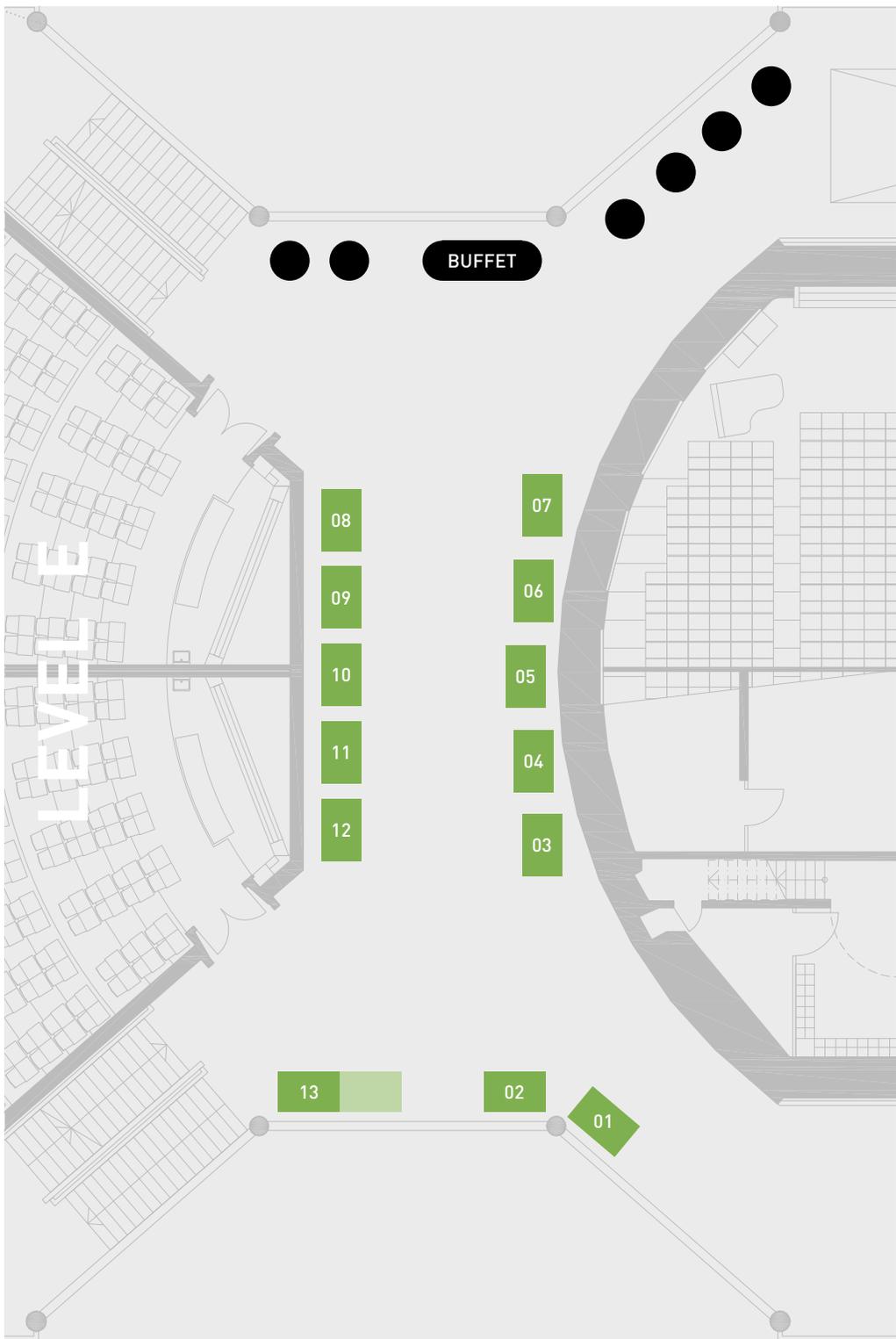


Exhibition Guide

Learning and
Teaching Fair 2018



LEVEL 7

BUFFET

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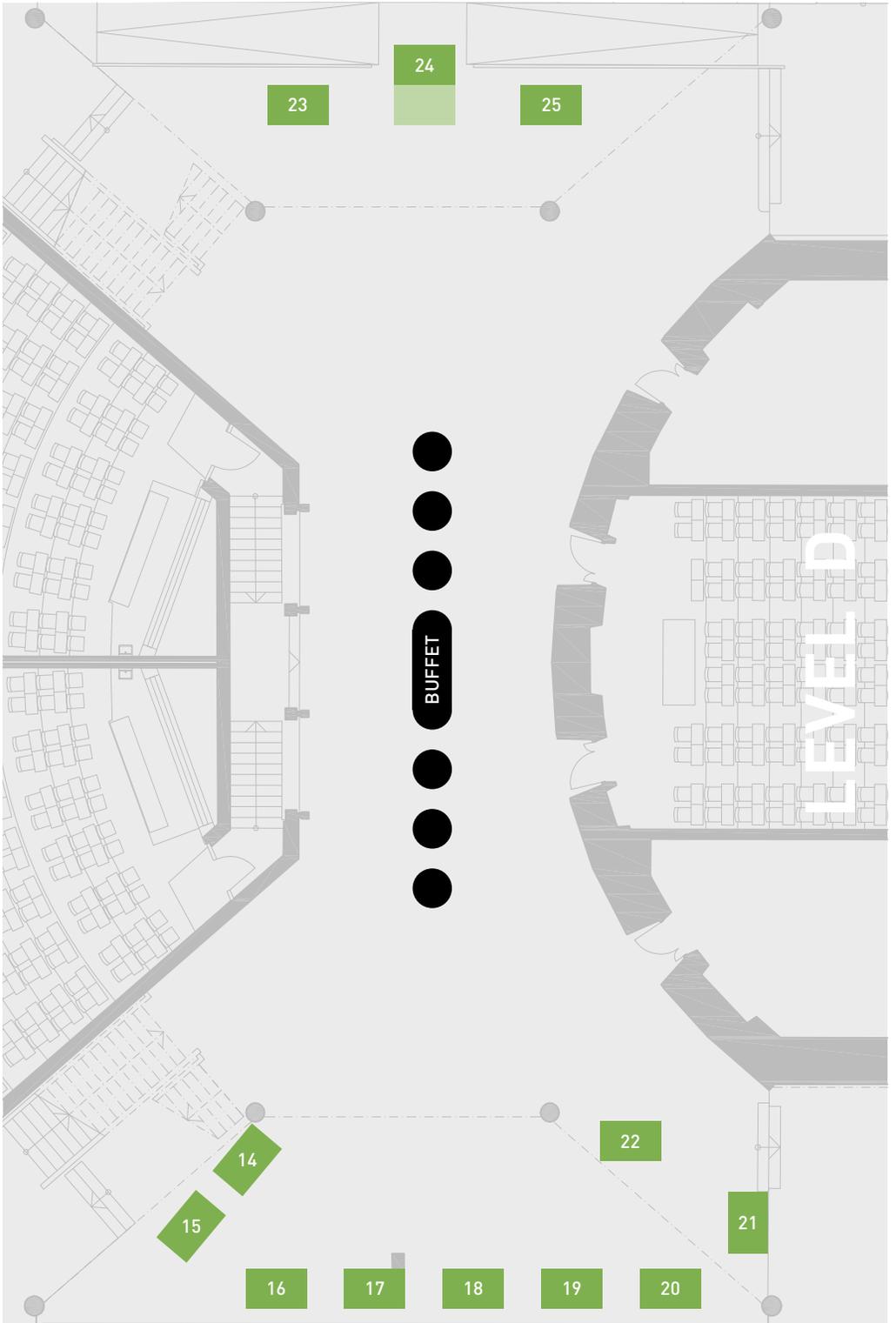
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BUFFET

LEVEL D

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LEVEL E / BOOTHS 1-13

01 **AEther: A research and writing workshop in Science and Technology Studies**

The aim of this teaching project is to design and develop an innovative, internet-based science magazine in the field of Science and Technology Studies (STS). Students will be given the opportunity to critically engage with the future of digital scientific publishing, both conceptually and practically.

02 **A model for modeling**

Our project builds a more coherent curriculum for modeling. We rationalize learning objectives for modeling between courses, and follow student skills' development with a novel concept inventory.

03 **An interdisciplinary and application-oriented approach to teaching microfluidics for microbial ecology**

Our interdisciplinary course directed at a heterogeneous group of doctoral student participants aimed to help students identify the experimental advantages and requirements of microfluidics and learn how to design and perform an experiment in view of their own project.

04 **OMLETH: A multimedia guide for field trips**

OMLETH is a map-based learning platform, used in formal and informal educational institutions. It features educational multimedia field trips that allow authentic, location-based mobile learning.

05 **Bringing the factory to the students: Enriching teaching cases with VR**

Our project «Case VR» brings the factory into the classroom of production and operations management courses. By using virtual reality we enhance the case method for teaching socio-technical phenomena.

06 **Coffee Lectures – A new format for teaching information and communication technology skills**

In natural sciences, digital tools for information management are essential but formats for teaching them were missing. Coffee Lectures provide such a format, which is now successfully adopted by 50 institutions Europe-wide.

07 Communication to the non-scientific public using the Wikipedia Free Encyclopedia

We have designed a reading seminar to practice the communication of published scientific results 1) orally to scientific peers and 2) to the wider public, using creation of Wikipedia pages.

08 Digital moviemaking in student degree theses

To train science communication skills, students had to present their results as movies instead of written degree theses. Student motivation, self-initiative and efforts were much higher than in classical project formats.

09 Enhanced Food Chemistry Lab: Interactive, social and virtual

Improving general lab skills as well as report writing skills during the food chemistry lab course by using interactive videos, lab simulations as well as a peer-review tasks for students.

10 Experiences with a classroom response system: Any more questions?!

A classroom response system was used in a medium-sized undergraduate lecture and provides advantages for formative assessment and interactive pedagogy.

11 Flipping large university courses: How do student learning gains improve compared to lectures?

We have split a student cohort into two parallel settings, a flipped learning group and a lecture group. Comparing the performance results of both groups we can draw conclusions on immediate and medium-term learning effects.

12 Individualize learning through gamification and realtime dashboards

Lecturers can track the development of a course in real-time, while students have access to their progress with an individualized dashboard. The bonus system honours student activity by providing additional services and material.

13 Holocator – Lichens Edition: Targeting small organisms with the HoloLens

Immerse yourself in the microcosm of lichens and learn how to differentiate different species using fascinating structures, just like environmental science students do on excursion.



Holocens project
– Interaction
with the public

LEVEL D / BOOTHS 14-25

14 Innovation in precision agriculture: Facing the challenges of digitalization in agriculture

This is a new course to encourage the entrepreneurial mindset of the students around the topic of Smart Farming and connect them with different options available to further develop their own ideas.

15 Innovation Leadership seminar

We use participant-centered tools that encourage students' reflection, their personal development and help them discover their approach to leadership. The course offers opportunities to learn in a real corporate environment through trial-and-error learning.

16 IÖ-APP, real estate application

Retrieve, combine and assess various real estate parameters in order to arrive at indicators for appraising the value and potential of property.

17 Laboratory practice energy efficient production

The students understand the challenges of energy efficient production by using a research oriented learning approach.

18 Make it tangible: Laser cutter models in first-year mechanical engineering education

Interacting with portable and operable physical models of commonly used machine components supports first-year students in understanding underlying working principles and mathematical relations.

19 Parametric phenomena workshop

We present a flipped classroom approach to teaching parametric phenomena. Through simulated experiments, reading, and guided analytical exercises, the students build a deep understanding of complex nonlinear phenomena that appear across many fields of physics and engineering. In a poster exhibition, each participant showcases one particular manifestation of the very general physical model.

20 Wunderkammer / Cabinet of Curiosities:

Perceive, Collect, Organise, Translate, Visualise

The Wunderkammer/Cabinet of Curiosities project is a web platform that provides an interactive research tool for landscape architecture and design-relevant tools to support the design process at the interface between teachers and students.

21 Lecture-coordinated project-based laboratory course

A project-based laboratory course was introduced to promote synergies by coordinating a chemistry lecture with a laboratory course and to strengthen the autonomy and critical thinking of the students.

22 Systemic Design Lab: Incubating systemic design skills by experiential didactics and nature-based creativity

Outdoor experiences, fabrication and transdisciplinarity empower students as change agents for sustainability, developing skills in critical systems thinking, bio-inspired creativity, circular design and service understanding.

23 UN-Habitat ETH-CASE Housing at the Centre workshops: From the new urban agenda to systematic approaches

In partnership with UN-Habitat, ETH-CASE organizes Housing at the Centre workshops for students to work on real housing challenges alongside national and UN-Habitat experts to support newly issued National Housing Plans.

24 MOLEGRAM Explorer

Mixed Reality application for students to dive into the world of molecules. You become a water molecule and can take a holographic walk on a protein surface.



Hololens project
– Interaction
with the public

25 Using applets in math courses

We used applets in math courses as a visual aid to animate aspects of mathematics where static drawings and oral explanations cannot ideally transport the main idea. We present some examples and discuss students' feedback.

Programme, Wednesday 14th November

- 16.00** Arrival. Distribution of name badges
- 16.30** Welcome. Moderation: Andreas Reinhardt and Dr Benno Volk, LET group leaders
- Introduction. Prof. Dr Sarah M. Springman, Rector, ETH Zurich
- An insight into the Executive Board Teaching Commission.
Prof. Dr Andreas Vaterlaus, Vice Rector Curriculum Development
- Keynote speech. Prof. Dr Jörn Loviscach, FH Bielefeld
- Presentation of Student Innovedum. Karin Brown (LET) and participating students
- Overview of the Fair.
- 17.40** Start of the Fair, with aperitif (open-ended)
- 20.00** Approx. end of exhibition

Contact

ETH Zurich
Daniela Ewason, Project manager
Office & Communication Innovedum
Educational Development and Technology (LET)
Haldenbachstrasse 44, HAD
8092 Zurich

www.innovedum.ethz
innovedum@ethz.ch