



# Report on mapping the research human potential and issues in University of Novi Sad

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Project number: 561586-EPP-1-2015-1-RS-EPPKA2-CBHE-JP

*"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"*

## Introduction

The objective of this report is to synthesize the outputs from the process of mapping the research human potential and issues in the university, that included a desk research and a survey among researchers, with objective to serve as a background document for the development of the HR strategy of the university. Based on the good practices of EU universities - the active partners in this process, initial action plan for moving towards an implementation of all principles of the European Charter for researchers and Code of conduct for the recruitment of researchers, is also developed.

## About University of Novi Sad

The University of Novi Sad (UNS) was founded in 1960. It is the only state university in the Autonomous Province of Vojvodina, comprising 14 faculties and 2 research & developmental institutes. There are more than 50,000 students, 5,000 teaching and non-teaching staff, as well 300 study programmes at all three academic cycles. It is a comprehensive university covering all major fields of study and research.

University of Novi Sad is rather active in the international collaboration field participating in both educational and research projects (ERASMUS +, TEMPUS, HORIZON 2020, FP7, EUREKA, COST, IPA, etc). When the number of TEMPUS projects in which the University has participated is concerned the University is the top leader both in the country and the region, where most of these projects were aiming at restructuring and reforming higher education processes, structures and programs.

UNS has become recognized as a reform-oriented university, developing intensively international cooperation with universities and other institutions in the area of higher education and having considerable experience in implementing academic mobility programs (Campus Europae, Erasmus Mundus Action 2, ERASMUS+ Key Action 1. etc). Due to its reputation as one of the leading internationally-oriented universities in Serbia, Prof. Dr. Miroslav Vesković, former Rector of UNS, has been given a key coordinating role for the Priority Area 7 within the EU Strategy for the Danube Region: Developing the Knowledge Society through Research, Education and Information Technologies which significantly contributed to more intensive cooperation with Danube Region universities through increased number of joint collaborations.

Recently the University of Novi Sad set a new strategic goal to become more visible in the international research arena and recognized as excellent University. As a starting point in reaching this goal, University of Novi Sad submitted and was approved the first teaming project within HORIZON 2020 initiated by BIOSENSE research group *Centre of Excellence for Advanced Technologies in Sustainable Agriculture and Food Security (ANTARES)* becoming the only University in the region implementing this prestigious project.

## Methodology

This report has been developed in three phases.

First phase implemented a desk research, based on the “Questionnaire for mapping the research human potential and issues in WBC universities”, which has been developed in scope of Re@WBC project. The questionnaire covers a range of topics relevant for HR management in research institutions, all of which

are highlighted in the European Charter and Code, or The Human Resources Strategy for Researchers (HRS4R) process. The completed questionnaire is annexed to this report.

For the purpose of a desk research, a work group was established at the university. The work group was coordinated by Prof. Dr. Pavle Sekeruš. Other members of the work group were:

- Prof. Dr. Snežana Smederevac, vice-rector for Research,
- Prof. Dr. Dragan Mašulović, (Full professor at the Faculty of Sciences)
- Prof. Dr. Marko Škorić, (Associate professor at the Faculty of Philosophy)
- Dr. Aleksej Kišjuhas, (Assistant professor at the Faculty of Philosophy),
- Sonja Šovljanski, Center for Career Development and Student Counseling,
- Mirjana Galonja, Secretary of the Faculty of Philosophy and
- Vesna Mašulović, Project Management Officer.

The desk research involved a review of the different legal documents, reports, procedures and manuals and a data collection, which has been performed with collaboration of the various departments and faculties. The 14 vice-deans of the 14 faculties of the University of Novi Sad were asked to provide information relevant to their respective faculties. The data collected was then analyzed and integrated by hand.

In the second phase, the outputs of the desk research were complemented with the data, collected by implementing a “Survey for mapping the research human potential and issues in WBC universities”. The survey has been developed by the Re@WBC project and customized by the university. 243 researchers have participated in the survey, out of which 32.8% were PhD students. All scientific areas were represented among the respondents, with major participation of the researchers from engineering and technology (35.8%), natural sciences (28%), agriculture (12.3%), humanities (10.7%) and social sciences (9.9%). Most of the respondents (58%) were in age group 25-40, with additional 30.9% in age group 40-55. All scientific positions were equally represented in the responses. Only 14.4% of the respondents were aware of the European Charter & Code.

**Call for Action:** Organize Info days and seminars on the European standards and principles in HR management

The third phase was focused at the development of the initial action plan for improving the current situation in HR management at the university. The action plan was developed as a result of a gap analysis that concerned the outputs of the desk research and researchers’ survey data, as well as the collection of good practices acquired during the university staff study visits to EU universities.

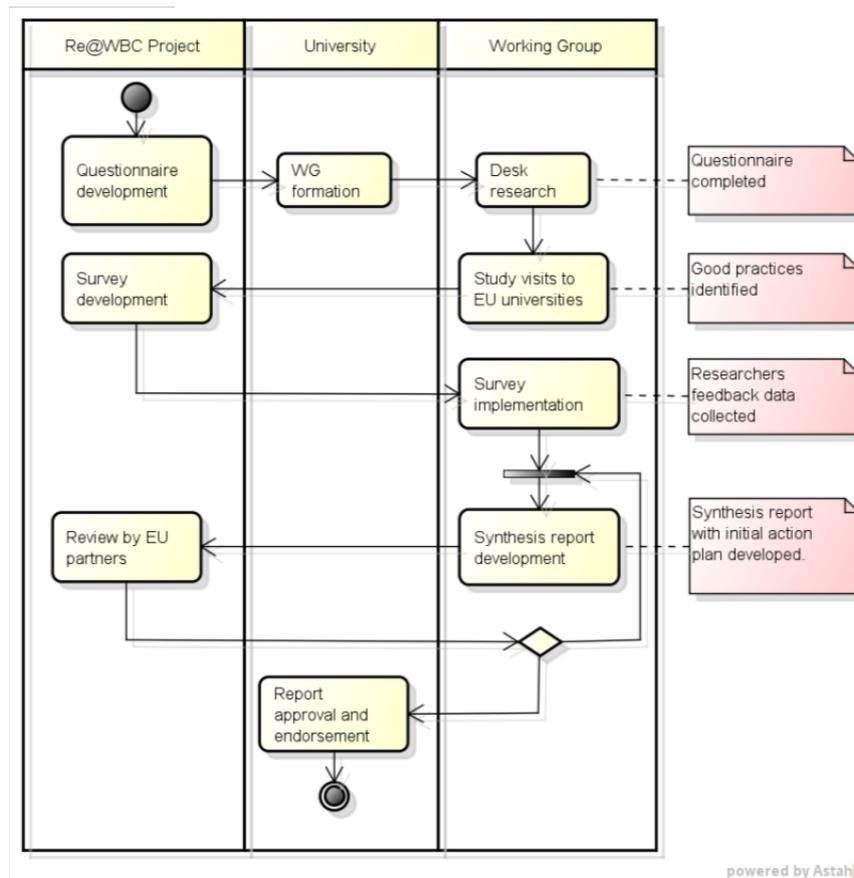


Figure 1. Workflow for developing this report

## Information and data sources

The desk research considered following documents: national laws regulating higher education, regulations and statutes of the University of Novi Sad and its faculties. It also included interviews with members of Ethics Committee and with director of Center for Career Development and Student Counseling.

## Outline of the report

The report covers the most relevant topics, covering the principles of the European Charter and Code, namely, employment and career development, ethics, working conditions, accountability and public responsibility, training and research projects and collaboration.

## Research potential in the university

When considering the research human potential, University of Novi Sad is a moderately large university, which primary research orientations are engineering and technology (30% of researchers and 43% of the total number of PhD students work in this area), medical and health sciences (21% of researchers, 15% of PhD students) and natural sciences (15% of researchers, 16% of PhD students).

In terms of the quality and performance, it is worth to note that University is home to individual researchers with outstanding international awards, among which - the decorations of foreign governments in the fields of humanities and medicine.

In 2016, the overall number of researchers with employment contract, working at the university was 2772. Figures below show the distribution of the number of researchers in scientific areas (OECD Frascati classification) and positions.

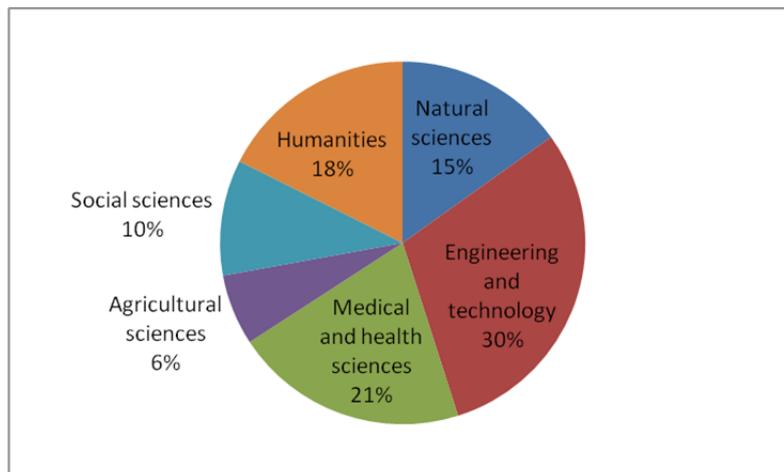


Figure 2. Distribution of number of researchers among scientific areas

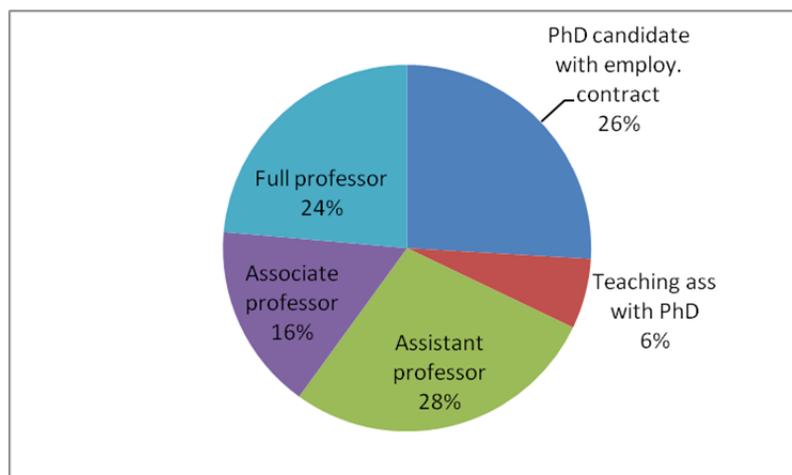


Figure 3. Distribution of number of researchers among positions

The rate of the university's internationalization is moderately high, when considering the number of researchers from abroad currently working or studying (PhD) at the university (full or temporary contract, visiting professorship, PhD or a research grant). There are 146 researchers from abroad (5.3% of the overall number of researchers), of which 90 researchers has full or temporary contract, signed with the university. 40 visiting professors are currently engaged, 14 PhD students from abroad (7 of which in the field of Engineering and technology) with the grants are enrolled and 2 researchers with research grant are working in the fields of natural sciences and agriculture.

Overall number of PhD students in the university is 2088. Figure below illustrates the distribution of this number of students among scientific disciplines.

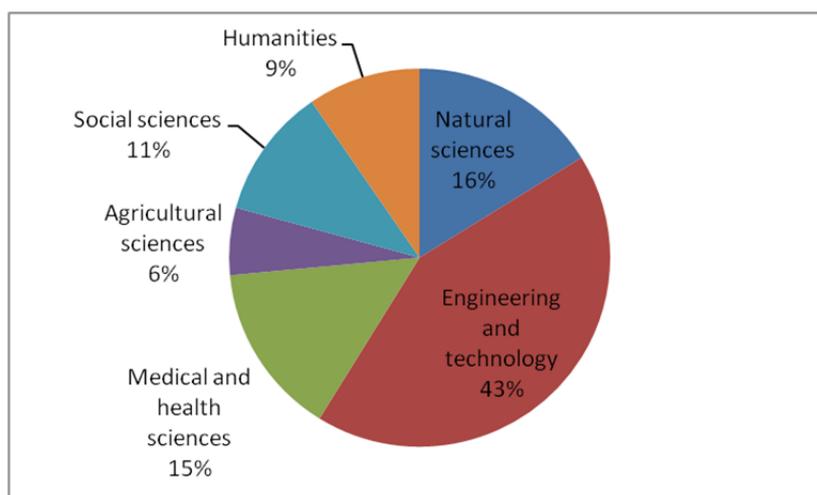


Figure 4. Distribution of number of PhD students among scientific areas

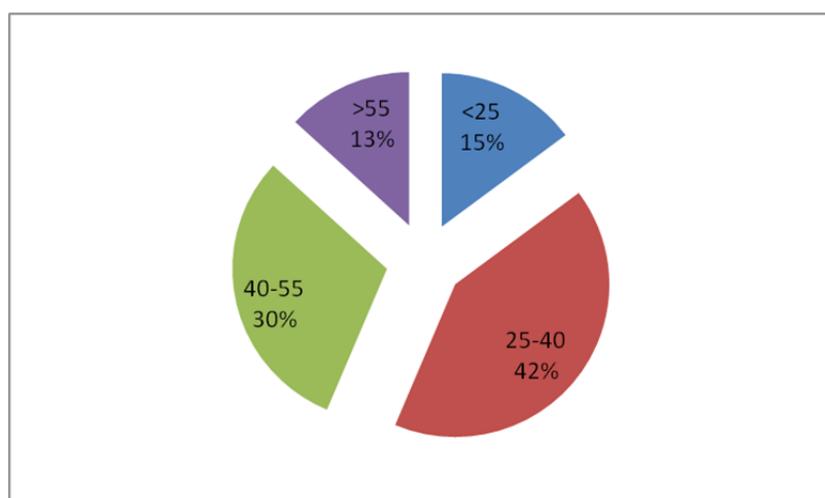


Figure 5. Age structure of the researchers employed in the university

## Gender balance

Even if the gender balance is notable in the overall number of researchers, when management positions are considered, this is not the case. Out of 14 faculty deans only 3 are women.

**Call for Action:** consider activities addressing gender misbalance in managerial positions

However, in the top university management positions (Rector and 4 vice rectors), there are 3 women. Different scientific fields have different proportions of male and female managers. Humanities and social sciences tend to be very feminine fields with a female dean of the Faculty of Philosophy and two vice deans females, 10 out of 17 chiefs of departments are females. At the Faculty of Sciences the dean and 3 of 4 vice deans are female. The general secretary of the Faculty is female, as well as the CFO. All the department heads are male, though.

University of Novi Sad was the first university in the history of higher education in Serbia to have a female rector (Prof. Olga Hadžić, 1996-1998).

In the researchers' survey, the respondents were asked to rate if the principles of gender equality were fully applied at all levels of operations and decision-making. The results show the positive perception and they are illustrated in a graph below:

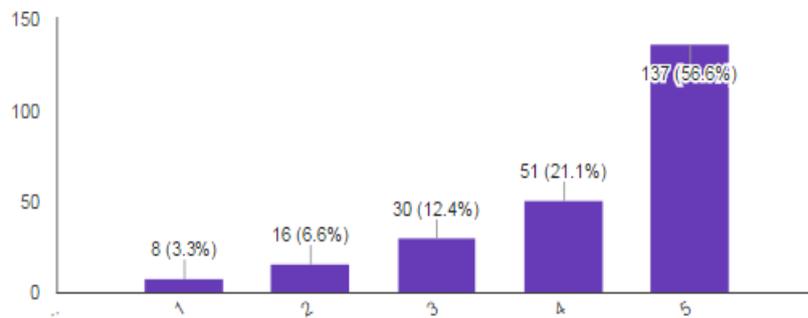


Figure 6. Perception of application of gender equality principles in the university among researchers

## Employment and career development

In 2014, university recruited 29 researchers (1% of overall number of researchers). 43 researchers were retired in the same period. Thus, overall number of the researchers in the given period declined in the rate of 0.5%.

All open positions are advertized in the local newspapers. The positions are advertized only in local language. University does not publish the job ads to EURAXESS Jobs portal.

**Call for Action:** publish positions at the university website and/or to EURAXESS Jobs portal

The dean makes a final decision on the announcing the open position at the university. The decision is made based on the proposal coming from the department and the consecutive approval of elective council of the Faculty. Sometimes, this decision is based on the short term needs (maternity leaves, grants, sabbaticals, and retirements).

According to the Regulations on the procedure for acquiring the title and employment of teachers of the University of Novi Sad, the duration of the position advertisement is 30 days.

According to Law on Higher Education (Official Gazette of the Republic of Serbia 68/2015), typical duration of the employment contracts for teaching assistant position is three years; assistant professors, associate professors are employed for the period of 5 years, while the position of the full professors are on a permanent basis. After the expiry of the period referred to above, a person may be re-elected to the same position or elected to a higher title.

Regulations on the procedure for acquiring the title and employment of teachers of the University of Novi Sad, sets the conditions and criteria for electing to positions of assistant, associate and full professors, as it follows.

The conditions for applying for a position of the assistant professors are: the PhD degree in the field in which he will do his research and teaching; positive evaluation of educational activities prepared in

accordance with Recommendation of the National Council for Higher Education and opinions of students formed in accordance with the general act of the University; scientific or professional papers published in scientific journals or conference, with reviews and; - at least 8 points obtained for different activities.

As for the election into the position of associate professor, the requirements are as following: the same as assistant professor but 16 points obtained since the last promotion +; certain number of scientific papers of importance for the development of science, or art in the narrow scientific or artistic field published in international or leading local magazines with reviews; certain number of papers presented at international and national scientific meetings; a textbook, monograph, manual in the scientific, or artistic field for which he is being chosen; original professional project, study, patent, original method, new variety, etc.), and management or participation in research projects.

The conditions for position of a full professor are: the same as associate professor but 24 points obtained since the last promotion +; Results obtained in the development of scientific and teaching staff at the University: mentorships, memberships in evaluation committees; Participation In the graduation or professional works of students; Citations.

According to Regulations on the procedure for acquiring the title and employment of teachers of the University of Novi Sad, the employment process consists of the following steps:

- Available position is announced in national or local media.
- Evaluation committee of minimum 3 competent members is created at the level of department to evaluate the candidates.
- Members of the evaluation committee are confirmed by the elective council.
- Standard evaluation templates are obligatory. Criteria given by the law plus those adapted for specific scientific fields are taken into account.
- Evaluation committee has to report in 30 days to the elective council.
- The decision of the evaluation committee is made public, confirmed by the elective council and sent to the scientific council for the specific scientific field of the university.
- The decision of the specific scientific council is sent to the Senate of the University to bring the final decision.
- Elected candidate signs a contract with the dean of the faculty.

The research vacancies are not considered as competitive. Number of candidates varies from one scientific field to another, but in average, its 1-3.

**Call for Action:** Better promotion of ads

The individual research grants are implemented based on the contract between the researcher, the financing institution and the University. Whether they are transferrable or not, it depends on a specific situation.

**Call for Action:** Open discussion on the transferrable grants

## Career development services

There is a career development center (CDC) established at the university<sup>1</sup>. It typically deals with BA and MA students, but also PhD students (approx. 5% of total number of services accounts for PhD students).

In 2014, more than 7500 services have been done in the CDC, by using different channels (personal visits, social networks, workshops, etc.). The most commonly provided services are internships placements and provision of counseling services to students who has dilemma in choosing the career or positioning on the work market after graduation. CDC also offers use of VirtualJob Interview interactive software for simulating job interviews, with 150 common questions by the employers. Providing information about possibilities of additional education and job offers is carried out also through mailing list, info points and social networks (including Facebook, LinkedIn, Twitter and Instagram). The total of 35 Career workshops has been organized by CDC in 2014, with attendance of 250 students.

Some of career workshops that were held in 2014 are: Leadership and learning throughout life, The techniques of data collection in research, Making decisions and initiative, Select what you like to do, Successful career, The importance of the promotion in modern business, Professional Communication-tips& tricks, Community management and use of social networks for professional purposes, Preparing for a job interview, Writing CV and cover letter, Actively seeking work, Assertive communication in the business environment, Business communication, Verbal and nonverbal communication, Making decisions, Student mobility, Business etiquette, Social networking, Management of stress in the workplace, Communication in the business environment and how to run a successful business meeting.

University offers about 1000 awards for exemplary student achievements, regarding career development, per year.

CDC has 9 staff, currently employed or engaged, of which: one counselor for career development (psychologist), one practitioner and 7 student volunteers. All staff has received appropriate training in career counseling, in Serbia and abroad.

**Call for Action:** CDC has great potential and it seems as a success story. Consider expanding its activities to providing services to researchers (mostly for professional development, not employment, of course)

## Overview of data from the researchers' survey

Survey data shows that researchers are not fully satisfied with the way employment and career development processes are implemented in the university. While majority thinks that evaluation criteria are transparent, there is no consensus on the fairness and satisfaction of the best interest of the organization in the above processes.

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<sup>1</sup> <http://www.razvojkarijere.uns.ac.rs>

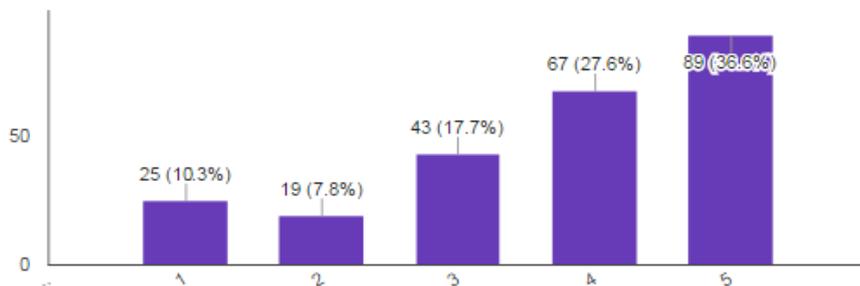


Figure 7. Perception of researchers of the transparency of the criteria for employment or career advancement

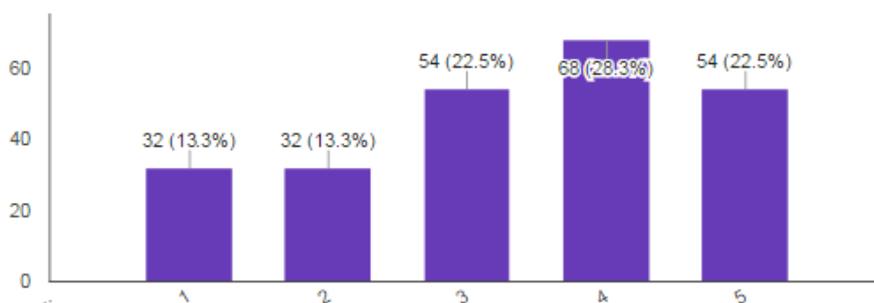


Figure 8. Perception of the fairness and satisfaction of the best interest of the employer in the processes of employment and career development

The respondents were almost unanimous in identifying published scientific publications (98.4%), educational publications (89.3%) and teaching experience (88.9%) as the most important criteria for employment and career development. Identified criteria of significant importance were mobility (63.4%), professional skills (57.2%) and foreign language skills (50.2%). Factors that have been found as less important were technical and expert certificates (31.7%), industry (11.9%) and entrepreneurship (7%) experiences.

The respondents were also asked to propose criteria and/or procedures which should be taken into account in the employment and career development processes in the university. Many researchers are in favor of qualitative and impact-based over quantitative evaluation. Below are the highlights of the collected feedback<sup>2</sup>:

- Respondents proposed the following criteria for employment and career development: International cooperation, Social and emotional intelligence, Extra-curriculum activities with students, International projects, Language skills (mandatory for at least one foreign language), Teaching abilities, Morality, Eloquence, Mobility, Engagement in scientific and technical work groups, Science promotion, Contribution to the scientific communities (associations, editorships, etc.), Intelligence (tests), basic culture, Team work, Reviews in scientific journals, Memberships in journal editorial boards, Leading positions in international associations, Creative and innovative approach to teaching, Cooperation with the community in solving the practical societal problems, Industry experience

<sup>2</sup> Number of list items does not correspond to the number of received narrative comments. Some comments were merged, while the others were structured into several items.

- Interview with candidates is crucial because it enables the deeper evaluation of his/her qualities. However, the interviewing practice would be fully valorized only if the interviewers are experts in their domains and skillful in this practice.
- Interviews should be carried out both by the HR management and by the independent interviewers
- When awarding points to the co-authors of the papers, co-authors should write explicitly about their contribution to the work reported in the paper and defend that contribution.
- Personal qualities and team work abilities are equally important as technical and scientific references
- Find a way to evaluate ability to team work and working with students, because of the big problems that often occur in the office and the classroom due to lack of these skills/abilities
- Papers indexed in at least three international scientific database should be evaluated, not only in Thomson Reuters
- Long-term planning for employment and career development and full public disclosure of the ad and conditions
- For senior positions, the contribution to the career development of younger researchers should be evaluated
- Abilities to teach, to transfer knowledge, to work with students are underrated when compared to the scientific references. Career advance evaluation should include the evaluation of the sample lecture.
- Only two criteria are needed: number of publications (while considering their quality – journal category) and number of citations (excluding self-citations). All other criteria should be removed, because they introduce the risk of corruption.
- Stop the practice of evaluating publications in only 5 last years, because that way, the overall contribution of the senior researchers is discriminated.
- When electing to a position in a specific scientific topic, only publications from that scientific topic should be taken into account.
- Technical and other publications (other than ones described by the specific conditions) should be also evaluated.
- Other indexes should be also used, not only Thomson Reuters SCI
- Evaluate the contribution in the teaching process by considering the number of students attending the specific classes and number of classes per week
- Expert and objective psychological assessment should be carried out during the employment process
- Duration of the work as a scientist or educator should be taken into account
- Procedures and criteria does not matter because they are systematically ignored

The respondents were also asked to provide general comments regarding the employment and career development in the university. Below, the highlighted comments are listed<sup>3</sup>:

- Nepotism in employment and career development is present

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<sup>3</sup> Number of list items does not correspond to the number of received narrative comments. Some comments were merged, while the others were structured into several items.

- In some areas, the criteria are not explicitly defined so they are interpreted on case-by-case basis. That creates a major risk for corruption.
- Employment and career development process is based on the personal interrelationships and lobbying.
- Lack of permanent contract for assistant and associate professors is one of the fundamental problems. This is discriminatory but also it puts the pressure to the faculties, because their advancement is considered as “a must”, without consideration of the merits or actual needs.
- The quantitative evaluation which considers basically only publications produces an environment in which it is better to “sit home, don’t do anything but writing papers”, while the activities which really produce impact are not evaluated at all.
- Faculties are already over-staffed, so there is no room for younger researchers.
- Employment is not merit based.
- In most of the cases, the position is advertized for the known person. Even if more researchers apply, the evaluation committee will implement the perspective which will make the desired person a favorite.
- Younger researchers are often subject to mobbing, before employment.

**Call for Action:** increase the transparency of the employment and career advance process

**Call for Action:** consider the implementation of the university ombudsman office

**Call for Action:** reconsider the quantitative criteria for employment and career development

**Call for Action:** establish lobbying groups for improving the national legislation regarding introduction of full position for assistant and associate professors

## Ethics and professional conduct

Each faculty has its own Ethics Committee and this is regulated by the Statute of the University of Novi Sad. The Ethics Committee is formed in 2010 at the University of Novi Sad.

The newly appointed Committee started to work in 2015. It is a subsidiary body of the University Senate. The second instance body which decides on disputes that may arise from or based on the decision of the ethics committee of the faculty is the University Senate. The Ethics Committee of the University recommends decision or measure to be brought by the Senate.

Ethics Committee usually deals with issues of mobbing and plagiarism.

**Call for Action:** Organize info presentations on mobbing awareness and plagiarism at the faculties

In average, 1 case is handled by the Ethics Committee each month.

Half of those cases consider the complaints avoiding ethical committees of the faculties. Namely, only after the decision of the faculty ethical committee, Ethical committee of the University can receive the case and bring the decision. Newly formed Ethical committee at the level of the University (December 2015) didn’t find any irregularities in the cases it treated since December 2015. When the newly appointed Committee started to work, the content of bylaw was poor, with wrong term, very rude

explanations, almost as it was the governmental court. The content of the bylaw is currently in the changing procedure.

**Call for Action:** implement the revision of the ethics bylaw

The procedure of appointment and dismissal of members of the Ethics committee is regulated by the general act adopted by the Senate. The mandate of the members is three years. Seven members are elected, including one member among the student representatives (his mandate is one year). Criteria for nomination of members of the ethics committee are different from one faculty to another and often based on subjective characteristics or the experience of a person who is called. It is not known that there were some complaints about the transparency and credibility of the procedure and the independence of board members were not called into question.

There are 3 possible consequences of a found misconduct: admonition, public admonition with no consequences in the record of the “accused” person, and admonition with the consequence written in the record of the “accused” person. Revoking scientific titles is not an option, because by the law of the country ones person is acknowledged as professor of any level, this title cannot be withdrawn. There are no consequences for a complaintee if his/her complaint is found to be unsupported.

The cases handled by Ethics Committee are transparent only when the decision is made, and only if it is public admonition. The documentation of the cases is highly protected.

The members of Ethics Committee are not remunerated for their work.

Online PhD database is implemented at the University of Novi Sad and it is available here: <http://www.cris.uns.ac.rs/searchDissertations.jsf>. Typically, faculties do not have plagiarism detecting tools. The exception is the Faculty of Philosophy which is using EPHORUS software.

Ethics Committee does not discuss about ethical issues arising from the research projects, such as privacy, data protection, animal testing, clinical trials, etc. Those aspects are dealt with by the faculties or departments have their own ethical committees (e.g. Department of Psychology).

### Seniority culture and its impact to research freedom

Seniority culture is strongly developed in the university as a legacy of the old higher education system. It is not very common to have younger researchers (at the level of assistant professor) mentoring or supervising the PhD students. PhD students are supervised mostly by associate professors and full professors.

Research projects are coordinated mostly by full professors in all scientific fields. The government of the Autonomous Province of Vojvodina finances one-year research projects which are managed also by younger researchers in all scientific fields.

**Call for Action:** Implement specialized trainings in project management and mentoring for younger researchers

**Call for Action:** promote opportunities targeted at younger researchers and introduce the motivation system

## Overview of data from the researchers' survey

In general, the respondents were not fully satisfied with the way the different ethical issues are being handled at the university. 63% of the researchers were familiar with the cases of the ethical principles breach. When asked if the cases of the ethical principles breach were resolved in a fair way, 26.3% of the respondents were negative and 9.9% positive. 63.8% of the respondents were not familiar with the outcomes of these cases. Majority of respondents believes that public condemnation, revoking scientific titles and revoking the rights to participate in the research projects are adequate penalties in cases of the found ethical misconducts. However, 20.9% of the respondents think that the ethical issues should be dealt with discretely.

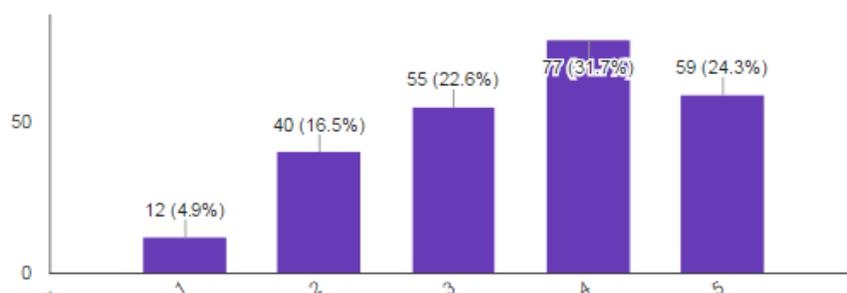


Figure 9. Perception of the satisfaction of the fundamental principles of professional ethics in research

Awareness of the researchers of the contractual and legal obligations arising from the employment contract and other signed acts and agreements is satisfactory but not full. The largest number of respondents rated it with mark 3. Similar conclusion can be made based on respondents data regarding the level of implementation of good practices related to the protection of research results, their confidentiality (before publication), as well as the protection of the personal data which is collected in the research process; and adequate presentation of the research work in general public.

The data related to the perception of the equal and active participation in the work of the decision-making bodies in the university are inconclusive, with equal distribution of all rates, indicating the need for further analysis/or possible problem.

**Call for Action:** Consider the opportunities for full involvement of researchers of all types in the work of decision-making bodies in the university

The highlights of the narrative comments are provided below<sup>4</sup>:

- Researchers with scientific titles do not have any rights regarding the participation in the relevant bodies and councils in the university.
- Lack of transparency in handling the ethical issues is the key problem. Thus, it becomes possible to have different set of rules applied in different cases.
- There are cases in which management allows and covers aggressive and non-ethical behavior of the individuals

<sup>4</sup> Number of list items does not correspond to the number of received narrative comments. Some comments were merged, while the others were structured into several items.

- The ethical issues are often reported as a result of personal problems among researchers. Similarly, personal connections may affect the process of their resolutions.
- Recognition of the research work and career advance is not merit-based. Scientific titles and positions matter more when compared to the actual research output.
- Researchers are putting most effort to get involved in the projects which are likely to be funded, in contrast to the ones which really matter for their science careers.
- Selection of project teams is based on personal affinities, not on the needs of the actual work.
- Solidarity of the senior researchers, regarding helping the younger ones is lacking.
- Senior researchers are not being respected by the younger ones.
- Younger researchers should be informed and trained on the ethical issues.

**Call for Action:** increase the transparency of the ethical review processes

**Call for Action:** organize info days and/or trainings on ethics in research

**Call for Action:** consider the opportunities for involvement of researchers with scientific titles in the work of all relevant institutional bodies

## Working conditions

Regarding working conditions, the most difficult issues are lack of functional space (some faculties are overcrowded and placed in old buildings) and general lagging behind the research infrastructure standards for the research organization of this size.

**Call for Action:** Promote structural funds as means to resolve space related issues. Establish a Working group which will track opportunities and start initiatives?

It is difficult to estimate the typical teaching/research balance. This balance varies wildly not only between scientific fields, but also within the same field. PhD students are involved in teaching. The average engagement in teaching is around 6 hours/week for teachers regardless of the career level and scientific field, and 10 hours/week for teaching assistants and PhD students (these standards are imposed by the National Council for Higher Education and ensured through the process of accreditation of Higher Education Institutions).

**Call for Action:** Consider the possibilities to reduce number of classes per week for PhD students

In general, the level of development of research infrastructure (lab equipment, devices, testing and demonstration facilities, etc.) in the university is not considered as satisfactory, especially when comparing with the typical level of infrastructures of the Central European countries, which until recently were behind. Still, successful research groups manage to acquire good infrastructure for their work thanks to European and national projects.

**Call for Action:** promote opportunities for projects which can fund the improvement of research infrastructure

There is no university award system for researchers. However, there are several awards meant for students and junior researchers, offered by the Provincial government, such as: Best students of the University award Zoran Djindjić Prize for the best young scientist; and The Prize for the best diploma, master or magister thesis in the field of social sciences and philosophy.

**Call for Action:** establish an university award system

Sabbatical is part of all the statutes of the faculties and the Statute of the University but that possibility is very rarely used by the researchers. A professor can apply for a sabbatical year after 5 years of service, or for a sabbatical semester after 2.5 years of service (most of the faculties).

University of Novi Sad has EURAXESS center. One person, chief of the Office for international relations is in charge for its activities. It provides all kinds of information for those willing to work at the University of Novi Sad or somewhere else in EU. Center doesn't provide statistics to European Commission.

**Call for Action:** Take measures to have the EURAXESS statistics submitted to EC.

### Overview of data from the researchers' survey

In the researchers' survey, respondents were asked for the opinion on the adequacy of the research infrastructure, quality of the different services provided by the faculty (legal, HR, accounting, student affairs and EURAXESS SC), teaching-research balance and salaries.

Respondents were moderately satisfied with the services provided by the legal department, while they were not aware of the HR services provided at the faculties. They were fully satisfied with the service provided by the department for student affairs and accounting department. Large majority of respondents were not aware of the existence of the EURAXESS SC at the university.

**Call for Action:** Promote EURAXESS SC center and its services related to outgoing mobility

**Call for Action:** Define set of HR services, related to professional development (whether they are provided by the legal department or a new one – HR)

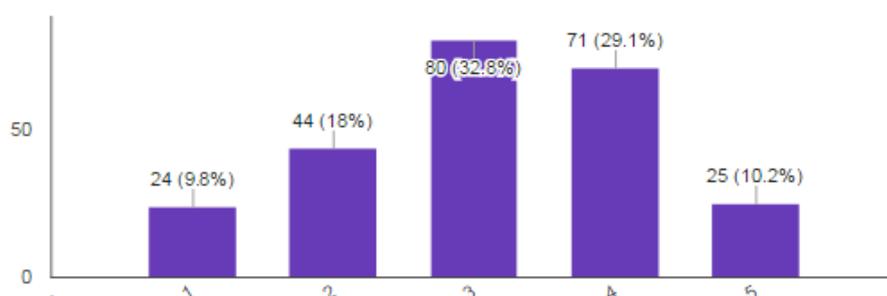


Figure 10. Perception of the adequacy of the institutional research infrastructure, by the respondents

Majority of respondents believe that researchers are generally overburdened with the teaching engagement. Respondents were asked to state their average number of teaching hours per week. 39.3% teach 5-10 hours, the number consistent with the results of the desk research. However, additional 30.3% teach 10-15 hours and 16.8% even more than 15. This is considered as worrisome since such high

engagement can significantly affect the availability of respondents to perform research activities, pursue professional skills development opportunities, etc.

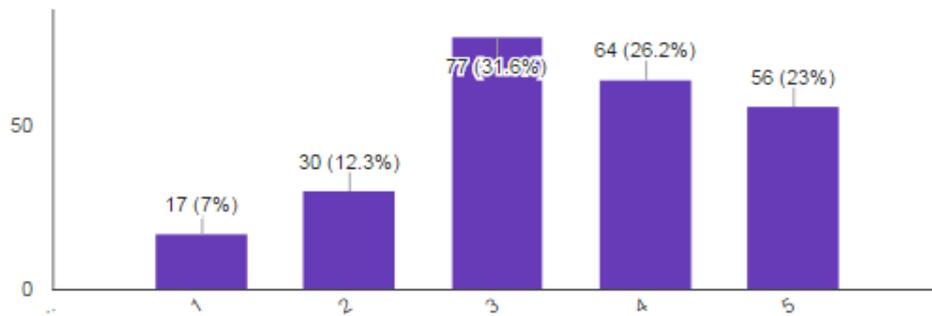


Figure 11. Perception of the overburden of the respondents with the teaching engagement

Quite expectedly, majority of respondents show dissatisfaction with their salaries.

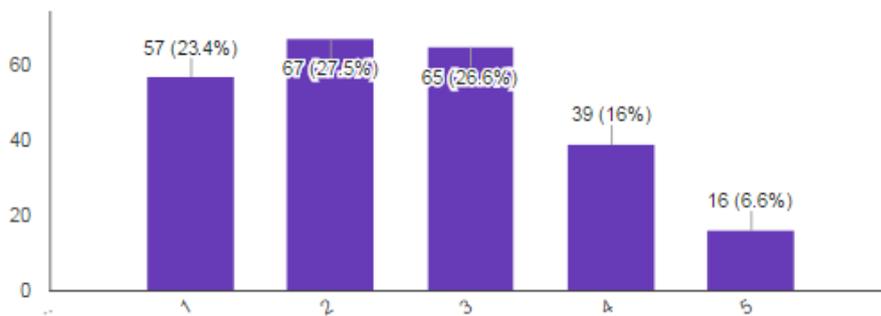


Figure 12. Level of satisfaction of the respondents with the salaries

Finally respondents were asked to provide narrative comments related to working conditions and social security. Some of the highlighted feedbacks are provided below<sup>5</sup>:

- Research is neglected activity, teaching is primary one. Researchers working at the university are in general, interested to achieve minimum results needed for advancing their careers and nothing more.
- There is no social security or it is very bad, because all employees, except for administrative staff and full professors are with temporary contracts.
- Relevant scientific journals are not accessible
- Too much teaching
- Not possible to employ new researchers when the experienced ones get retired
- PhD students are overburdened
- Salary depends on the number of classes and students, so teaching becomes a primary priority for us.

<sup>5</sup> Number of list items does not correspond to the number of received narrative comments. Some comments were merged, while the others were structured into several items.

- As a researcher, I am responsible for writing successful projects and doing research. However, I don't have any influence in how the project funds are being spent nor in human resources planning.
- Lack of classrooms
- Inadequate time for classes (when students are tired and incapable to participate in the teaching process)
- Teachers are overburdened with administrative tasks and extra-curriculum activities, especially younger ones.
- The office space should be more functional
- Smoking ban is not being consistently implemented
- Engagement rates for electoral courses are being calculated discriminately, independently from the actual engagement (regarding number of students, consultation classes, etc.)
- Younger researchers are being exploited for different tasks, without remuneration, in waiting for a decision on the employment
- Very low investment in lab equipment, used for direct work with students
- Methodology for salary calculation is discriminatory for the teachers who have more classes with senior students.
- There should be a cafeteria with decent food prices, because due to a high amount of work, researchers can't have lunches with their families at home.
- Working conditions are getting worse, as engagement increases while salaries are dropping.
- Researchers should not participate in teaching activities at all, but only in research.

**Call for Action:** reconsider giving more financial autonomy to project coordinators

**Call for Action:** establish a system for objective, accurate and complete tracking of teaching engagement (by hours), while considering not only classes, but also consultations and extra-curriculum activities with students

**Call for Action:** consider introduction of salary bonuses for teaching overtime

**Call for Action:** introduce reporting system which would consider all activities

**Call for Action:** implement HR planning (regarding employment and career development) system, which will consider objective teaching and research requirements, based on the reporting system

## Accountability and public responsibility

The level of awareness of researchers in the university on the ethical issues and standards in research, related to data protection, privacy, confidentiality, plagiarism and others, is considered as satisfactory (on the scale: very low, low, satisfactory, good, very good) by the WG members.

However, the situation is very different from one scientific field to another. Awareness is the highest in the field of medicine and in the fields which require experimental work with animals (where appropriate and specific Rules and regulations are adopted). Furthermore, ethical issues arise from the misuse of bibliometric-based evaluation system imposed by the Ministry of Education, Science and Technological Development, which promotes quantitative (based on the published papers) evaluation of the

researchers' performance. Such system indirectly stimulates conscious publishing of the papers in predatory journals and therefore, it creates many ethical problems. Finally, there is no system which can ensure the identification of the breach of data protection, privacy and confidentiality.

**Call for Action:** organize trainings, courses and workshops for researchers, especially younger ones in the above topics.

The level of awareness of researchers in the university on the contractual and legal obligations arising from work contracts, laws and by-laws is considered as satisfactory (on the scale: very low, low, satisfactory, good, very good) by the WG members.

Still, with the lack of disciplinary measures related to accountability, it is very hard to make full professors carry out any administrative task imposed by the management. One of the examples is submission of the annual reports on research activity, the process which is very difficult to implement due to lack of on-time and quality response.

The researchers prepare reports for the institutions which are financing the research: Ministry for education, science and technological development and Provincial secretariat. Faculty management collects the data and it is the main body responsible for its validity. Certain reports exist on the level of faculties and the University. During the process of self-evaluation (every 3 years) extensive reports are prepared on research, also. University collects data on scientific production from the faculties and institutes, annually. For the election and promotion purposes extensive reports of each candidate are prepared. Teachers are not requested to submit reports pertaining to teaching. This is considered as one of the principal weaknesses.

**Call for Action:** implement full reporting process, implement system for reporting, especially concerning teaching and mentoring

The university and its faculties are active in the area of public promotion of its teaching and research activities. University and also some faculties have PR service. For instance, Faculty of Sciences has PR service that regularly informs the media on new research activities<sup>6</sup>. Media kit of the university is being regularly updated. Different public manifestations are being organized annually<sup>7</sup>. Faculties organize career promotions in schools in Vojvodina, northern Serbia and Republic of Srpska. University and certain faculties have different forms of social media (twitter, Facebook...) and they are used in promotional activities.

### Overview of data from the researchers' survey

Survey data shows that, in general, the respondents are aware about the contractual and legal obligations arising from the employment contract and other signed acts and agreements. Similar overall response was get when researchers were asked to provide a rate of their satisfaction with institutional implementation of good practices related to the protection of research results, their confidentiality

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<sup>6</sup> [http://www.pmf.uns.ac.rs/o\\_nama/mediji/2015](http://www.pmf.uns.ac.rs/o_nama/mediji/2015),

[http://www.pmf.uns.ac.rs/files/2/30\\_01\\_\\_ns\\_reporter\\_neda\\_intervju.pdf](http://www.pmf.uns.ac.rs/files/2/30_01__ns_reporter_neda_intervju.pdf)

<sup>7</sup> "The Researchers Night", "The Festival of Science", "The Night of Biology", "Maria's and Sanja's Scientific Kitchen" (a regular show at Radio Television Vojvodina).

(before publication), as well as the protection of the personal data which is collected in the research process

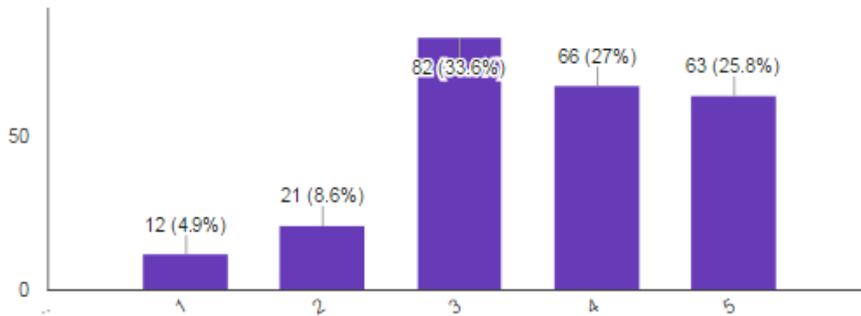


Figure 13. Awareness of the respondents about the contractual and legal obligations arising from the employment contract and other signed acts and agreements

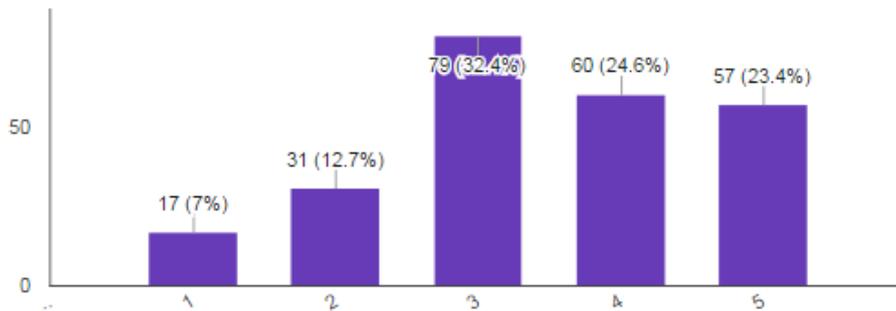


Figure 14. Perception on the institutional level of implementation of good practices related to the protection of research results, their confidentiality (before publication), as well as the protection of the personal data which is collected in the research process

However, respondents were not satisfied with the implementation of the reporting system (regarding research activities) in the university and methodology for evaluation of the individual researchers' works.

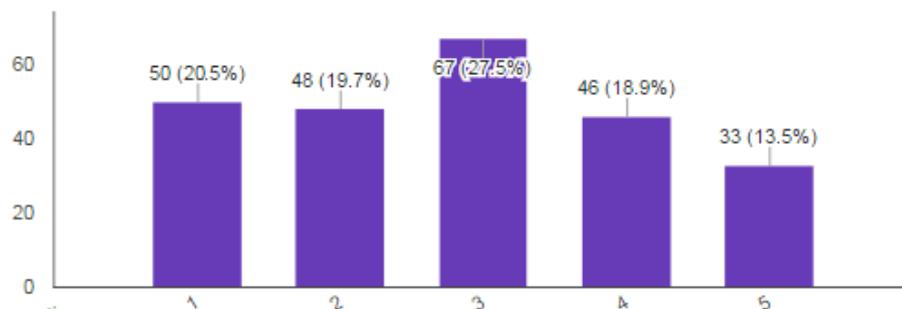


Figure 15. Satisfaction of the respondents with a reporting and assessment/evaluation system on the research of individual researchers

Also, the level of public responsibility of researchers regarding the dissemination of the scientific results in the broader communities is moderate, according to the respondents' perception.

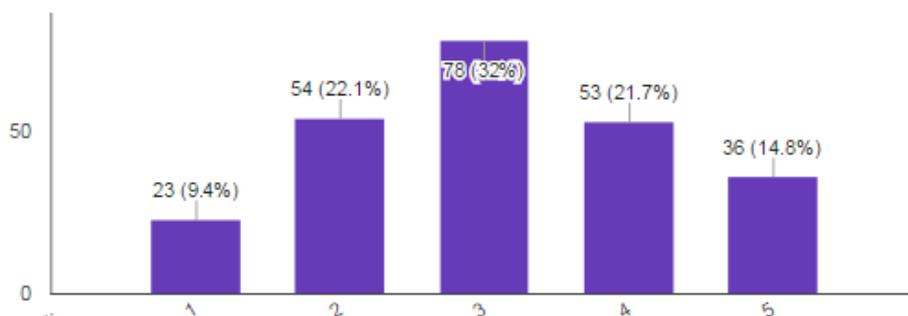


Figure 16. The perception of the respondents of the adequate presentation of the scientific results in the general public

**Call for Action:** introduce reporting system which would consider all activities of the researchers

**Call for Action:** evaluate the quality of existing PR activities and implement corrective measures, if needed

## Training

University offers PhD and master courses in English. Faculty of technical sciences, Faculty of sciences and Faculty of medicine have all their programs accredited in English while other faculties have only certain courses in English.

## Mentoring and supervision

When enrolling to the PhD studies, candidate elects adviser who leads him during his/her studies and from whom he/she receives all necessary information and assistance for the successful implementation of the study program. A candidate who passed all or most of the courses envisaged by the doctoral study program, submits the topic of doctoral dissertation he/she wants to defend to the corresponding department. Doctoral schools offer a list of possible mentors which fill the conditions for the mentors position prescribed by the Law and the Accreditation agency and students choose the name from the list.

If the candidate is not satisfied with the collaboration with the mentor he/she can start a procedure for the replacement of the designated mentor. Scientific council will make the decision about the new mentor. The mentor also has a right to refuse further work with the candidate and he/she has to follow certain procedure in which scientific council brings the final decision.

To be a mentor for the doctoral dissertation, professor has to meet the following requirements: he/she has to be employed at the Faculty and/or to participate in the realization of the program of doctoral studies and to have necessary scientific capability in the field of the problems of the doctoral thesis; he/she has to have adequate scientific production and aptitude for teaching.

Each researcher elected to the position of assistant professor, associate or full professor can be a member of the committee for the evaluation of a dissertation in accordance with its title and scientific field.

On the proposal of the council of doctoral studies or corresponding department, when a student chooses a mentor and doctoral dissertation, the scientific council of the faculty appoints the committee, which appreciates the candidate's and mentors qualifications as well as the suitability of the themes for doctoral dissertations. Appointed committee prepares then a report which assesses above mentioned topics and it has to be adopted by the scientific council of the faculty. The report has to be adopted by the expert council of the University and the Senate. Mentor has no obligation to report on mentoring with the candidate.

Mentors are not remunerated for their work with doctoral candidates but mentorship appears as one of the conditions for promotion. The committee members are also not remunerated, with the exception of small fee, for the participation in the thesis defense.

### PhD training

The collaboration with other universities in implementing training activities is relatively high. Four faculties developed joint master programmes: Faculty of technical sciences, Faculty of sciences, Faculty of Economy and Faculty of Agriculture with University of Belgrade, University of Maribor, United Business Institutes from Brussels. Joint degrees (in general, not just PhD) are considered as administratively demanding. Thus, the university focuses at the double degrees, which are easier to implement. Another substitute at the level of PhD studies is “cotutelle”: a PhD student spends some time (1-3 semesters) at a foreign university, and then the PhD thesis is co-mentored (one mentor from the University of Novi Sad, and another from the foreign university).

**Call for Action:** create and systematically promote “cotutelle” PhD programmes

Faculties encourage participation of PhD students at conferences, summer schools and other research organizations. Such activities are funded through research projects of the Ministry of Education, Science and Technological Development, through EU grants, or short-term research grants of the Provincial Secretariat for Science.

**Call for Action:** promote MSCA grants for PhD candidates

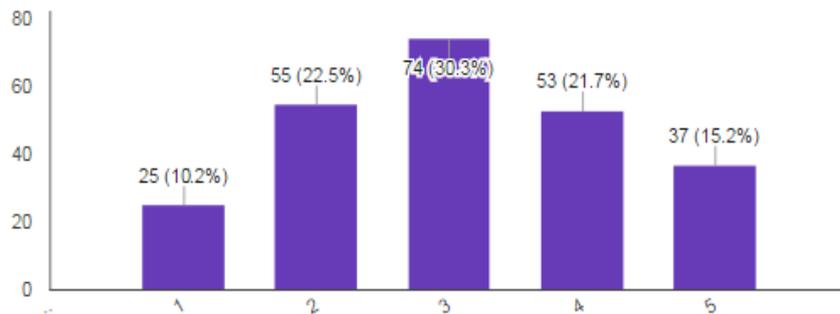
In collaboration with King Baudouin Foundation, University and faculties developed range of transversal skills courses, including project writing, foreign languages, entrepreneurial skills, scientific methodologies, digital skills, communication and presentation skills, networking and team work. Those courses were developed in collaboration with universities from Gent, Sapienza Rome, Uppsala and Kent. Some of these courses are regular part of PhD courses but students can always choose them as their optional courses.

**Call for Action:** further engagement in establishment of the professional courses programme for early stage researchers

### Overview of data from the researchers’ survey

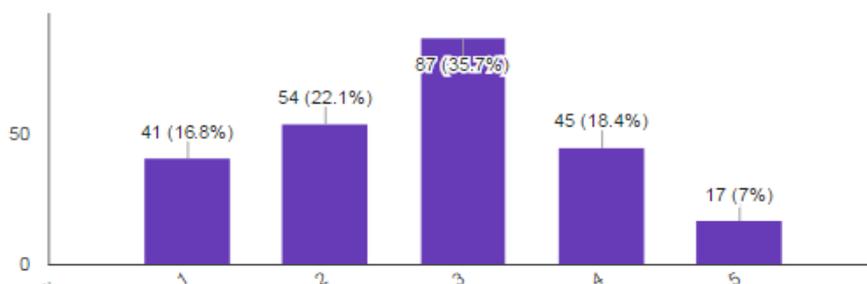
The researchers’ survey addressed the quality of PhD training, namely the activities of mentorship and supervision; and development of professional skills in the university.

The survey data shows that the large number of respondents perceives the work on mentorship and supervision as superficial and not effectively evaluated. The most often highlighted reasons for that were lack of evaluation procedures (55.3% of respondents), lack of interest/motivation of the mentors/supervisors (49.2%) and lack of availability (overburden) of mentors/supervisors (48%).



**Figure 17. Perception of the misconduct in the activities of mentorship and supervision (superficial manner and lack of effective evaluation)**

Respondents were moderately convinced that researchers in the university are interested in pursuing professional development opportunities. Some factors that could negatively affect the individual professional development efforts are lack of availability (overburden) of researchers (51.6% of respondents), lack of trainings/courses offers and lack of general institutional plan for individual professional development (43.4%) and the fact that the level of professional skills is not taken into account in career development (40.6%).



**Figure 18. Perception of low interest of researchers to pursue continuing professional development opportunities**

Some narrative comments regarding training and professional development of researchers are highlighted here<sup>8</sup>:

- Lack of team work. Most of the research work is individual.
- Researchers do not know how to cite papers correctly.
- Specialized courses in project proposal writing and project management are really needed
- Organized and systemic education in fund raising is a must
- Existing grant opportunities are often focused only at young researchers, which is discriminatory
- Acquired diplomas in professional skills should be taken into account in the career advance.

<sup>8</sup> Number of list items does not correspond to the number of received narrative comments. Some comments were merged, while the others were structured into several items.

- Mobility is often another form of tourism.
- Younger researchers are too much concentrated in publishing in indexed journals, instead of being focused at their expert and technical development, then – at scientific work.
- Categorization of the scientific papers of the researchers is not consistently implemented. For example, published papers in one specific journal have been categorized by using three different values in three different cases.
- There is not research strategy with clear priorities at the institutional level
- Whose responsibility is to write project proposals? That should be defined at the institutional level
- There is no motivation/stimulation to organize regional or international conferences
- Public interest is not evaluated in the research projects; it feels that only individual researchers/authors gain from the published papers.
- Full professors should be evaluated and re-elected, in a way similar to assistant and associate professors.
- The priority of any research team should be to get into the global, European research projects, not national ones.
- In many of the project frameworks, payments are being done as installments after certain period of time, meaning that organization need to provide a loan to the research team in order to cover the ongoing costs of the project, until the installment is made. Organization should establish a fund from which you can take that loan. Currently, it is very difficult to work with such payment conditions.
- The taxes for individual fees and travel allowances are extremely high.

**Call for Action:** increase the transparency of the ongoing research work in the institution. For example, organize internal research seminars in which the researchers would share their ideas and research plans; or create an internal database of research projects and ideas, regardless of the way they are funded

**Call for Action:** consider the implementation of the internal project pre-financing fund

**Call for Action:** introduce the stimulation system (for example, co-funding, project preparation travel grants or similar) for participation in EU-funded research projects

**Call for Action:** consider the development of institutional research strategy, in line with the regional, national and EU priorities.

## Research projects and collaboration

The research in the university is funded mostly by the Ministry of education, science and technological development, with approximate uptake of 60% in total incoming funds. Provincial government uptake is approx. 17%, while the rest comes from international cooperation programs (where EU programs have prevailing majority), industry collaboration, and to a minor extent – own funds.

The University's participation in key European frameworks for funding research is considered as successful, especially in national context.

The University maintains a central database of research projects. This database is open and accessible here: <http://www.uns.ac.rs/index.php/c-nauka/projekti-c/>.

Activities related to collaboration with alumni association and scientific diaspora are mostly sporadic, and until today, they didn't produce substantial results. Vice-rectors for education are mostly in charge for those activities.

**Call for Action:** strengthen the capacity of the international cooperation sector to work with diaspora and put the effort to further formalize the cooperation. Create and maintain alumni.

The involvement of industry representatives in formal research process (in specific, PhD studies and evaluation committees) is considered relatively small. In order to be a part of evaluation committees members have to have status of a professor or researcher at the institute.

**Call for Action:** develop framework for engaging industry representatives in PhD programmes in some other way

Rate of the collaboration with other actors, e.g. public administration, NGO is considered as relatively good.

### Overview of data from the researchers' survey

The survey have found that researchers are satisfied with the way institution disseminate and share accurate and updated information about research funding opportunities.

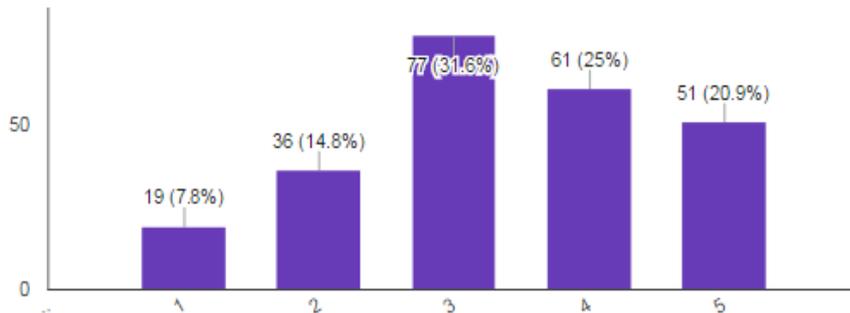


Figure 19. Perception of the respondents on the efforts by the institution to deliver accurate and updated information about the opportunities for research funding