

Impressionen

vom Girls' Day 2021 an der Universität Passau



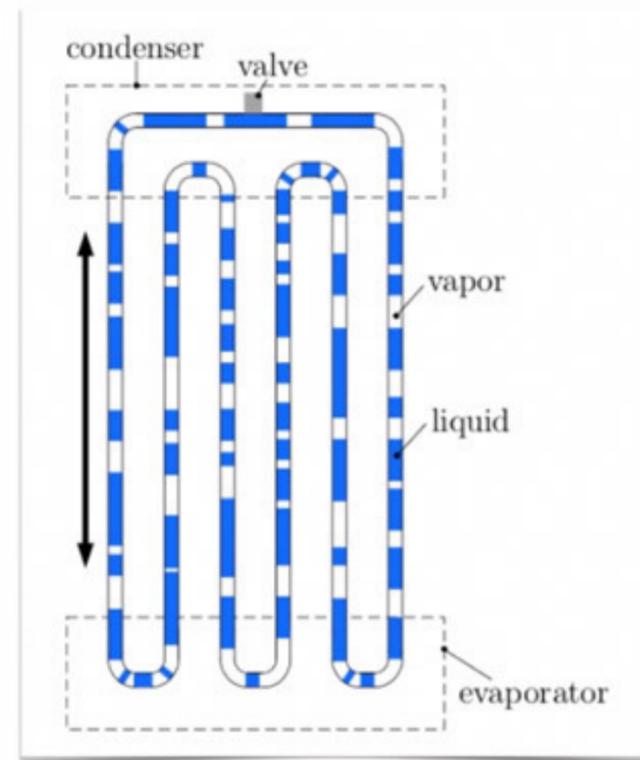
VORTRAG

"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?

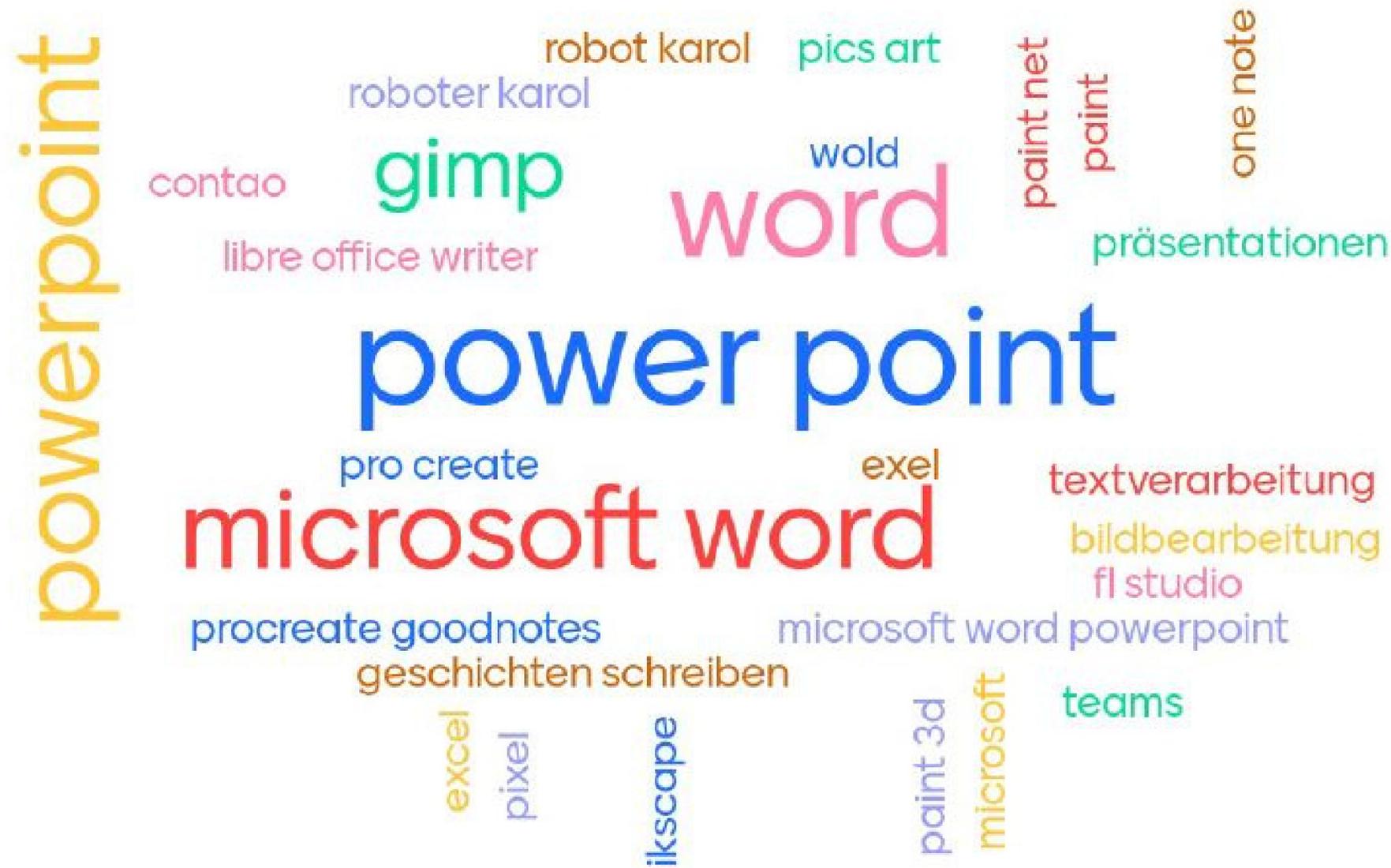


Brigitte Forster, Universität Passau, 22. April 2021

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



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

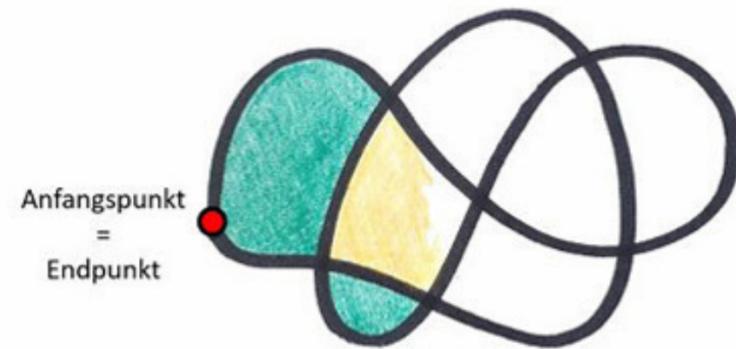


Meine letzten Projekte, die ich mit dem Computer entwickelt/gestaltet habe, waren...



WORKSHOPS

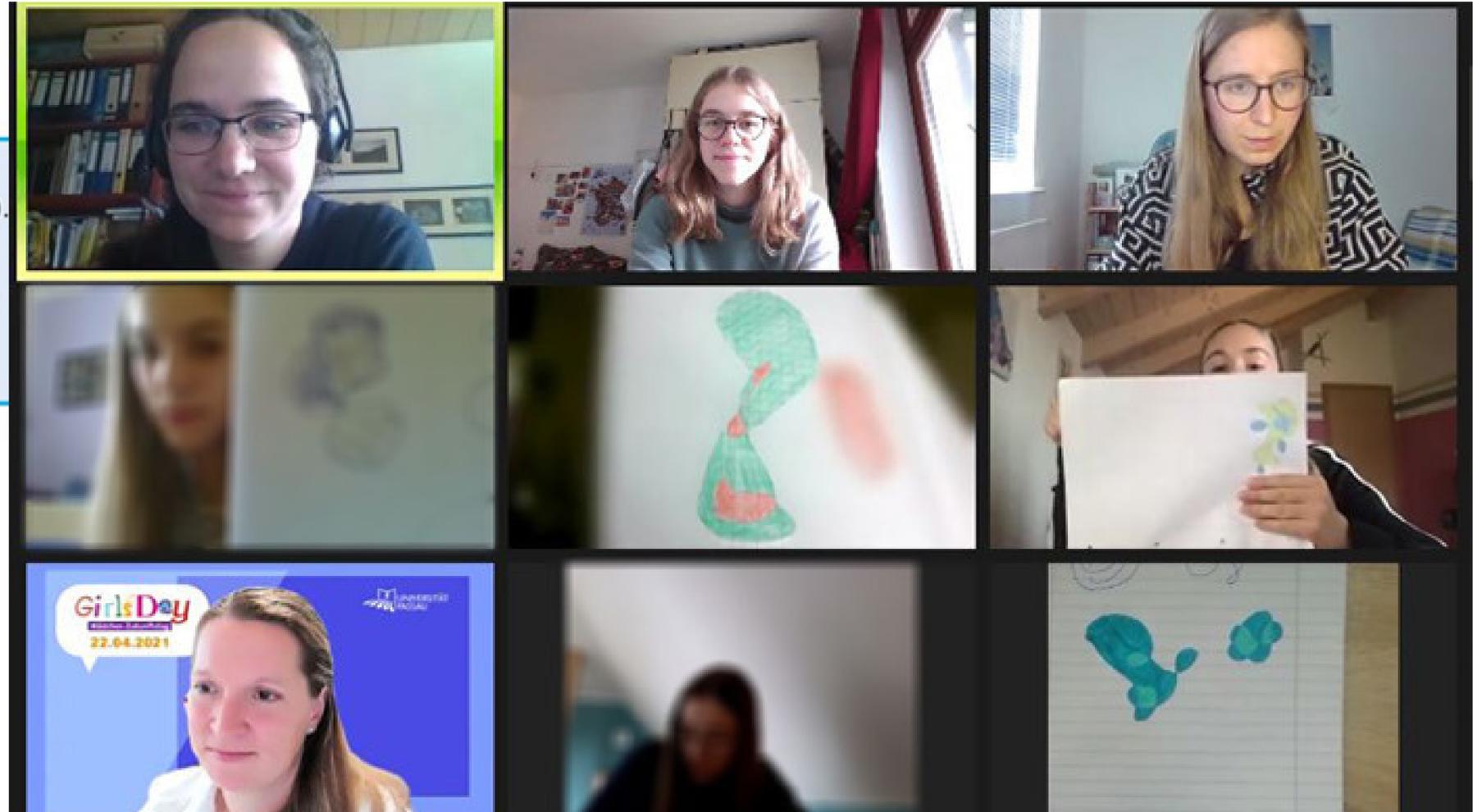
Verwirrt? Knoten mathematisch betrachtet.



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

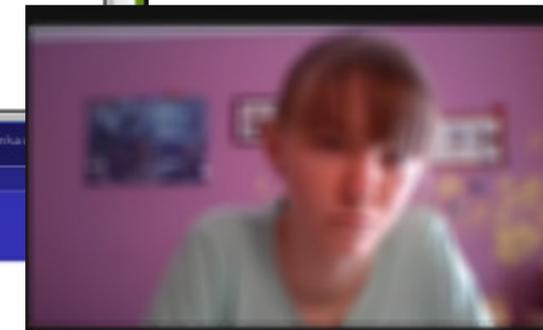
The screenshot displays the OpenSCAD software interface. On the left, the code editor shows the following OpenSCAD code:

```
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 base with the letters '3D' extruded from it. The console at the bottom left displays 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 presentation slide in the foreground is titled "Erste Schritte in OpenSCAD" and features three labels with arrows pointing to specific parts of the software interface: "Texteingabe" (Text input), "Objekt" (Object), and "Konsole" (Console).



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 contains the following options:

- Oszilloskop ein-/ausblenden:
- Transparenz:
- Oszilloskop
- Show Scope Labels
- Oszilloskop-Typ:
- Scope:

Below the settings is a 'Protokoll' (Log) window showing the message: `=> Pausing SuperCollider Audio Server`. Below that is a 'Cues' window showing the following cues:

```
/live_loop/myfirstloop
/live_loop/drums
```

At the bottom of the interface is a 'Kontext' window showing the current line and position: `Line: 5, Position: 11`. A video call overlay is visible on the right side of the screen, showing several participants. At the bottom of the interface, there is a 'Hilfe' (Help) button and a 'Miscellaneous Sounds' section with a 'Percussive Sounds' sub-section. A pink banner at the bottom right reads 'Sounds featuring guitars'.