2026 ALERT OZ School: Computational and data-driven methods in Energy Geomechanics

Thessaloniki, Greece, May 11-14 2026. Tentative Program

	Monday (11/5/2026): Icebreaker and Installations			**Tuesday (12/5/2026): Fundamentals and Computational Foundations**			**Wednesday (13/5/2026): Advanced Computational Geomechanics**			**Thursday (14/5/2026): Applications**		
Time	**Activity**	**Topic**	**Speaker**	**Activity**	**Topic**	**Speaker**	**Activity**	**Topic**	**Speaker**	**Activity**	**Topic**	**Speaker**
10.00-11.30				Lecture 1	Introduction to Coupled THMC Geomechanics	Veveakis	**Lecture 4**	Imaging and data processing in Energy Geomechanics	Stavropoulou	**Case Study 1**	Borehole Stability	Papamichos
11.30-12.00				*Coffee Break*			***Coffee Break***			***Coffee Break***		
12.00-13.30	**Optional Pre-school activity**	MOOSE Instalaltion/Trouble shooting, Fundamentals of FEM, weak forms and MOOSE input file through the examples	Lesueur, Veveakis	Lecture 2	Constitutive Modeling for Energy Applications	Papanastasiou	**Lecture 5**	Multi-Scale and Pore-Scale Mechanics	Stavropoulou	**Case Study 2**	Geomechanical Stability in energy storage	Papanastasiou
13.30-14.30	**Registration**	Registration and light lunch		*Lunch Break*			***Lunch Break***			***Lunch Break***		
14.30-16.00	**Practical 1**	Fundamentals of the MOOSE Framework: MOOSE tight coupling philosophy, FEM summary, Kernels, Materials, and the JFNK solver approach.	Lesueur, Veveakis	Lecture 3	Modeling Discontinuities	Sarris	**Lecture 4**	Physics-Informed Machine Learning (PIML)	Stefanou	**Case Study 3**	Geothermal and fault reactivation	Veveakis
16.00-16.30	***Icebreaker***			*Coffee Break*			***Coffee Break***			***Coffee Break***		
16.30-18.00	**Intro Lecture**	Challenges and opportunities in industrial energy geomechanics	Veveakis	Practical 2	Setting up a single-scale THM model in MOOSE (Thermo-poro-elastoplasticity with fracture flow)	Lesueur, Veveakis	**Practical 3**	Modifying the single- scale THM input file to add multiscale simulation on real ct- scan images	Lesueur, Veveakis	**Panel Discussion**	The Future of Computational Geomechanics	

USEFULL INFORMATION

Location	Aristotle University Research Dissemination Center (KEDEA)
Address	Leof. 3is Septemvriou, Thessaloniki 546 36, Greece
Google Maps	https://share.google/gvedZBUpFT0vCOAeg
Registration	(no registration fee, needs RSVP for catering purposes)
	https://docs.google.com/forms/d/e/1FAIpQLSf48DAjkI6synWM_feKYxDs_1HWbcnWPgkG39HGCypi6aHcJw/viewform?usp=sharing&ouid=113433100518212702071