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Newsheet #3

November 2018 marks 18 months since SERA started and, as project manager Kauzar Saleh Contell says, it is "ready to thrive"! The past one and a half years were a great demonstration of how collaboration and support in the scientific community leads to a extensive array of smaller and greater achievements. In this newsletter, the project manager tells us more about how she experienced the first half of the SERA project, members of the SERA community describe the project's scope and the first fact sheet series is introduced. Additionally, an overview of research projects that were accepted in the last two TA calls for proposals is presented and you will learn more about the very successful teachers' workshop in Portugal with more than 900 participants.



Twitter



Website



Email

Interview



SERA half-time interview with Kauzar Saleh

November 2018 marks 18 months since SERA has started. This also means the project's halftime has now passed which offers an excellent opportunity to look at what has already been achieved and what is still to come. Dr. Kauzar Saleh Contell, SERA project manager, on past and future plans and what excites her about SERA.

Can you describe the past 18 months of SERA in three words?

Ready to thrive!

What was your personal highlight during the first half of SERA?

Working with an advanced community means that people already know what they have to do, so I am glad that all the project implementation tools that we developed fitted reasonably well with the expectations of project participants.

Even when you don't hear much from partners and you wonder if steps were unclear, suddenly everyone starts delivering and people are very collaborative. So I would highlight the nice collaboration environment, and being able to interact with people almost individually, despite being so numerous and working far apart.

What can we expect from the second half of the project?

Next year we will see many of the SERA results materialising. Just to give an idea, during the first half of the project 30 deliverables were completed, and another 70 will come in the second half. For instance many of the Transnational Access experiments now selected will be completed in the next 18 months, so the second Science Meeting in May 2019 will be a very interesting one, as all WPs will have a lot to show. A few days later the EC will conduct an external project review, this is relevant for SERA itself but also for future projects to come.

What makes SERA special to you?

SERA is a great example of how research tools can be designed to support a whole research cycle, from supporting individual teams (an example is Transnational Access in SERA), then helping teams develop collaborations and starting to function as a research community (Networking Activities, also Joint Research Activities), and finally supporting the coordinated distribution of research data to potentially open new scientific and technological questions by reaching a wide range of users (Virtual Access). These are all valid activities on their own, but I believe that linking people and strategies makes a lot of sense, as this is also necessary to support the sustainability of a research domain. Other than that, I find that Seismology and Geosciences in general are beautiful disciplines with a lot of scientific work to conduct, but also strong links to culture, people and with the capacity to influence society; two examples here are the contribution of SERA to the update of the construction code in Europe for 2020, and to the first pan-European Solid Earth organisation, EPOS, established less than a month ago, to which SERA participates with the validation of implemented services and the creation of new ones.



SERA in a nutshell

In case you missed it in on your Twitter feed: This is how members of the SERA community define the scope of the project. The quotes were collected at the Annual Meeting in Bucharest, Romania, that took place from 25 to 26 April 2018.

"Our aim is to produce an integrated assessment of seismic risk across all countries in Europe and share the outcome models and results through online platforms, available to everyone"

Helen Crowley from Eucentre

"We aim to bring together seismologists working in the fields of educational seismology, citizen seismology and geoethics - the common theme being the process of communicating the science of seismology to non-specialists"

Paul Denton from the British Geological Service

"A highlight of SERA: it opens the 10 most advanced European research infrastructures for earthquake engineering, integrated studies on geotechnical site effects, engineering seismology *and array seismology to talented research groups*"

Alberto Pavese from Eucentre

"There is no fully organized European structure for ensuring that deep seismic sounding data is preserved for future use. Thus, our objective is to investigate

an appropriate model for integrating *DSS data into the EPOS framework.*"
Monika Ivandic on behalf of WP5



Highlights



First fact sheet series published

In our fact sheet series, we address key questions SERA is challenged with and present preliminary results.

The following questions are covered in the first issue:

Why is it important to know the seismic hazard? Realistic seismic hazard assessment is essential to base seismic building codes on. It requires good knowledge of historical and recent seismicity and the neotectonic regime, namely the seismically active or seismogenic faults. [Read more](#)

What is seismic risk? In the most recent national risk assessments prepared by the countries participating in the Union Civil Protection Mechanism, earthquakes are the fourth most common hazard assessed after flooding, extreme weather and forest fires. Disaster risk comprises three elements: hazard, exposure and vulnerability. Hazard is the dangerous phenomena, being

the source of potential harm. Exposure refers to people, property, systems or other elements present in hazard-prone areas. Vulnerability represents the susceptibility of an element at risk of being adversely affected by natural phenomena. [Read more](#)

What happens to buildings in case of an earthquake? The same seismic excitation affects buildings differently; for example, tall buildings tend to amplify the motions of longer period earthquake excitation components. Although concrete and masonry buildings are stiffer than their counterparts made of steel, they cannot be considered as rigid bodies – had that been so, each point on it would move in the same amount as the ground. Concrete and masonry buildings indeed deform, displace and rotate due to their flexibility. Their behavior depends mainly on the fundamental period of vibration (function of the stiffness of the structural system, its mass, and its total height). [Read more](#)

How does the testing of a building on a shake table work? In order to study the effects of earthquake actions on a structure, performing shake table tests is the most realistic research approach. This article describes how the testing of a building structure on a shake table is performed and which are the outcomes and benefits of this type of experimental test. A shake table system is composed of several components, comprising mainly the hydraulic pumping system, servo-valve controlled actuators, the shake table platform, and the digital control system. [Read more](#)

The fact sheet is available [online](#) on our website or as a [PDF](#).



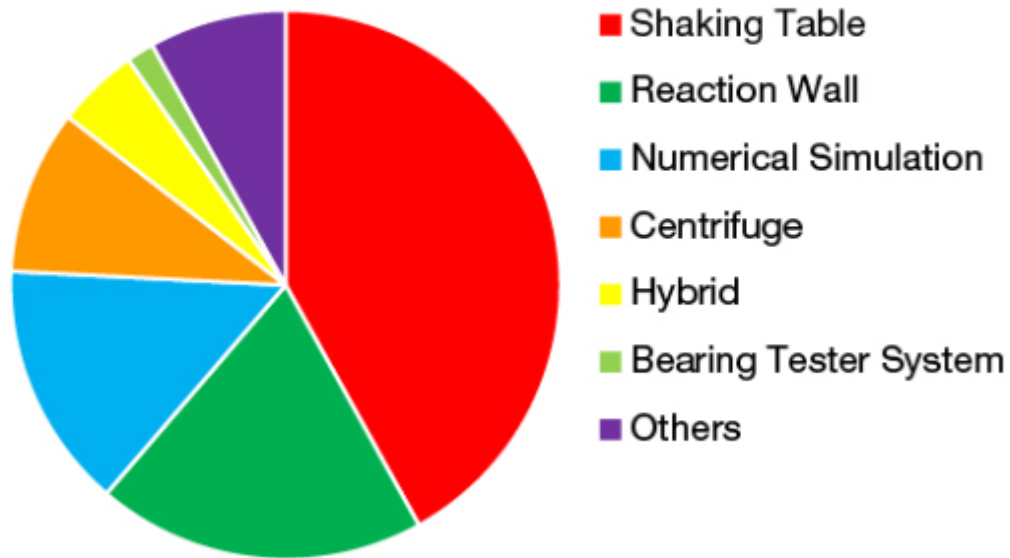
SERA TA provided access for 33 projects

The Transnational Access activities (TA1-10) offer a combined and integrated access to the largest collection of high-class experimental facilities for earthquake engineering in Europe – and worldwide – including reaction walls, shake tables, bearing testing facilities and centrifuges, to two facilities for integrated studies on geotechnical site effects and engineering seismology, and to a unique infrastructure in Europe for array seismology.

So far, two SERA TA calls have been evaluated and a total of 33 research projects have been selected, with a third call being in the selection process at the moment. Of those 33 projects, over 50 % are using shaking tables and reaction walls in their tests. Reinforced concrete, steel and masonry are among the most analysed types of specimen. The largest user group comes from Italy, followed by Portugal and Greece.

Find more detailed information about each of the 33 projects on the [SERA TA website](#).

TESTING TECHNIQUE - 1ST AND 2ND CALL



A glimpse into...

Teachers' workshop in Portugal



In the framework of SERA, the Instituto Dom Luiz (Portugal) organized in collaboration with the Instituto Superior Técnico (Portugal) and the external partners of the WP1 "Seismology@School" an event that took place from 9 to 11 July 2018. It focused on demonstrating how seismology and seismic engineering can provide tools and examples for educational activities.

The event brings together Portuguese and Brazilian teachers from STEM fields (science, technology, engineering and math). Six SERA workshops were organized as part of the annual meeting at Casa das Ciências in Guimarães. Most of the teachers attending came from a high school with students between 14 and 18 years old. This year was very successful as over 900 teachers attended the 3-day event.

The main goal of this conference is to allow teachers to gain new ideas, concepts, projects, and activities to enrich their lectures. The keynote presentations and workshops are for the most part provided by professional researchers.



Updated Data Regulations According to GDPR

We hope you are enjoying receiving and reading the SERA newsletter! To comply with the updated data regulations in the EU (GDPR), we need to remind you that we are using MailChimp to compile our newsletter. With your subscription, you agreed to the [privacy_policy](#) and [terms](#) of MailChimp. No worries if you have changed your mind in the meantime, you can easily unsubscribe by clicking on the respective link at the end of this newsletter or by sending an email to sera_office@erdw.ethz.ch. No further action is needed if you would like to continue to be informed about SERA activities, results, and highlights. To comply with the GDPR in the future, we have activated a double-opt-in process. Interested readers receive after their initial sign-up a message asking again for their permission and their acknowledgement of the privacy policies of MailChimp

Outlook and events

AGU Fall Meeting 2018

10 - 14 December 2018

Washington DC, USA

[Find out more](#)

EGU General Assembly 2019

7 - 12 April 2019

Vienna, Austria

[Find out more](#)

GeoTHERM - expo & congress

14 - 15 February 2019

Offenburg, Germany

[Find out more](#)

Second Annual Science Meeting

Week of May 13th, 2019

Location to be announced soon

Energy geostructures: analysis and design

6 - 8 March 2019

Lausanne, Switzerland

[Find out more](#)

The next external newsheet will be released in May 2019.

We welcome always feedback and suggestions - send them to the SERA communication team (janine.aeberhard@sed.ethz.ch or michele.marti@sed.ethz.ch).

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