

# DAVID HANDS OVER TO TINA AS SCIENTIFIC DIRECTOR FOR 4TU CENTRE FOR RESILIENCE ENGINEERING

Prof. David Smeulders was Scientific Director of 4TU Centre for Resilience Engineering (4TU RE) since the start in 2018. Recently Tina Comes has taken over this role. Just after his departure, we look back briefly together.

## LOOKING BACK

### David Smeulders | Who are you?

I am [David Smeulders](#), Professor Energy Technology at Eindhoven University of Technology (TU/e) and Scientific Director 4TU RE since the start in 2018 up to now.

My research interests include transport in porous media, gas dynamics, thermodynamics, acoustics and geothermal energy. The research in my group focuses on thermal energy storage, fluid-solid interactions such as flow-induced vibrations, and cooling and separation phenomena as encountered in LNG (Liquefied Natural Gas) production, for example.

### New challenge?

I was recently appointed as the new Scientific Director for [4TU Energy](#), one of 4TU REs sister research centres within 4TU. In this new position, I want to connect and build upon the individual strengths of the 4TUs to facilitate information, coordination and collaboration among the researchers and educators in the field of energy to accelerate the transition towards a carbon-neutral future.

“ We have just started. The best is yet to come. ”

### 4TU RE?

4TU RE is an outstanding example of 4TU collaboration. The last few months in particular, have learned that resilience is vital for our society. Resilience can be both a telescope and a microscope to observe our design and operational processes. How do we prepare for future challenges and moreover, mitigate the consequences of potentially disruptive events? What role do engineering sciences play in this respect? What can -and should- be the role of RE in our educational curricula?

### Past three years?

First of all, I would like to thank my colleagues Rik Leemans, Theo Toonen, Kenneth Heijns and Paulien Herder, who stepped in at the decisive moment when the 4TU board asked for new initiatives to strengthen the 4TU collaboration. At that point we already had a proposal in the context of the Lloyd's Register Foundation Global Call. This served as the stepping stone towards 4TU RE. Another important milestone was the DeSIRE programme being granted in the framework of the 4TU call 'High Tech for a Sustainable Future'. This allowed us to hire new staff and initiate an RE ecosystem embedded in all four Dutch Universities of Technology.



### What did you bring?

The role of scientific director is basically very simple: bring excellent people together, create a common goal and provide feedback along the way. Essentially, it is all about people. A poor plan can turn into great success by the right people, but an excellent plan is doomed to fail without talented staff. In a nutshell: we have just started. The best is yet to come.

### Message?

I just advocated the soft-skills role of the scientific director. Tina not only has that, but also scientific excellency. Looking forward to our collaboration where Resilience meets Energy.

Dr. Tina Comes (TU Delft) is the new Scientific Director of the 4TU Centre for Resilience Engineering (4TU RE). She takes over from Prof. David Smeulders (TU/e). Who is she and what are her plans? Together we look ahead.

## LOOKING AHEAD

### Tina Comes | Who are you?

I am [Tina Comes](#), Associate Professor at the Faculty Technology, Policy and Management at the TU Delft. My research aims at understanding how smart technology and data support decision-making and coordination in an increasingly complex world. I am especially interested in situations of crises and disasters. Areas of application include urban resilience, critical infrastructures and humanitarian logistics. I have been involved with the 4TU RE centre from the start, and I would like to thank Paulien Herder and Kenneth Heijns for giving me this opportunity. It has been a privilege to help shape the centre's agenda as a member of the steering committee. And now I am happy to take on this new role.

### New challenge?

As the scientific director, it is most important for me to bring together our colleagues in the 4TUs, to generate synergies and to inspire each other and to create impact. Resilience requires us to address challenges of great complexity and urgency, ranging from climate change to societal fragmentation, from ageing infrastructures to pandemics. To answer such complex questions, we need to conduct research that crosses traditional disciplinary boundaries and connects research, practice and policy-making. I firmly believe that by working together and making these new connections, we are able to create original and impactful research.



### 4TU RE?

Traditionally, resilience engineering research focuses on a single sector, such as transportation, energy or water. Because smart systems increasingly connect these infrastructures, there is a need to bring together these different perspectives. 4TU RE is a unique resilience centre that connects traditional (resilience) engineering sectors. In the centre we combine concepts such as robustness, reliability, safety or risk reduction, with important ideas from socio-ecological resilience such as the emergence and evolution of complex phenomena and the need for adaptation.

### In three years?

The first years of the centre have been dedicated to laying the foundations. In the next years I hope that we will be able to realise and implement many of our ambitions and plans. This includes becoming a focal point for innovative research in resilience engineering, extending our international networks through our conferences and the RE fellowship programme, collaborating with practice on dedicated resilience challenges, and establishing our resilience academy and training programmes.

### What do you bring?

Resilience has always been central to my research on decisions. Coming from a formal analytical background in mathematics, I had the chance to conduct field research in the context of the Typhoon Haiyan response. This experience made me realise the need to integrate the behavioural and cognitive aspects of resilience and made me an advocate of multi-disciplinary collaborations. I see them as a great opportunity to learn, stimulate creativity and generate new scientific ideas. I would like to bring this passion to the centre, succeed in building a platform where researchers share their ideas and inspire each other to solve some of the most prominent challenges of our time.

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### Message?

Thanks to David for your dedication to the centre, your ability to always find the right words, and your help in getting the resilience academy off the ground. All the best for your work with 4TU Energy, and of course I hope there will be opportunities to collaborate and make the world more energy resilient.

*Aim for the moon. If you miss, you may hit a star.*