

# IV Kratos Workshop 2018

7 and 8 June 2018

The Kratos workshop will be divided into three different modules.

Day 1 (7 June, 11:00-18:30)

## K1 KRATOS in engineering

During this module Kratos tool will be presented. A comprehensive overview of its capabilities in dealing with multi physics problems will be shown. The different research groups working with Kratos will present their own experience and research lines showing the capabilities of their applications.

## K2 ROUND TABLE

Discussion about the past and the future of Kratos.

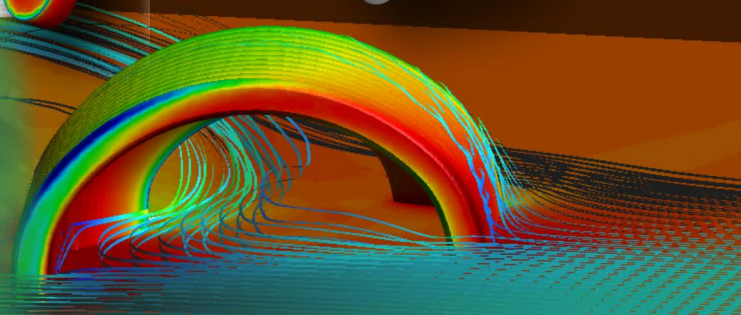
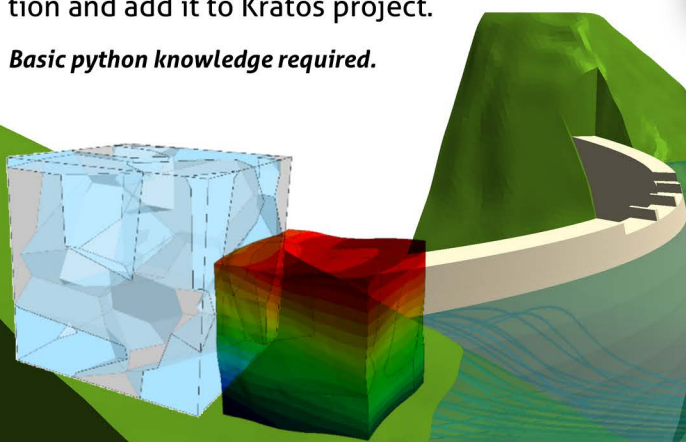
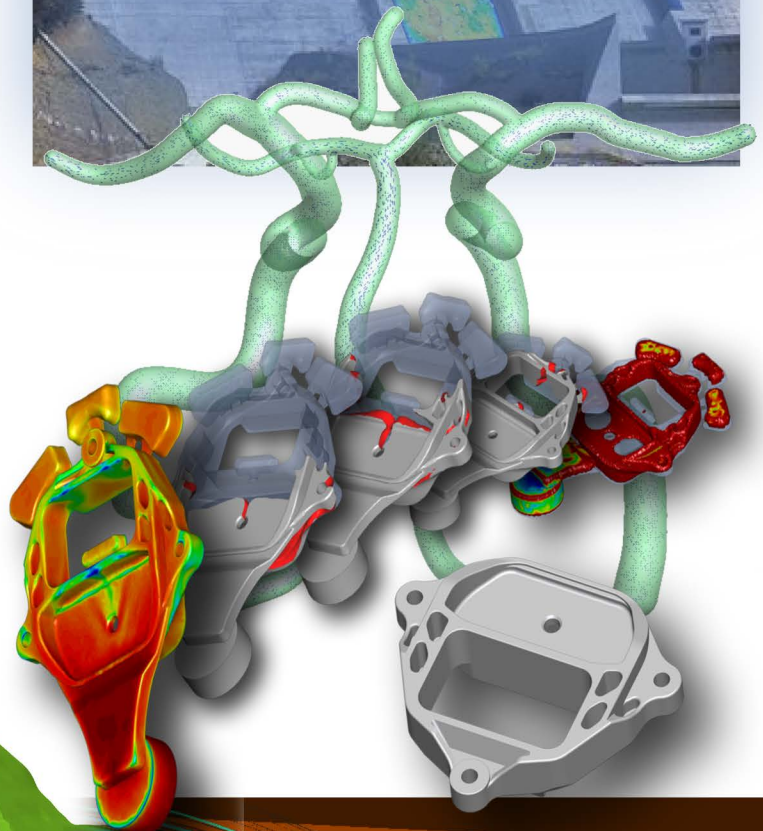
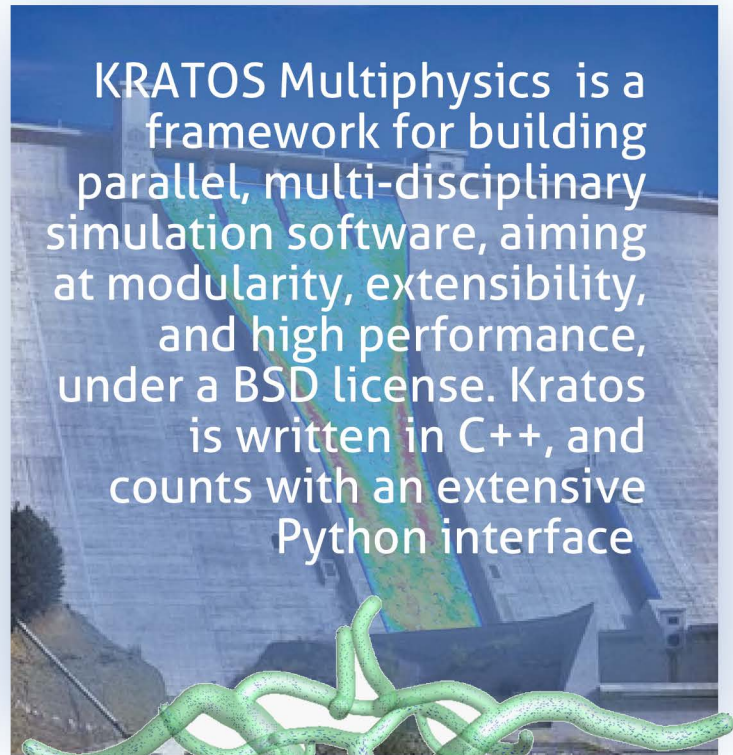
Day 2 (8 June, 9:00-18:00)

## K3 KRATOS short COURSE

This is a module addressed to researchers and engineers who wants to join the Kratos developers community.

During this course the attendants will be initially taught how to download and install Kratos joining the Kratos Github community. Secondly they will enter the Kratos structure by using simple python scripting. After this course the user will be able to run custom cases using existing applications, to couple existing applications, to create a new application and add it to Kratos project.

*Basic python knowledge required.*



# IV Kratos Workshop 2018

## AGENDA day 1 - 7 June 2018

### 11:00-17:00 - K1 – KRATOS IN ENGINEERING

11:00-11:30	KRATOS welcome and introduction (P. Dadvand)
11:30-11:50 (1)	Structural Mechanics application (R. Rossi)
11:50-12:20 (2)	Fluid Dynamic application (J. Cotela)
12:20-12:40 (3)	DEM (M.A. Celigueta)
12:40-13:30 (4)	KRATOS - CIMNE research lines: <ul style="list-style-type: none"> <li>METHODS AND APPLICATIONS</li> <li>(PFEM (A. Franci) DEM-CFD (G. Casas) PFEM 2 (P. Becker) MPM (I. Iaconeta) Multifluid (R. Rossi) Embedded (R. Rossi) Porous media flow (A. Larese) Hydraulic fracture (I. De Pouplana) Geomechanics (J.M. Carbonell) Dam Engineering (F. Salazar) Ballast (J. Irazábal), etc.</li> </ul>
13:30-14:30	Lunch
14:30-15:30 (5)	TUM - Chair of Structural Analysis (K.-U. Bletzinger and R. Wüchner) research lines <ol style="list-style-type: none"> <li>Martin Fuesseder: "Sensitivity computation for structural responses w.r.t. different kind of design parameters using the adjoint approach and processing the results within the so-called method of generalized influence functions"</li> <li>Daniel Baumgärtner: "Optimization with Kratos Multiphysics"</li> <li>Tobias Teschemacher: "Realization of Isogeometric B-Rep Analysis (IBRA) / Isogeometric Analysis (IGA) workflow in Kratos Multiphysics"</li> </ol>
15:30-16:30 (6)	KRATOS – ALTAIR research lines
16:30-17:00	Coffee break

### 17:00-18:30 - K2 – ROUND TABLE

## AGENDA day 2 - 8 June 2018

### 9:00-18:00 - K3 – KRATOS short COURSE

9:00-9:30(1)	KRATOS DOWNLOAD AND INSTALLATION
9:30-10:00 (2)	KRATOS ARCHITECTURE
10:00-10:30 (3)	KRATOS. HOW TO RUN A GID EXAMPLE
10:30-11:00	Coffee break
11:00-12:00 (4)	KRATOS-PYTHON SCRIPTING READING
12:00-13:00 (5)	KRATOS-PYTHON SCRIPTING BASIC CUSTOMIZATION
13:00-14:00	Lunch
14:00-16:00 (6)	KRATOS- COUPLED PROBLEMS VIA PYTHON
16:00-16:30	Coffee break
16:30-18:00(7)	KRATOS ON GITHUB KRATOS APPLICATION GENERATION KRATOS SYMBOLIC

**REMARK:** All the attendants to the Kratos course are kindly required to bring their own laptop.