

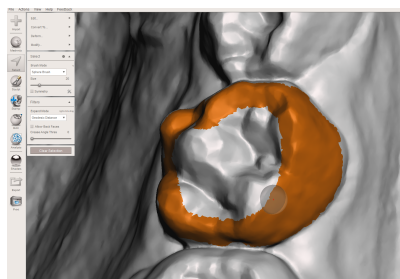
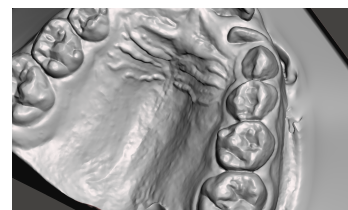
# 5 steps to easy create *full-digital custom bands* with **MeshMixer**®

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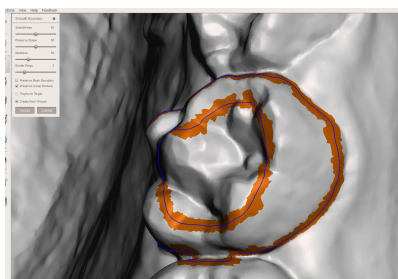
**AIM:**  
The purpose of this work is to illustrate the simplest, fastest and no-cost procedure to design customized bands using **MeshMixer**® software.

## MATERIALS AND METHODS:

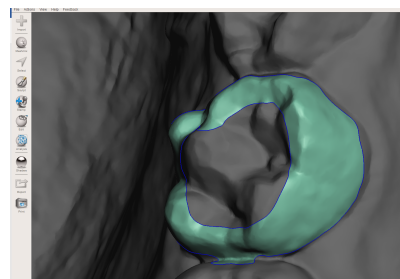
MeshMixer® is a free multiplatform software used in many fields to edit the meshes of .stl files. Its functions can also be used in the orthodontic for example to design custom-made bands to be printed with laser melting technique. The procedure codified by the Authors for drawing the bands involves 5 steps.



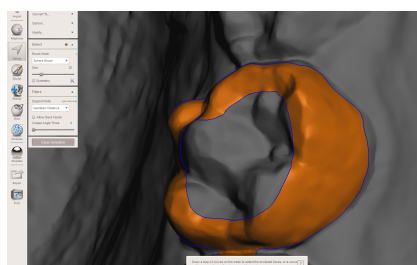
- **Step1:** with the "select" function key draw on the element and highlight the molar surface on which you want to draw the band. The size of the selection can be reduced by acting on the sliding key "size"



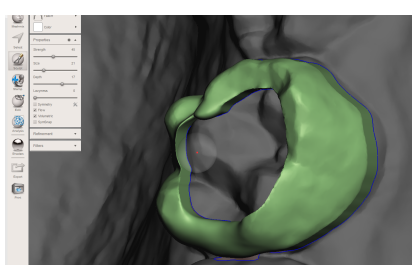
- **Step2:** once the selection is complete, press the "B" key which opens the "Smooth Boundary" panel, which has the function of smoothing the previous selection, then click on "accept"



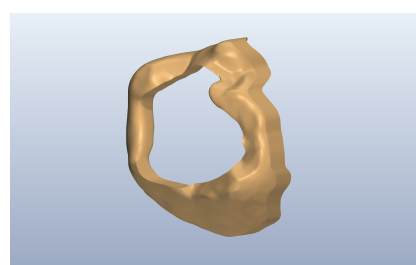
- **Step3:** press the "Y" ("separate") key, which separates the selected surface from the rest of the mesh



- **Step4:** press "CTRL + A" to reselect the entire surface just separated



- **Step5:** press the "D" ("extrude") key which generates the band. By acting on the key "offset" it's possible to decide the thickness of the band



Once the 5 steps have been completed, the file can be saved in the .stl format and sent for printing, for example in laser melting or other material.

## RESULTS:

The steps illustrated are the fastest way to draw bands, as they involve combinations of keys or keyboard shortcuts that make drawing extremely simple. This procedure can also be applied to create other objects, such as retainers, space maintainers, palatal bars or Nance buttons.

## CONCLUSIONS:

MeshMixer® is a completely free multi-platform software that is having considerable success in the orthodontic field. Among its many applications, one of the best known uses is that of the design of customized bands. The procedure described and codified by the Authors represents the simplest and fastest method for create bands and other orthodontic devices.