

Koper, March 13, 2024

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Unofficial translation

University of Primorska, on the basis of Article 19 of the Scientific Research and Innovation Activities Act (Official Gazette of the Republic of Slovenia, N° 186/21 and 40/23), the Decree on Scientific Research Funding from the Budget of the Republic of Slovenia (Official Gazette of the Republic of Slovenia, N° 35/22, 144/22 and 79/23), Chapter IV of the General Act on Stable Funding of Scientific Research Activities (Official Gazette of the Republic of Slovenia, N° 87/22 and 103/22 – corr.), Statute of the University of Primorska (Official Gazette of the Republic of Slovenia, N° 51/15 – UPB2, 88/15, 63/16, 2/17, 31/17, 77/18, 75/19, 28/21, 115/21, 122/22 and 100/23), Chapter IV of the Rules on Stable Funding of Scientific Research Activities of the University of Primorska (002-21/22 on July 21, 2022) and the Criteria for Allocating Funds for Stable Funding of Scientific Research Activities of the University of Primorska (002-9/24 on February 29, 2024), publishes the

CALL FOR YOUNG RESEARCHERS AT THE UNIVERSITY OF PRIMORSKA IN 2024

1. Purpose of the call

The aim of the instrument of young researchers is to educate and train new generations of researchers. Young researchers will rejuvenate research groups at the University of Primorska (UP) and bring fresh ideas and approaches to the research space that will contribute to the development of scientific research and innovation activity at the UP and beyond in the coming years. As a rule, young researchers carry out doctoral studies at the UP and are trained in the framework of the parent research programmes¹ at the UP.

2. Subject of the call

The subject of the call is the selection of young researchers who will be trained for the research profession at the UP and will, during their doctoral studies, be involved in research work on the basis of a fixed-term contract.

The training will take place under a programme consisting of a research and study programme. The young researcher will carry out research work under mentorship and within the parent research programme at the UP faculty/institute. Young researchers will carry out their doctoral studies at the UP. Only in

¹ For the definition see Article 4 of the Rules on [Stable Funding of Scientific Research Activities of the University of Primorska](#) (002-21/22 on July 21, 2022).

exceptional and duly justified cases can the doctoral study be carried out at another higher education institution.²

In 2024, four vacancies are available for young researchers.

3. Mentors and research fields

Candidates may apply for vacancies for young researchers under selected mentors, in research fields and in the framework of the UP parent research programmes, as presented in the table³:

Mentor	Research field of mentor	Research programme	UP faculty/institute where the young researcher will be trained
Michel Lavrauw	Mathematics	P1-0285: Algebra, discrete mathematics, probability account and game theory	UP IAM
Enes Pasalic	Mathematics	P1-0404: Mathematical modelling and encryption: from theoretical concepts to everyday applications	UP IAM
Aleksander Janeš	Administrative and organisational sciences	P5-0049: Management of education and employability in knowledge society	UP FM
Nejc Šarabon	Sport	P5-0443: Kinesiology for the effectiveness and prevention of musculoskeletal injuries in sports	UP FVZ

Detailed presentations of mentors and a description of the general content of the training are given in Annex 1 to this call.

4. Conditions for a young researcher

The young researcher must fulfil the conditions laid down in Article 21 of the [Rules on Stable Funding of Scientific Research Activities of the University of Primorska](#) (002-21/22 on July 21, 2022):

1. Completed second-level study programme or an education that corresponds to the level of education obtained through second-level study programmes and is in accordance with the law governing the Slovenian framework of qualifications,⁴ ranked at the 8th level, or a comparable study programme achieved abroad.
2. Not more than four years have passed from the date of the completed education referred to in the preceding indent until entry into the young researchers funding system.⁵ If the candidate has taken leave arising from parental leave insurance for at least six months, the number of years can

² See paragraph 4 of Article 23 of [Rules on Stable Funding of Scientific Research Activities of UP](#) (002-21/22 on July 21, 2022).

³ The table contains links to the SICRIS page, which provides information about the mentor and research programme.

⁴ For further information see the Slovenian [ENIC-NARIC centre](#).

⁵ Planned date of the entry into the young researchers funding system is the date of employment, which is October 1, 2024.

be increased from four, by one year for each use of leave. The same applies to longer (at least six months) documented sick leave of the candidate.

3. The candidate must have an average grade of at least 8.00 in all exams and coursework in the second-level study programme (the grade of the Master's thesis is also taken into account). If at the time of concluding a contract the candidate is enrolling in the second or third year of a third-cycle study programme, the average grade of all examinations and coursework of the second-cycle study programmes shall not be deemed relevant.
4. Enrolment in doctoral studies must be carried out through the eVŠ web portal.

Young researchers candidates who are enrolled in an additional year of a third-cycle study programme or who have already used such status, candidates who have already been funded by the young researchers programme and candidates who already hold a doctoral degree, are excluded from the call.

5. Selection criteria

The criteria for assessing candidates for young researchers are set out in Article 22 of the [Rules on Stable Funding of Scientific Research Activities of the University of Primorska](#) (002-21/22 on July 21, 2022) and are:

- the average grade of all examinations and coursework (without thesis) in a university second-cycle study programme;
- enrolment in a third-cycle study programme;
- awards and prizes received;
- published articles;
- participation in research work;
- assessment of an interview with the candidate.

Valuation of the criteria and the score for each position of young researcher shall be determined by the faculties/institute of the UP at which the young researchers will be trained.

Only one candidate can be selected per mentor. In the event of a higher number of candidates, they shall be ranked by the sum of the points scored. The best candidate with the highest points score will be selected. If two candidates achieve the same number of points, priority shall be given to the candidate of the underrepresented sex in a particular research field, insofar as the research field is characterised by an imbalance of UP researchers by sex (more than 60 %/40% in favour/disadvantage to one sex).

If the successful candidate withdraws from the candidature or does not deliver the necessary supporting documents by the time limit laid down in the call, the next candidate shall be selected according to the sum of the points obtained.

6. Duration of training

UP will enter into a full-time, fixed-term employment contract with the selected young researchers.

UP shall fund the training of young researchers up to a doctoral degree, for a maximum of four years. The funding period shall be reduced by one year if, at the time of signing the contract, the young researcher

is enrolled in the second year of a third-cycle study programme, or by two years if the young researcher is enrolled in the third year of a third-cycle study programme.

The estimated date of employment and the start of training of young researchers is October 1, 2024.

The training will be carried out [in accordance with the Marie Skłodowska-Curie Guidelines on Supervision](#).

7. Non-performance

Termination of training at the request of the young researcher or on the basis of a mutual agreement with the young researcher during the first three months of funding has no financial consequences for the young researcher.

If the young researcher loses their student status, does not complete their studies no later than 12 months after the end of the funding, or prematurely terminates the training at their own request, or in any other case leading to the termination of the employment relationship, the young researcher returns to the faculty/institute of UP in which they were trained, half of the funds paid to cover the tuition fees for their doctoral studies up to the termination of the employment contract, unless the faculty/institute decides that the funds need not be returned.

8. Content of the application

The application must contain a completed and signed application form (UP-MR-Application/2024) and separate annexes.

8.1. Evidence of compliance with the call conditions (mandatory annexes):

1. curriculum vitae,
2. motivational letter,
3. proof of education completed:⁶
 - a photocopy of the graduation certificate or certificate of completion of the study programme with which the candidate is enrolled or will be enrolled in doctoral study, OR
 - a statement that the candidate will graduate and submit the certificate referred to in the previous indent by September 10, 2024 at the latest.

If the candidate is not enrolled in a third-cycle study programme for the academic year 2024/25, they provide also:

- official proof of all examinations passed, with grades of examinations and coursework as well as the grade of the Master's thesis,⁷

If the candidate is already enrolled in a third-cycle study programme, they provide also:

⁶ For candidates who have studied in a second-level study programme at the University of Primorska, proof will be obtained in official duties and therefore these candidates do not have to provide the proof themselves.

⁷ For candidates who have studied in a second-level study programme at the University of Primorska, proof will be obtained in official duties and therefore these candidates do not have to provide the proof themselves.

- certificate of enrolment in the third-cycle study programme,⁸

If the applicant is claiming an extension of the maximum period of time between the date of graduation and the entry into the young researchers funding system (condition N° 2), they provide also:

- a photocopy of the proof of leave under parental leave insurance, or longer (more than six months) documented sick leave.

8.2. Other supporting documents (optional annexes):

1. proof of prizes or awards received:

- a photocopy of prizes and awards, OR
- a photocopy of the decision to grant the prize or award.

2. proof of published scientific articles (authorship or co-authoring is taken into account):

- printout from the WoS and SCOPUS database, AND/OR
- links to the articles published in magazines or conference publications.

3. a description of participation in research work:

- a letter describing the candidate's previous participation in research work (e.g. research work during the study, research papers, etc.), which must be certified by a professor with whom they collaborated and stamped by a research or higher education organisation.

9. Deadline and method of application

Candidates submit applications and annexes in electronic format (scanned documents in PDF format) **to the e-mail address: razpis.mr@upr.si by June 15, 2024** (fifteenth of June 2024), by the end of the day.

10. Selection of candidates

Timely and complete applications of candidates who meet the call conditions will be included in the selection procedure.

Timely applications are those received at the e-mail address razpis.mr@upr.si by June 15, 2024.

Incomplete applications are those for which it is not possible to tell whether the candidate fulfils the call conditions, or applications for which there is no evidence of compliance with the call conditions (mandatory annexes). Incomplete applications will not be taken into account.

Candidates will be informed of the selection in [accordance with the Employment Relationships Act](#).

11. Communication and information on the results of the call

Communication with candidates will be carried out by e-mail and, if necessary, by telephone, in particular for organisation of a possible personal interview.

Notices of selection will be sent to candidates by e-mail.

⁸ For candidates enrolled in a third-cycle study programme at the University of Primorska, proof will be obtained in official duties and therefore these candidates do not have to provide the proof themselves.



The contact details provided in the application form will be used to communicate with candidates. Candidates are recommended to be available at these contacts throughout the selection process and at the time of the selection notice, that is, by August 2024 or early September 2024.

12. Protection of personal data

By submitting the application, the candidate voluntarily provides the required personal data necessary for the purpose of carrying out this call, that is, the evaluation of applications in the selection procedure and the conclusion of an employment contract. In doing so, the candidate gives their consent to the processing of their personal data. UP will ensure the protection of personal data in accordance with sectoral legal acts.⁹

The processing of the personal data of the unselected candidates shall cease within 2 years of the date of the final selection decision. Personal data of the selected candidates will be kept permanently in accordance with the Employment Relations Act.

13. Call documentation

The call documents are comprised of:

1. Call for young researchers at the University of Primorska in 2024, with
 - Annex 1: Presentations of mentors and description of the general content of the training
2. Application form UP-MR-Application/2024

The call documents are published on the UP website on March 15, 2024, which is also the opening date of this call.

14. Additional information

Candidates may obtain additional information concerning the call from the professional services or at the mentors at these contacts:

Mentor and faculty/institute	Telephone N° of faculty/institute	Professional service e-mail	Mentor e-mail
UP IAM	+386 (5) 611 75 90	Sandra Penko sandra.penko@upr.si	Michel.lavrauw@famnit.upr.si
UP IAM	+386 (5) 611 75 90	Sandra Penko sandra.penko@upr.si	enes.pasalic@upr.si
UP FM	+386 (5) 610 20 03	Blaž Korent blaz.korent@fm-kp.si	aleksander.janes@fm-kp.si
UP FVZ	+386 (5) 662 64 72	Monika Marinko monika.marinko@fvz.upr.si	nejc.sarabon@fvz.upr.si

Prof. Klavdija Kutnar, PhD

Rector of the University of Primorska

⁹ For more information, see: <https://www.upr.si/si/o-univerzi/predpisi-in-dokumenti-varstvo-osebni-podatkov/>

Annex 1: Presentations of mentors and description of the general content of the training

- **Prof. Michel Lavrauw, PhD**
- **Prof. Enes Pasalic, PhD**
- **Assoc. Prof. Aleksander Janeš, PhD**
- **Prof. Nejc Šarabon, PhD**



Mentor

Prof. Michel Lavrauw, PhD

Research field

Mathematics

UP faculty/institute and the research programme

UP Andrej Marušič Institute

UP Faculty of Mathematics, Natural Sciences and Information Technologies

Research programme: P1-0285 Algebra, discrete mathematics, probability and game theory

Other information about the mentor

E-mail: michel.lavrauw@famnit.upr.si

A brief description of the future young researcher training

The framework of the training programme:

The young researcher (YR) will join the research program P1-0285 Algebra, discrete mathematics, probability and game theory and the research projects listed below, as well as to numerous bilateral projects implemented at UP IAM (<https://www.iam.upr.si/en/research>) and UP FAMNIT (www.famnit.upr.si/en/research).

YR will also be actively involved in new projects applications and organization of international conferences at UP IAM and UP FAMNIT.

The research program has diversified research cooperation with similar research groups abroad (USA, Canada, Spain, China, South Korea, Australia, New Zealand, Israel, Russia, Austria, Slovakia, Italy, Denmark, Ireland, Belgium, Netherlands and Hungary). YR will actively participate in this international scientific and research cooperation.

The training programme includes of a mixture of Galois geometry and combinatorics. The research of the YR will be focussed on geometric, algebraic, and combinatorial aspects of classical algebraic varieties over finite fields, such as the Veronese varieties and the Segre varieties. These varieties come with a natural action of various classical groups on the ambient projective space. The problem of classifying the orbits of these groups under their action on subspaces is a natural problem, and shows up in different contexts in pure mathematics (e. g. in relation to linear systems of hypersurfaces, (symmetric) tensor decomposition, and the theory of semifields) and has applications coding theory and cryptography. These types of problems have a long history, especially over the field of complex numbers, but even over finite fields, they can be traced back to some of Dickson's work at the start of the 20th century. Despite this long history, few of these problems have been completely solved. The problem for finite fields has regained interest motivated by their connections with coding theory, complexity theory, tensor spaces and data science. The research objectives include significant contributions towards classifying orbits of subspaces under these group actions, and the exploration of the connections with problems related to



tensor decomposition, maximum rank distance (MRD) codes, semifields, two-weight codes, strongly regular graphs, and associated geometries.

List of research programmes and projects:

Code	Title	Duration
P1-0285	Algebra, discrete mathematics, probability and game theory	1/1/2022 – 12/31/2027
J1-50000	Hamilton cycles with rotational symmetry in connected vertex-transitive graphs	10/1/2023 – 9/30/2026

Preferable area of study for the young researcher:

Mathematical Sciences, doctoral degree study programme Mathematical Sciences, UP FAMNIT (<https://www.famnit.upr.si/en/education/doctoral>)

Other useful skills and competences for the position:

English language (advance - intermediate level)

Useful links

- UP Andrej Marušič Institute (<https://www.iam.upr.si/en>)
- UP Faculty of Mathematics, Natural Sciences and Information Technologies (<https://www.famnit.upr.si/en>)



Mentor

Prof. Enes Pasalic, PhD

Research field

Mathematics

UP faculty/institute and the research programme

UP Andrej Marušič Institute

UP Faculty of Mathematics, Natural Sciences and Information Technologies

Research programme: **P1-0404 Mathematical modelling and encryption: from theoretical concepts to everyday applications**

Other information about the mentor

E-mail: enes.pasalic@upr.si

A brief description of the future young researcher training

The framework of the training programme:

The young researcher (YR) will join the research program P1—0404 Mathematical modelling and encryption: from theoretical concepts to real-life applications and the research projects listed below, as well as to numerous bilateral projects implemented at UP IAM (<https://www.iam.upr.si/en>) and UP FAMNIT (www.famniti.upr.si/en/research).

YR will also be actively involved in new projects applications and organization of international conferences at UP IAM and UP FAMNIT.

The research program has diversified research cooperation with similar research groups abroad (USA, Canada, Spain, China, South Korea, Australia, New Zealand, Israel, Russia, Austria, Slovakia, Italy and Hungary). YR will actively participate in this international scientific and research cooperation.

Within the research program and projects, various areas of mathematics are considered: YR's work will be primarily conduct research in cryptography and different topics of discrete mathematics.

APN (almost perfect nonlinear) functions are interesting discrete combinatorial objects that are defined over Galois fields (with the binary prime field) and have several different characterizations. These objects can be specified using certain combinatorial properties, coding theoretic concepts among others, but their most known characterization is given through their differential properties. More precisely, given a mapping F from $GF(2)^n$ to $GF(2)^n$ for a positive integer $n > 2$ such a function is characterized by the property that the equation $F(x+a) + F(x) = b$ has either 0 or 2 solutions for any nonzero a in $GF(2)^n$ and any b in $GF(2)^n$. Though there are several known classes of such mappings (especially quadratic ones) a generic framework for this class of functions is still missing after more than 30 years of research on these objects. This is especially true when n is even and additionally one requires that F is a permutation as well. This is known as the BIG APN problem since only one such function is known for $n=6$ due to the result of John Dillon from 2009. Since $F: GF(2)^n$ to $GF(2)^n$ can be represented as a collection of n Boolean functions their



structure may be also analyzed in terms of its coordinates. These Boolean functions are usually of some special form (bent or plateaued) which ensures that the APN property is satisfied.

The proposed research topic aims at further investigation of the structure of APN functions both through their coordinates and their combinatorial aspects. In particular, the PhD student will closely analyze different equivalence classes and certain actions (such as a composition with suitable nonlinear permutations) that may preserve the APN property while specifying different objects than the original ones. The proposed research will also include the possibility of defining APN functions on larger ambient spaces using the known ones on smaller spaces.

Minimum requirements imposed on applicants include a good knowledge about finite fields, number theory and some elementary coding theory. It is of benefit if the applicant possesses a solid knowledge of group theory and algebraic geometry.

List of research programmes and projects:

Code	Title	Duration
P1-0404	Mathematical modelling and encryption: from theoretical concepts to real-life applications	1.1.2019 – 31.12.2024
J1-4084	Discrete combinatorial objects in the spectral domain - intersection analysis	1.1.2022 – 31.12.2024

Preferable area of study for the young researcher:

Mathematical Sciences, doctoral degree study programme Mathematical Sciences, UP FAMNIT (<https://www.famnit.upr.si/en/education/doctoral>)

Other useful skills and competences for the position:

English language (advance - intermediate level)

Useful links

- UP Andrej Marušič Institute (<https://www.iam.upr.si/en>)
- UP Faculty of Mathematics, Natural Sciences and Information Technologies (<https://www.famnit.upr.si/en>)

Mentor

Assoc. Prof. Aleksander Janeš, PhD

Research field

Administrative and organisational sciences

UP faculty/institute and the research programme

UP Faculty of management

Research programme: **P5-0049 (A) Management of education and employment in the knowledge society**

Other information about the mentor

E-mail: aleksander.janes@fm-kp.si

A brief description of the future young researcher training

The framework of the training programme:

The digital transformation of society is having a significant impact on changes in education and business. The digitisation of education and business processes increasingly requires individuals to be competent in the use of digital technologies (DT) and to understand their working principles. This includes a comprehensive understanding of artificial intelligence, a greater awareness of cyber security and an ethical outlook on the use of modern technology. It is therefore important to continuously educate all stakeholders in society and to develop competences that will enable them to function successfully in all walks of life in an increasingly digitalised world.

Digital competences play a key role in fostering the development of digital competences of all stakeholders and emphasise that digital competence must be holistic, contextually relevant, systematically structured, learnable and continuously evolving. In addition, the digital user should be flexible in order to integrate the necessary skills, attitudes and knowledge needed to acquire competences and actively participate in the digital world.

The young researcher will study the effects and factors of the introduction of modern technologies, i.e. digital technologies and artificial intelligence, on the educational system and the legitimacy of the introduction of modern technologies in the digital transformation of the university and society. All of this is crucial for us as a society to engage all stakeholders and to keep abreast of the development of modern technologies. In this way we will develop.

List of research programmes and projects:

Code	Title	Duration
P5-0049	Management of education and employment in the knowledge society	1/1/2019-31/12/2024
L5-2329	Identification of key indicators in the Business Excellence Model	5/1/2009 - 4/30/2011



	EEA & Norway Grants-SocialNEETS From civil society organizations to social entrepreneurship -Combating youth unemployment and addressing the needs of NEETs	1/4/2019 – 30/9/2022
	ERASMUS+-575932-EPP-1-2016-1-DE-EPPKA2-KA Knowledge Alliance for Upskilling Europe's SMEs to meet the challenges of Smart Engineering	1/1/2017 – 31/12/2019
	PA Slovenia-Italy 2007-2013-KNOW US KNOW US - Co-creating Competitive Knowledge between Universities and SMEs	1/7/2011 – 30/4/2015

Preferable area of study for the young researcher:

Management, Organisational Sciences, Education and Employment Management, Managing Artificial Intelligence in the Knowledge Society.

Other useful skills and competences for the position:

Active English skills, writing and editing various types of texts (including challenging ones), ability to work in a team, work with computer tools, fieldwork, work with people, communication, independence.

Useful links

<https://www.fm-kp.si>

Faculty of Management, member of University of Primorska, is a higher education institution for education and research. We operate in the fields of social sciences and business management, which has interdisciplinary links to economic, business, legal, organizational, behavioral and political sciences.

The Faculty of Management implements numerous research and development programs and projects that are part of the national research and development program and international projects, which are obtained through successful applications to European funding programs and based on bilateral agreements with foreign institutions. The faculty participates in several research programs and projects co-financed by the Slovenian Research Agency (ARRS), in various domestic research projects co-financed from national funds (programs of various ministries) and international research projects co-financed from cross-border cooperation programs, from European Social Fund, European Regional Development Fund and other financial instruments.

Mentor

Prof. Nejc Šarabon, PhD

Research field

Sport: Kinesiology – medical aspect (orthopaedics, physiatry, etc.)

UP faculty/institute and the research programme

UP Faculty of Health Sciences

Research programme: P5-0443 Kinesiology for the effectiveness and prevention of musculoskeletal injuries in sports

Other information about the mentor

E-mail: nejc.sarabon@fvz.upr.si

A brief description of the future young researcher training

The framework of the training programme:

The young researcher will join the research program and research and development projects, as well as many bilateral projects, which are carried out at UP FVZ. He will also be active in applying new projects and organizing international conferences. The primary area of research will be the verification of the effectiveness of various manual techniques (joint mobilization, massage, myofascial relaxation, etc.) in various contexts (prevention, acute responses, effectiveness in the treatment of various musculoskeletal injuries and pathologies). The young researcher is expected to operate a wide range of research equipment, with an emphasis on advanced laboratory methods (electromyography, ultrasound imaging, dynamometry, infrared spectroscopy, etc.).

List of research programmes and projects:

P5-0443: [Kinesiology for the effectiveness and prevention of musculoskeletal injuries in sports](#)

Preferable area of study for the young researcher:

Physiotherapy, movement therapy, manual therapy

Other useful skills and competences for the position:

English language (advance level), writing and editing different (advance level) types of texts, the ability of team work, work with computer tools, work in the field, work with people, communicativeness, independence.

Useful links

- UP FVZ (<https://fvz.upr.si/en/faculty/>)