



COST ACTION GREENERING – DATA COLLECTION

First name, Family Name: Kristine Irtiseva

Type (Academic or Industrial): Academic

Country: Latvia (Republic of Latvia)

Leadership position in the COST: MC Member on CA18224

Working Group in which you are involved: WG4 and WG1

E-mail: kristine.irtiseva@rtu.lv

Laboratory/Company: Scientific Laboratory of Powder Materials & Institute of Aeronautics, and Rudolfs Cimdins Riga Biomaterials Innovation and Development Centre, Chemical Engineering institute, Faculty of Materials Science and Applied Chemistry, Riga Technical University (Riga, Latvia)

Laboratory/Company info (limited to 400 characters):

Scientific Laboratory of Powder Materials is a division of Riga Technical University (RTU), Civil Engineering dept., which operates in close collaboration with other laboratories of the faculty and adjacent RTU departments. Personnel: 5-8 researchers and leading researchers, 5 PhD students, 2 postdoctoral fellows.

Rudolfs Cimdins Riga Biomaterials Innovation and Development Centre Institute head is asoc.prof. *Dr.sc.ing.* Jānis Ločs. IGCE employs more than 30 employees engaged in academic and research work.

Link to the home page of the Laboratory/Company:

<https://www.researchgate.net/lab/Scientific-Laboratory-of-Powder-Materials-Head-Viktors-Mironovs-Viktors-Mironovs>

<http://rbiac.rtu.lv/en>

Fields of expertise (limited to 400 characters):

- Bio-based composite materials,
- Reuse, recycling and conversion of secondary materials into value added products,
- Recycling and substitution of critical raw materials,
- Environmental applications of powder, granular and composite materials,
- Circular economy and biomass materials applications.
- Process modelling in FEA software.
- Research and development of new higher-added value products from peat, clay, sapropel and secondary materials.

5 Main publications or patents:

- V. Lapkovskis, V. Mironovs, K. Irtiseva, D. Goljandin, and A. Shishkin, ‘Investigation of Devulcanised Crumb Rubber Milling and Deagglomeration in Disintegrator System’, , Key Engineering Materials, vol. 800, pp. 216–220, 2019.
- V. Lapkovskis, V. Mironovs, K. Irtiseva, and D. Goljandin, ‘Study of Devulcanised Crumb Rubber-Peat Bio-Based Composite for Environmental Applications’, Key Engineering Materials, vol. 799, pp. 148–152, 2019.



- A. Shishkin, G. Bumanis, K. Irtiseva, J. Ozolins, and A. Korjakins, “Clay Ceramic Hollow Sphere - Cement Syntactic Foam Composite for Building Applications,” Key Eng. Mater., 2019.
- Z. Vincevica-Gaile et al., “Granulation of fly ash and biochar with organic lake sediments – A way to sustainable utilization of waste from bioenergy production,” Biomass and Bioenergy, vol. 125, 2019.

Collaborations:

Zwickau University of Applied Sciences, TU Wien, Chalmers university, Tartu University of Life Sciences, Tallinn University of Technology, University of Cagliari, Marche Polytechnic University, University of Chemistry and Technology in Prague.

Facilities:

- Cavitation disperser rig (mixing and disintegration of materials),
- The high-speed mixer-disperser (HSMD), for preparing binder suspension.
- Shockwave disintegrator,
- Equipment and tools for electromagnetic processing of materials,
- Pulse power generators and measurement tools.
- Electromagnetic field measurements (electromagnetic smog).
- Powder materials research equipment (based on digital microscope (Keyence VHX-2000)).
- Etc.