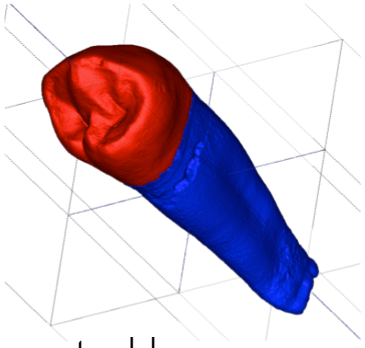
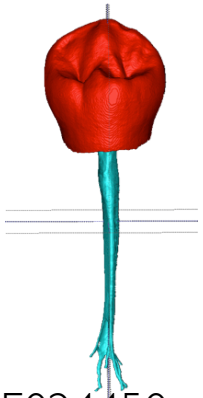
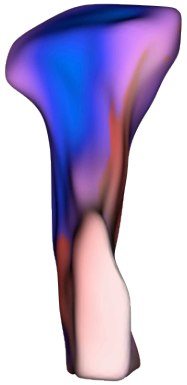
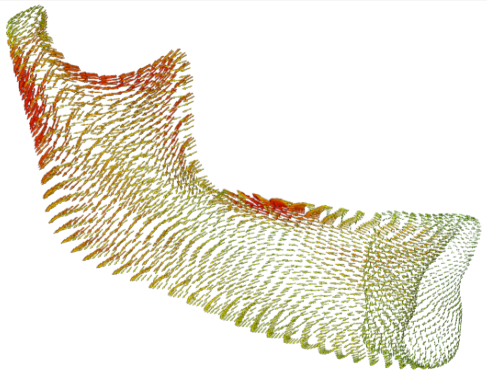
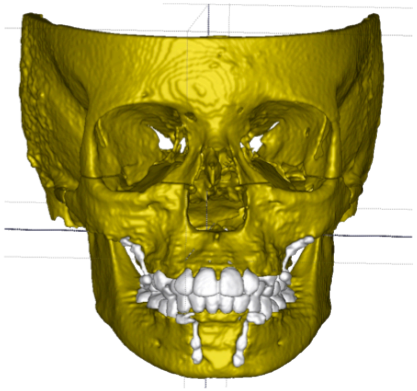






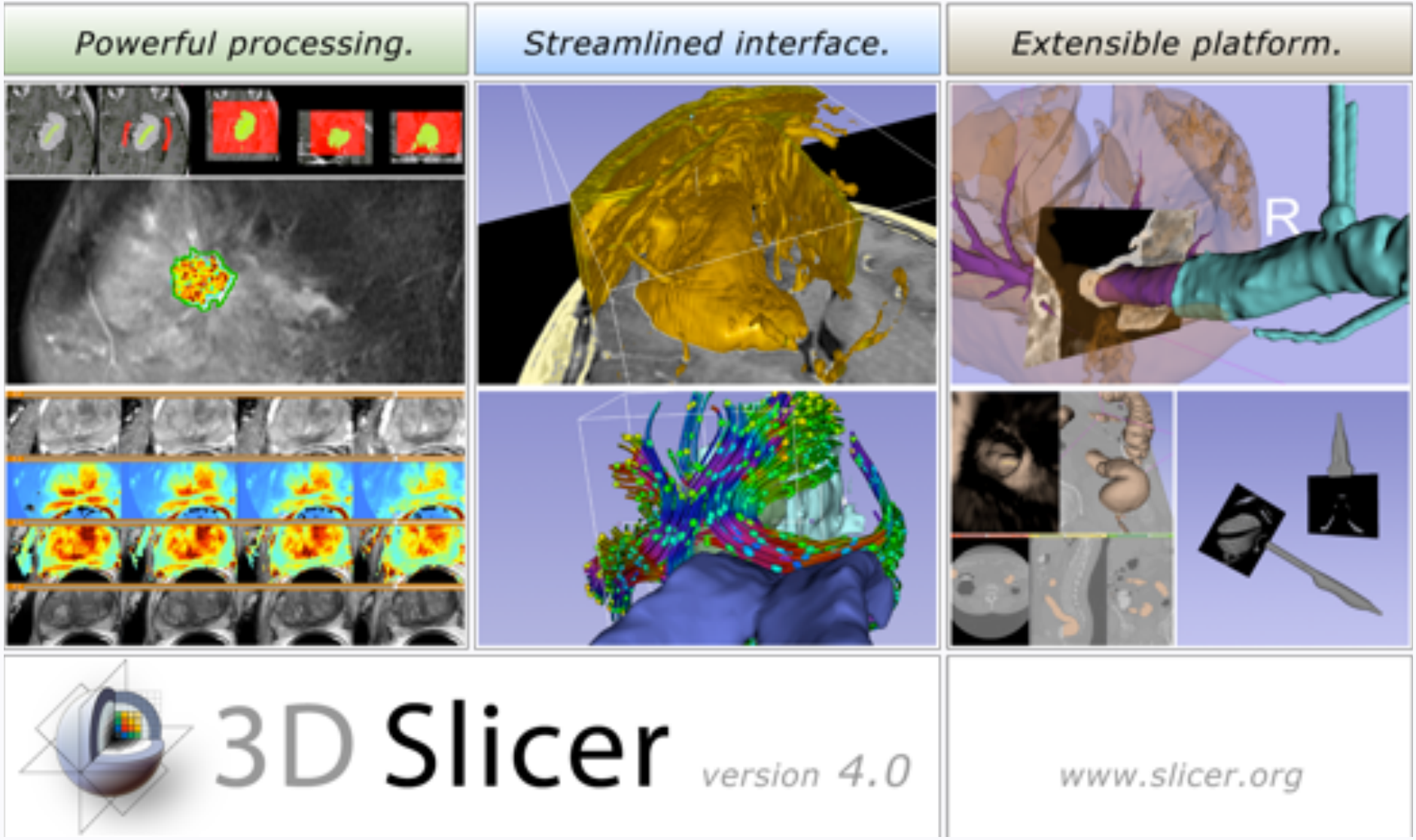
Supported by
NIDCR and NIBIB R01DE024450

Dental and Craniofacial Bionetwork for Image Analysis- DCBIA

ITK-SNAP – Youtube training

Yushkevich- UPenn and Gerig- UofUtah

Software engineering – NAMIC



Our collaborative clinical research group in 2012 was using:

Image analysis - 2012

- Open image: Dicom – gipl format ITK-SNAP
- Downsize Imagine
- Construct surface model Intensity Segmenter/ITK- SNAP
- Registration Imagine
- Convert surface formats ITK-SNAP
- Superimpose/Overlay Slicer
- Quantify changes overtime MeshValmet

Open Source Dental Tools- 2013

- Open image: Dicom– gipl format ITK-SNAP/**Slicer**
- Downsize not needed- Resample Imagine/**Slicer**
- Construct 3D surface models ITK-SNAP/**Slicer-Int.Seg.**
- Register Imagine/**Slicer**
- Convert Surface formats ITK-SNAP/**Slicer**
- Superimpose/Overlay **Slicer**
- Quantify ind. changes overtime MeshValmet-work in progress
- Quantify populational changes MeshValmet-work in progress

What has been updated in 2013/14 with the new software development in collaboration with NA-MIC ?….

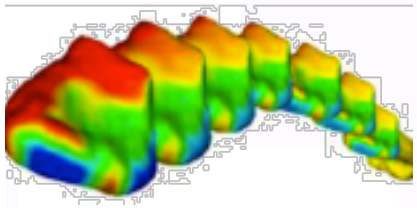
Open Source Dental Tools- 2014

- Open image: Dicom – gipl format ITK-SNAP
- Approximate Images - Slicer
- Construct 3D surface models ITK-SNAP- Slicer-Int.Seg.
- Register -Slicer
- Convert Surface formats ITK-SNAP- Slicer
- Superimpose/Overlay - Slicer
- Quantify ind. changes overtime MeshValmet-Slicer
- Quantify populational changes MeshValmet-Slicer

Other resources:

- ShapePopulationViewer:
  - Code: http://www.nitrc.org/projects/shapepopviewer
  - Developer: Alexis Girault

- Model to Model distance:
  - Developer: Francois Budin



Where is our work going?

Work in Progress:

- Easy Clip
- Calculate Planes
  - Developer: Julia Lopinto jlo@umich.edu

- Pick ‘n Paint
- Mesh Stats
  - Developer: Lucie Macron luciemac@umich.edu

hands on workshops

https://sites.google.com/a/umich.edu/dentistry-image-computing

IADR GENERAL® SESSION

BOSTON, MASS., USA, MARCH 11-14 2015

Hands on Workshop- 3D Registration-
Joint Cephalometric Experts - Case Western University, Nov 5th, 2014

Content:

1- Open image: Dicom – gipl format ITK-SNAP

2- Approximate Images Slicer

3- Construct 3D cranial base surface models ITK-SNAP

4- Register Cranial base Slicer

5- Convert Surface formats Slicer

6- Superimpose/Overlay - Slicer

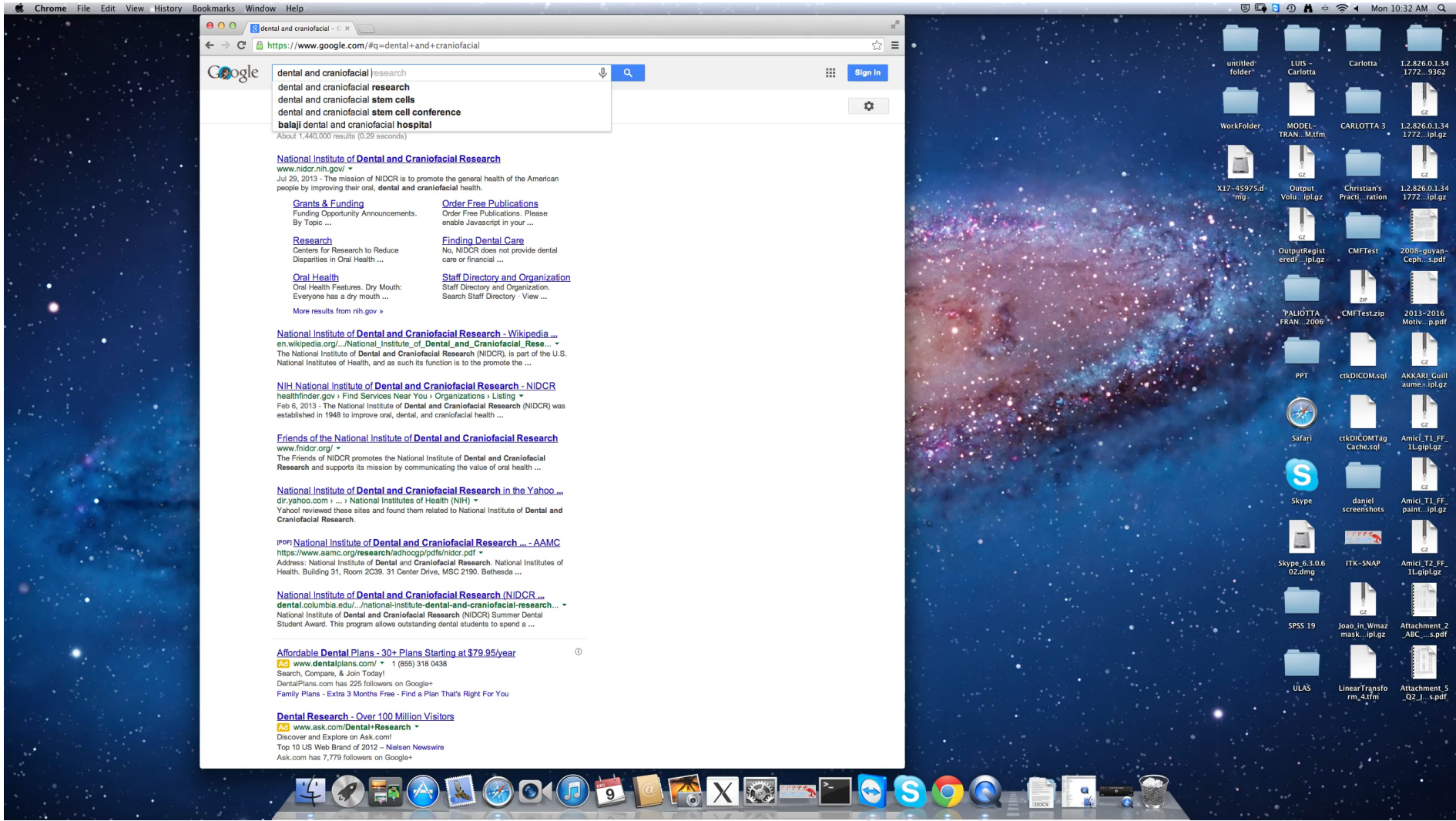
7- Quantify growing patient changes overtime Slicer

Presenters:
Lucia Cevidanes, Antonio Ruellas , Liliane Gomes, Marcelo Gomes, Marilia Yatabe, Lucie Macron, Julia Lopinto

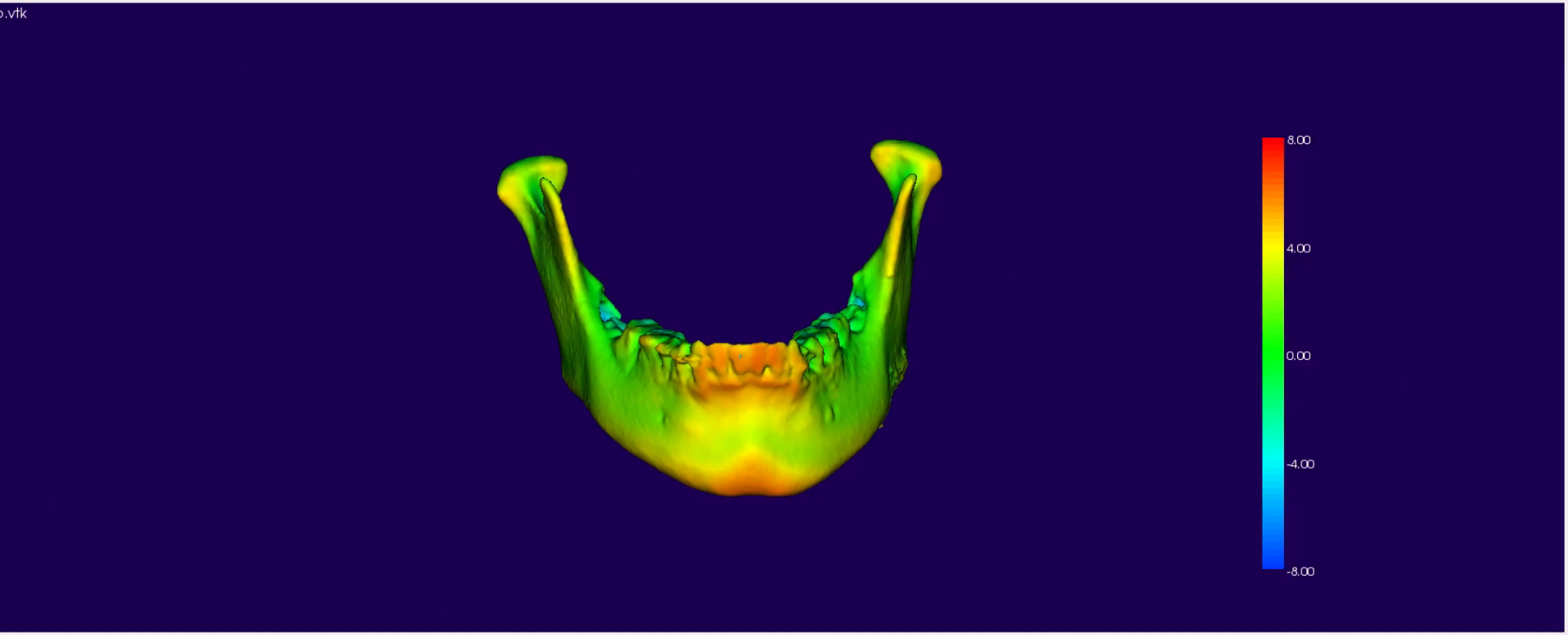
This work was supported by the National Institute Of Dental & Craniofacial Research of the National Institutes of Health under Award Number R01DE024450. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health

Online video tutorials

as clinician friendly –
child's mind as possible



ShapePopulationViewer 1.3.2



File information | Attributes/Ranges

me: Joao ColorMap.vtk

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er of Points: 279904

er of Cells: 556580

ColorMap

Attribute : Error

Colorbar | Vectors

Arrow : 4.00000

Range : -8.00000 7.00000

View Options

P S R L I A

Reset

Aligned Off

Synchronization

Real-Time

Delayed

ALL NONE

Ctrl+click : select, unselect windows

Ctrl+A (or ALL) : select all

Display Options

Colorbar

Mesh Name

Attribute Name

All windows

Square windows

1 columns

3DSlicer

National Alliance for Medical Image Computing
A National Center for Biomedical Computing

NITRC
The source for neuroimaging tools and resources

Folder 1

- Dicom files for Time 1 and Time 2 of a growing patient

- Load 1 of those files in ITK-Snap to learn how to convert to gipl format

Folder 2

- Gipl files for Time 1 and Time 2 of a growing patient

- Load those files in Slicer to learn how to approximate T2 to T1

Folder 3

- Use Scans already approximated to Construct Surface models of the cranial base for T1 and T2

- Let's start with the cranial base of T1 and see how long it takes for one time point…

---if you do not finish the cranial base models (gipl format) are provided in folder 4

For the cranial base registration in Slicer you will need:

- CBCT Scans in Folder 3
- Segmentations in Folder 4

Folder 5

- Contains the output files of the cranial base registration:

- Let's start with the cranial base of T1 and see how long it takes for one time point…

---if you do not finish the cranial base models (gipl format) are provided in folder 4

Folder 6

- Vtk files for computing surfaces distances in Model to Model distance and displaying results in ShapePopulationViewer