

Annual Programme Report
EEA and Norwegian Financial Mechanisms 2009-2014
Norwegian-Estonian Research Cooperation Programme 2016

1. Executive summary

The Norwegian-Estonian Research Cooperation Programme (hereafter 'the Programme') was approved by the Donor in October 2012. The overall objective of the Programme is to enhance research-based knowledge development in Estonia through research cooperation between Norway and Estonia. 13 donor partnership projects are funded as a result of the single call in 2013. The projects represent all areas of research: culture and society (6 projects), environment and biosciences (3 projects), physical sciences and engineering (2 projects), and health (2 projects). The first projects started in September 2013 and the latest project in September 2014. Nine projects ended in 2016 (five during the year and four at the end of the year) but are not completed yet. Four projects will be ended in April 2017. Main results of the Programme are closely related to the main results of the financed projects and will be analyzed after all the final reports of the projects are evaluated by international experts.

The activities organised to develop bilateral relations and to ensure wider impact and better results of the Programme were designed to strengthen further scientific cooperation and participation in the EU Research and Innovation programme Horizon 2020 and to put more effort to capacity building (e.g. introducing Norway Grants and research cooperation programmes to wider audience, enabling Project Promoters to take part in Annual Conferences of the European Association of Research Managers and Administrators, inviting Norwegian experts to give presentations in capacity building conferences and seminars). In 2016 Norwegian technology transfer experiences were introduced by two high level speakers from Norway during a seminar organised for officials and researchers from Estonian universities and enterprises.

The Programme was introduced to wide audience during the European Association of Research Managers and Administrators (EARMA) conference and in a [film](#) available in the video channel of the Estonian Research Council's. The video presents five projects representing all the four Estonian universities participating in the Programme.

The main challenges of the Programme continue to be related to certain results, which may fully appear only after the end of the projects and Programme period (e.g. published articles, joint proposals for future cooperation). There are also some administrative risks that continuously need to be handled (e.g. risks concerning the Programme staff turnover and lack of competence, Project Promoters' lack of information and knowledge, mistakes in financial data reporting) but these have been decreased towards the end of the Programme. Mitigating actions are taken accordingly.

2. Programme area specific developments

The overall objective of the Programme is to enhance research-based knowledge development in Estonia through research cooperation between Norway and Estonia. The Programme will strengthen bilateral relations with the aim of stimulating long-term cooperation, capacity and competence building and will support the achievement of the aims of national research and development strategy. The most important elements of the Programme are 13 financed research

projects cooperating with research institutions in Norway. Four projects are still in process, nine projects ended in 2016 but the final reports are not evaluated yet.

The general context described in the Programme proposal or reported in the previous Annual Programme Reports has not changed in 2016. During the Programme proposal preparation the Estonian Research and Development and Innovation (RD&I) Strategy 2007-2013 'Knowledge-based Estonia' was in force. New RD&I strategy for 2014-2020 was approved by the Parliament in January 2014. The two strategies are overlapping in several areas as described in the previous reports. The Programme will contribute to the achievement of the aims of new strategy as development of human resources and supporting the career model of a researcher, and interconnection with European Research Area initiatives (including Nordic cooperation) are important measures of the new strategy. Growth areas within the concept of smart specialisation have been identified, among which are, for instance, ICT and health technologies (priority areas for RD&I identified in the previous strategy). Therefore, the context has changed but it should not be considered as a risk for the Programme.

Objectives of the Estonian competitiveness strategy 'Estonia 2020': Raising the level of investments into research and development

		Raising the level of investments into research and development				
Level in 2011	Level in 2012	Level in 2013	Level in 2014	Level in 2015	Estonia's target 2015	Estonia's target 2020
2,31*%	2,12*%	1,73*%	1,45*%	1,5**%	2%	3%

* Source: Eurostat

** Source: Statistics Estonia

Objectives of the Estonian RD&I Strategy 2007-2013 'Knowledge-based Estonia':

Indicator	2011	2012	2013	Target by 2013	2014	2015	2016
Researchers (FTE) per thousand total employment*	7,48	7,45	7,09	8,00	6,92	6,53	-
Number of high-quality publications**	1586	1645	1893	1500	2051	1974	2008

* Source: Statistics Estonia

** Source: Thomson Reuters Web of Science, databases SCI-EXPANDED, SSCI and A&HCI

http://www.haridussilm.ee/?leht=tea_6 as of 26.01.2017

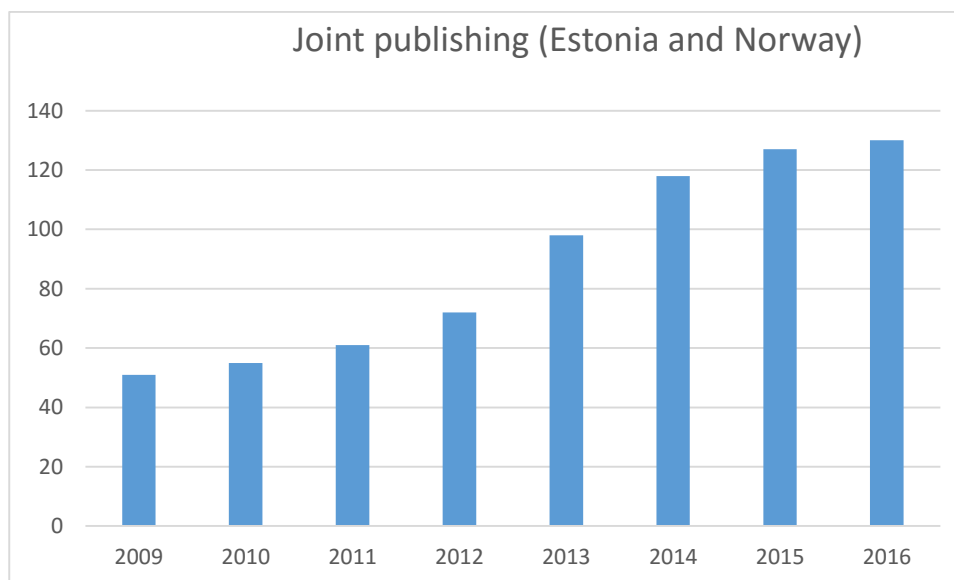
Indicators and target values of the Estonian RD&I Strategy 2014-2020:

- 11% scientific publications in Estonia within the 10% most cited scientific publications worldwide (7,69% in 2008, 8,5% in 2009, 8,5 in 2010, 8,1% in 2014; 7,3% in 2015 (Innovation Union Scoreboard 2015; 2016));
- 300 PhD graduates per academic year* (190 in 2012, 233 in 2013, 213 in 2014, 208 in 2015, 239 in 2016);

* Source: Estonian Education Information System EHS

- 1600 scientific publications per million population** (1245 in 2012, 1439 in 2013, 1562 in 2014; 1500 in 2015, 1524 in 2016).

** Source: http://www.haridussilm.ee/?leht=tea_6 as of 26.01.2017



Joint publications (Estonia and Norway 2009 – 2016)

Source: www.haridussilm.ee/?leht=tea_1 as of 26.01.2017

Cooperation with the Nordic countries under other programmes and initiatives (e.g. NordForsk and Interreg Baltic Sea Region Programme 2014-2020) may have a positive effect on the planned results of the Programme as well, although these are not directly related to the Programme. This kind of initiatives may create a forum for discussing the possible ways and modalities of future cooperation with the Nordic countries and broaden the impact of the Programme. In November 2016 an Expert Meeting on a possible joint Baltic research programme took place in Oslo. The three Beneficiary States (Estonia, Latvia and Lithuania) were positive about establishing a joint Baltic research programme. There is a possibility of establishing a joint research programme for the Baltic States under the next funding mechanism of EEA and Norway Grants. The new Research Guideline and the new Regulation makes room for this. All three Beneficiary States were positive about continuing the discussion of establishing a joint Baltic Research Programme, but were uncertain about having the weight to put this on the agenda of the senior decision-makers.

3. Reporting on outputs

In the beginning of March 2016 periodic reports of all financed projects (13) covering the year 2015 were received.

We can report on some of the achieved values of indicators due to the fact that there will be no other calls launched during the Programme (target value shown in the Programme Agreement in brackets):

- The number of cooperative projects between Estonian and Norwegian research and development institutions – **13** (15);
- The number of cooperating research institutions of Estonia – **4** (15);

- The number of cooperating research institutions of Norway – **8** (15);
- The number female project leaders – **1** (6).

Due to the fact that the target levels of the indicators were fixed based on preliminary calculations (based on the number of projects financed with the lower maximum grant level (also, see section 4)) and not recalculated later, the target values related to the number of projects, cannot be fully achieved by the end of the Programme. However, this will reflect the fact that fewer but larger projects are financed, not the failure in implementing the projects or Programme as a whole.

The number of cooperating research institutions of Estonia and Norway is smaller compared to target value. This target was based on the fact that there are 18 positively evaluated R&D institutions in Estonia, however, only 4 made it to the top of the rank list with their projects (University of Tartu with 8 projects). Also, none of the projects had involved other Estonian R&D institutions as additional project partners. In comparison, the situation on the side of the Norwegian institutions is better: there are 8 Norwegian institutions involved as partners; two of the projects have an additional partner from Norway. The distribution of the projects across institutions was not a prioritised criterion in the selection of projects, where proposals were first of all ranked according to their scientific excellence. However, it should be noted that although the same institution acts as project promoter or partner in several projects, these are large universities with many departments and research groups. An analysis of the institutional location of the project partners shows that projects are distributed across different faculties and departments, meaning that the number of research groups involved in the cooperation and network building is much higher than what the count of institutions can show.

The target value for the number of female project leaders was set based on the results of the research programme implemented within the previous period of the Financial Mechanism (7 female project leaders out of 10). There were no special measures taken or budget set aside to ensure that projects with female leader get financed. One of the principles followed in the selection process was prioritizing project proposals with a female project leader (as it appeared to be gender less represented) in case of equal scores but it did not have any effect on the rank list of those projects, which were eventually financed.

Although final data for other indicators will be available after the submission of final project reports in the programme final report, we can present **provisional data for some indicators based on the project contracts¹, and projects interim reports presenting the results as December 2015** (target value shown in the Programme Agreement in brackets):

- The number of cooperating Estonian researchers – **48** (45);
- The number of cooperating Norwegian researchers – **39** (30);
- Percentage of researchers (PhD) supported by the programme that are female – **28** (30);
- The number of PhD students involved in the cooperative projects – **44** (15);
- Number of internationally refereed joint scientific publications published as part of the programme (bibliometric data) – publications being prepared for submission **7**; submitted for review **11**; published **7** (15);

¹ Project contract includes information about members of research staff, so-called main participants of the project (including PhD students)

- The number of internationally refereed scientific publications – publications being prepared for submission **13**; submitted for review **34**; published **44** (15).

In addition to published articles, the projects report on the publications which are being prepared and submitted to review. Most projects have already reported about published articles in the interim reports. However, the Implementing Agency will check after the projects final reports are submitted (with the full texts available) if the articles reported on are indeed related to the project and have a reference to the Programme included. Only the publications with the reference to the Programme will be counted.

Based on the indicative data the target levels of the indicators are expected to be reached, and we could have even underestimated the target levels possible to achieve for some of the indicators. For instance, based on the preliminary data there are more than twice as many PhD students involved in the projects as the expected target level shows. Involving PhD students in the projects was one of the aims of the Programme and was emphasized during the call for proposals.

Further information about the progress will be available towards the end of the Programme when data will be gathered from the final reports of the projects (staff exchange/experts' visits, methods acquired, publications, joint proposals).

There are no pre-defined projects or small grant schemes being implemented in the Programme.

4. Reporting on Programme outcome(s)

The Programme has two outcomes:

- (1) increased research cooperation between Norway and the Beneficiary States;
- (2) strengthened research capacity in the Beneficiary States and increased application of research results through research cooperation between Norway and the Beneficiary States.

Please note that there was one single call for proposals launched in 2013 during the Programme to achieve the both outcomes. It is not possible to divide the budget or contribution of the projects between the outcomes. Differentiating between the outcomes is therefore symbolic, projects and Programme will contribute equally to both outcomes.

In the Programme proposal we planned to finance 15 bilateral research projects (with € 200 000 as maximum grant amount at the project level) and all target values assigned to the indicators depended on the number of financed projects. During the negotiations with the Donor and Donor Programme Partner it was decided to increase the maximum grant amount to € 300 000 in order to be able to finance bigger projects with potentially bigger impact. As a result, based on the former calculations the number of projects that could be financed (with the maximum grant level) decreased but the target values of the indicators were not changed in the Programme Agreement (it was not possible to forecast the grant level to be applied for). As all the target values for outcome and output indicators were based on the number of projects, the target values will probably not be fully achieved by the end of the Programme but this can at least partly be explained with less projects financed, not with failure in implementation of the projects or Programme as a whole.

The first projects financed from the Programme started in September 2013. Interim reports from all the financed projects were received in March 2016 (reporting period covers the year 2015). The Programme already contributing to the development of human resources and the strengthening bilateral relations. For instance, all projects involve Master's and/or PhD students, and researchers visiting partner institution to share best practices and learn from each other. The joint projects are expected to result in high-quality (joint) scientific publications and to support the PhD students in their studies. In general, the Programme is expected to contribute especially to the achievement of two aims of the Estonian RD&I strategy: that research be of high quality, Estonia be an attractive place for R&D and that the career of a researcher be a popular choice; and that Estonia be active and visible in international cooperation in the field of RD&I.

The risks described in the previous Annual Programme Reports have not changed, except for the fact that risks related to delays in payments is not considered to be relevant any more as the experience has shown that as a result of good cooperation between the Financial Mechanism Office, National Focal Point and the Implementing Agency the payments have been made in time.

The new Estonian RD&I strategy (see section 2) does not undermine the achievement of the outcomes and results of the Programme. Risks that need the attention at this point concern important 'products' of the Programme, e.g. (joint) research articles published by the end of the Programme period. Although the eligibility period for research programmes has been extended, the process of publishing high quality articles is time-consuming and complex and will have full results after the end of the Programme. These issues have been further elaborated in section 9 and Annex II.

Progress on horizontal concerns

Tallinn University and University of Bergen work together to understand the political and social factors for migration in the project EMP138 '**Political and socio-psychological determinants of inclusive integration context and their interdependencies**'. The project addresses directly the horizontal concerns related to promoting tolerance, multicultural understanding and respect of the minorities as the central objective of the research is to develop understanding of the determinants of the inclusive integration context. The latter is defined as a context in which immigrant, national minority and national majority group members can feel secure and appreciated. Research seeks to understand intercultural relations in plural societies.

In order to combat against hate speech, extremism, racism and xenophobia, the current study focuses on the role of the majority group in the acculturation process. Directionality (whether changes take place in one or both groups) is one of the fundamental issues of all acculturation research and theory. The socio-political climate in the society and the attitudes, stereotypes and acculturation orientations of the dominant majority have a strong impact on the acculturation orientations of immigrant minorities. The project leader plans to disseminate the results also among other stakeholders in the two countries. Knowledge transfer from Norway to Estonia and vice versa regarding good practices in governance of multicultural societies will create a new base for strategic decision-making regarding integration issues in both countries.

No other projects have reported on dealing especially or directly with the horizontal concerns issues.

The principles laid down in the European Charter for Researchers will be reflected and promoted in the Programme (including ethical principles). The European Charter for Researchers is a set of

general principles and requirements which specifies the roles, responsibilities and entitlements of researchers as well as of employers and/or funders of researchers.

5. Project selection

No calls were carried out during the reporting period. A single call for the projects was launched in March 2013 and 13 high-quality partnership projects were awarded a grant. The detailed overview of the call and results was presented in the Annual Programme Report 2013 and it will not be repeated here.

6. Progress of bilateral relations

Programme level

Donor Programme Partner, the Research Council of Norway (RCN) has been an excellent adviser in all matters concerning the implementation of the Programme (e.g. preparations of the work plans and budgets, advice on possible speakers for the capacity building conference, discussions about communication and reporting issues, etc.). Programme Operators workshops organized by the RCN took place in Luleå on June 20, 2016. The aim of the workshop was to exchange experiences and good practice in implementation of bilateral research programmes and to ensure that the experiences and lessons learned from the current programming period are formulated and communicated to relevant actors working with the preparation of the next funding period. The workshop was organized back-to-back with the European Association of Research Managers and Administrators (EARMA) annual conference. The objective of this co-ordination is to allow Programme Operators to participate in the conference, both in order to profit from the relevant expertise and capacity of the presenters and participants, and to present the programmes and their experience during this international conference.

The Norwegian Embassy in Tallinn continues to be a good partner in information and publicity activities (e.g. opening the Programme events, publishing news about the projects and Programme).

Project level

Cooperation with at least one research team of Norway (donor project partner) was a mandatory condition of the call and all 13 financed research projects are therefore donor partnership projects. Signing the partnership agreements between the project partners was more time-consuming than expected but the process was completed in October 2014. During the reporting period all 13 projects submitted the interim reports covering the period of January – December 2015.

Active involvement of partners in the projects is expected and this will lead to exchange of good practices, knowledge and mutual understanding, access to valuable professional and technical skills together with joint 'products' such as articles written together. The Programme will strengthen the capacity and competence of the Estonian research community for increased participation in the European research community. The cooperation may lead to wider effects such as future cooperation in other projects, connections with professional networks, increased access to participation in the initiatives at the European/international level.

Examples of the progress of bilateral relations at the project level based on the 2015 projects interim reports:

- Project EMP128 '**Activity-dependent regulation of BDNF and Arc: master genes in synaptic plasticity**'

Project partner's main technical/professional contribution to the project is planning and carrying out experiments, particularly the in vivo animal experiments. The different but complementary expertise of Tallinn and Bergen research groups has enabled to plan experiments and discuss the experimental results of this project. The partnership has significantly contributed to strengthening bilateral relations between the partner labs by Skype conferences and e-mail correspondence that enabled discussions of project experimental plans and results. The project partnership has helped to start to build up wider international cooperation in the field of neurotrophins and synaptic plasticity.

- Project EMP133 '**Novel Analysis and Design Tools for Low-Density Parity-Check Codes**'
During the reported period, the Estonian team has worked on optimization of coded wireless network systems. It also worked on near-maximum-likelihood iterative decoding algorithms for LDPC codes. The Norwegian partner worked mainly on structural properties of sparse graph codes, and on linear-programming decoding of non-binary codes. It also worked on counter braids and on applications of coding to data networks. The expertise of groups in Norway and Estonia are complementary to each other. For example, Dr. Ytrehus and Dr. Rosnes did research on the algorithmic aspects of stopping set finding. Dr. Skachek did research on quantitative characteristics of pseudocodewords. The Norwegian partner brings in the experience of study of combinatorial structures of Tanner graphs, such as stopping and trapping sets, and the Estonian partner brings in the experience of study of pseudocodewords and their weights. This combination will strengthen the collaboration by using various approaches to problems under consideration. Several research visits of Estonian researchers to Norway took place in 2015. Additional research visits are planned for 2016. During these visits, Estonian researcher learned new methods and tools related to implementation of the project.

- Project EMP138 '**Political and socio-psychological determinants of inclusive integration context and their interdependencies**'

In 2015 several meetings and seminars with project partners were held. The main event was the 9th Biennial Congress of the International Academy for Intercultural research in Bergen, Norway (28th June – 2nd July 2015). All the members of the project attended the congress. After the congress in Bergen, the project team met with project partners from Norway. The topics under discussion were the theory and methodology of the project, the preliminary empirical results based of the Estonian data, the Norwegian questionnaire and the context of the Norwegian ethnic relations. The feedback from David L. Sam and Valeria Markova helped the Estonian project team to get better accustomed to the Norwegian ethnic relations context and helped to make adjustments to the questionnaire so that it would be applicable in Norway. New theoretical approach (asymmetrical acculturation model) was discussed with John Berry who is the key figure behind the mainstream acculturation model. Feedback from John Berry to theoretical innovation was supportive, he also proposed good ideas for the Norwegian questionnaire and for the analysis of Estonian data.

- Project EMP151 '**Animals in changing environments: Cultural mediation and semiotic analysis**'

Partnership between the Estonian and Norwegian research group has contributed to the achievement of the project's objectives and results in the form of elaboration of methodologies and research methods, especially in the methodology of video-recorded interviews, as well as application of Umwelt analysis in the different case studies. Project

partners have shared professional knowledge on compiling and editing research publications. Group members have cooperating intensively via Skype, e-mails and in meetings. M. Tønnessen and T. Maran cooperated actively in editing the journal *Biosemiotics* (Springer), as Editors-in-Chief. The partnership contributed to strengthening bilateral relations in the form of staff exchange visits and consultations on the used methodologies and planned activities, as well as in cooperation in organising conferences and compiling research publications. Wider effects of the project partnership include participation of interested scholars in seminars organised as a part of the project, and dissemination of knowledge to people being interviewed under the case studies of the project.

At present there is no specific joint proposal in preparation for the European financing initiatives (Horizon2020, JPI, ERA-NET) as a follow-up of the project. However, the project leaders are in a process of applying for funding for projects with international involvement, and are going to prepare local/national projects to carry on the research in the given topic. They also actively search for the international funding possibilities in the Nordic / Baltic region.

- **Project EMP160 ‘Sami-Estonian language technology cooperation’**

The technical skills and theoretical knowledge of the project partner should be seen as crucial in achieving the project’s objectives. Francis Tyers has set up the environment for developing Finnish-Estonian Apertium modules, and populated these modules initially with data and rules. He has also advised the Estonian team who is working on the Finnish-Estonian MT. Sjur Moshagen from Tromsø has advised about how to use the Tromsø R&D development environment Giellatekno. Trond Trosterud from Tromsø has been chairing all the meetings and co-ordinated the work in various tasks of the project.

- **Project EMP162 ‘DNA-based early detection and diagnostics of alien invasive forest pathogens and tracing of their introduction pathways into northern Europe’**

The project has an excellent cooperation with the Norwegian colleagues in several points: 1) planning and design of sampling work, 2) planning of expedition to the Russian Far East, 3) sample preparation for molecular work, and 4) supporting the scientific papers writing process. The project members have presented the project ideas in the COST meetings (Determining Invasiveness and Risk of Dothistroma (DIAROD) and FP1103 (Fraxback). All this has strengthened the bilateral and international collaboration with forest pathologists in Europe.

- **Project EMP171 ‘Role of enzymes processivity in degradation of recalcitrant polysaccharides’**

Besides meetings efficient communication between the partners has been via e-mail and phone. Exchange of samples and information has been fluent. Since the enzymes from Norwegian University of Life Sciences are being investigated in University of Tartu, the partnership has been indispensable in obtaining these results. The project has given a strong basis for further cooperation between University of Tartu and Norwegian University of Life Sciences.

- **EMP180 ‘Language and auditory brain: studies on central sound representation in auditory cortex’**

The partnership straightforwardly supports achieving the Project’s objectives and results. The expertise of the two participating laboratories is combined and the methodological approaches applied in the Project are built on the available resources (both, knowledge and equipment) of the partners. For answering the questions related to auditory and language processing, it is important to be able to measure the precise timing of the processes (using

EEG), their behavioural correlates, as well as the underlying metabolic and functional status (possible with the MR techniques). The partnership between the Project Promoter's and Project Partner's scientific institutions and researchers has led to synchronizing study protocols, which in turn helps to disentangle the emerging scientific questions more efficiently and quickly by using the knowledge and, if needed, facilities, of both partners. Specifically, the dichotic listening paradigm widely used by the Project Partner in Bergen is being now used by the Project Promoter in Tartu; the MMN method has been implemented by the Project Partner in Bergen for the first time. Similar methodological platforms and study protocols also support effective mobility and knowledge transfer of future students and researchers. Connections made through the Project partnership has led to Dr. Kompus giving a course "The neurocognitive mechanisms of memory" at Institute of Psychology, University of Tartu. This course contributes directly to improving the master studies program at the Institute of Psychology, where the topic of the neural underpinnings of memory was not fully covered before. The course is officially integrated into the master studies program and held after every two years by Dr. Kompus, if suitable for all parties involved. The next time the course will be held is autumn 2016.

- **EMP181 'Targeting glioma stem-like cells with tumor penetrating peptides'**

The project is based on unique match of complementary expertise of the partnering laboratories. A main result of the interaction between Teesalu and Bjerkvig labs has been the successful establishment of human derived glioblastoma xenograft models in Tartu and using the models to map tumor targeting peptides for precision-guided payload delivery. These xenograft models are not only based on the tumor models originally established in Bergen, but also on new models established in Estonia using know-how from Bjerkvig laboratory. These new models are currently subjected to in-depth genomic and transcriptomic (gene expression) analyses in the NorLux laboratory in Luxembourg. This is an interdisciplinary project that required combination of complementary expertise available in Bjerkvig lab (tumor models and in vivo imaging of glioma) and Teesalu lab (tumor homing peptide development, peptide chemistry, nanobiomedicine). The aims of the project cannot be achieved by either lab alone, and the partnership and complementarity of research profiles of the participants of the project is critical for the success of the project. Based on the performed activities, strong and sustainable bilateral relations have been established between the laboratories in Tartu and Bergen. There is a regular communication between the partners. Bilateral relations will be further strengthened in 2016 and continue beyond the term of this joint project.

- **EMP205 'Topical issues of consumer credit in Estonia and Norway'**

The partnership's cooperation has been excellent. There have been a number of joint articles published in international peer-reviewed law journals. Partners have co-organized an international consumer credit conference in Oslo in 2015. The bilateral relations between the Law Faculties of Oslo and Tartu University have definitely profited from the partnership. Cooperation between the faculties is widening and could include new areas and partners on both sides. Prof. Bygrave from the Faculty of Law of Oslo University and project leader K. Sein are also jointly supervising the master's thesis of an Estonian master student A. Aabla who is participating in the IT law LLM programme of the Faculty of Law of Oslo University. Although those activities are not part of EMP205 project, it shows that the good cooperation between the Law Faculties of Tartu and Oslo Universities is expanding and has excellent potential for the future. In addition, K. Lilleholt and L. Bygrave have performed teaching obligations in Tartu University in 2015.

- **EMP230 ‘DNS and 3D Reynolds Stress Turbulence Modeling in Particulate Channel Flows with Inter-Particle Collisions and Applications’**

The Estonian and Norwegian research teams are collaborating on modeling of particlefluid flows for practical applications, namely hydrate flow in petroleum industries. This work comprises combination of Population Balance Modeling (PBM) with Computational fluid dynamics (CFD). The problem has been analyzed numerically and validated against experiments from research literature. The results were presented during the 9th International Conference on Multiphase Flow (May 22-27, 2016, Firenze, Italy). The both teams have been also cooperating on elaboration of the model based on the Reynolds Stress Turbulence Model (RSTM) and Probability Dense Function (PDF) approaches. The both teams continue working on the joint journal publication.

- **EMP264 ‘Understanding policy change: Financial and fiscal bureaucracy in the Baltic Sea Region’**

The Norwegian and Estonian teams maintained continuous communication throughout the year, which ensured consensus decision-making in regard to adjustment measures, future responsibilities and workload. In regard to staff exchange, one member of Tallinn team attended a week-long intensive course held at the University of Oslo during 20–25 July 2015: “The Political Economy of Skills and Inequality in Western Welfare States.” According to the team member, the course benefited him in a number of ways:

1. It served a good theoretical basis for understanding the processes of skill formation in different welfare states, thus allowing for a better grasp of the range of policy instruments suitable in a particular context (e.g. in the context of small peripheral European liberal market economy, such as Latvia);
2. The seminar provided for better understanding of the politics behind education and training policies that affect the outcomes in terms of skill formation, as well as the effect of internationalization and Europeanisation on the dynamics of domestic policy;
3. The course offered an opportunity to interact with peer researchers and colleagues from the Nordic region and hence develop contacts for potential future collaboration. Project partner’s contribution at this stage includes:

- Co-ordinating and facilitating preliminary arrangements for interviews in Sweden and Norway
- Participating in actual interviews conducted in Sweden (Stockholm) (Lars Mjøset)
- Maintaining effective overall communication throughout the entire reporting period
- Effectively collaborating on project’s administrative matters throughout the entire reporting period

The partnership has been facing challenges in achieving a number of substantive goals within initially projected timeline: a number of planned joint publications are dependent on a full set of interviews to be completed. To facilitate this, the research teams decided to let Tallinn team take on a number of tasks related to preparing and conducting interviews in Sweden and Norway, in which the project partner has been also directly involved and has provided full assistance and expertise.

- **EMP265 ‘Biodiversity in the dark: High-throughput sequence analyses of arctic fungal communities (BioFun)’**

The partnership project has greatly benefited from bidirectional transfer of knowledge that has been achieved in two meetings of the steering committee, where at least two of the project leaders have had a constructive discussion about the project details. These meetings

will greatly benefit the designing and coordinating new studies and result in co-authorships in several on-going projects.

Use of the funds for bilateral relations

In 2016, the funds for bilateral relations were used for a capacity building seminar on technology transfer. It was a follow up seminar of the international conference 'Applied research linked intellectual property aspects in Estonia and in Europe' held in September 2015 in Tallinn. The seminar on Norwegian technology transfer (TTO) system and its experiences was organised by the Estonian Research Council and took place on June 7, 2016 in Tartu. The aim of the seminar was to introduce Norwegian experiences on TTO and discuss options for Estonia. The seminar had two invited speakers from Norway: senior advisor Ketil Rønning from Norwegian Research Council and knowledge transfer expert Morten Øien from Norwegian University of Science and Technology. The seminar was mainly targeted at TTO officials at the Estonian universities and science parks and entrepreneurial minded scientists and other entrepreneurs.

Funds for bilateral relations have been used for covering registration fees of 6 participants from research and development departments of the Project Promoters to take part in the 22nd Annual Conference of the European Association of Research Managers and Administrators (EARMA) held in Luleå in June 19-22, 2016. EARMA represents the community of research managers and administrators within Europe. The EARMA Conference 2016 was focused on new horizons in research management. Experiences acquired during the conference improved contacts between research organisations administrators. They also had possibility to take part in the session where Norway grants were introduced.

Bilateral indicators

We can already report on some of the achieved values of indicators due to the fact that there will be no other calls launched during the Programme. Target level was fixed based on assumption that 15 projects would be financed, while in reality 13 projects have received support from the programme. The target of 15 therefore will not be reached (see section 3 for clarification) but a result of 13 means that all projects have delivered on a given indicator.

Bilateral indicators selected for the Programme (target value presented in brackets):

- Number of project partnership agreements in the beneficiary public sector – **13** (15).
For every project a separate partnership agreement is signed.
- Number of projects with expected shared results (both partners are involved professionally in planning and implementation and can claim credit for achieved results) – **13** (15).
All the projects are a partnership projects and therefore expected to have shared results.
- Number of joint (bilateral) articles published, written by persons from both institutions in a beneficiary and donor state, published in national or international publications, originated from project financed by the programme – publications being prepared for submission 7; submitted for review 11; published **7**(15). Reliable information about the publications will be available towards the end of the projects.

Risks that may impede achieving the bilateral results

- Expected number of joint articles will not be published – process of writing high level scientific article and getting it published is a time-consuming and complex process. Number of published articles is one of the indicators to measure the success of the

projects/Programme but the full results will be seen after the end of the project (after submitting the final report) (see Annex II).

- Projects may fail due to lack of cooperation between the partners due to unclear roles and task, lack of joint responsibility – all the projects are donor partnership projects, cooperation and active involvement of partners in the joint project is a crucial factor of success (see Annex I).

Complementary action

Funds have been used for covering registration fees and travel costs of 3 participants representing the Implementing Agency and Programme Operator to take part in the 22th Annual Conference of the European Association of Research Managers and Administrators (EARMA) held in Luleå in June 19-22, 2016.

In September 2016 representatives of the Implementing Agency and Programme Operator (2 ppl) visited the Programme project partners in University of Bergen. Travel costs were covered from the Complementary action budget. During the visit the following administrators and researcher were visited:

Anja Hegen (Division of Research Management);

Rolf Bjekvig (Tambet Teesalu's project EMP181 partner);

Clive Bramham (Tõnis Timmusk's project EMP128 partner);

Pawel Kosinski and Boris Balakin (Aleksander Kartušinski's project EMP230 partner);

Øyvind Ytrehus and Eirik Rosens (Vitali Skachek's project EMP133 partner).

During the visit projects progress and different minor problems were discussed. No major problems in projects implementing were discovered. Kenneth Hugdahl (Risto Kalervo Nääänen's project EMP180 partner) and David Lackland Sam (Raivo Vetik's project EMP138 partner) were not available during the visit.

7. Monitoring

Estonian Research Council as the Implementing Agency of the Programme receives information about the progress and results of the projects through the project periodic reports. Reporting period is 1 January to 31 December, the first reporting period starts at the project start date (if different from 1 January), and the last reporting period ends on the date of the project completion (if different from 31 December). The project reports include the costs incurred and activities done by both the Project Promoter and the project partner(s). According to the principles and procedures described in the audited Management and Control System document, the Estonian Research Council has to carry out monitoring based on project documents listed in the project reports. The Estonian Research Council monitors the Project Promoters by checking the project periodic reports and project documentation. Formation the sample of documents bases on the random sample method. Checks are conducted by using comparative methodology.

In 2016 the Programme Committee was involved in the monitoring of scientific progress of all financed projects based on projects periodic reports for 2015. Scientific progress of projects was discussed during the Programme Committee meeting in April 2016. Eleven periodic reports were approved during the meeting, for two reports (EMP138, EMP230) additional information was asked. The two reports were approved via e-mails in June after receiving clarifications from the

project leaders. All project leaders have received a project periodic report review written by a Programme Committee member.

According to the monitoring plan for 2016 presented in the previous Annual Programme Report, seven projects (EMP128, EMP171, EMP180, EMP181, EMP230, EMP264, EMP265) were chosen for detailed monitoring. Reporting period to be monitored was Sept 2013 – Dec 2015 for project EMP265; Nov 2013 – Dec 2015 for project EMP171; Jan 2014 – Dec 2015 for four projects (EMP128, EMP180, EMP230, EMP264) and Sept 2014 – Dec 2015 for project EMP181 (monitoring period start is the same as project start). Copies of selected documents were asked to submit for proof of expenditure and were received in time except the project EMP264 which documents were received one week after the deadline. Received documents were checked in December and for four monitored projects (EMP128, EMP230, EMP264, EMP265) additional information was asked as some documents were missing from the initially sent files. Costs incurred by Project Promoters and Project Partners declared in the financial annexes of the project interim reports were checked in accordance with the project contracts (eligibility of the costs, are the declared costs actually incurred, accordance with the planned budget). Monitoring process of six projects (EMP128, EMP171, EMP180, EMP181, EMP230, EMP264) was finished in the first half of January 2017 signing the check-list/inspection reports for project documentation by the representatives of Implementing Agency and the Project Promoter. Minor mistakes were documented in the check-list/inspection reports in case of projects EMP171 and EMP264. A mistake was declared by the EMP171 Norwegian partner: a wrong file was sent to Project Promoter due to human error (difference calculated in euros is 10,54 in 2015 personnel costs). In case of project EMP264 the Norwegian partner declared a mistake in 2014 travel expenses (4 295 NOK) which we will correct with credit invoice to be declared with 2016 expenses report.

Monitoring plan for the last reporting period to check project documentation is not provided in the form of separate annex of the annual programme report 2016. Monitoring based on project documents has already been carried out for 12 projects (six projects in 2015 and six projects in 2016) in all the Project Promoter organisations and requirements according to the Management and Control System document are fulfilled except for project EMP265 which monitoring will be finished after the whole package of asked documents is received both from the Project Promoter and from the project partner. Results of the monitoring carried out according the monitoring plan for 2016 will be presented to the Programme Committee during the April 2017 meeting. The scientific progress based on projects interim and final reports will be reviewed by the members of the Programme Committee and will be discussed at the Programme Committee's meetings in April and September 2017. Indicators to measure the projects scientific progress are collected from the projects final reports.

8. Need for adjustments

The amendment of the Programme Agreement was signed in October 2014 to extend the eligibility period for the Programme until 31 December 2017.

9. Risk management

The risks related to the results of the Programme (information about some of the results may not be available by the time of the projects/Programme end; expected number of joint articles may not be published as a result of the projects) are continuously considered to be the highest, data about reaching the indicator target values will be available towards the end of the

projects/Programme. The second group of risks with higher impact and likelihood is related to the operational issues (staff turnover, lack of competence of staff, Project Promoters' lack of information and knowledge on regulations and conditions set for the projects/Programme). The second group risks decreases towards the end of the Programme. No new risks have been identified during the reporting period. The more detailed overview of the risks and mitigating actions has been presented in the Annex I.

10. Information and publicity

Activities described in the Communication Plan have been carried out according to the plan. Updated information about the Programme and financed projects (links to the projects' web pages added) is published on the [Estonian Research Council's webpage](#).

Information about all financed projects is entered to DoRIS, overviews and projects' URLs are available on the [Financial Mechanism Office's webpage](#).

A capacity building seminar on Norwegian technology transfer (TTO) system and its experiences was organised by the Estonian Research Council. The seminar took place on 7th June 2016 in Tartu. Seminar programme is available on the [Estonia Research Council's webpage](#). The aim of the seminar was to introduce Norwegian experiences on TTO and discuss options for Estonia. The seminar was mainly targeted at TTO officials at the Estonian universities and science parks and entrepreneurial minded scientists and other entrepreneurs.

During the European Association of Research Managers and Administrators (EARMA) annual conference 'New Horizons in Research Management (20-22 June 2016, Luleå) an oral presentation 'Supporting Bilateral Research Projects - Lessons Learned in EEA/ Norway Grants' was given by Dr. Aleksandra Witzak Haugstad (Research Council of Norway) introducing briefly all the 5 bilateral research programmes (Czech Republic, Estonia, Latvia, Poland and Romania). The aim of the presentation was to share some of the lessons learned from the different stages and aspects of these bilateral programmes, focusing primarily on the operative and practical challenges met and solutions adopted. Norwegian-Estonian Research Programme (as all the other bilateral research programmes mentioned above) was introduced during the poster session (Annex III).

A video to introduce the Programme to the wider public was produced in 2016. The video presents five projects representing all the four Estonian universities participating in the Programme.

Projects presented in the video are:

DNA-based early detection and diagnostics of alien invasive forest pathogens and tracing of their introduction pathways into northern Europe (Rein Drenkhan, Estonian University of Life Sciences, Associate Professor of Forest Pathology);

Political and socio-psychological determinants of inclusive integration context and their inter-dependencies (Raivo Vetik, Tallinn University, Professor of Comparative Politics; Marianna Drozdova, Tallinn University, PhD student);

Activity-dependent regulation of BDNF and Arc: master genes in synaptic plasticity (Tõnis Timmusk, Tallinn University of Technology, Professor of Molecular Biology);

Novel Analysis and Design Tools for Low-Density Parity-Check Code (Vitali Skachek, University of Tartu, Associate Professor in Theoretical Informatics);

Animals in changing environments: Cultural mediation and semiotic analysis (Riin Magnus, University

of Tartu, Research Fellow in Semiotics).

At the end of the video Dagfinn Sørli, Ambassador of Norway comments Norwegian-Estonian research cooperation.

The video is in English with Estonian subtitles, and is available in the video channel of the Estonian Research Council: <https://youtu.be/VfclOshkp-Q>. A news about the video was published on the [Estonian Research Council's webpage](#).

11. Cross-cutting issues

Good governance

To ensure that the principles of good governance are followed the implementation of the Programme is conducted in accordance with the Annex 12. The Annex is based on best practice in Europe and describes in detail how the Programme will be implemented, including the role and responsibilities of the Programme Operator and Program Committee, modalities of cooperation and intellectual property rights. In addition, Annex 12 provides specific rules on the submission and evaluation of the project proposals, negotiations and awards in addition to reporting requirements and payment.

The call documents were prepared and call procedures were built up in order to ensure transparency. Guide for applicants and evaluators were published with the launch of the call. The guides included well defined selection criteria and description of procedures. The basic information about the financed projects is available on the webpage of Estonian Research Council.

Sustainable development

Environmental considerations

Activities carried out under the Programme are in compliance with EU legislation and will not harm the environment. Research projects related to environment will give valuable knowledge in the environmental field and are in a more general manner related to the environmental considerations. Through dissemination of research results the funded projects will contribute to environmental improvements in Estonia and Norway.

For instance, the project EMP151 '**Animals in changing environments: Cultural mediation and semiotic analysis**' has reported on the environmental issues as follows:

"One of the major goals of the project is to develop better public understanding of animals and interpretations thereof and to elaborate better wildlife management practices. The project itself, however, does not have much environmental impact as it focuses mostly on theory development and relies on social science / humanities methods of research. The project governance minimises the environmental impact by preferring electronic means of communication and data management to paper documentation."

Project EMP162 '**DNA-based early detection and diagnostics of alien invasive forest pathogens and tracing of their introduction pathways into northern Europe**' deals with invasive plant pathogens, most commonly introduced to new regions through global trade of plant material, which are increasingly threatening native plants and ecosystem stability in the introduced range. To counteract this scenario in forest ecosystems, the project aims to improve the diagnosis of pathogens in early latent phase of infection in order to allow cost-effective and sensitive high through-put screening of imported plant material for the presence of invasive tree pathogens. The elucidation of

the introductory pathways of some invasive pathogens targeted in the proposal will increase political and public awareness of the risks involved in plant trading.

Project EMP171 **'Role of enzymes processivity in degradation of recalcitrant polysaccharides'**

The main goal of the project is to understand the mechanisms of enzymatic biorefining of chitin and cellulose, and to develop better enzymes for this purpose. Thus, the project contributes to the sustainable development through valorization of biomass. The use of biomass for energy production (transportation fuels) is expected to decrease the consumption of fossil fuels and carbon dioxide emission, reducing thus the negative impact of the activities of mankind to the environment.

Economic and social sustainability

Through the targeted use of capacity building measures (funds for bilateral relations) the Estonian research community will attain research capacity and competence, with effect beyond the duration of the Programme. Capacity building will also be an important component of individual projects in the Programme.

Estonia and Norway will benefit from the results of joint activities and have better perspectives to implement these results for prosperity of their economy and society. Through the Programme and the individual projects, participants may have broader access to future participation in the networks and R&D infrastructures, EU framework programmes and other relevant European research programmes and initiatives. The programme will also contribute to the development of the European Research Area.

The Programme supports the projects in which industry might be interested to provide a better knowledge base for promoting innovation and commercialisation in both countries. For instance, the University of Tartu will cooperate with the University of Bergen to implement a project², which can help in establishing a suitable environment for attracting companies in the fields of wireless and wired communications and data storage to establish research and development activities in the participating countries; Tallinn University of Technology and the University of Bergen will work on a project³, which could find immediate application³ for optimal designing and structural calculations of various devices for solid fuel power plants, pneumo-conveying devices as well as various gas-purifying equipment.

Other good examples in different areas of research can be presented as well (based on the projects reports):

Project EMP138 „**Political and socio-psychological determinants of inclusive integration context and their interdependencies**“ has reported that “The project improves sustainability in disseminating the knowledge from the results and cooperating with stakeholders at different levels and focuses on multicultural environment and integration policy and practices both in Estonia and Norway. The results can be well used in integration policy-making and through the latter, improve national capability of understanding minorities and improve their socio-economical well-being through diverse opportunities.”

² Project EMP133 „Novel Analysis and Design Tools for Low-Density Parity-Check Codes”

³ Project EMP230 „DNS and 3D Reynolds Stress Turbulence Modeling in Particulate Channel Flows with Inter-Particle Collisions and Applications“

Knowledge transfer from Norway to Estonia and vice versa regarding good practices in governance of multicultural societies will create a new base for strategic decision-making regarding integration issues in both countries. An understanding shall be formed about factors supporting the formation of open national identity. This is crucial for understanding nation building processes, which is gaining particular importance in the context of ongoing globalization. The project improves sustainability in disseminating the knowledge from the results and cooperating with stakeholders at different levels and focuses on multicultural environment and integration policy and practices both in Estonia and Norway. The results can be well used in integration policy-making and through the latter, improve national capability of understanding minorities and improve their socio-economical well-being through diverse opportunities. Institutionalisation of Estonian-Norwegian research cooperation in the fields of political science and psychology and the project teams plan to continue cooperation.

Project EMP151 **“Animals in changing environments: Cultural mediation and semiotic analysis”** has reported that “The project management aims at maximising the outcome of the project in the reasonable cost, and actively searches the additional funding options to allow the continuation of the research of the animal representation after the end of the current project. The case study on adaptation of companion dogs to changing environments is expected to bring public attention to the problems of visually impaired people, thereby increasing social sustainability.”

Project EMP180 **“Language and auditory brain: studies on central sound representation in auditory cortex”**

The project promotes economic development and innovation as it provides indicators that form the basis of developing tools and methodology for studying and evaluating auditory perception and its underlying structural, neural and metabolic mechanisms. This has potential impact on economic development, as the results of the collaborative base research will set ground for creating specific tools applicable in clinical practice (e.g. for quickly evaluating the effect of cognitive training on the plasticity of auditory cortex and brain plasticity in general; determining which specific cognitive training protocols are valid and reliable.) and in special groups of population (e.g. for effective language study protocols for non-native speakers and immigrants). This also supports social sustainability.

Project EMP205 **“Topical issues of consumer credit in Estonia and Norway”** has reported that “The project is indirectly aimed at economic and social sustainability as the consumer credit and problems of consumer over-indebtedness certainly do relate to social sustainability. The project aims at finding out the possible legal and institutional solutions of reducing consumer debt and encouraging responsible lending in the Nordic-Baltic area.”

Gender equality

Gender composition was taken into account in the process of forming the Programme Committee. In the process of peer review both genders among experts were represented. One of the principles taken into account while ranking the project proposals for final selection was giving a priority to projects with female project leader (appeared to be gender less represented) in case of equally scored proposals. Financed research projects are gender neutral.

12. Reporting on sustainability

Not applicable.

13. Attachments to the Annual Programme Report

Annex I – Risk assessment of the Programme

Annex II – Project level results

Annex III – Norwegian - Estonian Research Cooperation Programme (EARMA conference poster)

14. Attachment to the Final Programme Report

Not applicable.

Annex I: Risk assessment of the programme

Programme EE006	Type of objective ⁴	Description of risk	Likelihood ⁵	Consequence ⁶	Mitigation planned/done
	Cohesion (Programme) outcomes:	Legal requirements and conditions set for the Programme and projects are not met	1	4	Register of all relevant regulations; comprehensive partnership agreements and project contracts signed; sufficient project monitoring; effective and efficient communication between the Implementing Agency and Project Promoters, spreading relevant information (e.g. webpage, seminars to be organised, etc.), advising Project Promoters and sharing experiences, activities for the project partners coordinated by RCN.
		Projects selected for funding will not support the achievement of the aims of national strategies and priorities	1	4	The situation provides general context for the Programme and will not have any negative effects on the outcomes of the Programme/projects. Aims, measures and priority areas in the new Estonian RD&I strategy 2014-2020 are overlapping with the previous strategy (2007-2013), Programme is in line with the new strategy.
		Information about some of the results to fully assess the success of the Programme will not be available by the end of the projects/Programme (e.g. publications, joint proposals submitted to the pan-European financing initiatives)	2	4	As the eligibility period of projects was extended by FMO, the projects may last 3 years which is minimum length of research projects to get better publishable results; projects will also report on the articles that are being prepared or have been submitted for reviewing in addition to reporting on the articles published already; projects will also report on the motivation or plans for future cooperation (results reported on in more general terms)
	Bilateral outcome(s):	Projects lack shared results due to unclear roles and tasks of partners, lack of cooperation and joint responsibility (bilateral indicator)	1	4	Comprehensive partnership agreements signed; set-up of the joint steering committee for every project; sufficient project monitoring.
		Expected number of joint articles will not be published as a result of the cooperation projects (bilateral indicator)	2	4	Projects have less time constraints; projects will also report on the articles that are being prepared or have been submitted for reviewing in addition to the articles published already.
	Operational issues:	Staff turnover (at project and Programme level) leads to the loss of information, mistakes made, delays, etc.	1	3	Reduce risk through re-evaluation and re-organisation of the work practice; work procedures are described and documented clearly (e.g. by setting up management and control system and institutional regulations)
		Lack of competence of the Programme staff leads to the loss of information, mistakes made, delays, etc.	1	3	Constant analysis of the situation; trainings and seminars for staff (e.g. organised by National Focal Point, Financial Mechanism Office, Donor Programme Partners). Annual or bi-annual Programme Operators seminars have been organised by RCN (to discuss indicators, communication, reporting, etc. issues).
		Project Promoters' lack of information and knowledge on regulations and conditions set for projects/Programme will lead to mistakes, delays, etc.	1	3	Sufficient information spread and publicity measures taken; effective and efficient communication between the Project Promoters and Implementing Agency (e.g. webpage, seminars); advising Project Promoters and discussing the issues regarding project implementation, sharing experiences; sufficient project monitoring; comprehensive partnership agreements and project contracts concluded; activities for the project partners coordinated by RCN.

⁴ The risks should be categorised in one of 3 ways, depending on whether it poses a risk to the cohesion objective, the bilateral objective, or is more of an operational issue

⁵ Each risk should be described as to whether it poses a risk to the cohesion outcomes (programme outcomes), the bilateral outcome or crucial operational issues 4 = Almost certain (75 – 99% likelihood); 3 = Likely (50 – 74%); 2 = Possible (25 – 49%); 1 = Unlikely (1 – 24%)

⁶ Assess the consequence(s) in the event that the outcomes and/or crucial operations are not delivered, where 4 = severe; 3 = major; 2 = moderate; 1 = minor; n/a = not relevant or insignificant

Annex II – Project level results

The following projects are listed to be highlighted for communication purposes and as examples of best practices:

EMP151 “**Animals in changing environments: Cultural mediation and semiotic analysis**”

The goal of this project is to study how humans perceive animals in changing environments, how human cultural mediation of animals contributes to environmental change and how environmental change influences human-animal relations. Specifically, the project focuses on problematic cases of human-animal relations (including wild, domesticated, and captive animals) and their cultural representations and analyses these from semiotic perspectives, especially biosemiotic and zoosemiotic perspectives. Four case studies will be carried out within the project: animal agency in nature writing as a medium of communication based on Estonian and Norwegian literature; representations of large mammals including large predators, sheep and dogs; agencies and conflicts of interests in zoological gardens as an environment for mediated communication; adaptation of companion dogs to changing environments.

The website of the project is available at: <http://www.flfi.ut.ee/en/department-semiotics/animals-changing-environments>

Contact: Timo Maran timo.maran@ut.ee

EMP171 “**Role of enzymes processivity in degradation of recalcitrant polysaccharides**”

Recalcitrant polysaccharides, cellulose and chitin, are abundant reservoirs of renewable organic carbon. Biorefining of these materials, to produce biofuels and commodity products contributes to the development of environment-friendly sustainable industry. To date the processive enzymes are main components of enzyme cocktails used in enzymatic hydrolysis of cellulose and chitin. Therefore, the aim of the project was to elucidate the role of enzymes processivity in hydrolysis of recalcitrant polysaccharides, chitin and cellulose. The basis of achieving the project goals relies in combining the large and unique catalogue of enzymes available at Norwegian University of Life Sciences, with the equally unique substrate-labeling technologies and research methodologies available at the University of Tartu.

The website of the project is available at: <https://sisu.ut.ee/emp171/>.

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Annex III – Norwegian - Estonian Research Cooperation Programme (EARMA conference poster)



EARMA_Norway
Grants_Estonia.pdf