

14/06/2020

# Project BBCE



**PROJECT:** EU Horizon 2020 Teaming Phase 2 project: "Baltic Biomaterials Centre of excellence - BBCE" grant agreement No. 857287.

**ANNOUNCEMENT: 3 PhD positions, 3 Postdoc positions and 3 Group Leader positions available** within research area of materials for bone tissue regeneration.

**Location of the positions:** Rudolfs Cimdins Riga Biomaterials Innovations and Development Centre of Riga Technical University, Riga, Latvia.

**International networking opportunities:** The positions include participations in short-term (up to 14 days) and/or long-term (up to 6 months) training visits in world leading research centers within the network - AO Research Institute Davos and Friedrich-Alexander University Erlangen-Nuremberg. Yearly meetings (summer schools and symposia) of the complete network are also foreseen.

**Positions start:** starting date is negotiable but tentatively between September and December 2020.

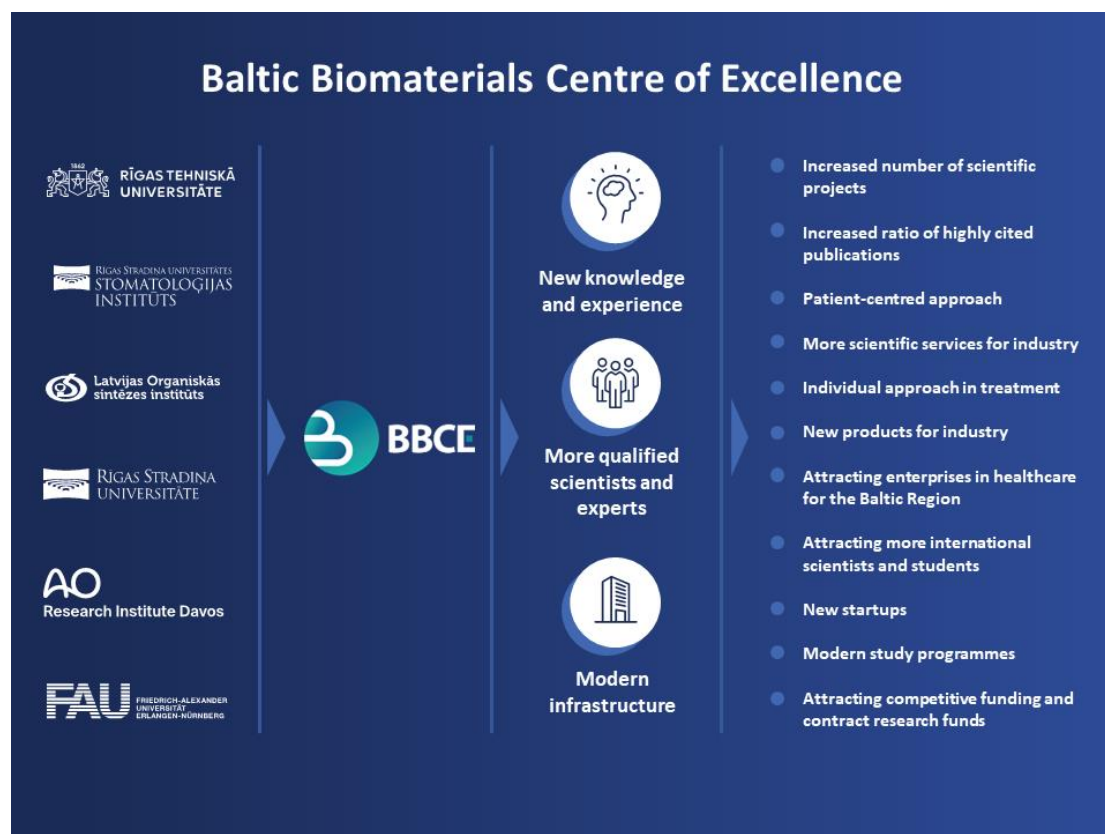
## RECRUITING ORGANIZATION:

BBCE coordinating institution - **Riga Technical University (RTU)** is one of the oldest institutions of higher technical education in Eastern Europe. RTU gathers more than 16000 students, staff of 611 people for research and 572 for teaching, currently is the top 1 University in Latvia in terms of scientific potential and it is ranked among the top 651–700 Universities worldwide. **Rudolfs Cimdins Riga Biomaterials Innovation and Development Centre of RTU (RTU RBIDC)** is the biggest and the most modern biomaterial research centre in the Baltic States. RTU RBIDC research team consists of 30 scientists with background in chemistry, chemical engineering and materials science. The main areas of RTU RBIDC research activities include training and research on synthesis of calcium phosphates, preparation of inorganic/organic composite materials, bone cements, and upscaling of chemical engineering processes for bone regeneration purposes. Additional research fields include drug/ion delivery systems and nanostructured implant composites with drug eluting properties. The biomaterials developed at RTU RBIDC have been tested in clinical practice for more than 15 years in more than 400 patient cases.

## THE SCIENTIFIC AND FORMATIVE CHALLENGE OF THE BBCE PROJECT:

The **overall objective of the BBCE** is to develop a joint centre for advanced biomaterials development based on the long-term strategic cooperation between Riga Technical University, Latvian Institute of Organic Synthesis, Rīga Stradiņš University and LLC Rīga Stradiņš University Institute of Stomatology, on the one part, and AO Research Institute Davos, Switzerland and Friedrich-Alexander University Erlangen-

Nuremberg, Germany, on the other part. Strategic research direction of Baltic Biomaterials Centre of Excellence (BBCE) is development of patient specific personalized solutions for bone regeneration in 3 levels: biomaterial composition, geometry and bioactive compound delivery. Full cycle of biomaterials for bone regeneration development consists of continuous steps: 1. Development of biodegradable, osteoconductive and osteoinductive materials, composites and drug delivery systems. 2. Preclinical *in vitro/in vivo* investigations. 3. Clinical trials.



## AVAILABLE POSITIONS:

Within the scope of BBCE project currently there are **9 research positions** available (**3 PhD positions, 3 Postdoc positions and 3 Group Leader positions**) in development of biomaterials for bone regeneration, more specifically development of biodegradable, osteoconductive and osteoinductive materials as well as composites and drug delivery systems for bone regeneration, with the following envisaged research groups and topics:

- Group 1** – Calcium phosphates and composites (calcium phosphate (CaP) nanoparticles, nanosuspensions, granules, bone cements, CaP/biodegradable polymer (e.g. PLA, PCL, hyaluronic acid) composites, gradient materials and hydrogels (CaP/polymer) for bone tissue regeneration.

**1 PhD position, 1 Postdoc position and 1 Group Leader position available.**

- Group 2** – Drug/ion/cell delivery (controlled drug delivery systems for bone regeneration - local drug, biopharmaceuticals and functional ions, cell delivery systems (antimicrobials, bisphosphonates, growth factors,

anti-inflammatory agents, functional ions and combinations of drugs/ions etc.).

**1 PhD position, 1 Postdoc position and 1 Group Leader position available.**

3. **Group 3** – Materials *in vitro* (cellular responses, fundamental mechanisms that govern cell-biomaterial and cell-cell interactions, novel materials for bone regeneration and their *in vitro* behaviour).

**1 PhD position, 1 Postdoc position and 1 Group Leader position available.**

## **POSITION: PhD STUDENT**

**OUTLINE OF THE POSITION:** The BBCE project, funded by the European Commission under the Horizon 2020 programme (WIDESPREAD-01-2018-2019: Teaming Phase 2) **calls for applications of 3 fully funded PhD positions** (early-stage researchers), with attractive complementary training activities and multidisciplinary and international scientific environment. The successful candidates will learn how to perform full cycle of biomaterial development, how to write high impact original research and review articles, on research metrics and ethics, quality system, experimental planning, entrepreneurship skills, intellectual property strategy development at early stage biomaterials research, on translational research and exploitation of the research results. Each PhD student will be enrolled in the PhD Program (e.g. Materials Science”, “Chemistry”, “Chemical Engineering” depending on the previous experience) at RTU and will have an appointed supervisor based on the subject of her/his PhD research project (supervisors and contact persons: Prof., Dr.sc.ing. Janis Locs ([janis.locs@rtu.lv](mailto:janis.locs@rtu.lv)) and Assoc. Prof., Dr.sc.ing. Dagnija Loca ([dagnija.locs@rtu.lv](mailto:dagnija.locs@rtu.lv))).

**EMPLOYMENT TERMS AND BENEFITS:** For PhD students the full time contract in the length of study program will be offered with the obligations to defend the PhD thesis. The PhD students will undergo yearly performance assessment related to their research and study activities (criteria will include: e.g. exams successfully passed, participation in BBCE training programmes, papers published, co-supervising of bachelor and master thesis, assisting in teaching). Initially, a 3-year contract will be offered to the PhD student with a potential renewal for another 1 year. Contract involves full time job with 40 working hours per week with annual gross salary in range of €19.000 – €21.000. The PhD annual gross salary will be subjected to all local taxes, social benefits and other deductions following national regulations (<https://www.fm.gov.lv/en/s/taxes/>). If successful candidates will be eligible for election as scientific personnel of RTU, they will benefit 40 working day vacations annually. Health insurance must be covered by applicants themselves.

**ELIGIBILITY CRITERIA (requirements and necessary competences):** The 3 PhD positions are open to applicants of all nationalities fulfilling the following eligibility requirements:

1. PhD students have to adhere to the PhD program’s requirements and examination procedures of the host university. This includes master degree compliant with the scientific topics of the research groups described in the

section “AVAILABLE POSITIONS” (e.g. biomedical sciences, biotechnology, physics, chemistry, materials sciences, engineering etc.). Total amount of European academic credit points obtained together during Bachelor and Master studies should be  $\geq 300$  ECTS. This includes also the applicants who will receive their Master degree until the end of August 2020.

2. **Excellent**/good oral and written **English** language skills, if English is not his/her first language (at minimum B2 level).
3. Good skills in scientific writing and presentation of the results.
4. Experience of using laboratory equipment for biomaterials characterization.
5. Ability to carry out the independent research under the BBCE scope and to produce the data under supervision.

### **DUTIES AND RESPONSABILITIES:**

1. Applicant should successfully pass the exams of PhD Program and defend the PhD thesis.
2. Applicant should be able to explain the outcomes of the research and summarize them into the high impact scientific publications. Each year 1 high impact scientific publication should be submitted and published.
3. Applicant should yearly participate in BBCE organized training seminars, summer schools of high impact scientific writing organized at Friedrich-Alexander University Erlangen Nuremberg, Germany and at least 1 international scientific conference.
4. During the Doctoral Program participate in at least one up to 6 months long training visit to Friedrich-Alexander University Erlangen Nuremberg, Germany or AO-Forschungsinstitut Davos (ARI), Switzerland depending on the scientific topic.

### **DESIRABLE COMPETENCES:**

1. Ability to carry out research under supervision.
2. Applicant has the ambition to develop knowledge of research methodologies and discipline.
3. Applicant has demonstrated a good understanding in a field of study.
4. Applicant has demonstrated the ability to produce data under supervision.
5. Applicant is capable of critical analysis, evaluation and synthesis of new and complex ideas.
6. Applicant is able to explain the outcome of research and value thereof to research colleagues.

**SELECTION PROCESS OF PhD STUDENTS:** Candidates are asked to apply on-line max for two of the above-mentioned PhD positions, indicating the 1<sup>st</sup> and the 2<sup>nd</sup> priority. The application must include the following:

1. CV in English (Europass format, max. 5 pages, including list of publications (if any)).
2. Copy of a valid ID document (passport or equivalent).
3. A motivation letter in English (max 2 pages), including statement that the applicant fulfils all eligible criteria listed in the paragraph above, indicating

envisaged research groups and specifying the 1<sup>st</sup> and the 2<sup>nd</sup> priority. Also the statement that the applicant is eligible to apply for work permission in Latvia should be included in the motivation letter.

4. Degree transcripts (Bachelor and Master).
5. Letters of recommendation (at least two).

**All documents must be submitted to [bbcentre@rtu.lv](mailto:bbcentre@rtu.lv) before June 14<sup>th</sup>, 2020 5.00 PM (CET).**

For additional information please contact Prof., Dr.sc.ing. Janis Locs ([janis.locs@rtu.lv](mailto:janis.locs@rtu.lv)) and Assoc. Prof., Dr.sc.ing. Dagnija Loca ([dagnija.locs@rtu.lv](mailto:dagnija.locs@rtu.lv)).

The selection procedure will be based on two steps: the first step will consist on the screening of all applications received and on the selection of a shortlist of candidates based on CV, academic transcripts, motivation and relevance with the specific research project; the second step will consist of an interview (held in person or Skype), at the end of which successful candidates will be recruited.

Prior to recruitment, successful applicants will be requested to produce the original copies of all certificates and documents declared. Incorrect or lacking of documentation may invalidate the recruitment procedure.

## **POSITION: POSTDOC**

**OUTLINE OF THE POSITION:** The BBCE project, funded by the European Commission under the Horizon 2020 programme (WIDESPREAD-01-2018-2019: Teaming Phase 2) **calls for applications of 3 fully funded Postdoc positions**, with attractive complementary training activities and multidisciplinary and international scientific environment. The successful candidates will learn how to perform full cycle of biomaterial development, how to write high impact original research and review articles, on research metrics and ethics, quality system, experimental planning, entrepreneurship skills, intellectual property strategy development at early stage biomaterials research, on translational research and exploitation of the research results (mentors and contact persons: Prof., Dr.sc.ing. Janis Locs ([janis.locs@rtu.lv](mailto:janis.locs@rtu.lv)) and Assoc. Prof., Dr.sc.ing. Dagnija Loca ([dagnija.locs@rtu.lv](mailto:dagnija.locs@rtu.lv))).

**EMPLOYMENT TERMS AND BENEFITS:** Postdocs will undergo yearly performance assessment related to their research activities (criteria will include: e.g. participation in BBCE training programmes, papers published, competitive funding applications submitted and funding attracted, supervision of Bachelor and Master thesis, technology transfer activities performed). Initially, a 2-year contract will be offered to the Postdocs with a potential renewal for another 1 year. Contract involves full time job with 40 working hours per week with annual gross salary in range of €27.000 – €29.000. The Postdoc annual gross salary will be subjected to all local taxes, social benefits and other deductions following the national regulations (<https://www.fm.gov.lv/en/s/taxes/>). If successful candidates will be eligible for election as scientific personnel of RTU, they will benefit 40 working day vacations annually. Health insurance must be covered by applicants themselves.

**ELIGIBILITY CRITERIA (requirements and necessary competences):** The 3 Postdoc positions are open to applicants of all nationalities fulfilling the following eligibility requirements:

1. Doctorate degree (PhD) holders, who have not yet established a significant level of independence. This includes also the applicants who will receive their PhD degree until the end of August 2020.
2. Applicant should demonstrate a systematic understanding of a field of study and mastery of research associated with that field (minimum 2 years of experience in the field).
3. At least 3 high impact original research articles (minimum 2 as first author).
4. Experience in implementation of scientific research projects.
5. Experience in communication with the wider community, and with society generally, about the areas of expertise.
6. Experience on supervision/co-supervision of First Stage Researchers and students.
7. Excellent/good oral and written English language skills (at minimum B2 level).
8. Experience in team work.

#### **DUTIES AND RESPONSABILITIES:**

1. Responsible for the tasks in complex projects in close collaboration with Group Leader / Direction leader.
2. Participates in the national/international project proposal preparation.
3. To explain the outcome of the research and summarize them in to the high impact scientific publications. It is expected to produce a minimum of 2 BBCE and responsible core institution affiliated publications (at least 1 first author) within 2 year period.
4. Yearly participate in BBCE organized training seminars, summer schools and at least 1 international scientific conference.
5. During the Postdoc project participate in at least one up to 6 months long training visit at Friedrich-Alexander-University Erlangen Nuremberg, Germany or AO-Forschungsinstitut Davos (ARI), Switzerland depending on the scientific topic.
6. Participate in BBCE communication, dissemination and outreach activities with the researchers as well as with the general public.
7. Supervision or co-supervision of students.
8. Participation in the teaching activities of students.

**SELECTION PROCESS FOR POSTDOCS:** Candidates are asked to apply on-line max. for two of the above-mentioned Postdoc positions, indicating the 1<sup>st</sup> and the 2<sup>nd</sup> priority. The application must include the following:

1. CV in English (Europass format, max. 5 pages, including list of publications).
2. A copy of a valid ID document (passport or equivalent).
3. A motivation letter in English (max. 2 pages), including statement that the applicant fulfils all eligible criteria listed in the paragraph above, indicating envisaged research groups and specifying the 1<sup>st</sup> and the 2<sup>nd</sup> priority. Also the statement that applicant are eligible to apply for a work permission in Latvia should be included in the motivation letter.
4. Degree transcripts (PhD).
5. Letters of recommendation (at least two).

#### **NECESSARY COMPETENCES:**

1. Ability to independently carry out research and produce data under supervision.

2. Have the ambition to develop knowledge of research methodologies and discipline.
3. Be capable of critical analysis, evaluation and synthesis of new and complex ideas.
4. Be able to explain the outcome of research and value thereof to research colleagues.
5. Has demonstrated a systematic understanding of a field of study and mastery of research associated with that field.
6. Has made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, innovation or application. This could merit national or international refereed publication or patent.
7. Can communicate with their peers - be able to explain the outcome of their research and value thereof to the research community.
8. Takes ownership for and manages own career progression, sets realistic and achievable career goals, identifies and develops ways to improve employability.

#### **DESIRABLE COMPETENCES:**

1. Understands the agenda of industry and other related employment sectors.
2. Understands the value of their research work in the context of products and services from industry and other related employment sectors.
3. Can communicate with the wider community, and with society generally, about their areas of expertise.
4. Can be expected to promote, within professional contexts, technological, social or cultural advancement in a knowledge based society.
5. Can mentor First Stage Researchers, helping them to be more effective and successful in their R&D trajectory.

**All documents must be submitted to [bbcentre@rtu.lv](mailto:bbcentre@rtu.lv) before June 14<sup>th</sup>, 2020 5.00 PM (CET).**

For additional information please contact Prof., Dr.sc.ing. Janis Locs ([janis.locs@rtu.lv](mailto:janis.locs@rtu.lv)) and Assoc. Prof., Dr.sc.ing. Dagnija Loca ([dagnija.locs@rtu.lv](mailto:dagnija.locs@rtu.lv)). The selection procedure will be based on two steps: the first step will consist on the screening of all applications received and on the selection of a shortlist of candidates based on CV, academic transcripts, motivation and relevance with the specific research project; the second step will consist of an interview (held in person or Skype), at the end of which successful candidates will be recruited.

Prior to recruitment, successful applicants will be requested to produce the original copies of all certificates and documents declared. Incorrect or lacking of documentation may invalidate the recruitment procedure.

### **POSITION: GROUP LEADER**

**OUTLINE OF THE POSITION:** The BBCE project, funded by the European Commission under the Horizon 2020 programme (WIDESPREAD-01-2018-2019: Teaming Phase 2) **calls for applications of 3 fully funded Group leader positions**, with attractive complementary training activities in multidisciplinary and international scientific environment. Successful candidates will have an opportunity to lead the research group (each group consisting of at least one PhD student, one Postdoc and one

Bachelor/Master student) established within the BBCE and be a part of multidisciplinary and international scientific network.

**EMPLOYMENT TERMS AND BENEFITS:** For Group Leader positions initially 2 year full time contract (40 working hours per week) will be offered, with following renewal of a contract for another 4 years, foreseeing part time contract (gradually decreasing from 34 to 13 working hours per week in years 3<sup>rd</sup> to 6<sup>th</sup>, respectively) from BBCE funds. Another part of the salary (in years 3<sup>rd</sup> to 6<sup>th</sup>) should be secured by the Group Leader from another funds attracted. Group Leaders will undergo yearly performance assessment related to their research activities and duties (criteria will include: e.g. papers and patents published, competitive funding applications submitted and competitive funding attracted, progress of group members, technology transfer activities performed, supervision/co-supervision of Bachelor/Master/PhD thesis, technology transfer activities performed, involvement in teaching activities, new international connections established). Initial 2-year contract involves full time job with 40 working hours per week with annual gross salary in range of €39.000 – €41.000. The Group Leader annual gross salary will be subject to all local taxes, social benefits and other deductions following the national regulations (<https://www.fm.gov.lv/en/s/taxes/>). If successful candidates will be eligible for election as scientific personnel of RTU, they will benefit 40 working day vacations annually. Health insurance must be covered by applicants themselves.

**ELIGIBILITY CRITERIA (requirements and necessary competences):** The 3 Group Leader positions are open to applicants of all nationalities fulfilling the following eligibility requirements:

1. PhD with minimum 6 years of experience in the field (minimum 4 years of experience as Research Scientist).
2. At least 15 publications in the field (first and last authorship as well as the impact of the publications will be taken into account during the evaluation stage).
3. Experience on supervision (bachelor, master, PhD and Postdoc).
4. Demonstration of extra-mural funding acquisition (participation in projects, role in the projects, competitive/contract funding attracted).
5. Managerial skills.
6. Demonstration of 6 year strategic development plan of the group (up to 4 pages, including measurable outcomes).
7. Excellent oral and written English language skills (at minimum B2 level).
8. Excellent/good oral and written Latvian language skills will be considered as an advantage.
9. Experience in team work.

**DUTIES AND RESPONSABILITIES:**

1. Runs highly autonomously own projects with high complexity.
2. Fully responsible for these projects incl. Budget.
3. Fully responsible for special field or area.
4. Responsible for Postdocs/PhD-students/Fellows and his group performance.
5. Reports to Direction Leader.
6. Creates new international connections outside the BBCE network.



7. Attracts competitive/contract funding starting from the 3<sup>rd</sup> year of contract (at least 50 000 EUR/yearly).
8. Participates in BBCE communication, dissemination and outreach activities with the researchers as well as with general public.
9. Supervision or co-supervision of students, PhD, Postdocs.
10. Participation in BBCE organized trainings and networking events.
11. Participates in the teaching activities of students

#### **NECESSARY COMPETENCES:**

1. Makes a positive contribution to the development of knowledge, research and development through cooperation and collaborations.
2. Demonstrates effective team work and the leadership/mentoring capability to effectively lead and motivate a research group.
3. Identifies research problems and opportunities within their area of expertise.
4. Identifies appropriate research methodologies and approaches.
5. Conducts research independently which advances a research agenda.
6. Can take the lead in executing collaborative research projects in cooperation with colleagues and project partners.
7. Publishes papers as lead author, organises workshop or conference sessions.
8. Has an international reputation based on research excellence in their field.
9. Demonstrates critical judgment in the identification and execution of research activities.
10. Makes a substantial contribution (breakthroughs) to their research field or spanning multiple areas.
11. Develops a strategic vision on the future of the research field.
12. Recognises the broader implications and applications of their research.
13. Publishes and presents influential papers and books, serves on workshop and conference organising committees and delivers invited talks.

#### **DESIRABLE COMPETENCES:**

1. Established collaborative relationships with relevant industry research or development groups.
2. Is innovative in their approach to research.
3. Can form research consortia and secure research funding / budgets / resources from research councils or industry.
4. Is committed to professional development of their own career and acts as mentor for others.
5. Is skilled at managing and developing others.
6. Has a proven record in securing and managing significant research, funding / budgets / resources.
7. Beyond team building and collaboration, focusing on long-term team planning (e.g. career paths for the researchers and securing funding for the team positions).
8. Are an excellent communicator and networker within and outside the research community (creating networks).
9. Is able to create an innovative and creative environment for research.
10. Acts as a professional development role model for others.
11. Have excellent/good oral and written Latvian language skills.

**SELECTION PROCESS FOR GROUP LEADERS:** Candidates are asked to apply on-line for one of the above-mentioned Group Leader positions. The application must include the following:

1. CV in English (Europass format, max 10 pages, including list of publications).
2. A copy of a valid ID document (passport or equivalent).
3. A motivation letter in English (max 2 pages), including statement that the applicant fulfils all eligible criteria listed in the paragraphs above. Also the statement that applicant are eligible to apply for a work permission in Latvia should be included in the motivation letter.
4. 6 year strategic development plan of the group (up to 4 pages, including measurable outcomes).
5. Degree transcripts (PhD).
6. Letters of recommendation (at least two, where one is issued by last/current employer).
7. Copies of 3 selected best scientific publications.

**All documents must be submitted to [bbcentre@rtu.lv](mailto:bbcentre@rtu.lv) before June 14<sup>th</sup>, 2020 5.00 PM (CET).**

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The selection procedure will be based on two steps: the first step will consist on the screening of all applications received and on the selection of a shortlist of candidates based on CV, academic transcripts, motivation, strategic development plan and relevance with the specific research project; the second step will consist of an interview (held in person or Skype), at the end of which successful candidates will be recruited. Prior to recruitment, successful applicants will be requested to produce the original copies of all certificates and documents declared. Incorrect or lacking of documentation may invalidate the recruitment procedure.

When applying for a competition, the candidate agrees to the processing of his personal data pursuant to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/95 / EC / 46 / EC (General Data Protection Regulation) and for storage at the Riga Technical University Personnel Department. Without the consent of the candidate, personal data will not be transferred to third parties, except in the cases specified in the laws and regulations in force in the Republic of Latvia.



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