



Report on mapping the research human potential and issues in University of Kragujevac

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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.

Methodology

This report has been developed in three phases (Figure 1).

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 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.

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. 168 researchers have participated in the survey, out of which 45.1% were PhD students. All scientific areas were represented among the respondents, with major participation of the researchers from engineering and technology (41.7%), humanities (29.8%) and social sciences (26.8%). Most of the respondents (67.7%) were in age group 25-40, with additional 23.4% in age group 40-55. All scientific positions were represented in the responses, but majority of the respondents were on the junior positions (44.6% of teaching associates, 25% of assistant professors). Only 21.4% of the respondents were aware of the European Charter & Code.

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.

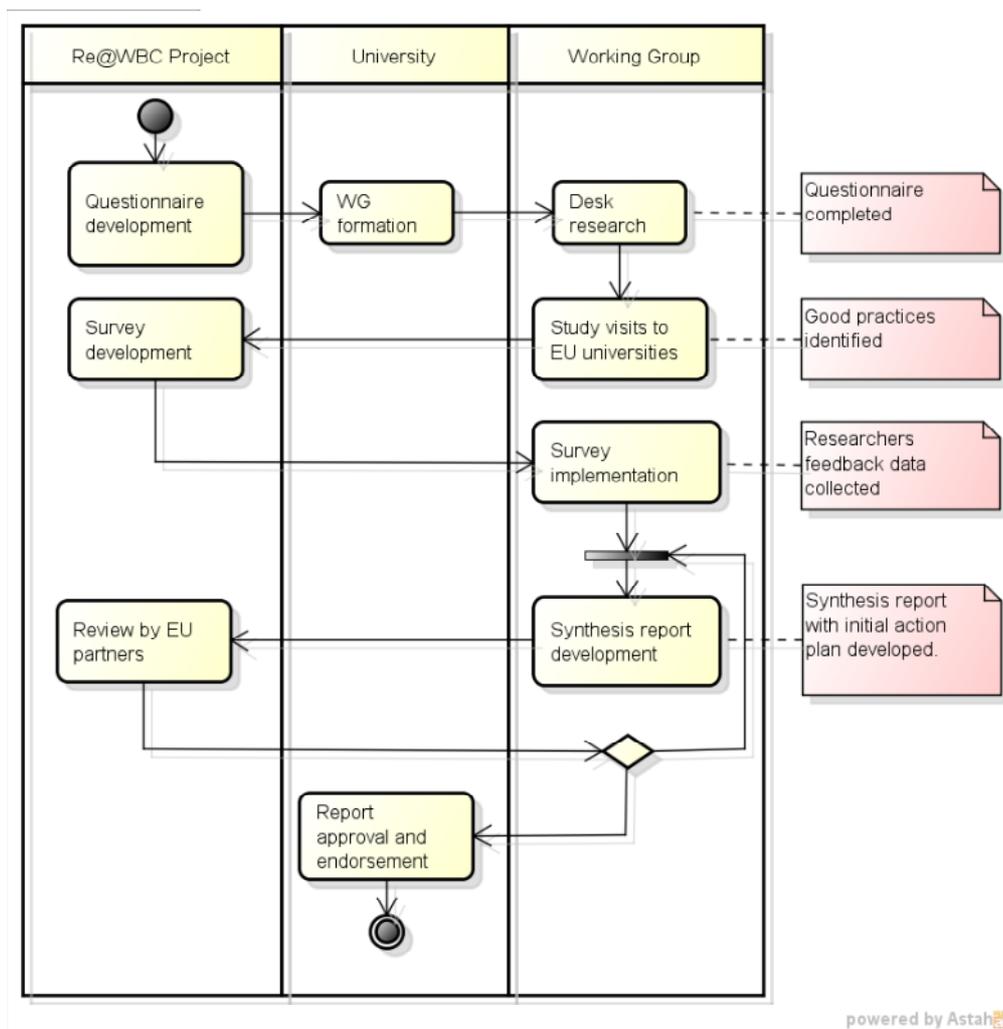


Figure 1. Workflow for developing this report

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 Kragujevac is university of the medium size, with primary research orientation on medical and health sciences (24% researchers work in this area), social sciences (23.3% researchers) and engineering and technology (22.7% researchers).

In 2014, the overall number of researchers with employment contract, working at the university was 1056. Figures 2 and 3 show the distribution of the number of researchers in scientific areas (OECD Frascati classification) and positions.

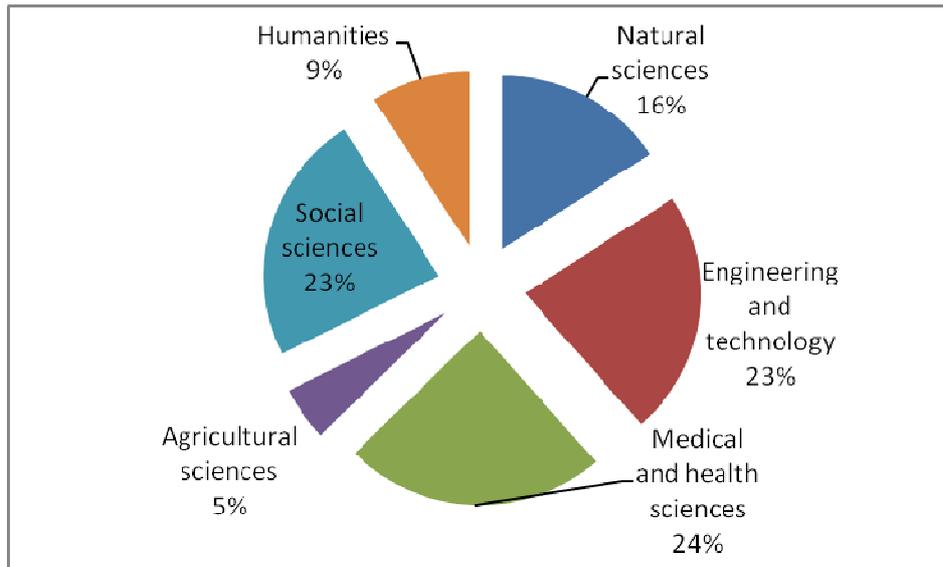


Figure 2. Distribution of number of researchers among scientific areas

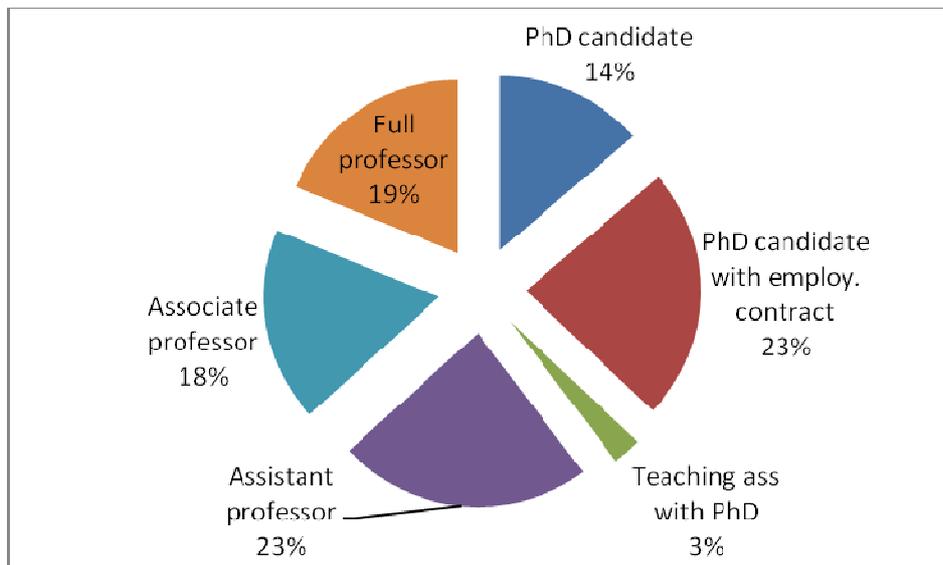


Figure 3. Distribution of number of researchers among positions

The rate of the university's internationalization is very low, 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 only 5 researchers from abroad, 2 of which with PhD grants (engineering and technology), 2 visiting professors in humanities and 1 full contract lecturer in engineering and technology.

Overall number of PhD students in the university is 707. Figure below illustrates the distribution of this number of students among scientific disciplines.

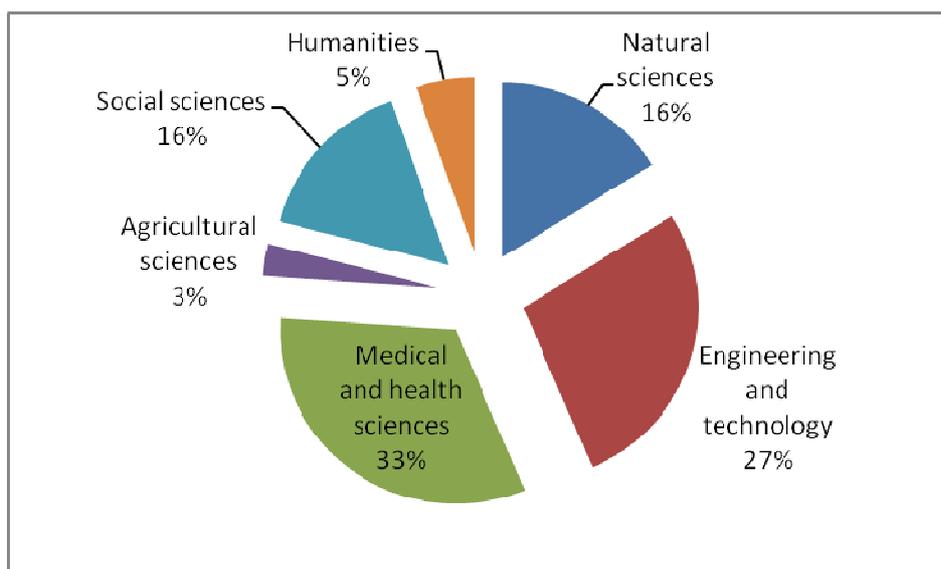


Figure 4. Distribution of number of PhD students among scientific areas

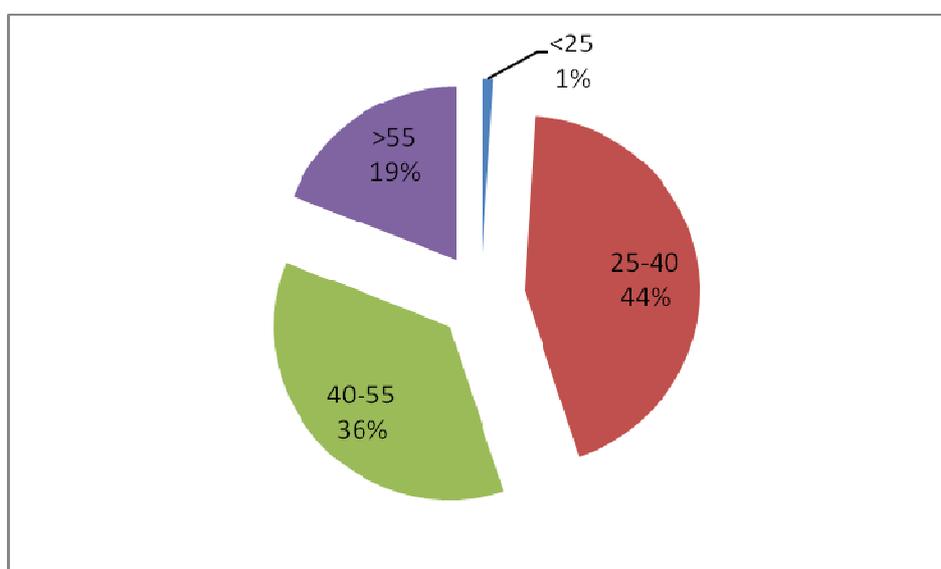


Figure 5. Age structure of the researchers employed in the university

Gender balance

Gender balance could be considered generally as fair at University of Kragujevac. Number of women's among researchers and teaching staff is in range from 30% at some faculties of technical sciences up to near 70% at faculties of social sciences and humanities. Women's are proportionally represented in faculties' management bodies and in scientific & research excellence (mentoring, project coordination and leadership).

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:

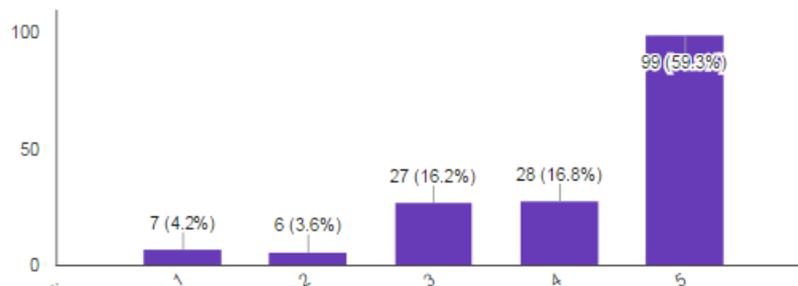


Figure 6. Perception of application of gender equality principles in the university among researchers

Employment and career development

In 2014, university recruited 65 researchers (6.1% of overall number of researchers), out of which 12 on senior positions (level of assistant professor and higher). 15 researchers were retired in the same period. Thus, overall growth of the human capacity in the given period was 4.7%. The growth (increase in the number of researchers in 2014) is significant in the disciplines of Humanities (24%) and Medical and health sciences (11.4%). In other disciplines, a moderate growth in number of researchers is registered.

One of main identified problems, related to employment is a restriction in employment of new teaching staff members due to national legislative regulations which resulted in unfavorable age structure.

All open positions are regularly advertized in publication "Poslovi" published by National Employment Service <http://www.nsz.gov.rs/>. Positions are advertized in Serbian language. Besides that, positions are often advertized at faculties and universities' web sites. The duration of position advertisement is 15 or 30 days.

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.

The criteria factors which are formally taken into account for advancing career from one position to another are:

- number of years of work spent in present position (mandatory),
- number of published papers in journal including defined number of those where candidate is the first author (mandatory),
- PhD thesis mentorship (mandatory for election to the position of Full professor at some faculties),

- published university text books (mandatory for election to the position of Full professor at some faculties) and
- other (national and international projects participation, faculty bodies participation, etc.).

Open positions for teaching staff are announced on the department level (retirements, leaving of staff, new study programmes) or on faculty level and they are generally based on long-term development and employment strategy of faculty. Open positions for research staff are based on short term needs and they are fully dependable on actual project grants.

Employment and promotion procedures at each faculty is fully defined and coordinated by unique University regulation and procedure. The process of employment takes the following steps:

- Initiation of procedure by department or faculty level;
- Announcing of open position in publication published by National Employment Service;
- Proposition of Evaluation committee on department level and its confirmation by faculty Elective council. Members of evaluation committees need to be in same or higher position, relative to the position of employment. At least one member of the committee needs to be from other university. Evaluation committees' members are proposed by the Department board and confirmed by faculty Scientific Board. Finally, Evaluation committees' composition is confirmed by the University scientific council for the relevant scientific field;
- Evaluation committee performs evaluation procedure using standard evaluation forms defined by university regulations. In process of evaluation, minimal acceptance criteria are defined by university regulations and they vary for different scientific fields;
- Finalized and signed report of Evaluation committee is submitted to faculty Elective council;
- Evaluation report is made public for 30 days, with obligation of Evaluation committee to provide answers and explanation to any remark and complaint that could arrive in meantime;
- Faculty Elective council define proposal for selected candidate and send it to university specific scientific council for final confirmation;
- University scientific council decision is sent to the Senate of the University to bring the final decision (just in case of full professors);
- Finally, Dean of faculty signs contract with selected candidate.

The employment is considered as moderately competitive. For teaching staff positions, there are typically 2-3 candidates' applications.

University of Kragujevac supports transferrable grants in both directions (incoming and outgoing researchers). There is specific university regulation adopted which precisely define steps which need to be realized in order to ensure transfer of research grant and realized results.

Career development services

There is a career development center (CDC) established at the University of Kragujevac. CDC serves around 150 students annually, in the CDC offices. Email/phone consultations and visits to faculties located outside of the University are not included in this number, and they are not tracked.

The CDC at the University of Kragujevac provides the services only to students/graduates and employers. There is no special set of services for PhD students and/or researchers only. However, all students of the University can benefit from the above listed services, including PhD students. In 2014, there were 10-15 PhD students coming to CDC for guidance and informing on opportunities for education/research abroad within various exchange/scholarship programs and there were also a few doctoral students participating in the free language courses (1st year only), organized by CDC.

In addition to that, other unit of the University, Office for the International Projects works closely with the academic community, including PhD students and researchers. They provide regular information about the open calls for project applications to the University professors, assistants and researchers and organize Info days dedicated to the open calls and current possibilities within Erasmus +, HORIZON 2020 and other international funding instruments. This unit provides also assistance to the applicants within academic community, which are often PhD candidates and young researchers. Currently there are no capacities to extent and/or develop new services particularly aimed at doctoral students.

The most commonly provided services are providing career related information (information on student internships, various calls for students in the area of formal and non-formal education, etc.) and individual and group counseling (providing assistance in preparing CV and motivation/cover letter for internships/job positions/scholarships, etc.). Other services are as follows:

- Individual counseling in decision making relevant to career development;
- Assistance in applying for various programs (from a scholarship for summer school to scientific conferences);
- Workshops on How to write a CV, how to prepare motivation or cover letter for a job/scholarship;
- How to prepare for the first meeting with the employer, interview simulations;
- Workshops for active and creative job search;
- Workshops for developing public presentation skills;
- Development of internship programs in cooperation with employers;
- Free language courses (English and German) - in order to help you be more competitive in the labor market;
- Firsthand advices: meeting employers and students, discussions and company presentation, to help students to understand better the world of business and business culture of different companies and to acquire the skills necessary for development and steering of their own careers.

Currently, there are 3 full time staff members, working at CDC, out of which only 1 employee deals exclusively with the activities and services of the Centre, while other 2 are involved in the activities in the area of international cooperation to a large extent. All 3 staff members have background in the social sciences (languages) and are in charge for administration of all the activities, development of new services, as well as for marketing in regard to CDC's work. All legal business is done by the legal department and is under jurisdiction of the Rector and Secretary General of the University, as the CDC is integral part of the University rectorate office.

The staff of the CDC has received extensive training, in the following topics:

- Introductory Training in the Career Service at the Swansea University, UK (training within the Tempus projects Careers);
- Training for student mobility officer at University of Ghent, Belgium;
- The Basis of Communication and Public Speaking: presentation skills, communication, relationships with employers and examples of good practice, USAID, Cromer Group, Serbia;
- Basic and Advanced Career Guidance and Counseling (Soft skills, interview techniques) within USAID Competitiveness Project, Belgrade;
- Career Guidance-Theory versus Practice, organized by British Council Belgrade and Ministry of Youth and Sport of the Republic of Serbia;
- Presentation skills and Basic Seminars for HR management, Coaching and Marketing;
- Participation on national Euroguidance conference on Career guidance and counseling in Serbia: Concept and innovation in Career guidance and Challenges and prospects for the implementation of the quality internship programs in RS - analysis of the legislative framework.

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 weak 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 (Figure 7 and 8).

The respondents were almost unanimous in identifying published scientific publications (92.9%), educational publications (85.7%) and teaching experience (81.5%) as the most important criteria for employment and career development. Identified criteria of significant importance were mobility (68.5%), professional skills (57.1%) and foreign language skills (50.6%). Factors that have been found as less important were technical and expert certificates (38.7%), industry (15.5%) and entrepreneurship (9.5%) experiences.

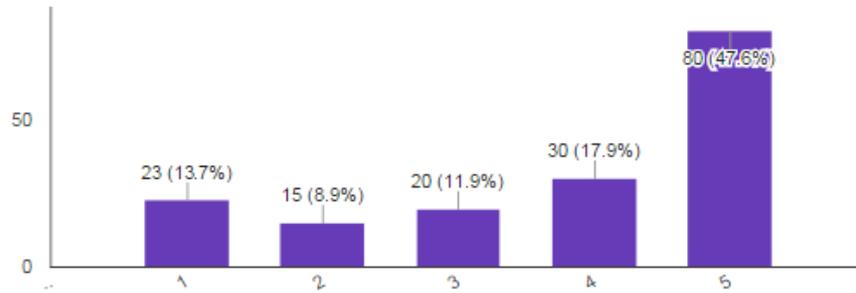


Figure 7. Perception of researchers of the transparency of the criteria for employment or career advancement

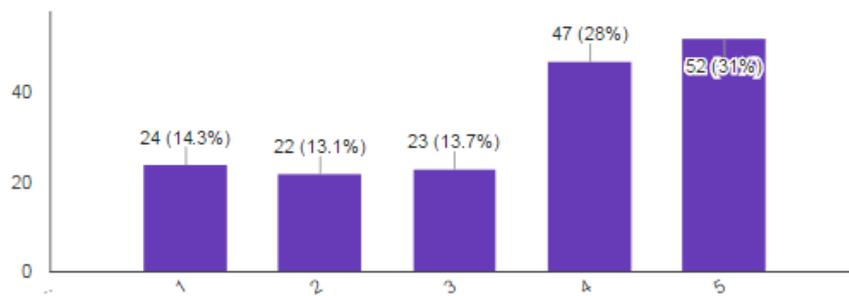


Figure 8. Perception of the fairness and satisfaction of the best interest of the employer in the processes of employment and career development

The respondents were also asked to provide general comments regarding the employment and career development in the university. Below, the highlighted comments are listed¹:

- As implemented, employment practices are for the benefits of the individuals, not organization.
- Employment process is completely corrupted.
- No strategies or vision about the employment of the young researchers. The best candidates are waiting for years, while the bad students are getting employment contracts. Committee members related to the desired candidate are being elected.
- In employment process, rulebooks and codes of practice are being continuously violated and committee members call on the discretionary rights. Lately, the university started to fight with these practices on the faculties and calls for positions are getting cancelled, but they should also investigate past calls and they should do a clear analysis of the realistic HR needs of the faculties.
- Employment depends only on the will of the committee members and not on the quality of the applicants.

¹ 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.

- Although some committees in the past have made mistakes, the committee should be independent and its position should be respected.
- At the faculty I am working in, there is a lack of young researchers.
- The researchers with the top scientific results are put aside. Instead of average grade, scientific papers, mobility and other competences, key criteria for employment are personal connections and family ties.
- PhD students, without a teaching position are engaged in teaching process. In return, they are being waived the tuition, although they don't have to pay the tuition, its being payed from the state budget. Faculty does not remunerate them for that.
- No clear criteria.
- Career advance and especially election into the titles of teaching associate and assistant professors should be controller by the independent institution, because otherwise, faculties are doing whatever they want.
- At my faculty, in last 6 months, 4 calls for positions have been cancelled by the university and one call was cancelled by the ministry in charge. In latter case, the faculty does not want to accept the decision on the cancelation and does not want to implement that decision!
- Employed candidates are not engaged in teaching on the courses where it is the most needed, because of the lack of teaching staff.
- The autonomy of committees is questionable. The committees continuously choose to employ not the best candidates. By doing so, they are discouraging the best ones to even apply for the positions.
- Key criterion for employment of career advance is "membership in a ruling majority" at the faculties.
- The most difficult problem in all country, not only at my organization is the fact that the work contract is bound to the position, which is absurd. Work contract should be umbrella contract with permanent duration, while the election to position needs to be bound to the fulfillment of specific criteria and employee needs. Young researchers with contracts on 3-5 years cannot get a bank loan for apartment; simple workers have better credit ratings than us.

Ethics

The ethical issues at the University of Kragujevac are dealt by the Court of Honor of the University of Kragujevac.

Rules on Election of Members of the Court of Honor of the University of Kragujevac regulate the number of members, composition, election procedure and other issues of importance for the election of members. The Court of Honor of the University of Kragujevac has 7 members elected by the Senate,

according to the following: 1) There has to be at least one teacher from each of educational-scientific, or educational-artistic fields; 2) At least 2 teachers must be from the less represented gender on the candidate list; 3) 2 or more members cannot be from the same faculty of the University of Kragujevac.

The Senate of the University of Kragujevac initiates the election of members of the Court of Honor, with the decision on the initiation of the procedure distributed to all faculties of the University of Kragujevac. The competent authority of the faculty proposes candidates for election not later than 30 days from the delivery of the Senate's decision. Members of the Court of Honor of the University of Kragujevac do not receive remuneration for their work. Court of Honor is receiving help in their work from the professional service, which has continuous access to information regarding the appointment of teachers and doctoral dissertations. Also, in accordance with the Decree on joining the Berlin Declaration, University of Kragujevac now has a repository of doctoral thesis defended at University of Kragujevac's faculties. However, no plagiarism detection tools are implemented, so far.

The work of the Court of Honor of the University of Kragujevac is public, unless the Court in a preliminary consideration of the proposal to institute proceedings, decides to exclude the public from the complete process or from individual hearings, in order to protect the personal, official, business secrets, the interests of public order or moral reasons, while these issues will be dealt with pursuant to the provisions of civil procedure.

Meetings of the Court of Honour, as well as all documentation are available on the internet address of the University of Kragujevac : http://www.kg.ac.rs/sednice_suda_casti.php.

So far, the Court of Honor of the University of Kragujevac has not received any complaints concerning the independence of the work of its members.

In accordance with the University of Kragujevac's Code of Ethics of Teachers, the Court of Honor of the University of Kragujevac initiates the procedure with a proposal which may be submitted to the Court by every professor, associate, researcher and student of the University (hereinafter referred to as the proposer). The proposal may be filed against the teaching staff, researchers and students of the University of Kragujevac in cases of non-compliance with the basic postulates of the Code, or in cases of violation of professional freedom, freedom of speech and research; truthfulness, regarding the detection and defense of truth, dialogue and tolerance in relation to someone else's attitude and opinion; objectivity and impartiality in the assessment of another's work and results; respect for human rights and freedoms, the dignity of a human being, especially in medical and biomedical research; respect for other people's scientific and research results, the obligation not to arrogate unearned results and recognitions; obligation to continually work on their professional and scientific training; obligations to promote and accept mentoring, etc.

Within its jurisdiction, if the Court determines during the proceedings that there are elements of other responsibilities, the Court will direct an initiative to the competent authority to initiate proceedings.

In accordance with the Rules of Procedure of the Court of Honor, for violation of the Code of Ethics the Court may impose: a public warning; a public condemnation, which is proclaimed in the session of the Council of the University of Kragujevac; a public condemnation, published on the University website; and/or a public condemnation published on the University website and in a daily newspapers.

The Court of Honor of the University of Kragujevac deals with three processes annually, on average. Merits of the proposal to institute proceedings depend on the circumstances of the case. Up to now the Court of Honor of the University of Kragujevac has so far determined the responsibility of teachers in only one case.

Seniority culture and its impact to research freedom

Seniority culture is quite present at the University of Kragujevac and it is considered as an obstacle for career progression of the young researchers.

Number of international and national research projects managed by younger researchers is quite small, even symbolic (few on whole University). Approximately 70% of the project coordinators are full professors, with additional 25% among associate professors and only 5% of assistant professors. However, some faculties like Faculty of Medical Sciences have their own program for funding of so called junior research projects where participation of young research staff as project managers is common case.

The number of PhD students supervised by the younger researchers is quite small. Faculties which defined mentorship of finished PhD thesis as one of requirements for election in higher position have much better results in number of PhD students supervised by assistant professors. On Faculty of Science and Faculty of Medical Sciences app. 20 - 25% of PhD students are supervised by younger researchers. On Faculty of Engineering this percentage is 8% while on other faculties this is very rare case.

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 (Figure 9). 48.2% 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, 25% of the respondents were negative and 8.3% positive. 66.7% of the respondents were not familiar with the outcomes of these cases.

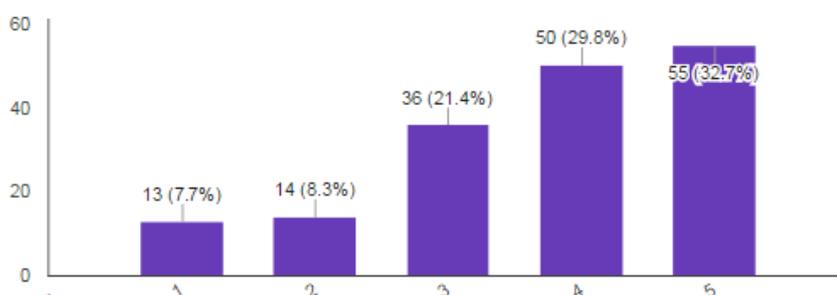


Figure 9. Perception of the satisfaction of the fundamental principles of professional ethics in research

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. Even less positive impression is noted among the respondents 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 largest number of respondents rated it with mark 3.

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.

The highlights of the narrative comments are provided below²:

- Management of the faculty and the departments is neglecting the scientific results of some individual researchers. Faculty website promotes only results of the same group of people and teams.
- Some professors need to be less vain and jealous.
- In most of the election processes, everything is setup in advance. The members of the committees are chosen so they can prepare a positive report for the specific candidate.
- The selection of staff is negative. Bad professor will never employ candidate who is better than him/her.
- The best and the most talented are leaving the faculty, while those who stay are not worthy of the position they get.

Working conditions

There is no EURAXESS Center at University of Kragujevac. However, EURAXESS Jobs portal is used for announcing various scientific open positions. EURAXESS services are also promoted among students and researchers population at University.

Teaching/research balance is one of the present issues, related to working conditions at the University of Kragujevac. There is significant variation in teaching/research work balance at university level due to uneven distribution of scientific and research projects among faculties. In general, all professors contractually have obligation for approximately 50/50 percentage balance of working hours spent on teaching or research. However, this could vary from 80-90/20-10 balance on teaching (for some social sciences and humanities faculties) to 30-20/70-80 percentage balance for some research groups and individuals on technical sciences, medical and science faculties.

Average engagement of full professors is 4 - 5 classes per week, 5 - 6 for associate professors and 6 classes for assistant professors. PhD students are involved in teaching activities with average engagement of six classes per week (variations among faculties could be up to +/- 30%).

Relative to the present state of science and research at national level, laboratory and research infrastructure at University could be considered as generally satisfactory with number of examples which represents high-end equipped research units with modern and advanced instruments and

² 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.

devices, but also with significant number of others with out-dated infrastructure and equipment which hardly could serve as a base for conducting of some advanced research projects. Faculties regularly sign agreements with industries and other research organizations in order to ensure use of specific research infrastructure and also to enable others to use their equipment.

There is no general award system for scientific and research achievements at University neither faculties level. Occasionally and based on specific, extraordinary results, some faculties annually award their researchers with appropriate prizes.

Sabbatical opportunity is recognized and accepted as one of major rights of researchers, regulated by faculty acts which define precise conditions and requests. In general, professors can ask for and be granted one year of paid absence from faculty for purposes of study visit and/or staying at the universities abroad. This is possible after 5 years of work in professorial status. For visiting professorship opportunity, professors need Faculty Scientific & Education Board approval which is regularly issued upon submission of appropriate request and confirmation/call from universities abroad.

Overview of data from the researchers' survey

In the researchers' survey, respondents were asked for the opinion on the adequacy of the research infrastructure (Figure 10), quality of the different services provided by the faculty (legal, HR, accounting, student affairs and EURAXESS SC), teaching-research balance and salaries (Figure 11 and 12).

Respondents were satisfied with the services provided by the legal department, while they were not aware of the HR services provided at the faculties (Figure 10). 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.

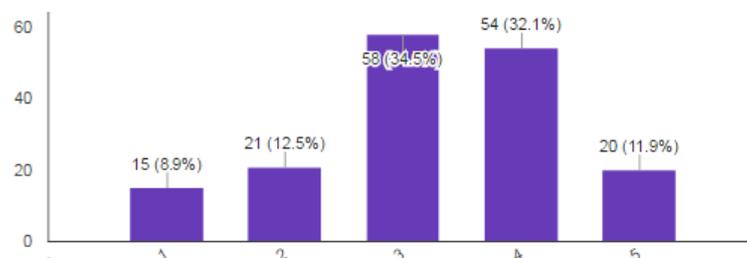


Figure 10. Perception of the adequacy of the institutional research infrastructure, by the respondents

Based on data, in general, researchers are not overburdened with the teaching engagement, although significant improvements could be made (Figure 11). However, data is still not consistent with the desk research results. Respondents were asked to state their average number of teaching hours per week. 53.3% teach 5-10 hours. Additional 23% teach 10-15 hours. The latter 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.

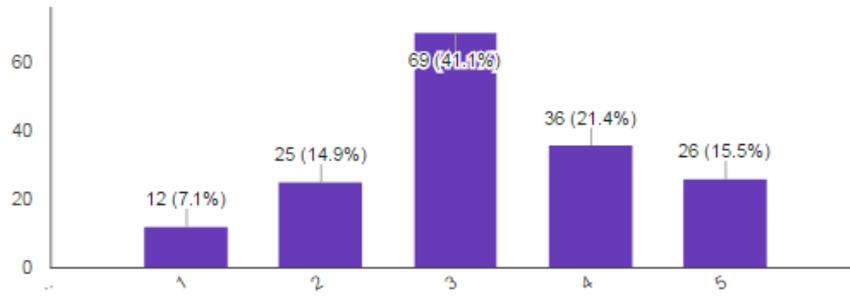


Figure 11. Perception of the overburden of the respondents with the teaching engagement

Quite expectedly, majority of respondents show dissatisfaction with their salaries (Figure 12).

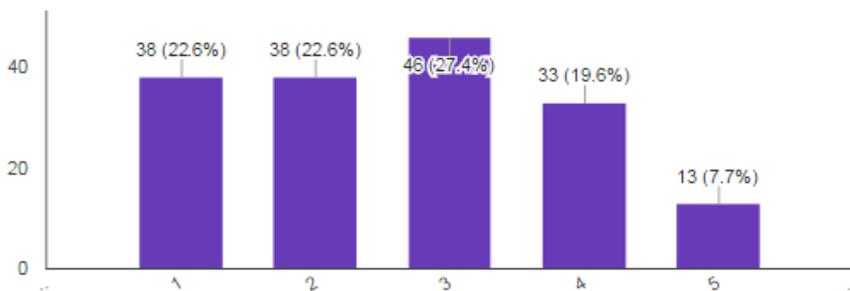


Figure 12. Level of satisfaction of the respondents with the salaries

Finally respondents were asked to provide narrative comments related to working conditions and social security. Some of the highlighted feedbacks are provided below³:

- The decision on giving birth is not intimate. You often take this step on your own responsibility and you have to be ready to take consequences of your choice.
- There are no working conditions or social security in my organization.
- In my organization, employees without a teaching position are engaged in teaching process and this is violation of the national Law on higher education. We are employed for the purpose of the scientific projects and we should not be engaged in teaching. The excuse is that our engagement is compensation for the PhD tuition fee, although we are not obliged to pay that fee, because state budget covers it. On the other hand, typically bad students are employed on teaching positions.
- Teaching engagement is meaningless because the teaching experience is not evaluated during the process of election to assistant professor title.
- Working conditions are very bad, even hostile. The diversity is sanctioned. For the different opinions, expressed as, for example, objections to the employment processes, specific candidates are being permanently rejected, despite the top scientific results.

³ 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.

- Social security is low, because the contracts are not permanent.
- It is necessary to establish a better balance when teaching engagement is considered.

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, there was a consensus in the WG that there is a room for improvement, which could be achieved by additional training and enhanced information sharing.

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. In general, the awareness could be improved significantly as there is lot of open questions, doubts and misinterpretations.

Regarding reporting practice, researchers working at the University of Kragujevac are obligated to submit reports on realized teaching activities and achieved results on semester base to their departments' boards. At faculty level those reports are organized in unique documents which are used for self evaluation purposes, quality improvement, defining of correction measures, statistical purposes and reporting. Reporting on scientific and research activities (on faculty and/or University level) depends on type of project and conducted activities. Since typically, there is a significant paper work for scientific projects reporting (EU or nationally funded) there is no additional requests defined, except for some regular reporting on progress in projects realization.

Public engagement

Except for presentation of the results on the scientific conferences and by publishing the journal papers, faculties regularly participate in different national and international promotional activities, such as: science fairs, medical and technical fairs and exhibitions, local, regional and national public scientific events (night of researchers), scientific competitions, appearance in printing and digital media, organized visits, faculty open days, etc. University and its faculties regularly organize and participate in career promotion events in schools.

University does not have a PR department. Some faculties engaged persons that are mainly responsible for organization of PR and promotional activities. Main activities of PR responsible persons are: promotion of faculty offers for education of students, promotion of faculties offer in field of lifelong learning, preparation of promotional material (printing and digital), maintaining web sites, Facebook pages, etc.

University of Kragujevac maintains Facebook page (<https://www.facebook.com/UniversityOfKragujevac>) and it is used for news publishing, events announcements and other promotional activities. Each faculty at the University of Kragujevac has its official Facebook page and it is used mainly for promotional activities. Some of the faculties also have Twitter account, Youtube channel, etc.

Overview of data from the researchers' survey

Survey data shows (Figure 13) that, the awareness of the respondents about the contractual and legal obligations arising from the employment contract and other signed acts and agreements is solid but not full. Even less positive 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 (before publication), as well as the protection of the personal data which is collected in the research process (Figure 14).

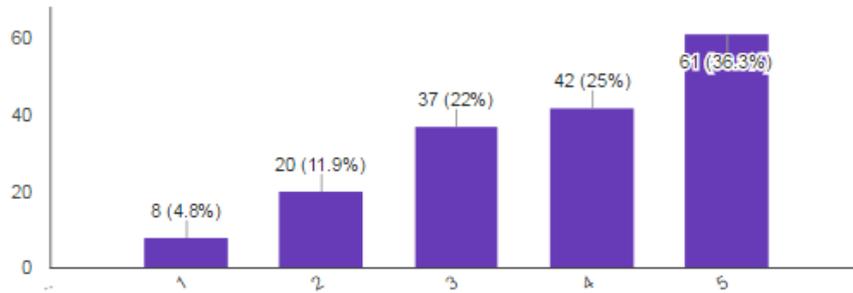


Figure 13. Awareness of the respondents about the contractual and legal obligations arising from the employment contract and other signed acts and agreements

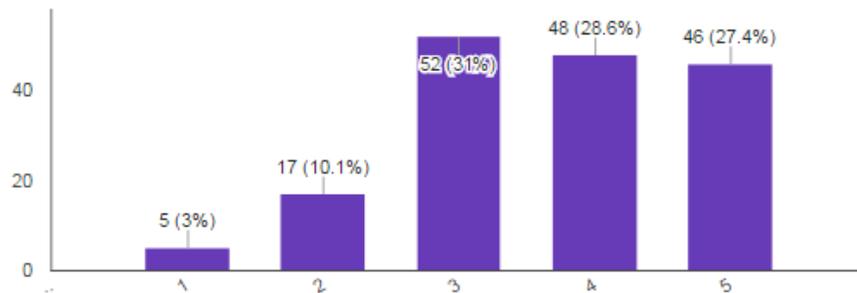


Figure 14. Perception on the institutional level of implementation of good practices related to the protection of research results, their confidentiality (before publication), as well as the protection of the personal data which is collected in the research process

In general, respondents were not fully 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).

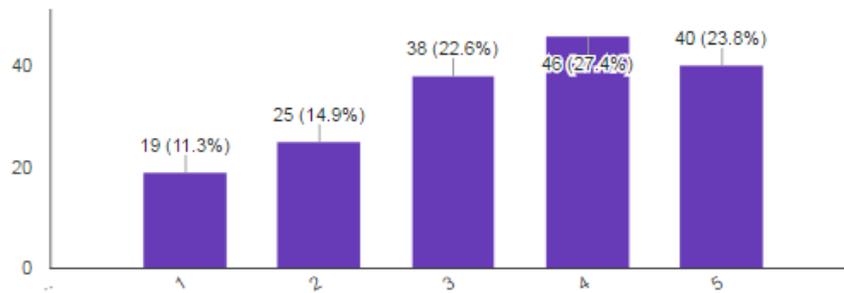


Figure 15. Satisfaction of the respondents with a reporting and assessment/evaluation system on the research of individual researchers

The level of public responsibility of researchers regarding the dissemination of the scientific results in the broader communities is moderately high, according to the respondents' perception (Figure 16).

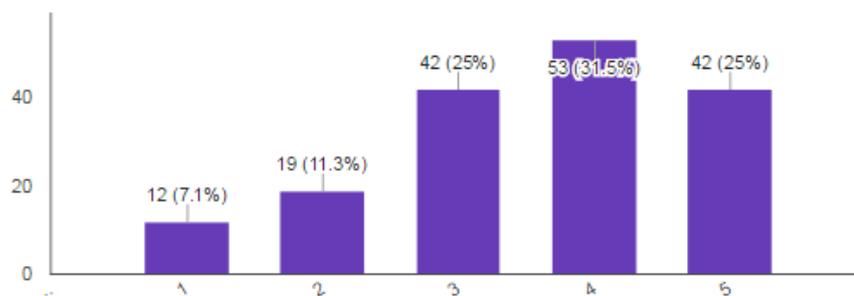


Figure 16. The perception of the respondents of the adequate presentation of the scientific results in the general public

Training

Mentoring and supervision

A researcher can work as a mentor at University of Kragujevac, if he/she meets certain conditions, as defined by the recommendations and standards given by National Advisory Board for Higher Education of Republic of Serbia. Faculties could define additional conditions for PhD mentorship which are generally expressed through number of published papers in journals from SCI list and participation in scientific projects in previous period of 10 years. Some faculties have remuneration practice for mentoring of self-financed PhD studies (not for those financed by the government awarded grant). Remuneration is paid in form of a fee upon successful finalization of all activities.

The conditions for participation in the work of PhD evaluation committee are, on some faculties, more-less same as for mentorship. On other faculties minimal requirements for PhD evaluation committee are related to: position of professor in scientific field, scientific competence within specific area and, published papers. Similarly to mentoring practice, members of PhD evaluation committees could be remunerated for their work, in case of self-financed PhD studies.

PhD students can elect adviser (professor-adviser or mentor-adviser) in early stage of their studies. On some faculties this procedure is performed in the initial phase of PhD studies, in first semester, in which case this adviser provides support and help to a student in definition of courses he or she will select within defined study program. At other faculties, advisor selection is prolonged to second year of study as joint courses are organized in first year. Mentor-adviser could become mentor for PhD student (usually but not mandatory) in phase of PhD thesis application preparation. Approval of PhD thesis application, by faculties and university boards, include both -acceptance of thesis proposed title, subject, content, etc. and acceptance of thesis mentor.

Some faculties have defined standard reporting procedures and forms for PhD studies, while the others present information and discuss on them on departments' board meetings. During initial stage of PhD studies, reports on progress are prepared by Student office (number of courses per student passed in semester/year). This information serves as base for evaluation of results of PhD studies on faculty level. Upon submission and acceptance of PhD thesis application, during period of work on thesis, in general there is no mandatory form of reporting on progress for student and mentor, with exceptions of some faculties which defined this obligation, too. Mandatory reporting is defined in case of delay in PhD thesis finalization, where student have obligation to explain reasons and ask for prolongation of terms while mentor need to sign and approve his/her request.

A PhD student can submit a written request for changing the assigned mentor. This request needs to be argued with elaborated reasons for a change. Requests are evaluated by the departments' and faculties' boards and finally approved by the university.

PhD training

University of Kragujevac offers accredited PhD studies in English language in scientific fields of Industrial Engineering and Engineering Management which officially started in 2015/16. Besides that, master courses for English language and literature is offered fully in English language for past 7 years. In general, interest of foreign students for PhD studies in English language was not too significant in previous period, so individual cases were included in PhD studies through standard study programmes with mentorship and individual work on selected courses in English language. However, with constant increase of the number of available student mobility grants and development of cooperation with foreign universities, a need and awareness for development of such courses arises and could be expected that their number and content will be improved in future.

At this moment, University of Kragujevac does not offer any joint PhD degree courses in collaboration with domestic or foreign universities. There were some attempts and projects focused on organization of such programmes, but until now they were not accredited. There are some examples of joint work with foreign universities on PhD studies for individual candidates and mutual acceptance of achieved results.

Except their engagement in work with students, PhD students participate in realization of national and international projects, projects financed by the industry or by faculties' own funds, they also work in organization of conferences and workshops, promotional activities of faculties, they attend other conferences and workshops, etc. Through their work on various projects and external trainings, PhD students gain access to the opportunities to secure additional funds. However, training for transversal

skills, including fund raising is not a part of the PhD programme. PhD students are stimulated to attend professional development courses. Several such courses were developed through realization of some Tempus projects.

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 (Figure 17) 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 interest/motivation of the mentors/supervisors (39.9%), and lack of availability (overburden) of mentors/supervisors (38.1%).

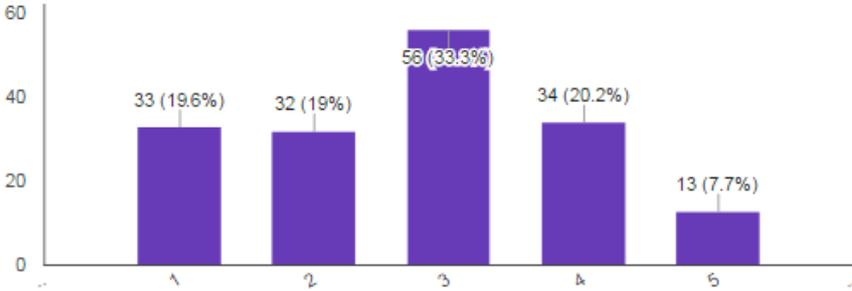


Figure 17. Perception of the misconduct in the activities of mentorship and supervision (superficial manner and lack of effective evaluation)

Respondents were only moderately convinced that researchers in the university are interested in pursuing professional development opportunities (Figure 18). Some factors that could negatively affect the individual professional development efforts are lack of trainings/courses offers (53%), lack of availability (overburden) of researchers (46.4% of respondents), and the fact that the level of professional skills is not taken into account in career development (35.7%).

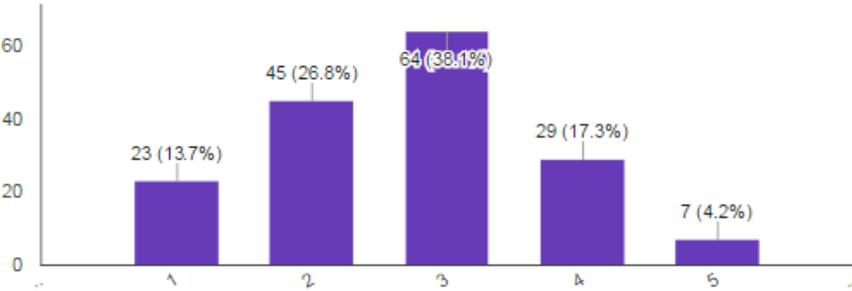


Figure 18. Perception of low interest of researchers to pursue continuing professional development opportunities

Some narrative comments regarding training and professional development of researchers are highlighted here⁴:

- Continuous development is happening at the rate allowed by the mentor or team leader.
- There is no strategy on enrolling the best candidates. Valuable information is not disseminated effectively.
- Researchers are completely discouraged because of the expected difficulties in career advance and employment opportunities after PhD completion.
- Increase the motivation level and make available information related to improving professional skills.
- Due to the industry devastation in the country, there are no more links between academia and industry.

Research projects and collaboration

The research in University of Kragujevac is funded from the national research fund, EU programmes, industry collaboration and own funds. Table 1 shows the estimated proportion of funding sources in different scientific fields.

Table 1. Approximate distribution of funding sources among different scientific fields.

	national research fund	EU programmes	industry collaboration	own funds
Natural sciences:	90	10	/	/
Engineering and technology:	65 - 75	10 - 25	5 - 25	0 - 5
Medical and health sciences:	50	10	/	40
Agricultural sciences:	70	25	5	/
Social sciences:	25	/	/	75
Humanities:	65 - 100	0 - 25	/	0 - 10

Share of internationally funded projects is generally low and research and innovation projects are very rare among them. Number of EU funded projects show decreasing tendency after initialization of H2020 programme. In past two years, University of Kragujevac participated only in two FP7/H2020 programme projects: ARTreat - Multi-level patient-specific artery and atherogenesis model for outcome prediction, decision support treatment, and virtual hand-on training, FP7-ICT ref. no 224297; and INNHF - Innovation through human factors in risk analysis and management, FP7-PEOPLE, ref. no 289837.

University maintains a central database of EU funded research projects. Faculties have databases of nationally funded research projects, and projects funded through industry collaboration or from own funds. All databases are open for some basic information regarding projects.

⁴ 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 relatively high uptake of industry collaboration in research projects at the University of Kragujevac (considering national average) had also impact on the PhD training methodology. Industry representatives participate as supervisors in industry based PhD research programs. In general, they are in close relations with university PhD mentor ensuring industrial impact on subject, scope and methodology of research within PhD thesis. There were good examples of such cooperation in previous period, which resulted in PhD thesis with both scientific and practical contribution.

Collaboration with alumni associations and scientific diaspora is organized on the faculties level with some good examples (founded alumni club with faculty office and regular joint activities). Contacts are institutionally maintained by deans or vice-deans or individually by teaching staff through personal contacts and relations.

University and its faculties also have good collaboration with local administrations (cities and regional administration, officials, bodies and institutions) in number of different activities (education, student internships, joint projects, scientific & research, partnership in EU funded projects, etc.). Cooperation with NGO is also increasing especially in the area of joint participation in EU funded projects or some national actions and activities (ecology, public awareness, health, culture and humanities, people rights, etc.). Finally, there were good examples of cooperation with foreign embassies which resulted in realization of some interesting bilateral projects and establishing of closer relations with universities from those countries.

Overview of data from the researchers' survey

The survey have found that researchers are moderately satisfied with the way institution disseminate and share accurate and updated information about research funding opportunities (Figure 19).

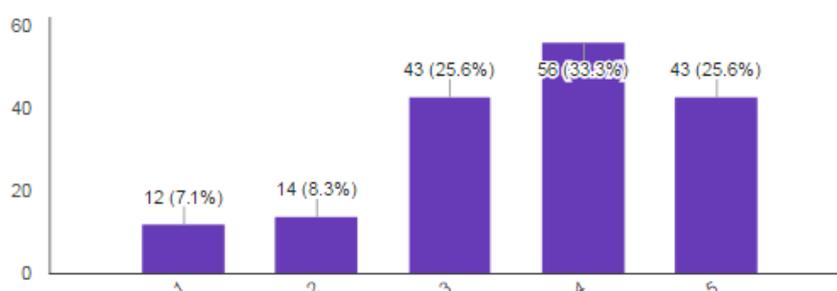


Figure 19. Perception of the respondents on the efforts by the institution to deliver accurate and updated information about the opportunities for research funding