



Conference of Universities in Serbia



Restructuring of Doctoral Studies in Serbia RODOS

544093-TEMPUS-1-2013-1-RS-TEMPUS-SMGR



Conference of Universities in Serbia CONUS



Studentski trg 1, Belgrade, Serbia

00 381 11 32 07 400

<http://www.bg.ac.rs/sr/konus>

rodosproject@yahoo.com

Presentation of the Project

Srdjan Stanković

Grant-coordinator of the RODOS project

**Restructuring of Doctoral Studies in Serbia
RODOS**

544093-TEMPUS-1-2013-1-RS-TEMPUS-SMGR

List of Partners

- **Conference of the Universities of Serbia (CONUS), RS**
- **University of Novi Sad (UNS), RS**
- **National Council of Higher Education (NCHE), RS**
- **Ministry of Education, Science and Technological Development (MEST), RS**
- **Association of PhD Students and young Researchers of Serbia (PhDSS), RS**
- **University of Arts (UAB), RS**
- **Ghent University (UGent), BE**
- **Instituto Superior Técnico (IST), PT**
- **Technical University of Crete (TUC), GR**
- **Universität für Bodenkultur Wien (BOKU), AT**
- **Electric Power Industry of Serbia (JPEPS), RS**
- **Chamber of Commerce and Industry of Serbia (CCIS), RS**
- **University of Kragujevac (UNIKG), RS**
- **University of Nis (UNI), RS**
- **State University of Novi Pazar (SUNP), RS**
- **Singidunum University (SU), RS**
- **Megatrend University (MU), RS**
- **Serbian Academy of Sciences and Arts (SASA), RS**
- **University of Belgrade (UB), RS**

RODOS Rationale

- "to ensure primary role of science at universities, to develop and improve the overall research potential, to generate teaching staff for HEI's and the highest professionals for industry and civil services, contributing in such a way to the creation of new knowledge, to faster technological development and to the improvement of cultural and national identity"
- (Strategy of the Development of Education in Serbia, SDES, 2012, Part IV)

RODOS Sub-objectives

- 1) To reconsider the existing national policies/standards for doctoral studies and to develop new ones, better adapted to the EU standards and local experiences;
- 2) To develop a new model for public funding of doctoral studies;
- 3) To define more comprehensively the status of doctoral students (student rights, obligations, choice of supervisors, health insurance);
- 4) To make doctoral studies more compatible with the needs of industry and civil services and better adapted to an employment market that is wider than academia;

RODOS Sub-objectives

- 5) To develop the concept of doctoral schools as an integration factor at intra university and inter university levels;
- 6) To develop and test several specific models for new structures developed within 2 – 5;
- 7) To meet the challenge of interdisciplinary training and the development of transferable skills;
- 8) To ensure quality control by strong collaboration with students, QA institutions and other stakeholders;
- 9) To achieve dissemination and sustainability of the results

- Primary target group: the whole academic community (teachers, students, administrative staff and management), together with scientific research institutions, industry and civil services;
- Moreover, the whole society will benefit directly or indirectly from the project actions: implementation of the Bologna principles, overall economy, better planning and coordination of R&D and innovation activities, strengthening the interaction of students, researchers and research teams, mobility, fitting into the EU Modernization Agenda.

RODOS Directions

1)

The first direction is largely dedicated to reconsideration of already existing standards and bylaws for doctoral studies and reformulation and adoption of new ones by relevant bodies, including: (a) QA standards, (b) financing models for doctoral studies, (c) regulation of status of doctoral students; (d) research policies in the light of doctoral studies, (e) formulation of roadmaps for better cooperation with industry, (f) standards for joint doctoral degrees.

RODOS Directions

2)

The second direction is related to the concept, structures and implementation of, **Doctoral Schools** with the aim to increase the international and social value of the doctorate from the perspective of potential researchers, as well as from the labor market point of view, to enhance the support provided to doctoral students in the course of their doctorate research and to strengthen quality culture in doctoral studies. Special attention will be paid to joint doctoral degrees, emphasizing the need for diversity, according to the Salzburg principles.

RODOS Directions

3)

The third direction is dedicated to the implementation of several models for Doctoral Schools, including the provision of space and equipment for Doctoral School Offices, formulation of selected study programs embedded in these Doctoral Schools, including the accreditation of the Schools and programs, their implementation and enrolment of students.

WP 1.0. Quality Assurance and Funding of Doctoral Studies

Lead Partner:

National Council for Higher Education, Republic of Serbia

Start: December 01 , 2013

End: May 30, 2015

1.1. Training of university staff in QA standards for doctoral studies in EU

1.2. Evaluation of the existing QA standards for doctoral studies in Serbia

1.3. Formulation and adoption of modified QA standards for doctoral studies

1.4. Evaluation of models for funding doctoral studies

1.5. Adoption of bylaws on funding doctoral studies

WP 1.0. Quality Assurance and Funding of Doctoral Studies

- Restructuring of a part of legal foundations for doctoral studies in Serbia: prerequisite for a great part of the envisaged activities:

1) General regulations reconsidered: the Law on Higher Education (LHE) , the Law on Research and Development (LRD), together with the relevant by-laws related to internal and external quality assurance and accreditation standards formulated on the basis of learning and research outcomes. Proposals of necessary changes will be formulated, presented at a Workshop and adopted by the MoE.

WP 1.0. Quality Assurance and Funding of Doctoral Studies

2) Models of public funding of doctoral studies will be elaborated, taking into account experiences in EU and concrete conditions in HE and research institutions in the region. A new system will be formulated, based on a combination of a) direct funding of taught courses and b) funding of dedicated doctoral projects for the research part of the studies. Decisions about these projects would be done by a specially nominated committee starting from the National Strategies of HE, R&D and the quality of the themes proposed by potential supervisors. After a discussion on a workshop, the corresponding bylaw will be adopted by MoE..

WP 1.0. Quality Assurance and Funding of Doctoral Studies

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WP 1.0. Quality Assurance and Funding of Doctoral Studies

Modified QA standards for Doctoral Studies

Results: book issued and printed by RODOS "Doctoral Studies in Serbia"

- Evaluation and monitoring as tools for quality enhancement;
- Supervision, as an important issue within doctoral studies;
- Career development of doctoral students.
- The actual situation in Serbia:
- An overview of doctors of science and arts in Serbia
- An evaluation of the current status of doctoral studies in Serbia.

The given evaluation has been related to:

- competitiveness of higher education institutions
- analysis of teaching staff;
- distribution of students of doctoral studies within particular fields.

WP 1.0. Quality Assurance and Funding of Doctoral Studies

Large conference "**Doctoral Studies in Serbia**" December 4th 2014 in Belgrade, with more than 170 participants.

Sustainable outcome: **modified QA standards** accepted by the CAQA, and addressed to NCHE:

- stronger emphasis on learning outcomes within the teaching part
- stronger emphasis on the research part of the studies, requiring an original contribution
- better connection with the society, requiring the related competences
- more strict norms concerning the academic staff, especially in relation with the process of supervision
- stronger emphasis on transferrable skills
- insisting of transparency and accountability
- better relation with students, especially within process of supervision.

WP 1.0. Quality Assurance and Funding of Doctoral Studies

- **Funding of Doctoral Studies:**
- analysis of the existing approaches
- proposal of new measures

Initial Working Group:, September 20th 2014. On December 16th 2014. a larger working group appointed . Discussions at Ghent, March 27th 2015 and at the Conference held at Novi Sad, April 3rd 2015.

The final version of the proposed new regulations was analysed and adopted at the Working Group meeting held in Belgrade on May 15th 2015.

Prerequisites: **training of the university staff in QA standards and funding regulations for doctoral studies in EU** - participation of all Consortium members participated very intensively in the corresponding mobilities, presented in more detail below

WP 2.0. Research Policy and Industry in Restructuring Doctoral Studies

Lead Partner:
University of Novi Sad, Serbia

Start: May 30, 2014

End: February 28, 2016

- 2.1. Analysis of the research policy in Serbia in the light of doctoral studies**
- 2.2. Modification and adoption of bylaws on research policy**
- 2.3. Analysis of the role of industry and civil sector in doctoral studies**
- 2.4. Definition and adoption of roadmaps for doctoral studies**

WP 2.0. Research Policy and Industry in Restructuring Doctoral Studies

- Two distinct but strongly interdependent directions:
 - 1) At the first step, an analysis will be done of the existing R&D Institutes, taking into account their character, quality of people and laboratories, etc. from the point of view of potential participation in doctoral studies. An integration strategy between the Institutes and the Universities will be proposed for the domain of doctoral studies, leading to Doctoral Schools (to be developed completely in WP3). After a discussion at a Conference, the corresponding bylaws will be adopted by the MoE.

WP 2.0. Research Policy and Industry in Restructuring Doctoral Studies

2) Strategic connection with Industry in both directions: **industry** formulates its requirements (research topics, desired profiles of graduates) and **academia** those for help in formulating useful innovation projects. Mutual exchange of information through the Chamber of Commerce and Industry, and a special body (NCHE, NCSD) for enhancing collaboration, establishment of Doctoral Schools (WP3) supported by R&D departments from industry, Direct participation of industry partners (EPS) is considered to be very beneficial. The corresponding bylaws will be finally adopted by the NCHE and MoE.

WP 2.0. Research Policy and Industry in Restructuring Doctoral Studies

- In December 2014: the book "Science in Serbia, 2010-2014" printed by RODOS
 - The new survey "Science in Serbia in 2014" is being printed by RODOS
- Contribution of RODOS: to clarify the role of doctoral studies.

One of the major problems for doctoral studies in Serbia: the lack of critical mass of researchers

- More efficient engagement of researchers from the Institutes (Serbia has 56 Institutes, among which 28 are categorized as scientific; 14 Institutes are members of the Universities of Belgrade and Novi Sad).
- Changes of the Law on Higher Education: amendments adopted by the National Assembly in September 2014 based on a RODOS initiative
- Direct engagement of researchers from the Institutes is legalized (teaching and supervision of the theses).

WP 2.0. Research Policy and Industry in Restructuring Doctoral Studies

- One of the main challenges of RODOS: to open a more intensive collaboration with industry. The related activity initiated as early as in June 2014 at several meetings organized in the Chamber of Commerce and Industry of Serbia.
- At the PMB meeting held on December 4th 2014 it was decided to start the activity by launching a questionnaire (more than 1000 addresses).
- Issues: 1) Current situation in the enterprise; 2) Desirable qualifications of PhD bearers; 3) Collaboration with HE and research institutions; 4) Opinion about doctoral studies in Serbia; 5) Trends of the development of industry of Serbia and potential influence of doctoral studies.
- Conference in the Chamber of Commerce on April 23rd 2015.
- Additional similar meetings in Kragujevac and Niš before September 2015.
- Decision: to intensify contacts with industry by focusing on larger companies
- Start of Activity 2.4 (devoted to the related road map)

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WP 3.0. Doctoral Schools: Concept, Standards and Organization

Lead Partner:

Conference of the Universities of Serbia, Serbia

Start: May 30, 2014
End: February 28, 2016

- 3.1. Analysis of EU experience in the domain of Doctoral Schools**
- 3.2. Organization of a conference on Doctoral Schools**
- 3.3. Adoption of bylaws for founding Doctoral Schools**
- 3.4. Training of the university staff on Doctoral School organization**
- 3.5. Formulation and adoption of accreditation standards for joint doctoral degrees**

WP 3.0. Doctoral Schools: Concept, Standards and Organization

- Establishment of Doctoral Schools in Serbia, including:
 - 1) the definition of their concept,
 - 2) the related QA standards and
 - 3) by-laws for their establishment and organization. The main goal of Doctoral Schools is to increase quality and efficiency of doctoral studies, including both teaching and research. Also, they could represent an important integrative factor for the universities themselves, overcoming the existing strict division into faculties, as well as for public and private HEI's.

WP 3.0. Doctoral Schools: Concept, Standards and Organization

- Doctoral Schools will contribute to the achievement of a critical mass of researchers; enhancement of mobility of teachers and students.
- Applications: inside universities (inter-faculty Schools) and between universities (inter-university Schools). Inter-faculty Schools will be mostly related to multi-inter-trans disciplinary studies, while the inter-university Schools should connect teachers and researchers working in the same field.
- Increase of quality of supervision and assessment exploiting the leadership of stronger and more qualified persons, groups or departments.

WP 3.0. Doctoral Schools: Concept, Standards and Organization

- The existing EU experiences in the domain of doctoral schools and joint doctoral degrees have been thoroughly analyzed and evaluated.
- Events :
 - 1. Study visit to TUCe, September 2014;
 - 2. Common meeting of the National Council for Higher Education and the National Council for Research and Technology Development, Belgrade, December 4th, 2014.
 - 3. Study visit to BOKU University, December, 2014.
 - 4. TREND 2015 Conference, Zlatibor, February, 23-26, 2015; papers:
QUALITY ASSURANCE IN DOCTORAL STUDIES: DOCTORAL SCHOOLS
and *WHY SERBIA NEEDS DOCTORAL SCHOOLS? POTENTIAL MODELS*
(authors RODOS team members)

WP 3.0. Doctoral Schools: Concept, Standards and Organization

- **5. Study Visit to Ghent University, March 2015**
- **6. Conference organized in the Chamber of Commerce of Serbia (Belgrade, April 23, 2015)**
- **7. Conference “Higher Education and ICT Sector in Serbia”, organized by HERE Team, Ministry of Education, Science and Technology Development, MESTD, and Tempus Foundation – Erasmus + Office Belgrade in cooperation with Chamber of Commerce of Serbia and Vojvodina ICT Cluster (University of Novi Sad, September 30, 2014)**
- **and Vojvodina ICT Cluster (University of Novi Sad, September 30, 2014)**

The analysis on the doctoral study level in Serbia, performed within the RODOS Project and published , gives a comprehensive overview

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WP 3.0. Doctoral Schools: Concept, Standards and Organization

- According to **Activity 3.2**, a Conference on Doctoral Schools was organized in the large hall of the University of Novi Sad on April 3rd 2015 (participation of more than 50 representatives of all HE institutions of Serbia, including deans and vice-deans of the University of Novi Sad). A comprehensive overview of European experiences was presented using different characteristic examples.
- It is planned, in addition to the Work Plan, to organize in 2015 similar conferences at the Universities of Nis, Kragujevac and Novi Pazar. Such conferences appear to be very beneficial for the Project goals not only in the sense of contributing to dissemination, but also in the sense of explaining the main goals of the Project to the whole academic community and searching for good examples for implementation of the general ideas related to doctoral schools (basis for DEV4).
- overview

WP 4.0. Establishment and Implementation of Doctoral Schools with Selected Study Programs

Lead Partner:
University of Belgrade, Serbia

Start: August 31, 2014
End: November 30, 2016

- 4.1. Concept and establishment of selected models for Doctoral Schools**
- 4.2. Provision of space and equipment for Doctoral School Offices**
- 4.3. Formulation of selected study programs for Doctoral Schools**
- 4.4. Formulation of rules and regulations for students at Doctoral Schools**
- 4.5. Accreditation and implementation of selected study programs**

4.0. Establishment and Implementation of Doctoral Schools with Selected Study Programs

- Establishment of four selected Doctoral Schools in Serbia, as well as a selected set of embedded doctoral study programs.
- Main mission: foundations for an efficient management and administration of the Doctoral Schools which will be selected by the Consortium of the Project, according to the existing capacities, competencies and resources, including the inter-university task forces organized within the Project.

4.0. Establishment and Implementation of Doctoral Schools with Selected Study Programs

- Focus areas: Material Sciences, Cyber-physical Systems, Natural Sciences, Arts and Humanities.
- Selection: University decisions
- Artificial Business Intelligence (ABI) systems purchased and installed
- Set of selected study programs accredited by the CAQA) according to the standards developed in WP1. Special care will be taken of the formulation of a set of doctoral research projects, in accordance with the results of 1.5.

4.0. Establishment and Implementation of Doctoral Schools with Selected Study Programs

- The PMB has conclusion(December 16th, April 3rd) : Activities 4.1 and 4.3 have to be merged
- Current ideas:
- **Doctoral School of Mathematics.**
- **Doctoral School of Arts.**
- **Doctoral School of Artificial Intelligence.**
- **Doctoral School of Bio photonics.**
- **Doctoral School for Material Science.**
- **Doctoral School for Agriculture.**
- **Doctoral School of Biology.**
- **Doctoral School of Medicine.**

4.0. Establishment and Implementation of Doctoral Schools with Selected Study Programs

- It was decided at the PMB to add an additional value to the Project (in particular, to the Activity 4.3) by organizing in Autumn 2015 short (two or three day) courses related to transversal skills (research methodology, project management, composition of scientific papers, research ethics, etc.). These courses would be financed by the Project, and kept open for all doctoral students at particular Universities (nucleus for the organization of these courses was made at the PMB meeting at Novi Sad on April 3rd 2015. Organization of these courses will start in September 2015. It is expected to achieve in such a way two main goals: 1) to get more experience in organization of short courses for doctoral students (similar to those organized in UGent); 2) to show in an evident way advantages provided by Doctoral Schools.

WP 5.0. Quality Plan

Lead Partner:
Ghent University, Belgium

Start: December 01, 2013
End: November 30, 2016

- 5.1. Self evaluation by consortium members**
- 5.2. Internal quality control by Committee for Quality Control and Monitoring**
- 5.3. External quality control by external experts**
- 5.4. Peer review of the study program**

WP 5.0. Quality Plan

- Committee for Quality Control and Monitoring (CQCM) established: report twice a year based on evaluation criteria and mechanisms that will be adopted at the first meeting of the CQCM and will be sent to the Project Management Board (PMB) for further decision making.
 1. Procedures for self-evaluation will be established by CQCM and everyday monitoring of work plan realization in close cooperation with the contact person from CONUS through project web site monitoring and by sharing information about the progress.

WP 5.0. Quality Plan

2. Internal evaluation: analysis of the project activities by the CQCM, but also an analysis of questionnaires distributed to participants at the end of every training and seminar.
3. External individual experts nominated by CCQM will evaluate all project activities annually (CoE, EUA). The evaluation report will not only assess the progress of the project activities and outcomes, but will also give comments, suggestions and recommendation for further activities in order to reach the planned goals.

WP 5.0. Quality Plan

- The PQCC work plan, the evaluation criteria, the evaluation mechanisms and the structure of the PQCC intermediate reports on internal, external and students' evaluation of the project results were adopted at 1st meeting of the PQCC;
- The report about internal evaluation of 1st six-month project results (RODOS-PQCC-Activity report table) done by the PQCC has been addressed to the Project Managers Board. Reports on completed project activities and announcement of ongoing project activities are available at the project website;
- The first meeting of the PQCC was held on July 2-4, 2014 in Ghent, while the second was on October 14, in Belgrade. The third meeting was held in Ghent, March 24-28 2015, during the visit of the partner institutions to the University of Ghent.

6.0. Dissemination of the Project Results

Lead Partner:
University of Arts, Belgrade, Serbia

Start: **December 01, 2013**
End: **November 30, 2016**

6.1. Creation and updating project web site

6.2. Organizing dissemination conference with industry and society at large

6.3. Distribution of dissemination documents

6.4. Organizing dissemination conference with PhD students

6.0. Dissemination of the Project Results

- 1. The project website will be created within 45 days from the beginning of the project.
- 2. Information sessions, presentations and workshops will be organized at each of the partner institution, emphasizing the functional integration processes within universities.
- 3. Publishing information leaflet with information on project objectives, outcomes/outputs distributed to the relevant institutions in Serbia.

6.0. Dissemination of the Project Results

- 4. Dissemination Conference for the civil sector and industry will be organized once per year in a different university center.
- 5. Dissemination Conference about Doctoral Schools and joint degrees for PhD students and their participation in EURODOC.
- 6. Dissemination of information in media in all countries members of the consortium in order to inform wider public about the results of the project and its importance for EU integration processes.

6.0. Dissemination of the Project Results

- Website and web portal created (Serbian and English version)
- Website and visual identity of the project created
- All related document proposals created
- Databases for web portal and web galleries created
- Dissemination and coordination events web galleries uploaded
- Email accounts created
- Regular website maintenance carried out (information and documents upload)
- Monitoring of dissemination activities carried out (dissemination questionnaire)
- Regular communication with project stakeholders (with main focus on student representatives) and public audiences

7.0. Sustainability of the Project Results

Lead Partner:

**Ministry of Education, Science and Technological Development,
Republic of Serbia**

Start: February 28, 2014

End: November 30, 2016

7.1. Meetings with University representatives

7.2. University networking in Serbia

7.3. Promotion of Doctoral Schools in Serbia

7.0. Sustainability of the Project Results

- Focus: to ensure a platform for functioning of Doctoral Schools beyond the project lifetime.
- Active involvement of all the consortium members ;
- Student involvement in all the project activities (PHDSS, SAB).
- Sustainability guaranteed at different levels: at the academic and institutional level (the project already supported by all the largest Universities), together with MEST and NCHE through the proposal and adoption of new legal documents.
- Partners from industry and civil sector will ensure sustainability of applicative aspects of doctoral studies.

7.0. Sustainability of the Project Results

- Two joint meetings of the National Council of Higher Education and the National Council for Research and Technological Development devoted to doctoral studies, and activities of RODOS in particular (June 16th 2014, December 4th 2014)
- A Sustainability Plan has been drafted in order to identify and organise the activities to be performed during the Project life time in order to facilitate exploitation of the RODOS project's results after the end of the EU's financial assistance. Drafting of this Sustainability Plan and monitoring and further developing activities related to the exploitation of Project results is the responsibility of the RODOS Exploitation Working Group (NCHE (Chair), CONUS, MESTD, UBG and SASA).
- Regular meetings of the leading staff of Serbian Universities with the RODOS project team were organized, focusing on possible forms of Doctoral. This project is highly ranked in Serbia and has been recognized as a priority for improvement of Serbian higher education system.

8.0. Management of the Project

Lead Partner:

Conference of the Universities of Serbia, Serbia

Start: December 01, 2013

End: November 30, 2016

8.1. Daily management of the project

8.2. Writing instructions for financial management of the project

8.3. Regular meetings of PMB

8.4. Regular meetings of the Steering Committee

8.5. External financial audit

8.0. Management of the Project

- All project partners: Project Management Board (PMB), in charge of coordinating all academic, administrative and financial tasks. It will meet regularly at different partner institutions and will be in charge of project policy design and overall decision making. The contact person from CONUS will lead the board. He will be responsible for ensuring on the daily basis that all the activities are implemented in accordance with common agreement, and will be the intermediary for all communications between the co-beneficiaries and the EACEA, responsible for supplying all documents and information to the EACEA,

8.0. Management of the Project

- Appointed persons: reports, financial statements for audits, checks or evaluation, as well as progress reports for their home institutions.
- The Steering Committee (SC): five members from the partner institutions, in charge of following the project activities and making decisions in real time, preparing reports to the EC, controlling finances, adopting all necessary timetables and activity plans. SC will communicate directly with CQC. CONUS will assure a smooth financial follow-up, always trying to ensure consensus. Between meetings of PMB, SC and CQCM, there will be regular communication between all the partners via video conferences, Skype, e-mail, telephone.

8.0. Management of the Project

- Project Management Board was established at the kick off meeting with representatives from all partner Institutions. PMB has nineteen members delegated by all the participating institutions. During the Kick off Meeting, the Project Quality Control Committee and other Project bodies were established.
- PMB had 4 meetings (only one meeting per year was planned in the Work Plan), and within different work packages there were numerous coordination meetings. During the meetings all relevant issues are discussed.
- As a result of good communication and understanding among partners, all project activities have been performed timely and they have been completed according to the proposal of the project.



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