Project topics for the Computational Geometry and Topology 2016.

**Theory:**

1. Homology with \(Z\) coefficients, torsion
2. Fundamental group vs first homology group

**Practical (python is preferred)**

3. Visualizing alpha-complexes in 2D.
4. Visualizing Cech complexes in 2D.
5. Printing a 3D model of the Voronoi-Delaunay structure
6. Visualizing Bregman balls in 2D (non-convex balls arising in applications)
7. Visualizing matrix reduction process.
8. Benchmarking sparse bitvector implementations (for boundary matrix operations) (C++)