

About Tampere University

The University of Tampere is one of the most multidisciplinary universities in Finland and was established at the beginning of 2019, when the University of Tampere and Tampere University of Technology merged into a new foundation university. Currently, it has 21,000 students and almost 4,000 staff.

Visit TAU's website to learn more about the team and their work: <https://www.tuni.fi/fi/tutustu-meihin/yliopisto>

About Professor Reijo Kouhia

Reijo Kouhia is a Professor of Solid Mechanics and a leader of a Structural Mechanics research group at Tampere University. His research interests governs various topics in non-linear continuum mechanics and numerical solution methods, including materials modelling, modern methods for fatigue analysis, computational stability analysis, development of finite elements and time integration methods.



**Prof. Reijo Kouhia,
Tampere University**

What is the role of TAU in ENGINE?

In the ENGINE project research teams at Tampere University will develop a fatigue model applicable for both plain and fretting fatigue. A fretting fatigue test program will be carried out. The evolution equations needed in the macroscopic fatigue model will be derived from micromechanical analysis. It is one part in bridging the gap between steel manufacturing and engine design.

What will be the main impact of the ENGINE project?

The developed fatigue model one of the main scientific impacts, especially the methodologies for upscaling the micromechanical analysis to macroscale. The macroscale model will be beneficial for industry in the path to first time right and zero defect design. Experimental findings in the physics of fretting have also impact in science and industry.

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