



Dissemination/Communication Report

Project title: “Environmental effects on physical properties of smart composites and FRP modified by carbonaceous nanofillers for structural applications”.

Project No. 1.1.1.2/VIAA/1/16/066.

Period concerning this report: 01.01.2018-31.12.2018.

**Activity 1.1.1.2 “Post-doctoral Research Aid” of the Specific Aid
Objective 1.1.1 “To increase the research and innovative capacity of
scientific institutions of Latvia and the ability to attract external
financing, investing in human resources and infrastructure” of the
Operational Programme “Growth and Employment”.**

Summary

During the first year of the project implementation different dissemination/communication activities were carried out.

First scientific results were presented on the *18th European Conference on Composite Materials (ECCM)*. For the dissemination of information among general public professional *FACEBOOK* profile was developed. Additionally, for better dissemination of project scientific results project profile “Environmental effects on physical properties of smart composites and fibre-reinforced plastics modified by carbonaceous nanofillers for structural applications” was developed at open-access database *ZENODO* (www.zenodo.org) under community POSTDOC-Latvia providing open-access to all published materials. Both profiles will be regularly updated with actual project results during full project implementation period.

1. Objectives

- Dissemination of results;
- Communication;
- Knowledge and data management and protection.

2. Work planned for this reporting period

T4.1. Dissemination of results

- Preparation of dissemination materials and publishing quarter press releases in the website of the University of Latvia (UL, www.lu.lv).
- Making 1 report at *ECCM18* in 2018.
- Self-activation within institutional repositories and subject-based repository (*ResearchGate*).

T4.2. Communication

- Establishing and implementation of the communication plan.
- Attendance of local seminars, conferences, and other public events (e.g. *Researchers' night, Scientific café*), posters display and leaflet distributions.

T4.3. Knowledge and data management and protection

- Transfer of generated data to the central database (e.g. *Dropbox*), and its preservation for at least five years after completion of the project.

3. Progress

T4.1. Dissemination of results

During the first year of project implementation 4 quarter press releases were prepared and published in the website of UL (<https://www.lu.lv/zinatne/programmas-un-projekti/es-strukturfondi/1112pasakums-pecdoktoranturas-petniecibas-atbalsts/vides-ietekme-uz-viedo-ar-oglekla-nanopildvielam-modificetu-kompozitu-un-skiedru-plastikatu-fizikalajam-ipasibam-strukturaliem-pielietojumiem/>).



Fig. 1. Post-doctorate Dr. Sc. Ing. Tatjana Glaskova-Kuzmina and the project poster.

The poster of size A4 with project title and main details was prepared and located next to the room of post-doctorate in the Institute for Mechanics of Materials, UL (see Fig. 1).

In the beginning of the project, 76th international conference of UL was attended by making a plenary presentation “Smart polymers and FRP modified by carbonaceous nanofillers for structural applications” under the section „Nano and quantum technologies and innovative materials for economy”, 01.02.2018., Riga, Latvia (<https://www.lu.lv/konference/programma/?session=587>).

One of the most significant conferences in the field of composite materials *18th European Conference on Composite Materials* (25.-28.06.2018, Athens, Greece) was attended by making a poster presentation “Moisture sorption by epoxy resin filled with MWCNTs of different thickness” on current project results. After ECCM18 the poster was uploaded to *ZENODO* database, providing

open-access to the final version of the poster (<https://zenodo.org/record/1401993#.XBt54VX7Spo>).

Since the dissemination and open-access for full-papers of ECCM18 were not provided by conference organizers, the final version of ECCM18 full-paper “Moisture sorption by epoxy resin filled with MWCNTs of different thickness” was uploaded to subject-based repository *ResearchGate* (https://www.researchgate.net/publication/328902731_MOISTURE_SORPTION_BY_EPOXY_RESIN_FILLED_WITH_MWCNT_OF_DIFFERENT_THICKNESS)

providing open-access to project results.

Additionally, for the dissemination of project results among general public professional *FACEBOOK* profile was developed (<https://www.facebook.com/tatjana.glaskovakuzmina>, see Fig. 2). Up to now the posts were made on the project aim, tasks and 3rd mobility to IPCB. The profile will be regularly updated with the actual project information/results.

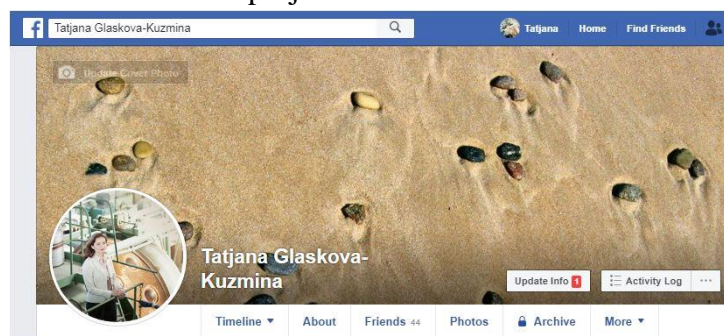


Fig. 2. Professional FACEBOOK profile of post-doctorate Dr. Sc. Ing. T. Glaskova-Kuzmina.

The abstract “Environmental effects on mechanical, thermophysical and electrical properties of epoxy resin with carbon nanofillers” was prepared and submitted for oral presentation to *International conference on Composite Materials* (ICCM22, August 11-16, 2019, Melbourne, Australia).

T4.2. Communication

Dissemination/communication plan (D4.1, M12) was designed and developed during the first year of project implementation. In the next two years (2019-2020) dissemination/communication activities will be carried out according to this plan.

During the first year of project implementation several seminars organized by State Education Development Agency of the Republic of Latvia (www.viaa.gov.lv) were attended for better project implementation and preparation of project reports.

Public events such as *Researchers' night* and *Scientific café* organized by UL were attended with the aim of planning scientific popular seminars regarding project results in 2019-2020.

Several presentations about the project and its current results were made for the seminars organized in Institute for Mechanics of Materials of UL (Riga, Latvia) and IPCB (Portici, Italy). 1st year progress seminar for the discussion of current project results and future steps was organized in the Institute for Mechanics of Materials, UL. During the first year of project implementation three mobilities to IPCB (Portici, Italy) were carried out by the post-doctorate: 24.-31.03.2018, 19.-26.05.2018, and 29.09.-06.10.2018. During these mobilities the test samples were prepared, thermal conductivity tests were carried out, the project steps were planned, discussed and implemented.

Wide communication with international researchers discussing project results was carried out during *ECCM18* (25.-28.06.2018, Athens, Greece).

T4.3. Knowledge and data management and protection

All data generated (raw and ready data files, reports, presentations) were transferred to the folder of POSTDOC project in the central database *Dropbox* providing access to scientific supervisor from UL Dr. Sc. Ing. Andrey Aniskevich and representative person of IPCB Dr. Sc. Ing. Mauro Zarrelli. All data files will be preserved in *Dropbox* during the project implementation and at least five years after completion of the project.

4. Significant results

Scientific publications

1. Glaskova-Kuzmina T., Aniskevich A., Sevchenko J., Borriello A., and Zarrelli M. Moisture sorption by epoxy resin filled with MWCNT of different thickness. Proceedings of European Conference on Composite Materials, June 25-28, 2018, Athens, Greece.
2. “Creep and fatigue in polymer matrix composites” 2e edited by Rui Miranda Guedes, Elsevier, chapter “Effect of moisture on elastic and viscoelastic properties of fibre reinforced plastics: retrospective and current trends” by Aniskevich A. and Glaskova-Kuzmina T., 2018 (in press).

Presentations at international conferences

1. Glaskova-Kuzmina T., Aniskevich A., Sevchenko J., Zarrelli M., and Borriello A., „Moisture sorption by epoxy resin filled with MWCNTs of different thickness”, ECCM18, 25.-28.06.2018, Athens, Greece.
2. Glaskova-Kuzmina T., “Smart polymers and FRP modified by carbonaceous nanofillers for structural applications” LU 76. konferences plenārsēdē „Nano and quantum technologies and innovative materials for economy”, 01.02.2018., Rīga, Latvija (<https://www.lu.lv/konference/programma/?session=587>).

5. Deviations from the working plan

Positive deviations from the working plan of dissemination/communication were obtained by the post-doctorate. It is expected that the number of conference presentations and submitted/published scientific papers written in project proposal (2 presentations and 2 scientific papers) will be higher maximizing the impact of the project.

6. Corrective actions

In the case of appropriateness and need, inclusion of all additional and relevant dissemination/communication activities within the project implementation and adding them to project work will be done improving the visibility of project results.

7. Plans for next reporting periods (2019, 2020)

Submission of scientific papers to peer-reviewed scientific journals and popular scientific papers in Latvian press is planned in the next two years.

Some of scientific results obtained during the first year will be published in 2019 in peer-reviewed Q1-Q2 scientific journals (ensuring green open access) with SCI higher than app. 1.15 (Material science, multidisciplinary) and included in the SCOPUS (A or B) databases. The draft version of the article will be prepared early in 2019 and will be discussed with scientific supervisor from the UL Dr. Sc. Ing. Andrey Aniskevich and representative person of collaboration partner Institute for Polymers, Composites and Biomaterials (IPCB) Dr. Sc. Ing. Mauro Zarrelli.

The scientific and public dissemination of the project will continue to be developed to achieve all planned objectives. The professional profile on *FACEBOOK* will be updated with the information on project results for general public. The open-access to project scientific results (presentations/posters/papers) will be provided via self-archiving in *ZENODO* and *ResearchGate* repositories.

Project results will be presented in *ICCM22* in 2019, *ECCM19* in 2020, scientific popular events such as *Researchers' night* and *Scientific Café* in 2020. For these events exhibits, posters, booklets, and leaflets will be prepared.

8. Deliverables and Milestones

D4.1 Dissemination/communication plan and annual dissemination/communication report (M12, M24, M36).