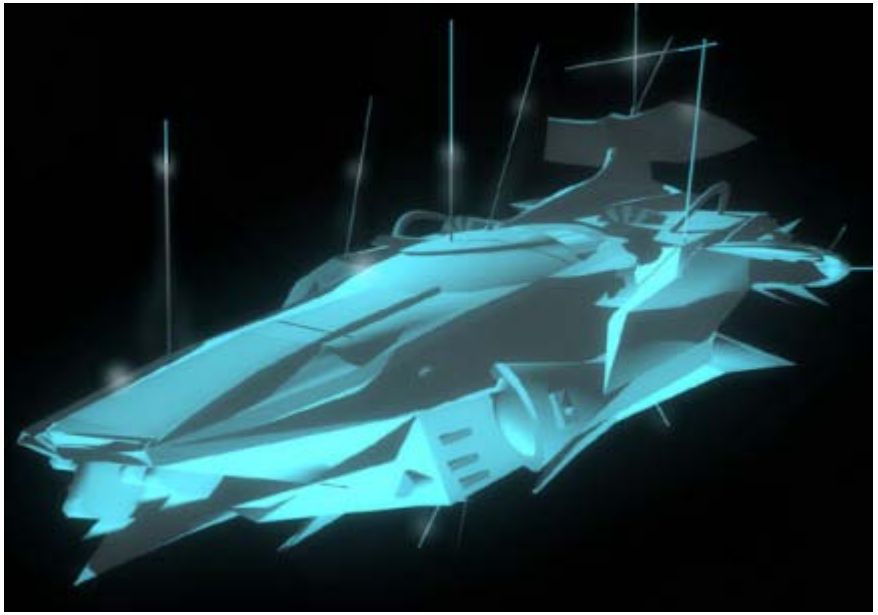
MatchMove

Digital Visual Effects, Spring 2011

2011/04/27

WorkFlow

- Input
  - Video
  - CGI Animation



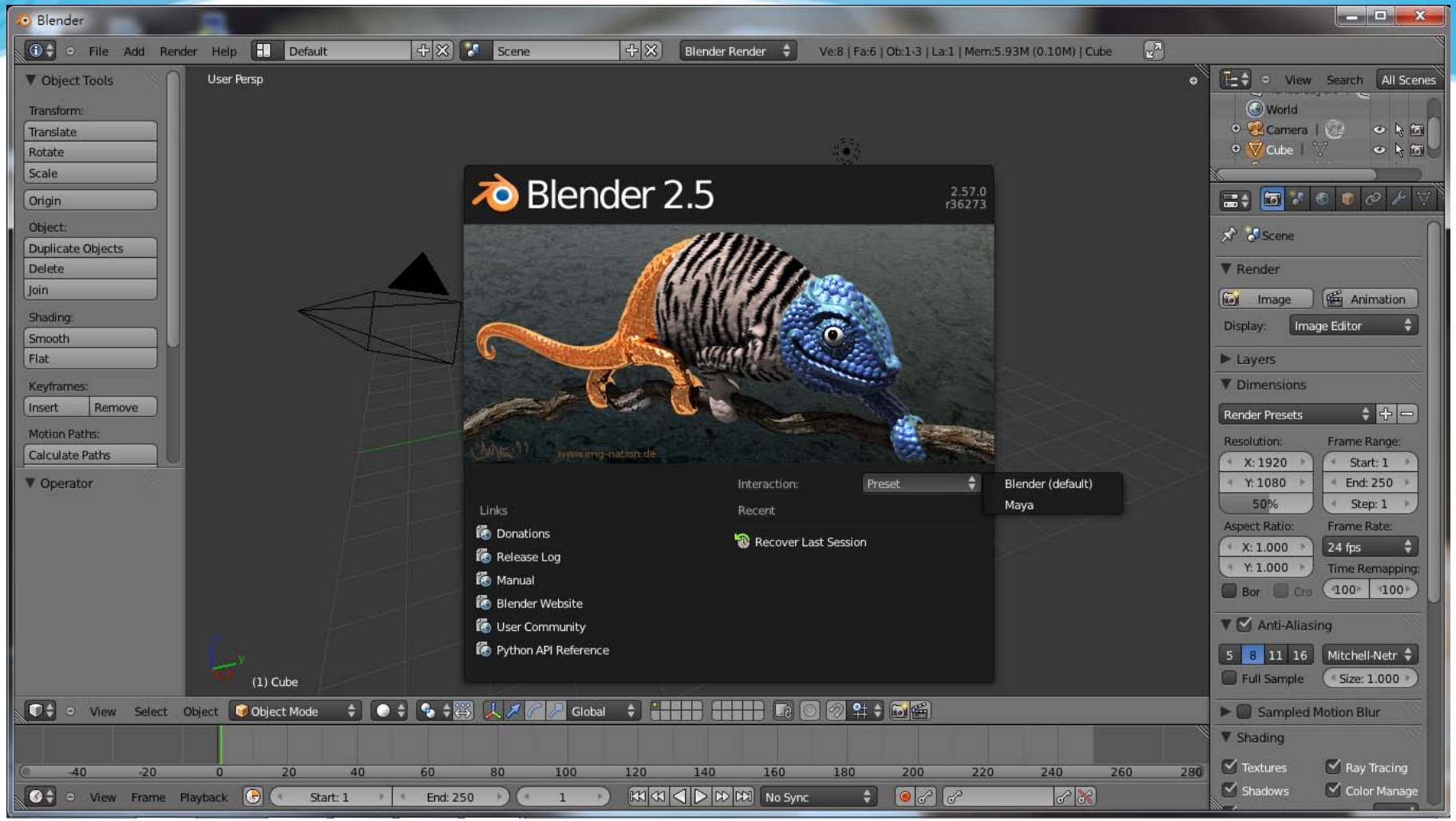
Setting

- Blender
  - Version: 2.57a **(stable)**
  - Operating System: Windows, Mac OS, Linux, FreeBSD
  - Web Site: http://www.blender.org/
- Voodoo
  - Version: 1.1.0 **[More stable than before]**
  - Operating System: Windows, Linux
  - Web Site: http://www.digilab.uni-hannover.de/
- Other Options:
  - Free: Blender + ICARUS
  - Pay: boujou + 3D Max, boujou + Maya, ...

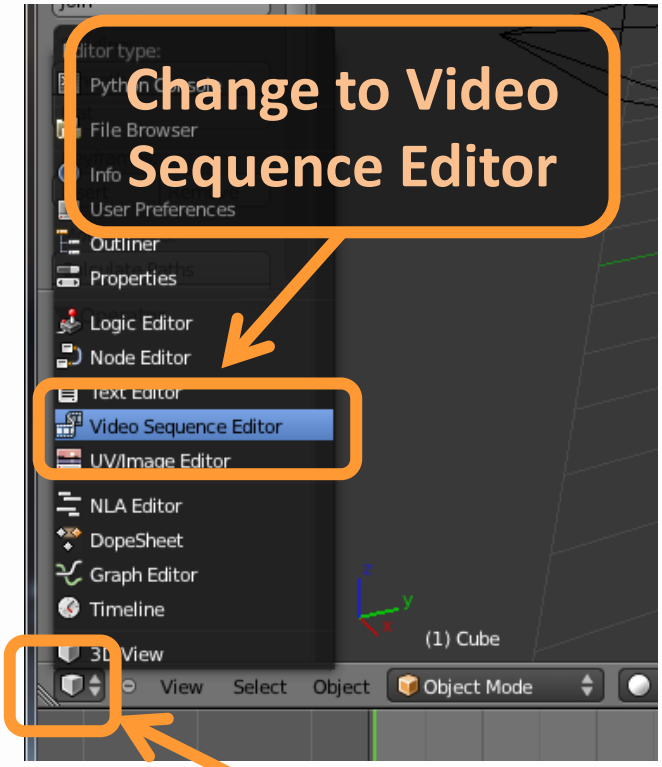
Recipe: Get Image Sequence

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

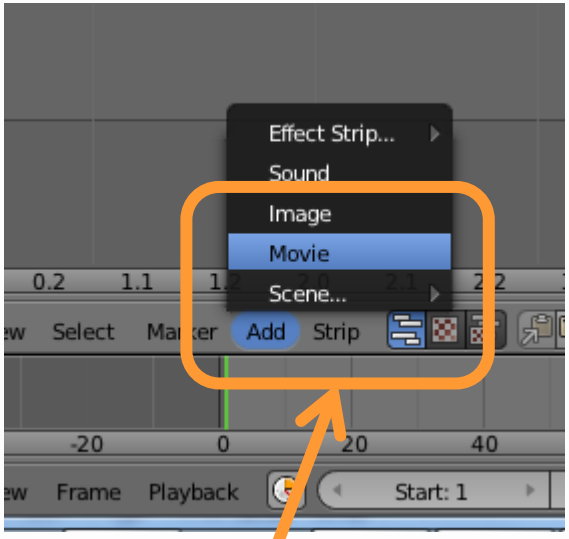
Get Image Sequence : Blender Interface



Get Image Sequence : Add Video File

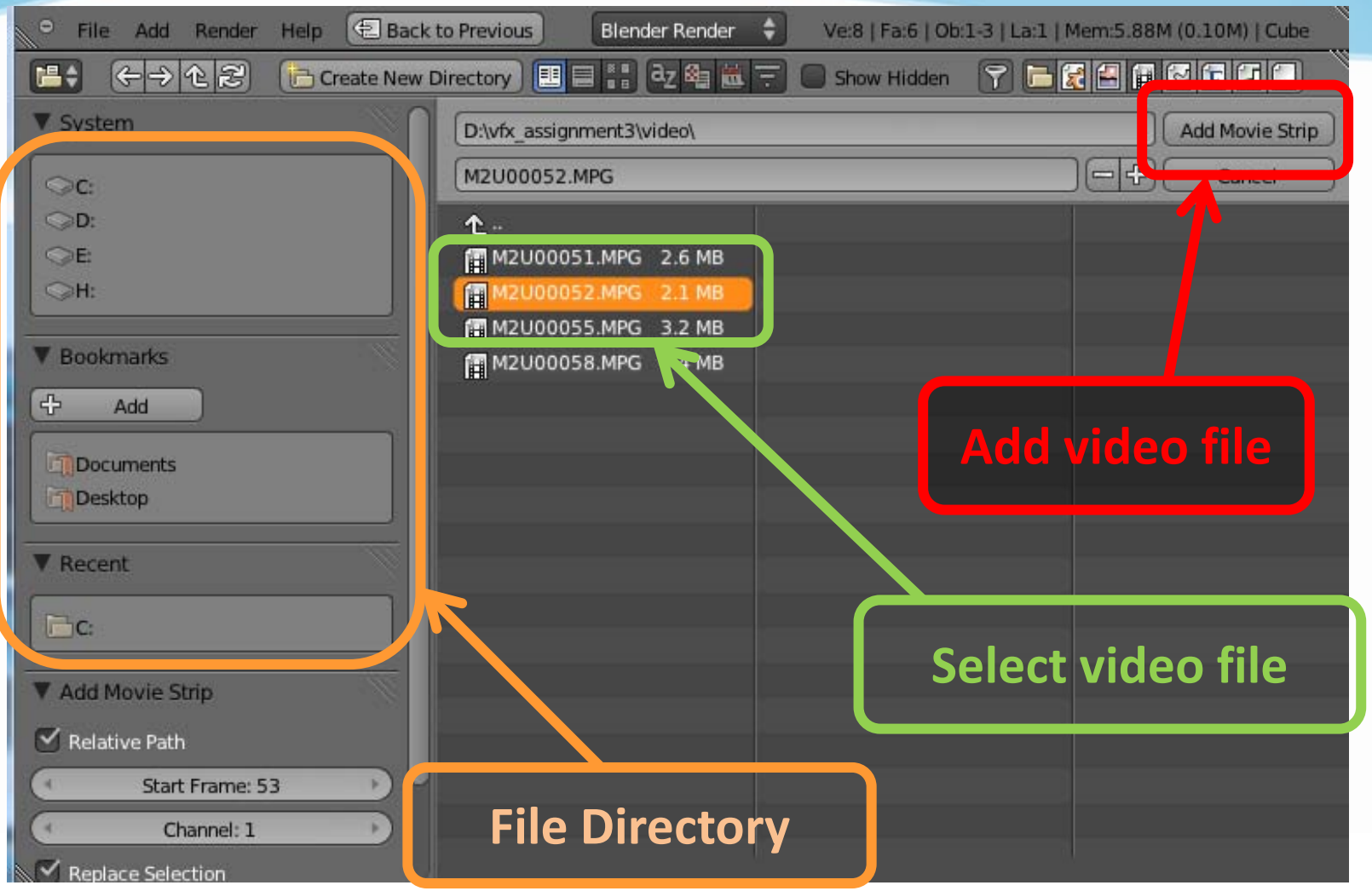


Click here to change window type

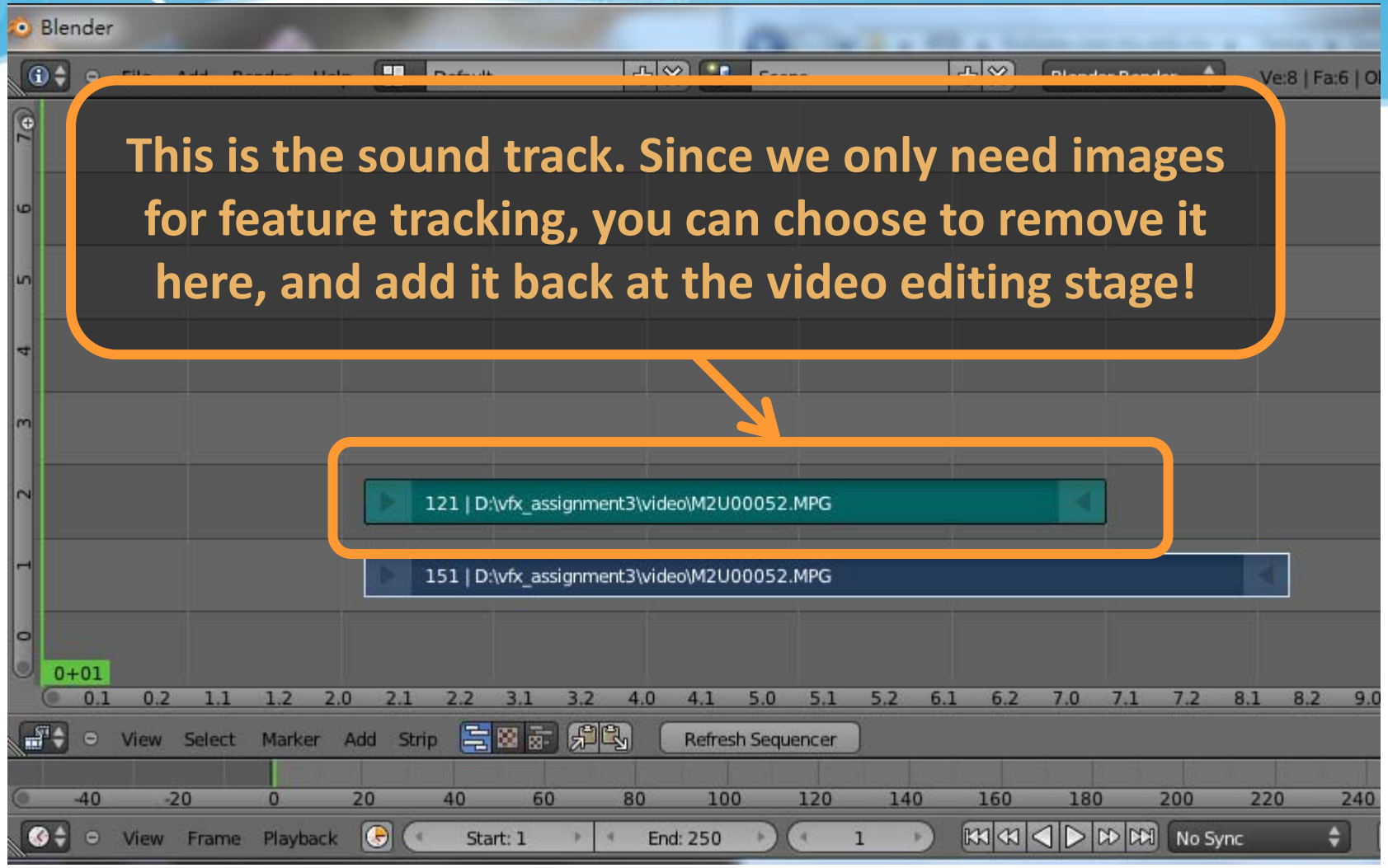


Add → Movie

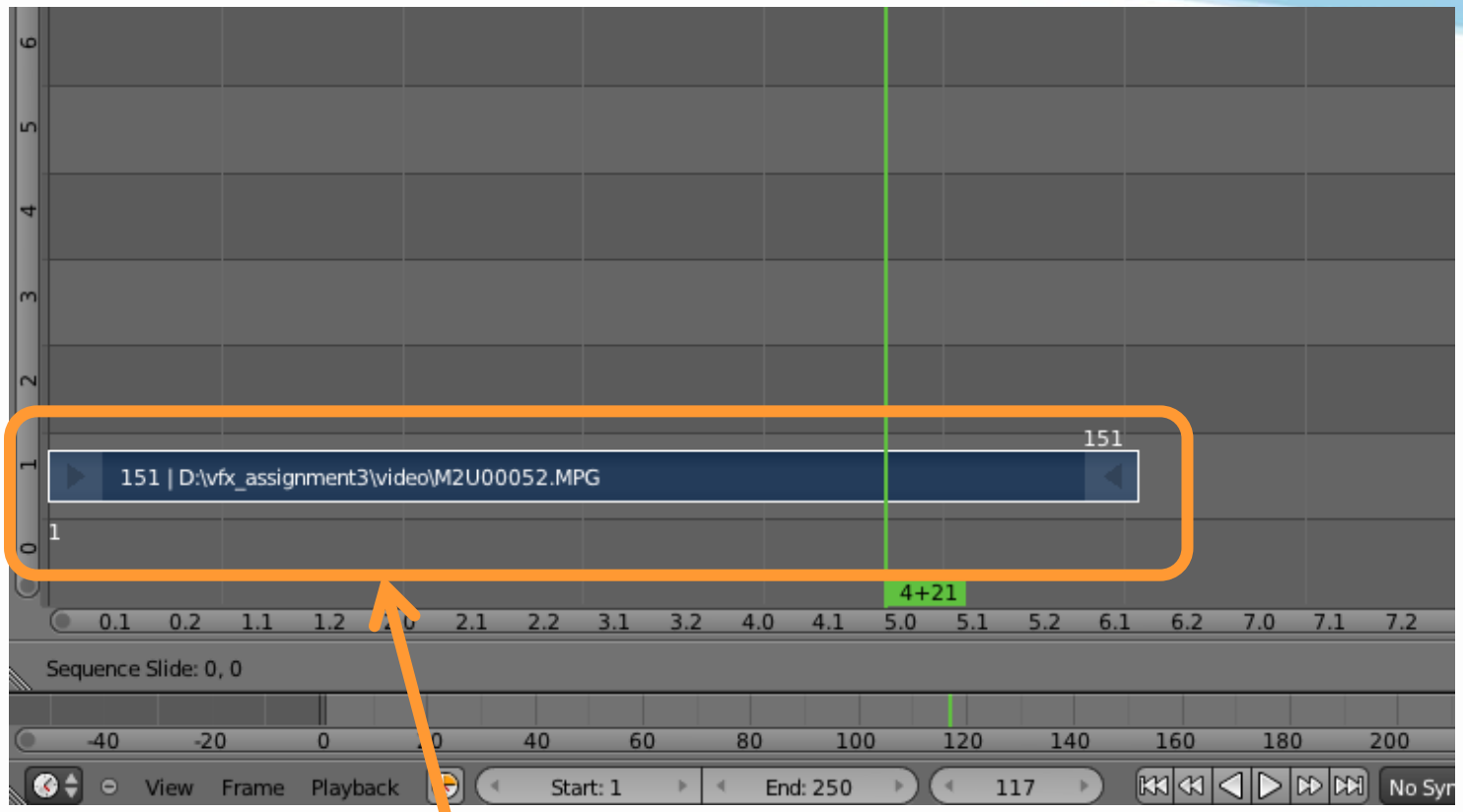
Get Image Sequence : Add Video File



Get Image Sequence : Add Video File



Get Image Sequence : Add video file



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

Get Image Sequence : Render Images

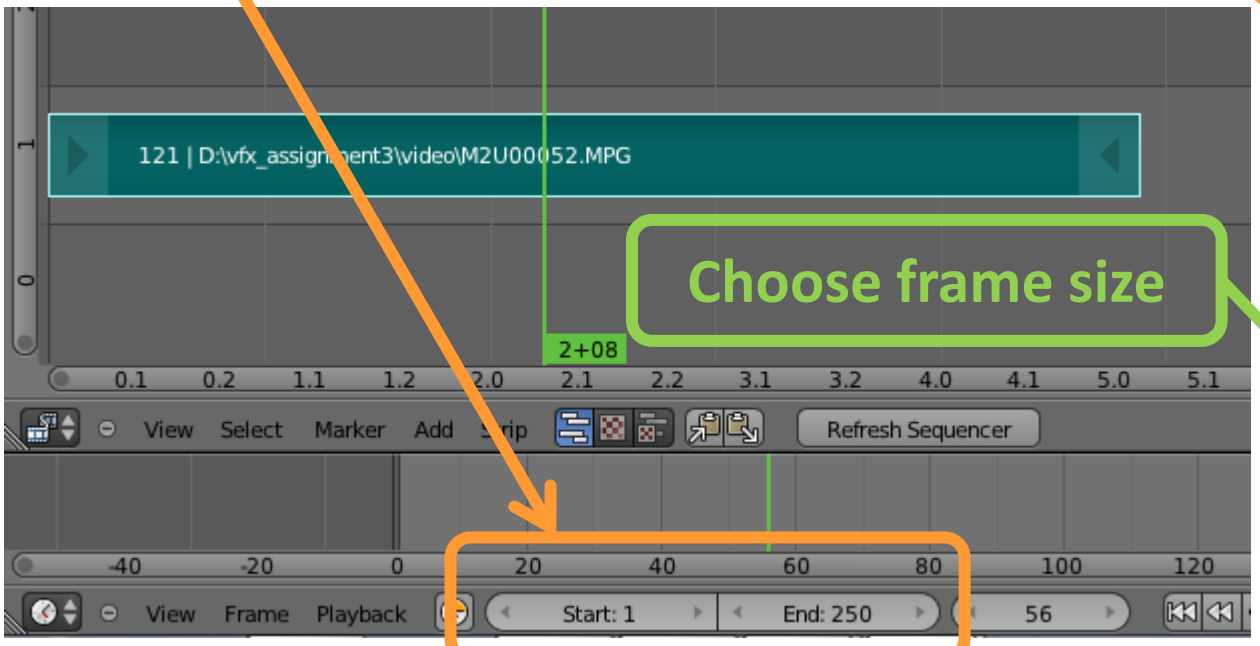
Choose Render

Output directory

Choose output file type “Targa”

Select start & end frame

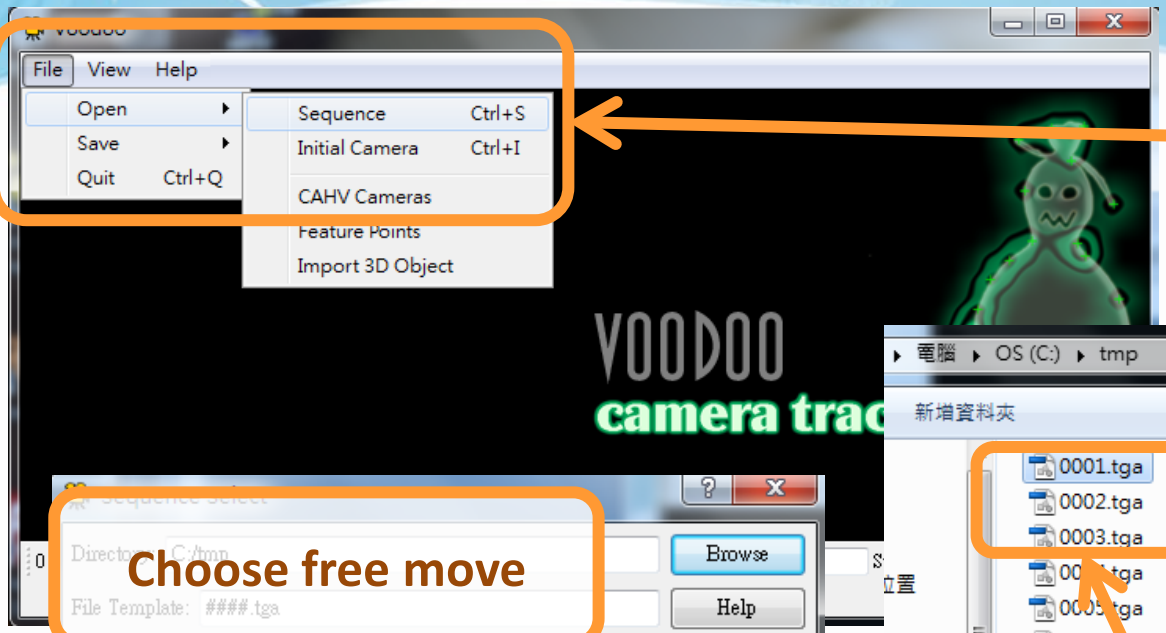
Choose frame size



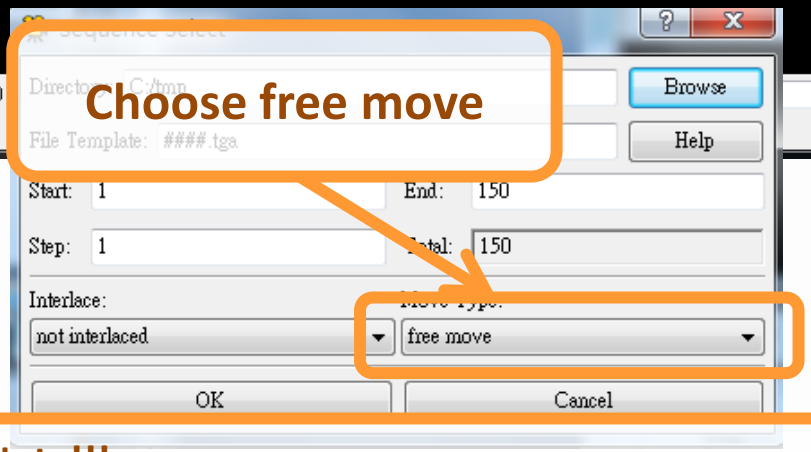
Recipe: Calibration

- Open Voodoo
- Open Image Sequence
  - Select 「**File** → **Open** → **Sequence**」
  - Select the first frame
  - Select Move Type 「 **Free Move** 」
- Track → Click **Track** button
- Export Python Script
  - Select 「**File** → **Save** → **Blender Python Script**」
  - Save .py file
    - Choose File type “Blender 2.5x and higher (*.py)”

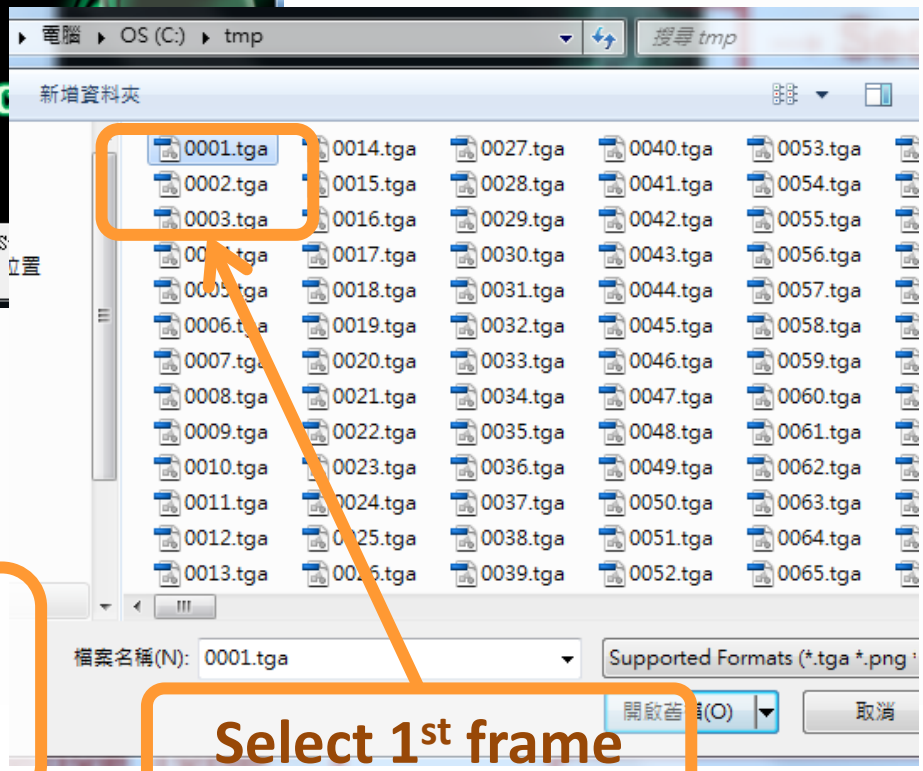
Calibration : Choose Sequence



File → Open → Sequnce



Choose free move

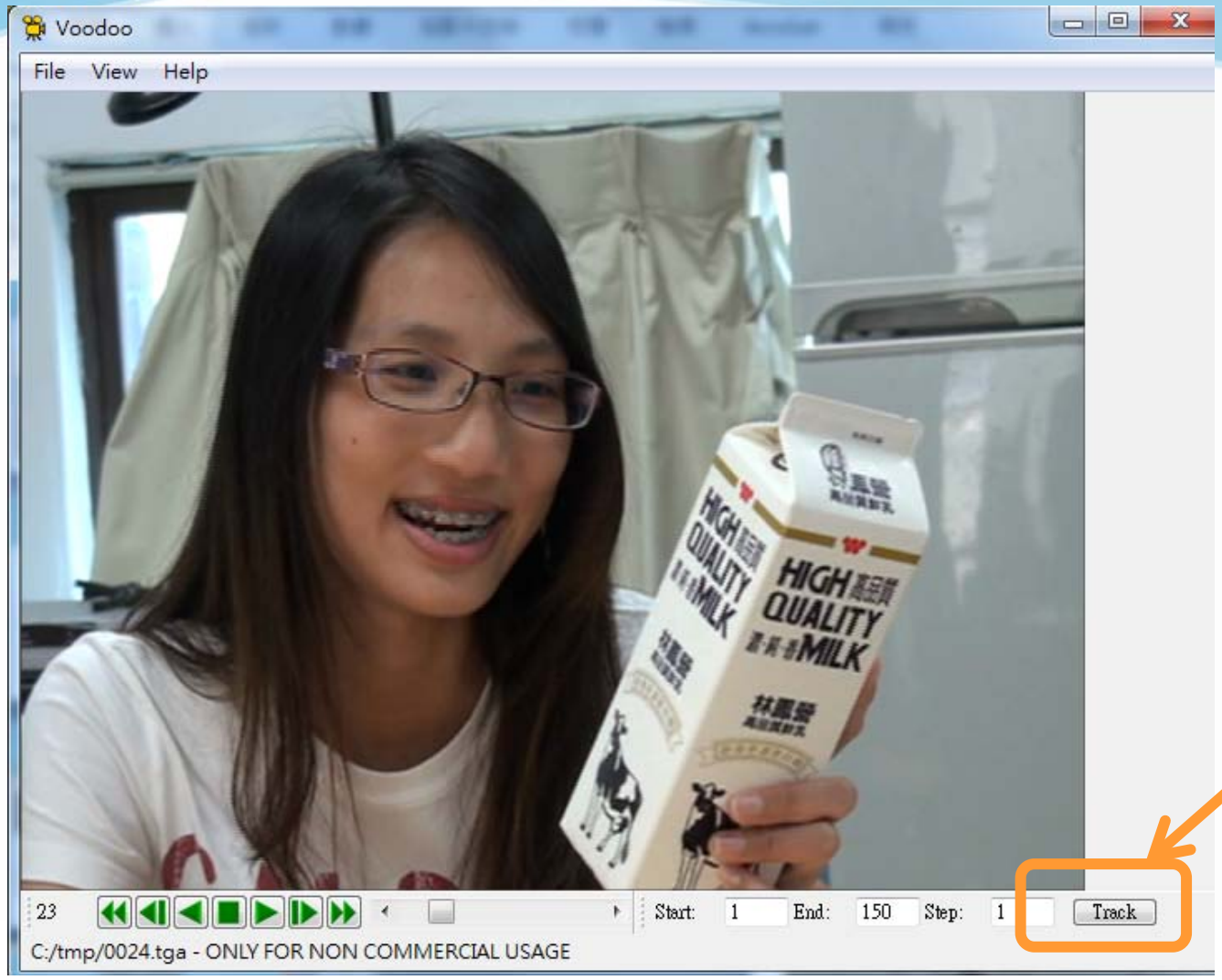


Select 1st frame

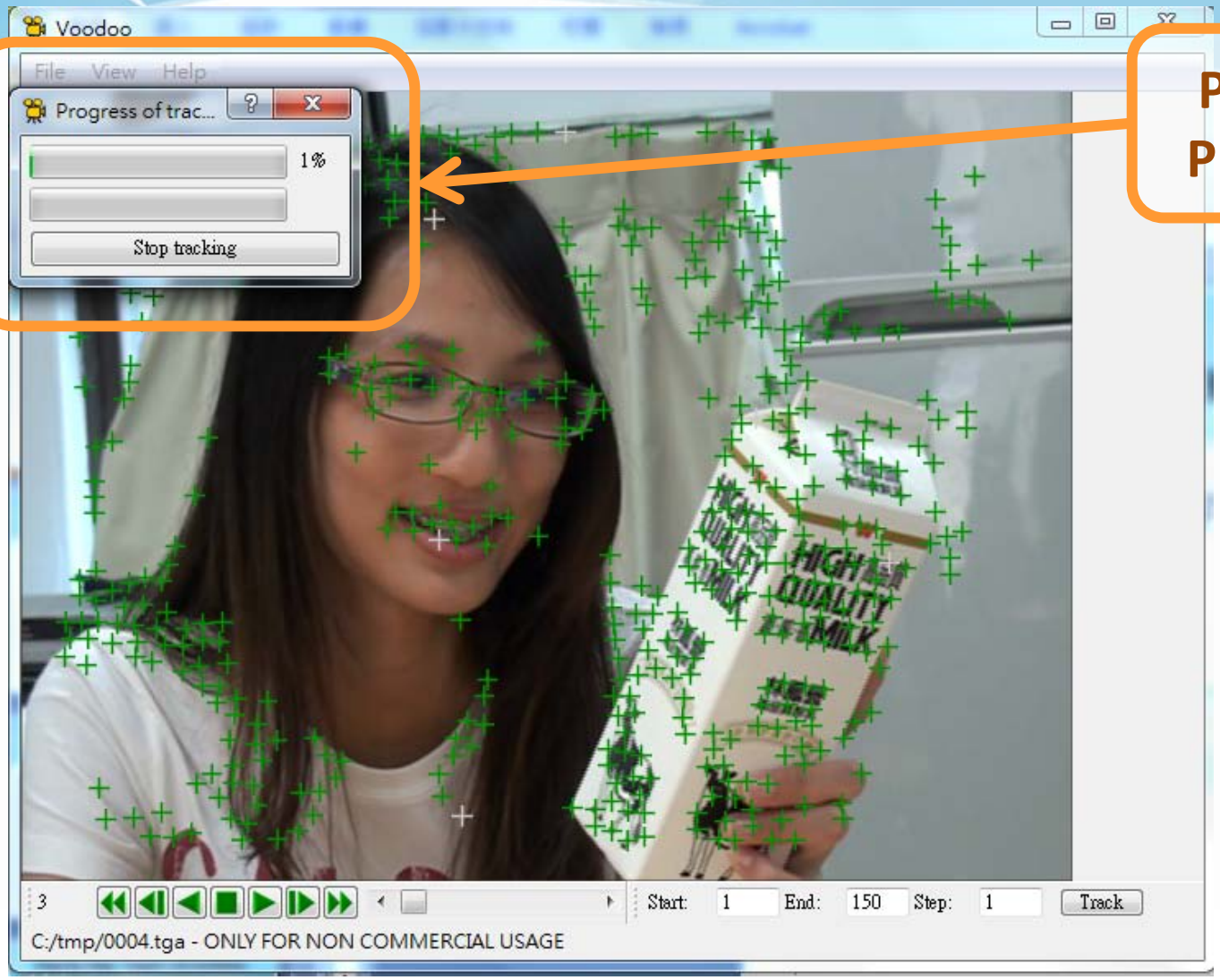
Note!!!

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

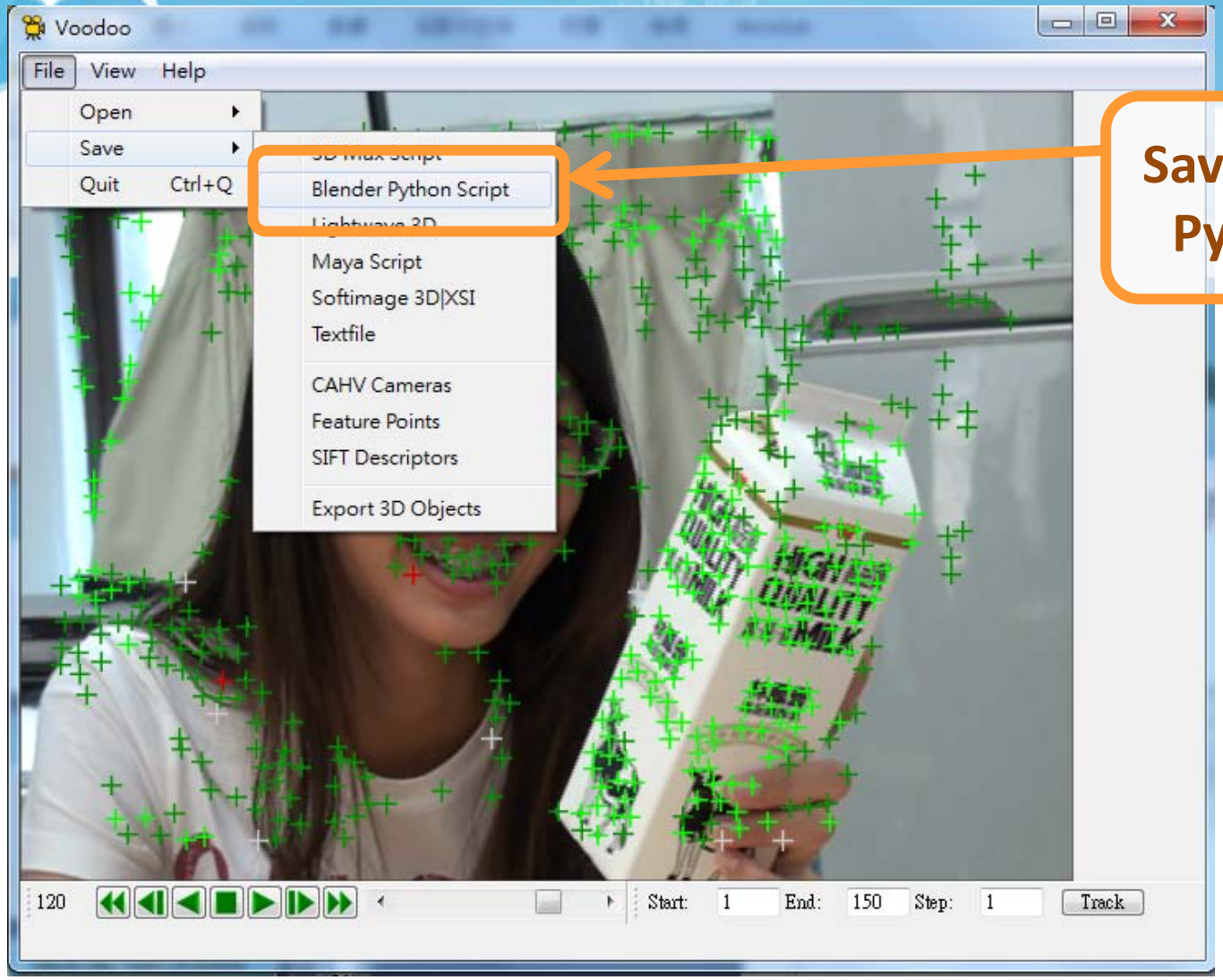
Calibration : Track



Calibration : Track

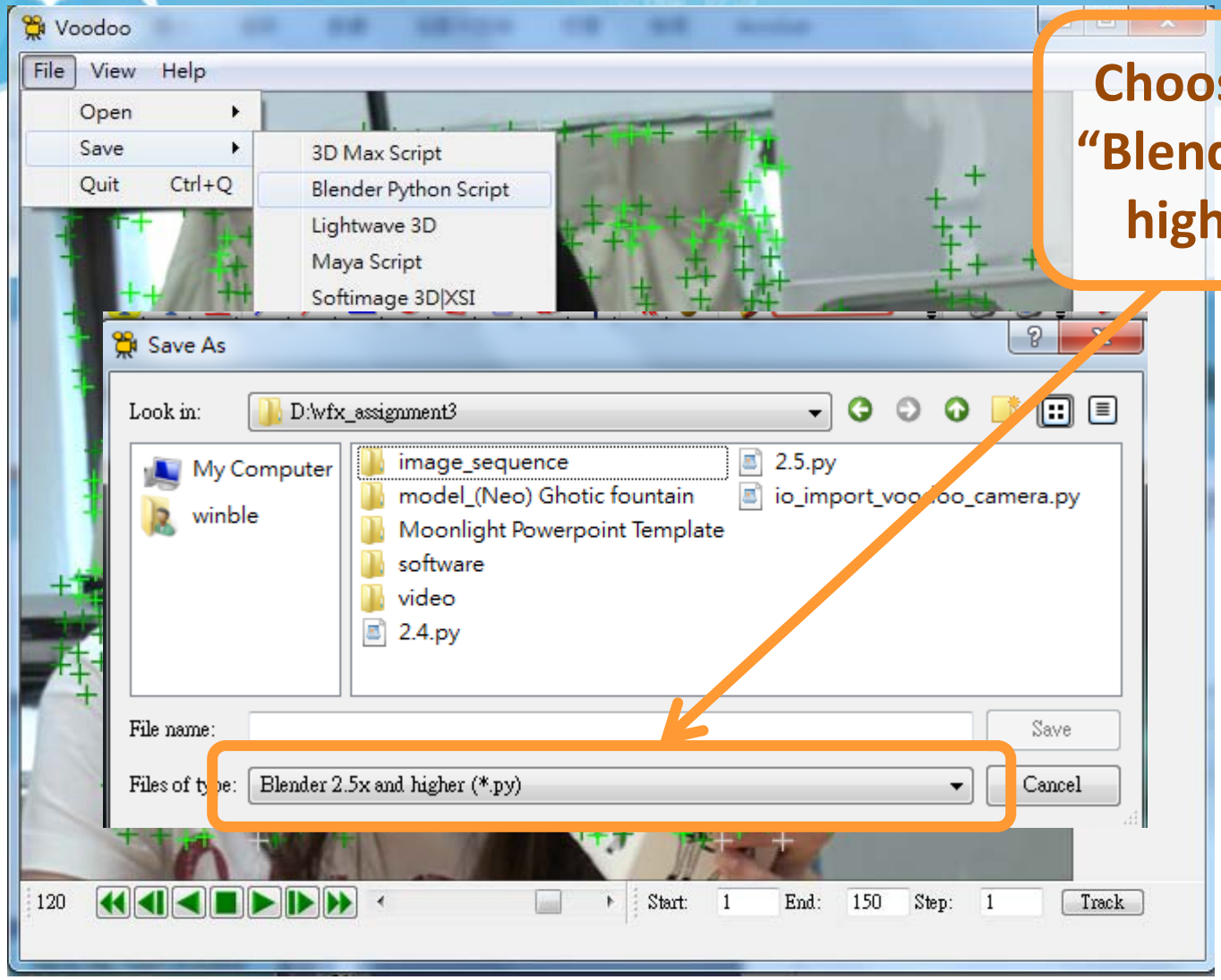


Calibration : Export Python Script



Save → Blender Python script

Calibration : Export Python Script



Choose File type "Blender 2.5x and higher (*.py)"

Recipe: Import 3D Motions

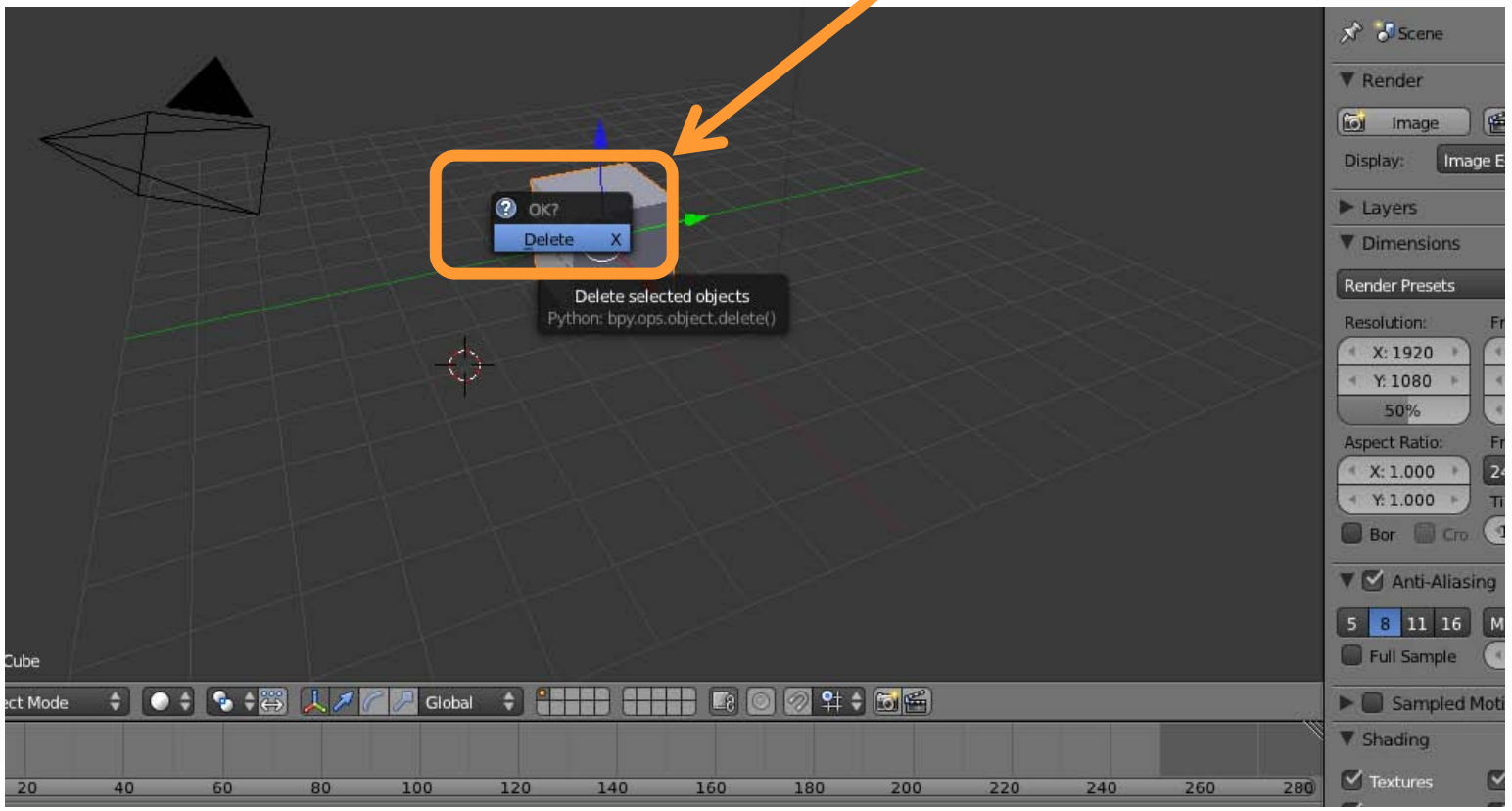
- Open **Blender**
- Delete Default Objects
  - Choose the object and click **“Delete”**
- Open Python Script
  - Change Window Type to **Text Editor**
  - Select 「**Text → Open Text Block**」
  - Select ***io_import_voodoo_camera.py***
  - Click 「**Run Script** 」
  - Select 「**File → Import → Voodoo camera**」
  - Select the .py file exported from Voodoo

Recipe: Import 3D Motions

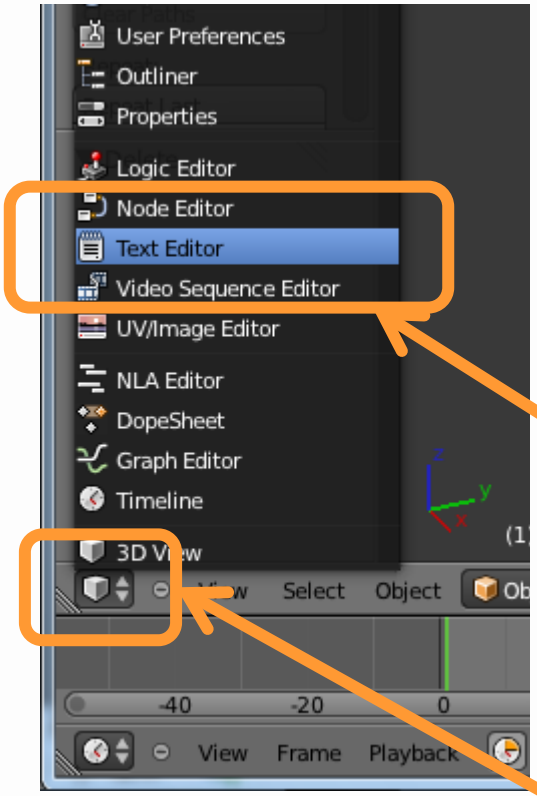
- Load Background Images:
  - Change Window Type to **3D View**
  - Select 「**View → Cameras → Set Active Object as Active Camera**」
  - Load background images
  - Set the video parameters of background images
  - Change the view
    - 「**View → View Persp/Ortho**」
    - 「**View → Camera**」
  - Check 1st frame and adjust the opacity of background images
- **Load models & editing their motions in the video!**

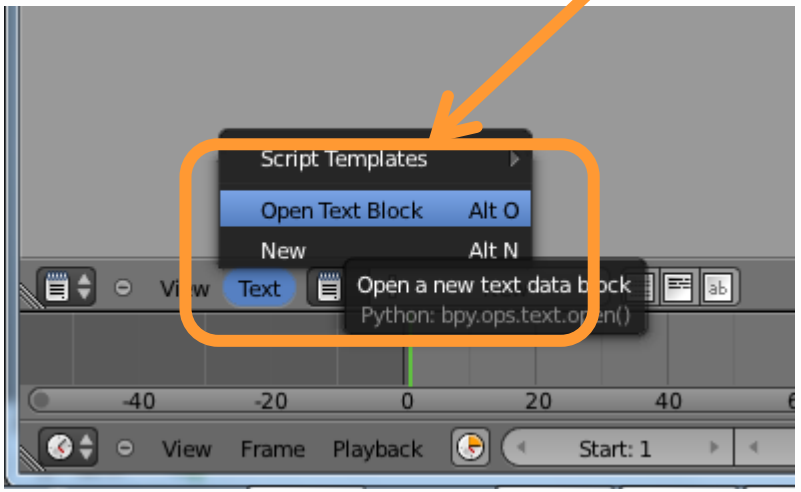
Import 3D Motions : Delete Default Objects

Click “Delete” to erase



Import 3D Motions : Open Python Script





Text → Open Text Block

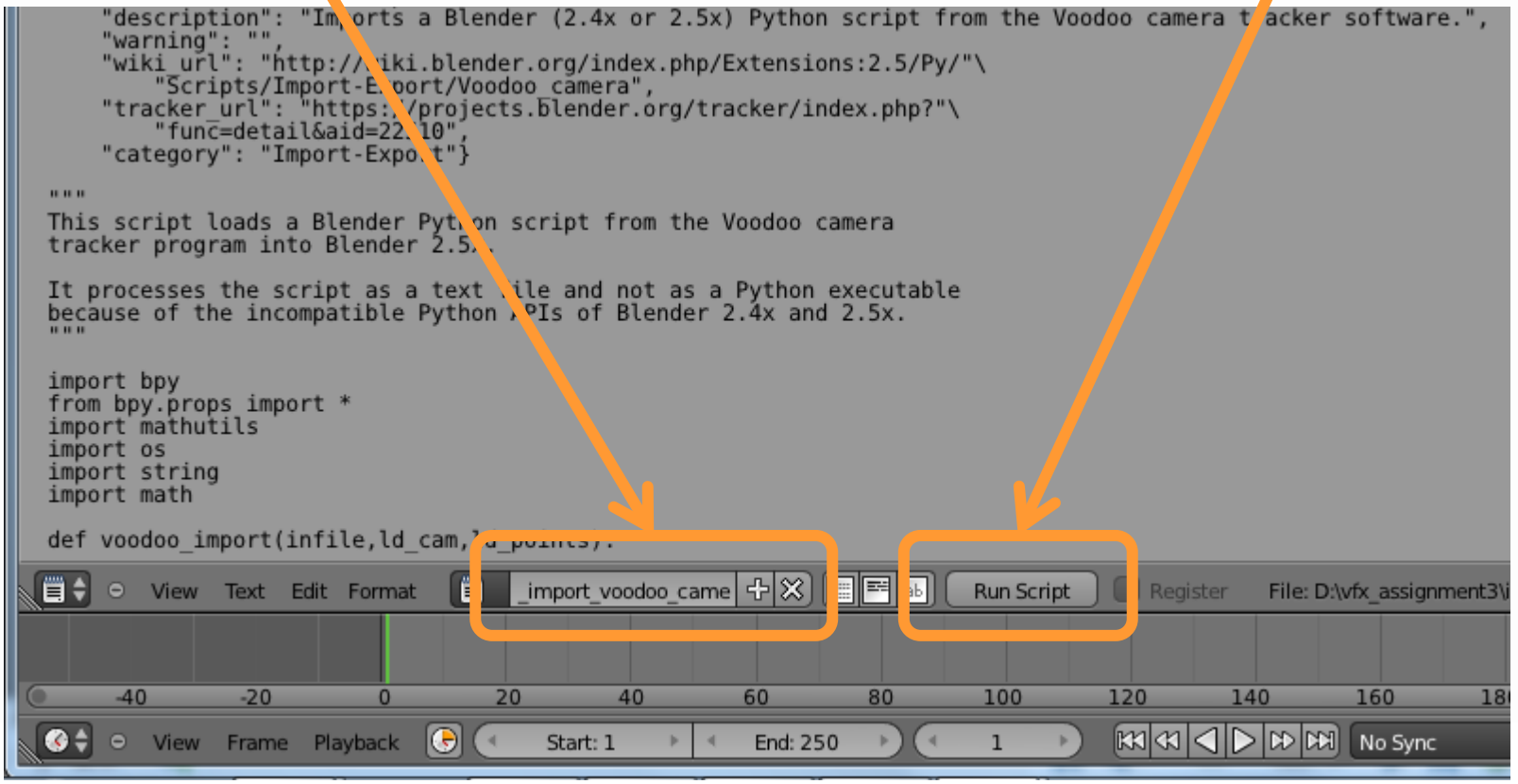
Choose Text Editor

Change Window Type to Text Editor

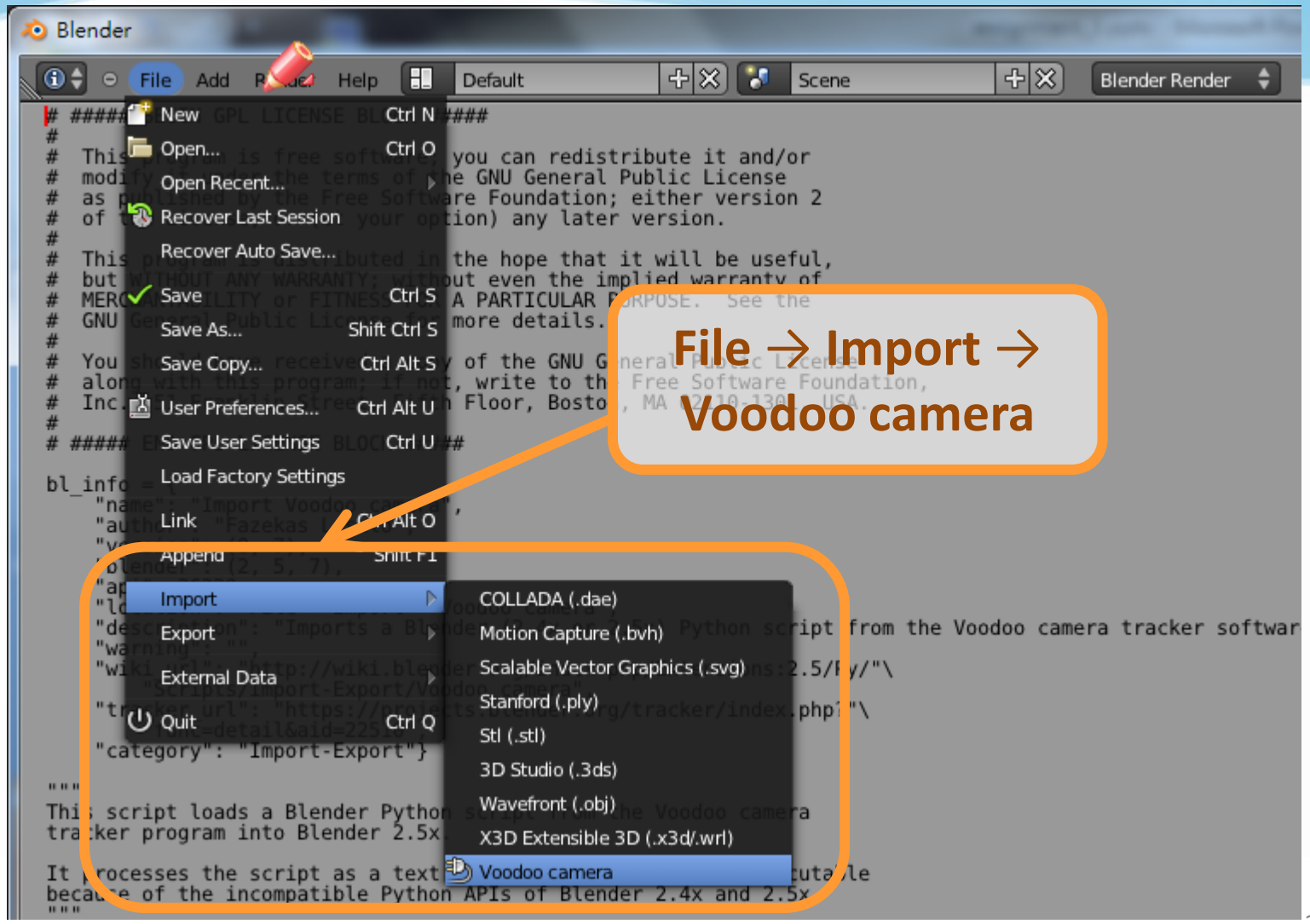
Import 3D Motions : Open Python Script

Select io_import_voodoo_camera.py

Run Python Script



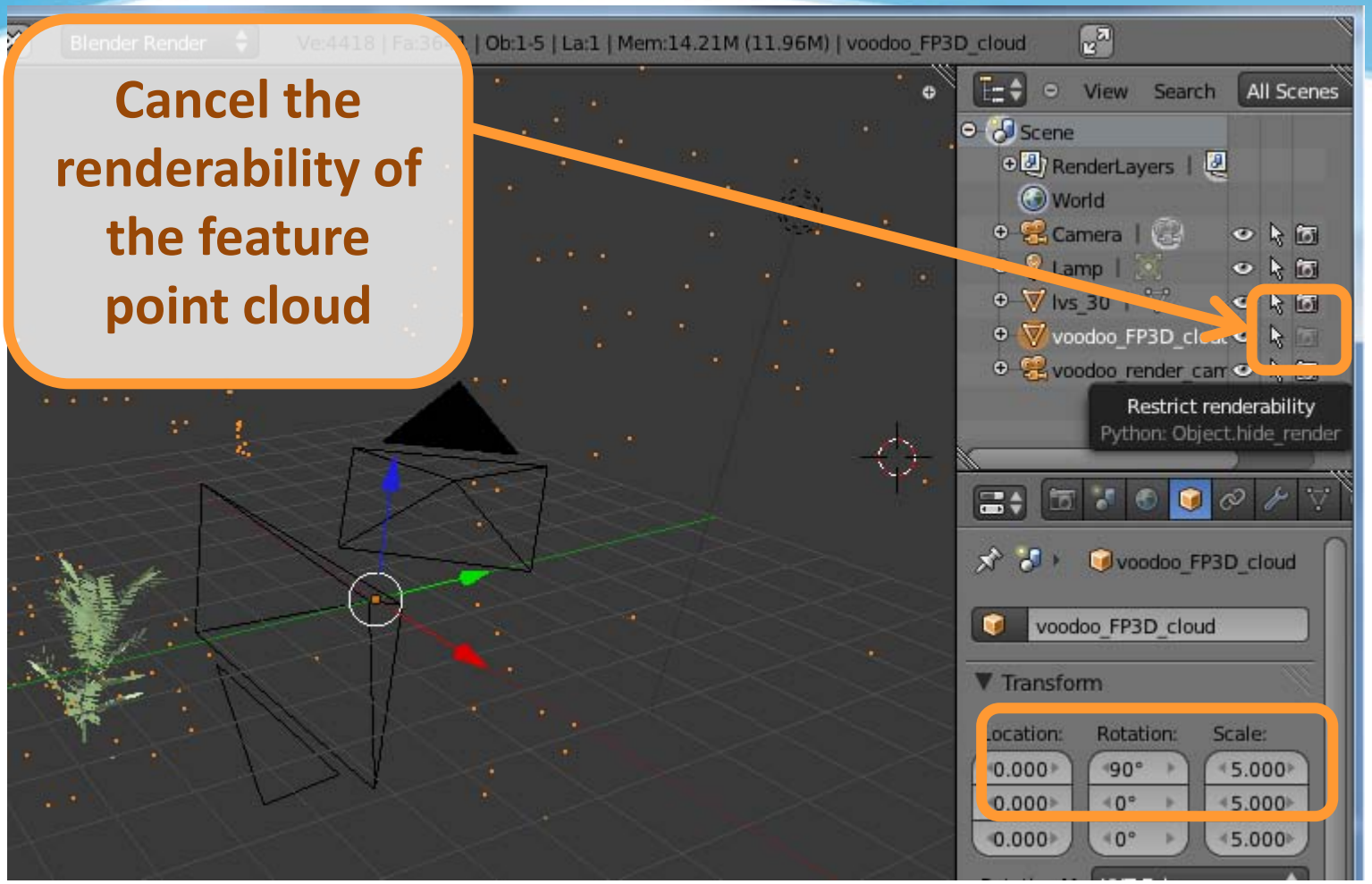
Import 3D Motions : Open Python Script



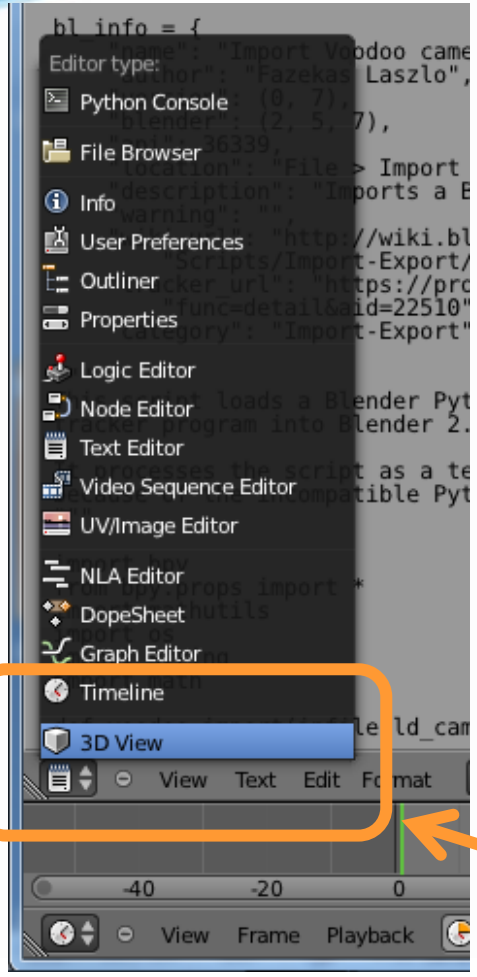
Import 3D Motions : Adjust Rendering

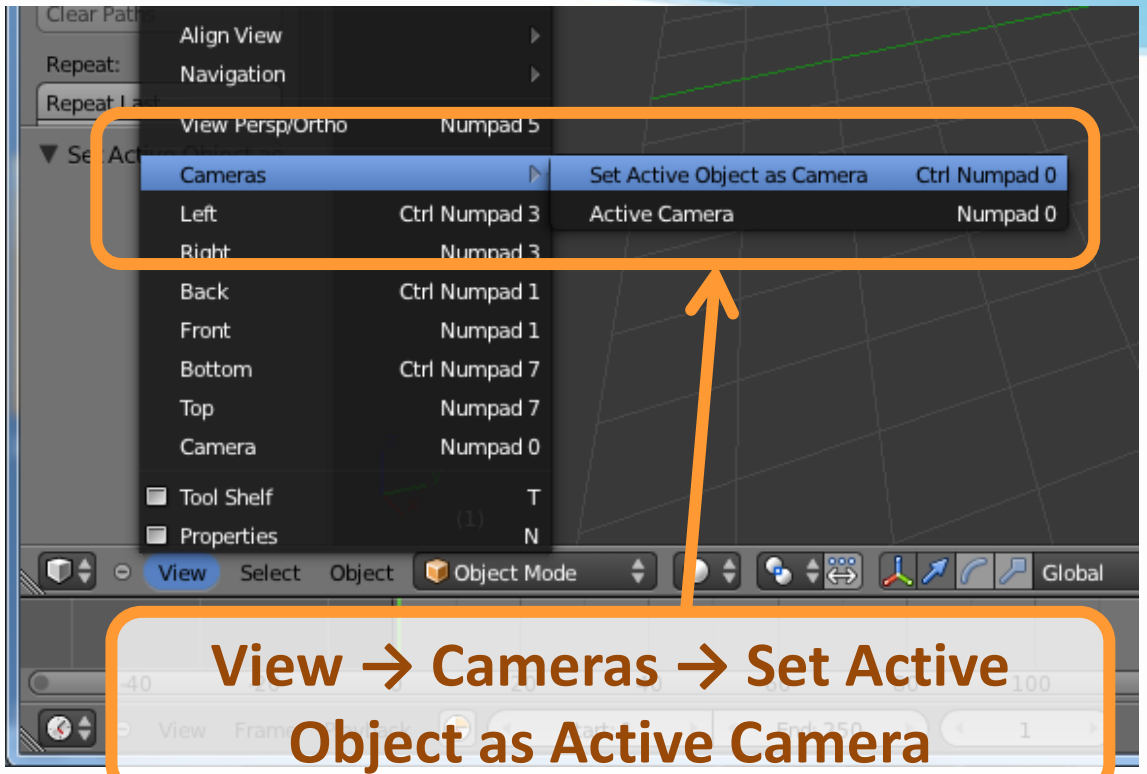
To avoid rendering the feature point cloud in your result

Import 3D Motions : Adjust Rendering



Import 3D Motions : Load Background Images





View → Cameras → Set Active Object as Active Camera

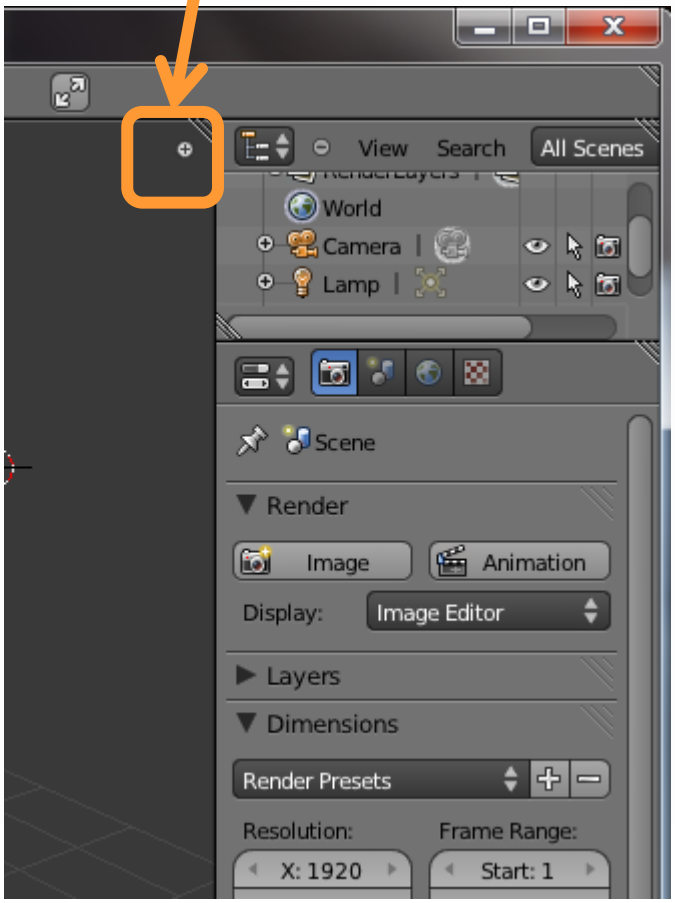
Change Window Type to 3D View

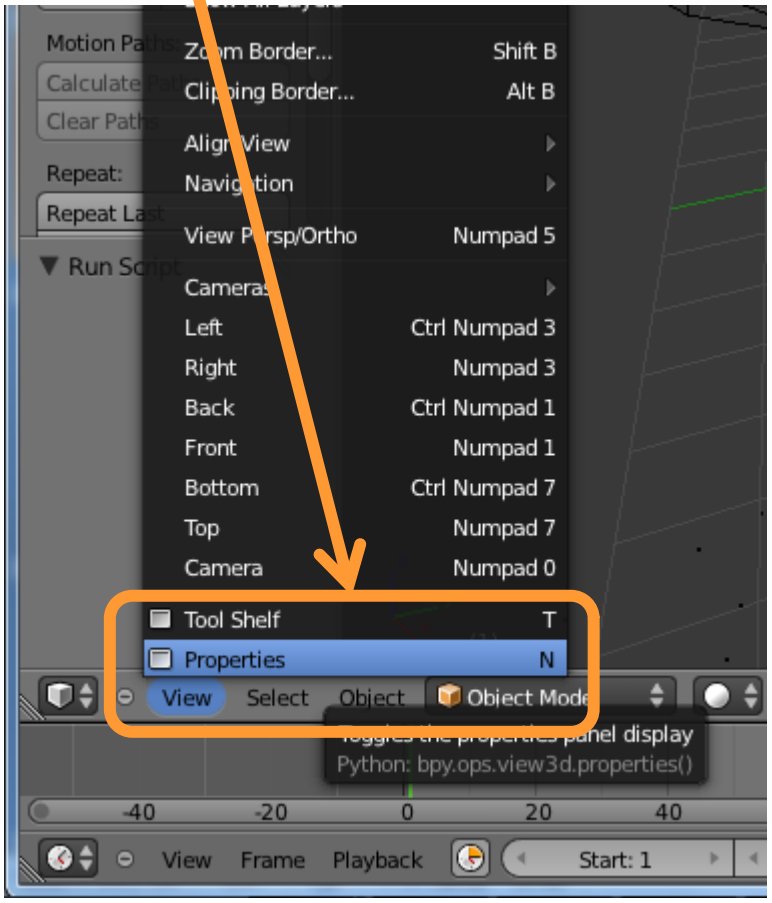
Import 3D Motions : Load Background Images

Click the “+”

or

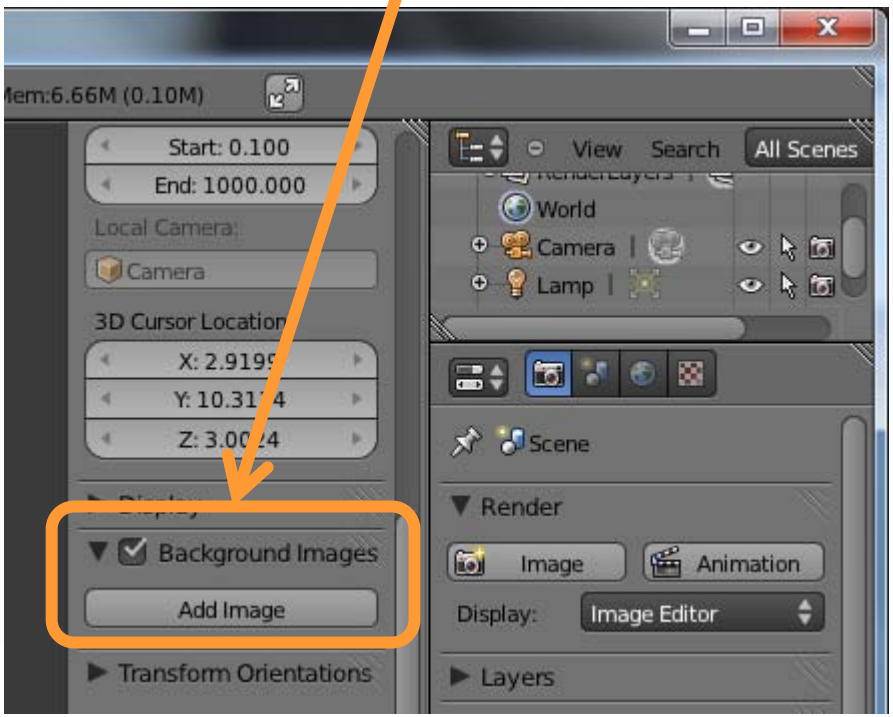
View → Properties



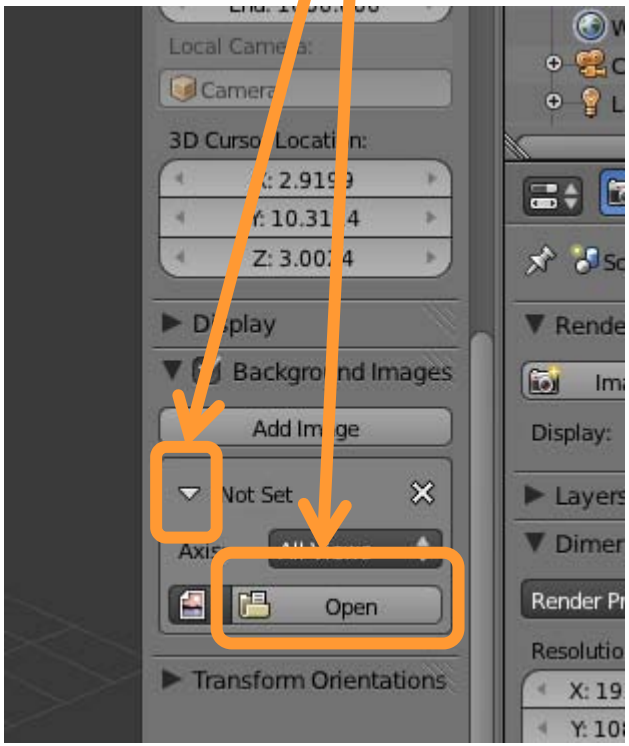


Import 3D Motions : Load Background Images

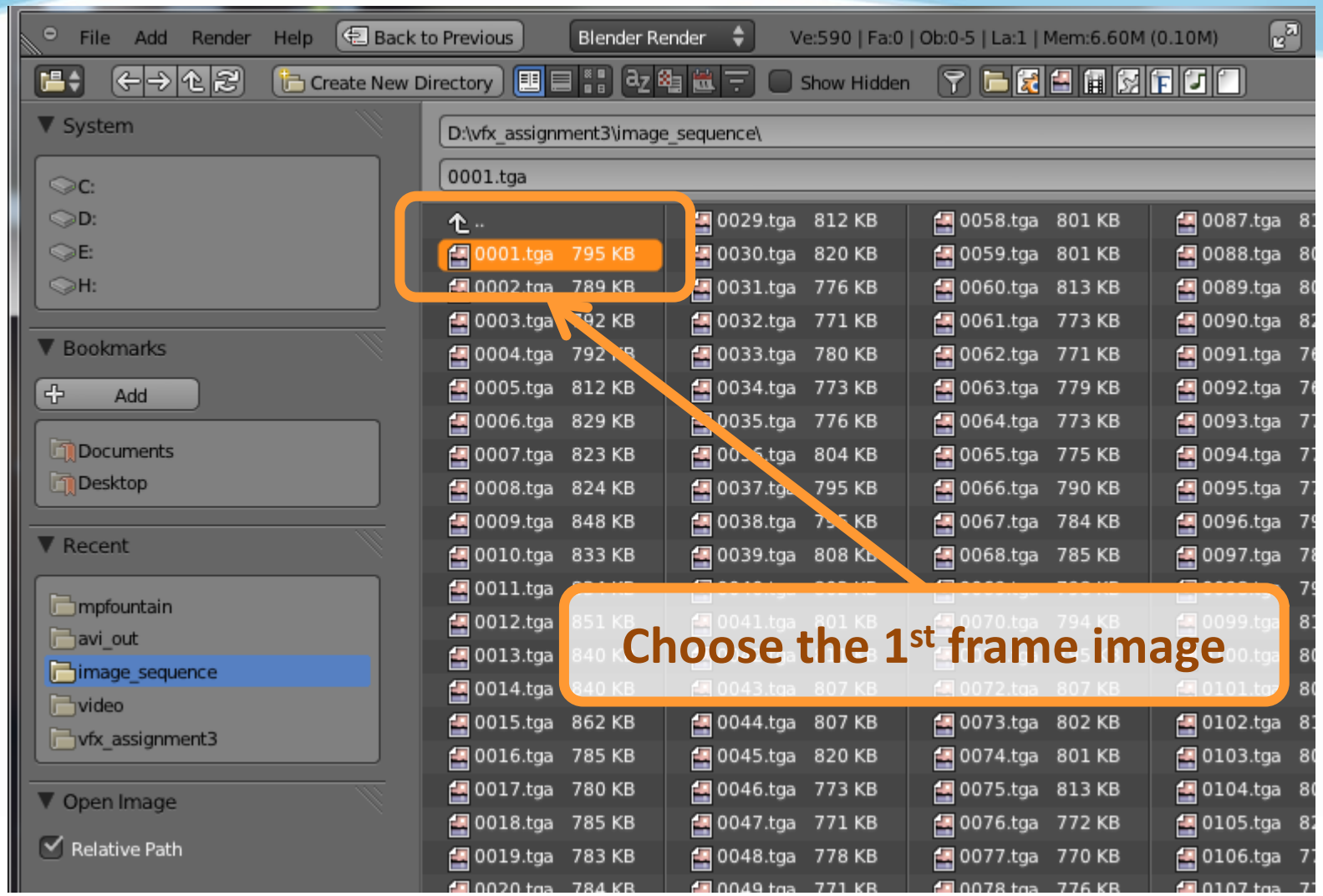
Tick off “Background Images” & click 「Add Image」 on the menu



Click 「Not Set」, and then Click 「Open」



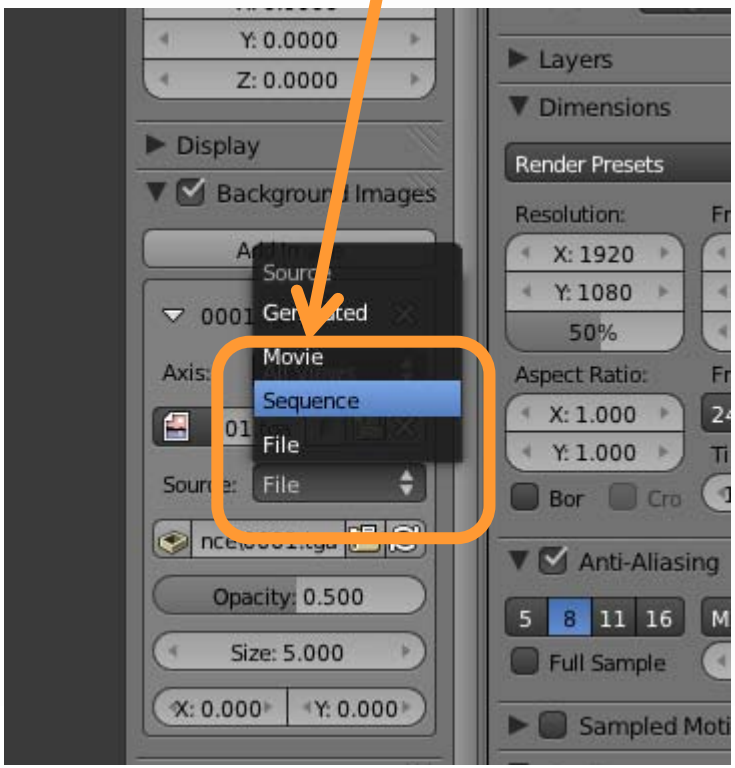
Import 3D Motions : Load Background Images

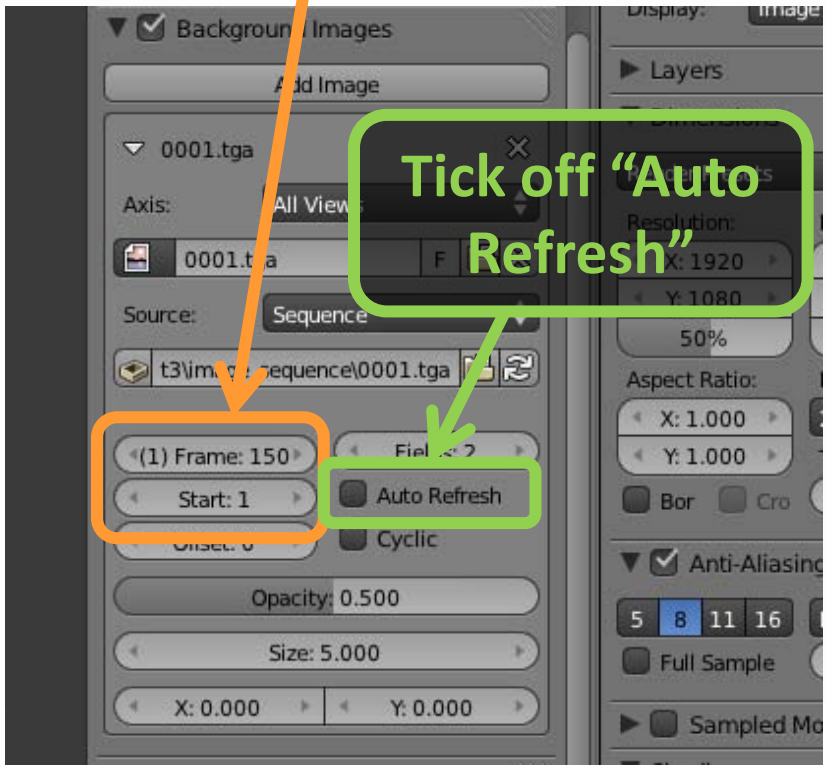


Import 3D Motions : Load Background Images

Select 「 Sequence 」

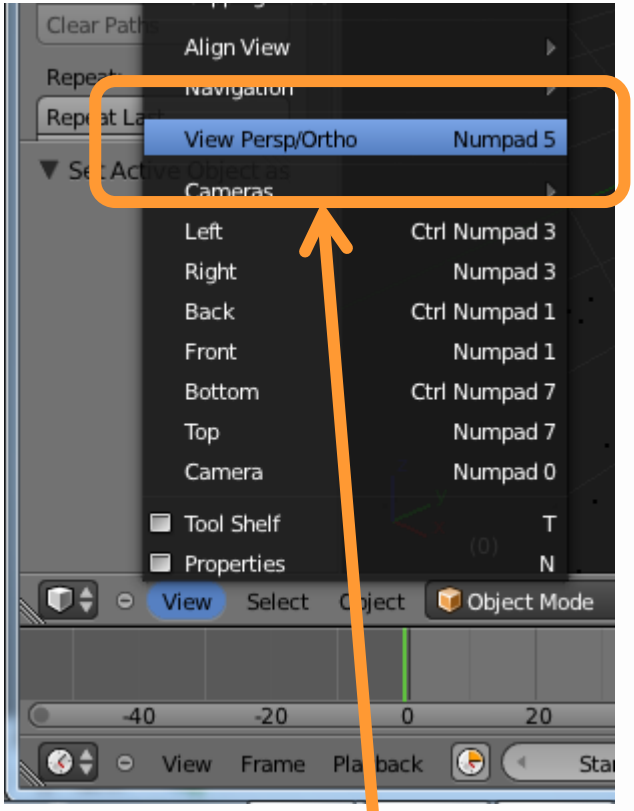
Set Frames: # images to use
Start Frame : 1st



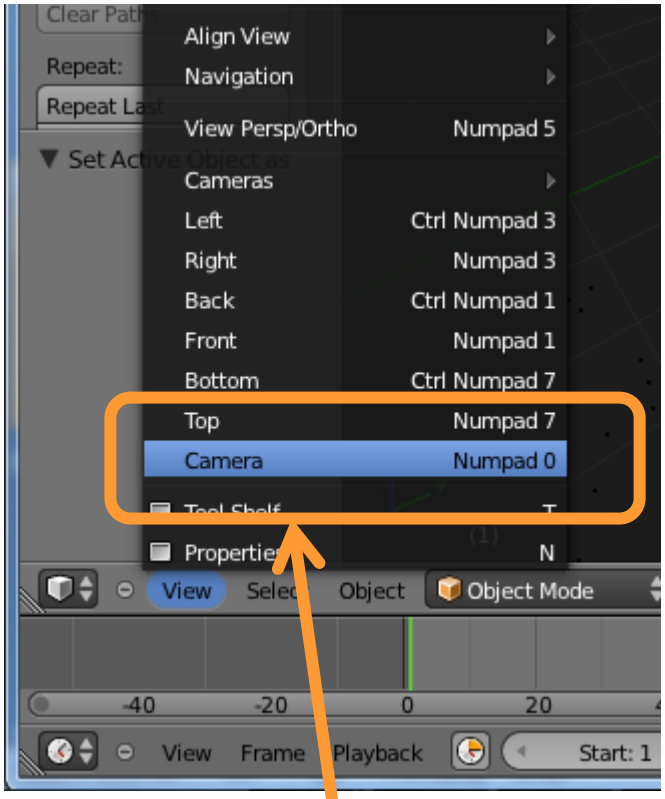


Tick off “Auto Refresh”

Import 3D Motions : Load Background Images

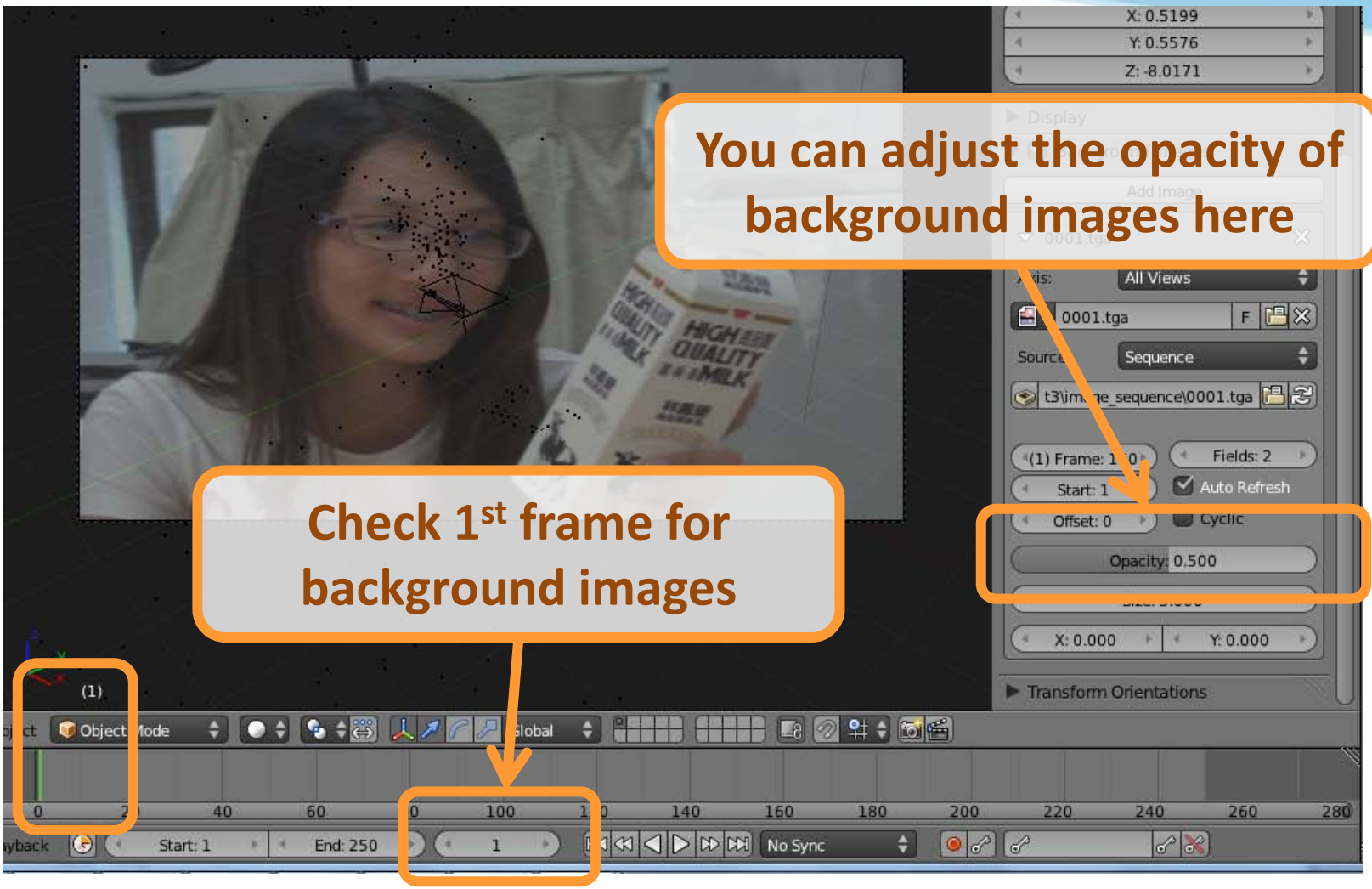


View → View Persp/Ortho

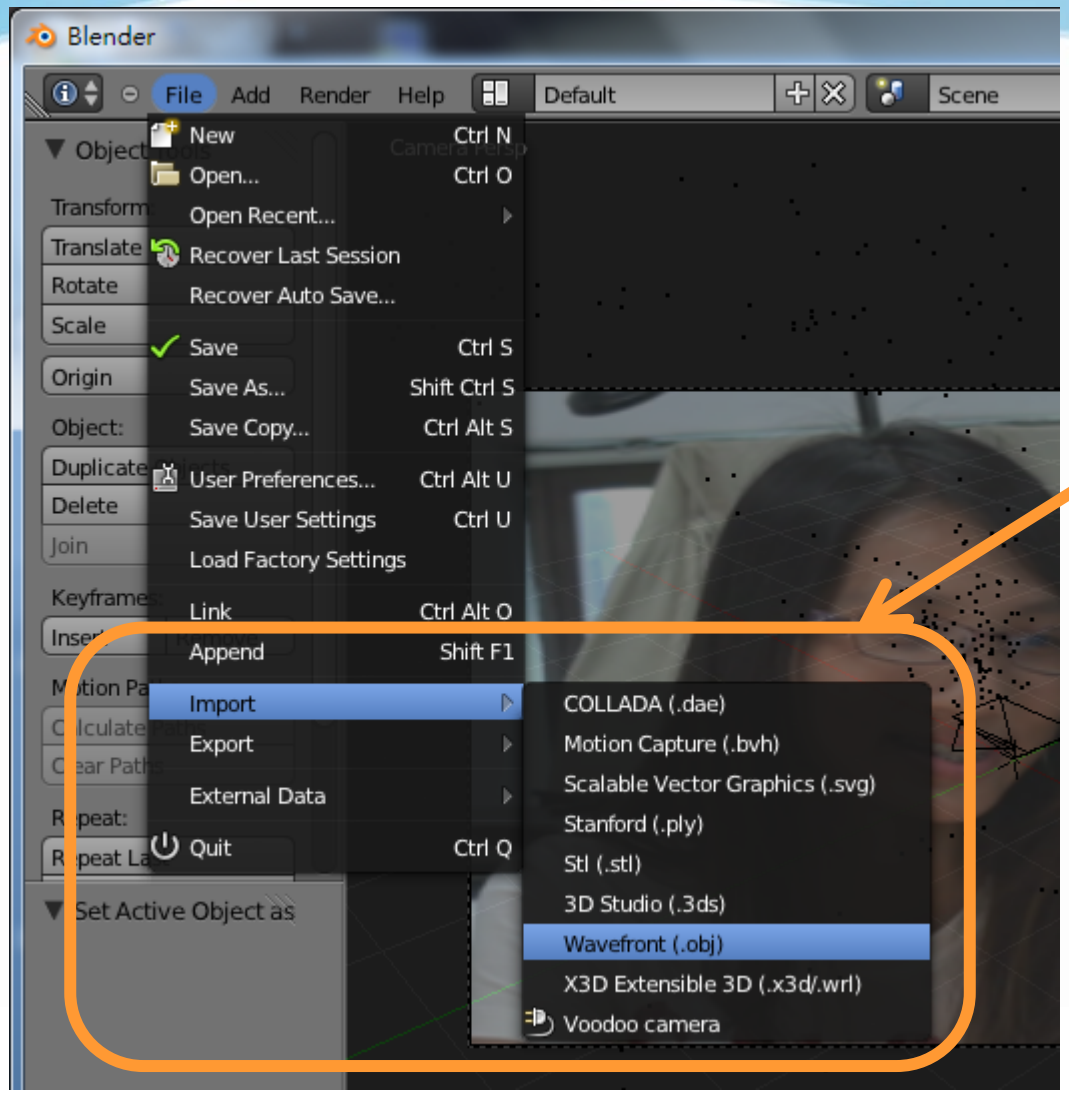


View → Camera

Import 3D Motions : Load Background Images

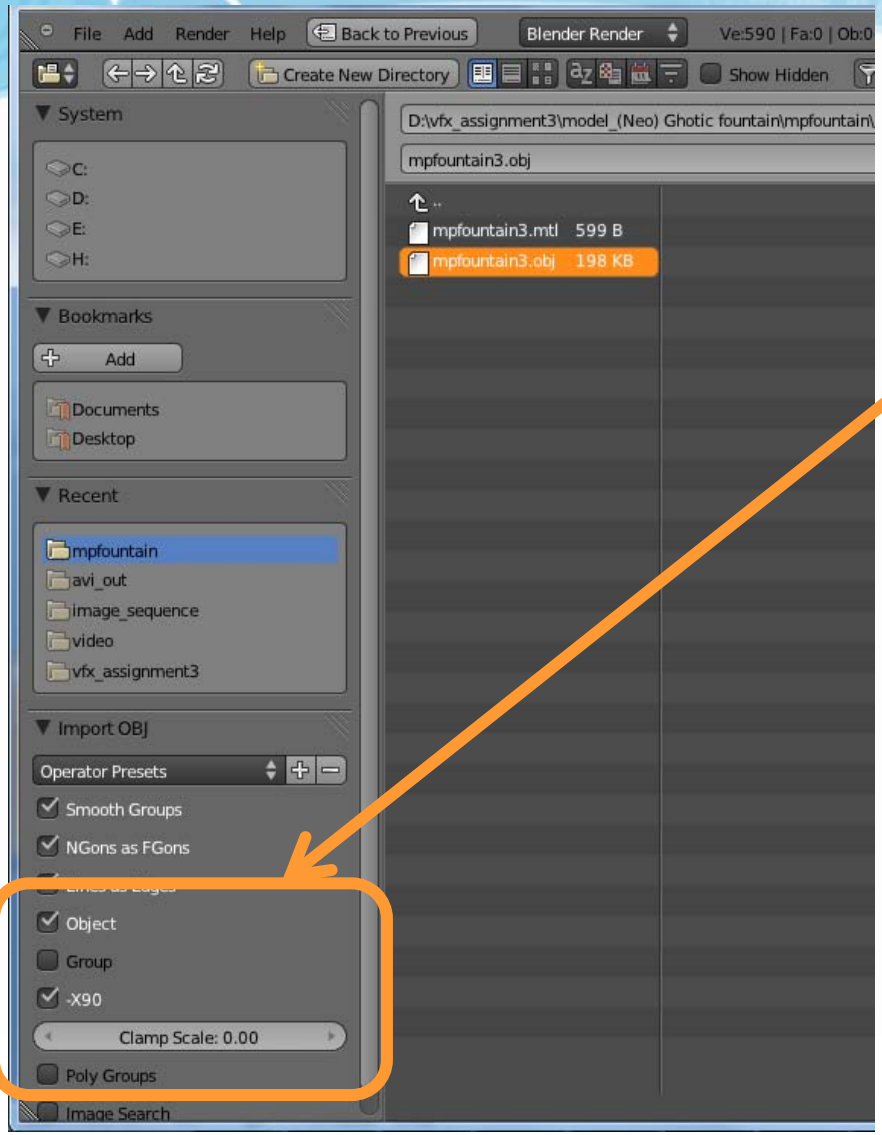


Import 3D Motions : Load Models

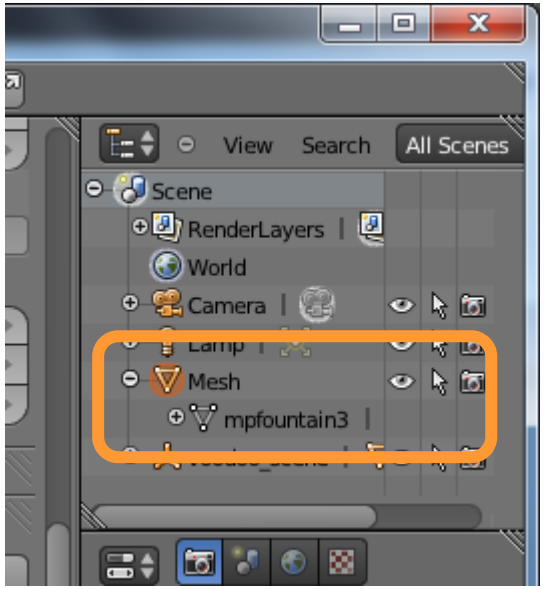


File → Import → "Model Type"

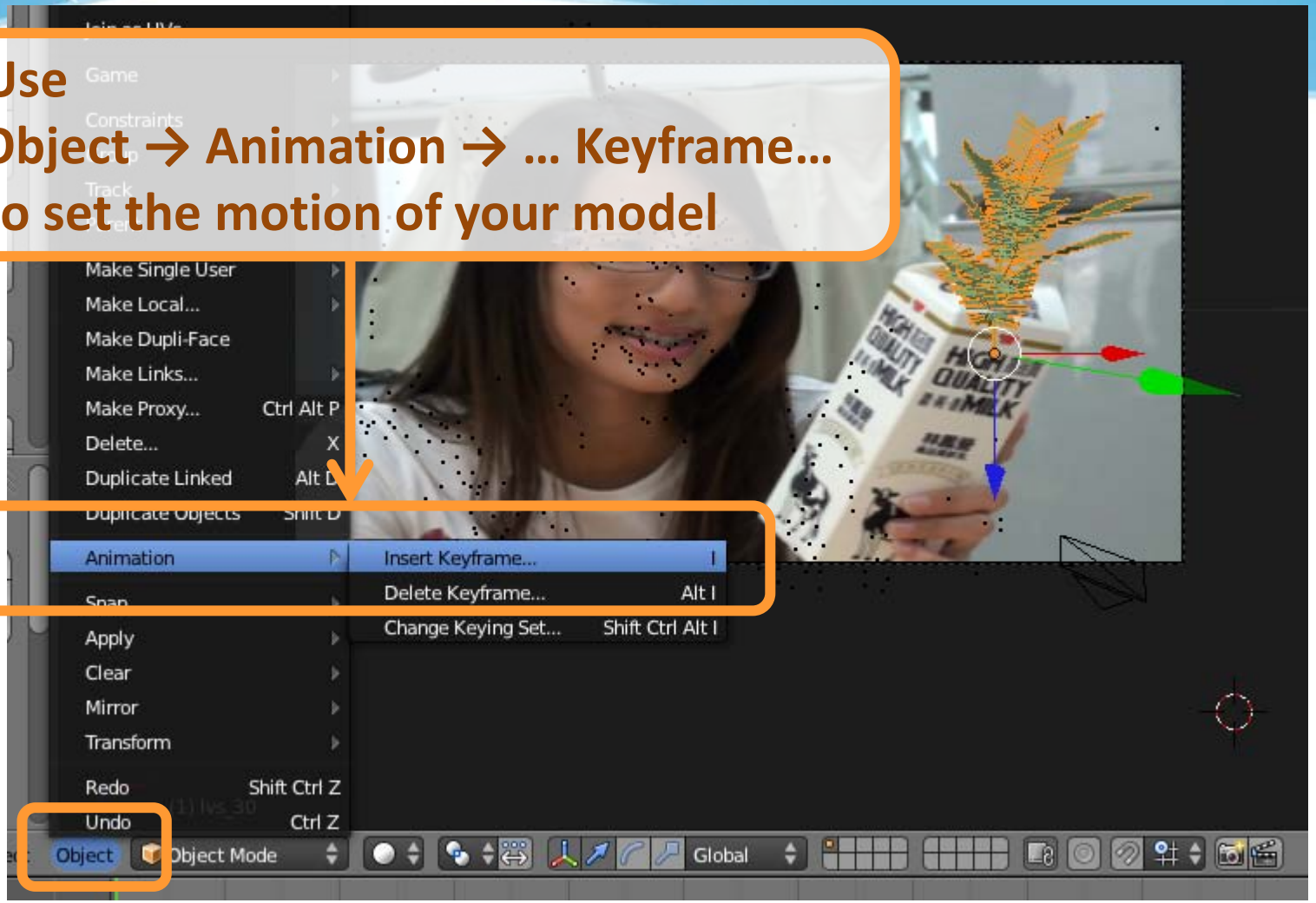
Import 3D Motions : Load Models



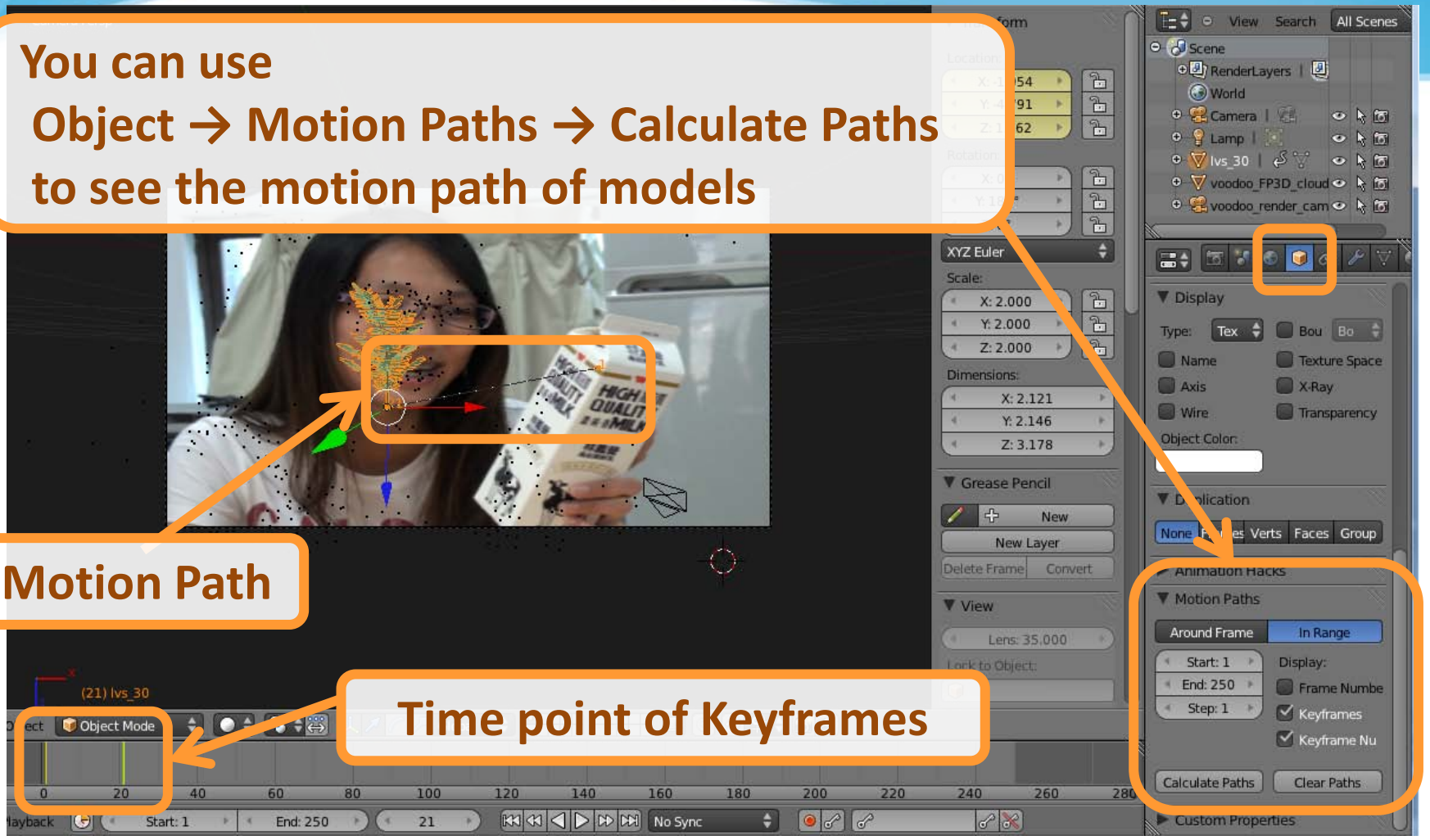
To use the model as a "single object" instead of many "small components" (for finer operations), you can close the group options



Import 3D Motions : Set Keyframes



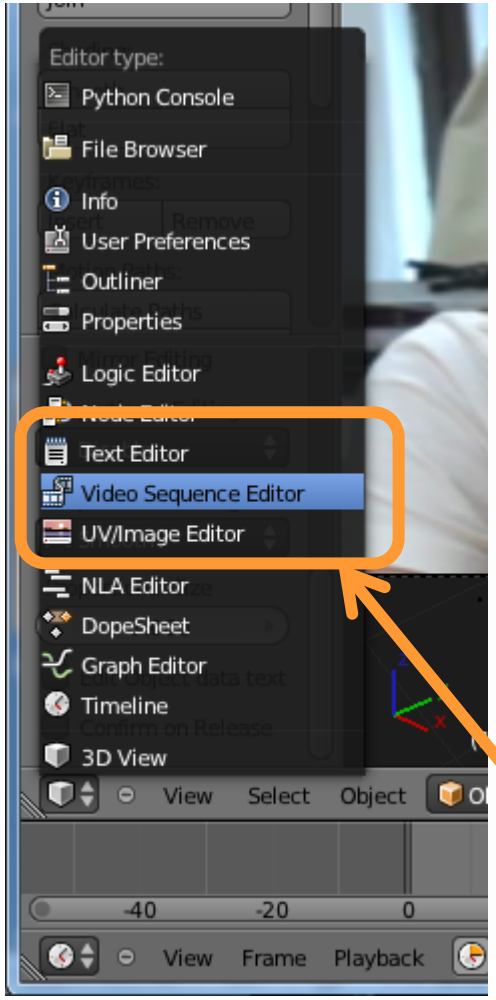
Import 3D Motions : Set Keyframes

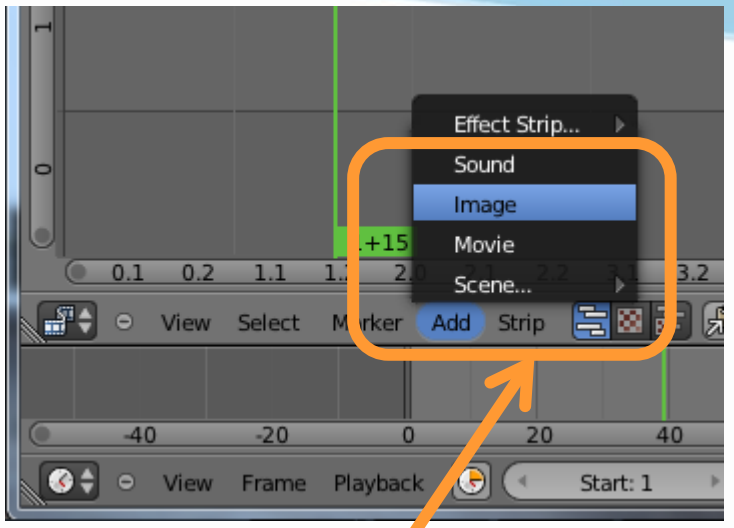


Recipe: Compositing

- 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
- Add Scene
  - Select 「**Add** → **Scene**」
  - Drag the scene strip to the "1st Frame" in Layer 2
- Set Scene
  - Change scene property to "**Alpha Over**"
  - Set frame and video parameters
- Click **Animation**

Compositing: Add Image Sequence

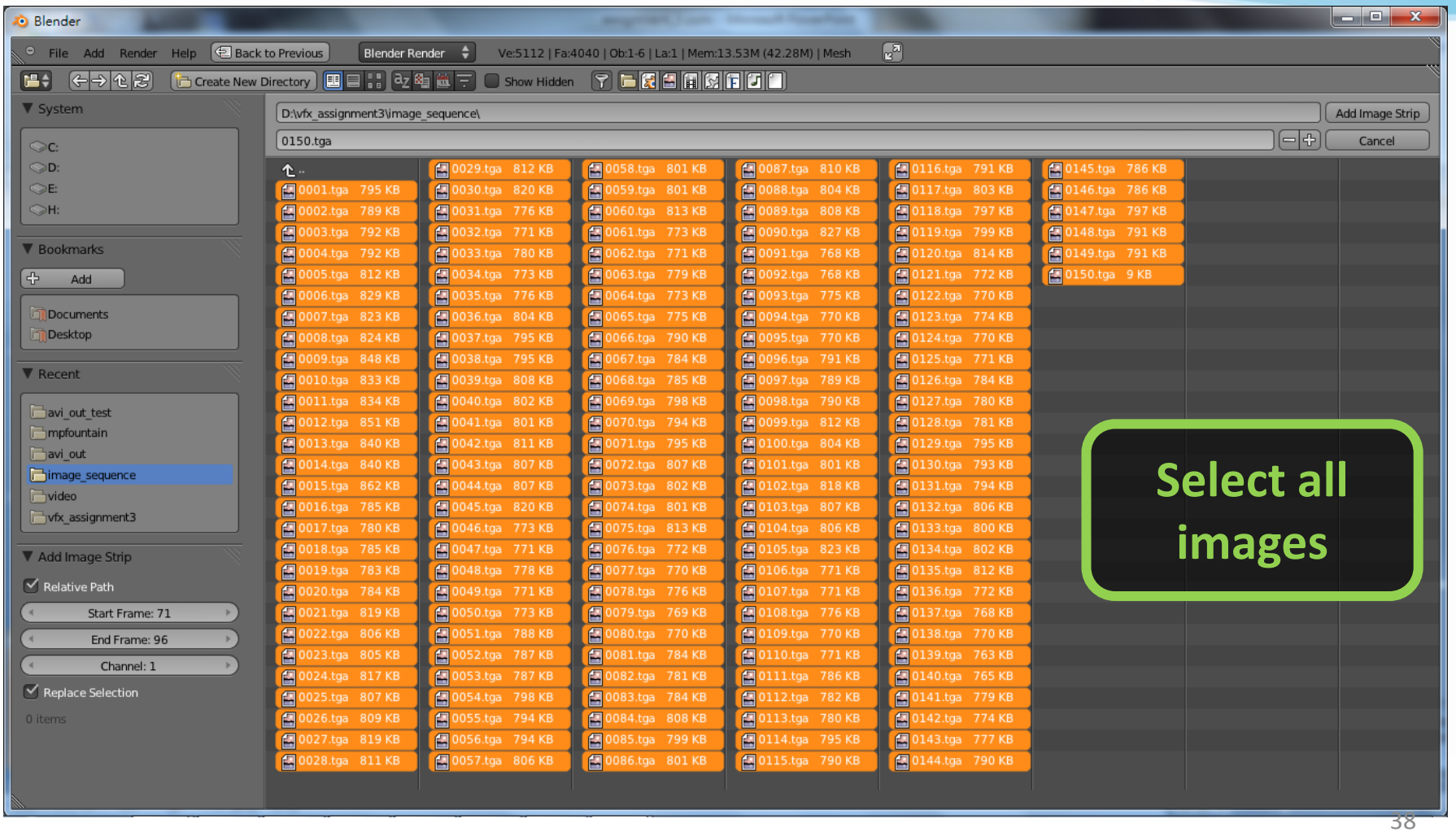




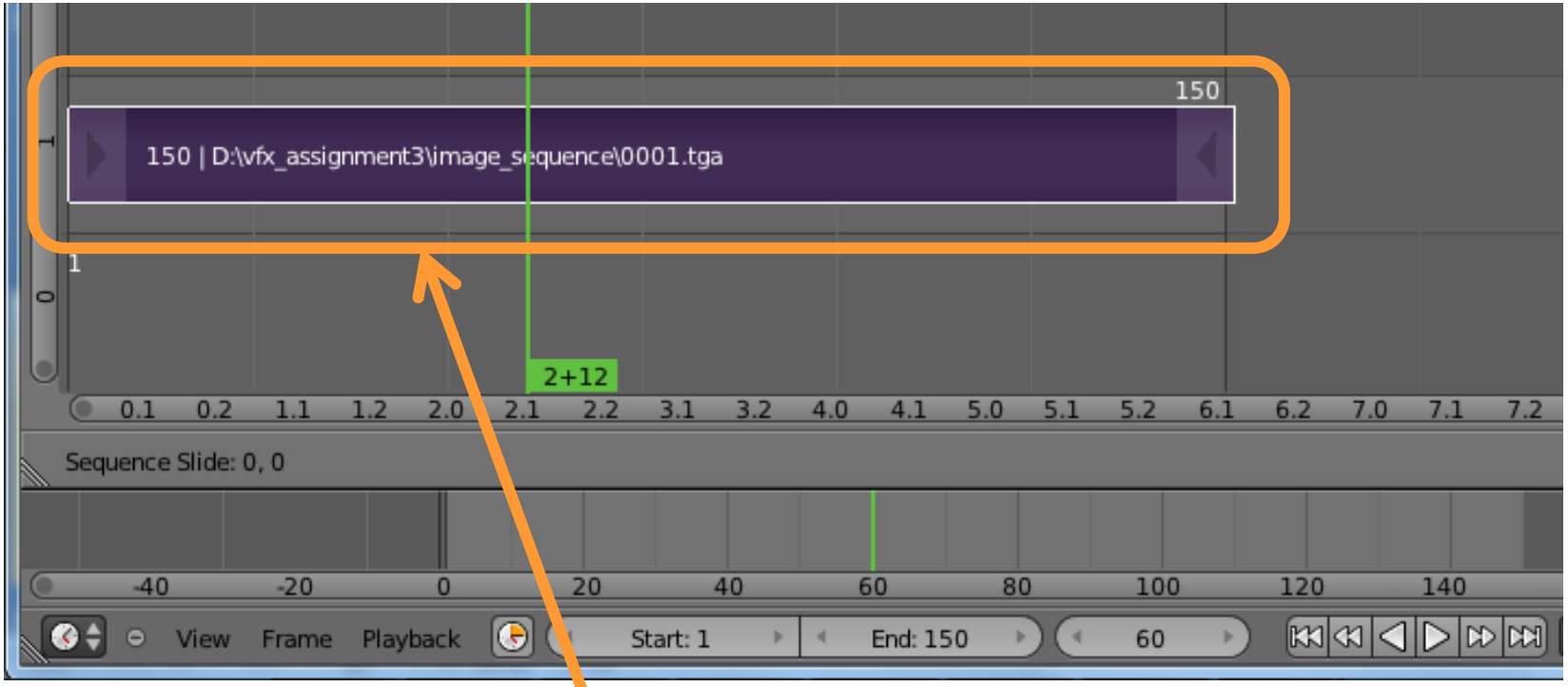
Add → Image

Change Window Type to Video Sequence Editor

Compositing: Add Image Sequence

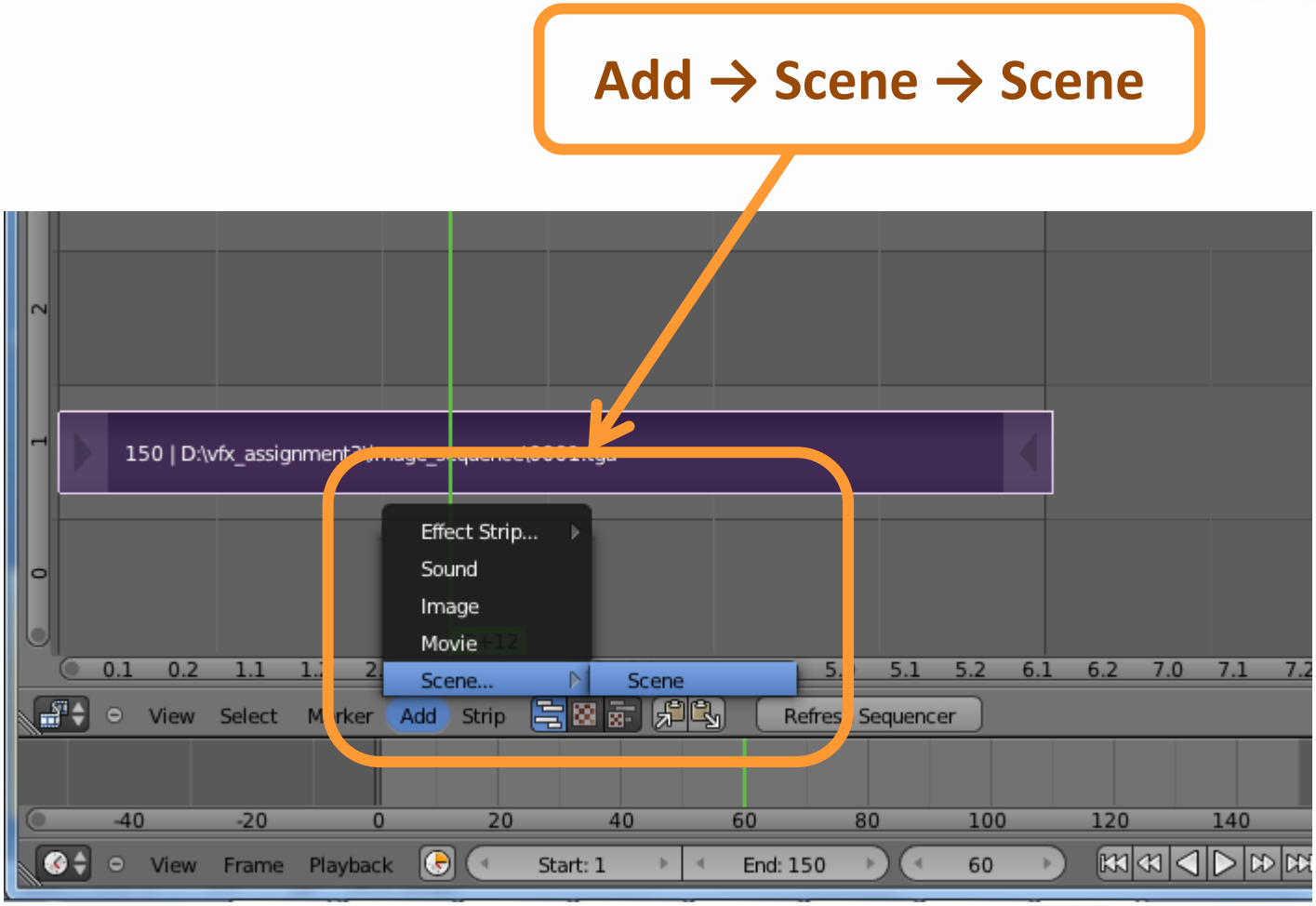


Compositing: Add Image Sequence

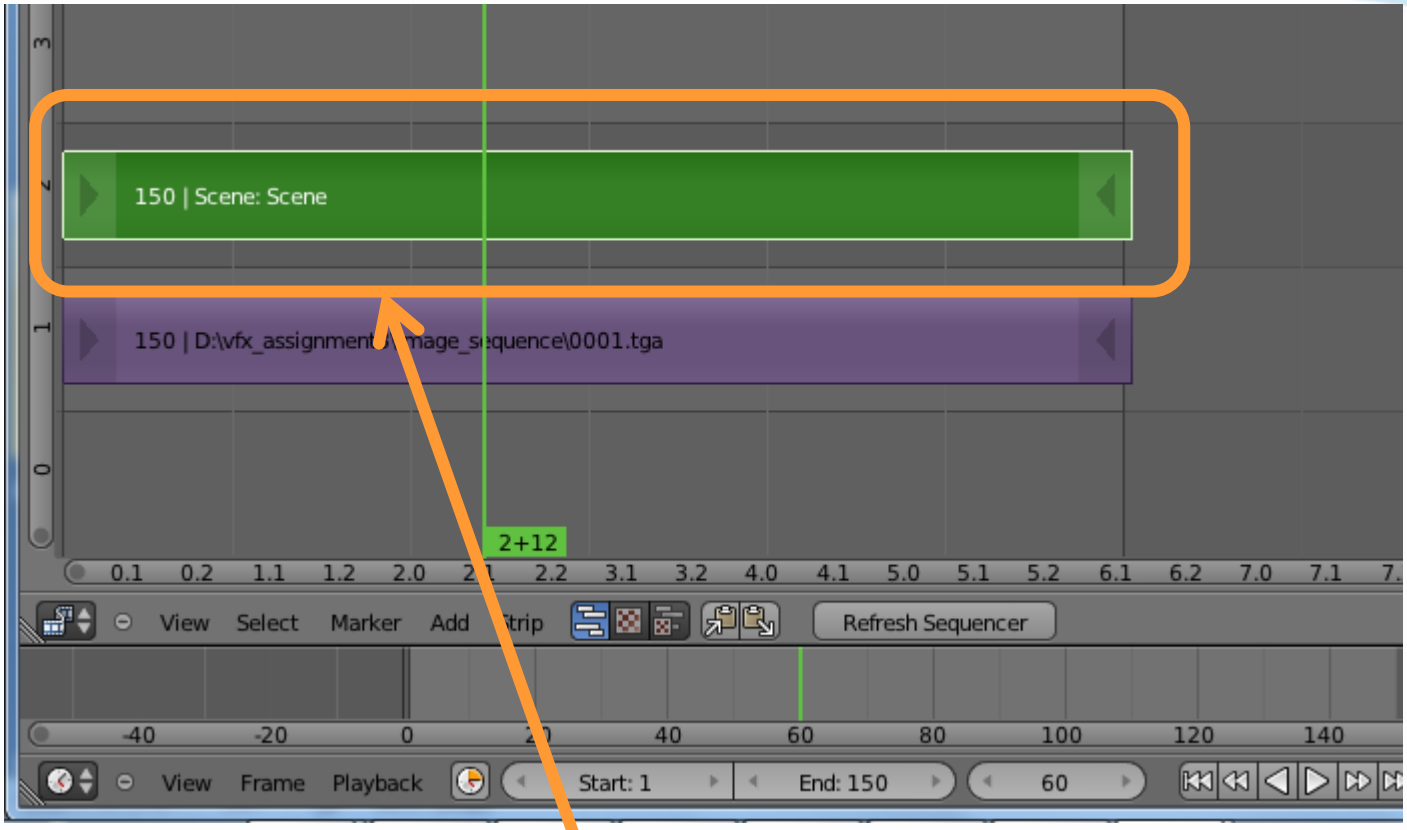


Drag the strip to the "1st Frame" in Layer 1

Compositing: Add Scene



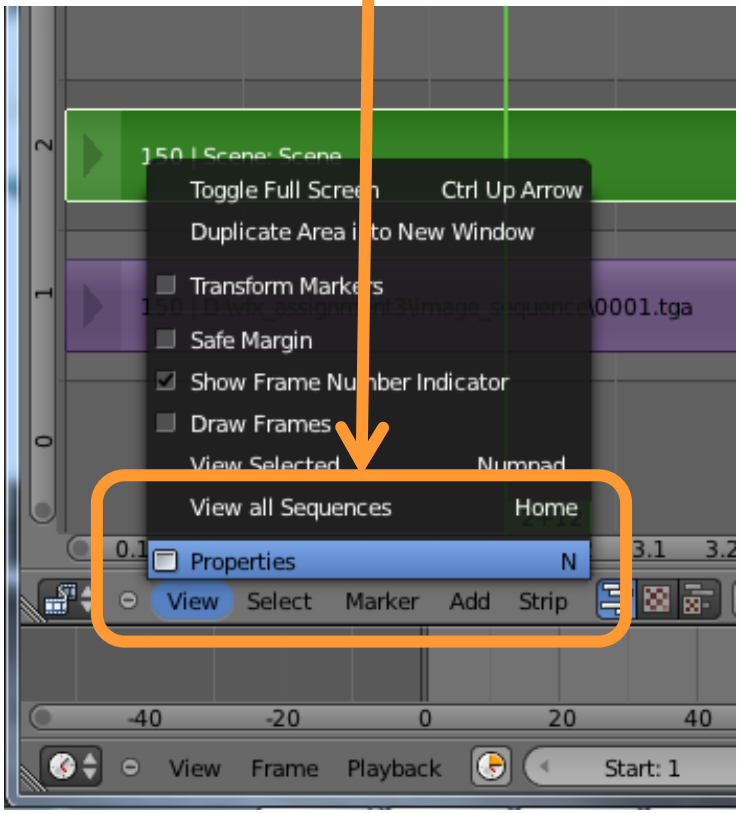
Compositing: Add Scene



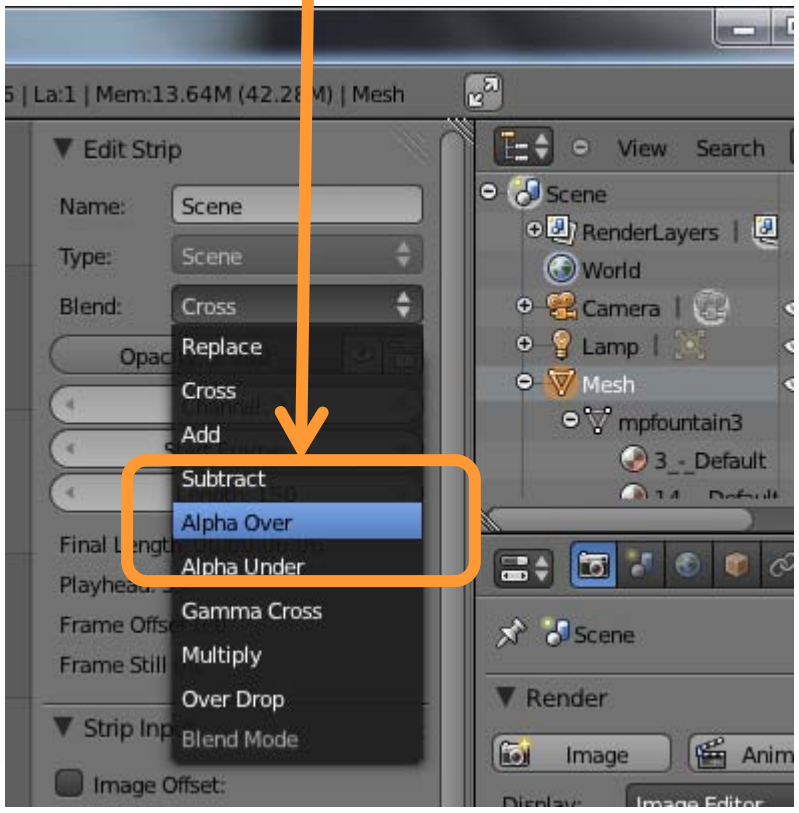
Drag the scene strip to the "1st Frame" in Layer 2

Compositing: Set Scene

View → Properties

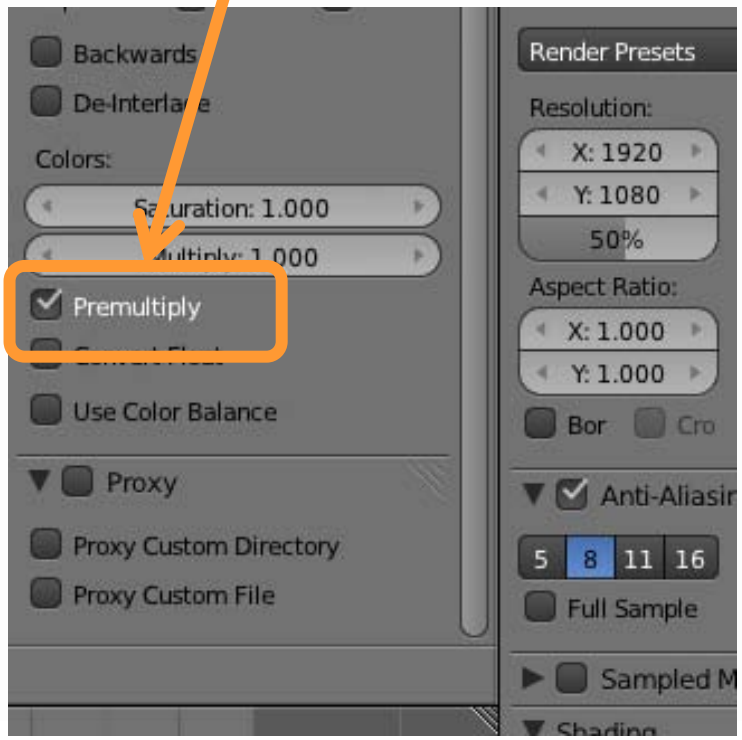


Select "Alpha Over"



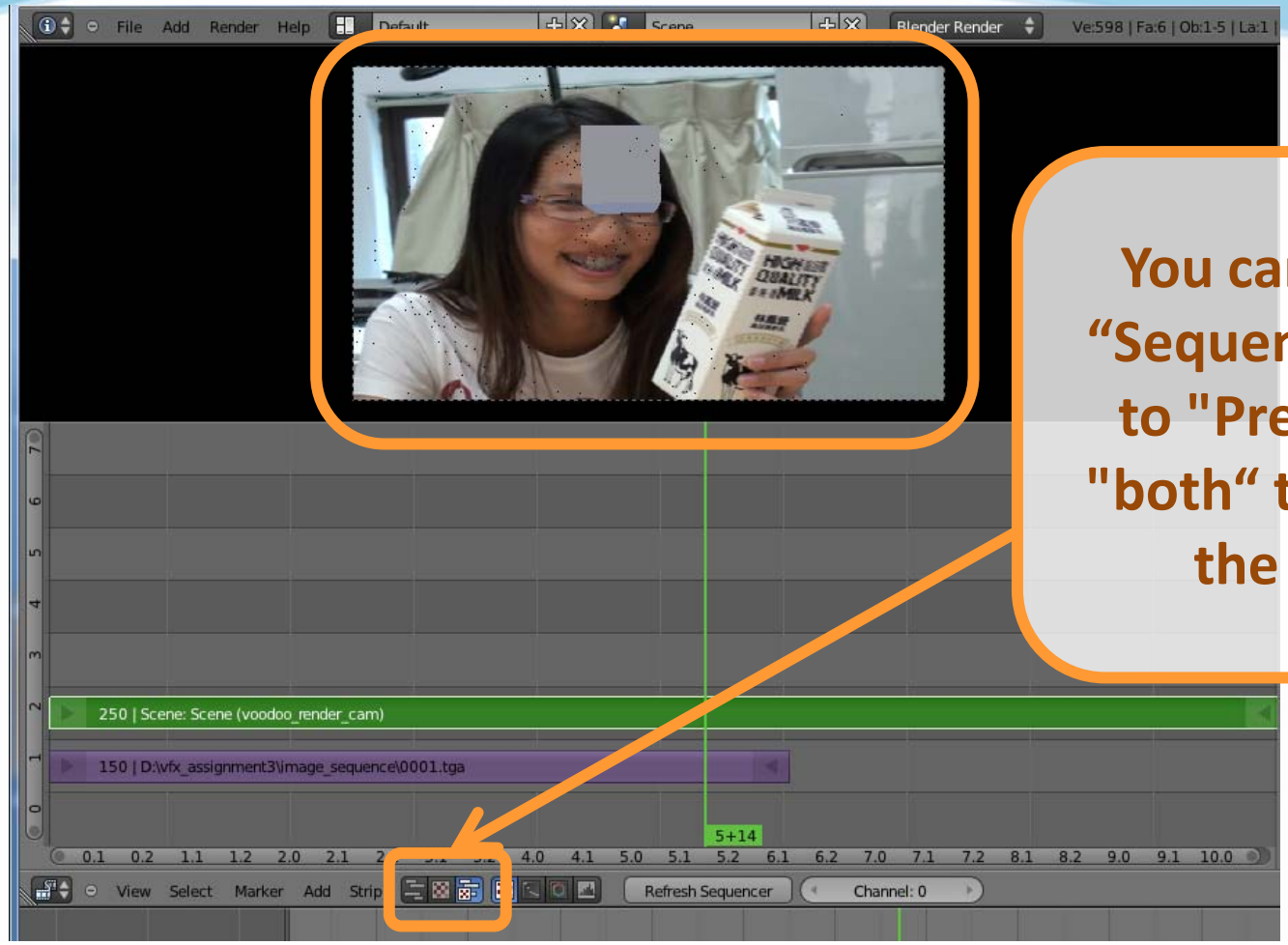
Compositing: Set Scene

Tick off “Premultiply”



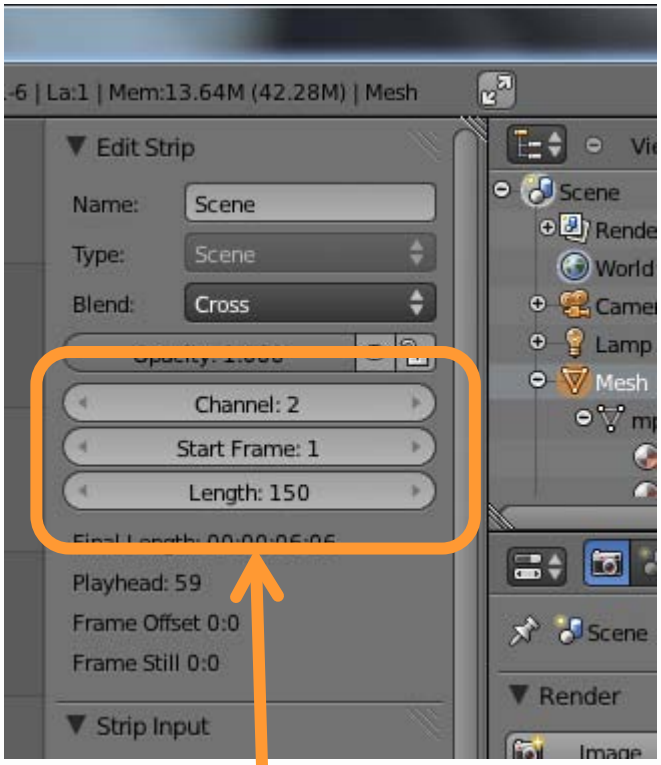
Select ”Voodoo_render_cam”

Compositing: Output Video

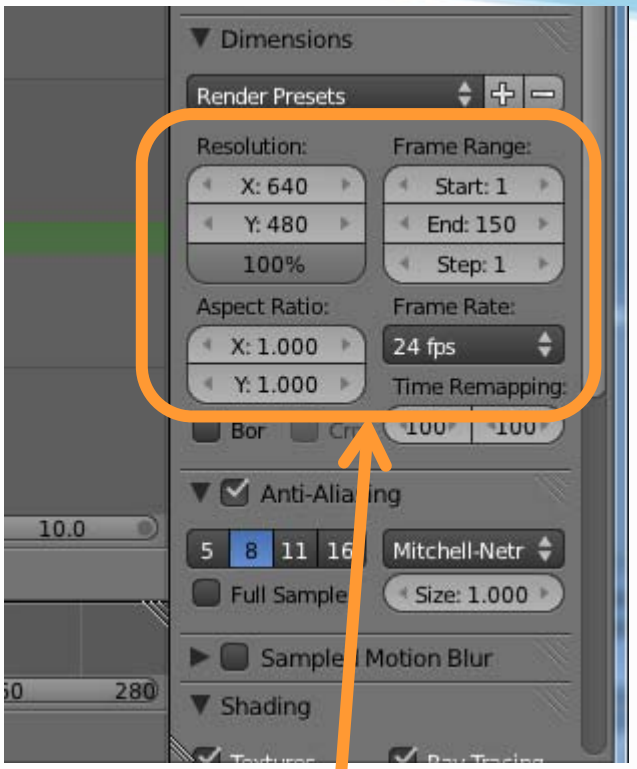


You can change “Sequencer view” to "Preview" or "both“ to preview the result

Compositing: Set Scene

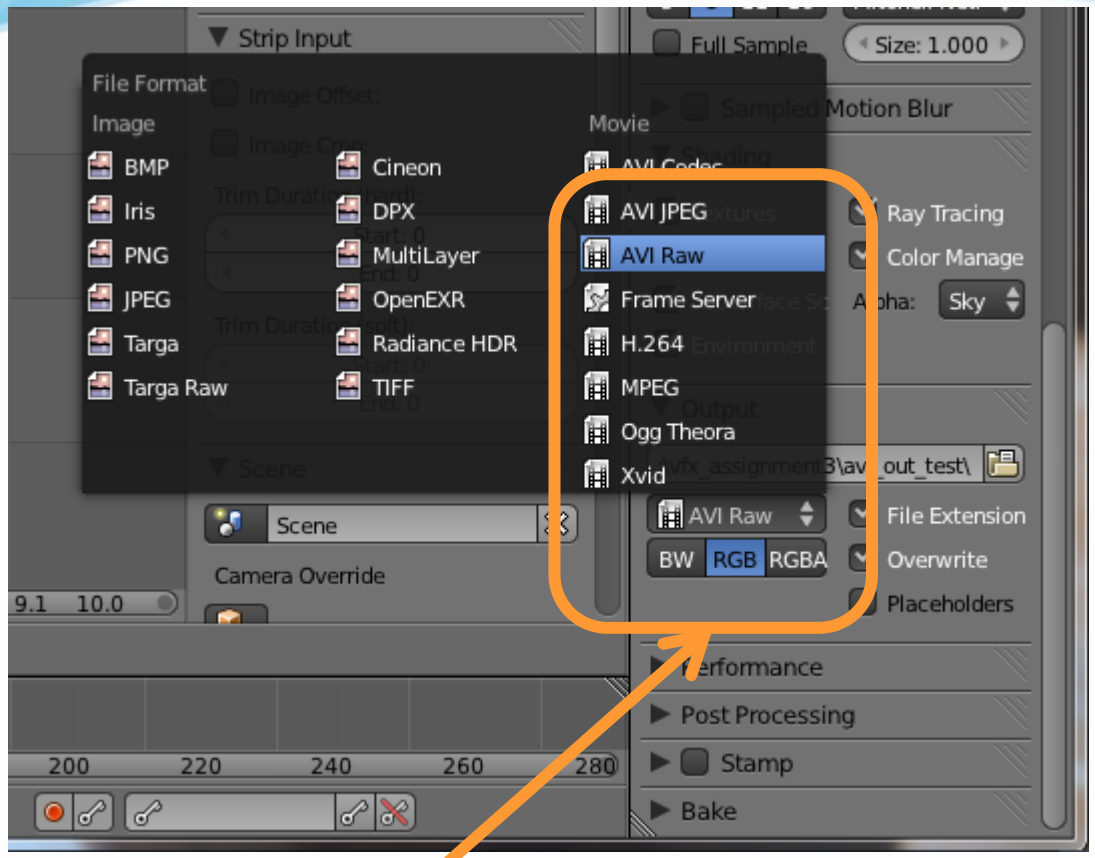


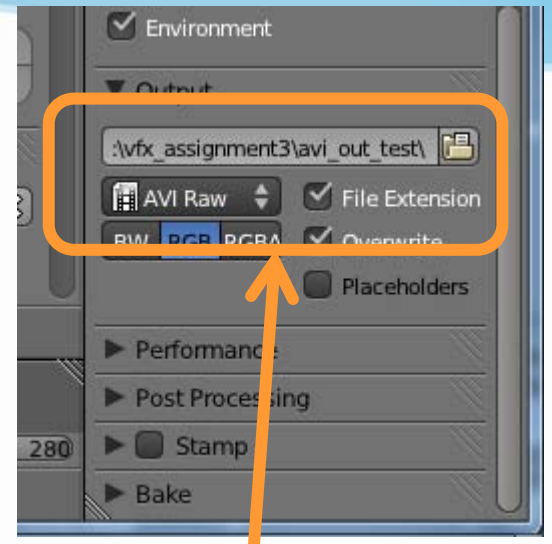
Set “Start Frame” and “(Video) Length”



Set video resolution, Frame (time) range & Frame rate

Compositing: Output Video

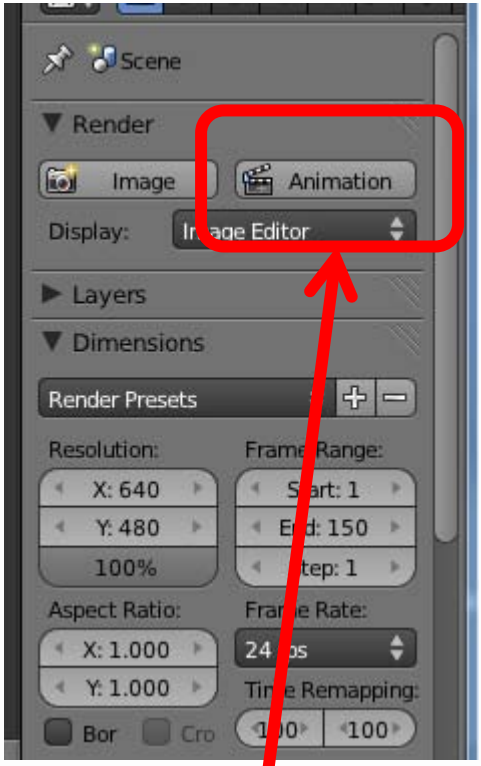




Select output video type

Select output directory

Compositing: Output video



Click Animation!

Example of Composited result

Reference

- Blender
  - Official website

    http://www.blender.org/
  - 2.57a release log

    http://www.blender.org/development/release-logs/blender-257/
  - 2.57a demo

    http://vimeo.com/21780715
  - Overview of 2.57

    http://vimeo.com/22358302

Reference

- Blender
  - Basic video tutorial for 2.56 & 2.57 [1~8]
    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=dREGzpAGKyA
  - Older versions
    http://download.blender.org/release/

Reference

- 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

Reference

- 使用 Blender 以及Voodoo 來模擬子彈飛行
  - http://newwork2000.blogspot.com/2009/10/blog-post.html
- K-Lite Codec Pack
  - Mega http://0rz.tw/df0m1
  - Full, Standard and Basic http://0rz.tw/690HM
- 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 listening