Version 2

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S2: Step-by-step-guide using MeshLab in the work flow. V.2

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ABSTRACT

How to do data refinements like repair, smooth and simplification in MeshLab and export as -ply-file.

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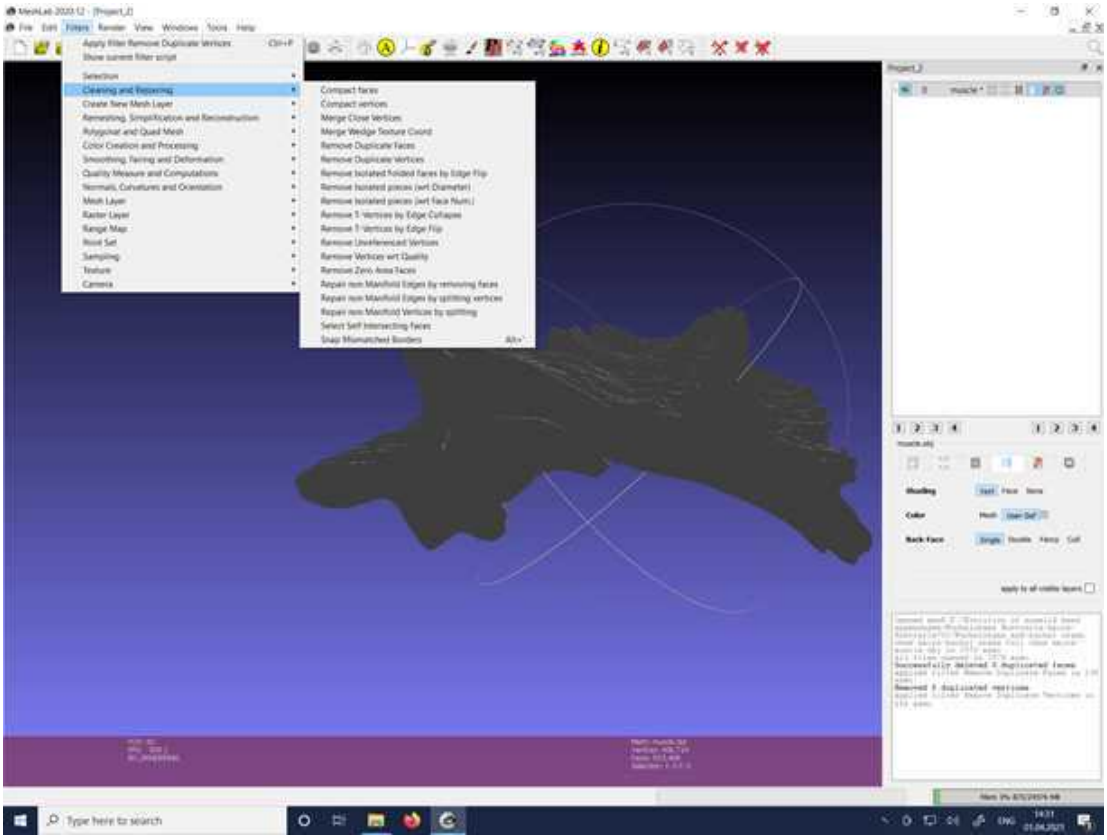

•Open MeshLab
•First step is *Cleaning and Repairing* your mesh-irrelevant if it is generated by Image J, Amira or any other software, the steps are the same
•Often used procedures/steps:
-*Remove Duplicate Faces*
-*Remove Dublicate Vertices*
-*Merge Close Vertices*
-*Repair non Manifold edges by…*
•Just try out, the results are written in the downright white window

--> Also see: more specific
https://www.youtube.com/watch?v=aoDLrXp1sfY
https://www.youtube.com/watch?v=j9EKk3Bs1TQ
https://www.youtube.com/watch?v=gWBm5XGRJOk

--> more general
Mister P. MeshLab Tutorials
https://www.youtube.com/playlist?list=PL8B1E816EAE236B4D

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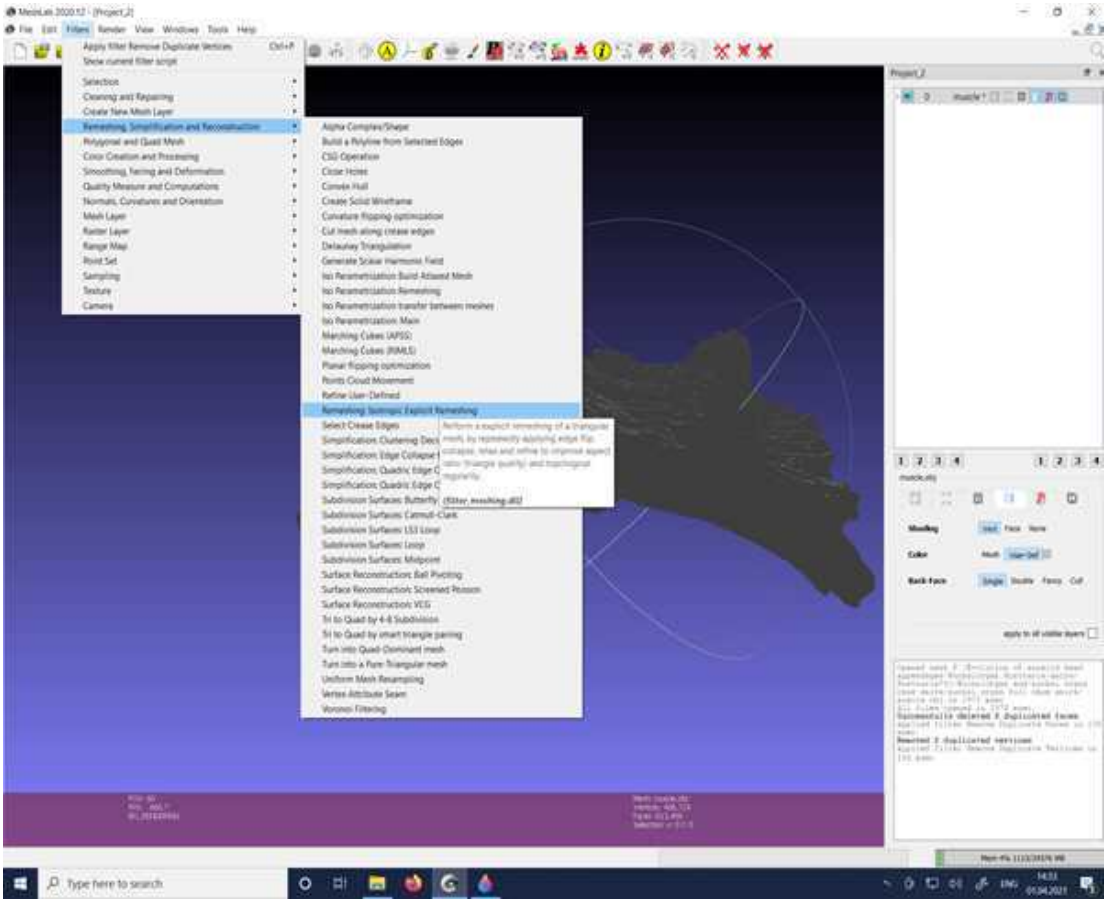
2



•Now re-mesh your label by *Remeshing: Isotropic Remeshing*
•You can do that multiple times but 1 or 2 is enough to change the topology of your vertices in a more regular distribution

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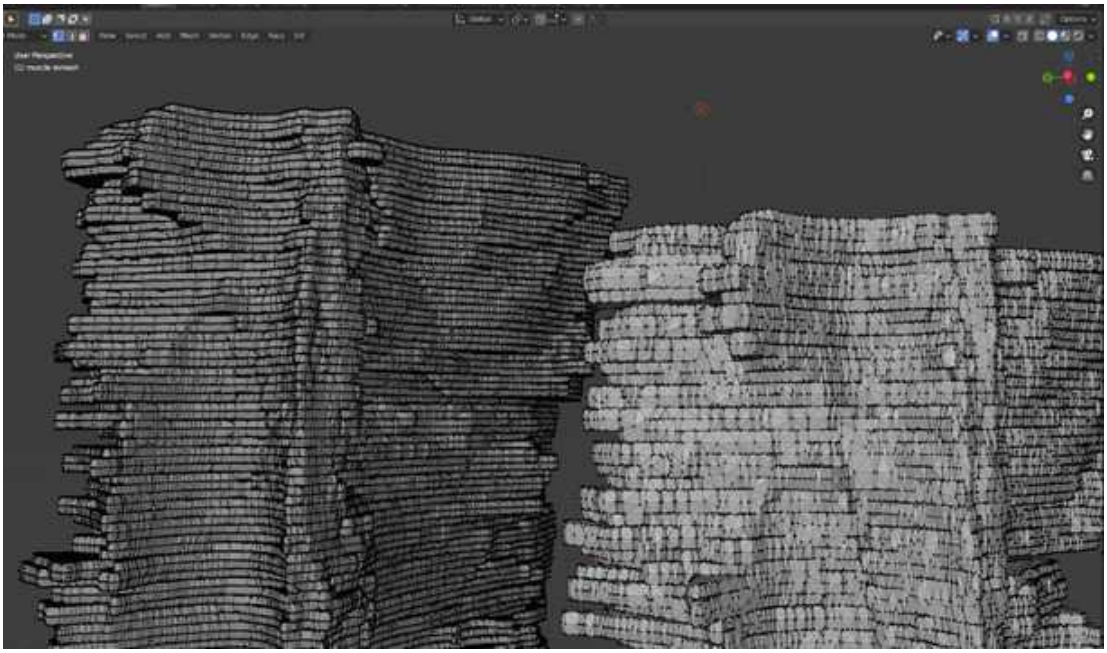

•Result of re-meshing shown in Blender

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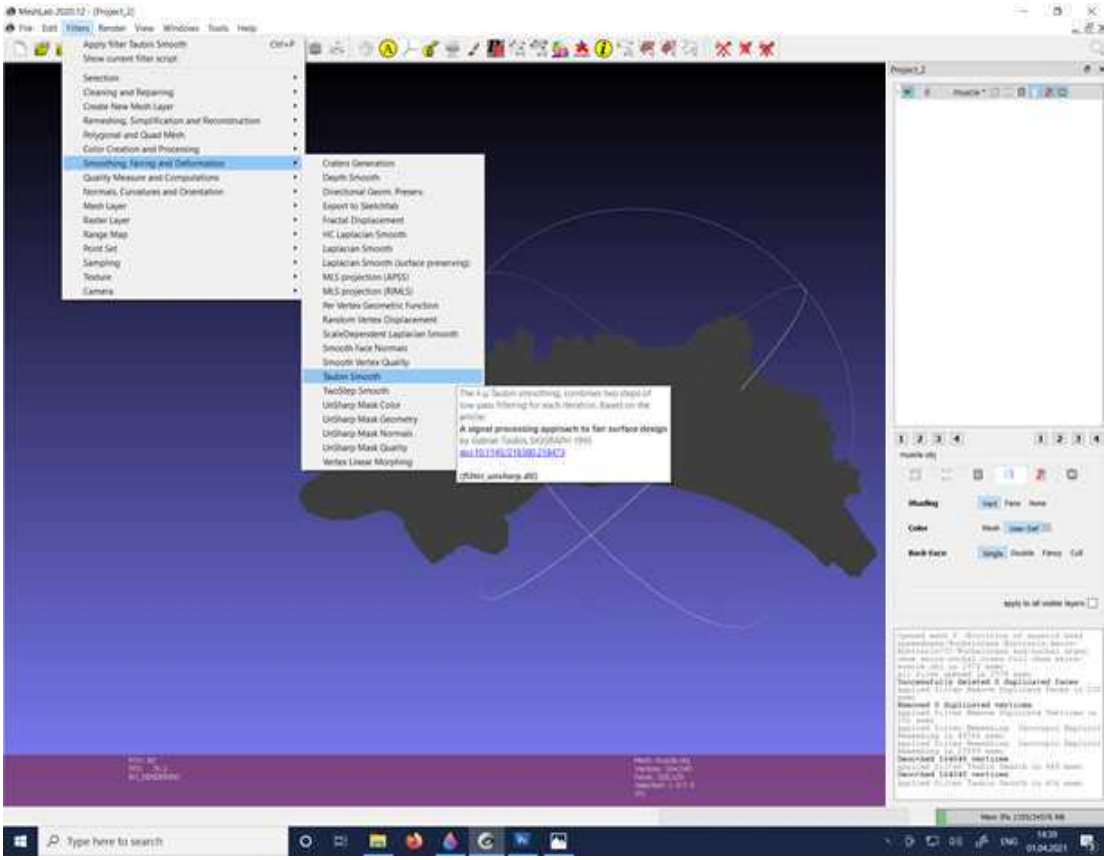

•A smoothing step is possible here but not obligatory
•*Taubin smooth or Laplacian Smooth* are suitable and can be used also multiple times

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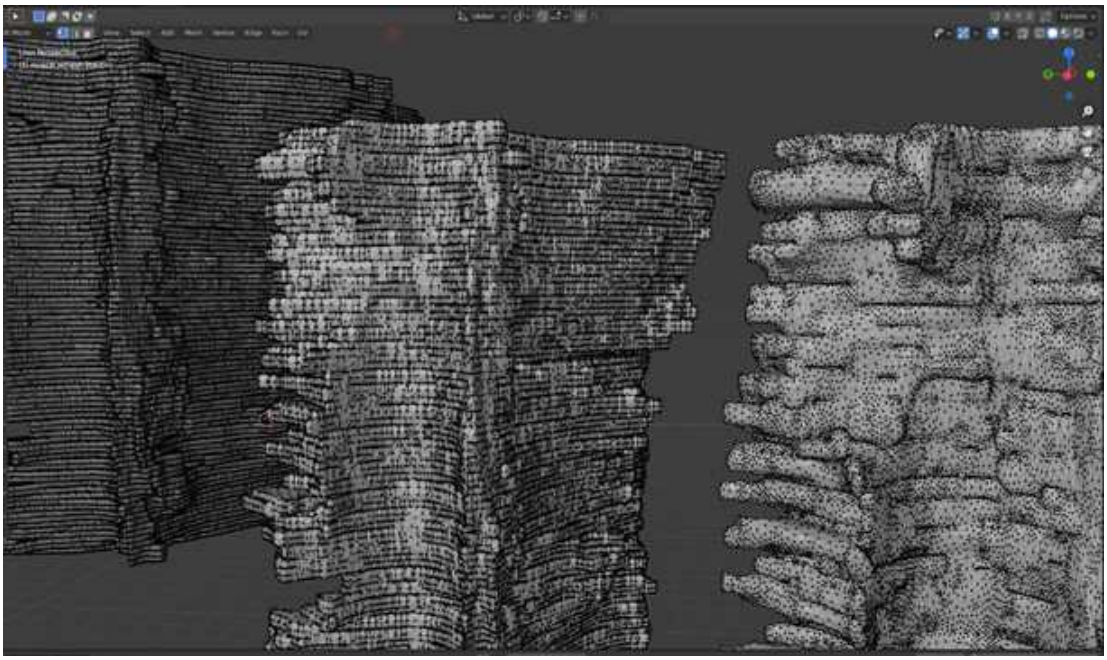

•Result of 2 times *Taubin Smooth* shown in Blender

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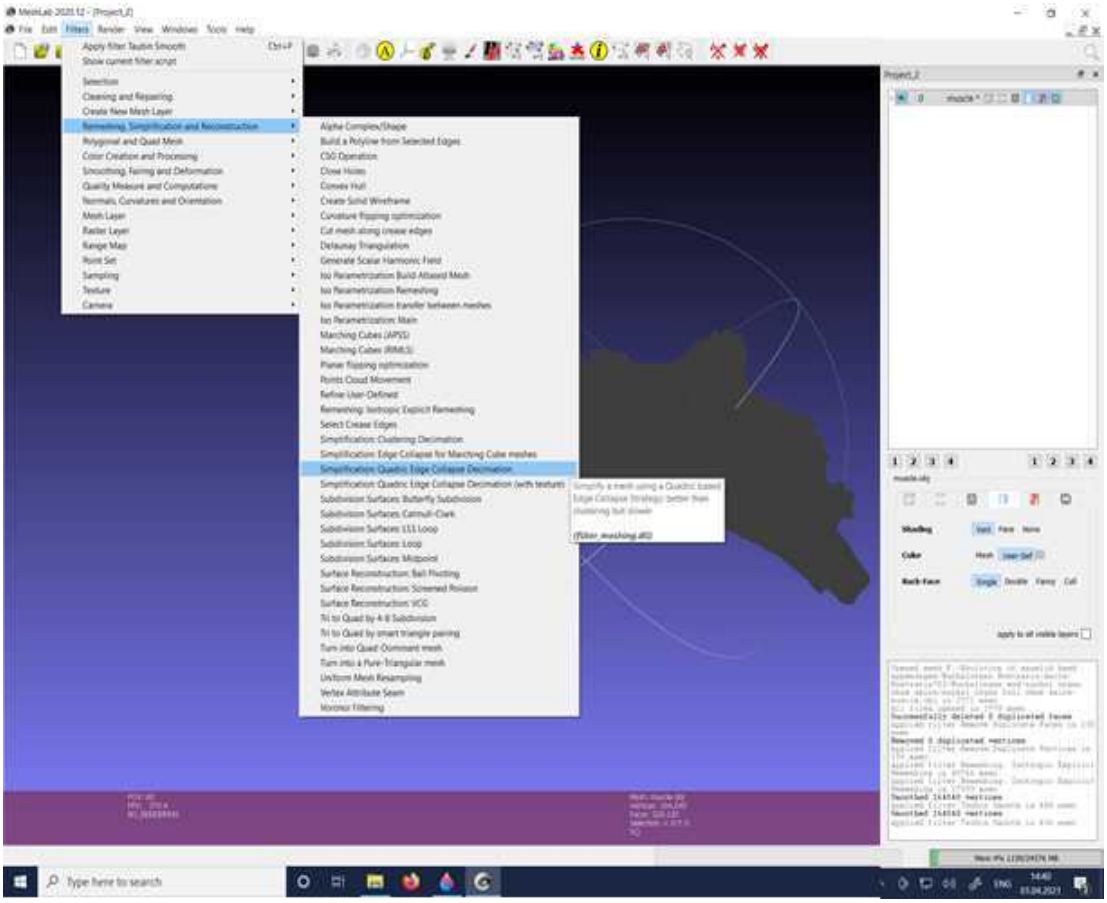

•Now you reduce the size by decreasing the vertices of your label/surface by *Simplification: Quadric Edge Collapse Decimation*

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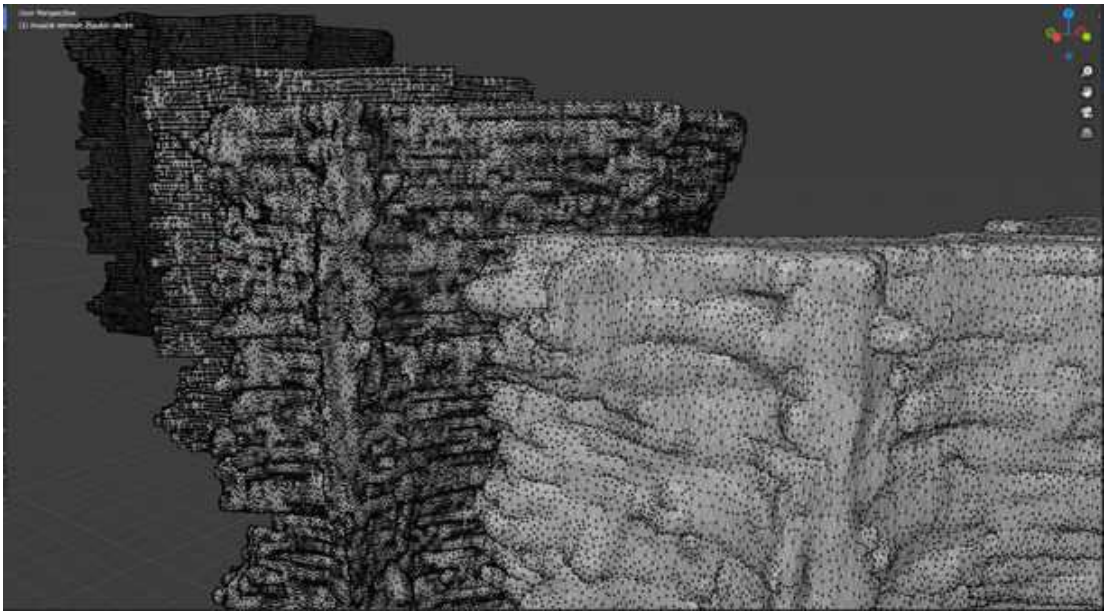

•Result of 2 times simplification shown in Blender

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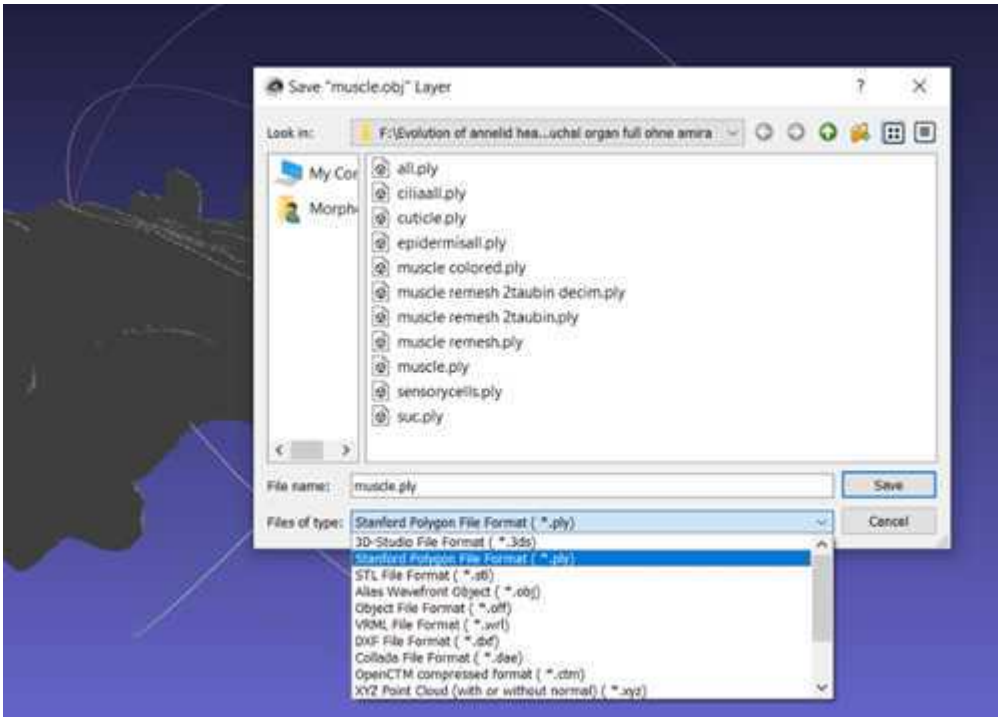

•Save label as .ply-file

•Repeat all described steps for each label or batch of labels by opening a new file

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