Tomaž
Prof. STRAŠEK Rok
Assoc. Prof. Dr. BANIČ Iztok
Assoc. Prof. KISS György
Assoc. Prof. KOVÁCS István
Assoc. Prof. KUZMANIĆ Tonči Ante
Assoc. Prof. LUSA Lara
Assoc. Prof. MILANIČ Martin
Assoc. Prof. OREL Marko, Vice-Dean for Science and Research of UP FAMNIT
Assoc. Prof. PASALIC Enes
Assoc. Prof. PERMAN Mihael
Assoc. Prof. PREZELJ Jasna
Assoc. Prof. ŠKREKOVSKI Riste
Assoc. Prof. ULE Aljaž
Assoc. Prof. VITRIH Vito, Director of UP IAM
Assoc. Prof. WOODROOFE Russ
Assist. Prof. BLAGUS Rok
Assist. Prof. BOBEN Marko
Assist. Prof. BOLDIN Barbara
Assist. Prof. BREZIGAR MASTEN Arjana
Assist. Prof. ČREPNJAK Matevž
Assist. Prof. GRDOVIĆ Gnip Ana
Assist. Prof. HORVAT Boris
Assist. Prof. HUJDUROVIĆ Ademir
Assist. Prof. JAKLIČ Gašper
Assist. Prof. KAVKLER Iztok
Assist. Prof. KOMPARA Mojca
Assist. Prof. KOVIČ Jurij
Assist. Prof. KRNC Matjaž
Assist. Prof. LUKŠIČ Primož
Assist. Prof. MRAMOR Blaž
Assist. Prof. POŽAR Rok
Assist. Prof. RAIČ Martin
Assist. Prof. ŠPARL Primož

Assist. Prof. ZGRABLIĆ Boris
Dr. BAŠIĆ Nino
Dr. CERGOL Boris
Dr. CERINŠEK Monika
Dr. CHIARELLI Nina
Dr. FERJANČIČ Karla
Dr. FRELIH Boštjan
Dr. HARTINGER Tatiana Romina
Dr. HODŽIĆ Samir
Dr. JERMAN Marjan
Dr. LOZEJ Matija
DR. MUNARO Andrea
CEPAK Nastja, Young Researcher
FILIPOVSKI Slobodan, Young Researcher
MARKOVIĆ Andrej
MITROVIĆ Nevena, Young Researcher
PENJIĆ Safet, Young Researcher
PEZDIR Rado
RAMOS RIVERA Alejandra, Young Researcher
SERVATIUS Mary, Young Researcher
TISNIKAR Viljem
TURK Primož
VELKAVRH Žiga, Young Researcher
VODOPIVEC Matija
ZALOKAR Ana, Young Researcher

RESEARCH PROGRAMS

- 2015-2020: Algebra, Discrete Mathematics, Probability and Game Theory; leader: Dragan Marušič.
- 2015-2019: Computationally intensive methods in theoretical computer science, discrete mathematics, combinatorial optimization, and numerical analysis and algebra with applications in natural and social sciences; leader: Tomaž Pisanski.

RESEARCH PROJECTS

- 2017-2020: N1-0062 Oddness in Permutation Groups, leader: Dragan Marušič.
- 2016-2018: J1-7051 Independence and Domination in Structured Graph Classes, leader: Martin Milanič.
- 2015-2018: N1-0038 Graphs and Odd Automorphisms; leader: Dragan Marušič.
- 2015-2018: N1-0032 Graphs, Groups, Configurations and Geometries; leader: Tomaž Pisanski.
- 2014-2017: J1-6720 Algebraic Graph Theory with Applications; leader: Dragan Marušič.
- 2014-2017: J7-6828 Bounded Rationality and Economic Performance; leader: Aljaž Ule.
- 2014-2017: J1-6743 The Development of Computational Tools for Modeling Molecules of Pharmaceutical Interest; leader: Dušanka Janežič.
- 2014-2017: L1-6722 Algebra and Functional Analysis Methods in the Theory and Practice of Financial Mathematics; leader: Igor Klep.

BILATERAL PROJECTS led by Math Department 2017 – to date

- 2018-2019: Cliques and Spanning Trees under Budget Constraints: bilateral scientific - research cooperation between RS and Austria, UP IAM and University of Graz.
- 2018-2019: Color Preserving Automorphisms: bilateral scientific - research cooperation between RS and USA, UP IAM and Mississippi State University.
- 2018-2019: Hamiltonicity of vertex-transitive graphs: bilateral scientific - research cooperation between RS and USA, UP IAM and Vanderbilt University.
- 2018-2019: Bipartite distance-regular graphs with exactly two irreducible T-modules with endpoint 2, both thin: subspace MW: bilateral scientific - research cooperation between RS and USA, UP IAM and Seattle University.
- 2018-2019: Studies in graph representations: dual graphs on surfaces, Cartesian dimension, and readability of graphs: bilateral scientific - research cooperation between RS and USA, UP IAM and Rutgers University.
- 2018-2019: Nonparametric statistics, Brownian motion and analysis: bilateral scientific - research cooperation between RS and USA, UP IAM and University of Washington.
- 2017-2019: Graph structures and efficient algorithms for optimization problems: bilateral scientific - research cooperation between RS and Germany, UP IAM and BTU Cottbus-Senftenberg.
- 2017-2019: Mathematical Fundations of Selected Topics in Science: From Mathematical Chemistry to Discrete Biomathematics (MathChemBio): bilateral scientific - research cooperation between RS and Germany, UP IAM and University of Leipzig.

- 2017-2018: New trends in chromatic graph theory, bilateral scientific - research cooperation between RS and USA, UP FAMNIT and Iowa State University.
- 2017-2018: Computer Algorithm Development for Molecular Dynamics Simulation of Macromolecules, bilateral scientific - research cooperation between RS and USA, UP FAMNIT and NIH/NHLBI/Lab. of Computational Biology.
- 2016 - 2018: On odd automorphisms in vertex-transitive (di)graphs: bilateral scientific - research cooperation between RS and Russia, UP IAM and Sobolev Institute of Mathematics, Novosibirsk.
- 2016 - 2018: Quasi-coverings and Finite Group Actions on Graphs, II: bilateral scientific - research cooperation between RS and Russia , UP IAM and Sobolev Institute of Mathematics, Novosibirsk.
- 2016 - 2018: Matrix structural relations: bilateral scientific - research cooperation between RS and Russia, UP FAMNIT and Lomonosov Moscow State University.
- 2016 - 2018: Computer Algorithm Development for Binding Site Prediction in Pharmaceutical Discovery: bilateral scientific - research cooperation between RS and Russia, UP FAMNIT and Institute of Biomedical Chemistry.
- 2016 - 2018: Domination concept in Cayley graphs: bilateral scientific - research cooperation between RS and Republic of Turkey, UP IAM and Gebze Technical University.
- 2016-2017: Strongly extendible graphs: bilateral scientific - research cooperation between RS and BiH, UP IAM and University of East Sarajevo.
- 2016-2017: Half-arc-transitive graphs: bilateral scientific - research cooperation between RS and BiH, UP IAM and University of East Sarajevo.
- 2016-2017: Abstract polygonal complexes and their representations: bilateral scientific - research cooperation between RS and USA, UP IAM and Northeastern University.
- 2016-2017: Some combinatorial problems: graphs, hypergraphs, and positional games: bilateral scientific - research cooperation between RS and USA, UP IAM and Rutgers University.
- 2016-2017: Abstract polytopes, groups and cyclic configurations: bilateral scientific - research cooperation between RS and USA, UP IAM and University of Alaska Fairbanks.
- 2016-2017: Computer Algorithm Development for Binding Site Prediction in Pharmaceutical Discovery: bilateral scientific - research cooperation between RS and Austria, UP FAMNIT and University of Vienna.

Publishing
ARS MATHEMATICA CONTEMPORANEA (AMC)
http://amc-journal.eu

Printed edition ISSN 1855-3966
Electronic edition ISSN 1855-3974

Covered by:

- Math. Reviews (indexed cover-to-cover)
- Zentralblatt MATH
- COBISS
- SCOPUS
- Science Citation Index-Expanded (SCIE)
- Web of Science
- ISI Alerting Service
- Current Contents/Physical, Chemical & Earth Sciences (CC/PC & ES)

Published by The University of Primorska, Slovenia, together with the Institute of Mathematics, Physics, and Mechanics and the Society of Mathematicians, Physicists and Astronomers of Slovenia.

The Journal **Ars Mathematica Contemporanea** was established in 2008 by Dragan Marušič and Tomaž Pisanski. Together with an enthusiastic team of international editors, they are still managing it today. The journal is publishing high-quality articles in contemporary mathematics that arise from the discrete and concrete mathematics paradigm. It favors themes that combine at least two different fields of mathematics. In particular, it welcomes papers intersecting discrete mathematics with other branches of mathematics, such as algebra, geometry, topology, theoretical computer science, and combinatorics. The name of the journal was chosen carefully. Symmetry is certainly a theme that is quite welcome to the journal, as it is through symmetry that mathematics comes closest to art.

Issues of Ars Mathematica Contemporanea from Vol 6, No 1 onward are partially supported by the Slovenian Research Agency from the Call for co-financing of scientific periodical publications.

Science Citation Index for 2015 placed the journal Ars Mathematica Contemporanea (AMC) in the first quarter of scientific journals in the field of mathematics according to the jour-

nal's impact factor. AMC journal is the first Slovene journal, who managed to get into the top quarter of scientific magazines with its impact factor, which represents a new milestone of the Slovenian science. This further defines the Slovenian research in the world.

The impact factor is used in science as a tool for measuring the influence of the journal and with this the reputation of researchers, who are publishing in the journal. It is set and measured only for the most important scientific journals in the world by the Institute for Scientific Information. 14,000 journals are included in institute's specialised database. The impact factor calculates the citations of the published articles in journals included in the database. 19 scientific periodic publications are included into the database from Slovenia, while the Slovenian Research Agency co-finances the publication of 138 periodic scientific and 18 popular science publications.

The journal AMC with its impact factor 0.985 took 60th place among the 312 mathematical journals included in ISI. The impact for 2015 counts citations in 2015 from the articles published in 2013 and 2014 and divides them with the number of these articles.

AMC was included on the list of mathematical journal with an impact factor in 2011 and it was so far included in twice in the third quarter and twice in the second quarter. Constant improvement of journal's influence demands also increase in quality of published articles. To assure high standard of articles, the editorial board accepts less than a third of received manuscripts and with this success, the submission rate increased and acceptance rate further decreased.

Founding Editors and Editors-in-Chief: Dragan Marušič and Tomaž Pisanski

Publishing
THE ART OF DISCRETE AND APPLIED MATHEMATICS (ADAM)
https://adam-journal.eu

The Art of Discrete and Applied Mathematics (ADAM) is a modern, dynamic, platinum open access, electronic journal that will publish high-quality articles of arbitrary length in contemporary discrete and applied mathematics in which neither the authors nor the readers incur any costs. Short notes are welcome, as well as extra long articles with numerous drawings, tables or long proofs. Articles may be accompanied by computer programs and data.

The scope of ADAM is dynamic and includes but is not limited to the scope of its parent journal Ars Mathematica Contemporanea (AMC). In addition, ADAM will publish papers in pure and applied graph theory and combinatorics. High quality papers from chemical graph theory are also welcome. ADAM will consider all papers closely associated with the research interests of members of its editorial board. The structure of the editorial board will be adjusted occasionally to reflect new interests of authors and readers.

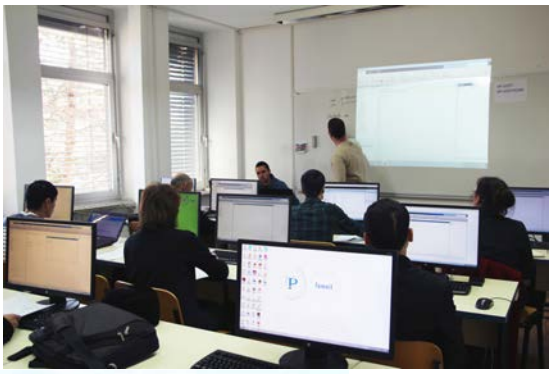
ADAM will publish special editions dedicated to a single topic or to the proceedings of a conference or workshop. Normally, such special editions will be proposed by a member of the editorial board of ADAM or AMC, and in such cases, at least one of the guest editors will be a member of the editorial board of AMC or ADAM. Also if appropriate, such special editions may be printed and sold as books.

ADAM will be published by the University of Primorska and by the Slovenian Society for Discrete and Applied Mathematics, with the first volume appearing in 2018.

ECCUM PROJECT
http://eccum.famnit.upr.si/en/

ECCUM = Establishment of Computing Centres and Curriculum Development in Mathematical engineering Master Programme

UP FAMNIT is a partner in the ECCUM project. Under the project, Department of Mathematics is collaborating with the 7 other universities from Italy, Spain, Uzbekistan and Kazakhstan. Five universities from Central Asia (Urgench State University, Uzbekistan; Turin Polytechnic University in Tashkent, Uzbekistan; Bukhara Engineering – Technological Institute, BETI, Uzbekistan; A. Baitursynov Kostanay State University, Kazakhstan; International Information Technology University, IITU, Kazakhstan) will establish a master programme in mathematical engineering.
They are supported by European Universities (University of Santiago de Compostela, Politecnico di Torino and University of Primorska), who are providing them mentorship and support. The programmes will be Bologna-based and European universities provided their expertise in curriculum and syllabus development and Bologna process.
Programmes, curriculums and syllabuses were developed in 2016 and some universities already enrolled first students into the programme in the academic year 2016/17.
Partners from Central Asia also established their computing centres (with equipment bought under the project) and the University of Primorska and University of Santiago de Compostela provided training to professors from CA universities on MATLAB and COMSOL.
Project is co-financed under the programme Erasmus+ - Capacity building in higher education. It is one of the 140 projects, selected for co-financing by the European Commission in 2015. With them, the EU is emphasising its role in the higher education around the world and simultaneously helps to build modern and interesting study programmes promoting employability of young graduates from different parts of the world.



8TH EUROPEAN CONGRESS OF MATHEMATICS 2020

http://www.8ecm.si/

Department of Mathematics at UP FAMNIT launched a bid to organise the **8th European Congress of Mathematics (8ECM) in 2020**. The bid was prepared in collaboration with UP IAM, UL FMF, UL PEF, UM FNM, IMFA, DMFA and Abelium d.o.o. It was supported also by the MIZŠ, ARRS, SAZU and Slovenian Rectors' Conference.

The final moment in the bidding process was a presentation to the Council of the European Mathematical Society in Berlin in July 2016. The delegates recognised our potential and supported Slovene organisers with 45 votes in favour. With this they gave us an advantage from the Sevilla candidature, which received 33 votes of support.

European Congress of Mathematics is the second largest mathematical event in the world, after the International Congress of Mathematics and is organised every 4 years. More than 1,000 mathematicians usually take part in it.

Between 5th and 11th July 2020, the congress will be organised in Portorož, Slovenia. The organising committee is chaired by prof. Tomaž Pisanski, PhD.

The organisers decided to introduce a new concept of the congress. Local (national) societies will have a greater say in the organisation, especially through strong involvement in minisymposia and satellite conferences. Through a stronger involvement of national societies and their greater say in the organisation, the organisers expect a greater interest for participation from mathematicians of all profiles.

Additionally, the congress will be organised in a small town with all facilities in walking distance, which will be in contrast with hosting cities of the past. A spirit of mathematics will be felt in the air in Portorož and Piran in the summer of 2020. The European congress of mathematics is the quadrennial congress of the European Mathematical Society.

ORGANIZED EVENTS IN 2017

Joint EURO/ORSC/ECCO conference 2017 on combinatorial optimization, ECCO XXX

May 3 - 6, Koper, Slovenia
https://ecco2017.euro-online.org

Organized by:
UP FAMNIT and UP IAM

General Conference Committee:
Xiaodong Hu (Chinese Academy of Sciences), Silvano Martello (University of Bologna), Gerhard Wächer (Otto von Guericke University Magdeburg)

Scientific Committee:
Andrej Brodnik (University of Primorska and University of Ljubljana), Guochuan Zhang (Zhejiang University), Jacek Blazewicz (Poznan University of Technology), Xujin Chen (Chinese Academy of Sciences), Van-Dat Cung (Institut Polytechnique de Grenoble), Alain Hertz (Ecole Polytechnique de Montréal), Liying Kang (Shanghai University), Minming Li (The City University of Hong Kong), Xiwen Lu (East China University of Science and Technology), Silvano Martello (University of Bologna), Paolo Toth (University of Bologna), Dachuan Xu (Beijing University of Technology), Gerhard Wäscher (Otto von Guericke University Magdeburg), Zhao Zhang (Zhejiang Normal University)

Organizing Committee:
Andrej Brodnik (University of Primorska and University of Ljubljana), Degang Liu (Chinese Academy of Sciences), Guangting Chen (Taizhou University), Rok Požar (University of Primorska), Xin Liu (Chinese Academy of Sciences), Yindong Shen (Huazhong Univeristy of Science and Technology)

Local Organizers:
Marko Grgurovič (University of Primorska), Marko Palangetić (University of Primorska), Daniel Silađi (University of Primorska)

Plenary speakers:
G. J. Woeginger (EURO Plenary, RWTH Aachen): *Lower bound techniques for algorithmic problems*
R. Bixby (Gurobi Optimization, Inc.): *Progress in Linear and Mixed-Integer Programming*
X. Deng (Shanghai Jiaotong University): *Constructive Output of Existentially Proved Structure in Combinatorics*
B. Ries (University of Fribourg): *On some graph modification problems*

PhD Spring School in Algebraic Graph Theory

May 25 - 28, Pale, Bosnia and Herzegovina
https://conferences.famnit.upr.si/indico/event/3/overview

Organized by:
University of East Sarajevo, Faculty of Philosophy
University of Primorska, UP FAMNIT and UP IAM

In Collaboration with:
Društvo matematičara Republike Srpske
Centre for Discrete Mathematics, UL PeF (University of Ljubljana, Faculty of Education)
Slovenian Discrete and Applied Mathematics Society

Scientific Committee:
Vidan Govedarica, Klavdija Kutnar, Dragan Marušič, Vladimir Vladicic

The Summer School consisted of one minicours (of eleven hours) given by:

- Ted Dobson, Mississippi State University, USA, University of Primorska, Slovenia
- István Kovács, University of Primorska, Slovenia

8th Linear Algebra Workshop

June 12 - 16, Ljubljana, Slovenia
http://www.law05.si/law17/index.php?stran=general

Organized by:
Institute of Mathematics, Physics and Mechanics, Ljubljana
University of Ljubljana, Faculty of Mathematics and Physics
University of Primorska, Faculty of Mathematics, Natural Sciences and Information Technologies

In Collaboration with:
International Linear Algebra Society
Društvo matematikov, fizikov in astronomov Slovenije

Sponsors:
Institute of Mathematics, Physics and Mechanics, Ljubljana
International Linear Algebra Society
University of Ljubljana, Faculty of Mathematics and Physics
University of Primorska, Faculty of Mathematics, Natural Sciences and Information Technologies

Local committee:
D. Kokol Bukovšek, T. Košir, M. Kramar Fijavž

Scientific committee:
D. Kokol Bukovšek, B. Kuzma, M. Omladič, H. Radjavi

Organizing Committee Chair:
Heydar Radjavi (Department of Pure Mathematics, University of Waterloo)

Invited talks:
B. Farkas: *Wiener's lemma along primes and other subsequences*
A. Guterman: *Krauter conjecture on permanents is true*
D. Ilišević: *On projections arising from isometries with finite spectrum on Banach spaces*
T. Laffey: *On the lengths of some generating sets of matrix algebras*
C.-K. Li: *Matrix problems in quantum information science*
L. W. Marcoux: *Vector states on operator semigroups*
M. Mastnak: *Distributing trace*
V. Müller: *Circles in the spectrum and numerical ranges*
A. Sourour: *Sylvester equation in triangular operator algebras*
H. Šmigoc: *An equivalence result in the symmetric nonnegative inverse eigenvalue problem*
H. Radjavi: *Simultaneous versions of Perron-Frobenius and Wielandt results*
V. Troitsky: *Unbounded convergences in vector and Banach lattices*

Contributed talks:
A. Buckley: *Indecomposable matrices defining plane cubics*
M. Budrevich: *Extremal non-convertible fully indecomposable (0,1)-matrices*
Y. Hardy: *Some open questions about Kronecker quotients*
D. Kokol Bukovšek: *Linear spaces of symmetric nilpotent matrices*

Z. Li: *Bounds on tensor norms via tensor partitions*
O. Markova: *Length realizability problem for pairs of quasi-commuting matrices*
B. Mojškerc: *Jordan triple product homomorphisms on triangular matrices to and from dimension one*
M. Orel: *On matrix theory, graph theory, and finite geometry*
A. Peperko: *Inequalities on the spectral radius, operator norm and numerical radius of Hadamard weighted geometric mean of positive kernel operators*
B. Plestenjak: *Minimal determinantal representations of bivariate polynomials*
R. Rajić: *The Birkhoff–James and Roberts orthogonality in C^*-algebras*
K. Šivic: *Dimension of commuting varieties*
S. Weis: *A variation principle for ground spaces*
A. Zalar: *There are many more positive maps than completely positive maps*

Working groups:
Anita Buckley, Klemen Šivic: *Positive maps*
Balint Farkas, Marjeta Kramar Fijavž: *Koopman semigroups*
Laurent Marcoux, Heydar Radjavi: *Local-to-global properties for matrix semigroups and quasidiagonal operators and other stuff*

2017 PhD Summer School in Discrete Mathematics

July 23 - 29, Rogla, Slovenia
https://conferences.famnit.upr.si/event/2/

Organized by:
UP FAMNIT and UP IAM

In Collaboration with:
Centre for Discrete Mathematics, UL PeF (University of Ljubljana, Faculty of Education)
Slovenian Discrete and Applied Mathematics Society

Sponsors:
ARRS - Slovenian Research Agency
MIZS - Ministry of Education, Science and Sport

Scientific Committee:
Klavdija Kutnar, Aleksander Malnič, Dragan Marušič, Štefko Miklavič, Tomaž Pisanski, Primož Šparl

Organizing Committee:
Boštjan Frelih, Ademir Hujdurović, Boštjan Kuzman, Rok Požar

The Summer School consisted of two minicourses (of nine hours each) given by:

- **Vladimir Alexander Gurvich**, Rutgers University, NJ, USA and National Research University, Higher School of Economics, Moscow, Russia.: Topics in Game theory
- **Robin Wilson**, Open University, London, UK: The history of combinatorics

Invited talks:
M. Buratti: *Help make a difference*
M. Conder: *Some new development on edge-transitive graphs*
G. Kiss: *Resolving sets for higher dimensional projective spaces*
J. Morris: *Oriented Regular Representations*
M. Muzychuk: *On non-commutative association schemes of rank 6*
I. Ponomarenko: *The 3-dim Weisfeiler-Leman algorithm tests isomorphism of planar graphs*
T. Szönyi: *Blocking sets with respect to special substructures of projective planes*

Contributed talks:
S. Ban: *Construction of Extremal Type II $\mathbb{Z}_4$–codes*
N. Bašić: *Point-ellipse configurations*
J. Bok: *Graph-indexed random walks*
Y. Cheng: *Spectral bounds obtained by reweighting entries in a row of a nonnegative matrix*
A. Hujdurović & M. Milanič: *Reconstructing perfect phylogenies via binary matrices, branchings in DAGs, and a generalization of Dilworth's theorem*
F. Kamenga: *Integrated Railway Planning at local scale*
M. Krnc: *Fast and simple consensus in networks*
B. Kuzman: *Some recent results on symmetric graphs*
N. Pantelidis: *Riordan arrays - The Riordan Group*
O. Şeker: *A Decomposition Approach to Solve the Selective Graph Coloring Problem in Certain Perfect Graph Families*

5th annual Mississippi Discrete Math Workshop
November 4 - 5, Mississippi, The United States of America
http://discretews.math.msstate.edu/2017/

Organizing committee:
Ted Dobson, Klavdija Kutnar, Dragan Marušič, Laura Sheppardson, Russ Woodroofe

In Collaboration with:
University of Mississippi College of Liberal Arts
University of Mississippi Department of Mathematics
Webhosting from Mississippi State University

Talks:
M. Barnes: *Unavoidable immersions of 3-edge-connected graphs*
M. Ellingham: *Quadrangular embeddings of complete graphs*
J. Fallon: *Criticality of counterexamples to edge-hamiltonicity on the Klein bottle*
T. Fife: *Laminar matroids and generalized laminar matroids*
Z. Gershkoff: *Characterization and enumeration of 3-regular permutation graphs*
T. Hoàng Lê: *Additive bases in groups*
P. Johnson: *Coloring problems in certain hypergraphs on the integers*
S. Lee: *The beta invariant and chromatic uniqueness of wheels*
G. Mészáros: *On the maximum degree of path-pairable graphs*
L. Rusnak: *Oriented hypergraphic matrix-tree and Sachs type theorems*
B. Schroeder: *The fixed vertex property for products*
S. Smith: *The poset on connected graphs is Sperner*

Workshop on Discrete and Computational Biomathematics and Mathematical Chemistry 2017
November 15 - 17, Koper, Slovenia
https://conferences.famnit.upr.si/event/5/

Organized by:
SDAMS, Slovenian Discrete and Applied Mathematics Society
UP FAMNIT

Scientific Committee:
Nino Bašić, Tomaž Pisanski, Nancy Retzlaff

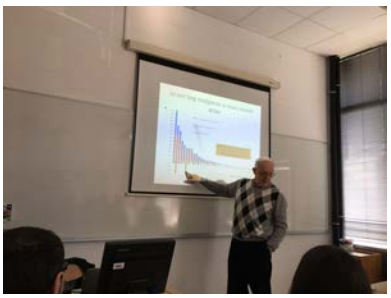
Organizing Committee:
Nino Bašić, Tomaž Pisanski, Rok Požar

Talks:
N. Bašić: *Pentagonal clusters in fullerenes*
S. Berkemer: *Many-to-one mapping in MSA and co-graphs*
T. Gatter: *Ryūtō: A framework for network-flow based transcriptome reconstruction of RNA-seq data*
M. Milanič: *Perfect phylogenies via branchings in acyclic digraphs and a generalization of Dilworth's theorem*
T. Pisanski: *Convex and pseudo-convex benzenoids*
R. Požar: *Graph-theoretical approach for analysing brain activity*

Research Mathematical Seminar in 2017





January

- 09/01/2017 György Kiss (Eötvös Loránd University): “On edge-girth-regular graphs”;
- 16/01/2017 Tilen Marc (University of Ljubljana): “Minors in partial cubes”;

February

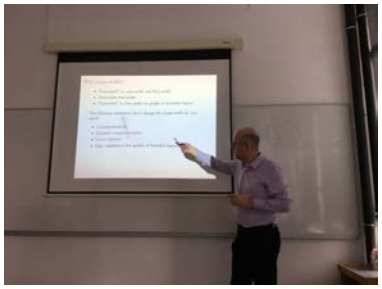
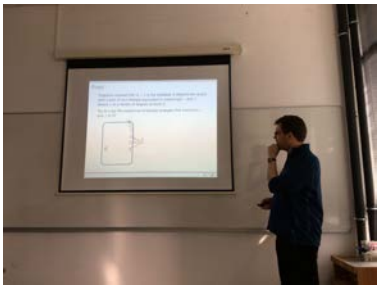
- 20/02/2017 Yan-Quan Feng (Beijing Jiaotong University, China): “Cayley digraphs of 2-genetic groups of prime-power order”;
- 27/02/2017 Daniel Pellicer (National Autonomous University of Mexico (UNAM): “Chiral 4-polytopes in space”;

March

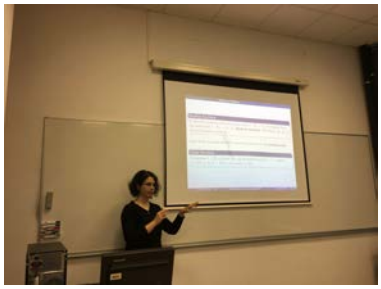
- 06/03/2017 Andrea Munaro (Université Grenoble Alpes, France): “Boundary Classes for Graph Problems Involving Non-Local Properties”;
- 13/03/2017 Tomaž Pisanski (University of Primorska): “What have we learned from the visit of the President of the ERC in Slovenia?”;
- 20/03/2017 Daniel Paulusma (Durham University, England): “Colouring Diamond-free Graphs”;
- 24/03/2017 Matthew Johnson (Durham University, England): “Kempe equivalence in regular graphs”;
- 27/03/2017 Slobodan Filipovski (UP IAM, UP FAMNIT): “On bipartite cages of excess 4”;


April

- 03/04/2017 Dean Crnković (University of Rijeka, Croatia): "On some regular Hadamard matrices and related codes";
- 10/04/2017 Sanja Rukavina (University of Rijeka, Croatia): "Quasi-symmetric designs derived from AG(3,4)";
- 24/04/2017 Nastja Cepak (UP IAM, UP FAMNIT): "Bent functions in C and D outside the completed Maiorana-McFarland class";

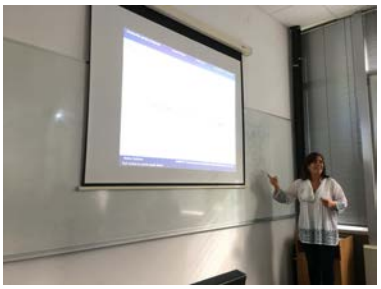







May

- 08/05/2017 Bogdan Soban: "Matematika in digitalna umetnost";
- 15/05/2017 Russ Woodroofe (Mississippi State University, USA): "Arrangements and the independence polynomial";
- 17/05/2017 Safet Penjić (UP IAM): "On the Terwilliger Algebra of Bipartite Distance-regular graphs (Disposition of the PhD Thesis)";
- 22/05/2017 Jean-Florent Raymond (Faculty of Mathematics, Informatics and Mechanics of the University of Warsaw (Poland) and to LIRMM (France)): "Polynomial expansion and sublinear balanced separators";
- 29/05/2017 Janko Gravner (University of California, Davis, USA): "Jigsaw percolation";


October

- 09/10/2017 Marisa Gutiérrez (National University of La Plata and CONICET, Argentina): “End vertices in certain graph classes”;
- 16/10/2017 Tomaž Pisanski (University of Primorska): “Hamilton Surface Decomposition - 60 Years and One Week Later”;
- 23/10/2017 Pablo D. Torres (Universidad Nacional de Rosario, Argentina): “Stable Kneser graphs: problems and conjectures”;
- 27/10/2017 Elena Resmerita (Alpen-Adria University of Klagenfurt, Austria): “Stable reconstruction of solutions of ill-posed problems - selected topics”;

November

- 06/11/2017 Robert Jajcay (UP FAMNIT and Comenius University (Slovakia)): “Highly symmetric graphs”;
- 13/11/2017 Nino Bašić (UP IAM, UP FAMNIT): “Pentagonal Clusters in Fullerenes”;
- 20/11/2017 Rok Požar (UP FAMNIT): “Graph-theoretical approach for analysing brain activity”;
- 24/11/2017 Marko Tadić (University of Zagreb, Croatia): “On non-commutative harmonic analysis and theory of automorphic forms”;
- 27/11/2017 Vicente Munoz Velázquez (Universidad Complutense de Madrid, Spain): “Complex, symplectic and Kahler geometry”;

December

- 04/12/2017 Marko Orel (UP FAMNIT, UP IAM): “The finite Minkowski space and the existence of ovoids in the orthogonal polar space”;
- 11/12/2017 Karin Cvetko Vah (University of Ljubljana): “Noncommutative lattices”;
- 14/12/2017 Pavel Klavik (Charles University, Prague, Czech Republic): “Jordan-like Characterizations of Automorphism Groups of Geometrically Represented Graphs”;
- 18/12/2017 Russ Woodroofe (UP FAMNIT): “Recognizing a solvable group from its subgroup lattice”;

Seminar Coordinator: Štefko Miklavič

More: `http://www.famnit.upr.si/sl/seminars`

7th FAMNIT's Summer Math Camp "Mathematics is Cool",
August 20 - 25, Koper, Slovenia

Since 2011, the department has been organizing a yearly summer math camp, aimed at pupils in primary and secondary schools interested in mathematics. The program of the camp consists of lectures and workshops on various mathematical topics, as well as social and sport activities. With the camp we wish to show that mathematics can be both fun and useful. This year was the first time that both Slovene and English lectures were held.

This year **Lecturers**: Ademir Hujdurović (Graphs are everywhere), István Kovács (Isometries and similarities of the plane), Štefko Miklavič (Delta robots), Mihael Perman (Paradoxa in probability), Rado Pezdir (Trading on stock exchanges) and Aljaž Ule (Mathematics of strategic behaviour).

This year **Assistants**: Slobodan Filipovski, Edin Husić, Safet Penjić, Mary Servatius (Slide-Together Geometric Constructions), Žiga Velkavrh and Ana Zalokar.

Organized by:
UP FAMNIT
UP IAM

Organizing committee:
Nastja Cepak
Boštjan Frelih
Bojan Kuzma
Martin Milanič
Vito Vitrih

More: `http://tabor.famnit.upr.si/en/`

Famnit Excursions into the Mathematical Universe.

A series of popular lectures on mathematics and its role in the modern world running for the ninth consecutive year in the 2017/2018 academic year. Lectures are held once a month, typically from October to April.

More: `http://matematicni-izleti.famnit.upr.si/sl/`

Organized by:
UP FAMNIT and UP IAM

Coordinator:
Martin Milanič

Lectures in 2017:

11/01/2017 Dr. Andrej Bauer (UL FMF and IMFM): *"Slike, vredne tisoč besed"*;

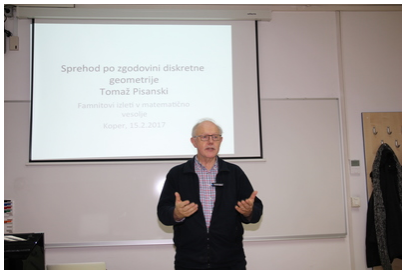
15/02/2017 Dr. Tomaž Pisanski (UP FAMNIT, UP IAM, UL FMF and IMFM): *"Sprehod skozi zgodovino diskretne geometrije"*;

15/03/2017 Dr. Jernej Vičič (UP FAMNIT and UP IAM): *"Številke nam lahko pomagajo pri prevajanju (Nežen dotik matematičnih modelov, ki se uporabljajo v statističnem strojnem prevajanju)"*;

12/04/2017 Dr. Janko Gravner (University of California, Davis and UP IAM): *"Med redom in neredom"*;

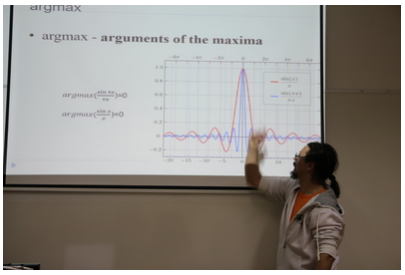
18/10/2017 Dr. Mihael Perman (UP FAMNIT and UL FMF): *"Paradoksi v verjetnosti - resnični ali navidezni?"*;

15/11/2017 Dr. Nino Bašić (UP FAMNIT, UP IAM and IMFM): *"Kako sestaviti očem neviden polieder?"*.

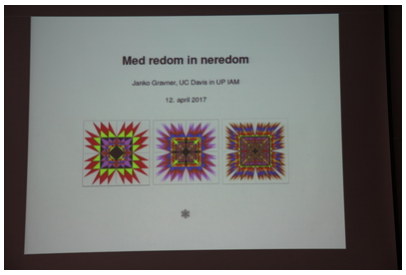








Research Days of Mathematics at UP FAMNIT
September 21 - 24, Koper, Slovenia
More: `https://www.famnit.upr.si/sl/novice/raziskovalni-dnevi-i-3`

UP FAMNIT, UP PeF (the Faculty of Education) together with DMFA Slovenia (the Association of Mathematicians, Physicists and Astronomers of Slovenia) hosted the Mathematical Research Days, the annual preparation for the Mathematical Olympiad. This was the seventh preparation in a row.
This year 29 students participated in this event. They worked on some advanced problems in mathematics under the asistance of researchers Jurij Kovič, Nino Bašić and Samir Hodžić. Beside that, selected chapters from three different topics were covered during the research days. Nina Klobas introduced "Theory of numbers", Borut Umer "Problems from Geometry", and Kenny Štorgel "Inequalities", both from theoretical as well as from problem solving perspective. And all this with the goal to prepare students for International Mathematical Olympiad and other mathematical competitions. Research days were coordinated by Ademir Hujdurovič.

Math Days for primary school and secondary school students at UP FAMNIT

UP FAMNIT organized the first mathematical day for primary school students in 2013 with the goal of popularizing science, especially mathematics, among young people. Since then nine such meetings (eight for primary school students and one for secondary school students), where participants have fun and at the same time expand their knowledge and perception of mathematics, have been successfully conducted.

1st FAMNIT's mathematical day for secondary school students
January 25, Koper, Slovenia
More: `https://www.famnit.upr.si/sl/novice/izjemno-uspesen-mate`

The 1st FAMNIT's mathematical day for secondary school students was organized for all third year students from Gimnazija Koper. They were first welcomed by Klavdija Kutnar, the dean of UP FAMNIT, and Dragan Marušič, the rector of University of Primorska.
After the opening ceremony students participated at lectures that were given in two parts with four different lectures in each part. Each student had choosen and listened one lecture in each part. Topics, which were focused on applied mathematics, were: "Magic or simple ... mathematics?" (given by Nina Chiarelli), "Delta robots in mathematics" (given by Štefko Miklavič), "On soccer ball or why mathematics is also in chemistry?" (given by Klavdija Kutnar), "From smallest squares to operation of the CT device" (given by Marko Orel), "Short excursion to history of Cryptography" (given by Štefko Miklavič), "The importance of controlling roulette cylinders" (given by Mihael Perman), "Origami: What if Euclid was born in Japan?" (given by Bojan Kuzma) and "Mathematics in sports" (given by Boštjan Frelih).



7th FAMNIT's mathematical day for primary school students
March 31, Koper, Slovenia
More: https://www.famnit.upr.si/sl/novice/7-famnitov-matemati

Fifty-six 8th and 9th grade students from four primary schools: Primary School Šmarje pri Kopru, Primary School Ivana Roba Šempeter pri Gorici, Primary School Vojke Šmuc Izola, and Primary School Antona Ukmarja Koper, accompanied by teachers, attended the 7th FAMNIT's mathematical day for primary school students.
They were welcomed by Bojan Kuzma, the head of the Department of Mathematics, and the main part was a work in the form of workshops.
Under the direction of Barbara Boldin, young mathematical enthusiasts first found close interaction between mathematics and biology. They learned some examples of natural processes, such as patterns on butterflies and the spread of infectious diseases, that can be better understood using mathematical models.
In the second part, Boštjan Frelih presented the use of graph theory in everyday life, asking them questions, such as: "Can the driver of a truck with a plow purify all the snowy roads of a city in such a way that he drives exactly once after each road and returns to the beginning of his way?", and "Map coloring, solving sudoku and compiling an optimal school schedule - what do they have in common?"

8th FAMNIT's mathematical day for primary school students
April 14, Koper, Slovenia
More: https://www.famnit.upr.si/sl/novice/8-famnitov-matemati

Sixty-three students from two primary schools: Primary School Dušana Bordona Koper and Primary School Šmarje pri Kopru attended the 8th FAMNIT's mathematical day for primary school students.
They were welcomed by Bojan Kuzma, the head of the Department of Mathematics, and the main part was a work in the form of workshops.
Under the direction of Barbara Boldin, young mathematical enthusiasts first found close interaction between mathematics and biology. They learned some examples of natural processes, such as patterns on butterflies and the spread of infectious diseases, that can be better understood using mathematical models.
In the second part, Boštjan Frelih presented the use of graph theory in everyday life, asking them questions, such as: "Can the driver of a truck with a plow purify all the snowy roads of a city in such a way that he drives exactly once after each road and returns to the beginning of his way?", and "Map coloring, solving sudoku and compiling an optimal school schedule - what do they have in common?"

VISITING PROFESSORS AND RESEARCHERS IN 2017

- Alajbegović Hermina (Univerzitet u Zenici, Bosnia and Herzegovina)
- Anholcer Marcin (Poznan Univeristy of Economics, Poland)
- Beisegel Jesse (BTU Cottbus-Senftenberg, Germany)
- Berkemer Sarah (Leipzig University, Germany)
- Budrevich Mikhail (Moscow State University, Russian Federation)
- Caliskan Cafer (Kadir Has University, Turkey)
- Coulton Paul (Lancaster University, United Kingdom of Great Britain and Northern Ireland)
- Denkert Carolin (BTU Cottbus-Senftenberg, Germany)
- Fabel Andrew (Mississippi State, University United States of America)
- Fallmann Jörg (University of Leipzig, Germany)
- Feng Yan Quan (Beijing Jiaotong University, China)
- Gatter Thomas (Leipzig University, Germany)
- Gradinar Adrian (Lancaster University, United Kingdom of Great Britain and Northern Ireland)
- Gravner Janko (University of California, United States of America)
- Gurvich Vladimir (Rutgers University, United States of America)
- Guterman Alexander E. (Moscow State University, Russian Federation)
- Gutiérrez Marisa (National University of La Plata and CONICET, Argentina)
- Hao Rongxia (Beijing Jiaotong University, China)
- Huskanović Almir (Univerzitet u Zenici, Bosnia and Herzegovina)
- Ivanov Alexander A. (Imperial College London, United Kingdom of Great Britain and Northern Ireland)
- Johnson Matthew (Durham University, United Kingdom of Great Britain and Northern Ireland)
- Kawa Arkadiusz (Poznan University of Economics and Business, Poland)
- Klavik Pavel (Charles University, Czech Republic)
- Köhler Ekkehard (BTU Cottbus-Senftenberg, Germany)
- Li Chi-Kwong (College of William and Mary, United States of America)
- Lidicky Bernard (Iowa State Unievrsity, United States of America)
- Markova Olga (Moscow State University, Russian Federation)
- Marzantowicz Waclaw (Adam Mickiewicz University in Poznań, Poland)
- Medvedev Alexey (Sobolev Institute of Mathematics of the Siberian Branch of the Russian Academy of Sciences, Russian Federation)
- Mesnager Sihem (University of Paris VIII, France)
- Morris Joy (University of Lethbridge, Canada)
- Munaro Andrea (Université Grenoble Alpes, France)
- Mydlarz Marcelo (Universidad Nacional de General Sarmiento, Argentina)
- Ozkan Sibel (Gebze Technical University, Turkey)
- Paulusma Daniel (Durham University United Kingdom of Great Britain and Northern Ireland)
- Pott Alexander (Otto von Guericke University, Germany)
- Quigley Aaron (University of St Andrews, United Kingdom of Great Britain and Northern Ireland)
- Raymond Jean-Florent (University of Warsaw, Faculty of Mathematics, Informatics and Mechanics, Poland)

- Resmerita Elena (Alpen-Adria University of Klagenfurt, Austria)
- Retzlaff Nancy (Leipzig University, Germany)
- Spiga Pablo (University of Milan-Bicocca, Italy)
- Tadić Marko (University of Zagreb, Croatia)
- Torres Pablo Daniel (Rosario National University, Argentina)
- Valentinova Konstantinova Elena (Sobolev Institute of Mathematics, Russian Federation)
- Wilson Robin (The Open University, United Kingdom of Great Britain and Northern Ireland)
- Witte Morris Dave (University of Lethbridge, Canada)
- Woodroofe Russell Stephen (Mississippi State University, United States of America)
- Woody Jonathan (Mississippi State University, United States of America)
- Yang Da-Wei (Peking University, China)
- Zečić Dževad (Univerzitet u Zenici, Bosnia and Herzegovina)

RESEARCH VISITS IN 2017

- University of Zagreb, Croatia, March
- University of East Sarajevo, Bosnia and Herzegovina, April
- University of Alaska Fairbanks, USA, June
- University of Amsterdam, Nederlands, June, December
- Eötvös Lorand University, Budapest, Hungary, July
- Beijing Jiantong University, China, September
- Gebze Tecnical University, Istanbul, Turkey, September
- Lund University, Sweden, February, March, September
- Yeungnam University, South Korea, September
- University of Barcelona, Spain, October
- Comenius University, Bratislava, Slovakia, October
- University of Perugia, Italy, November
- University of Sarajevo, Bosnia and Herzegovina, December
- University of Zenica, Bosnia and Herzegovina, December

CONFERENCE ATTENDANCES IN 2017

- NetSlo 2017, Ljubljana, Slovenia, January
- Workshop on Permutation Groups: Methods and Applications, Bielefeld, Germany, January
- 32nd TBI Winterseminar in Bled, Bled, Slovenia, February
- 2nd Conference Solvency II and Small and medium-sized Insurers, Rome, Italy, March
- Code, Cryptology and Information Security, Rabat, Marocco, April
- EUA Annual Conference 2017, Bergen, Norway, April
- Finite Geometry Workshop 2017, Szeged, Hungary, April
- Modelling Biological Evolution 2017: Developing Novel Approaches, Leicester, UK, April
- ECCO XXX - Joint EURO/ORSC/ECCO Conference 2017 on Combinatorial Optimization, Koper, Slovenia, May
- PhD spring school in Algebraic Graph Theory, Sarajevo, Bosnia and Herzegovina, May
- Bioorigami, Ljubljana, Slovenia, June
- Conference on Geometry: Theory and Applications, Pilsen, Czech Republic, June
- Hypergraphs, Graphs and Designs - XyGraDe 2017, Sant'Alessio Siculo, Italy, June
- 43rd International Workshop on Graph-Theoretic Concept in Computer Science, Eidhoven, Norway, June
- 8th Linear Algebra Workshop - LAW 2017, Ljubljana, Slovenia, June
- Preservers Everywhere, Szeged, Hungary, June
- Second Malta Conference in Graph Theory and Combinatorics, Qawra, Malta, June
- Meeting of the International Linear Algebra Society - ILAS 2017, Iowa, USA, July
- Insurance: Mathematics and economics IME 2017, Vienna, Austria, Juy
- 7th PhD Summer School in Discrete Mathematics, Rogla, Slovenia, July
- Seventh workshop Graph Embeddings and Maps on Surfaces, Podbanske, Slovakia, July
- CDSD8, Mons, Belgium, August
- Pacific Rim Mathematical Association third Congress, Oaxaca, Mexico, August
- Symmetries of Discrete Structures in Geometry workshop, Oaxaca, Mexico, August
- Graph Theory weekend, Morda, Slovakia, September
- The IX Latin and American Algorithms, Graphs and Optimization Symposium LAGOS, Marseille, France, September
- First Central European Complex Analysis Meeting, Vienna, October
- MS Discrete Math Workshop, Oxford MS, USA, October
- Workshop on Graph Classes, Optimization and Width Parameters GROW 2017, Toronto, Canada, October
- Canadian Mathematical Society Winter meeting, Waterloo, Canada, December
- Korea-China International Conference on Matrix Theory and Applications, Suwon, Korea, December

PUBLICATIONS 2017

- ABDOLLAHI, Alireza, WOODROOFE, Russell Stephen, ZAIMI, Gjergji. Frankl's Conjecture for subgroup lattices. The Electronic journal of combinatorics, ISSN 1077-8926. [Online ed.], 2017, iss. 3, paper P3.25, str. 1-9 [COBISS.SI-ID 1539571908]
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2017 HIGHLIGHTS IN MATHEMATICS AT UP FAMNIT & UP IAM

- **Assoc. Prof. Martin Milanič awarded with the prestigious Zois Certificate of Recognition**

  We are honored that our professor and researcher **Martin Milanič** received the Zois Certificate of Recognition for important achievements in scientific research work in the field of discrete mathematics. Zois Awards and Recognitions are the most prestigious awards for exceptional achievements in scientific research and development activities, awarded to researchers in the Republic of Slovenia.

  Martin Milanič earned his doctorate degree at Rutgers, The State University of New Jersey (USA). Between July 2007 and February 2009 he was a postdoctoral fellow at the Faculty of Technology at Bielefeld University, and after that he was employed at the University of Primorska - on the Faculty of Mathematics, Natural Sciences and Information Technologies and on Andrej Marušič Institute.

  Martin Milanič deals with discrete mathematics, especially with algorithmic graph theory and theoretical computer science. His bibliography covers more than 70 original scientific articles and a chapter in a scientific monograph, with more than 290 pure citations over the past ten years. He is also member of the Organising Committee of the 8th European Congress of Mathematics - 8ECM, which will take place in Pororož (Slovenia) in 2020.

  The ceremony was attended also by Prof. Pavel Exner, the president of the European Mathematical Society, who was visiting UP FAMNIT.

- **Prof. Tomaž Pisanski co-author of the article in Nature Biotechnology - the most prestigious scientific journal in the field of biotechnology in the world**

  Scientists from the Department of Synthesis Biology and Immunology at the Chemical Institute in Ljubljana have developed a new type of material, protein origami, which can be synthesized in cells and assembled into nanometer cubes. They invented a general method for the design of cages of any geometric form and they made a tetrahedron, a square pyramid and a triangular prism. The triangular prism is, among other things, the largest artificial protein from one chain containing more than 700 amino acids. They have proven that cages are properly twisted in human cells and even in living mice, where they do not cause inflammation or other adverse reactions.

  The results were published in the scientific journal Nature Biotechnology, which is considered to be the most prominent scientific journal in the field of biotechnology in the world. The researchers believe that such protein cages have great potential for drug delivery, the formation of modern vaccines, the catalysis of chemical reactions, the design of functional materials, and the construction of sensors.

  The work was financially supported by ARRS, the international ERANET project Bioorigami, and several other sources. Research work included a wide range of scientific approaches from molecular and structural biology, immunology, and mathematics. The researchers of the Department of Synthesis Biology and Immunology at the Chemical Institute in Ljubljana, a mathematician and structural biologists from Slovenia and abroad participated in the work.

  The authors of the article from Slovenia are: Ajasja Ljubetič, Fabio Lapenta, Helena Gradišar, Igor Drobnak, Jana Aupič, Žiga Strmšek, Duško Lainšček, Iva Hafner-Bratkovič, Andreja Majerle, Nuša Krivec, Mojca Benčina, Roman Jerala, and **Tomaž Pisanski**.

- **Two PhD awarded in Mathematics**

  This year, two PhD were awarded in the field of Mathematics.

  Tatiana Romina Hartinger obtained her PhD under the supervision of mentor **Martin Milanič**. Her thesis is entitled *New Characterizations in Structural Graph Theory:* 1*-Perfectly Orientable Graphs, Graph Products, and the Price of Connectivity* and her defence was held on July 12, 2017.

  Samir Hodžić obtained his PhD under the supervision of mentor **Enes Pasalic** and co-mentor **Marko Orel**. The defence of his thesis entitled *Characterisation of Generalised Bent Functions and Some Other Topics Related to Cryptography* was held on August 10, 2017.

- **Vlada Jovičić received the "Srečko Kosovel" University award**

  Vlada Jovičić, student of the undergraduate study program Mathematics, received the University award "Srečko Kosovel for students of the University of Primorska" for exceptional achievements in the preparation of the final project paper entitled "Readability of Digraphs and Bipartite Graphs" under the mentorship of Assoc. Prof. Martin Milanič and co-mentor Prof. Andrej Brodnik.

- **Stronger cooperation with US universities and research institutions**

  UP FAMNIT and UP IAM have obtained new funds through a public tender for co-financing **scientific research cooperation between Slovenia and USA**. This means that in the next two years our researchers will strengthen the existing cooperation by hosting in the following US Universities and Research Institutions: National Clonal Germplasm Repository, Oregon State University, Rutgers University, Seattle University, Vanderbilt University, Mississippi State University, University of Washington.

  Leaders of the seven approved projects are: Dragan Žnidarčič, Andreja Kutnar, **Martin Milanič, Štefko Miklavič, Dragan Marušič, Klavdija Kutnar**, and **Vito Vitrih**.

- **New journal ADAM included in the Media Registry**

  The new journal **The Art of Discrete and Applied Mathematics (ADAM)** has been included in the Media Registry. The journal is published by UP FAMNIT and Slovenian Discrete and Applied Mathematics Society (Slovensko druĹ˘tvo za diskretno in uporabno matematiko).

  ADAM is a modern, high quality on-line open source international scientific journal in the field of discrete and applied mathematics. It is published twice a year in English language with abstracts in Slovenian.

- **The visit of the representatives of the Moscow State University Lomonosov**

  Among the guests of this year's "Informativa 2017" (education and professions fair) were also representatives of the **Moscow State University Lomonosov**. **Prof. Alexandr Razgulin**, Vice Dean for International Cooperation from the Faculty of computer, mathematics and cybernetic, was a part of the delegation, which visited UP FAMNIT.

  At the meeting, which was attended also by **Klavdija Kutnar**, the dean of UP FAMNIT, **Bojan Kuzma**, the head of the Department of Mathematics, and Jernej ViÄŤiÄŤ from the Department of Information Sciences and Technologies, they presented the first proposal for cooperation between faculties on both research and education levels.

- **Israeli ambassador visited UP FAMNIT**

  Israeli ambassador, His Excellency, **Eyal Sela** visited Koper. After he stopped at the Port of Koper, he participated in a meeting at the University of Primorska, where he met the rector, **Dragan Marušič**, deans of UP FHŠ and UP FAMNIT Irena Lazar and **Klavdija Kutnar**, and UP FTŠ vice dean Gorazd Sedmak. Afterwards he also visited UP FAMNIT.

  During a pleasant and relaxed meeting at the faculty, we presented the extensive collaboration we are having for years with Israeli institutions and people. Our students are participating at an elite Kupcinet-Getz International Summer School. They are very active in Open International Internet Olympiad, where our university received a Title of the Winner University last year and two years ago, they had a chance of meeting 15 Nobel laureates in the field of physics, chemistry, biology and economics in Israel.

  Also our research collaboration is excensive. UP FAMNIT implemented 3 bilateral projects with Israeli institutions in recent years. Besides, Ben Gurion University of the Negev participated as an associate partner in the project EuroGiga GREGAS. The ambassador commended the collaboration with the Ben Gurion University of the Negev and emphasised the strategic importance of collaboration with them, as they will receive extensive development funds for the future with an expectations of further development and increase of influence.

  UP FAMNIT researchers published tens of joint SCI articles with Israeli colleagues, while is research cooperation intensive also in other areas: Israeli professors and researchers participate in our pedagogic process and they are giving lectures and participating at summer schools and scientific meetings, which we organise.

  After the general presentation of collaboration, the Department of Applied Natural Sciences more specifically showcased their work. The countries share the challenges in the Mediterranean agriculture, even if the conditions are different. Considering the research progress, everyone agreed that there is still a lot of potential for future research and general cooperation between our and Israeli institutions.

- **Visit of Prof. Pavel Exner, the president of the European Mathematical Society**

  Prof. Pavel Exner, the president of the **European Mathematical Society** was a guest of UP FAMNIT in the frame of the meeting of the **Executive Council of the Society**. The meeting was held in Portorož, where the University of Primorska will host the **8th European Congress of Mathematic - 8ECM**. In addition to the president Pavel Exner, the meeting was attended also by the other members of the EC, which are all renowned university professors and researchers in various fields of mathematics. At the three-day meeting they discussed the fruitful work of the Society and of course reviewed the process of organization of the 8ECM Congress.

  The European Congress of Mathematics is the second biggest event in the field of mathematics in the world (in addition to the world's congress of mathematic). The Congress is organized every 4 years, with more than 1,000 mathematicians participating. Therefore, the organization of the event is currently in the full swing, which was noticed and praised also by the Council.

- **Visit of Prof. Marko Tadić**

  Prof. Marko Tadić visited UP FAMNIT, where he presented his research activities to students and researchers in the framework of the Mathematical research seminar. He conducted a lecture entitled *On non-commutative harmonic analysis and theory of automorphic forms*.

  Marko Tadić obtained his PhD in Mathematics from the University of Zagreb. He is now a full professor at the University of Zagreb and does research in the field of noncommutative harmonic analysis, especially the representation theory of classical groups and classification of unitary representation and its interaction. He did also a two full-year work as a visiting professor at the University of Utah and visited several other international universities and institutions for research and teaching work (University of Chicago, University Paris VI, Max Planck Institute for mathematics Bonn, University Paris-Orsay, University of Münster, National University of Singapore, The Hong Kong University of Science and technology, University Denis Diderot - Paris). Since 2000 he has been a member of the Croatian Academy of Science and Arts. He is also a member of Academia Europaea.

- **Visit of Prof. Vicente Munoz Velázquez**

  Prof. Munoz Velázquez is a full professor at Universidad Complutense de Madrid Facultad de Matematicas. He received his doctorate in mathematics at the University of Oxford and does research work in the field of geometry and topology. He is an active member of Spanish Royal Society of Mathematics and a member of executive committee of the European Mathematical Association.

  Vicente Munoz Velázquez, PhD gave a lecture entitled *Complex, Symplectic and Kahler geometry* to an enthusiastic crowd as part of the Mathematical Research Seminar.

- **Successful awarding ceremony of 2017 Gjakova Mathematics Competiton**

  The final part of **2017 Gjakova Mathematical Competition** took place in Gymnasium Hajdar Dushi in Gjakova (Kosovo). Pupils from all around the city came to attend the awarding ceremony of the competition.

  The event, which was covered by local media, was introduced by a very warm welcome of **Dragan Marušič**, the rector of UP and **Klavdija Kutnar**, the dean of UP FAMNIT.

  In her congratulation speech, city mayor Mimoza Kusari-Lila, has strongly encouraged the young audience to engage in studying natural sciences, which can guarantee a better future to them and to the entire country. Dragan Marušič emphasized the fact that mathematics, computer science and natural sciences are the fields of the future, because they are in compliance with the overall technological development of the world. He encouraged pupils from Gjakova to work hard and never give up.

  The main awards of the competition went to three pupils from Gymnasium "Hajdar Dushi":
  - Golden medal (12th grade category): Visar Buza
  - Silver medal (12th grade category): Blert Beqa
  - Golden medal (11th grade category): Endrit Beqa

  All three had the chance to participate for free to **UP FAMNIT Summer Camp Math is cool** in August 2017, while Visar and Blert have received a scholarship to study Mathematics at the University of Primorska.

  Before the awarding ceremony Dragan Marušič and Klavdija Kutnar had a pleasant meeting with the Mayor of the Municipality of Gjakovë, Mimoza Kusari-Lila, and the Director of the Directorate of Education in the Municipality of Gjakovë, Diana Qarkaxhija, who from the beginning strongly supported the idea of organizing a mathematics competition, which came from UP FAMNIT 1st year Mathematics students **Eda Kaja, Lisi Qarkaxhija** and **Arbër Avdullahu**.

- **Vojtěch Jarník International Mathematical Competition**

  The 27th Annual Competition was held at the University of Ostrava, in Czech Republic. The competition is aimed at university students interested in mathematics. It is the oldest mathematical competition for university students in the European Union. This year there were 132 participants from 36 universities.

  In the category I (for 1st and 2nd year students or students younger than 22 years), the members of UP FAMNIT team were **Arbër Avdullahu** and **Daniil Baldouski**. In the category II, the members of UP FAMNIT team were **Roman Solodukhin** and **Anes Valentić**. The most successful among them was Roman Solodukhin with 20 points, which is the best result of all our students that have ever participated in this competition. Arbër Avdullahu, Daniil Baldouski, and Anes Valentić recewied a certificate of a successful participant.

- **Roman Solodukhin won the first prize in the Mathematics Competition for "Vega's awards"**

  The Society of Mathematicians, Physicists and Astronomers of Slovenia (Društvo matematikov, fizikov in astronomov Slovenije) organized the 2nd competition of students in the knowledge of mathematics for "Vega's awards".

  At the national competition, which took place in Ljubljana, the highest number of points was collected by UP FAMNIT's student **Roman Solodukhin**. With this, he won both the gold award and the first prize of this year's competition.

- **Another success of our students at the Open International Internet Olympiad**

  UP FAMNIT's students continue achieving great results in international mathematical competitions. Two of our mathematics students successfully finished the first two rounds of the Open International Internet Olympiad for Higher Education Students and entered the finals.

  Among 6,413 participants from 175 universities, **Arbër Avdullahu** (1st year Mathematics, BSc) placed 4th and won the silver medal, while **Marko Palangetić** (1st year Mathematical Sciences, MSc) placed 33rd and won the bronze medal.

  Famnit's students traditionally participate in the Open International Internet Olympiad. Last year, due to the excellent participation of our students, University of Primorska won the title "University winner".

- **Our first year students again successful at IMC 2017**

  Our students were successful at The 24th International mathematical competition for University Students - IMC 2017, which takes place every year in Blagoevgrad in Bulgaria.

  UP FAMNIT and the University of Primorska were represented by three of our first year Mathematics students: **Filip Božić, Daniil Baldouski** and **Arbër Avdulahu**, who received a honourable mention.

- **Mathematical Advent Calendar 2017**

  The Department of Mathematics at UP FAMNIT organized the third annual **Mathematical Advent Calendar** for high school and elementary students, and it was held from December 1st to December 20th, 2017. This competition is intended to popularize mathematics among elementary and high school students by providing a daily mathematical problem.

  The competitors were divided into three categories: 1st level (Elementary School, 2nd level (High School, first and second year) and 3rd level (High School, third and fourth year).

  There was one day (24 hours) available for solving each of the problems (from midnight till midnight) and for the first time, problems were also in English.

  In each category three awards were given, each award was a USB together with a T-shirt.

  More: `http://advent.famnit.upr.si/`

2018 Math Meetings/Workshops organized by Math Department at UP FAMNIT & UP IAM

- **Non-commutative structures 2018: A workshop in honor of Jonathan Leech, May 23 - 27**
  The conference will be held in Portorož, Slovenia.
  Scientific Committee:
  K. Cvetko Vah, M. Kinyon, T. Pisanski
  Organizing Committee:
  N. Bašić, K. Cvetko Vah, J. Pita Costa, T. Pisanski
  More: `https://conferences.famnit.upr.si/event/6/`
- **Graphs, groups, and more: celebrating Brian Alspach's 80th and Dragan Marušič's 65th birthdays, May 28 - June 1**
  The conference will be held at UP FAMNIT in Koper, Slovenia.
  Organizing Committee:
  K. Kutnar, J. Morris, M. Šajna
  More: `https://conferences.famnit.upr.si/event/4/`
- **2018 PhD Summer School in Discrete Mathematics, July 1-7**
  The Summer School will consist of two minicourses given by: Colva Roney-Dougal (University of St Andrews, St Andrews, United Kingdom) and Gabriel Verret (The University of Auckland, Auckland, New Zealand).
  Scientific Committee:
  A. Hujdurović, K. Kutnar, A. Malnič, D. Marušič, Š. Miklavič, P. Šparl
  Organizing Committee:
  B. Frelih, A. Hujdurović, B. Kuzman, R. Požar
  More: `https://conferences.famnit.upr.si/event/7/`
- **Famnit Summer Math Camp "Mathematics is Cool", August 26-31**
  Since 2011, the department has been organizing a yearly summer math camp. The Camp is meant for better pupils who have finished elementary school (pupils who have finished the last year of elementary school and high-schoolers ages 15-19) who are interested in mathematics. This is the second time that both Slovene and English lectures will be held. The summer camp includes lectures and workshops about interesting mathematical topics, project work in groups, and social and sport activities. With the camp we wish to show that mathematics can be both fun and useful.
  More: `http://tabor.famnit.upr.si/`
- **Famnit Excursions into the Mathematical Universe, once a month**
  A series of popular lectures on mathematics and its role in the modern world running for the ninth consecutive year in 2017/2018.
  More: `http://matematicni-izleti.famnit.upr.si/sl/program1718/`
- **Research Mathematical Seminar, each Monday**
  More: `http://www.famnit.upr.si/sl/seminars`