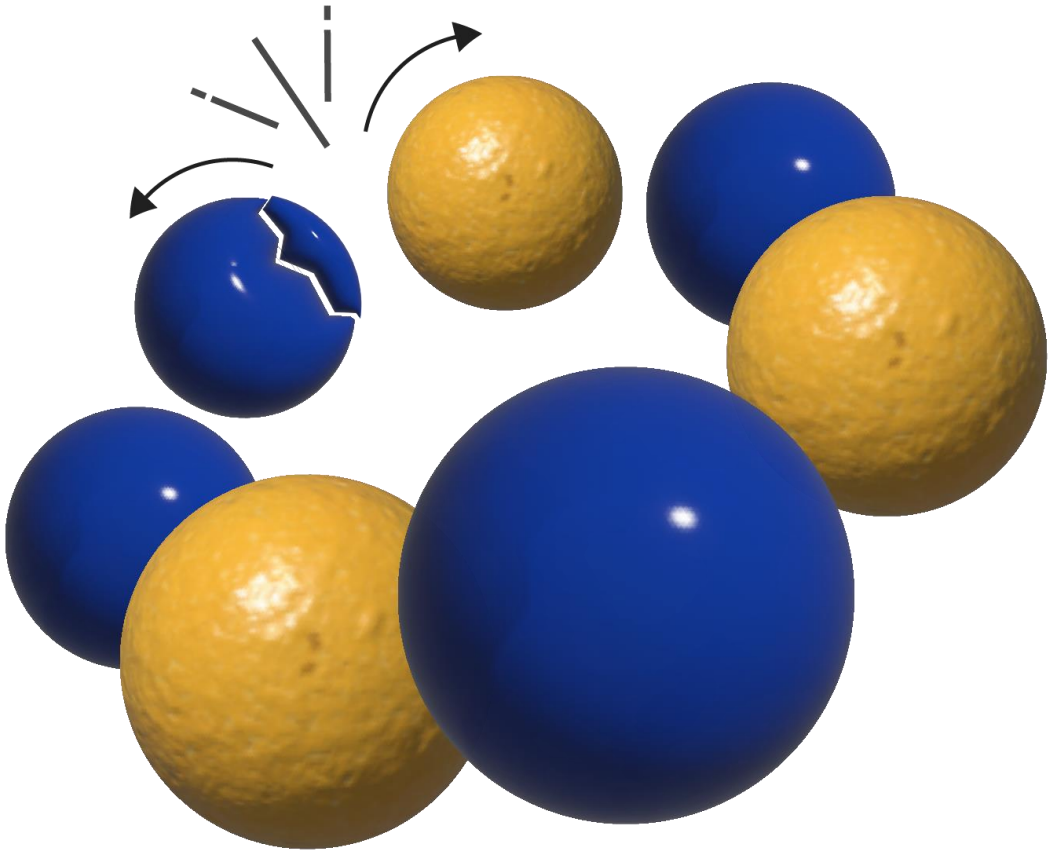


ON-DEM

Training School, Inaugural Conference and Action Workshops

May 14th – 16th, 2024

Aalto University, Finland

cost
EUROPEAN COOPERATION IN SCIENCE & TECHNOLOGY

Funded by the European Union

KEY LOCATIONS

Maarintalo (Training School):	No. 17 - map attached
Kemistintie 1 (Conference and Workshops):	No. 11 - map attached
Ravintola Maukas (Lunch):	No. 57 - map attached
Metro station (Transport):	"M" - map attached

Cloakrooms

May 14th, 2024 – D301e

May 15th, 2024 – D301b

May 16th, 2024 – D301e

WEBSITE LINKS

Event cluster:
https://events.aalto.fi/en/3X3IKxA7/g/gVRBf5rQ5W?search=&sortBy=date&category=&date=TODAY&keywords=

Training school:

https://events.aalto.fi/en/3X3IKxA7/g/gVRBf5rQ5W/training-school-on-open-source-dem-codes-by-on-dem-4a3bQt18OX/overview

Conference Day 1:

https://events.aalto.fi/en/3X3IKxA7/g/gVRBf5rQ5W/on-dem-inaugural-conference-4a3bQt1O6j/overview

Conference Day 2 (Workshops):

https://events.aalto.fi/en/3X3IKxA7/g/gVRBf5rQ5W/on-dem-action-workshops-4a3bQt1OEn/overview

PRESENTATIONS:

There is no prescribed/format template but we advise the use of tools compatible with Microsoft/Windows (ideally PowerPoint or pdf files) or those that work online. **We kindly request your presentations to be send directly by e-mail to damla.serper@aalto.fi by Wednesday, May 15th, 2024 at 09:00.** You will be able to verify they work properly during coffee and lunch breaks.

JOINING INSTRUCTIONS/LINKS FOR VIRTUAL ATTENDEES PROVIDED IN THE NEXT PAGE

LINKS FOR VIRTUAL ATTENDEES

14.5.24 – TRAINING SCHOOL

Morning session: https://tinyurl.com/mshfpnbh

Parallel session (YADE): https://tinyurl.com/4c9zm8v9

Parallel session (MercuryDPM): https://tinyurl.com/wxrj7c69

15.5.24 – CONFERENCE DAY 1

Link: https://tinyurl.com/5n7pk64s

16.5.24 – CONFERENCE DAY 2 (WORKSHOPS)

Working Group 1: https://meet.google.com/sab-fxgm-pzb

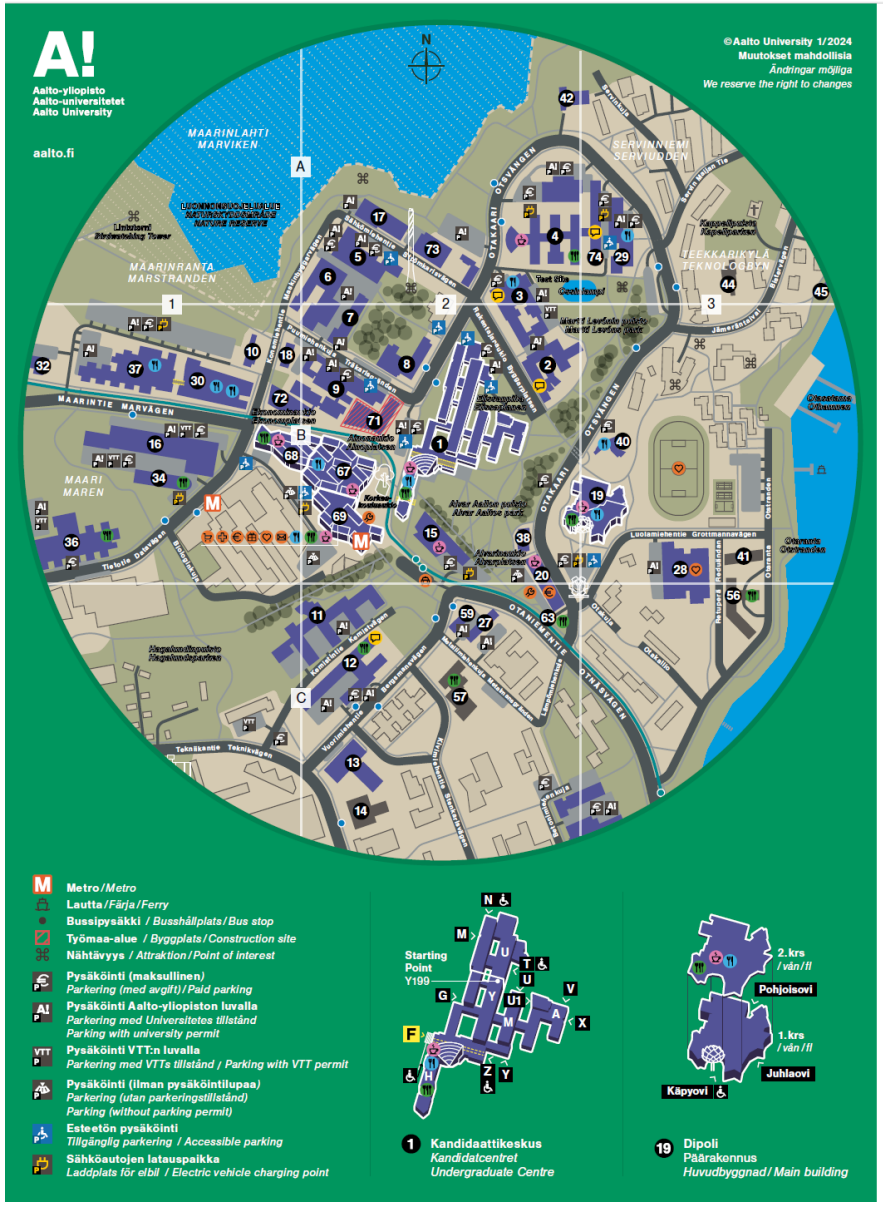
Working Group 2: https://tinyurl.com/uarwf43c

Working Group 3: https://tinyurl.com/2h66dz9f

Working Group 4: https://tinyurl.com/259r8kut

Working Group 5: https://meet.google.com/tcf-qdfs-xkn

Working Group 6: https://tinyurl.com/4ukdzhuw



Otaniemi / Otnäs

A Blanc Ostoskeskus	*Köpcentret / Shopping Centre*	20 B2
A Bloc	Kauppakeskus / *Köpcentret* *Shopping Centre*	69 B2
A Grid Startup-hubi	*Startup-hubb / Startup hub*	4 A2
Aalto Bioproduct Centre		13 C2
Aalto Inn		41 B3
Aalto Studios		29 A3
Aalto-yliopisto Junior	*Aalto University Junior*	11 C2
Aalto-yliopistokiinteistöt Oy	Aalto University Campus & Real Estate	2 B2
Arkkitehtuurityöpaja	*Architecture Workshop*	27 C2
AVP Aalto Ventures Program		6 A2
AYY Aalto-yliopiston ylioppilaskunta	/ *AUS Aalto-universitetets studentkår / AYY Aalto University Student Union*	38 B2
Circular Raw Materials Hub		12 C2
Design Factory		6 A2
Dipoli Päärakennus	*Huvudbyggnad / Main Building*	19 B3
Harald Herlin -oppimiskeskus	*Harald Herlin-lärcentret* *Harald Herlin Learning Centre*	15 B2
Haukilahden lukio	*Gymnasiet / High school*	14 C2
Ice Tank		16 B1
Kandidaattikeskus	*Kandidatcentret* *Undergraduate Centre*	1 B2
Kauppakorkeakoulu	*School of Business*	68 B1
Kemian tekniikan korkeakoulu	*Högskolan för kemiteknik* *School of Chemical Engineering*	11 C2
Kide		72 B1
Kirjaamo / *Registratur / Registry*		1 B2
Kirjasto / *Bibliotek / Library*		15 B2
Konetekniikan talo (K1)		8 B2
KY		10 B1
Maarintalo / *Marhuset*	*Maari Building*	17 A2
Magneettitalo / *Magnethuset*	*Magnetic Building*	74 A3
Marsio*		71 B2
Meritekniikka	*Marinteknik / Marine Technology*	16 B1
Mediaspace		15 B2
Micronova		36 B1
Nanotalo		9 B2
Otaparkki		73 A2
OIH Open Innovation House		32 B1
Rantasauna		45 A3
Saha KY's Festival Hall		18 B1
Servin Mökki		44 A3
Space 21		12 C2
Startup Sauna		6 A2
Terveysteknologian talo Health Technology House		3 A2
TF Teknologföreningen		40 B3
Tietotekniikan talo	*T-huset / CS Building*	30 B1
Vesitalo / *Vattenbyggnaden*	*Water Building*	34 B1
Väre	Taiteiden ja suunnittelun korkeakoulu / *Högskolan för konst, design och arkitektur / School of Arts, Design and Architecture*	67 B2

* Rakennustyömaa / Byggplats / Under construction

KATUOSOITTEET
Gatuadresser / Street addresses

Ekonominaukio 1	68 B1
Kemistintie 1	11 C2
Konemiehentie 1	72 B1
Konemiehentie 2	30 B1
Konemiehentie 3	18 B1
Konemiehentie 4	10 B1
Maarintie 6	32 B1
Maarintie 8	37 B1
Metallimiehenkuja 2	59 C2
Metallimiehenkuja 4	27 C2
Otakaari 1	1 B2
Otakaari I 5	74 A3
Otakaari 2*	71 B2
Otakaari 3	3 A2
Otakaari 4	8 B2
Otakaari 5	4 A2
Otakaari 7	29 A3
Otakaari 11	38 B2
Otakaari 12	42 A2
Otakaari 22	40 B3
Otakaari 24	19 B3
Otakaari 27	20 B2
Otaniementie 9	15 B2
Otaniementie12	69 B2
Otaniementie 14	67 B2
Otaranta 2	56 C3
Otaranta 4	41 B3
Otaranta 6	28 B3
Puumiehenkuja 2	9 B2
Puumiehenkuja 3	7 B2
Puumiehenkuja 5	6 A2
Rakentajanaukio 4	2 B2
Sähkömiehentie 3	73 A2
Sähkömiehentie 4	5 A2
Sähkömiehentie 5	17 A2
Tekniikantie 3	14 C2
Tietotie 1 A	16 B1
Tietotie 1 E	34 B1
Tietotie 3	36 B1
Vuorimiehentie 1	13 C2
Vuorimiehentie 2	12 C2

Palvelut / Tjänster / Services

RAVINTOLAT
Restauranger / Restaurants

Arvo	68 B1
Eat Poke HKI	69 B2
Factory Otaniemi	4 A2
Fat Lizard	34 B1
Konnichiwa	69 B2
Kot. Otaniemi	69 B2
MAU-KAS	57 C2
Metso	19 B3
NOVA MAU-KAS	36 B1
Ranta	56 C3
Silinteri	1 B2
Tasteat	12 C2
Who The xxxx is Alice	69 B2
X-burger	63 C2

OPISKELIJARAVINTOLAT
Studentrest. / Student restaurants

Alvari	1 B2
Food & Co A Bloc	69 B2
Kipsari	67 B2
Kvarkki	3 A2
Reima	19 B3
Studio Kipsari	29 A3
Subway	30 B1
Tietotekniikantalo	30 B1
TUAS	37 B1
Täffä	40 B3

DOWNLOAD AALTO SPACE FOR THE LATEST CAMPUS MAP

Apteekki / *Apotek / Pharmacy*	B2
Campus Membership coworking-hubi / *Coworking-hubb / Coworking hub*	A2-3, B2, C2
Liikuntapalvelut *Idrottstjänster / Sports*	B2, B3
Pakettiautomaatti / *Paketautomat / Parcel pickup point*	B2
Pankkiautomaatti / *Bankautomat / ATM*	B2, C3
Postilaatikko / *Brevlåda / Letter Box*	B2
Pyörähuoltopiste / *Cykelservicepunkt / Bike maintenance point*	B2, C3
Päivittäistavarakauppa / *Mataffär / Grocery store*	B2
Taksiasema / *Taxistation / Taxi*	B2

KAHVILAT
Kaféer / Cafés

Aino	1 B2
Baked by Eli	15 B2
Cafetoria Aalto	67 B2
Café Factory	4 A2
Café Reima	19 B3
Espresso House	69 B2
Kylteri	68 B1
Taproom d20	20 B2

MUUT PALVELUT
Andra tjänster / Other services

Aalto Shop	67 B2
Aaltopahvi	15 B2
A Bloc Damask	69 B2
CAP-Autokoulu	69 B2
Attitude Helsinki	69 B2
AYY-asuntotoimisto *AUS Bostadskontoret / AYY Housing Office*	38 B2
Espoon Hieronta	69 B2
Kuntokeskus Liikku	69 B2
Laude Sauna & Terrace	4 A2
Otahalli	28 B3
Parturi-kampaamo Shortcut Aalto	20 B2
Radisson Blu Hotel	56 C3
Tapiolan Juhlapuku	20 B2
Terveystalo Otaniemi	20 B2
Unigrafia Noutopiste *Avhämtningsplats / Pick-up point*	1 B2
Unisport	28 B3
YTHS / SHVS / FSHS	42 A2

TRAINING SCHOOL (14/05/2024)

Location: Maarintalo

Time	**Session**	**Presenter(s)**	**Location**
08:30 – 09:00	*Registration*	-	Maari C-D
09:00 – 10:45	*Welcome + DEM Basics*	Daniel Barreto	Maari C-D
10:45 – 11:15	*Coffee/Tea Break*	-	Lobby 2
11:15 – 13:00	*DEM post-processing using Paraview*	Mathieu Westphal	Maari C-D
13:00 – 14:00	*LUNCH*	-	Maukas
14:00 – 17:30	*Parallel session 1: YADE*	Bruno Chareyre Vasileios Angelidakis Katia Boschi	Maari A
	Parallel session 2: MercuryDPM	Anthony Thornton Holger Götz Deepak Tunuguntla	Maari B
	NOTE: Coffee break 15:00-15:30		Lobby 2
18:00 - 20:00	WELCOME RECEPTION AND REGISTRATION Location: Kemistintie 1, Lobby 3		

CONFERENCE DAY 1 (15/05/2024)

Location: Kemistintie 1

08:30 – 09:00	**Registration – Location: Ke2**
09:00 – 09:15	**Welcome introductions**
09:00 – 09:08	Daniel Barreto - Action Chair
09:08 – 09:15	Assoc. Prof. Rodrigo Guerrero Serna - Department Head of Aalto University, School of Chemical Engineering, Department of Chemical and Metallurgical Engineering - Ke2
09:15 – 09:25	**Introduction to ON-DEM – Daniel Barreto – Location: Ke2**
09:25 – 10:30	**Working Group Introductions - Location: Ke2**
09:25 – 09:34	Working Group 1 – Nicolin Govender
09:34 – 09:43	Working Group 2 – Hrachya Kocharyan
09:43 – 09:52	Working Group 3 – Adrian Priceputu
09:52 – 10:01	Working Group 4 – Daniel Barreto
10:01 – 10:10	Working Group 5 – Donna Fitzsimmons
10:10 – 10:19	Working Group 6 – Damla Serper
10:19 – 10:30	Science Communication Coordination – Anthony Thornton
10:30 – 11:00	**Coffee/Tea break – Location: Lobby 3**
11:00 – 11:20	**COST Representative Presentation – Nathalie Waringhem – Location: Ke2**
11:20 – 13:00	**PRESENTATIONS SESSION 1 – Location: Ke2**
11:20 – 11:27	CFD-DEM and MP-PIC simulation of powder conveying in Laser Metal Deposition process – Alejandro Lopez
11:27 – 11:34	DEM simulation of furniture during earthquake using rigid and flexible bodies – Radan Ivanov
11:34 – 11:41	DEM application in structural analysis of masonry arch bridges – Tomasz Kaminski
11:41 – 11:48	Numerical and experimental strategies for the assessment of the structural behaviour of masonry structures – Cristina Costa
11:48 – 11:55	Numerical Investigation Of Arching Mechanism in Embankments

	Constructed over Floating Piles Using Discrete Element Method – Mostafa Almasraf
11:55 – 12:02	The application of Discrete Element Method to mining and metallurgy process modelling – Ainur Nigmetova
12:02 – 12:09	Yielding and fracture behavior of discrete compacted refractory powder composites – Julia Bonaldo
12:09 – 12:16	Use of DEM in Industrial Applications: Silo, hopper, reactor, and mill Applications – Emrah Tugcan Tuzcu
12:16 – 12:23	Discrete element modelling of desiccation crack formation – Ludi Lu
12:23 – 12:30	Numerical simulation of granular mixtures combined with X-Ray computed tomography - Kianoosh Taghizadeh
12:30 – 12:37	The Efficient Calibration and Industrial Application of Discrete Element Method – Ben Jenkins
12:37 – 12:44	Modelling saturated granular media subject to large strain rates: DEM-LBM tests to derive micromechanics-based constitutive models – Matteo Zerbi
12:44 – 13:01	Velocity-dependent coefficient of restitution and its role in the dissipative contact of particle - Rimantas Kacianauskas
13:01 – 13:10	Remarks and next steps

13:00 – 14:00 **Lunch - Ravintola Maukas**

14:00 – 15:30 **PRESENTATIONS SESSION 2 – Location: Ke2**

14:00 – 14:07	Bridging 2D Dynamic Image Analysis to 3D Particle Modeling for DEM Simulations - Andrzej Gluchowski
14:07 – 14:14	How the packing density and penetration resistance is influenced by particle shape: DEM modelling of penetration in granular media – Hao Shi
14:14 – 14:21	Flow of elongated particles: experiments and DEM simulations – Tamas Borzsonyi
14:21 – 14:28	Particle shape modelling by spherical harmonics - Urte Radvilaite

14:28 – 14:35	3D hollow particles with porous wall: shape and contact modelling for DEM simulations – Darius Maciunas
14:35 – 14:42	Non-spherical particles with LS-DEM & Sintering contact law including inter-particle mass exchange – Brayan Paredes
14:42 – 14:49	A comprehensive framework for obtaining particle shapes for DEM – Danny van der Haven
14:49 – 14:56	DEM analysis of particle size and shape effect on open-ended pile penetration – Ahmet Tahla Gezgin
14:56 – 15:03	Use of DEM to study the influence of particle size on vertical plate penetration - Mohammadreza Jahanshahinowkandeh
15:03 – 15:10	Robust treatment of wall contacts for highly polydisperse particulate systems – Alberto Di Renzo/Giovanni Iozzi
15:10 – 15:17	Computationally efficient representation of repetitive complex boundaries for filtration simulations using DEM – Damla Serper
15:17 – 15:30	Final remarks and next steps

15:30 – 16:00 **Coffee/Tea Break – Location: Lobby 3**

16:00 – 17:40 **PRESENTATION SESSIONS 3 – Location: Ke2**

16:00 – 16:07	DEM modeling of the drained and undrained triaxial response of Karlsruhe fine sand – Maria Victoria Molina
16:07 – 16:14	Non-spherical bonded assemblies in MercuryDPM – Igor Ostanin
16:14 – 16:21	Complex particle shapes, evolving particle shapes and the need for better contact models – Kevin Hanley
16:21 – 16:28	Enhancing multipoint crushing simulation – Yannick Descantes
16:28 – 16:35	A framework for DEM modelling of deformable and breakable Particles – Luca Orefice
16:35 – 16:42	A fracture-based particle splitting model for simulating creep in quartz sands - Jiangtao Lei
16:42 – 16:49	Granular jamming in membranes – Holger Gotz
16:49 – 16:56	Numerical Modeling of High Velocity Particle Interaction in Cold

	Spray Additive Manufacturing - Giedrius Jočbalis
16:56 – 17:03	Effect of variable inter-particle friction on complex granular flows – Ahmed Hadi
17:03 – 17:10	A fast generation technique for large discrete-element models – Katya Boschi
17:10 – 17:17	The influence of the initial bed structure on pressure distribution on the container walls and particle flow – Rafal Kobylka
17:17 – 17:24	Comparing open-source DEM frameworks using bulk-scale benchmarks – Thomas Weinhart
17:24 – 17:31	Software independent DEM simulation for free-flowing and cohesive Materials – Dingena Schott
17:31 – 17:38	Advanced lubricant properties of granular materials between sliding interfaces: DEM simulations using MercuryDPM and LAMMPS – Dalila Vescovi
17:38 – 17:40	Day 1 Closure

17:45 - DEPARTURE TO SAUNA - BE READY AT THE LOBBY IF YOU HAVE BOOKED THE SESSION

IF YOU ARE NOT GOING TO THE SAUNA A GROUP WILL ALSO GO FOR DRINKS ELSEWHERE

18:45 – 20:15(30)	Sauna 1.5 hr (1.75 hr for people without dinner reservation) – Location: Löyly Helsinki
20:30 –23:00	**Conference Dinner - Ravintola Saaga**

Drive prsentations, aaslto sho link

CONFERENCE DAY 2 - WORKSHOPS (16/05/2024)

Location: Kemistintie 1

General/brief schedule:

<table>
<tr><th>Time</th><th>WG1</th><th>WG2</th><th>WG3</th><th>WG4</th><th>WG5</th><th>WG6</th></tr>
<tr><td></td><td>Loc: Ke3</td><td>Loc: Ke5</td><td>Loc: B018 Class 3</td><td>Loc: B016 Class 1</td><td>Loc: Ke4</td><td>Loc: A303</td></tr>
<tr><td>09:00 - 09:10</td><td>Presentation 1</td><td>Presentation 1</td><td>Presentation 1</td><td>Presentation 1</td><td>Presentation 1</td><td rowspan="3">Free</td></tr>
<tr><td>09:00 - 09:20</td><td rowspan="2">Discussion</td><td rowspan="2">Discussion</td><td>Presentation 2</td><td rowspan="2">Discussion</td><td rowspan="2">Discussion</td></tr>
<tr><td>09:20 - 11:00</td><td>Discussion</td></tr>
<tr><td>11:00 - 11:30</td><td colspan="6">Coffe Break (Lobby 3)</td></tr>
<tr><td>11:30 - 13:00</td><td>Brainstorming</td><td>Brainstorming</td><td>Brainstorming</td><td>Brainstorming</td><td>Brainstorming</td><td>Brainstorming</td></tr>
<tr><td>13:00 - 14:00</td><td colspan="6">Lunch (Raavintola Maukas)</td></tr>
<tr><td>14:00 - 14:20</td><td>Swap 1</td><td>Swap 1</td><td>Swap 1</td><td>Swap 1</td><td>Swap 1</td><td rowspan="3">Free</td></tr>
<tr><td>14:20 - 14:40</td><td>Swap 2</td><td>Swap 2</td><td>Swap 2</td><td>Swap 2</td><td>Swap 2</td></tr>
<tr><td>14:40 - 15:00</td><td>Swap 3</td><td>Swap 3</td><td>Swap 3</td><td>Swap 3</td><td>Swap 3</td></tr>
<tr><td>15:00 - 15:30</td><td colspan="6">Coffe Break (Lobby 3)</td></tr>
<tr><td>15:30 - 17:00</td><td>Big ideas</td><td>Big ideas</td><td>Big ideas</td><td>Big ideas</td><td>Big ideas</td><td>Big ideas</td></tr>
<tr><td>17:00 - 17:30</td><td colspan="6">Concluding remarks - Conference closure (Lobby 3)</td></tr>
</table>

09:00 – 09:10 (09:20) KICKOFF PRESENTATIONS

WG1 - Deep Learning Calibration for DEM Simulations of Rocks - Igor Berinskii

WG2 - Addressing challenges posed in particle-based simulation of clay - Catherine O'Sullivan

WG3 - How VTKHDF enable DEM simulation developers to store transient data efficiently and ready-made for post processing and visualization - Mathieu Westphal

Developing a standardised file format for large scale DEM visualisation and analytics - John Morrisey

WG4 - How to build a reliable DEM model? - Bettina Suhr

WG5 - MercuryCloud: Easy access to scalable particle simulations - Jan-Willem Bisschop

09:10(09:20) – 11:00 DISCUSSION SESSIONS

Following the kick-off presentations each Working Group is encouraged to discuss any interesting/relevant points and/or topics coming out of the presentations during the day before. Each of the kick-off presentations is aligned to specific ON-DEM objectives. It is therefore expected that discussions will focus on deliverables, objectives, current progress and what needs to be done for their completion.

11:00 – 11:30 Tea/Coffee Break - Lobby 3

11:30 – 13:00 **BRAINSTORMING SESSIONS**

Following the "DISCUSSION" sessions it is now time for participants to think how to align their own research to the objectives of ON-DEM. The focus of this session is for attendees to think of specific networking activities (e.g. meetings, short-term scientific missions, conference attendance) that would help maximise the impact of their research as well as ON-DEM aims and deliverables.

13:00 – 14:00 **Lunch - Ravintola Maukas**

14:00 – 15:00 **ON-DEM CAFÉ SESSION**

For each Working Group three "Café" sessions (20 minutes each) will be repeated. This will enable participants with multiple Working Group membership and/or interest to build up on discussions and ideas for each working group.

The particular focus of this session is to encourage the development of projects/ideas were ON-DEM objectives overlap between various Working Groups, following the outcomes of previous sessions

15:00 – 15:30 **Tea/Coffee Break. Lobby 3**

15:30 – 17:00 **BIG IDEA SESSIONS**

Each Working Group may choose to work on individual ideas that may form applications for Short-Term Scientific Missions, ITC Conference Grants and specific meetings and/or networking events which are deemed necessary to achieve specific objectives.

The key focus here is to get an idea of future needs so that optimum allocation of budget and planning can be made in the following grant **periods.**

17:00 – 17:30 **Concluding remarks - Lobby 3**

Interested on a souvenir to remember your time at Aalto?

https://shop.aalto.fi/

This programme is based upon work from ON-DEM COST Action: Open Network on DEM Simulations, CA22132, supported by COST (European Cooperation in Science and Technology)

COST (European Cooperation in Science and Technology) is a funding agency for research and innovation networks. Our Actions help connect research initiatives across Europe and enable scientists to grow their ideas by sharing them with their peers. This boosts their research, career and innovation.