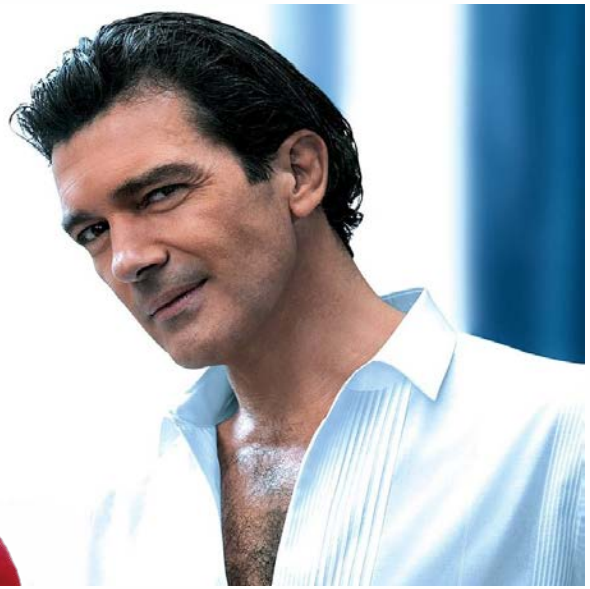
MatchMove

Digital Visual Effects, Spring 2012

Winbbe 2012/04/26

WorkFlow

- Input
  - Video
  - CGI Animation



WorkFlow

- Output
  - Composite Video

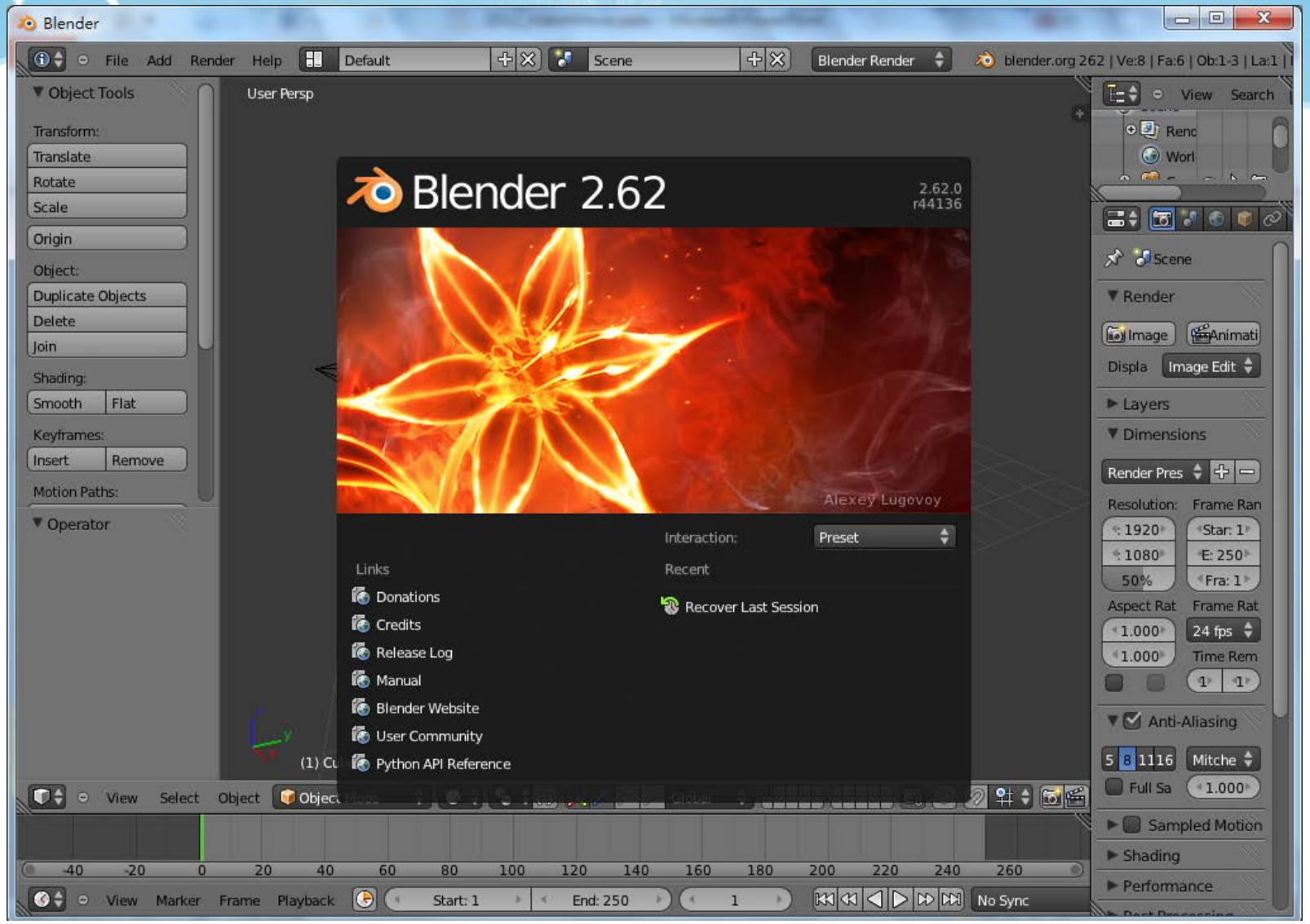
Setting

- **Blender**
  - Version: 2.62
  - Operating System
    - Windows XP/Vista/7 32/64 bits, Linux, Mac OS X
  - Web Site: http://www.blender.org/
- **Voodoo**
  - Version: 1.2.0 beta
  - Operating System
    - Windows 95/98/NT/2000/Me/XP/Vista/7, Linux
  - Web Site: http://www.digilab.uni-hannover.de/
- **Other Options**
  - Free: Blender + ICARUS
  - Pay: boujou + 3D Max, boujou + Maya, ...

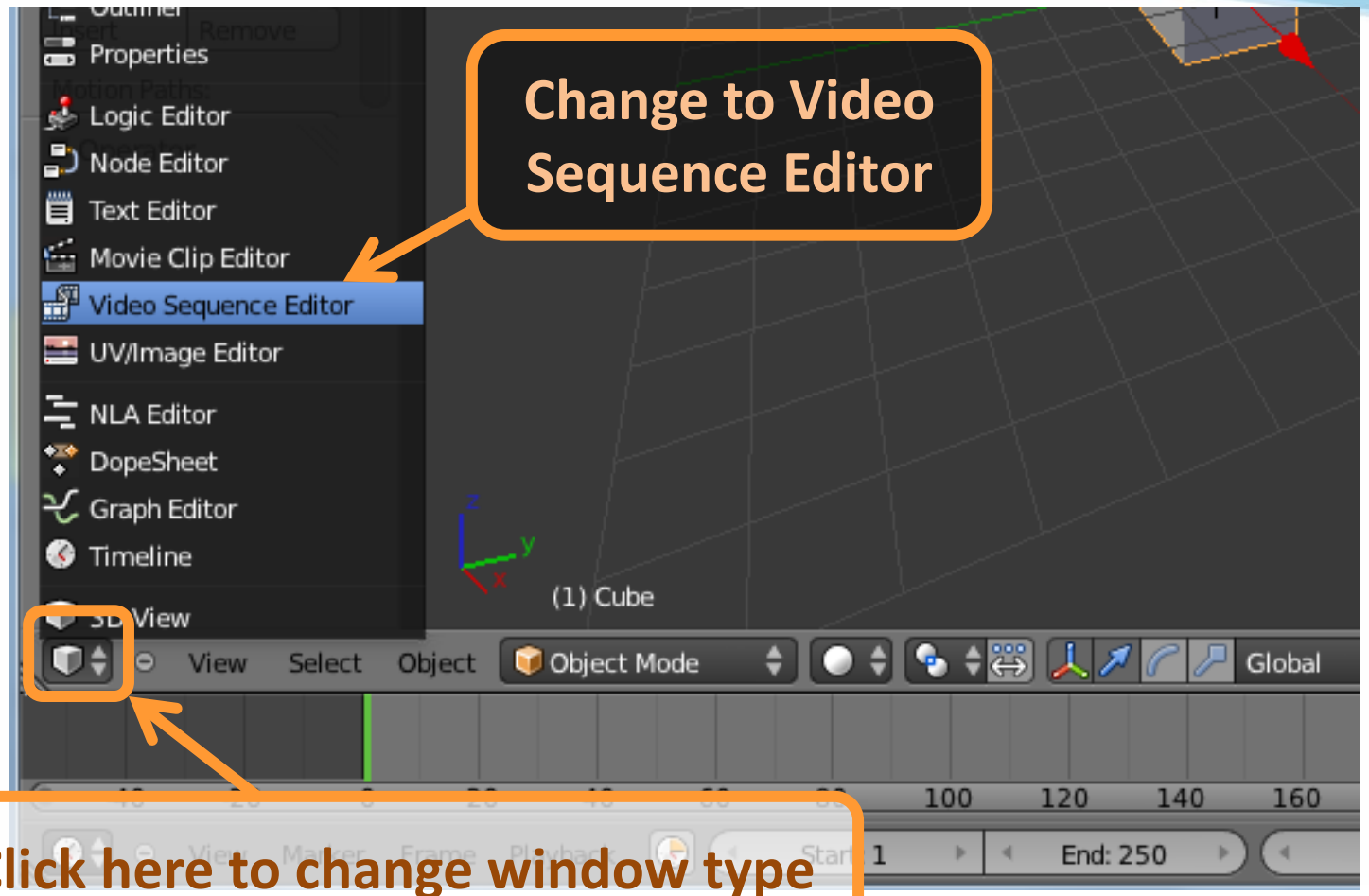
Recipe: Get Image Sequence

1. Open Blender
2. Add Video File
   - Change Window Type to **Video Sequence Editor**
   - Select **Add → Movie**
   - Drag the strip to Layer 1
3. Render Images
   - Choose **Render**
   - Frame
     - Set frame size and resolution
     - Choose output file type (**Targa**)
   - Time interval → Select start and end of the sequence
   - Choose output directory
4. Click **Animation** button

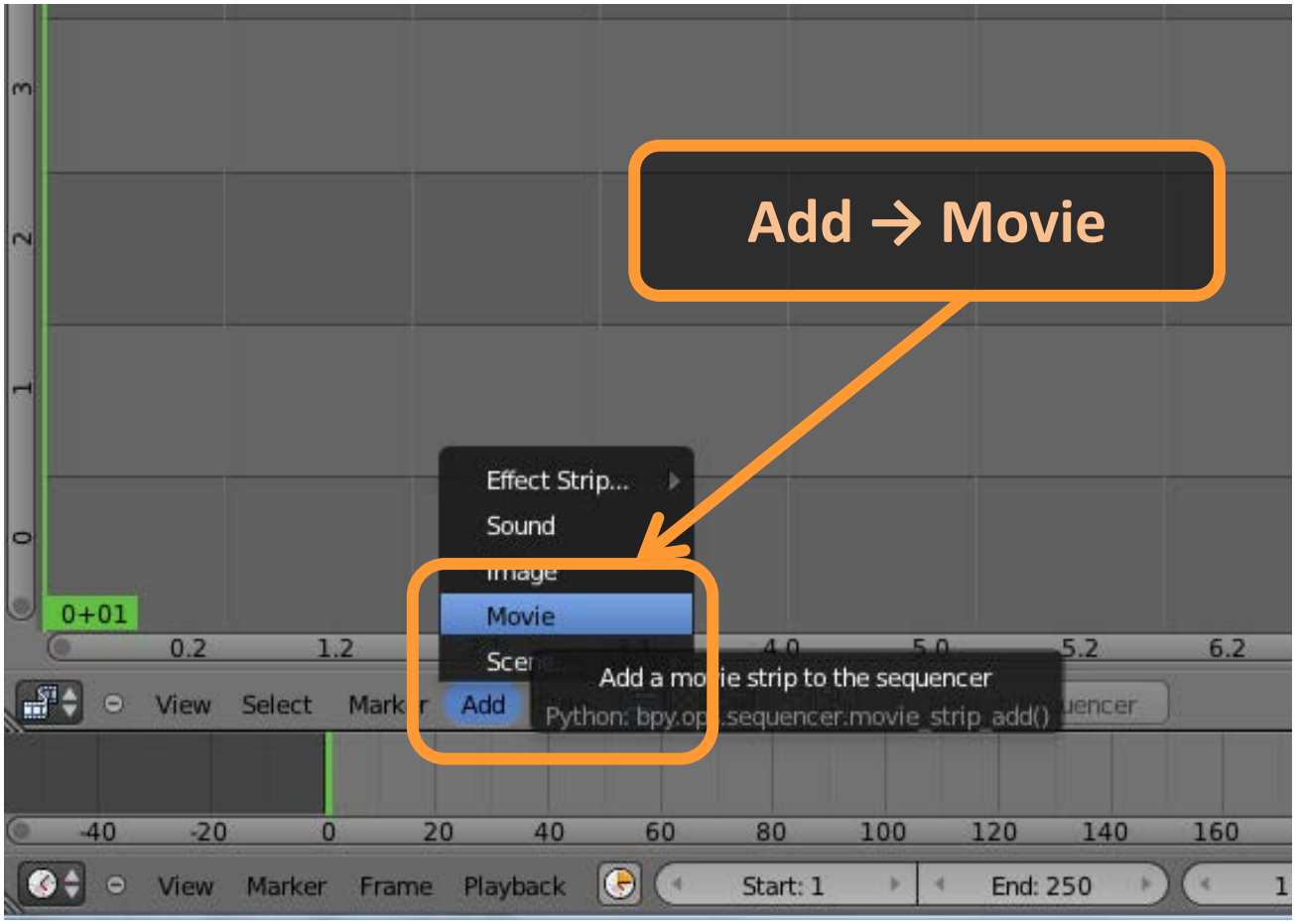
Get Image Sequence : Blender Interface



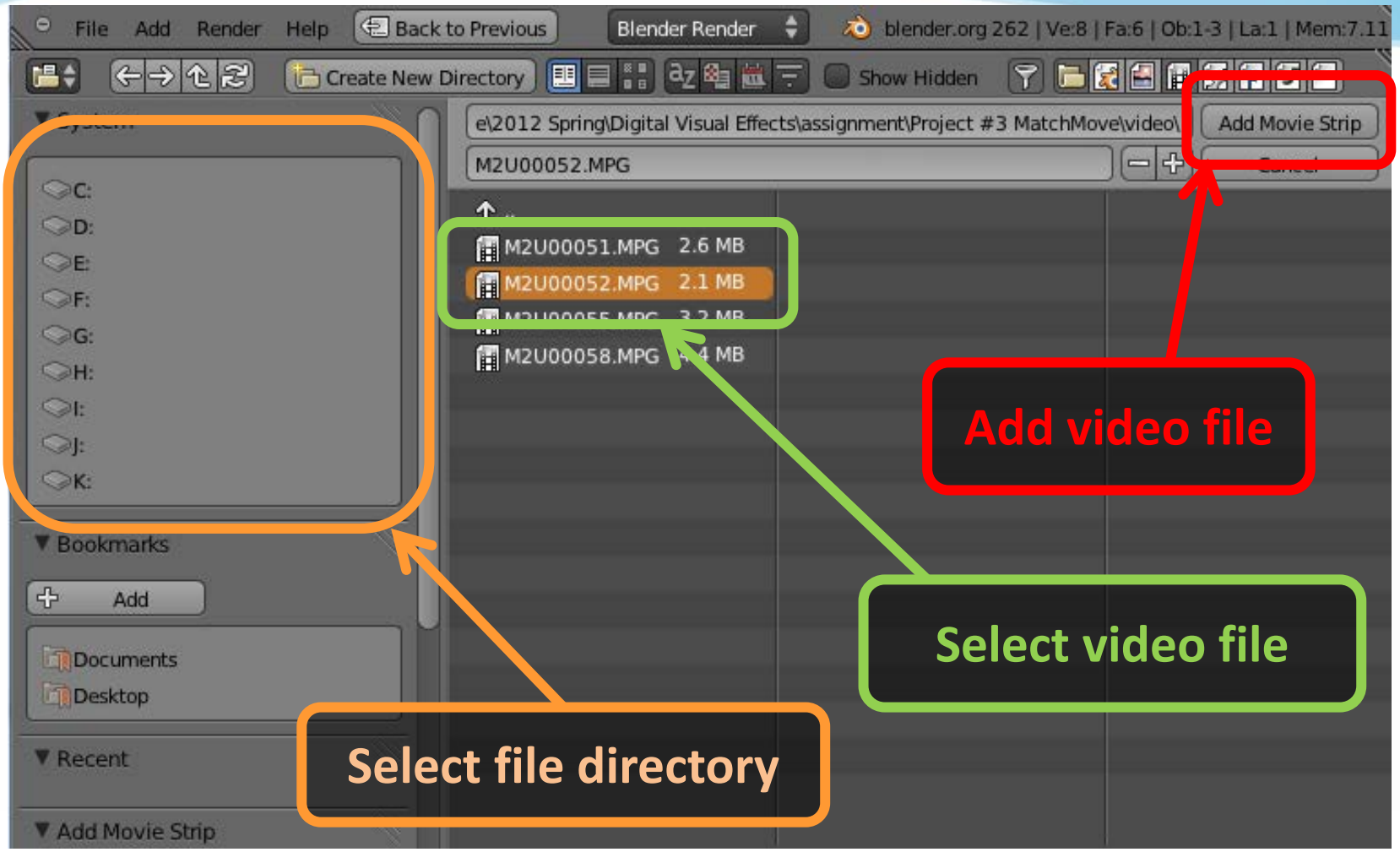
Get Image Sequence : Add Video File



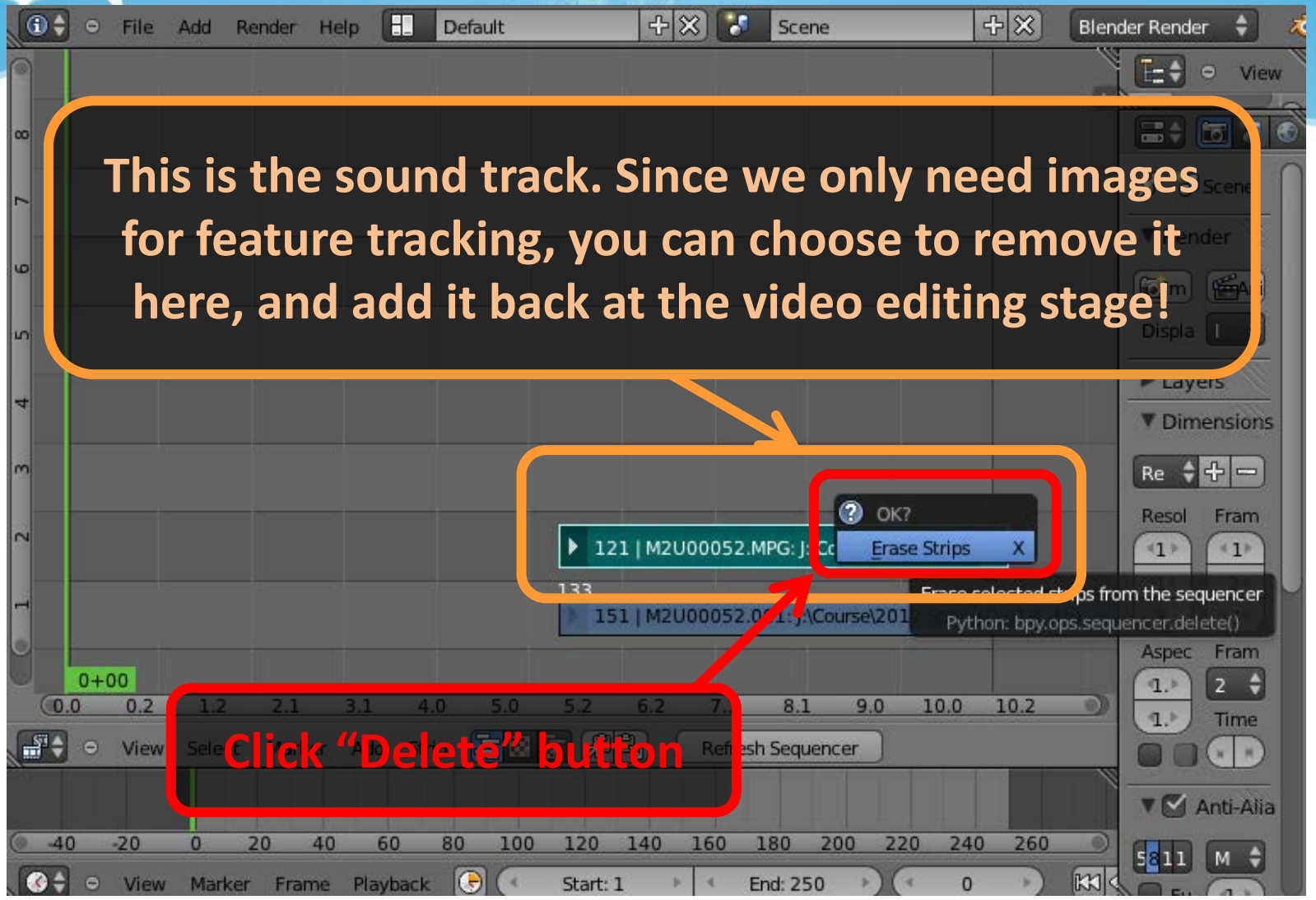
Get Image Sequence : Add Video File



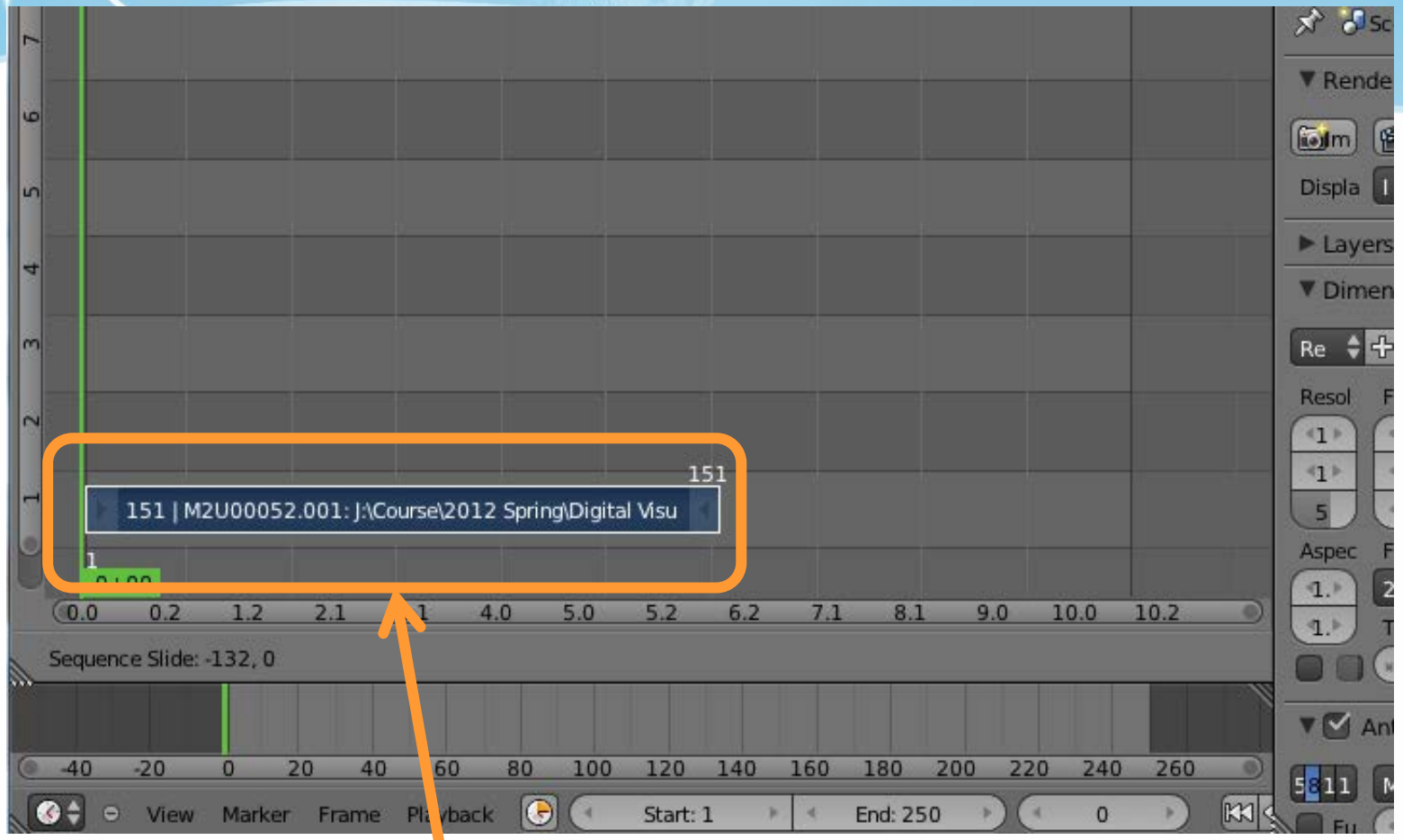
Get Image Sequence : Add Video File



Get Image Sequence : Add Video File

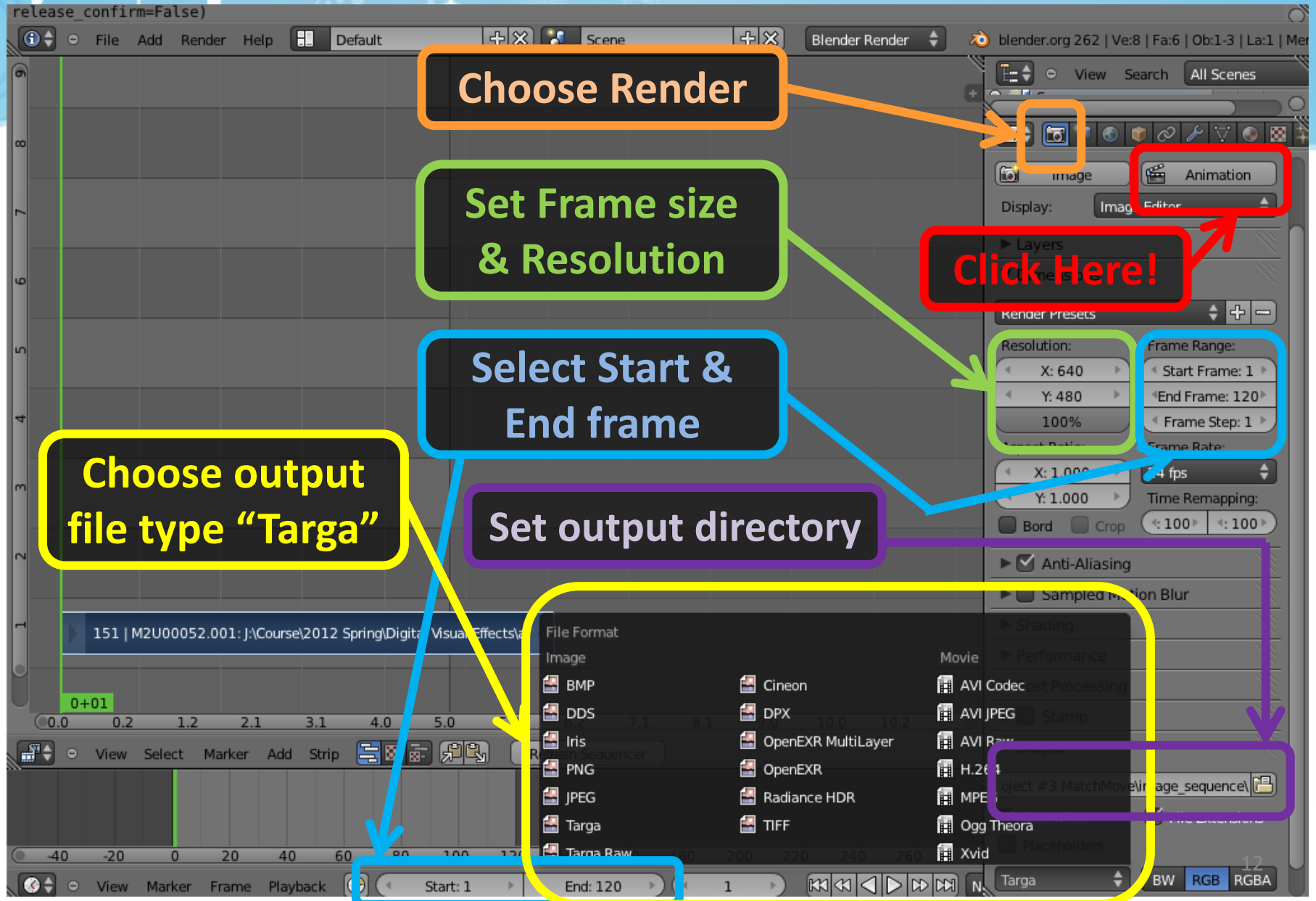


Get Image Sequence : Add video file



Right-click to Drag the strip to the "1st Frame" in Layer 1

Get Image Sequence : Render Images

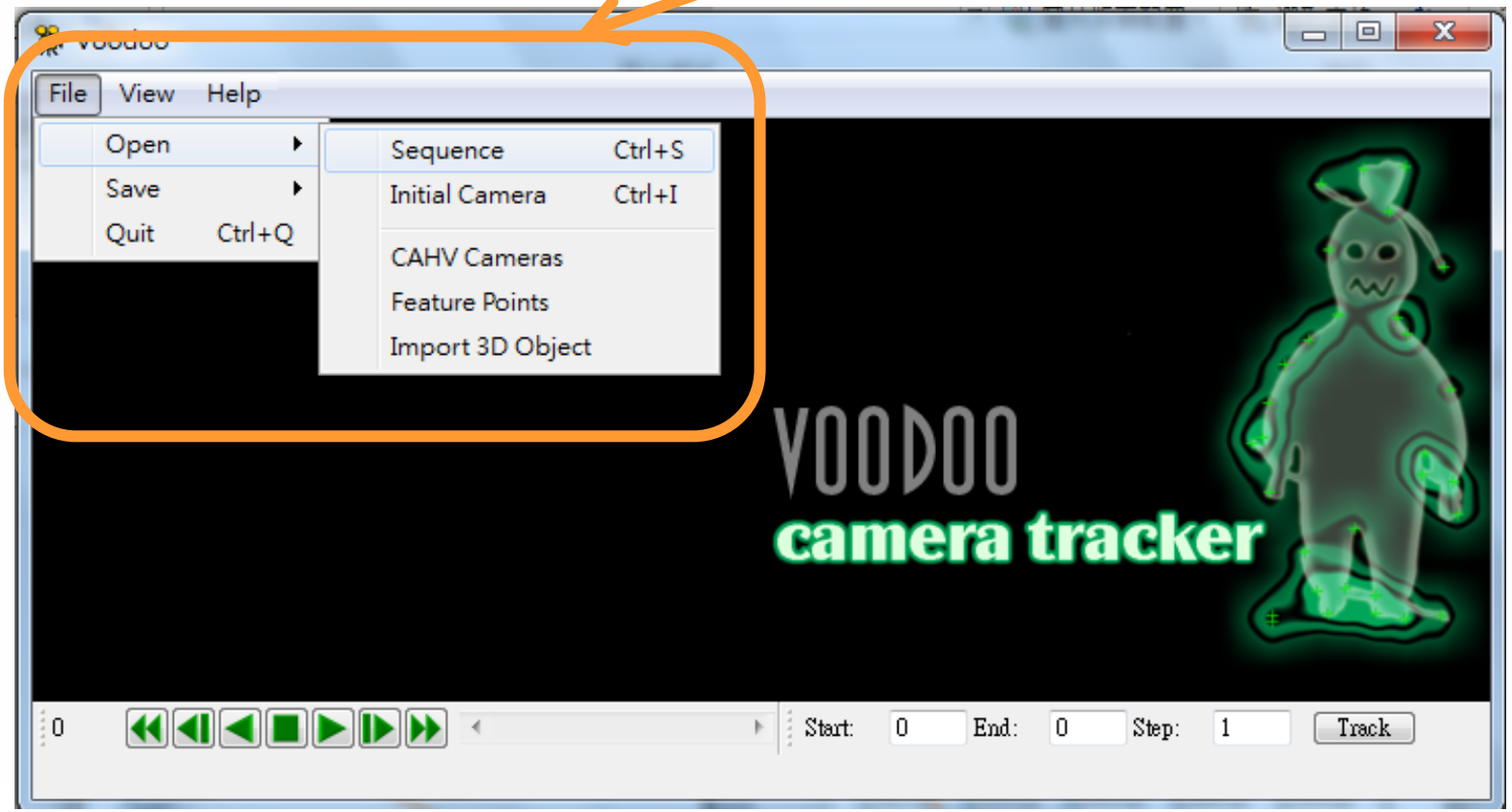


Recipe: Calibration

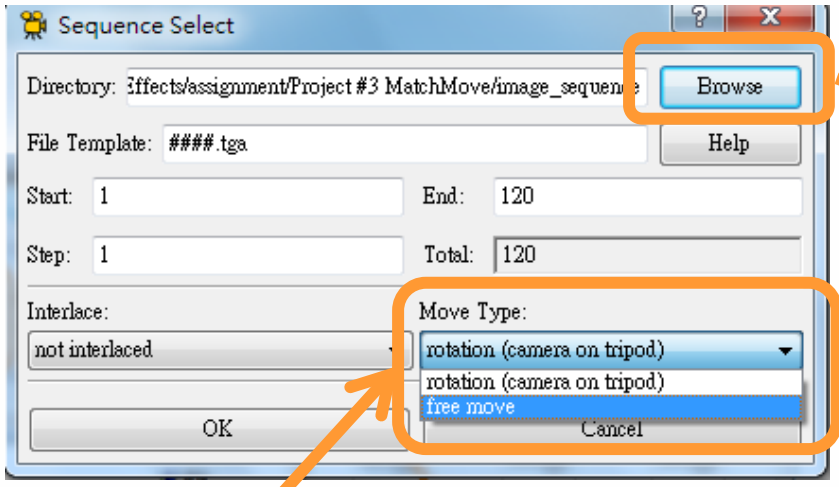
1. Open Voodoo
2. Open Image Sequence
   - Select **File** → **Open** → **Sequence**
   - Select the first frame
   - Select Move Type "**Free Move**"
3. Track → Click **Track** button
4. Export Python Script
   - Select **File** → **Save** → **Blender Python Script**
   - Save .py file
     - Choose File type "Blender 2.5x and higher (*.py)"

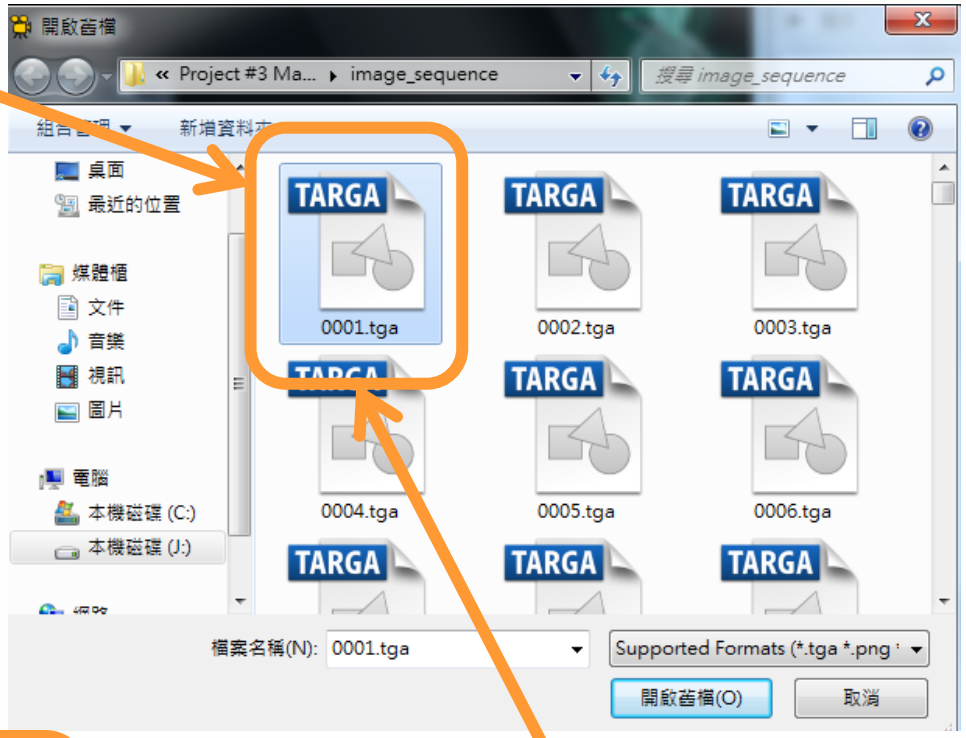
Calibration : Choose Sequence

File → Open → Sequence



Calibration : Choose Sequence



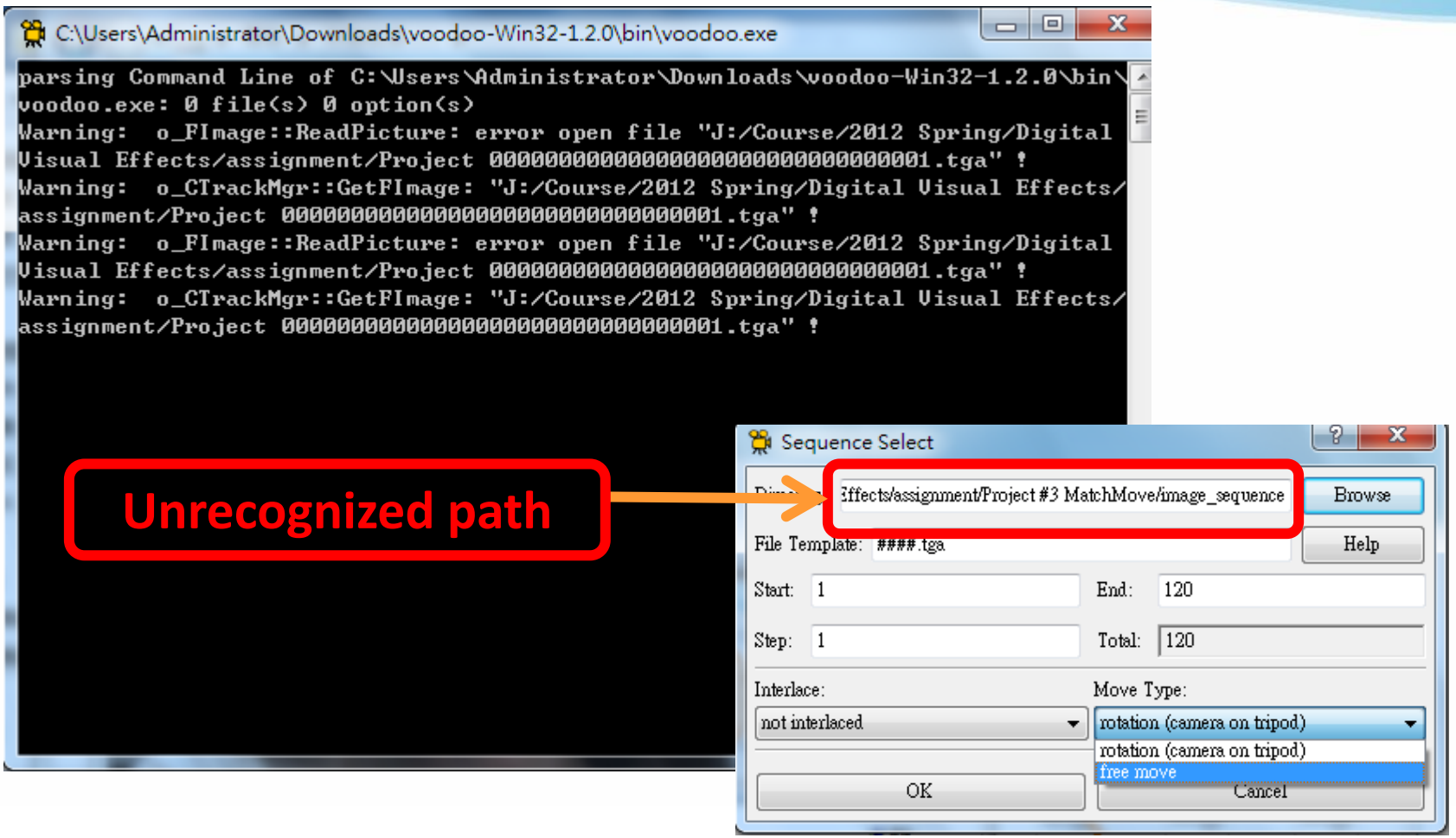


Choose “free move”

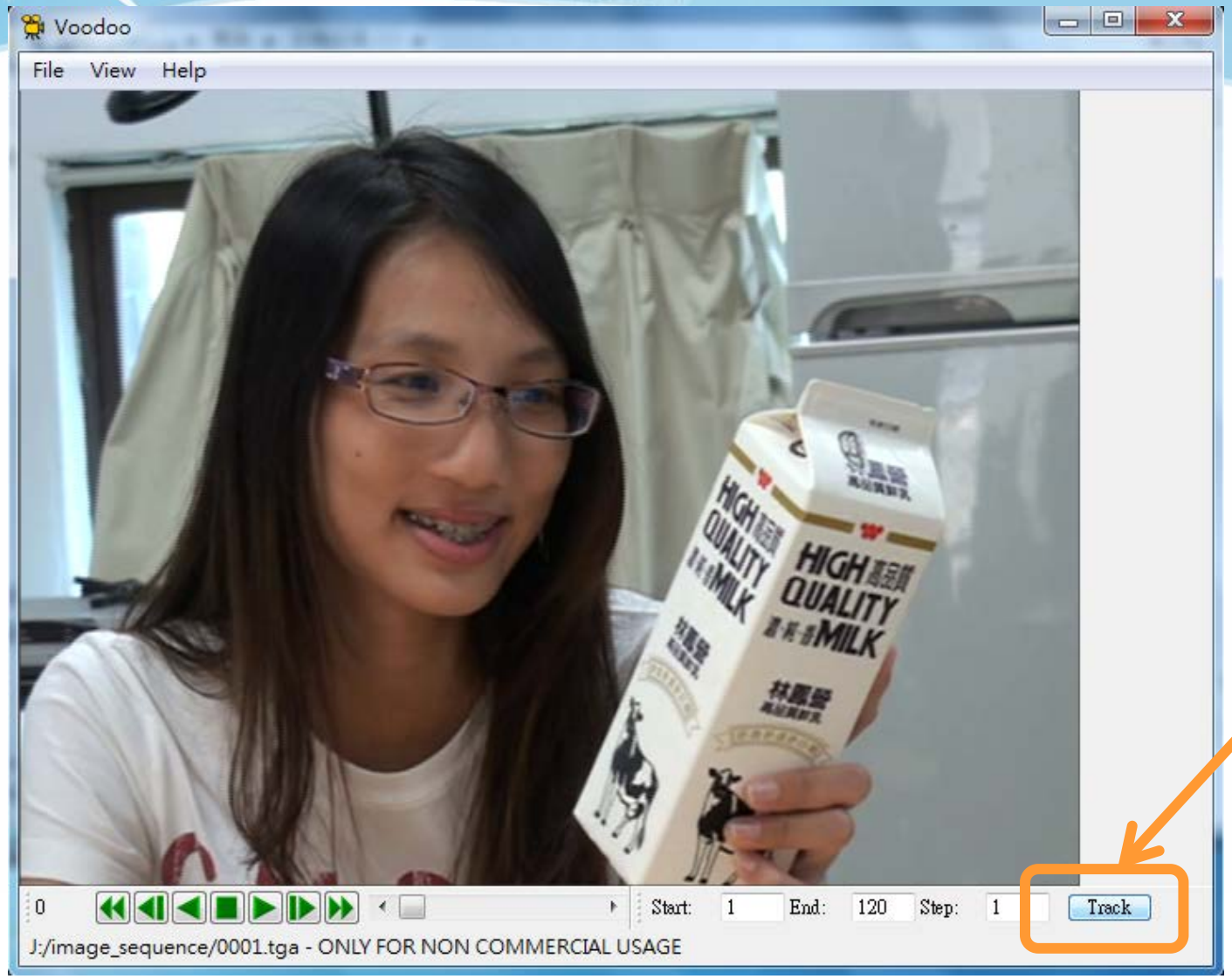
Note!!!
1. “free move” is for general moving conditions
2. “rotation (camera on tripod)” is for the special case with only the rotation

Only select 1st frame

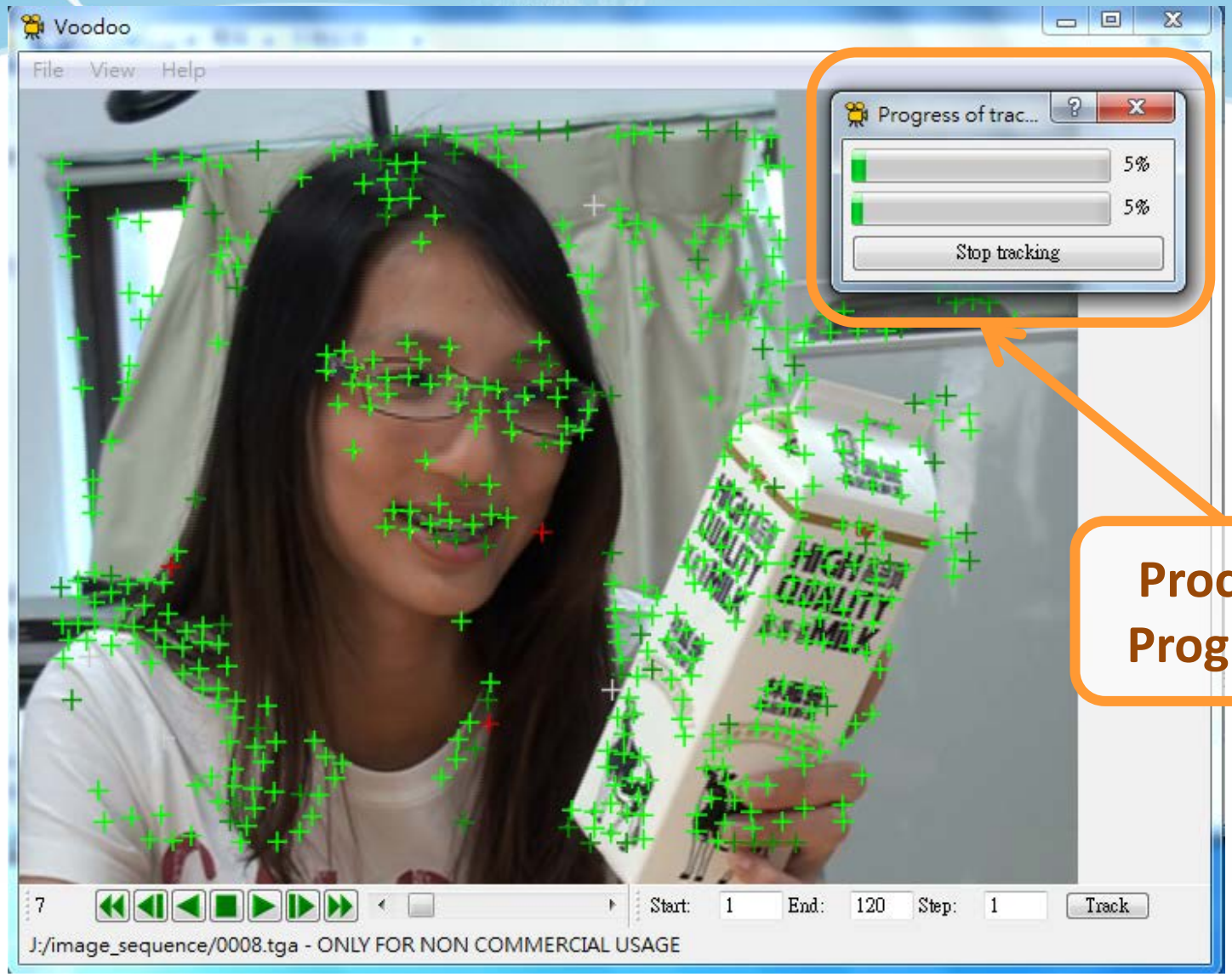
Calibration : Choose Sequence



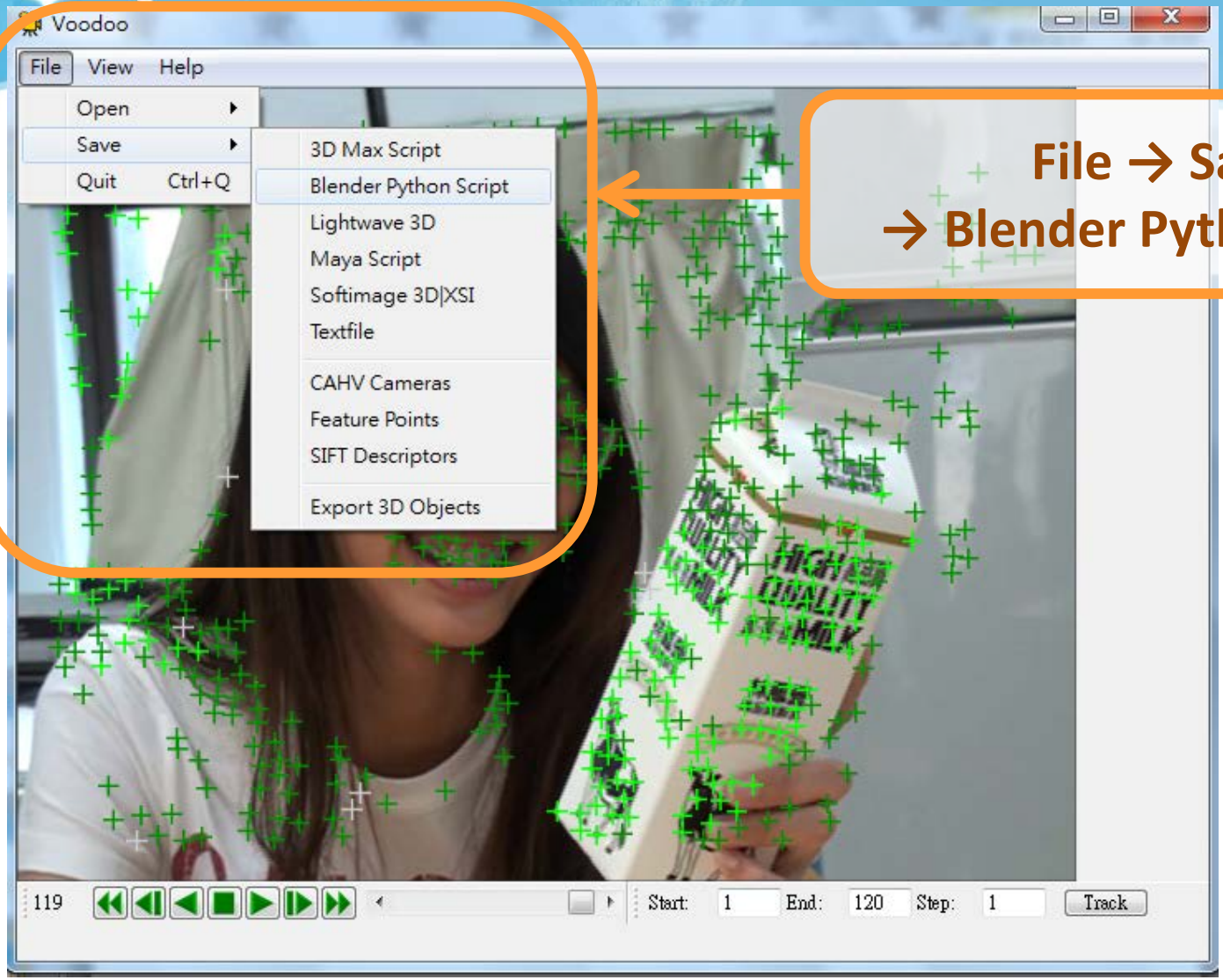
Calibration : Track



Calibration : Track

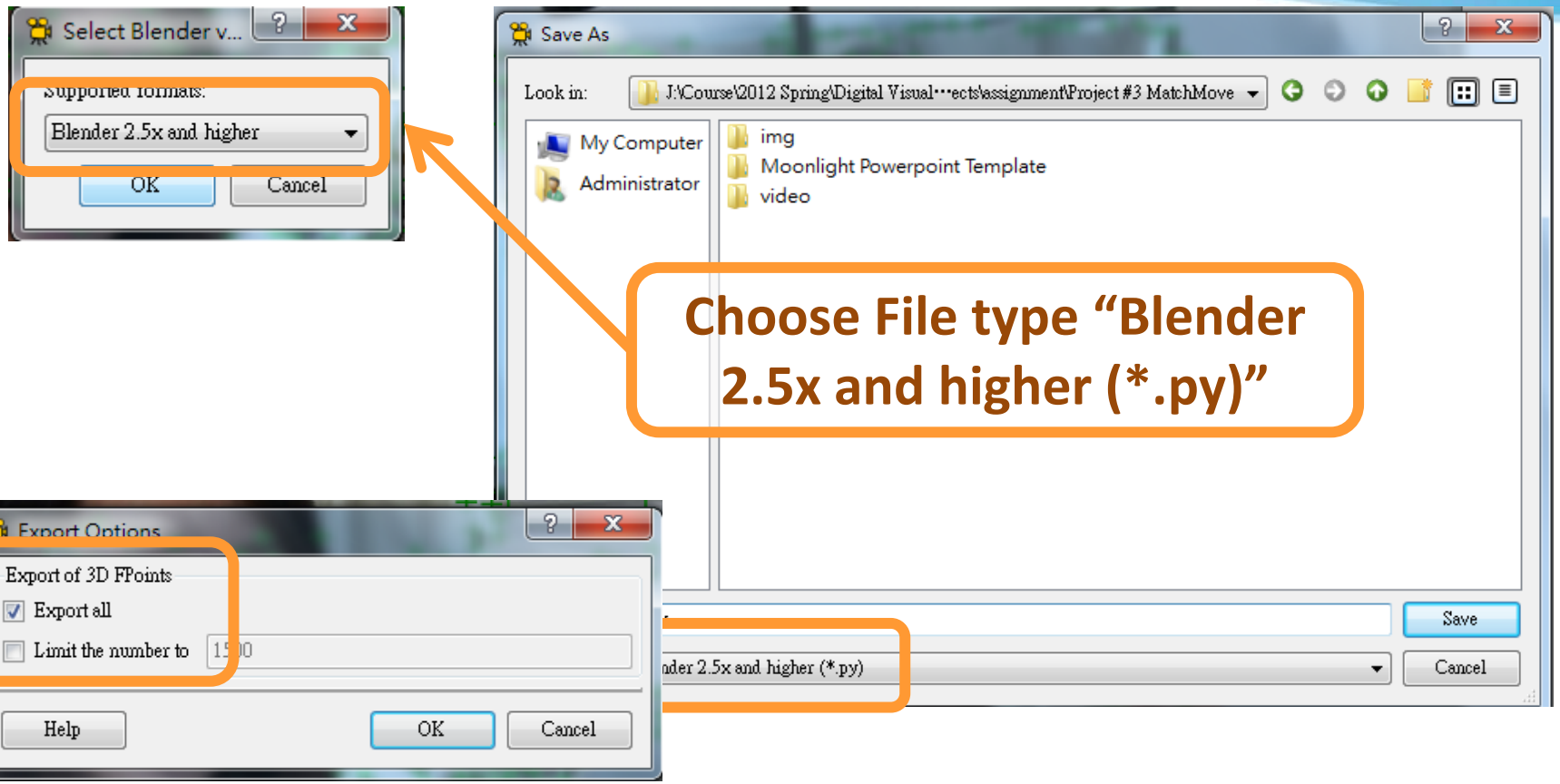


Calibration : Export Python Script



File → Save
→ Blender Python script

Calibration : Export Python Script



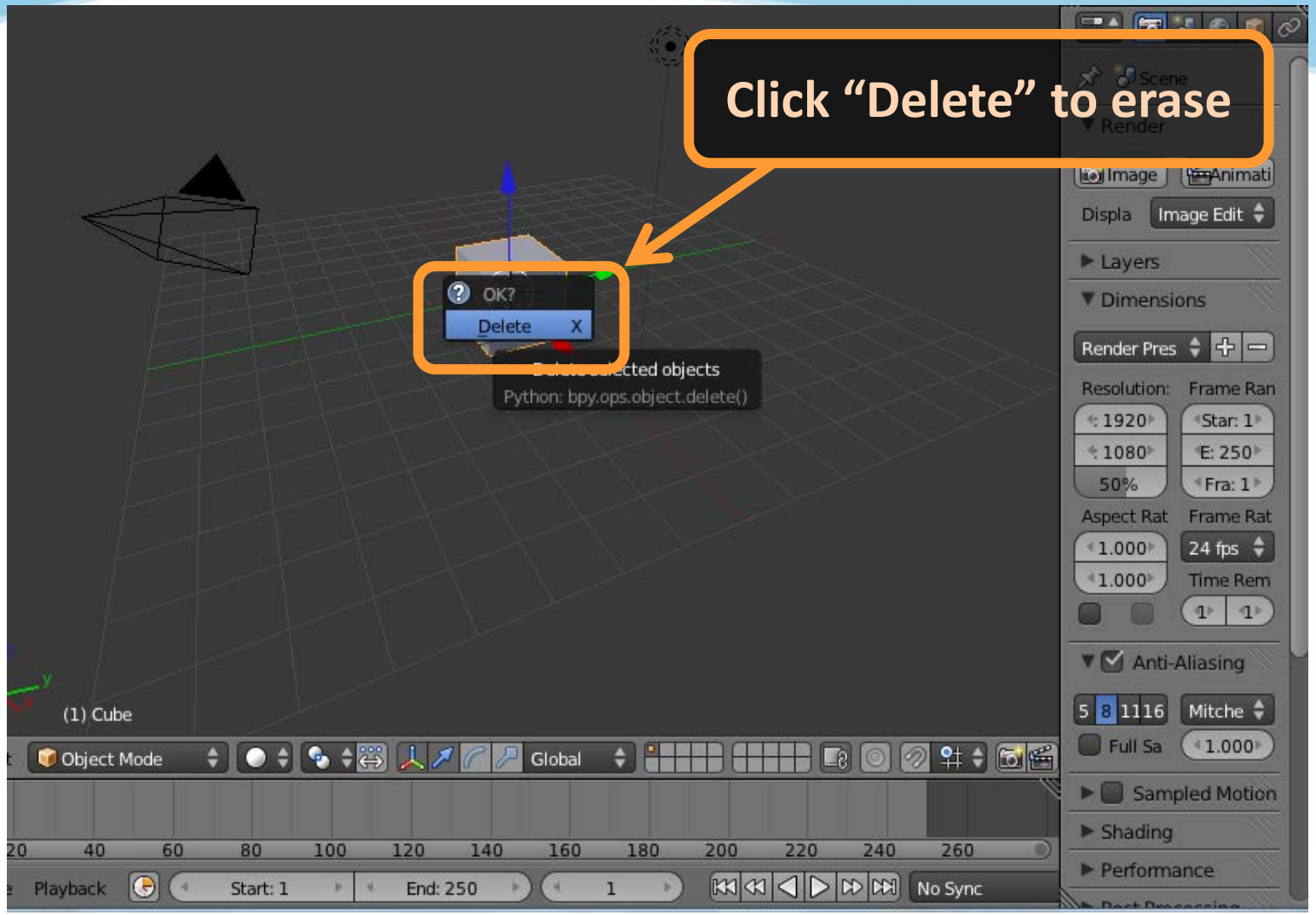
Recipe: Import 3D Motions

1. Open **Blender**
2. Delete Default Objects
   - Choose the object and click **“Delete”**
3. Open Python Script
   - Change Window Type to **Text Editor**
   - Select **Text** → **Open Text Block**
   - Select the .py file exported from Voodoo
   - Click **Run Script**

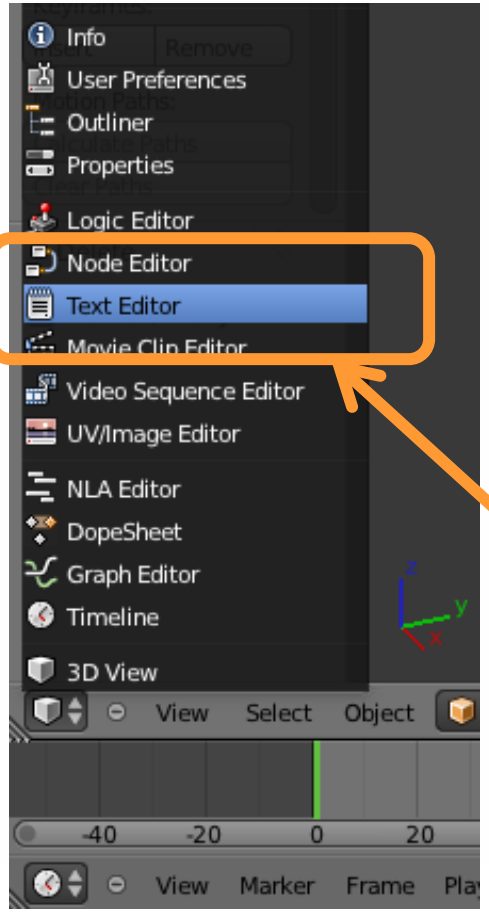
Recipe: Import 3D Motions

4. Load Background Images:
   - Change Window Type to **3D View**
   - Select **View → Cameras → Set Active Object as Active Camera**
   - Load background images
   - Set the video parameters of background images
   - Change the view
     - **View → View Persp/Ortho**
     - **View → Front**
   - Check any frame and adjust the opacity of background images
5. **Load models & editing their motions in the video!**

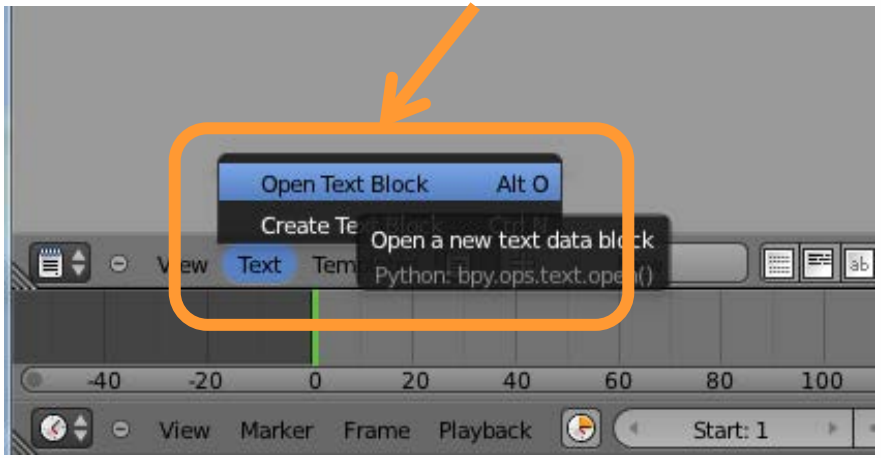
Import 3D Motions : Delete Default Objects



Import 3D Motions : Open Python Script

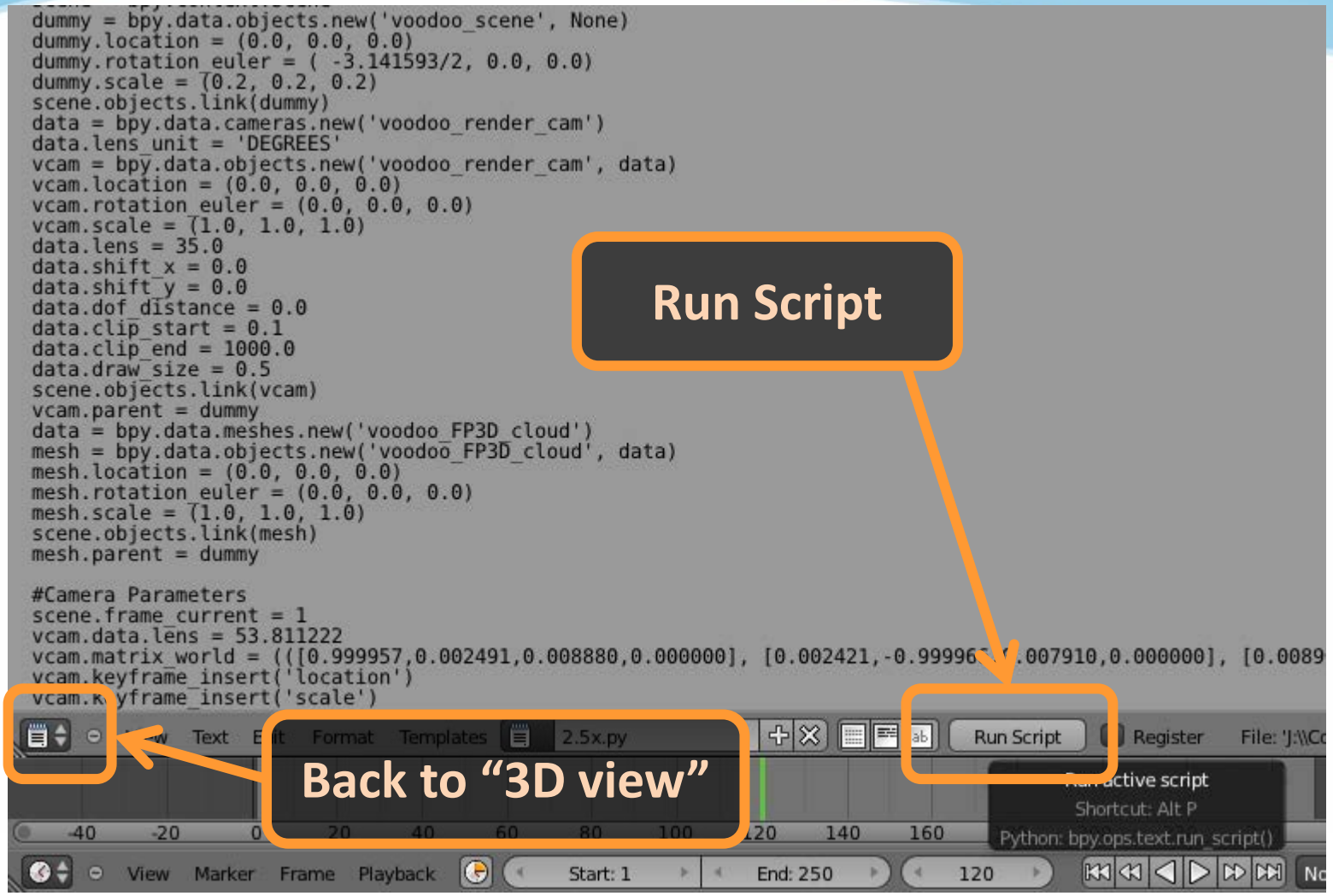


Choose “Text Editor”



Text → Open Text Block

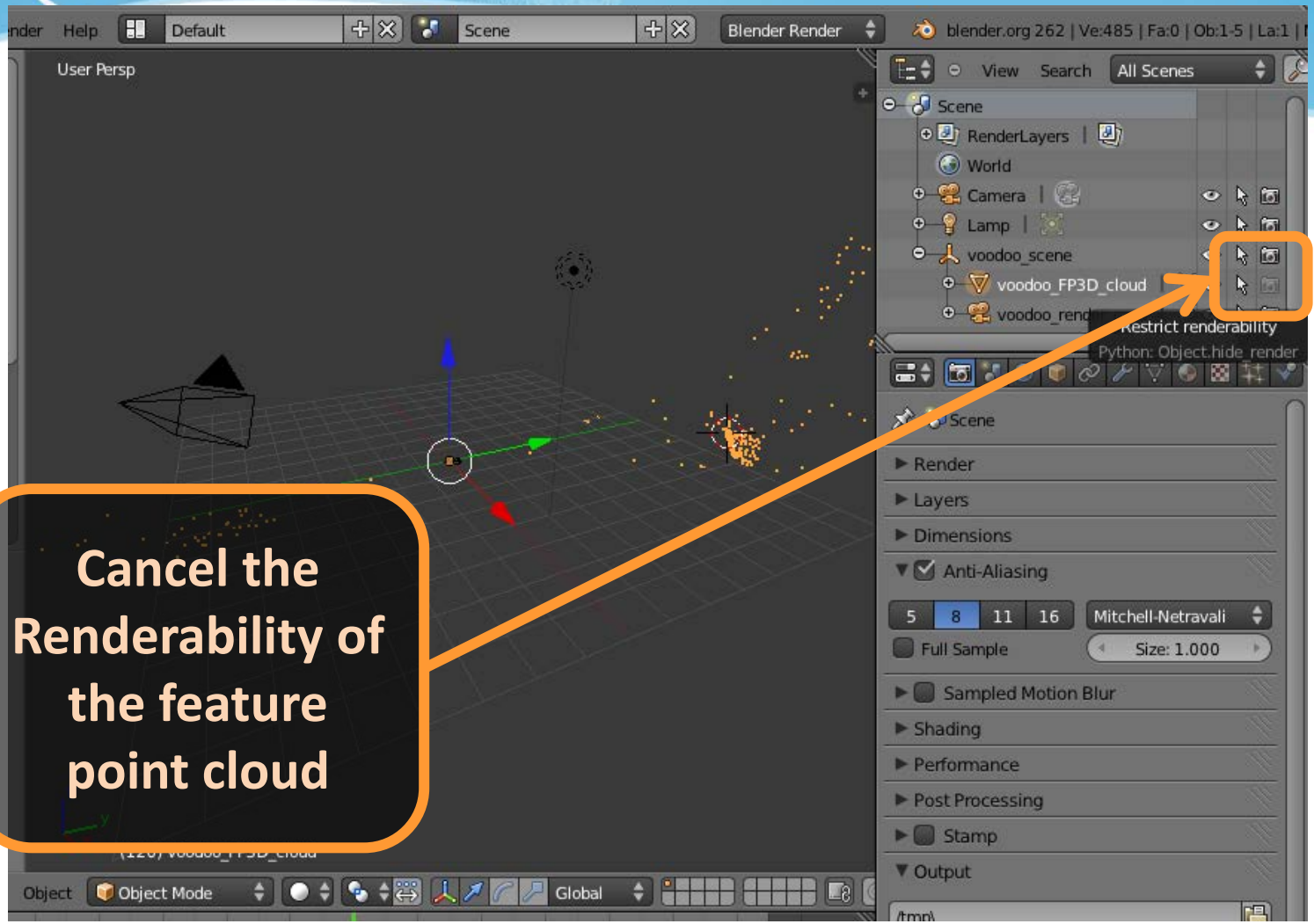
Import 3D Motions : Open Python Script



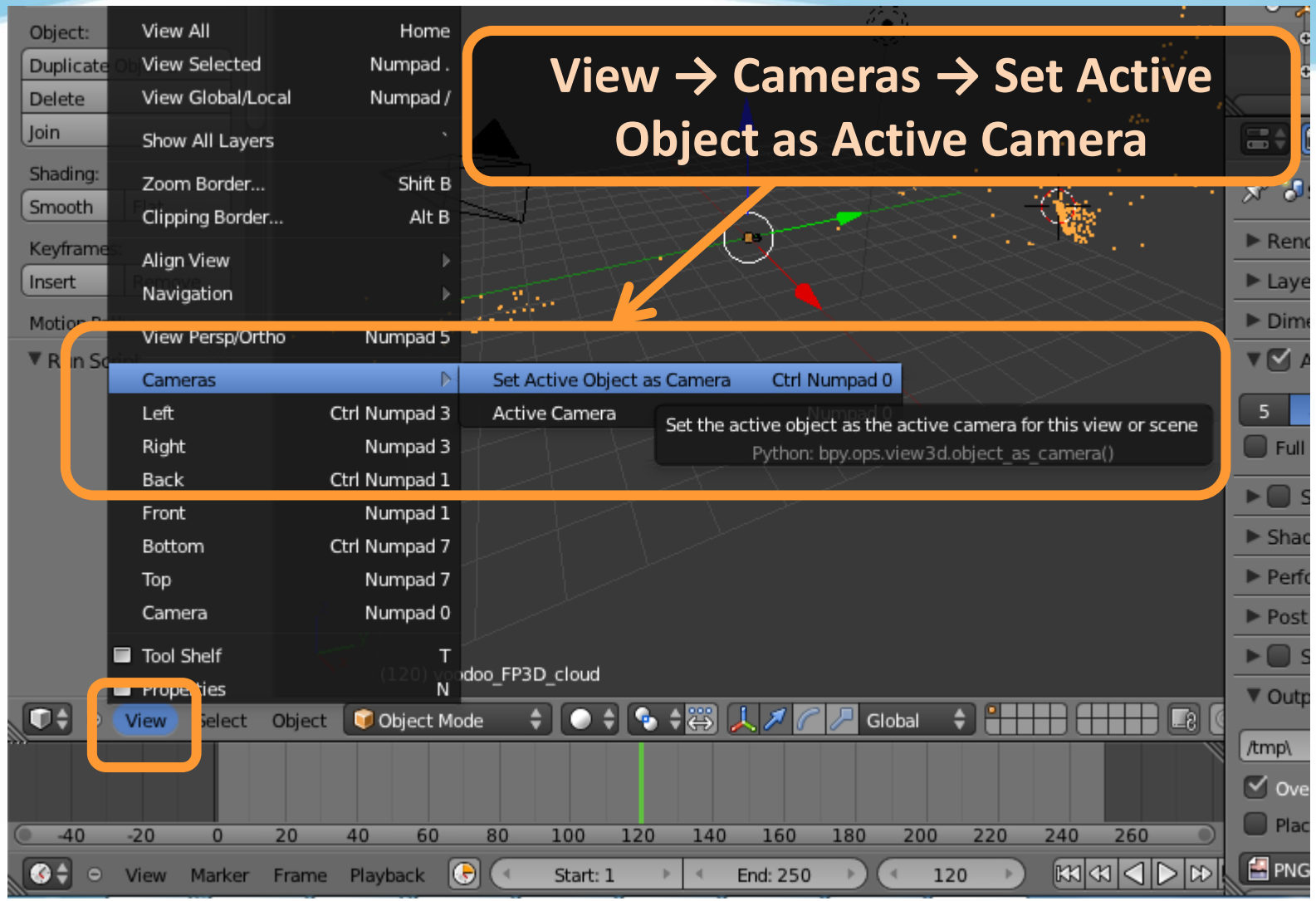
Import 3D Motions : Adjust Rendering

To avoid rendering the feature point cloud in your result

Import 3D Motions : Adjust Rendering



Import 3D Motions : Load Background Images

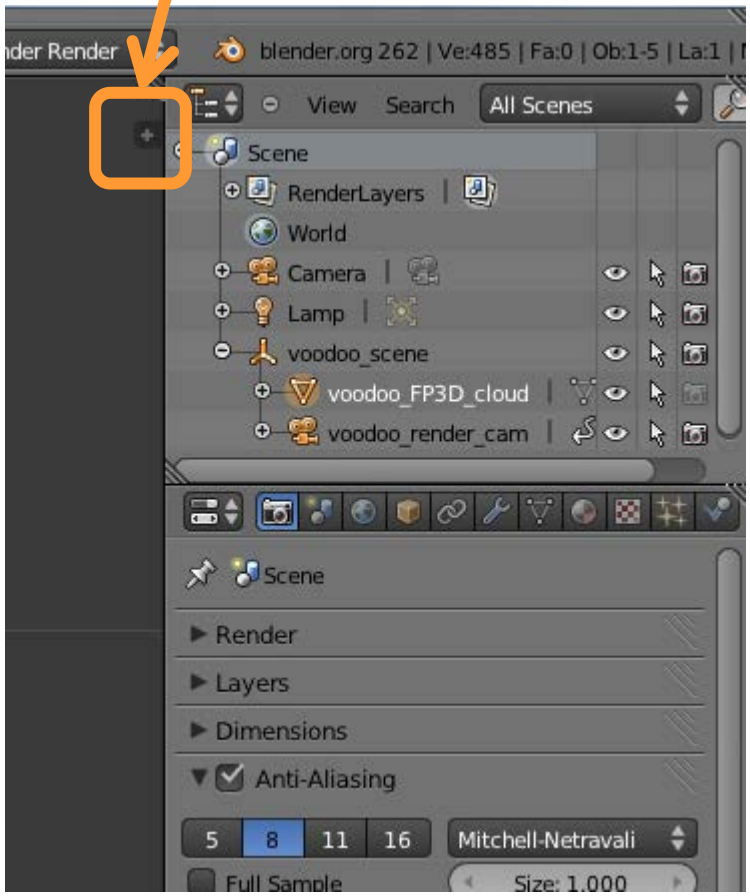


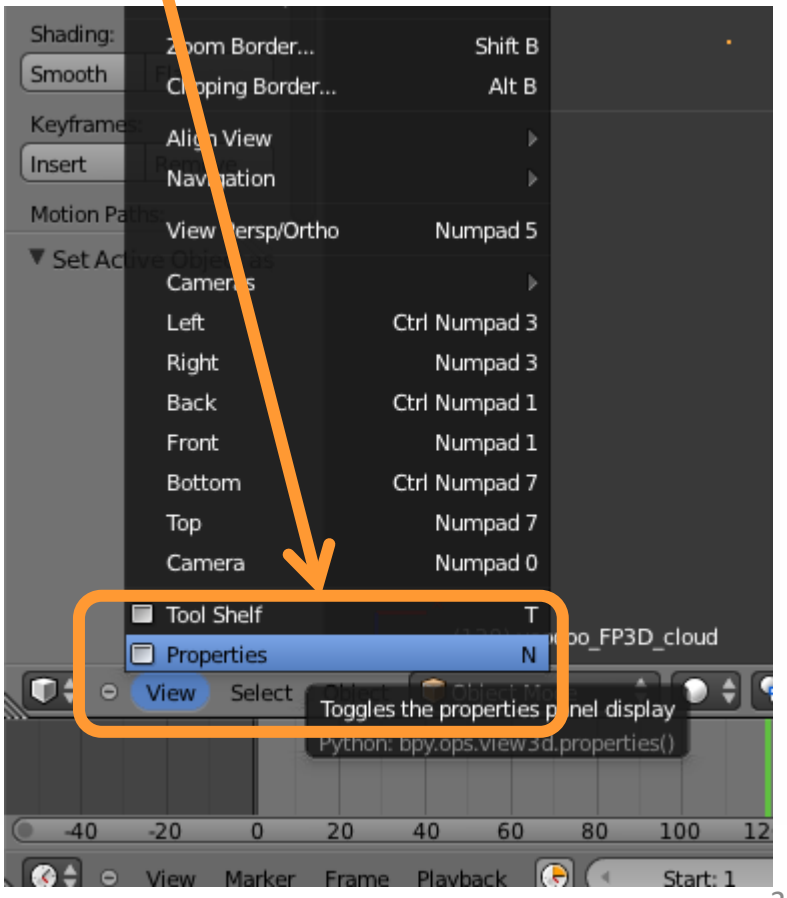
Import 3D Motions : Load Background Images

Click the “+”

or

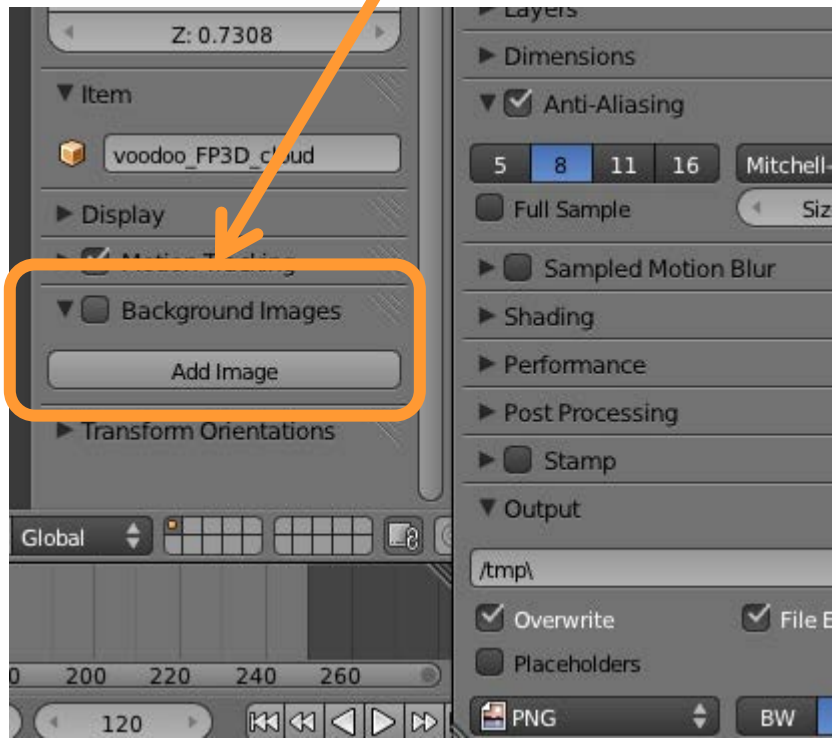
View → Properties



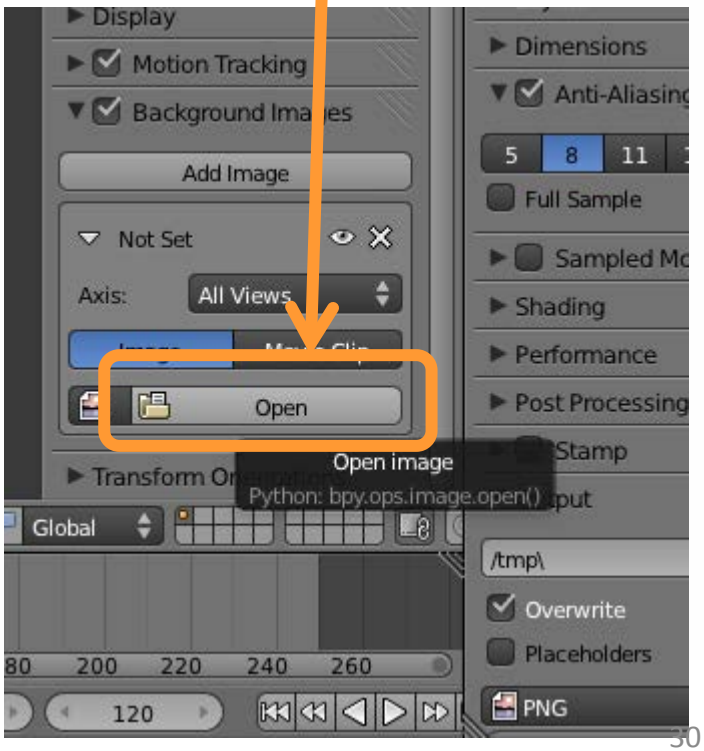


Import 3D Motions : Load Background Images

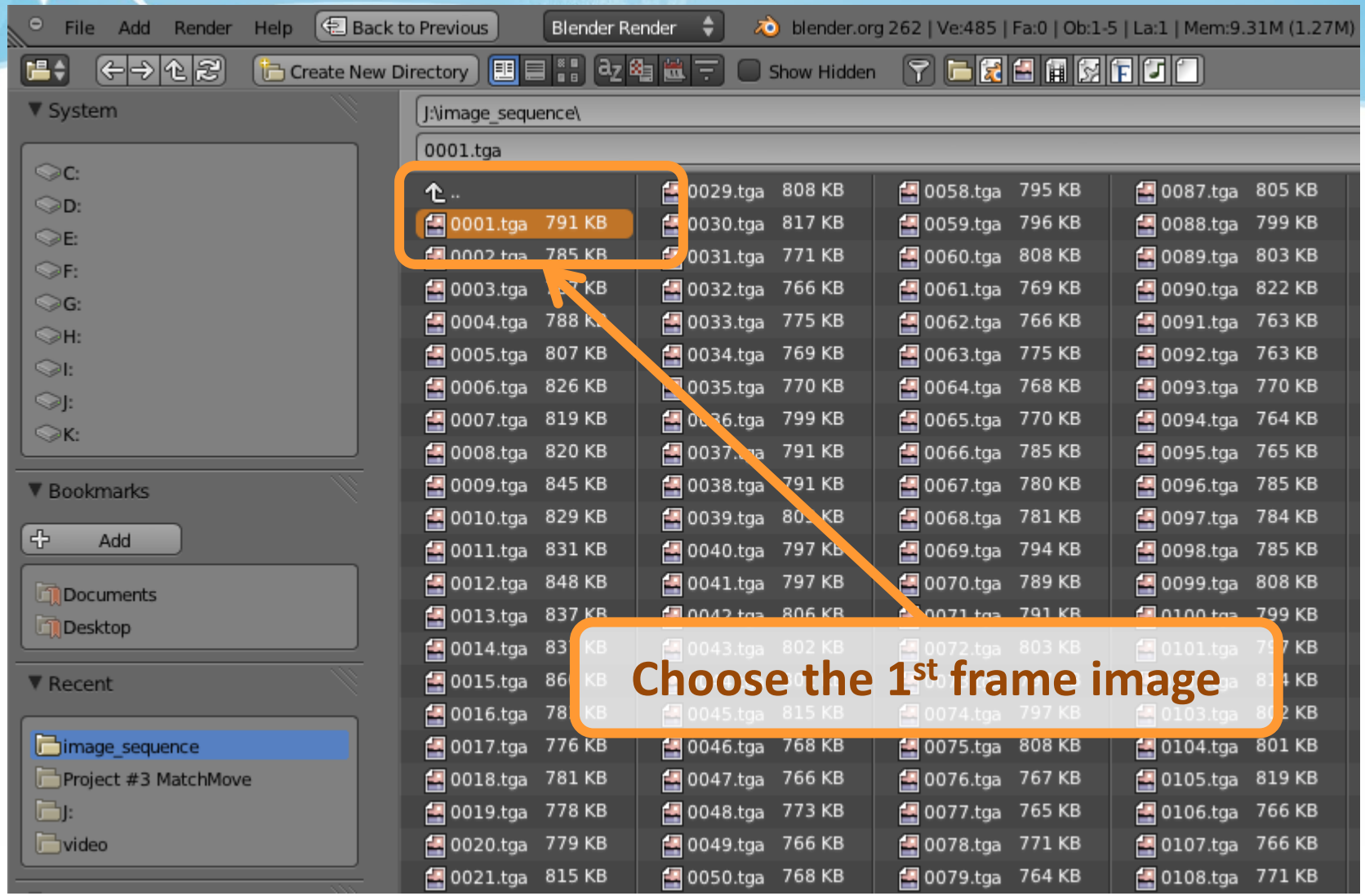
Tick off “Background Images” & click “Add Image” on the menu



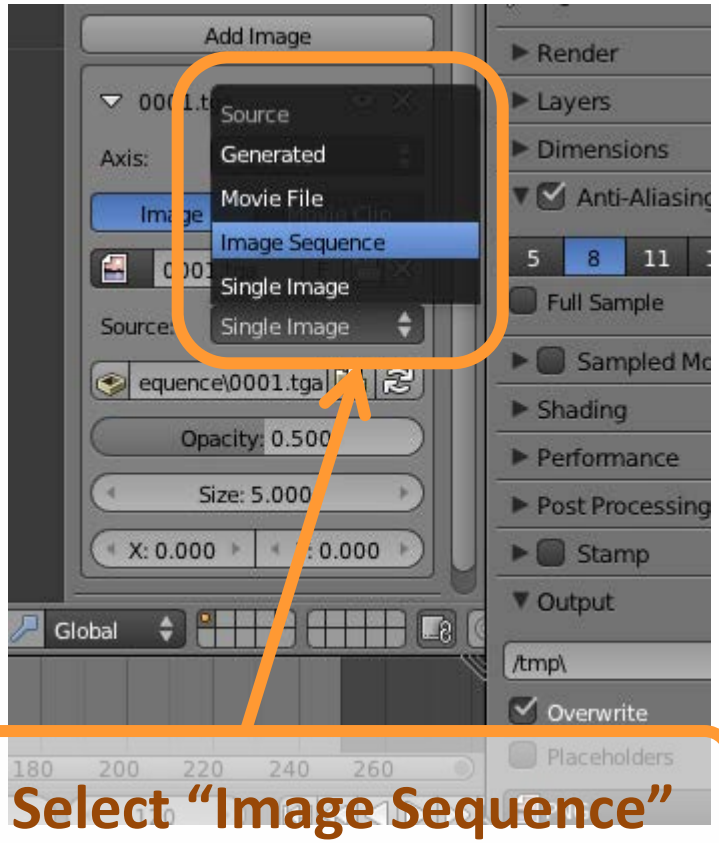
Click “Open”



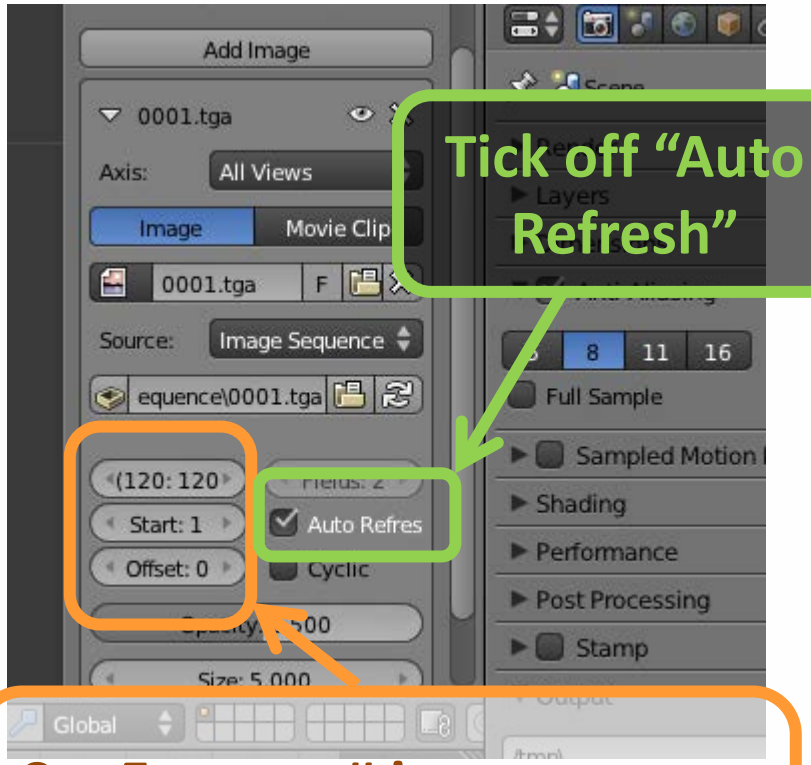
Import 3D Motions : Load Background Images



Import 3D Motions : Load Background Images



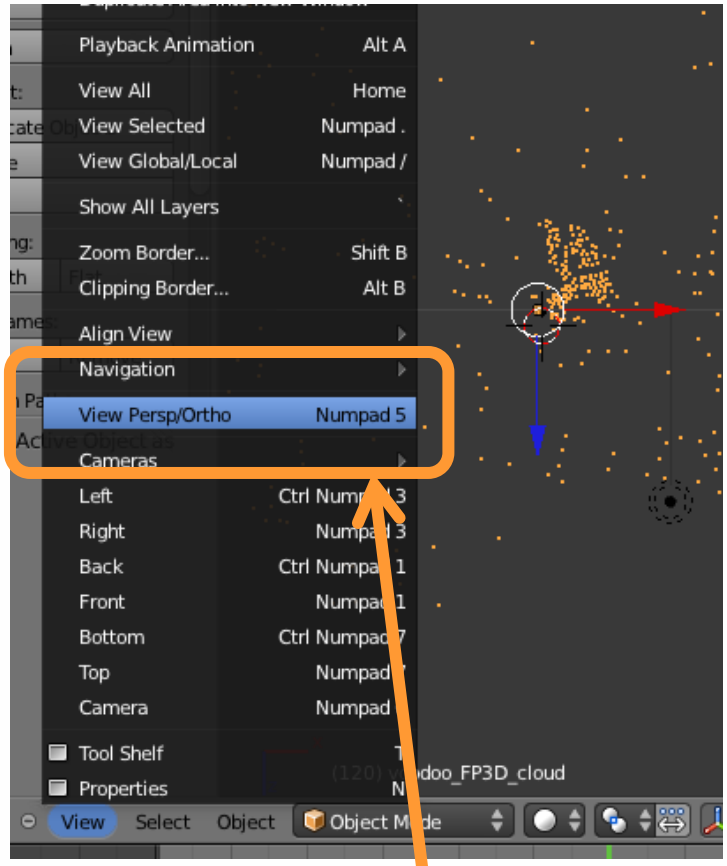
Select "Image Sequence"

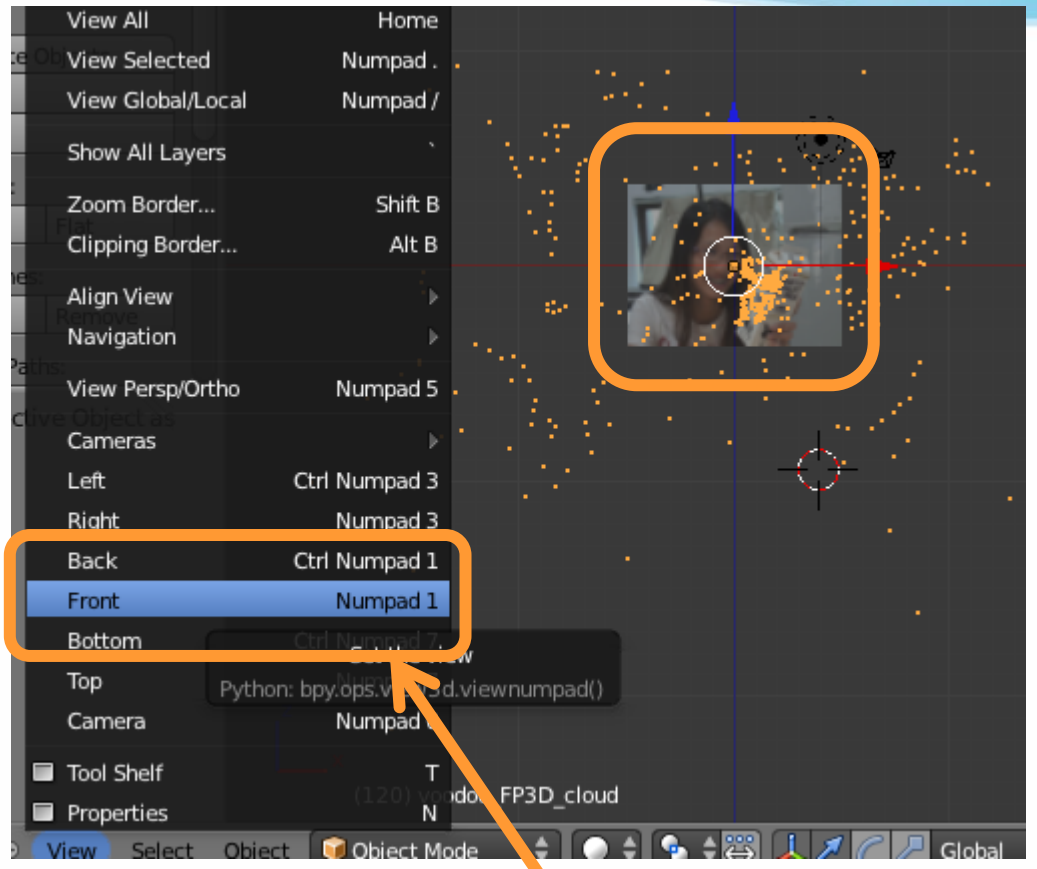


Set Frames: # images to use

Start Frame : 1st

Import 3D Motions : Load Background Images

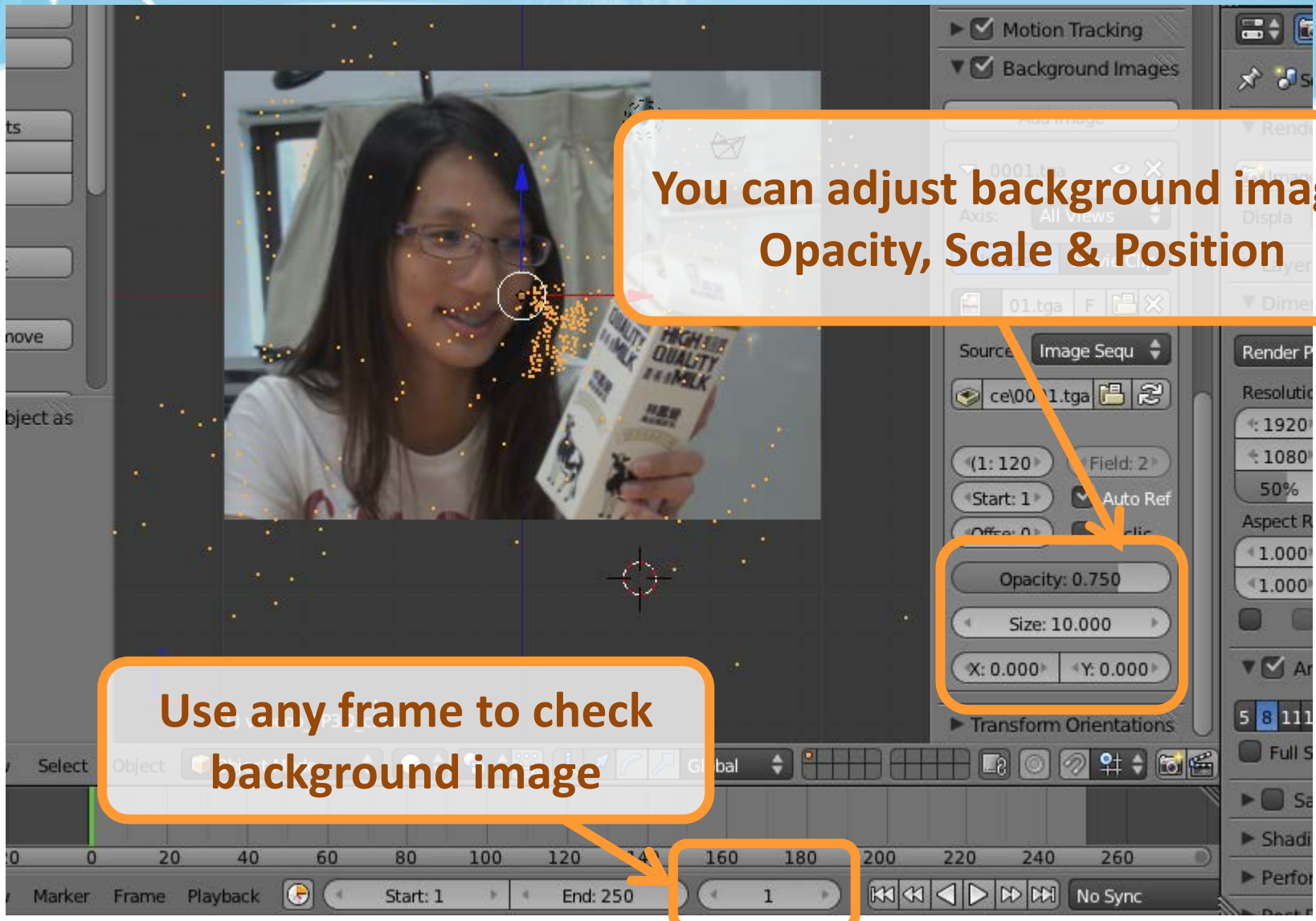




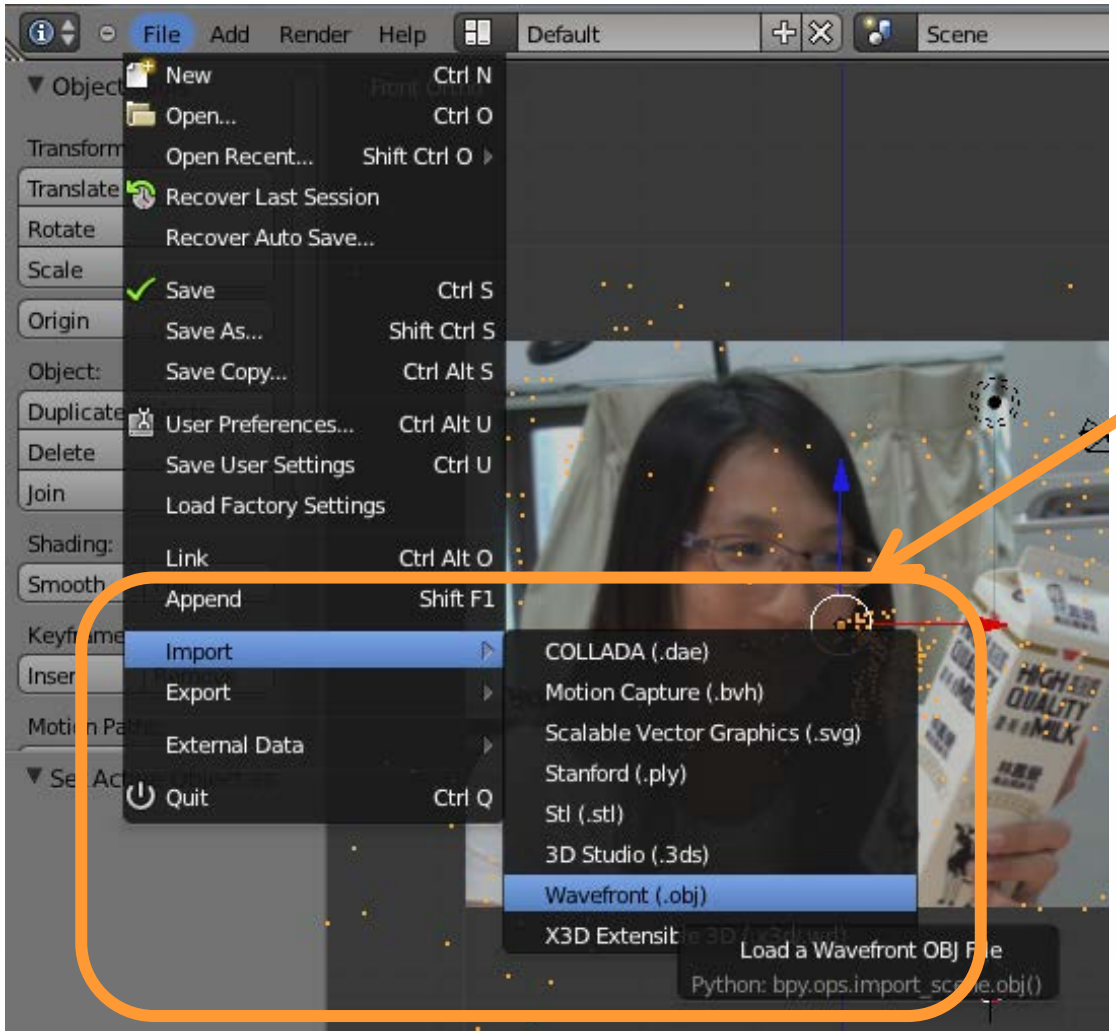
View → View Persp/Ortho

View → Front

Import 3D Motions : Load Background Images

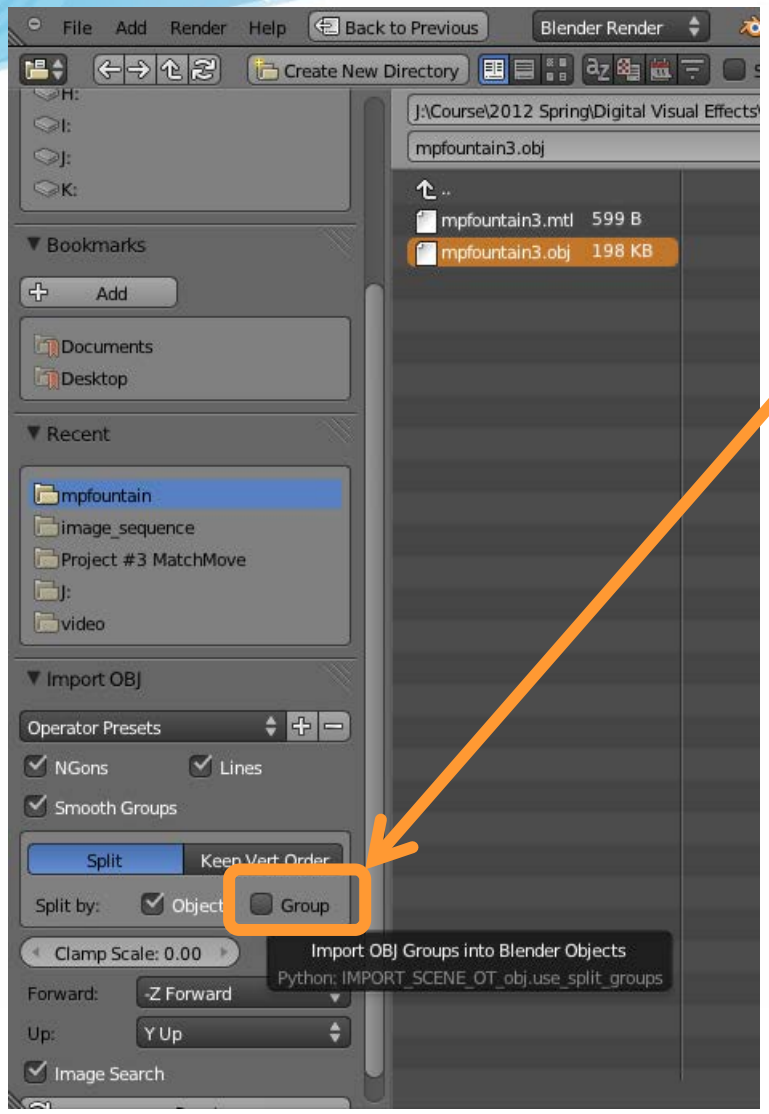


Import 3D Motions : Load Models

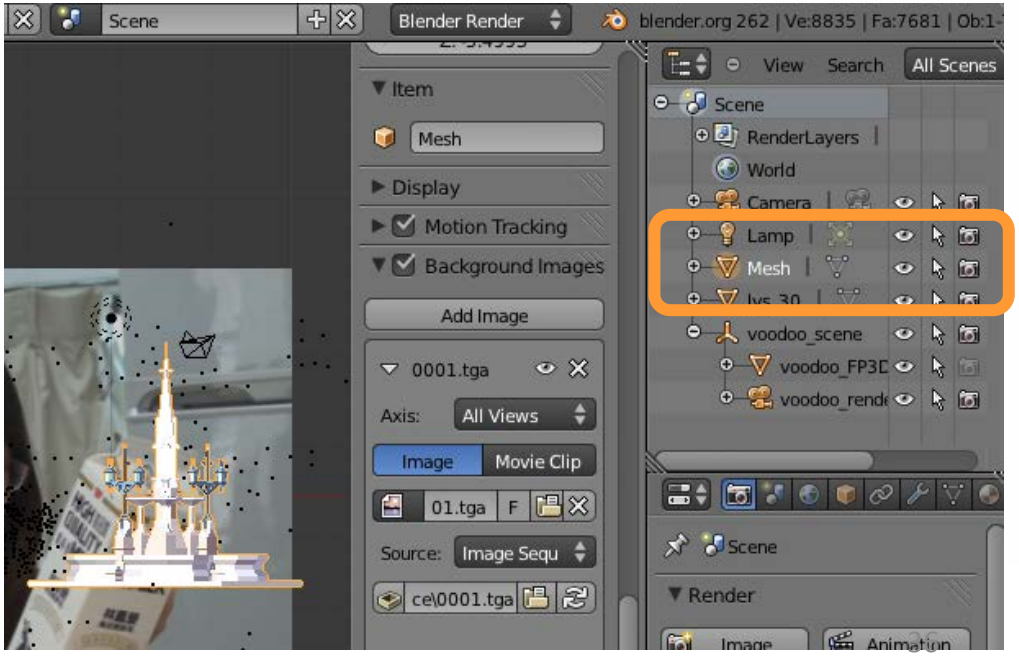


File → Import → "Model Type"

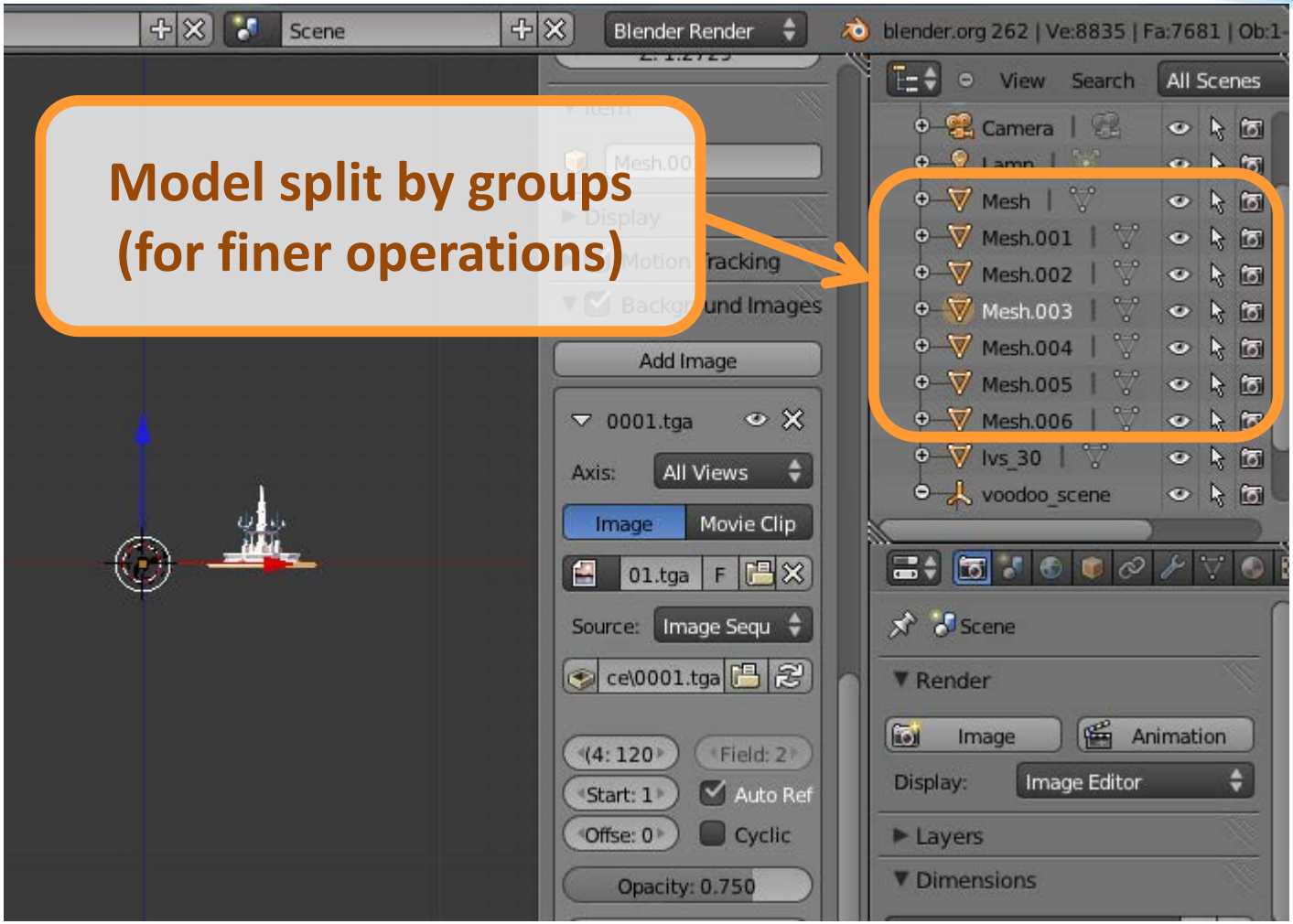
Import 3D Motions : Load Models



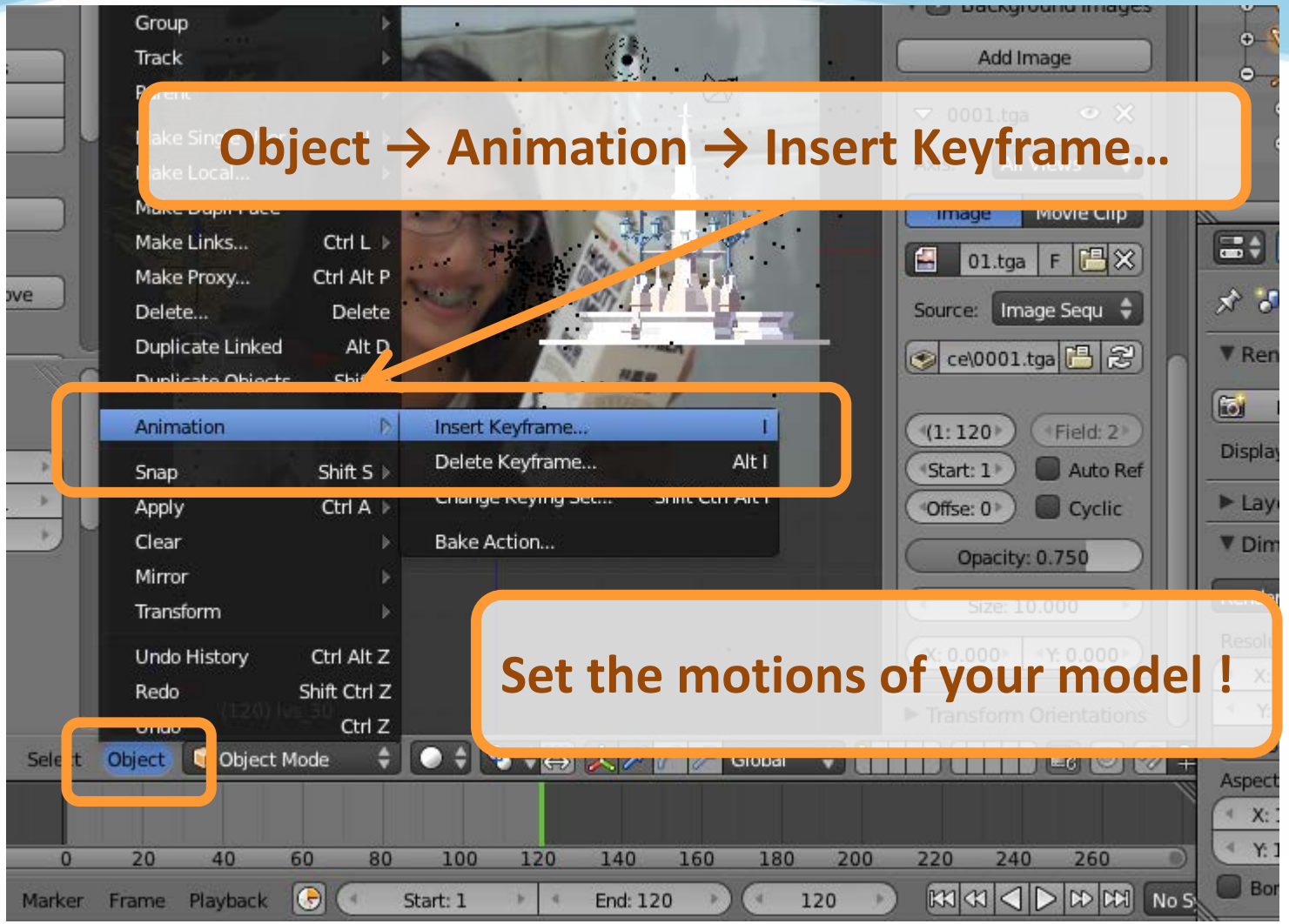
To use the model as a “single object” instead of many “small groups(components)” ,you can close the group options



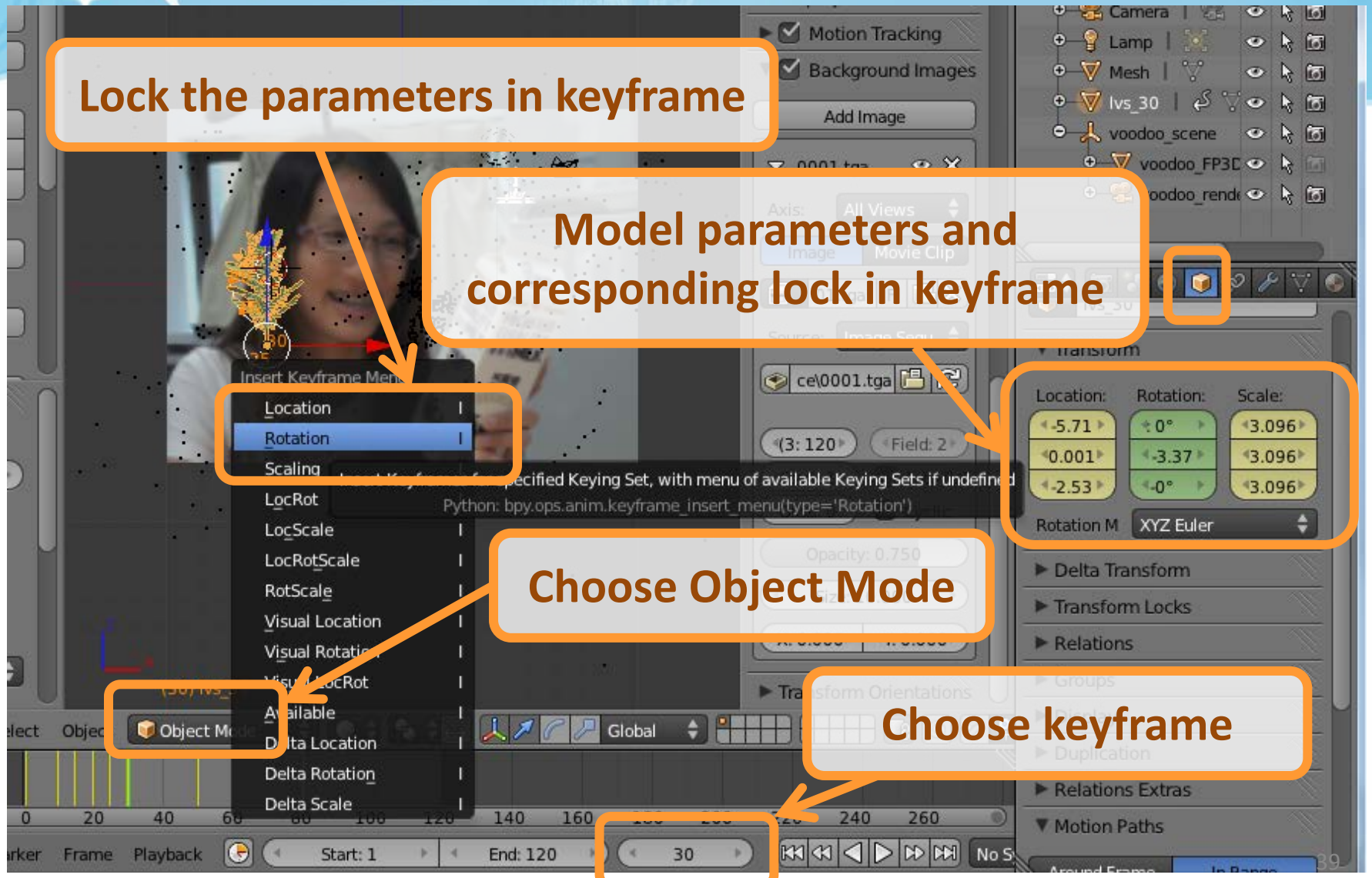
Import 3D Motions : Load Models



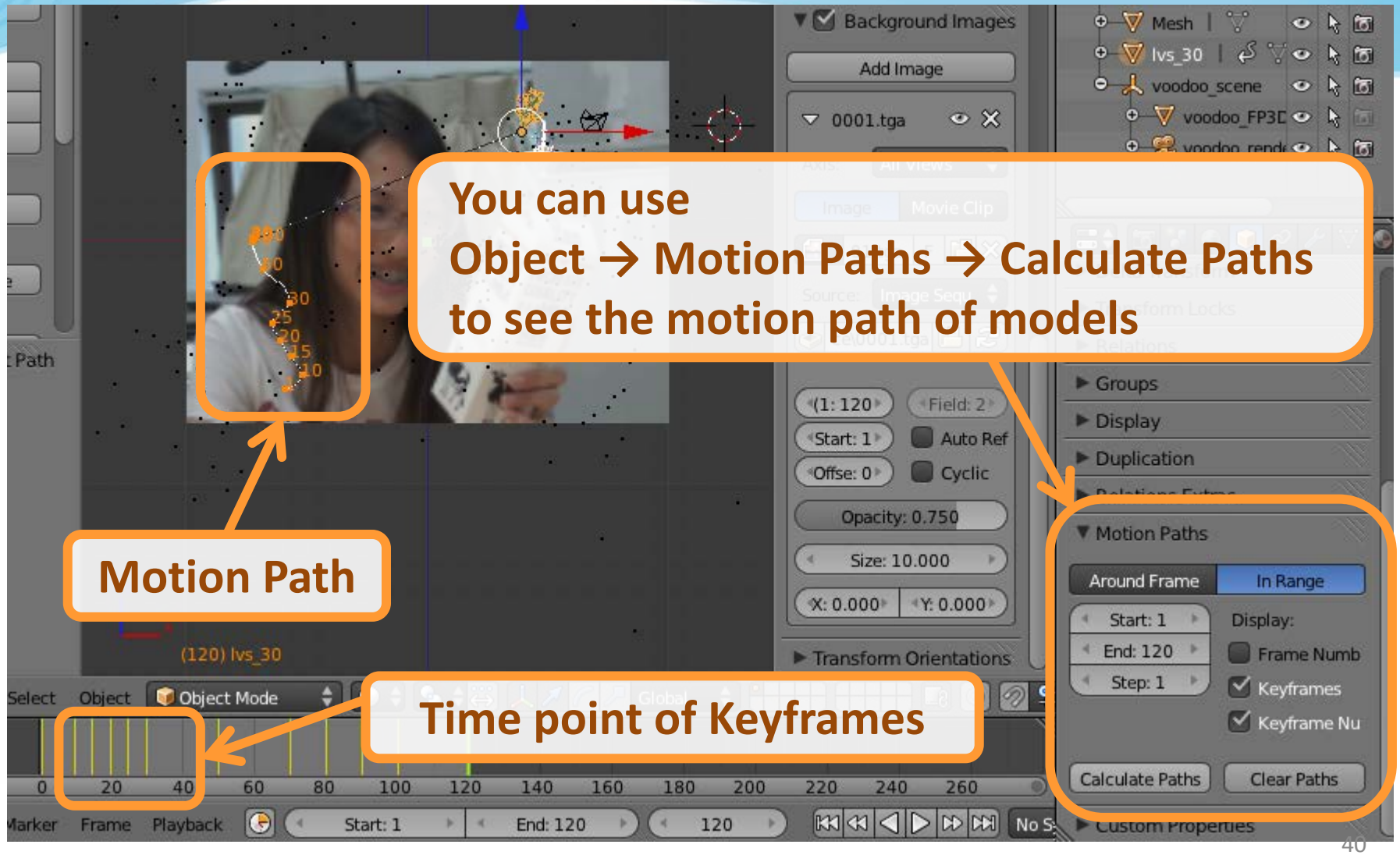
Import 3D Motions : Set Keyframes



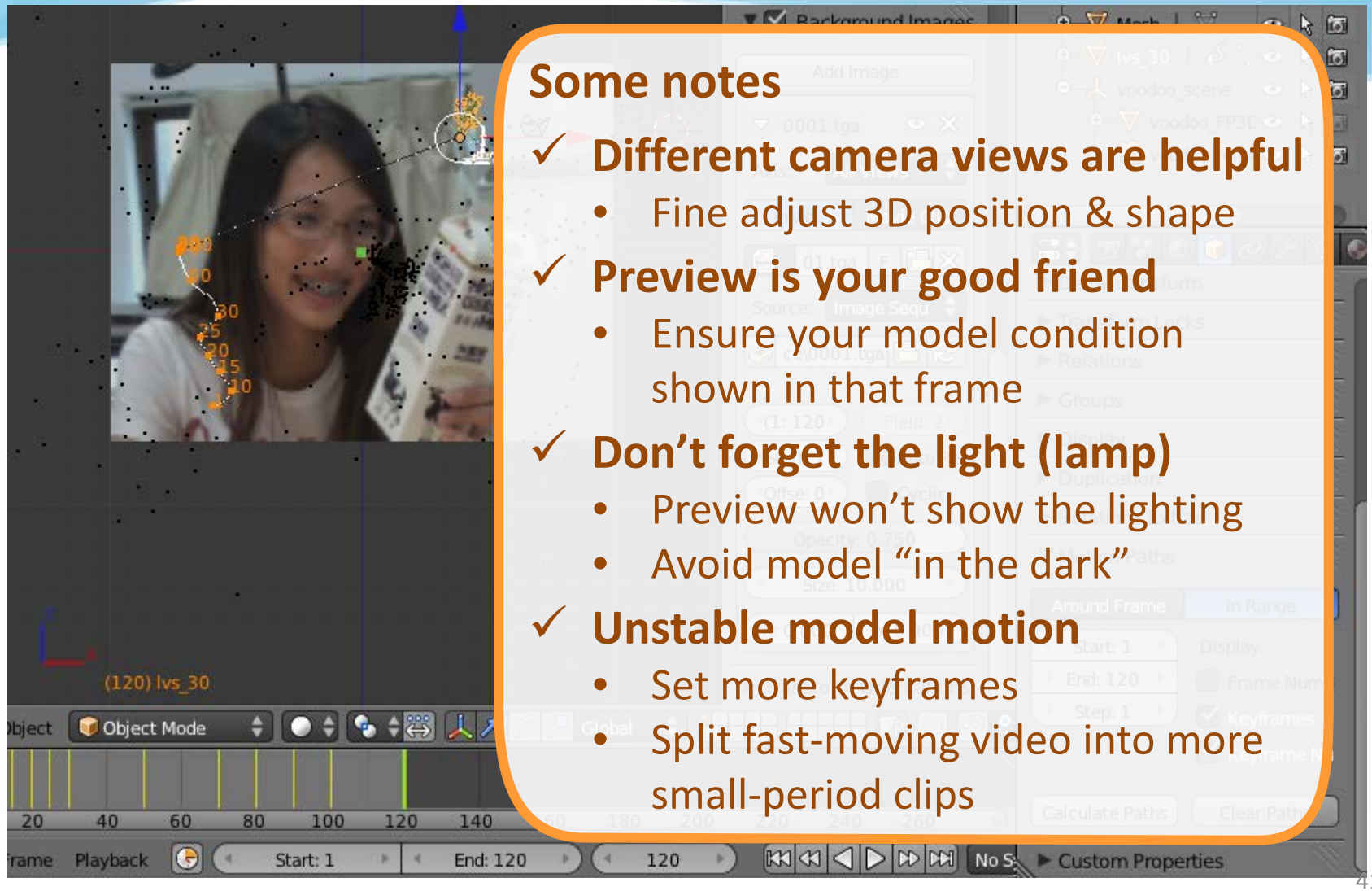
Import 3D Motions : Set Keyframes



Import 3D Motions : Set Keyframes



Import 3D Motions : Set Keyframes



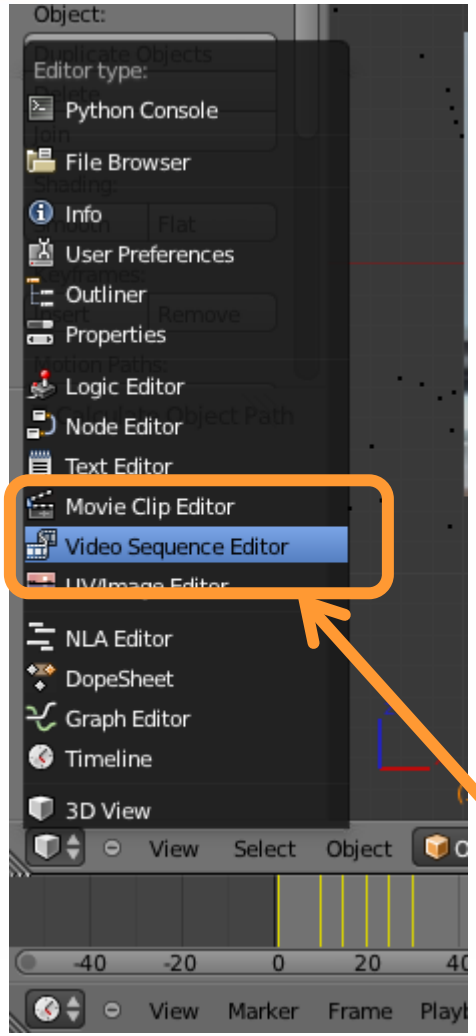
Some notes

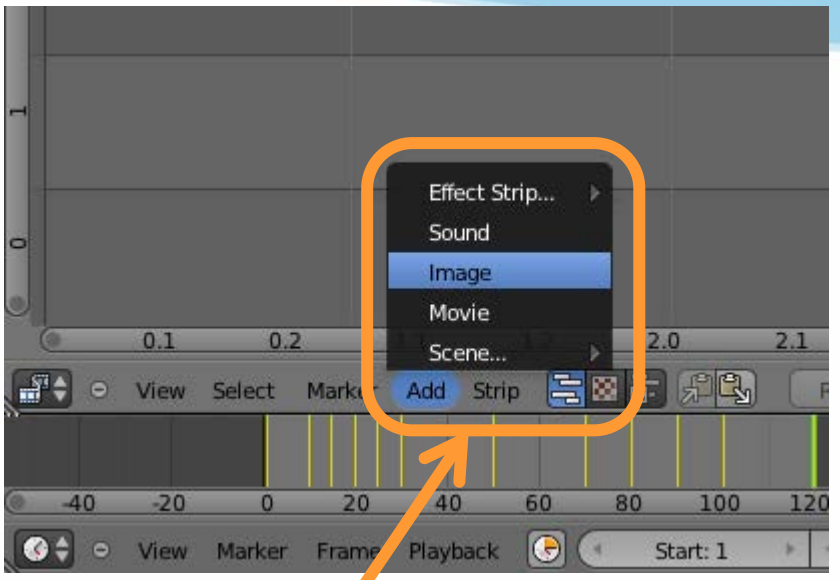
- ✓ **Different camera views are helpful**
  - Fine adjust 3D position & shape
- ✓ **Preview is your good friend**
  - Ensure your model condition shown in that frame
- ✓ **Don't forget the light (lamp)**
  - Preview won't show the lighting
  - Avoid model "in the dark"
- ✓ **Unstable model motion**
  - Set more keyframes
  - Split fast-moving video into more small-period clips

Recipe: Compositing

1. Add Image Sequence
   - Change Window Type to **Video Scene Editor**
   - Select **Add** → **Images** and select all images
   - Drag the strip to the “1st Frame” in Layer 1
2. Add Scene
   - Select **Add** → **Scene**
   - Drag the scene strip to the “1st Frame” in Layer 2
3. Set Scene
   - Change scene property to “**Alpha Over**”
   - Set frame and video parameters
4. Click **Animation**

Compositing: Add Image Sequence

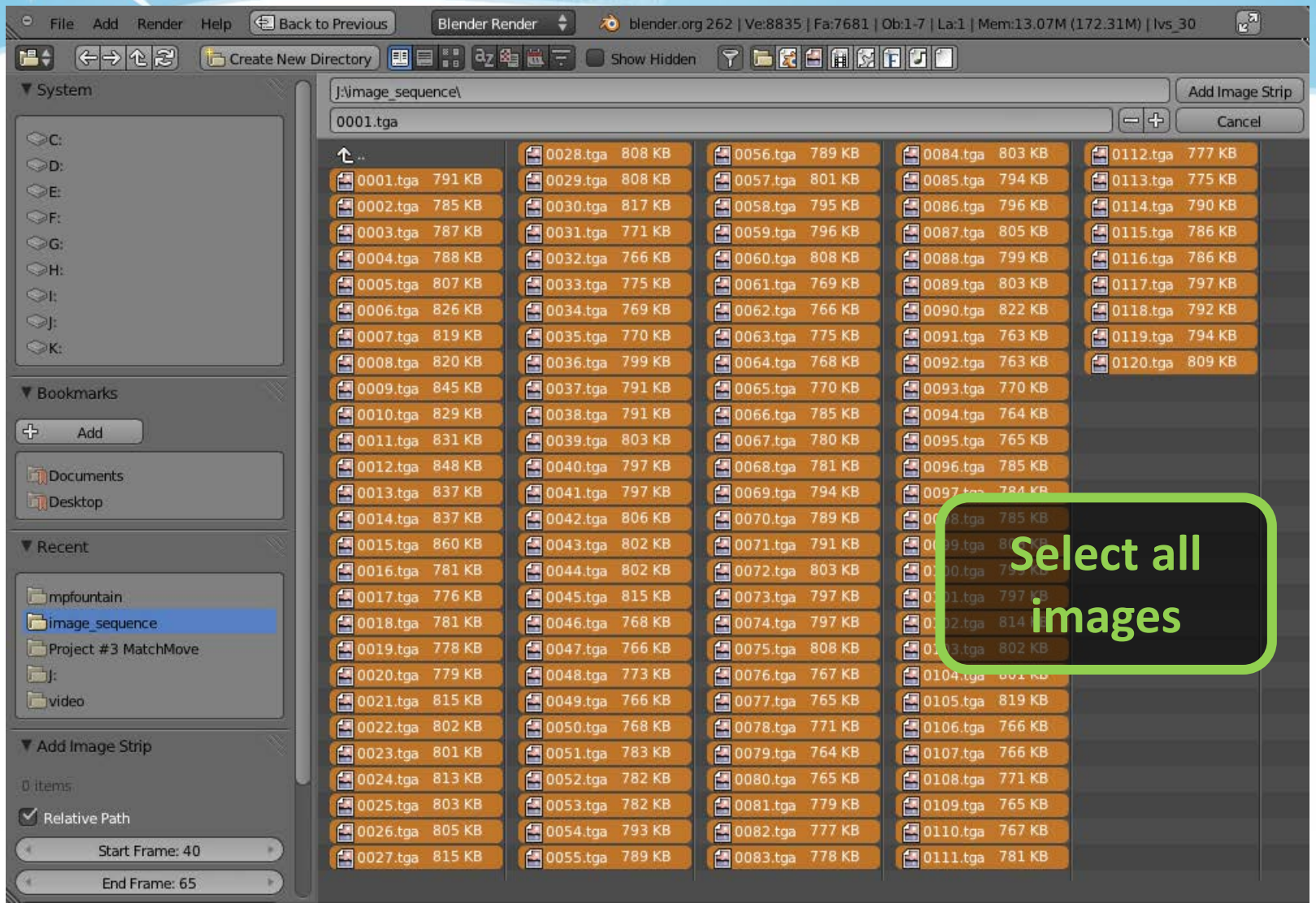




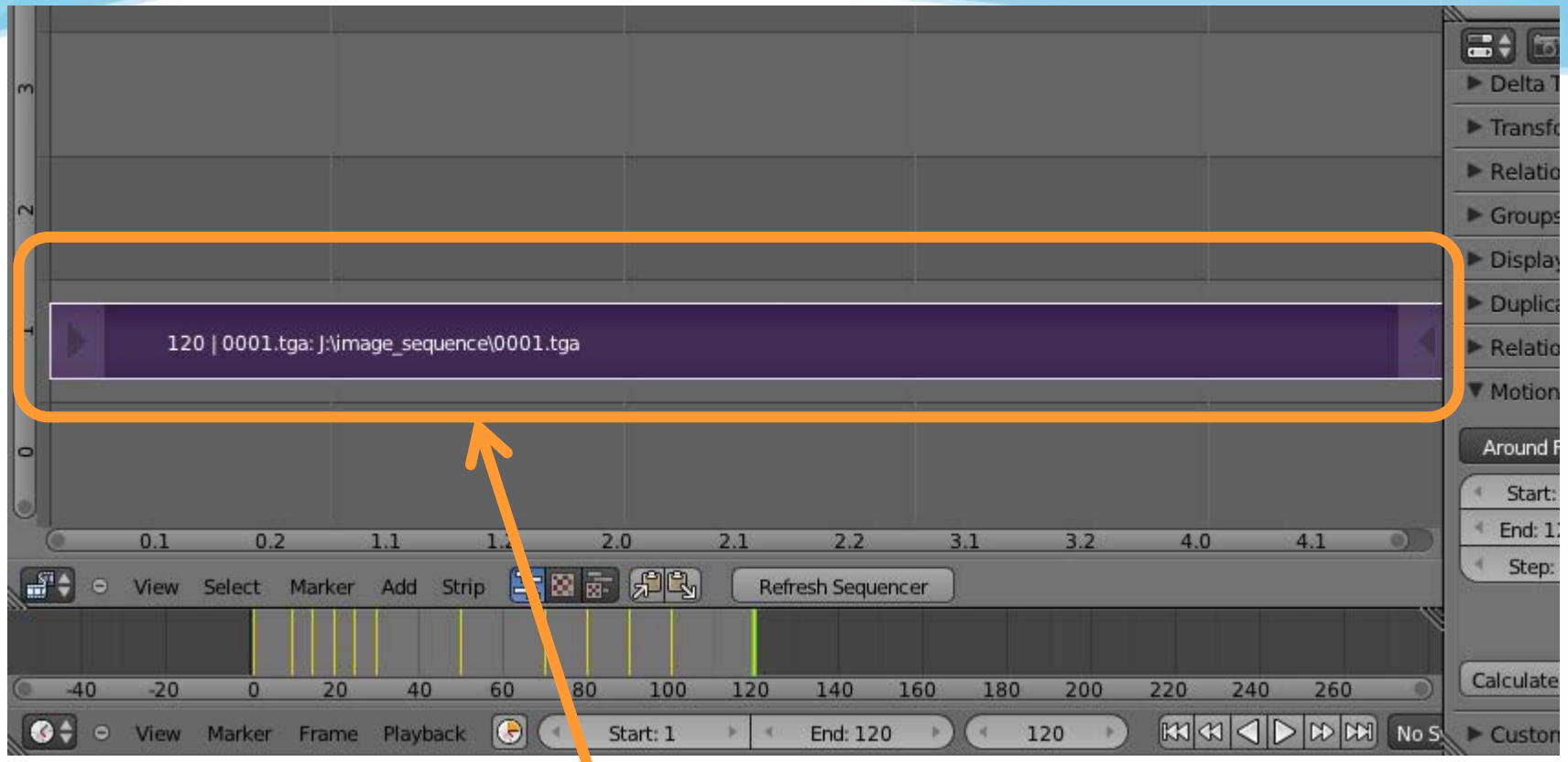
Add → Image

Choose "Sequence Editor"

Compositing: Add Image Sequence



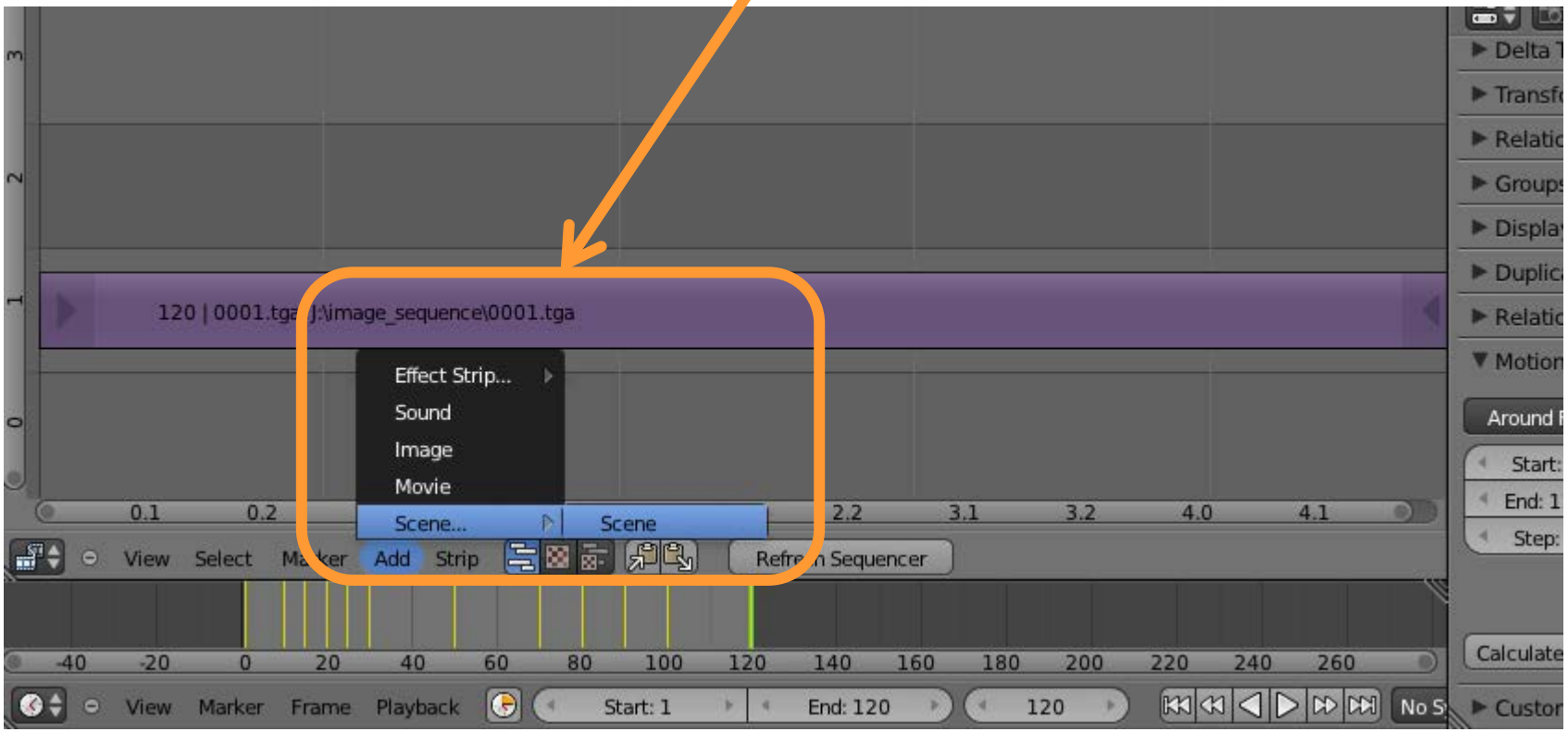
Compositing: Add Image Sequence



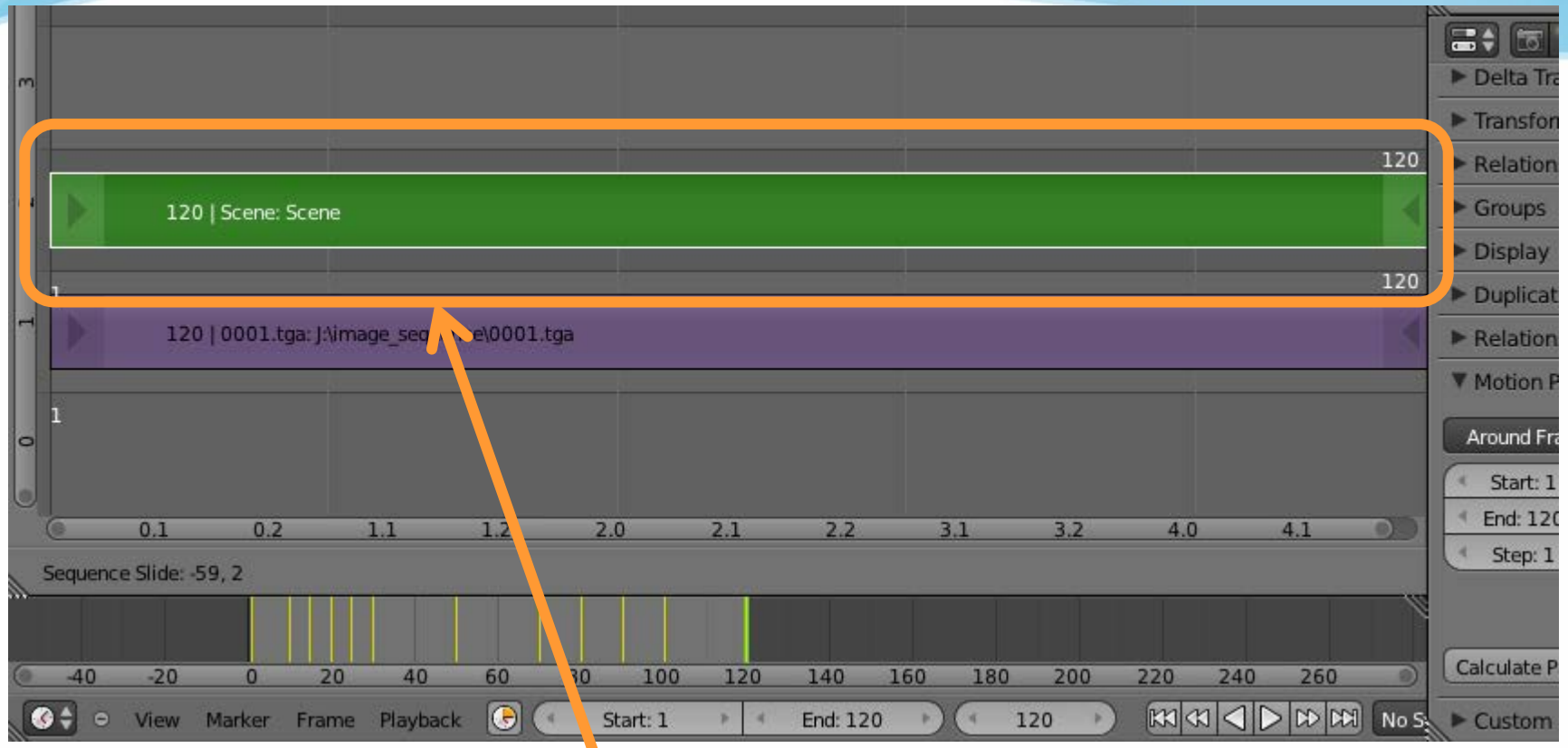
Drag the strip to the "1st Frame" in Layer 1

Compositing: Add Scene

Add → Scene → Scene



Compositing: Add Scene

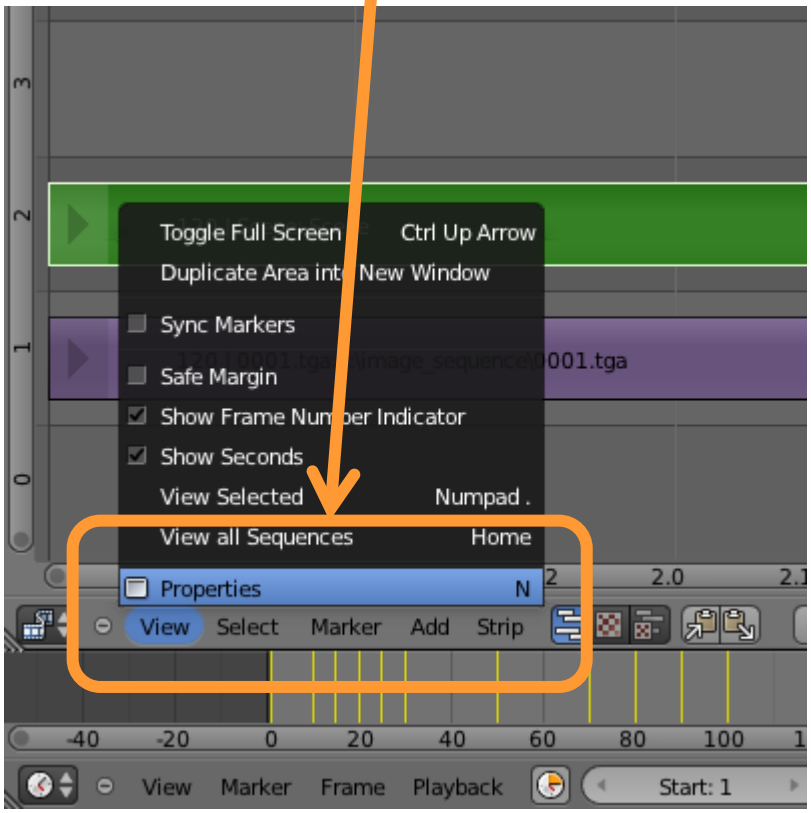


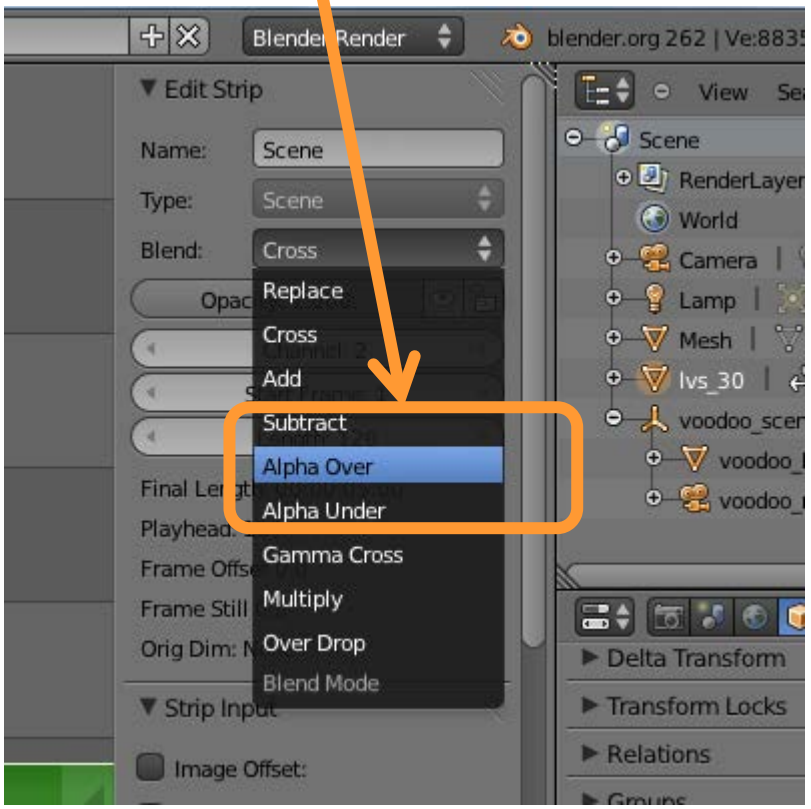
Drag the scene strip to the "1st Frame" in Layer 2

Compositing: Set Scene

View → Properties

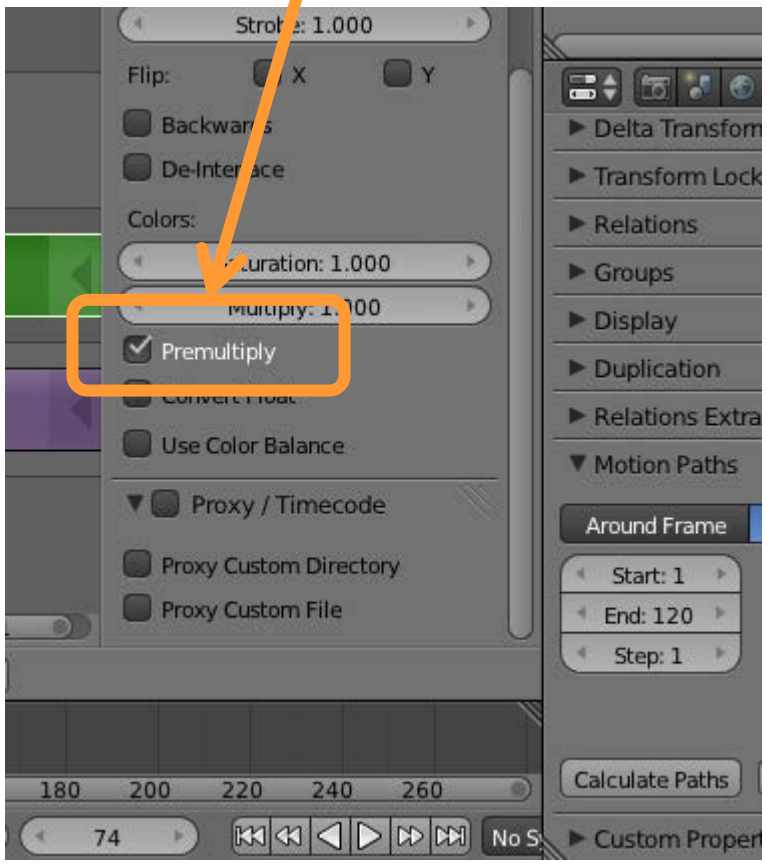
Set Blend "Alpha Over"



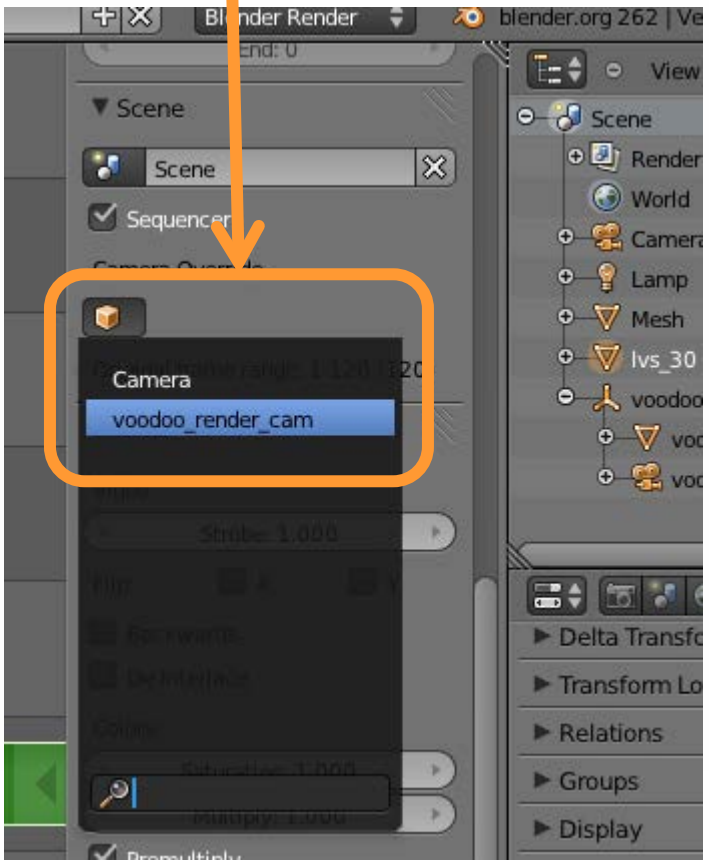


Compositing: Set Scene

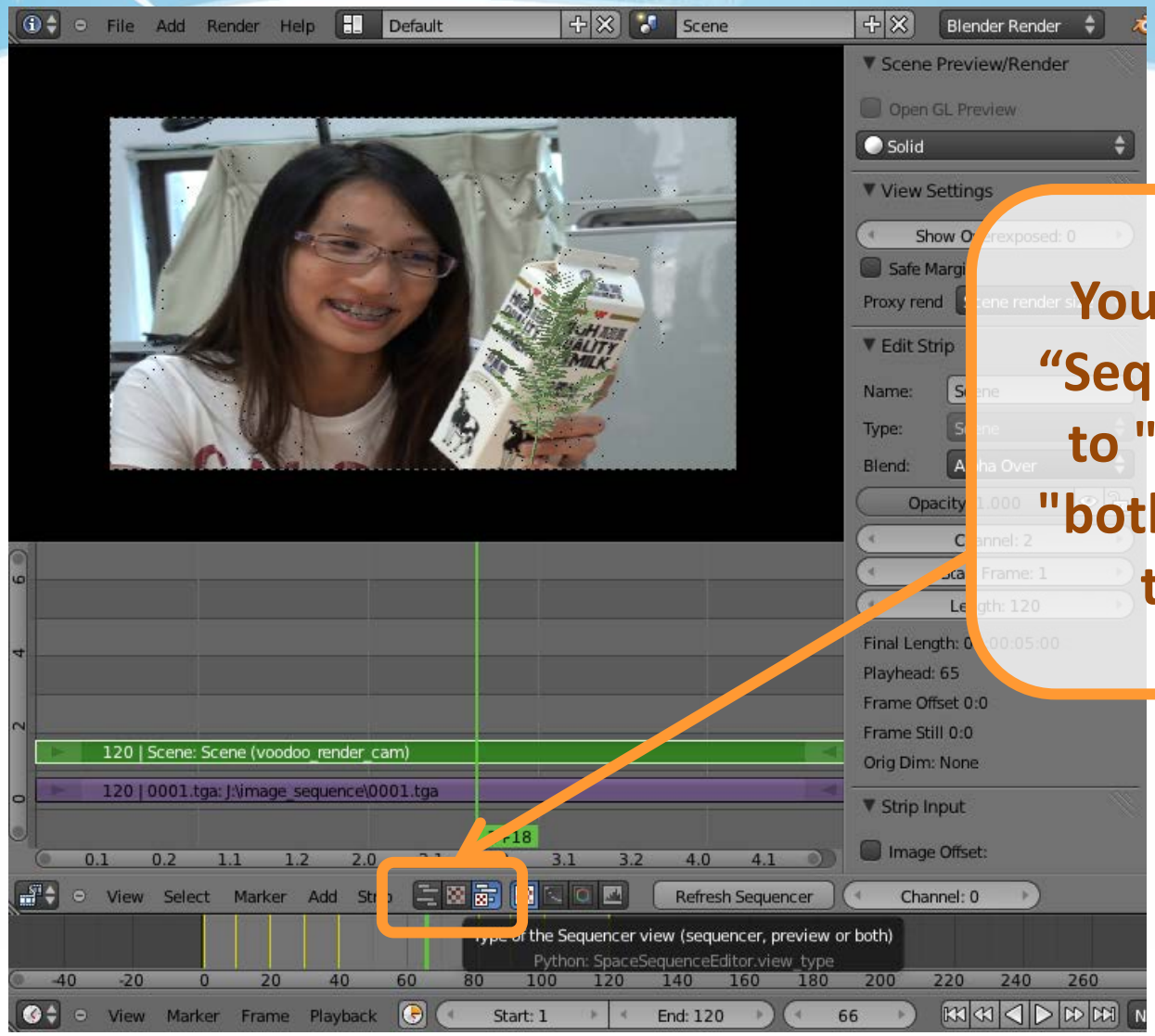
Tick off “Premultiply”



Select ”Voodoo_render_cam”

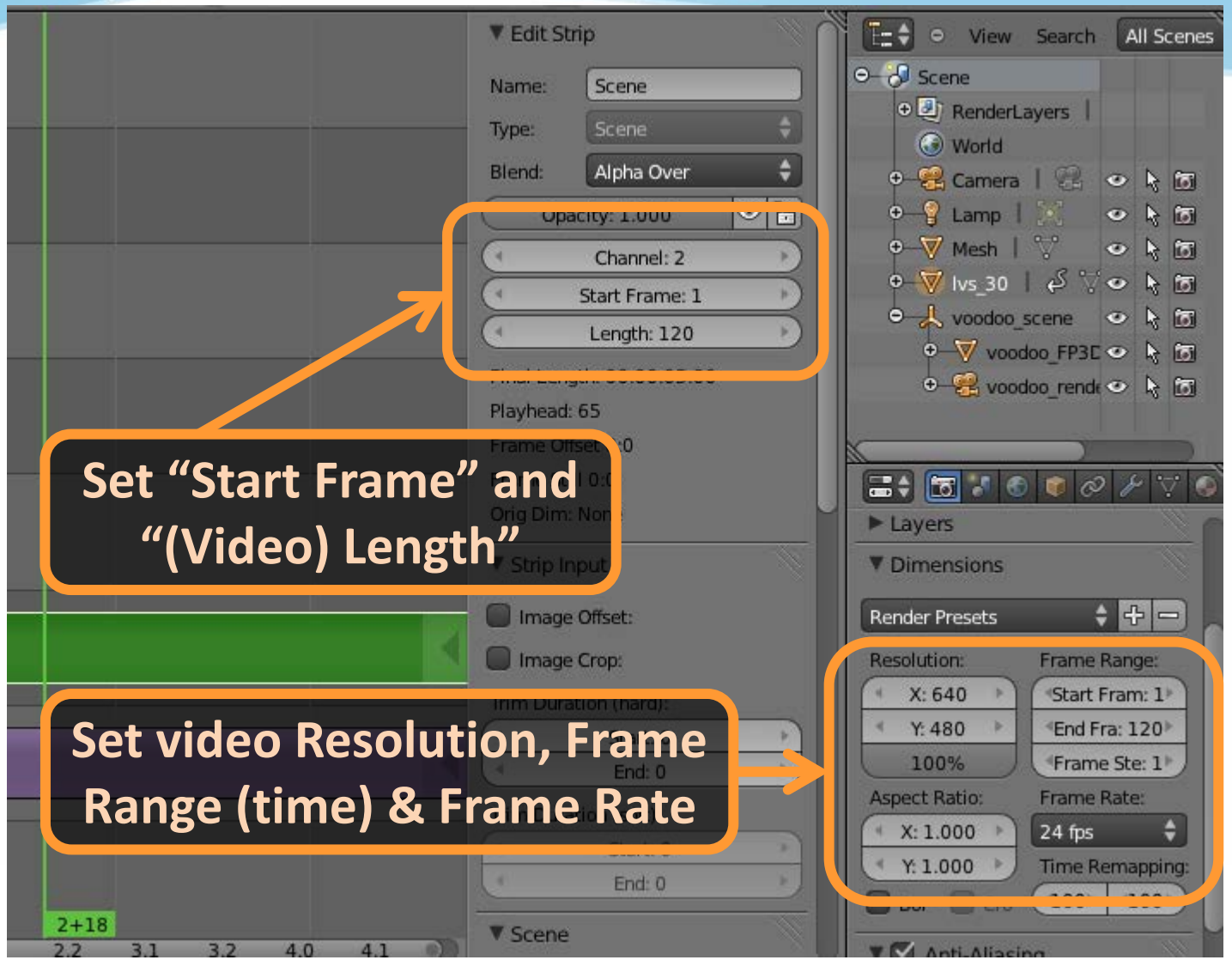


Compositing: Output Video

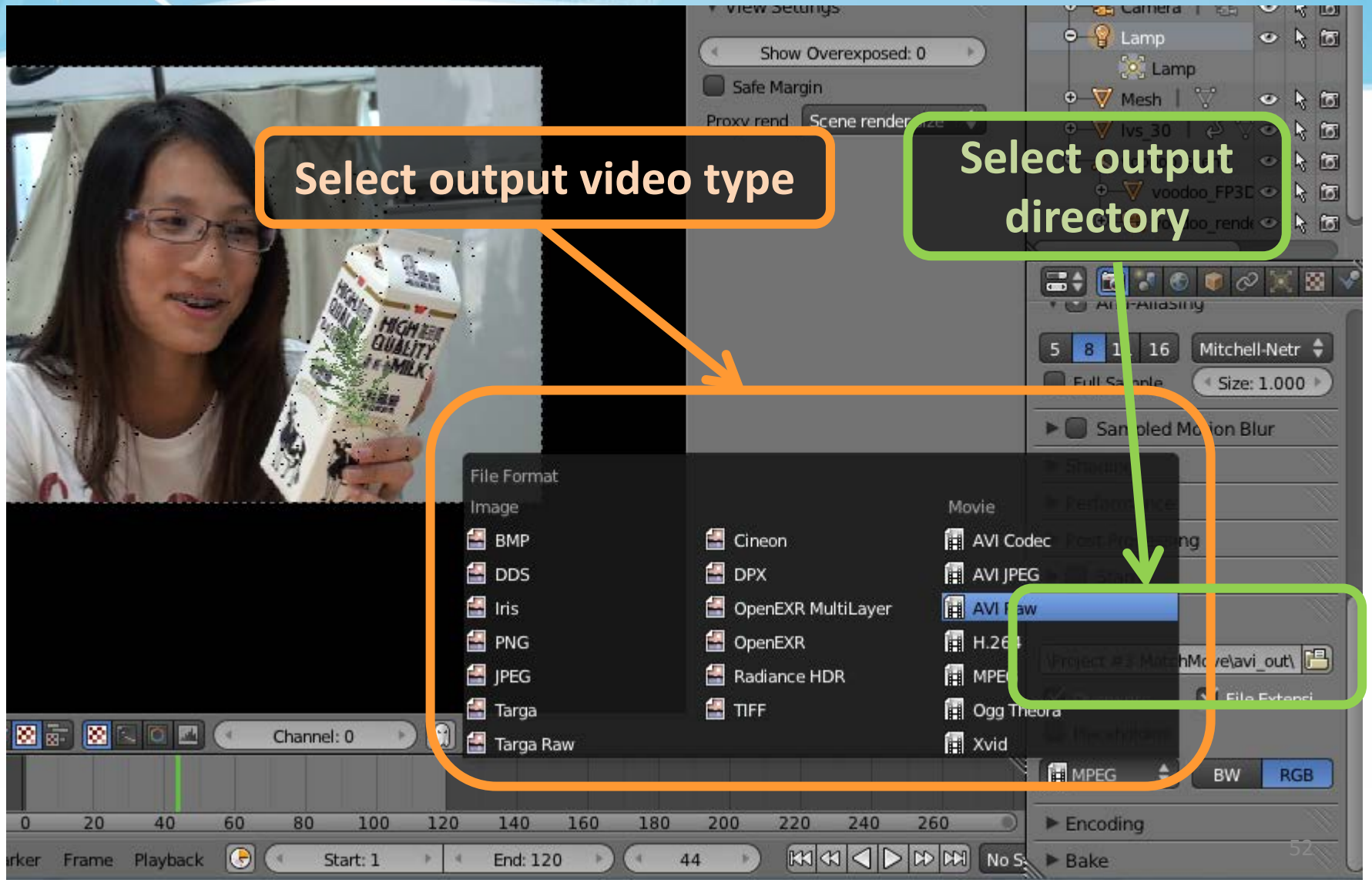


You can change "Sequencer view" to "Preview" or "both" to preview the result

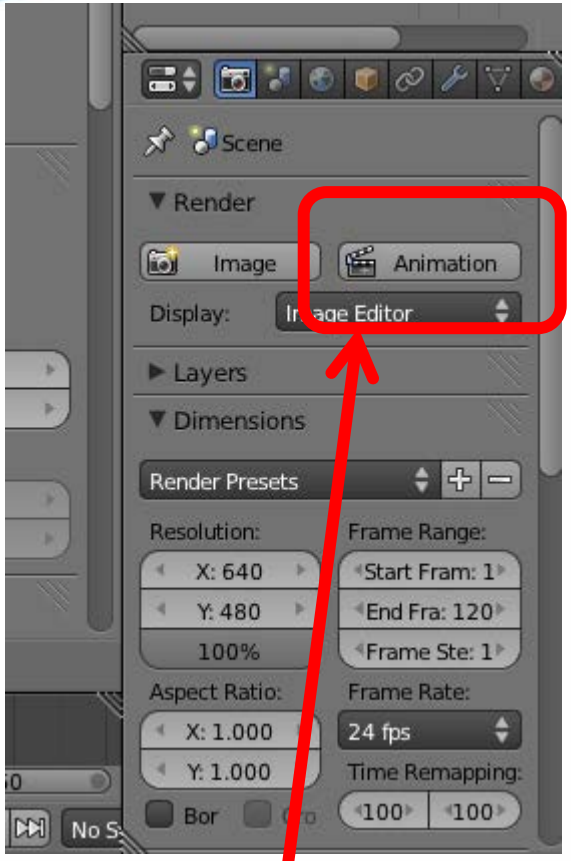
Compositing: Set Scene



Compositing: Output Video



Compositing: Output video



Click Animation!

Example of Composited result

Reference

- Blender
  - Official website

    http://www.blender.org/
  - 2.62 release log

    http://www.blender.org/development/release-logs/blender-262/
  - 2.61 demo files

    http://www.blender.org/development/release-logs/blender-261/blender-261-demo-files/
  - Overview of 2.62

    http://www.youtube.com/watch?v=2-DXwepGNNw

Reference

- Blender
  - Blender 2.6 Tutorial 17 - Camera Tracking
    http://www.youtube.com/watch?v=qTwZO9Gi5yw
    http://www.youtube.com/watch?v=XZGx6UI0s2U
  - Match Moving Tutorial in Blender
    http://www.youtube.com/watch?v=5oWctBTjGcI
  - Basic video tutorial for 2.56 & 2.57 [1~8] [Older vision]
    https://www.youtube.com/watch?v=WSj23GDGNiI
  - Basic video tutorial for Blender and Voodoo [Older vision]
    http://www.youtube.com/watch?v=kPZbtKQ1a4g
    http://www.youtube.com/watch?v=sO4kmT-n3lU

Reference

- Voodoo
  - Python problem between Voodoo and Blender
    - Voodoo camera tracker and blender 2.57 fixed http://0rz.tw/PqDVr
    - Voodoo camera Import (io_import_voodoo_camera.py) [Official released] http://0rz.tw/BNDm8
  - Voodoo document website http://0rz.tw/c2ceR
  - CINEMA 4D + VOODOO – TUTORIAL http://www.youtube.com/watch?v=JWlW7ay0yi4

Reference

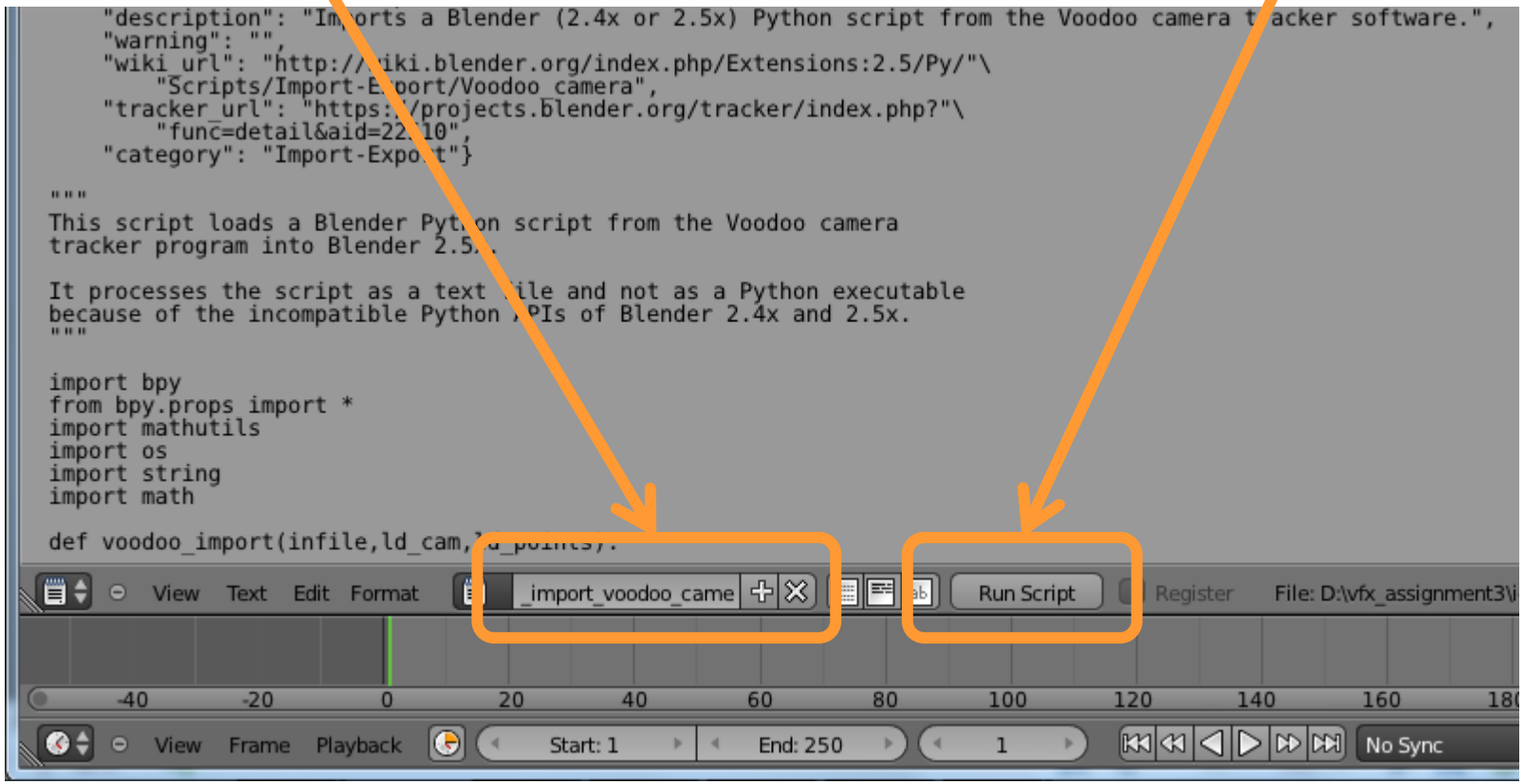
- Other Resources
  - K-Lite Codec Pack
    - Mega, Full, Standard and Basic
      http://www.codecguide.com/download_kl.htm
  - Video Editing Tools
    - 威力導演、繪聲繪影、 …
    - Sony Vegas, Adobe After Effects, Premiere, …
  - Sound/Music Editing Tools
    - Adobe Audition (original cooledit), Goldwave, …

Thank you for your attention!

Import 3D Motions : Open Python Script

Select io_import_voodoo_camera.py

Run Python Script



Import 3D Motions : Open Python Script