

Impressionen

vom Girls'Day 2021 an der Universität Passau



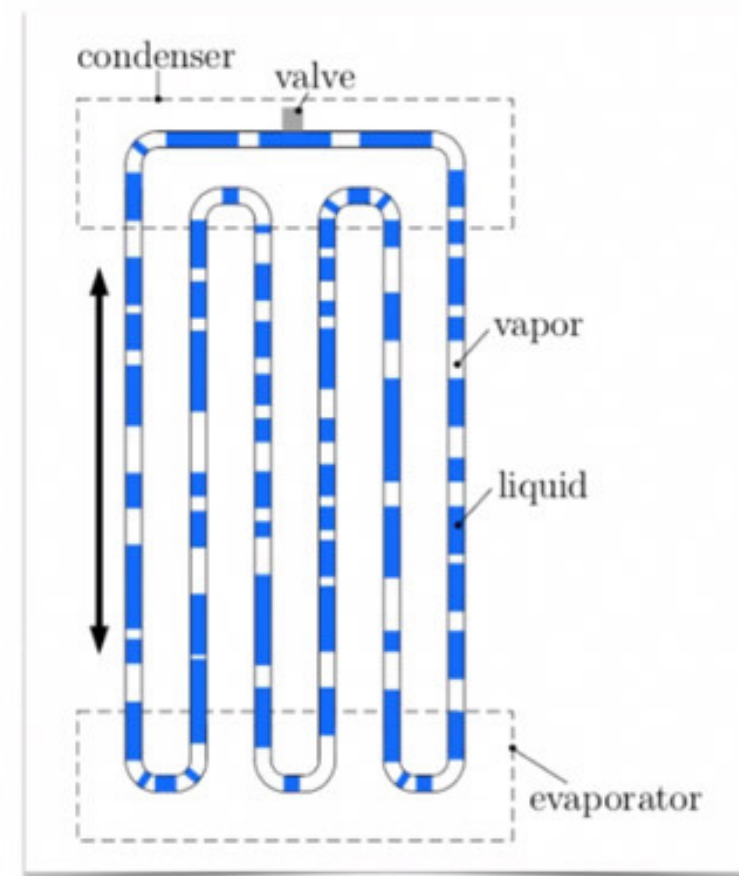
VORTRAG

"Heatpipes - Coole Mathematik für heiße Computer" - Frau Prof. Dr. Forster-Heinlein

Heatpipes

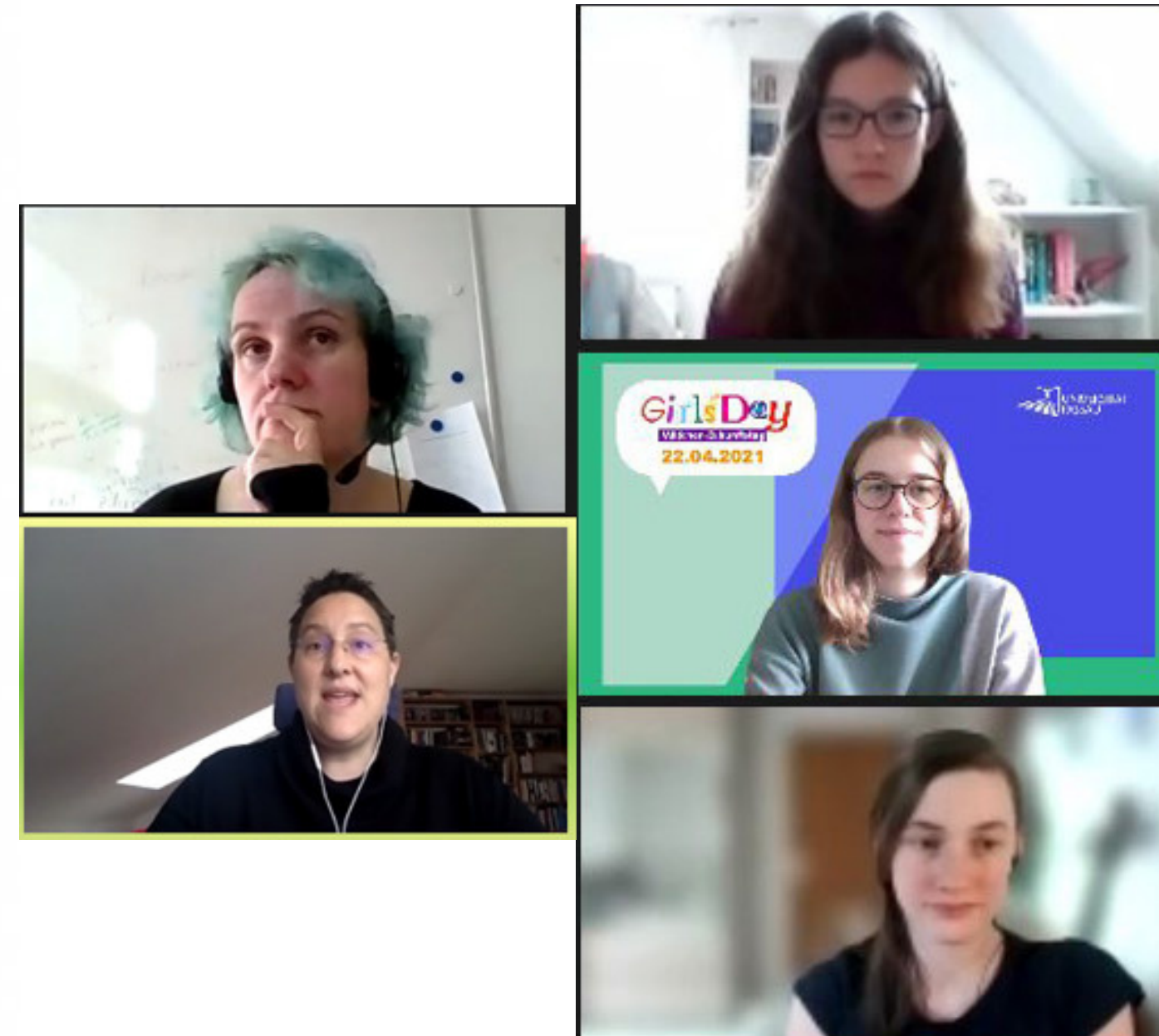
Coole Mathematik für heiße Computer

Die Recheneinheiten in Computern können heiß werden wie ein Bügeleisen. Wie kühlt man sie?

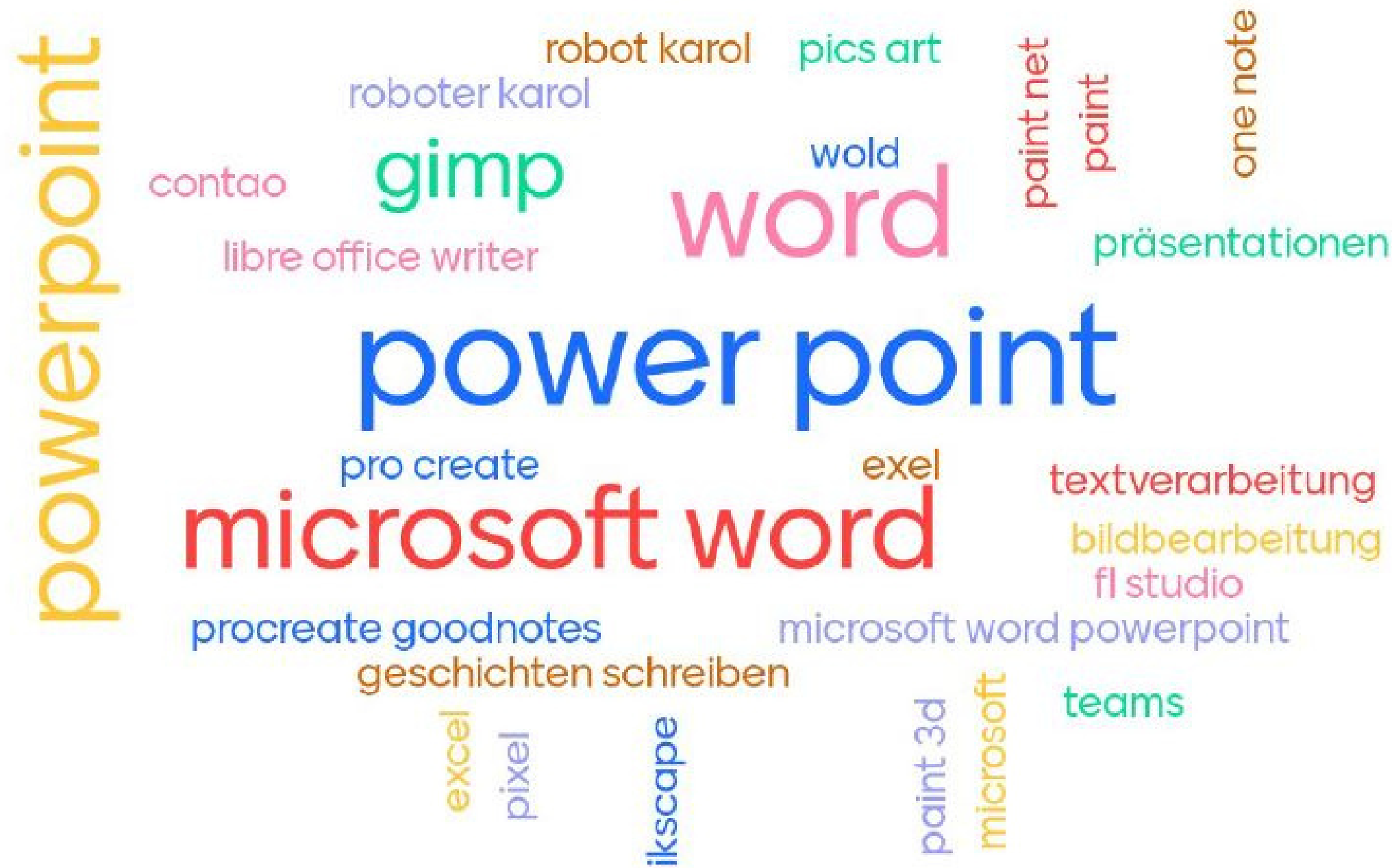


Brigitte Forster, Universität Passau, 22. April 2021

Gemeinsame Arbeit mit Florian Schwarz, Siemens AG, Erlangen, und Shabhrish Reddy Uddehal, Universität Passau



Programme und Apps, mit welchen ich entwickle, schreibe, male, gestalte,...

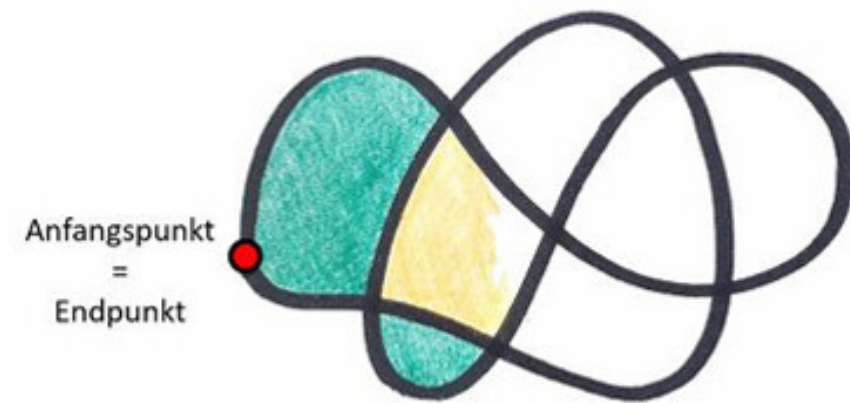


Meine letzten Projekte, die ich mit dem Computer entwickelt/gestaltet habe, waren...



WORKSHOPS

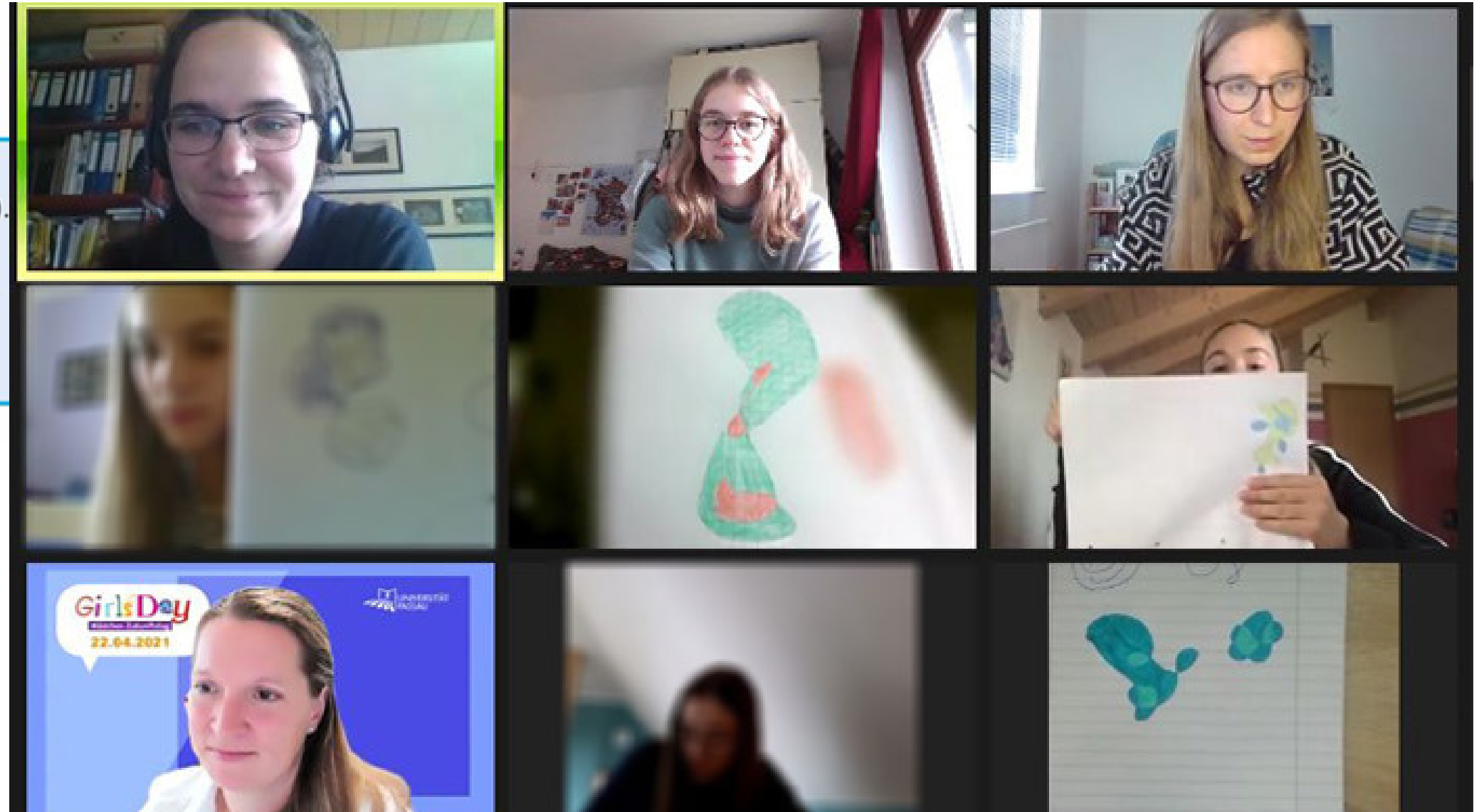
Verwirrt? Knoten mathematisch betrachtet.



Aufgabe

Zeichne eine **geschlossene** Kurve (= Linie, deren Anfangspunkt gleich dem Endpunkt ist). Male die dadurch entstehenden Flächen mit zwei verschiedenfarbigen Stiften aus.
Achtung: zwei gleichfarbige Flächen dürfen sich nur in einzelnen Punkten, nicht aber an ihren Seiten berühren.

Universität Passau



WORKSHOPS

Erstellung eines mathematisches 3D-Modells

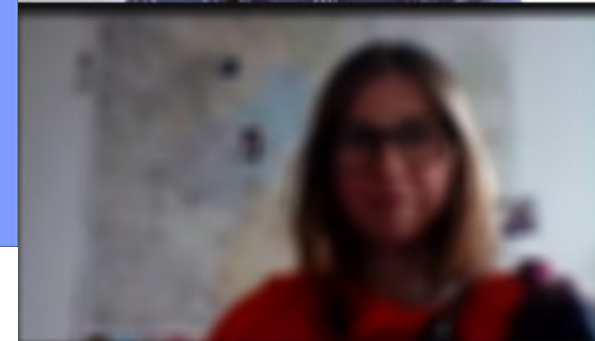
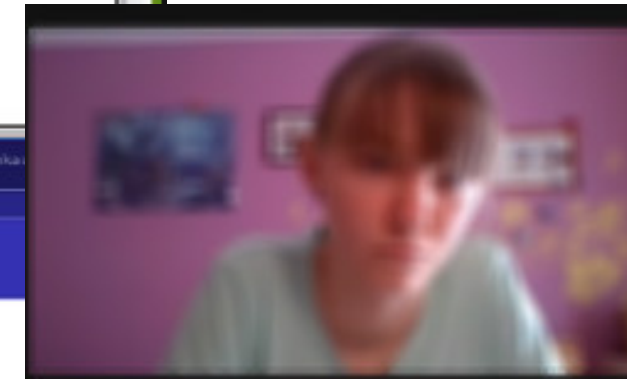
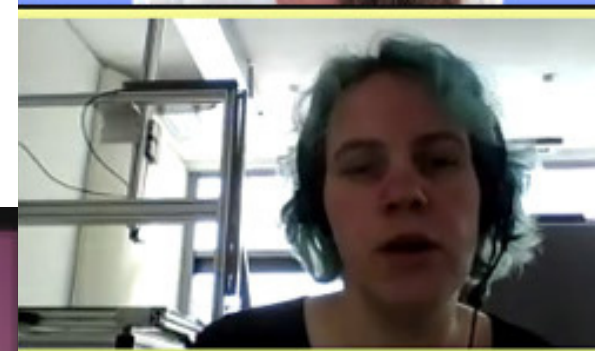
The screenshot displays the OpenSCAD software interface. On the left, the code editor contains the following OpenSCAD code:

```
difference(){
  cylinder(h=2,r=11.5,center=
    true);
  translate([0,8,0])
  cylinder(h=4,r=1.5,center=
    true);
};
translate([-5])
  linear_extrude(height=4
  )text("3D");
```

The 3D view shows a yellow circular base with the letters '3D' extruded from its top surface. The console at the bottom left shows the following output:

```
Konsole
Compiling design (CSG Tree generation)...
Compiling design (CSG Products generation)...
Geometries in cache: 6
Geometry cache size in bytes: 54472
CGAL Polyhedrons in cache: 0
CGAL cache size in bytes: 0
Compiling design (CSG Products normalization)...
Normalized tree has 3 elements!
Compile and preview finished.
Total rendering time: 0:00:00.023
```

The navigation pane on the right shows a slide titled "Erste Schritte in OpenSCAD" with labels for "Texteingabe", "Objekt", and "Konsole".



WORKSHOPS

code the beat: Musik programmieren mit Sonic Pi

The image shows the Sonic Pi software interface. On the left is a code editor with the following code:

```
1 use_bpm 100
2 use_synth :tech_saws
3
4 3.times do
5   play :D4
6   sleep 0.5
7 end
8
9 play 40
10 sleep 0.5
11 play :D3
12
13 sample :drum_bass_hard
14 sleep 0.5
15 sample :drum_splash_hard
16 sleep 0.5
17 sample :vinyl_scratch
```

On the right is the 'Einstellungen' (Settings) window, currently on the 'Anzeigen' (Display) tab. It includes options for 'Oszilloskop ein-/ausblenden' (Oscilloscope show/hide), 'Transparenz' (Transparency), and 'Oszilloskop-Typ' (Oscilloscope type). The 'Oszilloskop' checkbox is checked, and 'Show Scope Labels' is unchecked. Below this is a 'Protokoll' (Log) window showing the message '=> Pausing SuperCollider Audio Server'. At the bottom right, there is a 'Cues' window with two cues: '/live_loop/myfirstloop' and '/live_loop/drums'. The status bar at the bottom indicates 'Line: 5, Position: 11'. A video call overlay on the far right shows five participants. At the bottom, there is a 'Hilfe' (Help) button and a 'Miscellaneous Sounds' list with 'Percussive Sounds' selected. A pink banner at the bottom right reads 'Sounds featuring guitars'.