

## CV – VILMA DUCMAN



### Contact:

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**Vilma Ducman** has been involved in the research and testing of traditional ceramics building products (clay masonry units, clay roofing tiles, ceramic tiles). Her main research focus has been placed on use of different waste materials (waste glass, paper mud, silica sludge, fly ash...) in the building industry, mainly into processing of different waste into lightweight aggregates and composites. In last years she has been actively involved in research of alkali activated materials based on different waste material (fly ash, slag, waste glass). She has led or been involved in many (inter-) national projects on recycling and development of new building materials or products. She has published over 50 articles in scientific journals and over 100 in professional magazines and conferences, and she acquired four SI patents on recycling. **Publications:**

[http://www.sicris.si/public/jqm/search\\_basic/eng/2/300/search/rsr/11292](http://www.sicris.si/public/jqm/search_basic/eng/2/300/search/rsr/11292)

### Education:

2013: Ph.D., University of Ljubljana, Faculty of Natural Sciences and Engineering,

1993: M. Sc., University of Ljubljana, Faculty of Chemistry and Chemical Technology,

1989: B. Sc., University of Ljubljana, Faculty of Chemistry and Chemical Technology,

### Employment and management position:

From 2009 on: head of Laboratory for Cements, Mortars and Ceramics (ZAG)

2004-2020: head of Department for Materials (ZAG),

2000-2008: head of Laboratory for Ceramics and Refractory Materials (ZAG)

From 1996 on: researcher at Slovenian national Building and Civil Engineering Institute (ZAG),

1989-1996: Steklarska šola (Glass school) Rogaška Slatina – young researcher at IJS.

2009-2013: deputy head of member of Board of Governors of ZAG

2013-2015: member of Board of Governors of ZAG

### Recent international projects and networks:

- H2020 **Wool2Loop**: Mineral wool waste back to loop with advanced sorting, pre-treatment, and alkali activation (2019 -2022)
- ERA-MIN 2: **FLOW**: Lightweight alkali activated composite foams based on secondary raw materials (2018-2021)
- H2020 **InnoWEE**: Innovative pre-fabricated components including different waste construction materials reducing building energy and minimising environmental impacts (2016-2020),
- EIT KIC RawMaters project **RECOVER**: Innovation in Motion: Red mud and Copper slag Valorisation in Engineered Products (2017-2019),
- EIT KIC RawMaters project **MIN-PET**: Mineral products from Petrit-T sidestream technology (2016-2018),
- EIT KIC NOI (network of infrastructure) **RESIDUFLEX**- Infrastructure and technology network on residue valorization (2015-2019),
- Slovenian – Serbian bilateral project, Mechanisms of bonding of aggregates based on fly ashes and prepared by means of geopolymers binders and cements ( 2016-2017)
- EU FP 7 project **HEROMAT** - Protection of cultural heritage objects with multifunctional advanced materials (2011-2015),

- EUREKA **MULTI-PROTECT** - Multifunctional Layers For The Protection Of Mineral Substrates (2010-2013),
- EUREKA **LIGHTWASTE** - Development of lightweight aggregate from waste material and further processing into thermal insulation concrete (2009-2012)
- COST action **SARCOS** - CA15202 Self-healing As preventive Repair of COncrete Structures (2016-2020),
- COST action **MINEA** - CA15115 Mining the European Anthroposphere (2016-2020),
- COST action **NORM4BUILDING-TU 1301** - NORM for Building Materials (2013-2017).

#### **Recent national projects:**

- J2-9197: Synthesis and characterization of alkali activated foams based on different waste (2018-2021),
- J1-9179: Non-traditional isotopes as identifiers of authigenic carbonates (2018-2021),
- Smart Specialization Strategy project **Cel-Cycle**: Use of bio mass for the development of advanced material and bio-based products (2016-2020),
- Z2-6748: 48: Mechanisms for the strengthening of different types of ash by means of a geopolymerization process (2014-2016),
- Development of high-quality refractory aggregate from waste materials –voucher project for company Togo d.o.o. (2013-2015).

#### **Organization of scientific conferences, technical committees and editorial boards membership:**

- member of Scientific Committee RILEM Spring convention and Sustainable materials, systems and structures conference, Rovinj, Croatia, **2019**.
- member of International Advisory Board for section for Traditional Ceramics of CIMTEC- International Conference on Modern Materials and Technologies, **2010 , 2012, 2014, 2018, 2020**.
- member of Scientific Committee of TBMCE: Technologies & Business Models for Circular Economy, Portorož, Slovenia, **2018**.
- member of Scientific Committee of IMST 3rd International Conference on Innovative Materials, Structures and Technologies, Riga, Latvia, **2017, 2019**.
- member of Scientific Committee of COMS 2017: 1st International Conference on Construction Materials for Sustainable Future, Zadar, Croatia, **2017**.
- member of Scientific Committee of IPICSE–2016: International Conference on Integration, Partnership and Innovation in Construction Science and Education, Moscow, Russia, **2016**.
- member of technical committees: Rilem TC DTA: Durability testing of alkali activated materials (2013-2017), Rilem TC CCC: Carbonation of concrete with supplementary cementitious materials (2018-2022), Rilem TC MPA: Mechanical properties of alkali-activated concrete (2019-2023).
- member of editorial board of journal Ceramic in Modern Technologies (2018 on).
- reviewer for: Construction and Building Materials, Cement and Concrete Research, Cement, Concrete Composites, Ceramics in Modern Technologies, Ceramics International, Journal of Environmental Management, Waste Management, Journal of Cultural Heritage, Resources, Conservation & Recycling, Journal of Building Engineering, Materiali in tehnologije, Građevinar...

#### **Interests/hobbies:**

books, psychology, art