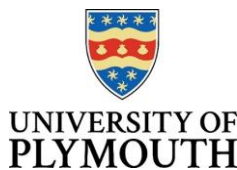




H2020 Marie Skłodowska-Curie RISE Project: TRAC – Tailor-made Recycled Aggregate Concretes

Members:

1. UoP (University of Plymouth, UK) – Coordinator, Leader of WP1, 5 & 6
2. CHALMERS (Chalmers University of Technology, Sweden) – Leader of WP2, 3, & 4
3. PNRU (Phranakhon Rajabhat University, Thailand) – Co-leader of WP6
4. TDTU (Ton Duc Thang University, Vietnam) – Co-leader of WP3
5. SZU (Shenzhen University, China) – Co-leader of WP2



TRAC Newsletter – Sep 2019 & Dec 2019 & Mar 2020

Management

1. The project mid-term meeting was held in London, UK on 6th Sep 2019. Deliverable 1.2 (Mid-term meeting) has been submitted and approved.
2. The first workshop of the project was held in SZU on 27th Dec 2019. Deliverable 2.3 (Workshop on mechanical properties of recycled aggregate concretes) has been submitted on 6th April 2020.
3. The second workshop of the project has been planned, to be held in TDTU in July 2020.
4. Financial agreement between UoP and TDTU has been signed by both partners in June 2019 for the budget transfer for Year 2 (July 2019 – June 2020).
5. Financial agreement between UoP and PNRU has been signed by both partners in August 2019 for the budget transfer for Year 2 (July 2019 – June 2020).
6. Financial agreement between UoP and PNRU has been signed by both partners in January 2020 for the budget transfer for Year 3 (July 2020 – June 2021).

Exchange

1. Dr Shanshan Cheng (UoP) visited PNRU from 30th Jun 2019 to 29th Jul 2019.
2. Dr To Anh Vu PHAN (TDTU) visited Chalmers from 1st Jul 2019 to 31st Jul 2019.
3. Dr Duc-Hie LE (TDTU) visited Chalmers from 1st Jul 2019 to 31st Jul 2019.
4. Dr Emma Zhang (Chalmers) visited SZU from 9th Jul 2019 to 12th Aug 2019.



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5. Prof Long-yuan Li (UoP) visited SZU from 10th Jul 2019 to 18th Aug 2019.
6. Dr Natt Makul (PNRU) visited Chalmers from 4th Sep 2019 to 6th Oct 2019.
7. Dr Prakasit Sokrai (PNRU) visited Chalmers from 7th Sep 2019 to 6th Oct 2019.
8. Dr Kannaphat Nithiwaraphakun (PNRU) visited Chalmers from 7th Sep 2019 to 6th Oct 2019.
9. Dr Parichart Rattanapol (PNRU) visited Chalmers from 7th Sep 2019 to 6th Oct 2019.
10. Dr Emma Zhang (Chalmers) visited PNRU from 27th Oct 2019 to 10th Dec 2019.
11. Dr Boksun Kim (UoP) visited SZU from 17th Dec 2019 to 31st Dec 2019.
12. Mr Kunjie Fan (UoP) visited TDTU from 25th Dec 2019 to 2nd Feb 2020.
13. Prof Luping Tang (UoP) visited SZU from 25th Dec 2019 to 18th Jan 2020.
14. Dr Prakasit Sokrai (PNRU) visited UoP from 9th Mar 2020 to 31st Mar 2020.
15. Dr Kannaphat Nithiwaraphakun (PNRU) visited UoP from 9th Mar 2020 to 31st Mar 2020.
16. Dr Natt Makul (PNRU) visited UoP from 9th Mar 2020 to 31st Mar 2020.
17. Mr Qi Ye (UoP) is visiting SZU from 20th Mar 2020 to 20th Apr 2020.

Research Activities

1. Researchers from TDTU and PNRU discussed advanced research methods of durability of concretes during their visit at Chalmers. The pioneering research methods developed at Chalmers will be transferred to TDTU and PNRU in future.
2. Researchers from PNRU work on the review of up-to-date research methods for the improvement of interfacial transition zones in recycled concrete aggregates and the thermodynamic modelling of chloride movement in recycled aggregate concretes.
3. Researchers at UoP visited local recycled concrete aggregates supplier Brunel Recycling and its construction site in Dockyard, Plymouth in Oct 2019. Material characterisations of the recycled aggregates have been tested, and mechanical properties of RAC cubes and cylinders have been tested using the local materials.
4. Researchers at UoP has met with local mining company Tungsten West to discuss potential of using by-products of mining to make functional concrete products. Initial collaboration has been discussed to investigate the micro-structure and chemical composition of the tailing materials.

Publications

1. Sua-iam G*, Makul N, Cheng S & Sokrai P (2019) 'Workability and compressive strength development of self-consolidating concrete incorporating rice husk ash and foundry sand waste – A preliminary experimental study' *Construction and Building Materials* 228. [DOI](#)
2. Hu X, Lu Q & Cheng S (2019) Uniaxial Damaged Plastic Constitutive Relation of Recycled Aggregate Concrete. *Advances in Materials Science and Engineering*. [DOI](#)



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3. Makul, Natt. (2019). Combined use of untreated-waste rice husk ash and foundry sand waste in high-performance self-consolidating concrete.
<http://doi.org/10.1016/j.rinma.2019.100014>
4. Makul, Natt. (2019). Utilization of microwave-accelerated heating and dewatering in low-pressure conditions to accelerated-cure Type-I cement paste for early-age compressive strength development.
<http://doi.org/10.1016/j.jobbe.2019.100920>
5. Makul, Natt. (2020). Modern sustainable cement and concrete composites: Review of current status, challenges and guidelines.
<http://doi.org/10.1016/j.susmat.2020.e00155>
6. Makul, Natt. (2020). A review on methods to improve the quality of recycled concrete aggregates, Journal of Sustainable Cement-Based Materials.
<http://dx.doi.org/10.1080/21650373.2020.1748742>





Attachment:



Fig. 1 Mid-term meeting held on 6th Sep 2019



Fig. 2 TRAC workshop held in SZU on 27th Dec 2019



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