

# 2024 KRATOS MULTIPHYSICS WORKSHOP @ UNIPD

ANTONIA LARESE      *University of Padova (Italy)*  
RUBÉN ZORRILLA MARTÍNEZ      *UPC/CIMNE (Spain)*  
CARLOS ROIG      *CIMNE (Spain)*  
SUNETH WARNAKULASURIYA      *Technische Universität Braunschweig (Germany)*  
NICOLÒ CRESCENZIO      *University of Padova (Italy)*

NOVEMBER 6-8, 2024

## KRATOS WORKSHOP DAY 1 – NOVEMBER 6TH, 2024

14:00 - 14:30	Welcome
	<b>Introduction to Kratos</b>
14:30 - 15:15	Kratos. Why? What? How? An Historical Perspective ( <i>Pooyan Dadvand &amp; Riccardo Rossi</i> )
15:15 - 16:00	Kratos: an Overview ( <i>Pooyan Dadvand &amp; Riccardo Rossi</i> )
16:00 - 16:30	Coffee Break
	<b>Kratos 4 Industry</b>
16:30 - 17:00	Collaboration with Industry in Germany ( <i>Suneth Warnakulasuriya</i> )
17:00 - 18:00	Deltares ( <i>Jonathan Nuttall</i> )
18:00 - 18:30	Altair ( <i>Pooyan Dadvand</i> )

## KRATOS WORKSHOP DAY 2 – NOVEMBER 7TH, 2024

	<b>What's New in Kratos? Application Session (1)</b>
09:00 - 09:30	Computational Fluid Dynamics ( <i>Rubén Zorrilla Martínez</i> )
09:30 - 10:00	Computational Solid Mechanics ( <i>Suneth Warnakulasuriya</i> )
10:00 - 10:30	Reduced Order Models ( <i>Riccardo Rossi</i> )
10:30 - 11:00	Coffee Break
	<b>What's New in Kratos? Application Session (2)</b>
11:00 - 11:30	Coupling: the CoSimulationApplication ( <i>Rubén Zorrilla Martínez</i> )
11:30 - 12:00	Particle Methods: the MPMAApplication ( <i>Antonia Larese</i> )
12:00 - 12:30	Optimization and System Identification ( <i>Ihar Antonau &amp; Suneth Warnakulasuriya</i> )
12:30 - 14:00	Lunch Break
	<b>What's New in Kratos? Application Session (3)</b>
14:00 - 15:00	The GeoMechanicsApplication ( <i>Jonathan Nuttall</i> )
	<b>What's New in Kratos? Core Session</b>
15:00 - 16:00	GUI and FlowGraph, Multistage and Register ( <i>Carlos Roig</i> )
16:00 - 18:00	Round Table & Coffee

## KRATOS COURSE – NOVEMBER 8TH, 2024

<b>Kratos Course (Session 1)</b>	
09:00 - 09:15	Introduction: What is Kratos? ( <i>Carlos Roig</i> )
09:15 - 09:45	Environment Setup and Kratos Installation ( <i>Carlos Roig</i> )
09:45 - 10:00	Installation Troubleshooting ( <i>Carlos Roig</i> )
10:00 - 10:30	Basic I/O ( <i>Riccardo Rossi</i> )
10:30 - 11:00	Coffee Break
<b>Kratos Course (Session 2)</b>	
11:00 - 11:45	Geometry Management ( <i>Suneth Warnakulasuriya</i> )
11:45 - 12:30	Data Management ( <i>Rubén Zorrilla Martínez</i> )
12:30 - 14:00	Lunch Break
<b>Kratos Course (Session 3)</b>	
14:00 - 14:45	Simulation Loop ( <i>Rubén Zorrilla Martínez</i> )
14:45 - 16:00	Multiphysics & Multistage ( <i>Pooyan Dadvand &amp; Rubén Zorrilla Martínez</i> )
16:00 - 16:30	Coffee Break
16:30 - 17:00	<b>Q&amp;A and Technical Discussions</b>

## WORKSHOP VENUE

The workshop will be held at the *Department of Mathematics “Tullio Levi-Civita”* of the University of Padova.

**BUILDING ADDRESS:** “Torre Archimede”, University of Padova, Via Trieste 63, 35121, Padova (Italy).

**ROOM:** the building has four entrances, marked by letters A, B, C and D. The workshop will be held in a room located on floor –1 and accessible only by using the stairs (or the elevator) at entrance B.

