

PRESS RELEASE III - 12/2018

Looking back at one year of PANBioRA:

The EU-funded project PANBioRA aims to develop a method that can be applied to the standardized evaluation of biomaterials in order to assess intervention risks on several levels. By using existing methods and novel, state-of-the-art technologies, the PANBioRA system will provide a level of information related to biomaterial-based risks which is not available currently. After the first year working on the project, a first draft prototype of the PANBioRA device was developed as well as important milestones for the development of the cytotoxicity testing module reached.

During the first year of the project, the PANBioRA team strongly started to work on the different modules the PANBioRA system which, in the end, the overall system will be comprised of. The rating system will allow biomaterial risk assessment at nano-, micro- and miliscale ranges. Beyond the different testing modules, the PANBioRA system includes simulations and multiscale models of cell/tissue biomaterial interactions.

From 3rd to 4th December 2018 the PANBioRA M12 partner meeting took place at *Epoka University* in Tirana, Albania. The event was covered by national news outlets which can be seen [here](#). All partners have presented their work performed during the last six months and had enough time to discuss about the next steps ahead and preparations to be made in order to reach the new set goals.



PANBioRA M12 project meeting in Tirana, Albania/ Image Credit: Epoka University

Based on system requirements gathered from users of medical devices at research institutions or hospitals by *Dolmen*, a first prototype of the PANBioRA device was presented to the consortium. The prototype draft looks really promising and takes into account many requirements in terms of waste management, speed and ease of use. But not only the design development made significant progress, during the first year of the project the development of modules for cytotoxicity test, mechanical testing and immunoprofiling as well as the microfluidic system integration has advanced considerably as well.



At the end of the project the web-based PANBioRA Risk Radar will serve as a horizon scanning tool allowing a broad risk assessment of biomaterials. In order to identify the needs and perspectives for the development and use of an integrated risk governance framework for biomaterials and biomaterial based products, a survey was developed by *Steinbeis Advanced Risk Technologies GmbH*. Experts working in the field of biomaterials, implants, medical devices or any other related fields are invited to share their thoughts [here](#) and contribute to the PANBioRA Risk Radar.

In terms of the dissemination of first project results and their exploitation, first achievements have been made as well. *Steinbeis 2i* as responsible partner for these tasks performed the second IPR workshop during the M12 partner meeting in order to identify possible exploitable results and protect knowledge generated within the project. In September the scientific coordinator *Protip Medical* as well as project partner *University of Nottingham* and *Steinbeis 2i GmbH* presented the project at [TERMIS World Congress](#), one of the major events in the research field of tissue engineering and regenerative medicine, in Kyoto Japan.

In the past six month the PANBioRA research partners have released 4 scientific publications in relevant journals such as *Frontiers in Bioengineering and Biotechnology* or *Materials Research Express*. A full overview of the project's publication can be found on the [project website](#).

Overview of PANBioRA Scientific Publications M6-M12

[The importance of controlled mismatch of biomechanical compliances of implantable scaffolds and native tissue for articular cartilage regeneration](#), Michael Gasik, Alexandra Zühlke, Anne-Marie Haaparanta, Virpi Muhonen, Kaisa Laine, Yevgen Bilotsky, Minna Kellomäki and Ilkka Kiviranta, *Frontiers in Bioengineering and Biotechnology*, 16 November 2018.

[Numerical simulation of electrospinning process in commercial and in-house software PAK](#), Tijana Šušteršič, Liliana Liverani, Aldo R Boccaccini, Slobodan Savić, Aco Janičijević and Nenad Filipović, *Materials Research Express*, Volume 6, Number 2, 07 November 2018.

[In vitro Models and On-Chip Systems: Biomaterial Interaction Studies With Tissues Generated Using Lung Epithelial and Liver Metabolic Cell Lines](#), Milica Nikolic, Tijana Sustersic and Nenad Filipovic, in *Frontiers in Bioengineering and Biotechnology*, 03 September 2018.

[Immune assisted tissue engineering via incorporation of macrophages in cell-laden hydrogels under cytokine stimulation](#), Julien G. Barthès, Camille Dollinger, Celine B. Muller, Urmas Liivas, Agnes Dupret-Bories, Helena Knopf-Marques and Nihal E. Vrana, in *Frontiers in Bioengineering and Biotechnology*, 13 July 2018.

For further information please visit www.panbiora.eu or follow PANBioRA on [Facebook](#), [LinkedIn](#), [Twitter](#), [Research Gate](#) and check out our project video: [YouTube](#).





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