OOFEM.ORG COURSE

OOFEM.org is announcing the availability of a training course for Ph.D. students, engineers interested in simulation, and researchers to allow them to quickly acquire the knowledge and practical skills necessary to employ OOFEM. Participants will learn how to create, analyze, and post-process models. Moreover, they will understand the OOFEM code structure and they will learn how to implement custom material models, elements, boundary conditions, or solvers.
The course will be delivered by a team of skilled OOFEM developers. Participants will receive high-quality course materials. No prior knowledge of OOFEM is required; however, a basic knowledge of C++ is highly recommended.

Course Content

Day 1: Introduction

- Introduction to oofem.org environment, documentation, compilation, and installation
- Preparation of input files, understanding of solver settings, element types, boundary conditions, material models
- Advanced modeling topics: staggered analysis, parallel processing
- Pre-processing using external tools (Salome, T3D)
- Effective postprocessing

Day 2: OOFEM internals

- Understanding the OOFEM design and code structure
- Implementation of new elements, boundary conditions, material models, export modules
- OOFEM python interface (umat for octave, abaqus)
- Contributing to OOFEM, practical git workflow, developing tests

Day 3: Practical development

- Presentations delivered by participants: The participants are encouraged to shortly (in 5 min) present their work, how they use OOFEM, or how they are planning to use it.
- Practical session customized to participants' interests identified during registration. Participants can use their own laptops.
- Small workgroups working on selected problems

Course venue: Czech Technical University, Thakurova 7, Prague, Czech Republic

Course date: 13-15 September 2021
Price: 800 EUR, reduced price 650 EUR for Ph.D. students (registered and paid before 15th June 2020).

The registration fee covers admission to lectures, a set of handouts, and refreshments during coffee breaks. All participants will receive a certificate of attendance.

Registration:
ww.oofem.org/courseregistration

Terms and conditions: The course language is English. Registration and payments for the training must be made no later than 15th August 2020. Cancellation must be received no later than two months before the beginning of the course. If the course is cancelled, participants will be notified and the tuition will be refunded. For more information visit www.oofem.org/en/courses.

The course capacity is limited to 25 participants. The applications will be treated on the first-come-first-served basis.

Instructors:
prof. Dr. Ing. Bořek Patzák
(http://mech.fsv.cvut.cz/~bp/bp.html)
prof. Ing. Milan Jirásek, DrSc.
(http://mech.fsv.cvut.cz/~milan/)
doc. Ing. Vít Šmilauer, Ph.D.
(http://mech.fsv.cvut.cz/~smilauer/)
Ing. Martin Horák, Ph.D.
Ing. Petr Havlásek, Ph.D.

OOFEM project website: www.oofem.org
for more information contact us at oofemcourse@gmail.com

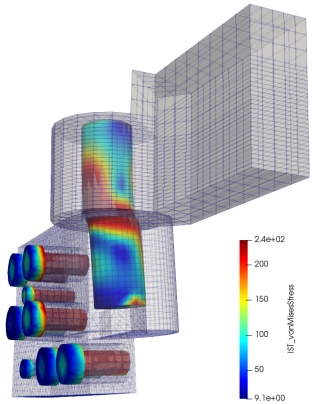


Illustration of nonlinear analysis of a hinge holding hermetic door in an atomic power plant. The model with J2 plasticity without hardening helped evaluating the amount of dissipated energy in the case of a vapour explosion.

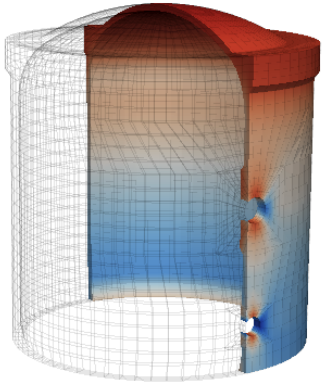


Illustration of coupled heat and moisture analysis and long-term mechanical analysis of concrete pressure vessel.

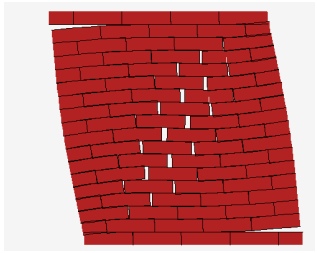
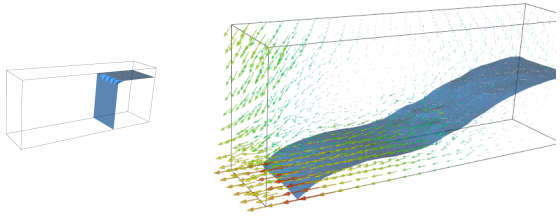
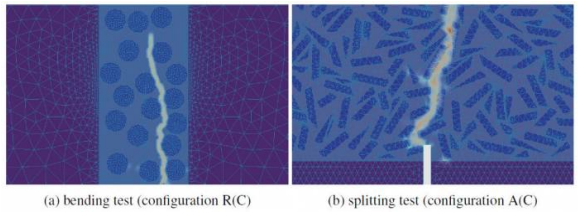


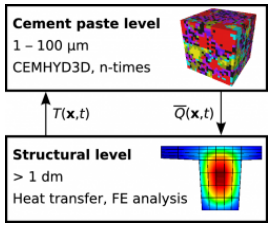
Illustration of failure analysis of masonry wall using standard 2D elements combined with interface elements and elastoplastic constitutive law to model nonlinear mortar behavior.

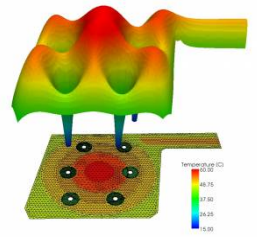


Broken dam problem solved as a problem of two immiscible fluids (water and air) with 3D VOF interface tracking.

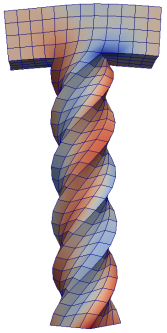


Fracture analysis of aggregate influence on mechanical properties of mortar samples.





Hydrating concrete produces a significant amount of hydration heat, causing several problems in massive elements. The multiscale simulation helped to find an optimal position of cooling pipes and cooling regime on an arch of Opárno bridge, Czech Republic.



Analysis of deformation of a structure composed of Saint-Venant Kirchhoff material, subjected to a pressure follower load.

For more information on oofem, its features and capabilities, visit www.oofem.org.

OOFEM project website: www.oofem.org

for more information contact us at oofemcourse@gmail.com