

# DuRSAAM

The PhD Training Network on Durable, Reliable and Sustainable Structures with Alkali-Activated Materials

## Inside this Issue



UNIVERSITY OF PATRAS  
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ



### EVENTS

The next event organized by DuRSAAM will take place in the University of Patras (Greece). Participants will have the chance to follow a training course on structural applications of Alkali-Activated Materials (AAM).

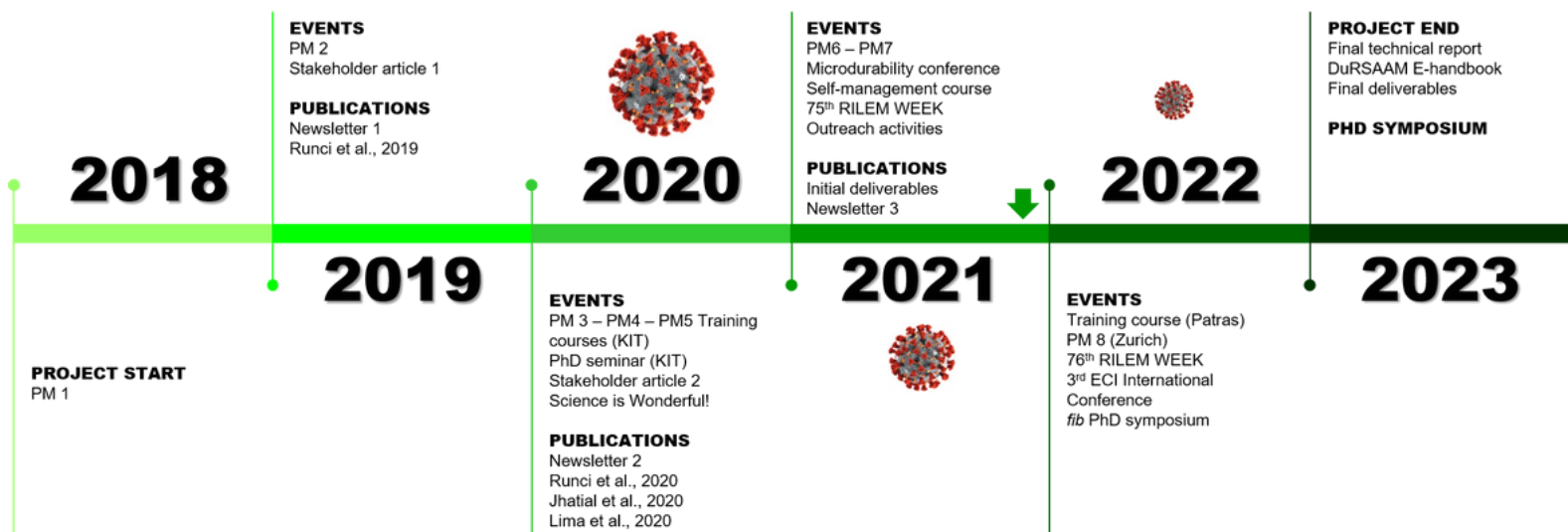
### DISSEMINATION

Spreading of concepts, ideas and knowledge keep going! Discover more about our workshop with children in Ghent and during the night of researchers!

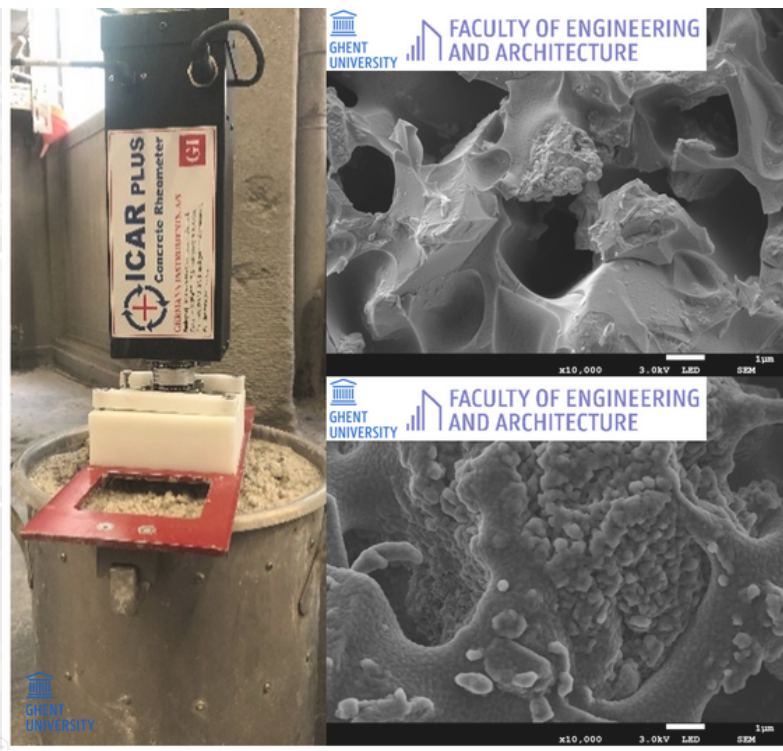
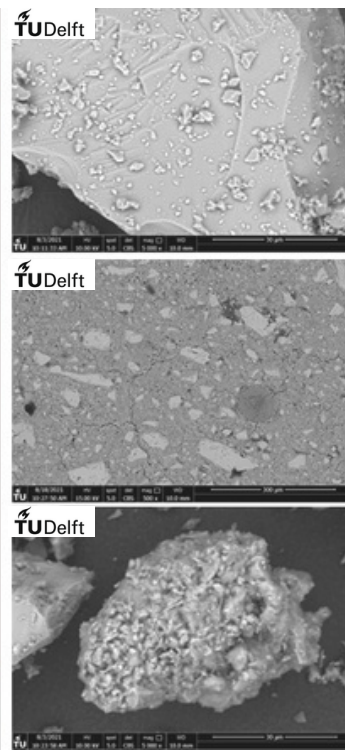
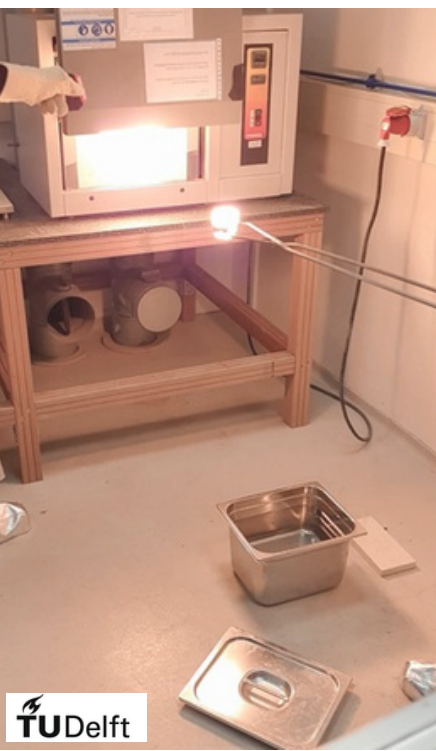
### CONTRIBUTIONS

Early stage researchers took part in international conferences to broaden the impact of their researches. Find out their contributions at the microdurability conference 2021.

## DURSAAM UPDATES

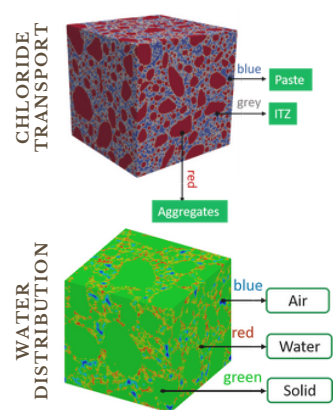
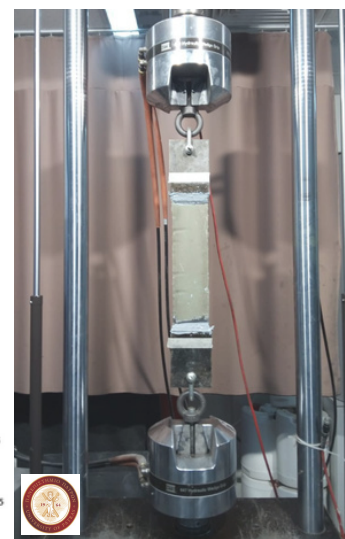
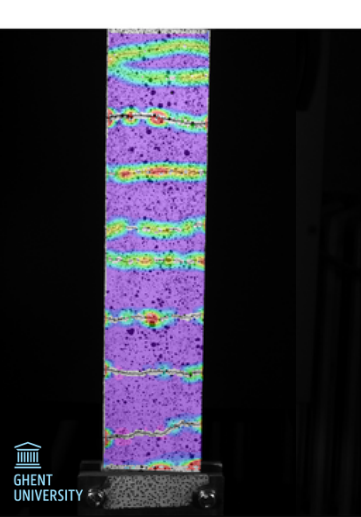




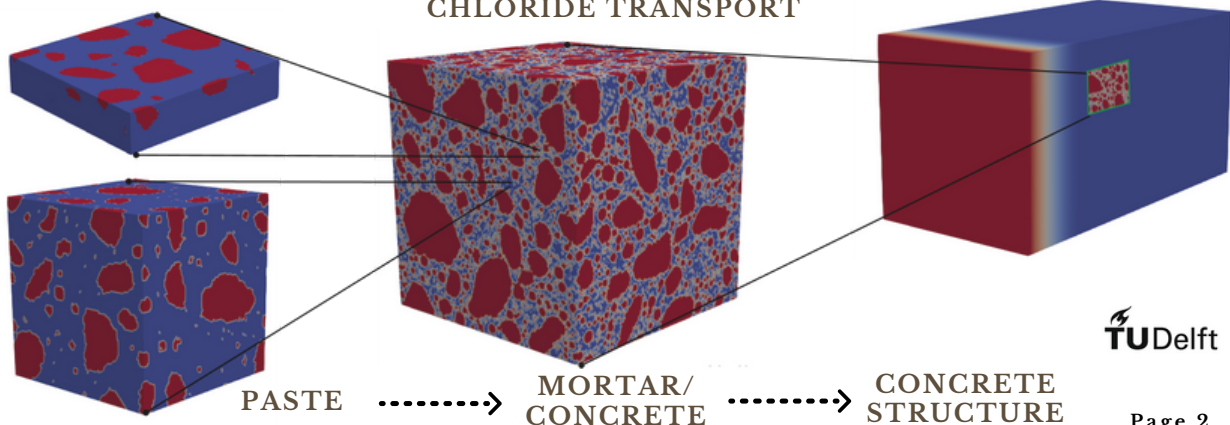


## MULTISCALE INVESTIGATION OF ALKALI-ACTIVATED MATERIALS

The work of our 13 ESRs aims to fully characterise the behaviour of alkali-activated materials to promote their utilisation as construction material. The reaction mechanisms and the derived products (nano- and microscale), as well as mechanical and durability performance (meso- and macroscale) are investigated to evaluate their potential as cement "green" alternative.

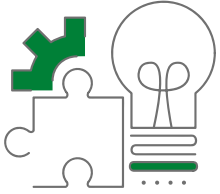


### CHLORIDE TRANSPORT





# SPREADING THE IDEA - DURSAAM OUTREACH



## *DuRSAAM at Workshop for children 23th-24th August 2021*

The University of Ghent hosted the summer school where the "green" and sustainable concrete was introduced to children through the Workshop in the scope of DuRSAAM project. Our fellow researcher **Ivana Krajnović** and other UGent researchers taught children about the importance of concrete as the most used building material worldwide, its properties, composition and environmental impact of traditional concrete and on the other side, alkali-activated concrete as a "green" and sustainable alternative, made from waste materials.



After strength tests and examination of capillary sorption with coloured ink, the children were involved in mixing and casting alkali-activated concrete into various-shaped moulds. After hardening and demolding, they made "green" concrete fridge magnets which they took home as souvenirs.

Throughout the Workshop, children learned in a playful way about the importance of sustainable and durable concrete, as well as taking care of the environment.



**Find out more about the event on the following links:**



## *DuRSAAM at the European night of researchers 24th September 2021*



This year, DuRSAAM project was presented to the broader society in Italy at the European event *La Notte dei Ricercatori* - SHARPER (The night of researchers). Aiming at promoting science, knowledge and research professions, this event is being promoted by European Commission since 2005.

Due to COVID 19, the event took place online and our fellow researcher **Antonino Runci** gave an interview about alkali-activated materials and their application. This way, citizens were informed about the potential of alternative, environmental-friendly concrete and research focused on making it durable, sustainable and widely applicable.

**Find out more on the event page:**





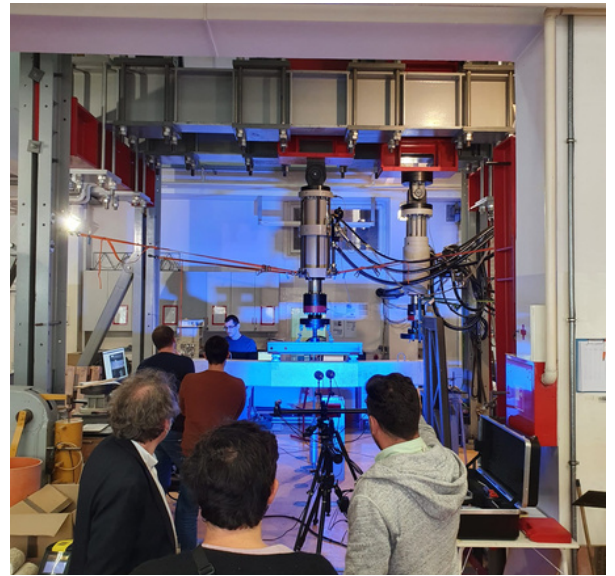
# EVENTS



## Project meeting 7

Project meeting 7 was held on the 4-7th October 2021 at the University of Zagreb. After a long time, ESRs and supervisors had an opportunity to meet in person, but remote attendance was provided as well, for the fellows who were unable to travel due to the COVID-19.

The first day of the meeting was dedicated to Supervisory Board meeting and PhD seminars, where all ESRs presented their current research progress. On the second day, the action management was discussed, as well as ESRs projects. The MEET-AND-GREET breakout sessions were organized on both days, aiming to facilitate the relationships among ESRs-Supervisors and ESRs-Industry partners. After the sessions, the project team visited the laboratories of the Faculty of Civil Engineering at the University of Zagreb.



The last two days of the meeting were reserved for networking and social activities - a short trip to the Istria region in Croatia. The project team visited the "Calucem" cement plant and the beautiful city of Pula, as well as National Park Brijuni.





# MIDTERM WORKSHOP

in conjunction with Microdurability2020 conference

Due to the situation of COVID-19 in Europe, the DuRSAAM midterm workshop was turned into webinar. The workshop took place as a 3-day event (29 April, 4 and 6 May) hosted by the Microdurability2020 special session on alkali-activated materials (AAMs). Twenty-seven researchers in total presented their work on AAMs, including eight ESRs of DuRSAAM project. The workshop covered a wide range of topics in AAMs, from mix design and chemistry to mechanical properties, durability issues and volume changes. This workshop in conjunction with Microdurability2020 brought together researchers in the field of AAMs and formed a healthy connection for DuRSAAM young researchers with the AAMs community.



Cassandre Le Galliard: [Assessment of alkali-activated slag carbonation](#)



Zhiyuan Xu: [Lattice boltzmann simulation of chloride transport in alkali-activated slag](#)



Lazar Azdejkovic: [Durability assessment of alkali-activated textile reinforced mortar \(AATRM\)](#)

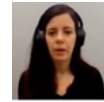
[Click for proceedings](#)



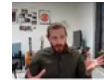
Special session on geopolymer concrete

29<sup>th</sup> April, 4<sup>th</sup> and 6<sup>th</sup> May 2021

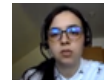
hosted by MicrodurabilityWebinar



Ivana Krajnovic: [Influence of Curing conditions on Alkali-activated Mortars Intended for Concrete Repair](#)



Luiz Miranda de Lima: [Evaluation of the effect of Ca on reactivity of alkali-activated systems](#)



Laura Rossi: [Fiber-reinforced alkali-activated materials \(FRAAM\)](#)



Richard Caron: [Mechanical properties and shrinkage of alkali-activated slag concrete](#)



Yubo Sun: [Potential application of MSWI bottom ash as substitute material in Portland cement concrete](#)

## NEXT EVENTS

*Training Course on Structural Application of AAM*

Lectures on new construction materials, precast of structures and strengthening, such as lab sessions will be given in Patras between the 17.01.22 and 21.01.22.

*Project Meeting 8*

The Project Meeting 8 is planned on 28-29.04.2022. ETH Zürich will host this meeting.

## OUR PARTNERS



We are pleased to welcome Lafarge-Holcim in our consortium.

Welcome also to Olivera Bukvic who joins the group of early stage researcher at the University of Zagreb.

## STAY TUNED

<https://www.linkedin.com/company/dursaam-itn/>

<https://www.youtube.com/watch?v=qP-cvcX2Xxs>

Follow us on Twitter @Du\_RSAAM

<https://dursaam.ugent.be/>

For more information and News about DuRSAAM visit our webpage, and follow us on social medias and YouTube channel.

*This issue of the newsletter is brought to you by PhD fellows: Zhiyuan Xu, Luiz Miranda, Laura Rossi, Olivera Bukvic and Richard Caron.*



This project has received funding from European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 813596.