

## The External Evaluation Report of a Doctoral Study Domain

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### I. Introduction<sup>1</sup>

In this chapter, the following shall be summarized:

- the context in which this external evaluation report was drafted (**the type of evaluation, the period of the evaluation visit, the composition of the Experts Committee** etc.);
- details about the doctoral school(s) of which the doctoral domain under review is part (number of doctoral advisors, number of students, institutional context, short history etc.);
- details about the doctoral study domain under review (number of students, institutional context, short history etc.).

This report corresponds to a request from ARACIS for the periodic external evaluation of the Doctoral School of Geology of the Babeş-Bolyai University of Cluj-Napoca. The Babeş-Bolyai University initiated doctoral studies in 1966, with 50 doctoral supervisors from 14 fields of science and 119 candidates enrolled. Babeş-Bolyai University reorganized its doctoral studies in 2002 by implementing the solution of doctoral schools. The Doctoral School of Theoretical and Applied Geology (SDGTA), which manages the field of PhD studies in Geology, has been operating since its establishment by Regulation no. 6731 of 28.05.2004 of the UBB Academic Council within the Department of Geology, Faculty of Biology and Geology, Babeş-Bolyai University of Cluj-Napoca. PhD studies at SDGTA are carried out in compliance with the National Education Law no. 1/2011, the Code of PhD studies approved by the Decision of the Romanian Government no. 681/2011, the Charter of Babeş-Bolyai University, the Regulation of Babeş-Bolyai University for organizing and conducting doctoral studies and the Rules of Procedure adopted by CSUD UBB Decision of 21 November 2018. In the evaluation period from 2015 to 2020, the school had 5 PhD supervisors and 16 students, with a maximum of 4 students per year.

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<sup>1</sup> Each time when applicable the information shall be presented gender-wise.



The activities, stages and methodology for the accreditation procedures of doctoral studies are as described in the article 158 para (4) of the Law of National Education n<sup>o</sup> 1/2011; the Government's Emergency Ordinance n<sup>o</sup> 75/2005 on quality assurance in education, approved by Law n<sup>o</sup> 87/2006; the Ministerial Order n<sup>o</sup> 3200/2020 on the Methodology for the evaluation of doctoral university studies and the systems of criteria, standards and performance indicators used in the evaluation and the Guides on conducting the periodic external evaluation process of doctoral schools and doctoral study domains, developed by ARACIS. This evaluation report describes how the standards are met and provides additional suggestions for improving the program.

In order to carry out the external evaluation, ARACIS appointed an external committee consisting of the following members:

External evaluation committee. Domain: GEOLOGY

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|--|--|
| Coordinator: Prof. Dr. IANCU Ovidiu            | Universitatea "Alexandru Ioan Cuza" din Iasi |
| International expert: Prof. Dr. TOSCANO Manuel | University of Huelva, Spain                  |
| Student: Mr. FURDUI Sorin                      | Universitatea din Oradea                     |

Members of the External Evaluation Committee (EEC) reviewed and examined the accreditation reports provided by the Doctoral School of Geology of the Babeş-Bolyai University of Cluj-Napoca. The reports were evaluated individually before the remote site visit on 2-5 November 2021.

## II. Methods used

This chapter will contain the methods and tools used in the external evaluation process, before and during the evaluation visit, including at least:

- The analysis of the internal evaluation report of the doctoral study domain under review and its Annexes;
- The analysis of documents made available by the IOSUD, in physical format, during the evaluation visit (if such documents have been requested);
- The analysis of documents, data and information available on the IOSUD/Doctoral School(s) website, in electronic format;
- Visiting the buildings included in the institution's property, comprising (indicative and non-exhaustive list, which shall be changed according to the context):
  - classrooms;
  - laboratories;
  - the institution's library;
  - research centers;
  - the Career Counselling and Guidance Center;
  - lecture halls for students;



- the student residences;
- the student cafeteria;
- sports ground etc.;
- Meeting/discussions with doctoral students in the doctoral study domain under review;
- Meeting/Discussions with the graduates of the doctoral study domain under review;
- Meeting/Discussions with employers of the graduates in the doctoral study domain under review;
- Meeting/Discussions with the school officials of the Doctoral School(s) in which the doctoral study domain under review is operating;
- Meeting/Discussions with the doctoral advisors in the doctoral study domain under review;
- Meeting/discussions with the representatives of the various structures of the IOSUD/Doctoral School(s) in which the doctoral study domain under review is operating:
  - The Council of the Doctoral School, the University Senate, the Board of Directors, the Quality Assessment and Assurance Commission, the Quality Assurance Department, the Ethics Commission (including with the student representatives of these structures);
  - the Career Counselling and Guidance Center;
  - student organizations;
  - secretariats;
  - various departments/administrative offices (Social/Student residences-Cafeterias etc.);
- Application of questionnaires to doctoral students or academic staff in the doctoral study domain under review.

The report is based on three sources:

1) An internal evaluation report for PhD studies in Geology drafted following the Order no. 3651/12.04.2021 on approving the Methodology for evaluating PhD studies and systems of criteria, standards and performance indicators used in the evaluation. This self-assessment report was prepared by the director of the SDGTA, Associate Professor Călin Gabriel Tămaş, and Liana Săsăran, PhD, secretary of this doctoral school. Associate Professor Călin Gabriel Tămaş, in cooperation with several doctoral school members, PhD supervisors with tenure, associate university teachers, PhD students, technical and administrative staff, staff of the Institute for Doctoral Studies of Babeş-Bolyai University, staff in the Human Resources and Financial Department within Babeş-Bolyai University, and the staff of the secretariat of the Faculty of Biology and Geology, and staff of the Department of Geology contributed to the report presented to the evaluation committee in June 2021.

2) A day onsite visit of the educational and research infrastructure at Babeş-Bolyai University in November 2021. The visit was conducted by the director of the evaluation mission, the coordinator of the IOSUD evaluation panel, the coordinators of doctoral domain evaluation panels, the student evaluator and the university representatives. The coordinator performed a tour of the university facilities, who considered the questions requested by the other members of the committee. During the site visit, the coordinator of the EEC was presented with the detailed organisation, structure, and curricula of the Doctoral School of Theoretical and Applied Geology.

3) A four-day online meeting as a virtual visit. Several key persons were interviewed, including representatives of the institution and the Council for Academic Doctoral Studies, directors of doctoral



schools, the team responsible for the internal evaluation report, academic staff of the doctoral school, the Ethics Commission, academic staff, employers representatives, students and graduates of the doctoral study. The EEC received answers to open questions based on reading the accreditation reports. The EEC received answers to identified open questions during the remote site visit and substantial additional insights about the operation, structure and plans of the Doctoral School. Those who were interviewed were encouraged to send additional comments to the committee. A few persons used this opportunity, and their comments are included in the committee's material.

4) The EEC had access to all documentation corresponding to the evaluation process through a restricted access authorisation to the ARACIS cloud, including reports and documentation to prepare for the remote site visit.

### **III. Analysis of ARACIS's performance indicators**

#### ***Domain A. INSTITUTIONAL CAPACITY***

*\*general description of domain analysis.*

#### **Criterion A.1. The administrative, managerial institutional structures and the financial resources**

*\*general description of the criterion analysis.*

*Standard A.1.1. The institution organizing doctoral studies (IOSUD) has implemented the effective functioning mechanisms provided for in the specific legislation on the organization of doctoral studies.*

*\*general description of the standard analysis.*

The documentation analysis indicates that the SDGTA has the appropriate legal mechanisms to function correctly and respond to the university community. In 2005, normative regulations were created to organize the doctoral degree as the third cycle of university studies. As a result, Babeş-Bolyai University started developing regulations and policies for the organization and implementation of doctoral studies following the Bologna system. Doctoral studies are organized by the Babeş-Bolyai University's Institute for Doctoral Studies as stipulated by the National Education Law No. 1/2011, the Government Decision No. 681/2011 regarding the approval of the Code of doctoral studies, and the Babeş-Bolyai University Regulation regarding the organization and the carrying out of the doctoral studies.

The University is committed to safeguarding society's priorities regarding quality standards, providing sustainable institutional frameworks to promote and enhance the quality of academic programmes, ensuring service transparency, and encouraging diversity and innovation through the Quality Policy based on quality principles. These organizational culture's objectives and components ensure individualization of Babeş-Bolyai University and its adherence to the fundamental quality assurance principles in the European Higher Education Area.



**Performance Indicator A.1.1.1.** *The existence of specific regulations and their application at the level of the Doctoral School of the respective university doctoral study domain:*

- (a) the internal regulations of the Doctoral School;*
  - (b) the Methodology for conducting elections for the position of director of the Council of doctoral school (CSD), as well as elections by the students of their representative in CSD and the evidence of their conduct;*
  - c) the Methodologies for organizing and conducting doctoral studies (for the admission of doctoral students, for the completion of doctoral studies);*
  - d) the existence of mechanisms for recognizing the status of a Doctoral advisor and the equivalence of the doctoral degree obtained abroad;*
  - e) functional management structures (Council of the doctoral school), giving as well proof of the regularity of meetings;*
  - f) the contract for doctoral studies;*
  - g) internal procedures for the analysis and approval of proposals regarding the training for doctoral study programs based on advanced academic studies.*
- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*
  - analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. The SDGTA provide adequate evidence. They have established regulations and protocols that ensure a high level of management and have described in <https://doctorat.ubbcluj.ro/eng/the-organization-of-the-doctoral-studies/> .

The Council of Doctoral Studies has developed the Regulation for organising and conducting doctoral studies is being developed and updated regularly. The Regulation for organising and conducting doctoral studies at Babeş-Bolyai University, in effect at the time of the internal evaluation, was adopted by Senate Decision no. 483 of 13 January 2020 and is available for consultation on the website: <https://doctorat.ubbcluj.ro/wp-content/uploads/2020/01/RegulamentDoctorat-final-Senat-1-2020.pdf>.

**Performance Indicator A.1.1.2.** *The doctoral school' Regulation includes mandatory criteria, procedures and standards binding on the aspects specified in Article 17, paragraph (5) of the Government Decision No. 681/2011 on the approval of the Code of Doctoral Studies with subsequent amendments and additions.*

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***



The indicator is **fulfilled**. The institution includes all criteria, procedures and standards in its regulations, and they are available for consultation on the website: <https://doctorat.ubbcluj.ro/wp-content/uploads/2020/01/RegulamentDoctorat-final-Senat-1-2020.pdf>.

*Standard A.1.2. The IOSUD has the logistical resources necessary to carry out the doctoral studies' mission.*

*\*general description of the standard analysis.*

**Performance Indicator A.1.2.1.** *The existence and effectiveness of an appropriate IT system to keep track of doctoral students and their academic background.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. Doctoral students' records and their entire activity within the doctoral research programme are preserved in personal files on paper and in electronic format. The Institute for Doctoral Studies staff stores data about doctoral students' doctoral programmes, using the following logistical resources: AcademicInfo and the Single Matriculation Register (rei.gov.ro).

**Performance Indicator A.1.2.2.** *The existence and use of an appropriate software program and evidence of its use to verify the percentage of similarity in all doctoral theses.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. Babeş-Bolyai University has the required logistical resources to check the most advanced similarity analysis in the thesis. IOSUD-UBB annually renew a computer program license to check the percentage of similarity in all doctoral theses through iThenticate and Turnitin. The UBB Institute for Doctoral Studies personnel carries out the measures for checking the similarities under the Revised procedure for the generation and review of the Similarity Report, which was published on 8 March 2017 and under special conditions Senate Decision no. 5939 of 16.04.2020.

*Standard A.1.3. The IOSUD makes sure that financial resources are used optimally, and the revenues obtained from doctoral studies are supplemented through additional funding besides governmental funding.*



*\*general description of the standard analysis.*

**Performance Indicator A.1.3.1.** *Existence of at least one research or institutional / human resources development grant under implementation at the time of submission of the internal evaluation file, per doctoral study domain under evaluation, or existence of at least 2 research or institutional development / human resources grant for the doctoral study domain, obtained by doctoral thesis advisors operating in the evaluated domain within the past 5 years. The grants address relevant themes for the respective domain and, as a rule, are engaging doctoral students.*

- *description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

- *analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. During the period evaluated, 2015-2020 PhD students in the field of Geology have benefited from 16 projects whose references are included in the dossier submitted by the SDGTA.

**Performance Indicator \*A.1.3.2.** *The percentage of doctoral students active at the time of the evaluation, who for at least six months receive additional funding sources besides government funding, through scholarships awarded by individual persons or by legal entities, or who are financially supported through research or institutional / human resources development grants is not less than 20%.*

- *description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

- *analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. SDGTA includes a table showing that at the level of 2020, 11 PhD students receive funding from sources other than government funding from October 2015 to September 2020. Consequently, 40.7% of the PhD students have obtained this funding.

**Performance Indicator \*A.1.3.3.2** *At least 10% of the total amount of doctoral grants obtained by the university through institutional contracts and of tuition fees collected from the doctoral students enrolled in the paid tuition system is used to reimburse professional training expenses of doctoral students (attending conferences, summer schools, training, programs abroad, publication of specialty papers or other specific forms of dissemination etc.).*

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<sup>2</sup>The indicators marked with an asterisk (\*) hold a special status, referring exclusively to the evaluation of doctoral studies domains, as per Article 12 from the annex No.1 of the Order of the minister of education No. 3651/12.04.2021 approving the Methodology for evaluating university doctoral studies and the system of criteria, standards and performance indicators used in the evaluation. In case they are not met, the Agency extends a period of maximum 3 years to IOSUD to correct the respective deficiencies.



- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

**The indicator is fulfilled/partially fulfilled/not fulfilled.**

The indicator is **fulfilled**. SDGTA includes the rector's agreement to apply the 10% doctoral grants received to reimburse professional training expenses during the evaluated period (2016-2020).

## **Criterion A.2. Research infrastructure**

*\*general description of the criterion analysis.*

*Standard A.2.1. The IOSUD has a modern research infrastructure to support the conduct of doctoral studies' specific activities.*

*\*general description of the standard analysis.*

**Performance Indicator A.2.1.1.** *The venues and the material equipment available to the doctoral school enable the research activities in the evaluated domain to be carried out, in line with the assumed mission and objectives (computers, specific software, equipment, laboratory equipment, library, access to international databases etc.). The research infrastructure and the provision of research services are presented to the public through a specific platform. The research infrastructure described above, which was purchased and developed within the past 5 years will be presented distinctly.*

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

**The indicator is fulfilled/partially fulfilled/not fulfilled.**

The indicator is **fulfilled**. SDGTA has laboratories including Stable Isotope Laboratory, X-ray Diffraction Laboratory, Mass Spectrometry Laboratory, Laboratory of Electron Microscopy and Electron Probe Microanalysis, Geomaterials Testing Laboratory, Micropaleontology Laboratory, Laboratory for Analog Modelling, Optical Microscopy Centre, Laboratory of Paleotheriology and Quaternary Geology, Archaeometry-gemology laboratory, Palynological analysis laboratory, and Laboratory of Metallogeny and Computer Network. This matter has been inspected on site by the committee coordinator.

The infrastructure of the Department of Geology of Babeş-Bolyai University provides the analytical expertise necessary to complete the PhD student's thesis projects.

## **Criterion A.3. Quality of Human Resources**

*\*general description of the criterion analysis.*





Standard A.3.1. *At the level of each domain there are sufficient qualified staff to ensure the conduct of doctoral study program.*

*\*general description of the standard analysis.*

**Performance Indicator A.3.1.1.** *Minimum three doctoral thesis advisors within that doctoral domain, and at least 50% of them (but no less than three) meet the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) in force at the time when the evaluation is carried out, which standards are required and mandatory for obtaining the enabling certification.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. The SDGTA 's team of six supervisors (one retired) is highly scientifically trained. Four out of five PhD supervisors tenured at the evaluation meet the minimum standards, while the 5th one does not achieve the minimum value of 3.5 for AIS.

**Performance Indicator \*A.3.1.2.** *At least 50% of all doctoral advisors have a full-time employment contract for an indefinite period with the IOSUD.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. Five of the 6 PhD supervisors working in the field of PhD studies in Geology within SDGTA have tenure within ISD UBB.

**Performance Indicator A.3.1.3.** *The study subjects in the education program based on advanced higher education studies pertaining to the doctoral domain are taught by teaching staff or researchers who are doctoral thesis advisors / certified doctoral thesis advisors, professors / CS I or lecturer / CS II, with proved expertise in the field of the study subjects they teach, or other specialists in the field who meet the standards established by the institution in relation with the aforementioned teaching and research functions, as provided by the law.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*



*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. All the disciplines included in the training programme based on advanced university studies about the field of PhD studies in Geology are taught by the tenured PhD supervisors of SDGTA, whose expertise in the disciplines they teach is proven by their scientific activity.

**Performance Indicator \*A.3.1.4.** *The percentage of doctoral thesis advisors who concomitantly coordinate more than 8 doctoral students, but no more than 12, who are themselves studying in doctoral programs<sup>3</sup> does not exceed 20%.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. None of the doctoral supervisors reaches the number of 8 doctoral students. The maximum number of doctoral students supervised is 5.

*Standard A.3.2. The Doctoral advisors within the domain are carrying out a scientific activity visible at international level.*

*\*general description of the standard analysis.*

**Performance Indicator A.3.2.1.** *At least 50% of the doctoral thesis advisors in the evaluated domain have at least 5 Web of Science- or ERIH-indexed publications in magazines of impact, or other achievements of relevant significance for that domain, including international-level contributions that indicate progress in scientific research - development - innovation for the evaluated domain. The aforementioned doctoral thesis advisors enjoy international awareness within the past five years, consisting of: membership on scientific boards of international publications and conferences; membership on boards of international professional associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad. For Arts and Sports and Physical Education Sciences, doctoral thesis advisors shall prove their international visibility within the past five years by their membership on the boards of professional associations, membership in organizing committees of arts events and international competitions, membership on juries or umpire teams in artistic events or international competitions.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

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<sup>3</sup> 3 years for the doctoral university studies with the duration stipulated at Article 159, paragraph (3), respectively 4 years for the doctoral university studies with the duration stipulated at Article 174, paragraph (3) of the Law of national education No.1/2011 with subsequent amendments and additions, with additional extension periods approved as per Article 39, paragraph (3) of the Code of doctoral studies approved by the GD No. 681/2011 with subsequent amendments and additions.



- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

**The indicator is fulfilled/partially fulfilled/not fulfilled.**

The indicator is **fulfilled**. The doctoral supervisors develop an intensive research activity. Their production includes enough publications in journals listed in Web of Science, Scopus, and Google Scholar databases.

**Performance Indicator \*A.3.2.2.** *At least 50% of the doctoral thesis advisors in a specific doctoral study domain continue to be active in their scientific field, and acquire at least 25% of the score requested by the minimal CNATDCU standards in force at the time of the evaluation, which are required and mandatory for acquiring their enabling certificate, based on their scientific results within the past five years.*

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

**The indicator is fulfilled/partially fulfilled/not fulfilled.**

The indicator is **fulfilled**. The scientific production and research activity of doctoral supervisors exceeds 25% of the minimum criteria established by the CNATDCU.

## **Domain B. EDUCATIONAL EFFECTIVENESS**

*\*general description of domain analysis.*

### **Criterion B.1. The number, quality and diversity of candidates enrolled for the admission contest**

*\*general description of the criterion analysis.*

*Standard B.1.1. The institution organizing doctoral studies has the capacity to attract candidates from outside the higher education institution or a number of candidates exceeding the number of seats available.*

*\*general description of the standard analysis.*

**Performance Indicator \*B.1.1.1.** *The ratio between the number of graduates of masters' programs of other higher education institutions, national or foreign, who have enrolled for the doctoral admission contest within the past five years and the number of seats funded by the state budget, put out through contest within the doctoral domain is at least 0.2 or the ratio between the number of candidates within the past five years and the number of seats funded by the state budget put out through contest within the doctoral studies domain is at least 1,2.*



- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

**The indicator is fulfilled/partially fulfilled/not fulfilled.**

The indicator is **not fulfilled**. Between 2015/2016 - 2019/2020 academic years, 14 places financed from the state budget were allocated to PhD studies in Geology managed by SDGTA. The ratio between the number of candidates within the past five years and the number of seats funded by the state budget put out through contests within the doctoral studies domain is 1,07. Only during the 2019/2020 academic year, this rate is >1,2.

*Standard B.1.2 Candidates admitted to doctoral studies demonstrate academic, research and professional performance.*

*\*general description of the standard analysis.*

**Performance Indicator \*B.1.2.1.** Admission to doctoral study programs is based on selection criteria including: previous academic, research and professional performance, their interest for scientific or arts/sports research, publications in the domain and a proposal for a research subject. Interviewing the candidate is compulsory, as part of the admission procedure.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

**The indicator is fulfilled/partially fulfilled/not fulfilled.**

The indicator is **fulfilled**. Admission to PhD studies in Geology within the SDGTA follows a selection process governed by the relevant national and institutional (UBB) quality standards. The admission contest to doctoral studies comprises at least two tests: a written speciality test, based on themes made public by the doctoral supervisor at least two months prior to the date of the admission contest; and an interview analyzing the scientific activities of the candidate, his/her aptitudes for research-creation and the theme proposed for the doctoral thesis.

**Performance Indicator B.1.2.2.** The expelling rate, including renouncement / dropping out of doctoral students 3, respectively 4, years after admission<sup>4</sup> does not exceed 30%.

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<sup>4</sup> 3 years for the doctoral university studies with the duration stipulated at Article 159, paragraph (3), respectively 4 years for the doctoral university studies with the duration stipulated at Article 174, paragraph (3) of the Law of national education No. 1/2011 with subsequent amendments and additions.



- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

**The indicator is fulfilled/partially fulfilled/not fulfilled.**

The indicator is **fulfilled**. According to the report submitted by ISD-UBB, the average dropout rate for PhD studies within the SDGTA during 2015-2020 is 5%.

## **Criterion B.2. The content of doctoral programs**

*\*general description of the criterion analysis.*

*Standard B.2.1. The training program based on advanced university studies is appropriate to improve doctoral students' research skills and to strengthen ethical behavior in science.*

*\*general description of the standard analysis.*

**Performance Indicator B.2.1.1.** *The training program based on advanced academic studies includes at least 3 disciplines relevant to the scientific research training of doctoral students; at least one of these disciplines is intended to study in-depth the research methodology and/or the statistical data processing.*

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

**The indicator is fulfilled/partially fulfilled/not fulfilled.**

The indicator is **fulfilled**. The topics approached by the disciplines studied in the advanced university programme are relevant for the training of PhD students in scientific research. Within the training program of the SDGTA, the doctoral student participates in the activities from a compulsory discipline "Metodologia cercetării, Etică și integritate academică".

**Performance Indicator B.2.1.2.** *At least one discipline is dedicated to Ethics and Intellectual Property in scientific research or there are well-defined topics on these subjects within a discipline taught in the doctoral program.*

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

**The indicator is fulfilled/partially fulfilled/not fulfilled.**



The indicator is **fulfilled**. The curriculum contains a discipline devoted to ethics in scientific research and intellectual property denominated “Metodologia cercetării, Etică și integritate academică”.

**Performance Indicator B.2.1.3.** *The IOSUD has mechanisms to ensure that the academic training program based on advanced university studies addresses „the learning outcomes”, specifying the knowledge, skills, responsibility and autonomy that doctoral students should acquire after completing each discipline or through the research activities<sup>5</sup>.*

- *description of the facts, the findings from the assessed institution’s documents and the evaluation visit itself*

- *analysis of the facts, the findings from the assessed institution’s documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. The competencies, skills, and attitudes that PhD students will acquire after completing each course are detailed in the course description in the training program on PhD studies in Geology coordinated by SDGTA. Each discipline within the training programme based on PhD studies offers PhD students the opportunity to expand their range of professional skills in the field covered by that discipline.

**Performance Indicator B.2.1.4.** *All along the duration of the doctoral training, doctoral students in the domain receive counselling/guidance from functional guidance commissions, which is reflected in written guidance and feedback or regular meeting.*

- *description of the facts, the findings from the assessed institution’s documents and the evaluation visit itself*

- *analysis of the facts, the findings from the assessed institution’s documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. The SDGTA has a commission for advising/guiding doctoral students in the doctoral field of Geology. Each PhD student is assigned three members of the guidance committee for guidance.

**Performance Indicator B.2.1.5.** *For a doctoral study domain, the ratio between the number of doctoral students and the number of teaching staff/researchers providing doctoral guidance must not exceed 3:1.*

- *description of the facts, the findings from the assessed institution’s documents and the evaluation visit itself*

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<sup>5</sup> Or by what the graduate should know, understand and to be able to do, according to the provisions of the Methodology of 17 March 2017 regarding inscription and registration of higher education qualifications in the National Register of Qualifications in Higher Education (RNCIS) approved by the Order No.3475/2017 with subsequent amendments and additions.



- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. The SDGTA has a lower ratio than required by the regulations. The guiding committees active during 2015-2020 comprised 17 teachers, and the number of PhD students enrolled in the same period was 18.

### **Criterion B.3. The results of doctoral studies and procedures for their evaluation.**

*\*general description of the criterion analysis.*

*Standard B.3.1. Doctoral students capitalize on the research through presentations at scientific conferences, scientific publications, technological transfer, patents, products and service orders.*

*\*general description of the standard analysis.*

**Performance Indicator B.3.1.1.** *For the evaluated domain, the evaluation commission will be provided with at least one paper or some other relevant contribution per doctoral student who has obtained a doctor's title within the past 5 years. From this list, the members of the evaluation commission shall randomly select 5 such papers / relevant contributions per doctoral study domain for review. At least 3 selected papers must contain significant original contributions in the respective domain.*

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. Annexe Geolo\_B.3.1. presents the papers of PhD students in the field of Geology who obtained the degree of doctor in the evaluated period. All the papers presented are of a high scientific level and originality, and have been published in leading scientific journals in Geology.

For a more detailed examination of their content, the following five papers have been selected:

- Timar-Gabor, D. Constantin, S. B. Marković, M. Jain (2015) Extending the area of investigation of fine versus coarse quartz optical ages 2 from the Lower Danube to the Carpathian Basin. *Quaternary International*, 388, 168-176.
- Solomon A., Codrea V., Venczel M., Dumbravă M., Smith T. (2016) New remains of the multituberculate mammal *Barbatodon* from the Upper Cretaceous of the Hateg Basin (Romania). *Journal of Mammalian Evolution*, 23, 319-335.



- DM Tamas, Z Schleder, C Krezsek, S Man, S Filipescu (2018) Understanding salt in orogenic settings: The evolution of ideas in the Romanian Carpathians. AAPG Bulletin, 102 (6), 941-958.
- Enea-Giurgiu A., Ionescu C., Hoeck V., Tămaș T., Roman C. (2019) An archaeometric study of early Copper Age pottery from a cave in Romania. Clay Minerals, 54-3, 255-268.
- Moldovan, O.T., Bercea, S., Năstase-Bucur, R., Constantin, S., Kenesz, M., Mirea, I. (2020) Management of water bodies in show caves - A microbial approach. Tour. Manag., 78, 104037.

All of them are well structured and show that PhD students have reached the maturity to do first-class science and publish their results in high impact journals.

**Performance Indicator \*B.3.1.2.** *The ratio between the number of presentations of doctoral students who completed their doctoral studies within the evaluated period (past 5 years), including posters, exhibitions made at prestigious international events (organized in the country or abroad) and the number of doctoral students who have completed their doctoral studies within the evaluated period (past 5 years) is at least 1.*

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

**The indicator is fulfilled/partially fulfilled/not fulfilled.**

The indicator is **fulfilled**. During the evaluated period, the 22 PhD students in the field of Geology who completed their PhD studies presented 65 communications at international scientific events. The rate is nearly 3.

*Standard B.3.2. The Doctoral School engages a significant number of external scientific specialists in the commissions for public defense of doctoral theses in the analyzed domain.*

*\*general description of the standard analysis.*

**Performance Indicator \*B.3.2.1.** *The number of doctoral theses allocated to one specialist coming from a higher education institution, other than the evaluated IOSUD should not exceed two (2) in a year for the theses coordinated by the same doctoral thesis advisor.*

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

**The indicator is fulfilled/partially fulfilled/not fulfilled.**





The indicator is **fulfilled**. According to the documentation examined, there were no external reviewers on the doctoral thesis defense evaluation committee dealing with more than two theses coordinated by the same doctoral supervisor during the same year.

**Performance Indicator \*B.3.2.2.** *The ratio between the doctoral theses allocated to one scientific specialist coming from a higher education institution, other than the institution where the defense on the doctoral thesis is organized, and the number of doctoral theses presented in the same doctoral study domain in the doctoral school should not exceed 0.3, considering the past five years. Only those doctoral study domains in which minimum ten doctoral theses have been presented within the past five years should be analyzed.*

- *description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

- *analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **partially fulfilled**. During 2015-2020, 18 PhD theses were publicly defended in PhD studies in Geology managed by SDGTA. The ratio between the number of PhD theses assigned to a scientific reviewer from another higher education institution than the one where the PhD thesis is defended and the number of PhD theses defended over the last five years at SDGTA reached the value of 0.33. Just one of the 21 external reviewers involved in the public defence of PhD theses fails to meet the requirement.

There is only a case that surpasses the ratio with a value of 0.33. It is the case of Assoc. Prof. Univ. Dr Mihai BRÂNZILĂ Mihai from Universitatea Alexandru Ioan Cuza, Iași (UAIC) exceeds the number of doctoral theses allocated to a particular scientific referent from another higher education institution. The SDGTA justifies such a circumstance by its particular scientific profile.

## **Domain C. QUALITY MANAGEMENT**

*\*general description of domain analysis.*

### **Criterion C.1. Existence and periodic implementation of the internal quality assurance system**

*\*general description of the criterion analysis.*

*Standard C.1.1. There are an institutional framework and procedures in place and relevant internal quality assurance policies, applied for monitoring the internal quality assurance.*

*\*general description of the standard analysis.*

**Performance Indicator C.1.1.1.** *The Doctoral school in the respective university study domain shall demonstrate the continuous development of the evaluation process and its internal quality assurance*



following a procedure developed and applied at the level of the IOSUD, the following assessed criteria being mandatory:

- (a) the scientific work of Doctoral advisors;
- (b) the infrastructure and logistics necessary to carry out the research activity;
- (c) the procedures and subsequent rules based on which doctoral studies are organized;
- (d) the scientific activity of doctoral students;
- (e) the training program based on advanced academic studies of doctoral students;
- (f) social and academic services (including for participation at different events, publishing papers etc.) and counselling made available to doctoral students.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

**The indicator is fulfilled/partially fulfilled/not fulfilled.**

The indicator is **fulfilled**. The SDGTA has an adequate Operational Procedure regarding the evaluation and internal monitoring of the Doctoral School of Geology within the Babeş-Bolyai University. The Commission for Curriculum, Quality and Non-Traditional Education of the Senate of Babeş-Bolyai University, the Commissions for Quality Assessment and Assurance operating within faculties, the Vice-Rector responsible for Quality Assurance and the Centre for University Development and Quality Management establish the strategy and specific requirements for the implementation and development of the Quality Management System within the University.

The evaluation of the quality and progress of the doctoral school of Geology is performed periodically. IOSUD UBB has developed and applies the procedure for internal assessment and monitoring of the evolution of doctoral schools, a procedure that defines the dimensional structure and the indicators needed for the annual evaluation of PhD studies fields and doctoral schools.

**Performance Indicator \*C.1.1.2.** *Mechanisms are implemented during the stage of the doctoral study program to enable feedback from doctoral students allowing to identify their needs, as well as their overall level of satisfaction with the doctoral study program in order to ensure continuous improvement of the academic and administrative processes. Following the analysis of the results, there is evidence that an action plan was drafted and implemented.*

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

**The indicator is fulfilled/partially fulfilled/not fulfilled.**

The indicator is **partially fulfilled**. The students' level of satisfaction with the teaching-learning process, the physical assets, the services, and facilities provided by UBB is evaluated every two years, beginning



with the 2014-2015 academic year. The survey is based on questionnaires is addressed to all students. However, SDGTA presents the global data for all doctoral schools of the university, and the participation percentage in the surveys is deficient.

## **Criterion C.2. Transparency of information and accessibility of learning resources**

*\*general description of the criterion analysis.*

*Standard C.2.1. Information of interest to doctoral students, future candidates and public interest information is available for electronic format consultation.*

*\*general description of the standard analysis.*

**Performance Indicator C.2.1.1.** *The IOSUD publishes on the website of the organizing institution, in compliance with the general regulations on data protection, information such as:*

- (a) the Doctoral School regulation;*
  - (b) the admission regulation;*
  - (c) the doctoral studies contract;*
  - (d) the study completion regulation including the procedure for the public presentation of the thesis;*
  - (e) the content of training program based on advanced academic studies;*
  - (f) the academic and scientific profile, thematic areas/research themes of the Doctoral advisors within the domain, as well as their institutional contact data;*
  - (g) the list of doctoral students within the domain with necessary information (year of registration; advisor);*
  - (h) information on the standards for developing the doctoral thesis;*
  - (i) links to the doctoral theses' summaries to be publicly presented and the date, time, place where they will be presented; this information will be communicated at least twenty days before the presentation.*
- *description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*
- *analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **partially fulfilled**. The information available on the website is limited and does not meet all requirements requested by ARACIS. The information can be found in <https://biogeo.ubbcluj.ro/gta/> and <https://doctorat.ubbcluj.ro/eng/doctoral-schools/>. For example, in the last website, the Doctoral School of Geology presentation is the 2012-2013 year document. In general, the information required by ARACIS needs to be completed, and the presentation of the information could be improved by centralizing it on a single website.

*Standard C.2.2. The IOSUD/The Doctoral School provides doctoral students with access to the resources needed for conducting doctoral studies.*

*\*general description of the standard analysis.*



**Performance Indicator C.2.2.1.** *All doctoral students have free access to one platform providing academic databases relevant to the doctoral studies domain of their thesis.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. PhD students within the field of PhD studies in Geology managed by the SDGTA have access to new developments in their field of research through the Geology Library, which provides access to international databases. Students have free access to the essential online scientific documentation resources worldwide, including EBSCO, SpringerLink, ProQuest, Cambridge Journals, ScienceDirect, Wiley online library, Clarivate Analytics or Scopus.

**Performance Indicator C.2.2.2.** *Each doctoral student shall have access, upon request, to an electronic system for verifying the degree of similarity with other existing scientific or artistic works.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. IOSUD-UBB guarantees the necessary resources to verify the percentage of similarity of doctoral theses. The Babeş-Bolyai University has the software's license to check the percentage of similarity in all PhD theses (Turnitin).

**Performance Indicator C.2.2.3.** *All doctoral students have access to scientific research laboratories or other facilities depending on the specific domain/domains within the Doctoral School, according to internal order procedures.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. All the doctoral students have access to the analytical equipment based on a schedule drafted by the laboratory manager, according to the teaching and research activities of the Geology department members. The research laboratories operate under the strict supervision of laboratory managers, following specific operating procedures drafted by the laboratory managers. Each operating procedure lays down explicit provisions on how to access and use analytical equipment; in



some cases, due to their sensitive nature, the analytical facilities can only be used in the presence of the laboratory manager.

### **Criterion C.3. Internationalization**

*\*general description of the criterion analysis.*

*Standard C.3.1. There is a strategy in place and it is applied to enhance the internationalization of doctoral studies.*

*\*general description of the standard analysis.*

**Performance Indicator \*C.3.1.1.** *IOSUD, for every evaluated domain, has concluded mobility agreements with universities abroad, with research institutes, with companies working in the field of study, aimed at the mobility of doctoral students and academic staff (e.g., ERASMUS agreements for the doctoral studies). At least 35% of the doctoral students have completed a training course abroad or other mobility forms such as attending international scientific conferences. IOSUD drafts and applies policies and measures aiming at increasing the number of doctoral students participating at mobility periods abroad, up to at least 20%, which is the target at the level of the European Higher Education Area.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. During the evaluation period, the PhD students in the Geology Field benefited from mobility and training courses abroad. They made numerous trips abroad in order to participate in international scientific conferences or summer schools. Many of these activities were carried out within the CEEPUS, ERASMUS, or POSDRU programs. The 74% of PhD students of the SDGTA have completed a training course abroad or another form of mobility. In addition to this, the 22 PhD students in Geology who completed their PhD studies during the period under assessment had a significant presence at international scientific events, with 106 lectures/posters at international scientific conferences.

**Performance Indicator C.3.1.2.** *In the evaluated doctoral study domain, support is granted, including financial support, to the organization of doctoral studies in international co-tutelage or invitation of leading experts to deliver courses/lectures for doctoral students.*

*- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. During the evaluated period (2015-2020), the PhD students in the field of Geology within SDGTA have had the opportunity to attend fifteen courses/lectures given by expert



geologists from prestigious foreign universities or companies with a geological profile that implement the results of scientific research.

**Performance Indicator C.3.1.3.** *The internationalization of activities carried out during the doctoral studies is supported by IOSUD through concrete measures (e.g., by participating in educational fairs to attract international doctoral students; by including international experts in guidance committees or doctoral committees etc.).*

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

*Recommendations:*

***The indicator is fulfilled/partially fulfilled/not fulfilled.***

The indicator is **fulfilled**. The Babeş-Bolyai University, to increase the visibility and promotion of the university and strengthen existing cooperation relations and develop new partnerships, carried out several activities to achieve the objectives of increasing the number of international students.

#### IV. SWOT Analysis

| <b><u>Strengths:</u></b>  | <b><u>Weaknesses:</u></b>  |
|---|--|
| <p>- the strengths identified throughout the report will be resumed as part of the indicators' analysis. Other general strengths that do not fall within a particular indicator may be formulated.</p> <ul style="list-style-type: none"> <li>✓ The university has a excellent international standing that supports the quality of its education and research.</li> <li>✓ They have high-quality, qualified and well-trained teaching staff with a high scientific capacity.</li> <li>✓ The doctoral supervisors have trained students who acquire a high level of scientific competence.</li> <li>✓ The graduates have a high rate of employability, both in academia and industry.</li> <li>✓ There is excellent communication between supervisors and students.</li> <li>✓ The university offers adequate facilities to accommodate a more significant number of PhD students.</li> <li>✓ The studies have a low drop-out rate.</li> </ul> | <p>- the weaknesses identified throughout the report will be resumed as part of the indicators' analysis. Other general weaknesses that do not fall within a particular indicator may be formulated.</p> <ul style="list-style-type: none"> <li>✓ Limited funding to do first-class science.</li> <li>✓ Excessive pressure to publish in high impact journals in a short time.</li> <li>✓ Low number of students.</li> <li>✓ The SDGTA website needs to be improved, including content in English.</li> <li>✓ The SDGTA should be endowed financially in accordance with its responsibility for first-level training.</li> <li>✓ Geology should have more visibility in the Romanian social environment, which implies a vital effort from all institutions, including professional associations.</li> </ul> |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>✓ International mobility allows SDGTA students to integrate into the global science context.</li> <li>✓ The student/teacher ratio favours close contact and guarantees a level of excellence that a high number of students could limit.</li> </ul>  |   |
| <p style="text-align: center;"><b><u>Opportunities:</u></b></p> <ul style="list-style-type: none"> <li>- possible lines of action for the development of the institution under review shall be identified;</li> <li>- examples of opportunities: a favorable economic environment in the proximity of the assessed institution, the uniqueness of the study programs and their relevance to the local/national market, the overall attractiveness of the study programs etc.</li> </ul> <ul style="list-style-type: none"> <li>✓ There are few PhD schools in Geology in Romania.</li> <li>✓ Strengthen the PhD offer in only a few areas of knowledge, allowing it to stand out from other universities with doctoral studies in Geology.</li> <li>✓ Given the geographical location of the University and the close historical and cultural relationship with Hungary, relations with the neighbouring country should be further strengthened in order to attract Hungarian students in the field of Geology.</li> <li>✓ Adapting the training of PhD students to those fields of geology that are emerging most strongly can give students a competitive edge and make the degree more attractive to national and international students.</li> </ul> | <p style="text-align: center;"><b><u>Threats:</u></b></p> <ul style="list-style-type: none"> <li>- the possible causes of the deficient aspects (the causes of the identified weaknesses), which are practically the threats to the proper functioning of the institution, shall be identified;</li> <li>- besides, there may be external threats, such as: the inopportune economic environment in the proximity of the assessed institution, the conduct of low attractiveness study programs for both candidates and the labor market etc.</li> </ul> <ul style="list-style-type: none"> <li>✓ The low number of students may cause the government authorities to reconsider the profitability of doctoral studies in Geology in the medium term.</li> </ul> |

## V. Overview of judgments awarded and of the recommendations

| No. | Type of indicator (PI, PI *, CPI) | Performance indicator  | Judgment | Recommendations |
|-----|-----------------------------------|--|----------|-----------------|
| 1.  | PI                                | A.1.1.1. The existence of specific regulations and their application at the level of the Doctoral School of the respective university doctoral study domain: |          |                 |

| No. | Type of indicator (PI, PI *, CPI) | Performance indicator   | Judgment                | Recommendations  |
|-----|-----------------------------------|---|-------------------------|--|
|     |                                   | a) the internal regulations of the Doctoral School;<br>b) the Methodology for conducting elections for the position of director of the Council of doctoral school (CSD), as well as elections by the students of their representative in CSD and the evidence of their conduct;<br>c) the Methodologies for organizing and conducting doctoral studies (for the admission of doctoral students, for the completion of doctoral studies);<br>d) the existence of mechanisms for recognizing the status of a Doctoral advisor and the equivalence of the doctoral degree obtained abroad;<br>e) functional management structures (Council of the doctoral school), giving as well proof of the regularity of meetings;<br>f) the contract for doctoral studies;<br>g) internal procedures for the analysis and approval of proposals regarding the training for doctoral study programs based on advanced academic studies. | <b><i>Fulfilled</i></b> |  |
| 2.  | <b>PI</b>                         | <b>A.1.1.2.</b> The doctoral school' Regulation includes mandatory criteria, procedures and standards binding on the aspects specified in Article 17, paragraph (5) of the Government Decision No. 681/2011 on the approval of the Code of Doctoral Studies with subsequent amendments and additions.   | <b><i>Fulfilled</i></b> |  |
| 3.  | <b>PI</b>                         | <b>A.1.2.1.</b> The existence and effectiveness of an appropriate IT system to keep track of doctoral students and their academic background.   | <b><i>Fulfilled</i></b> |  |
| 4.  | <b>PI</b>                         | <b>A.1.2.2.</b> The existence and use of an appropriate software program and evidence of its use to verify the percentage of similarity in all doctoral theses.   | <b><i>Fulfilled</i></b> |  |
| 5.  | <b>IP</b>                         | <b>A.1.3.1.</b> Existence of at least one research or institutional / human resources development grant under implementation at the time of submission of the internal evaluation file, per doctoral study domain under evaluation, or existence of at least 2 research or institutional development / human resources grant for the doctoral study domain, obtained by doctoral  | <b><i>Fulfilled</i></b> | Students and scientific staff could be trained to be more successful in applying for national and international funding. |



| No. | Type of indicator (PI, PI *, CPI) | Performance indicator  | Judgment         | Recommendations   |
|-----|-----------------------------------|--|------------------|---|
|     |                                   | thesis advisors operating in the evaluated domain within the past 5 years. The grants address relevant themes for the respective domain and, as a rule, are engaging doctoral students.  |                  |   |
| 6.  | PI *                              | <b>A.1.3.2.</b> The percentage of doctoral students active at the time of the evaluation, who for at least six months receive additional funding sources besides government funding, through scholarships awarded by individual persons or by legal entities, or who are financially supported through research or institutional / human resources development grants is not less than 20%.  | <b>Fulfilled</b> |   |
| 7.  | PI *                              | <b>A.1.3.3.</b> At least 10% of the total amount of doctoral grants obtained by the university through institutional contracts and of tuition fees collected from the doctoral students enrolled in the paid tuition system is used to reimburse professional training expenses of doctoral students (attending conferences, summer schools, training, programs abroad, publication of specialty papers or other specific forms of dissemination etc.).  | <b>Fulfilled</b> | Support for PhD students' research should be increased, as they are required to publish in top journals. In addition, support for conference attendance should be improved. |
| 8.  | CPI                               | <b>A.2.1.1.</b> The venues and the material equipment available to the doctoral school enable the research activities in the evaluated domain to be carried out, in line with the assumed mission and objectives (computers, specific software, equipment, laboratory equipment, library, access to international databases etc.). The research infrastructure and the provision of research services are presented to the public through a specific platform. The research infrastructure described above, which was purchased and developed within the past 5 years will be presented distinctly | <b>Fulfilled</b> |   |
| 9.  | CPI                               | <b>A.3.1.1.</b> Minimum three doctoral thesis advisors within that doctoral domain, and at least 50% of them (but no less than three) meet the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) in force at the time when the evaluation is  | <b>Fulfilled</b> |   |

| No. | Type of indicator (PI, PI *, CPI) | Performance indicator   | Judgment         | Recommendations |
|-----|-----------------------------------|---|------------------|-----------------|
|     |                                   | carried out, which standards are required and mandatory for obtaining the enabling certification.   |                  |                 |
| 10. | PI *                              | <b>A.3.1.2.</b> At least 50% of all doctoral advisors have a full-time employment contract for an indefinite period with the IOSUD.   | <b>Fulfilled</b> |                 |
| 11. | PI                                | <b>A.3.1.3.</b> The study subjects in the education program based on advanced higher education studies pertaining to the doctoral domain are taught by teaching staff or researchers who are doctoral thesis advisors / certified doctoral thesis advisors, professors / CS I or lecturer / CS II, with proved expertise in the field of the study subjects they teach, or other specialists in the field who meet the standards established by the institution in relation with the aforementioned teaching and research functions, as provided by the law.  | <b>Fulfilled</b> |                 |
| 12. | PI *                              | <b>A.3.1.4.</b> The percentage of doctoral thesis advisors who concomitantly coordinate more than 8 doctoral students, but no more than 12, who are themselves studying in doctoral programs does not exceed 20%.   | <b>Fulfilled</b> |                 |
| 13. | CPI                               | <b>A.3.2.1.</b> At least 50% of the doctoral thesis advisors in the evaluated domain have at least 5 Web of Science- or ERIH-indexed publications in magazines of impact, or other achievements of relevant significance for that domain, including international-level contributions that indicate progress in scientific research - development - innovation for the evaluated domain. The aforementioned doctoral thesis advisors enjoy international awareness within the past five years, consisting of: membership on scientific boards of international publications and conferences; membership on boards of international professional associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad. For Arts and Sports and Physical Education Sciences, doctoral thesis advisors shall prove their international visibility within the past five years | <b>Fulfilled</b> |                 |

| No. | Type of indicator (PI, PI *, CPI) | Performance indicator  | Judgment             | Recommendations   |
|-----|-----------------------------------|--|----------------------|---|
|     |                                   | by their membership on the boards of professional associations, membership in organizing committees of arts events and international competitions, membership on juries or umpire teams in artistic events or international competitions.  |                      |   |
| 14. | PI *                              | <b>A.3.2.2.</b> At least 50% of the doctoral thesis advisors in a specific doctoral study domain continue to be active in their scientific field, and acquire at least 25% of the score requested by the minimal CNATDCU standards in force at the time of the evaluation, which are required and mandatory for acquiring their enabling certificate, based on their scientific results within the past five years   | <b>Fulfilled</b>     |   |
| 15. | PI *                              | <b>B.1.1.1.</b> The ratio between the number of graduates of masters' programs of other higher education institutions, national or foreign, who have enrolled for the doctoral admission contest within the past five years and the number of seats funded by the state budget, put out through contest within the doctoral domain is at least 0.2 or the ratio between the number of candidates within the past five years and the number of seats funded by the state budget put out through contest within the doctoral studies domain is at least 1,2. | <b>Not fulfilled</b> | Efforts should be increased to attract students from other national and international universities, perhaps through specialisation to differentiate from other universities.<br><br>In addition, the achievement of more projects can attract students from other universities through contracts. |
| 16. | PI *                              | <b>B.1.2.1.</b> Admission to doctoral study programs is based on selection criteria including: previous academic, research and professional performance, their interest for scientific or arts/sports research, publications in the domain and a proposal for a research subject. Interviewing the candidate is compulsory, as part of the admission procedure.  | <b>Fulfilled</b>     |   |
| 17. | PI                                | <b>B.1.2.2.</b> The expelling rate, including renouncement / dropping out of doctoral students 3, respectively 4, years after admission does not exceed 30%.   | <b>Fulfilled</b>     |   |
| 18. | PI                                | <b>B.2.1.1.</b> The training program based on advanced academic studies includes at least 3 disciplines relevant to the scientific research  | <b>Fulfilled</b>     |   |

| No. | Type of indicator (PI, PI *, CPI) | Performance indicator  | Judgment         | Recommendations |
|-----|-----------------------------------|--|------------------|-----------------|
|     |                                   | training of doctoral students; at least one of these disciplines is intended to study in-depth the research methodology and/or the statistical data processing.  |                  |                 |
| 19. | PI                                | <b>B.2.1.2.</b> At least one discipline is dedicated to Ethics and Intellectual Property in scientific research or there are well-defined topics on these subjects within a discipline taught in the doctoral program.   | <b>Fulfilled</b> |                 |
| 20. | PI                                | <b>B.2.1.3.</b> The IOSUD has mechanisms to ensure that the academic training program based on advanced university studies addresses „the learning outcomes”, specifying the knowledge, skills, responsibility and autonomy that doctoral students should acquire after completing each discipline or through the research activities.   | <b>Fulfilled</b> |                 |
| 21. | PI                                | <b>B.2.1.4.</b> All along the duration of the doctoral training, doctoral students in the domain receive counselling/guidance from functional guidance commissions, which is reflected in written guidance and feedback or regular meeting.  | <b>Fulfilled</b> |                 |
| 22. | CPI                               | <b>B.2.1.5.</b> For a doctoral study domain, the ratio between the number of doctoral students and the number of teaching staff/researchers providing doctoral guidance must not exceed 3:1.   | <b>Fulfilled</b> |                 |
| 23. | CPI                               | <b>B.3.1.1.</b> For the evaluated domain, the evaluation commission will be provided with at least one paper or some other relevant contribution per doctoral student who has obtained a doctor's title within the past 5 years. From this list, the members of the evaluation commission shall randomly select 5 such papers / relevant contributions per doctoral study domain for review. At least 3 selected papers must contain significant original contributions in the respective domain | <b>Fulfilled</b> |                 |
| 24. | PI *                              | <b>B.3.1.2.</b> The ratio between the number of presentations of doctoral students who completed their doctoral studies within the evaluated period (past 5 years), including  | <b>Fulfilled</b> |                 |

| No. | Type of indicator (PI, PI *, CPI) | Performance indicator   | Judgment                   | Recommendations  |
|-----|-----------------------------------|---|----------------------------|--|
|     |                                   | posters, exhibitions made at prestigious international events (organized in the country or abroad) and the number of doctoral students who have completed their doctoral studies within the evaluated period (past 5 years) is at least 1.  |                            |  |
| 25. | PI *                              | <b>B.3.2.1.</b> The number of doctoral theses allocated to one specialist coming from a higher education institution, other than the evaluated IOSUD should not exceed two (2) in a year for the theses coordinated by the same doctoral thesis advisor.  | <b>Fulfilled</b>           |  |
| 26. | PI *                              | <b>B.3.2.2.</b> The ratio between the doctoral theses allocated to one scientific specialist coming from a higher education institution, other than the institution where the defense on the doctoral thesis is organized, and the number of doctoral theses presented in the same doctoral study domain in the doctoral school should not exceed 0.3, considering the past five years. Only those doctoral study domains in which minimum ten doctoral theses have been presented within the past five years should be analyzed.   | <b>Partially fulfilled</b> | In the future, the SDGTA must consider this ratio in order to comply with the required values. |
| 27. | PI                                | <b>C.1.1.1.</b> The Doctoral school in the respective university study domain shall demonstrate the continuous development of the evaluation process and its internal quality assurance following a procedure developed and applied at the level of the IOSUD, the following assessed criteria being mandatory:<br>a) the scientific work of Doctoral advisors;<br>b) the infrastructure and logistics necessary to carry out the research activity;<br>c) the procedures and subsequent rules based on which doctoral studies are organized;<br>d) the scientific activity of doctoral students;<br>e) the training program based on advanced academic studies of doctoral students;<br>f) social and academic services (including for participation at different events, publishing papers etc.) and counselling made available to doctoral students. | <b>Fulfilled</b>           |  |

| No. | Type of indicator (PI, PI *, CPI) | Performance indicator  | Judgment                   | Recommendations  |
|-----|-----------------------------------|--|----------------------------|--|
| 28. | PI *                              | <p><b>C.1.1.2.</b> Mechanisms are implemented during the stage of the doctoral study program to enable feedback from doctoral students allowing to identify their needs, as well as their overall level of satisfaction with the doctoral study program in order to ensure continuous improvement of the academic and administrative processes. Following the analysis of the results, there is evidence that an action plan was drafted and implemented.</p>  | <b>Partially fulfilled</b> | <p>Although it is not a problem exclusive to this university, student participation should be encouraged. Perhaps through participation in a prize draw, or by making it compulsory before completing the final administrative procedures for obtaining a doctoral certificate. It should be possible to consult the general data of the university and also the particular data of the SDGTA.</p> |
| 29. | CPI                               | <p><b>C.2.1.1.</b> The IOSUD publishes on the website of the organizing institution, in compliance with the general regulations on data protection, information such as:</p> <ul style="list-style-type: none"> <li>a) the Doctoral School regulation;</li> <li>b) the admission regulation;</li> <li>c) the doctoral studies contract;</li> <li>d) the study completion regulation including the procedure for the public presentation of the thesis;</li> <li>e) the content of training program based on advanced academic studies;</li> <li>f) the academic and scientific profile, thematic areas/research themes of the Doctoral advisors within the domain, as well as their institutional contact data;</li> <li>g) the list of doctoral students within the domain with necessary information (year of registration; advisor);</li> <li>h) information on the standards for developing the doctoral thesis;</li> <li>i) links to the doctoral theses' summaries to be publicly presented and the date, time, place where they will be presented; this information will be communicated at least twenty days before the presentation.</li> </ul> | <b>Partially fulfilled</b> | <p>It is recommended that the contents of the website be improved. The website is one of the best marketing tools to approach potential students who have not had contact with university members. Therefore, it has to show as much information as possible so that a favourable decision can be made.</p>  |
| 30. | PI                                | <p><b>C.2.2.1.</b> All doctoral students have free access to one platform providing academic databases relevant to the doctoral studies domain of their thesis.</p>  | <b>Fulfilled</b>           |  |
| 31. | PI                                | <p><b>C.2.2.2.</b> Each doctoral student shall have access, upon request, to an electronic system for verifying the degree of similarity with other existing scientific or artistic works.</p>   | <b>Fulfilled</b>           |  |

| No. | Type of indicator (PI, PI *, CPI) | Performance indicator   | Judgment         | Recommendations  |
|-----|-----------------------------------|---|------------------|--|
| 32. | PI                                | <b>C.2.2.3.</b> All doctoral students have access to scientific research laboratories or other facilities depending on the specific domain/domains within the Doctoral School, according to internal order procedures.  | <b>Fulfilled</b> |  |
| 33. | PI *                              | <b>C.3.1.1.</b> IOSUD, for every evaluated domain, has concluded mobility agreements with universities abroad, with research institutes, with companies working in the field of study, aimed at the mobility of doctoral students and academic staff (e.g., ERASMUS agreements for the doctoral studies). At least 35% of the doctoral students have completed a training course abroad or other mobility forms such as attending international scientific conferences. IOSUD drafts and applies policies and measures aiming at increasing the number of doctoral students participating at mobility periods abroad, up to at least 20%, which is the target at the level of the European Higher Education Area. | <b>Fulfilled</b> |  |
| 34. | PI                                | <b>C.3.1.2.</b> In the evaluated doctoral study domain, support is granted, including financial support, to the organization of doctoral studies in international co-tutelage or invitation of leading experts to deliver courses/lectures for doctoral students.   | <b>Fulfilled</b> |  |
| 35. | PI                                | <b>C.3.1.3.</b> The internationalization of activities carried out during the doctoral studies is supported by IOSUD through concrete measures (e.g., by participating in educational fairs to attract international doctoral students; by including international experts in guidance committees or doctoral committees etc.).   | <b>Fulfilled</b> | A more significant effort must be made to achieve the internationalisation objectives. In particular, the SDGTA's most important content must be available in English on its website. In addition, at least the fundamental courses should be taught in English. |

*The recommendations contained in the report shall be resumed in the indicators' analysis. Other general recommendations may be made that do not fit within a particular indicator.*

**VERY IMPORTANT!!!** – *Each identified weakness must be correlated with at least one recommendation to improve the situation!*



## VI. Conclusions and general recommendations

*Several important issues raised during the evaluation are resumed and some general conclusions are drawn on the quality of the education provided within the doctoral study domain under review; the Experts' Panel also presents general assessments about the institution. Other general recommendation may also be presented, which cannot be related to a specific indicator and have not been presented at point V.*

*A decision is proposed, together with the reasons for granting it (if the Experts' Panel members do not reach a consensus, each of them can propose and argue his/her own decision).*

The EEC evaluated the Doctoral School of Geology of Babeş-Bolyai University based on the provided accreditation reports and the remote site visit. The International Expert (IE) concludes that the doctoral school of Geology evaluated has high standards and meets quality expectations on the basis of the provided information. Overall, the SDGTA has an excellent scientific working environment conducive to highly scientifically qualified PhDs training.

The SDGTA, from its inception to the present time, has a reputation for providing excellent education to its students in the field of Geology. They have a good leadership team with excellent management capabilities.

The IE found the general operation of the University and particularly the Doctoral School of Geology to be excellent. It includes most of the fields of academic studies in Geology, and despite the limited funds, it makes a great effort to offer high-quality education to doctoral students. The SDGTA exhibits specific commendable positive characteristics. To begin with, it allows excellent support for students with access to the main database of science and specific software to plagiarism control.

Among the positive characteristics of the institution were the excellent relations developed between students and their supervisors. Most of the students the IE spoke with maintained that their professors were accessible and eager to help and mentor them. This student-centred culture should be maintained and further cultivated. At the same time, professors help students reach out to the new global world. They should continue to internationalize the students and keep up with new global trends and intellectual developments. Exchange programs with European and other universities across the globe may help in this process.

The research operations in Geology of the University are sizeable and impressive. They also include some excellent examples of research and worldwide recognition. Although the University has been traditionally defined as a teaching institution, the IE found that research is an integral part of SDGTA life and should be more focalized and clearly stated. It has now impressive laboratories that support SDGTA research, and this operation must continue to exist.

Faculty, students, leaders, and administrators we spoke with were all eager to see changes and improvements in the institution. They all maintained that the evaluation process is necessary. Producing, reproducing and maintaining a quality culture is beginning to take hold, and the IE finds the role of Babeş-Bolyai University to be constructive. The institution should continue these efforts.





The IE found that a number of the institution's weaknesses are externally caused, and thus, it has limited ways to improve them. IE feels obliged, however, to make recommendations hoping that solutions to endemic and long-standing problems may be found. To begin with, the doctoral school faces a dramatic low number of incoming PhD students. IE understand that this can be attributed to the government policy of non-visualization of Geology in primary and secondary education. In addition, the deficiency of geology students at higher levels of education may occur because research grants are not sufficiently attractive, and graduates prefer to develop their careers in other areas outside the University. Therefore, it would be necessary to improve the supply of doctoral scholarships and to fund them adequately.

The Ministry should at least guarantee the minimum operational expenses of the institution to be internationally competitive, as PhD students are required to compete in an international environment and publish in top journals.

There are also some internal weaknesses that the IE would like to bring to the institution's attention. The IE also recommends that the University make concerted efforts to clearly define and increase the visibility of the institution's centres of excellence in research. Given the current trend towards the internationalization of education and research, it is highly desirable to attract international students by expanding the offer of courses taught in English or perhaps in other familiar languages used in the University and its close surroundings. This offer will support incoming international students and also provide opportunities for visiting professors. In addition, to constitute a desirable offer for doctoral students from other universities and in an increasingly competitive international environment, it would be necessary to improve investment in research both at the level of the institution and at the level of the doctoral schools. This visualization also involves improving the website of the doctoral school, where all the information required by students to decide to apply to the doctoral school should be detailed. Practically all the information presented in the Internal Report should be broken down on the website and in several languages, where students are aware of the doctoral courses offered, including their content, legislation, facilities, teaching staff, research lines, internationalization offer, results of quality audits...

The IE was impressed by the performance and achievements of the SDGTA, especially in terms of research, teaching, management, leadership, and strategy. All of this is to be commended.

## VII. Annexes

*The following types of documents shall be attached:*

- *The detailed schedule of the evaluation visit – MANDATORY.*
- *The survey questionnaire applied to doctoral students or academic staff in the doctoral study domain under review, the results - optional (e.g., in graphic form) and their interpretation - if applicable.*
- *Scanned documents – any document requested from the IOSUD during the evaluation visit and received, which is not found in the internal evaluation file received before the visit and referred to in the report.*
- *Pictures – if relevant issues are raised regarding the condition of the student residences, cafeterias, premises for teaching and learning activities, library etc.*
- *Screenshots/Print screens of the Doctoral School/IOSUD website proving specific claims in the report, accompanied by the date when they were accessed*

*and  
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- *Any other documents relevant to the evaluation process referred to in the report.*