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360° Video Tutorial

These instructions will show you how to shoot 360° video footage with a Ricoh Theta 360° camera, do simple editing in iMovie, and upload the video to Youtube. You can use other 360° cameras and the workflow will be similar. You can also edit the footage in other edit in software.

Definition

360-degree videos, also known as immersive videos or spherical videos, are videorecordings where a view in every direction is recorded at the same time, shot using an omnidirectional camera or a collection of cameras. During playback the viewer has control of the viewing direction like a panorama.(wikipedia)



Shoot your footage

Turn on the Ricoh Theta camera by pressing the power button on the side.



Press the still image/video button on the side to put the camera in video mode. The mode is indicated by the camera or video camera icon on the front.



Start recording by pressing the shutter button on the front of the camera. A red light below the video icon will blink while camera is recording. Stop recording by pressing the same button.



Your videos will save to the camera's built in micro SD card.

Transfer files from the Theta Camera

Connect the Theta camera to the computer with a micro USB cable. Make sure your camera is powered off when connecting the Theta camera to your camera. The red light on the power button will show.

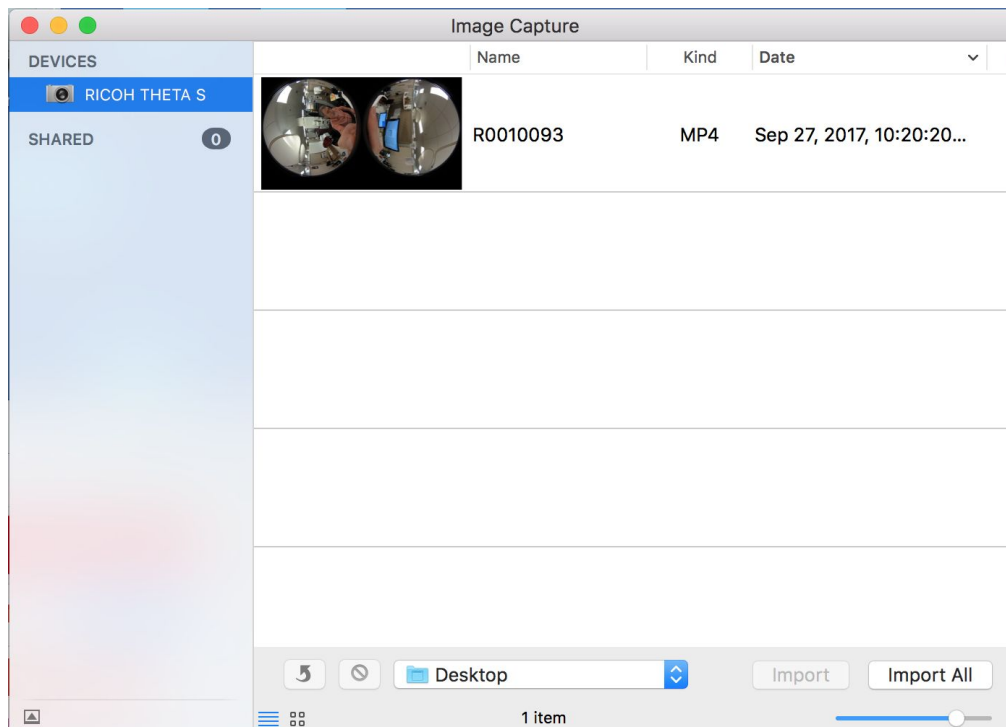
The Mac Photos app will automatically open but don't use it. Click on the Mac search icon.



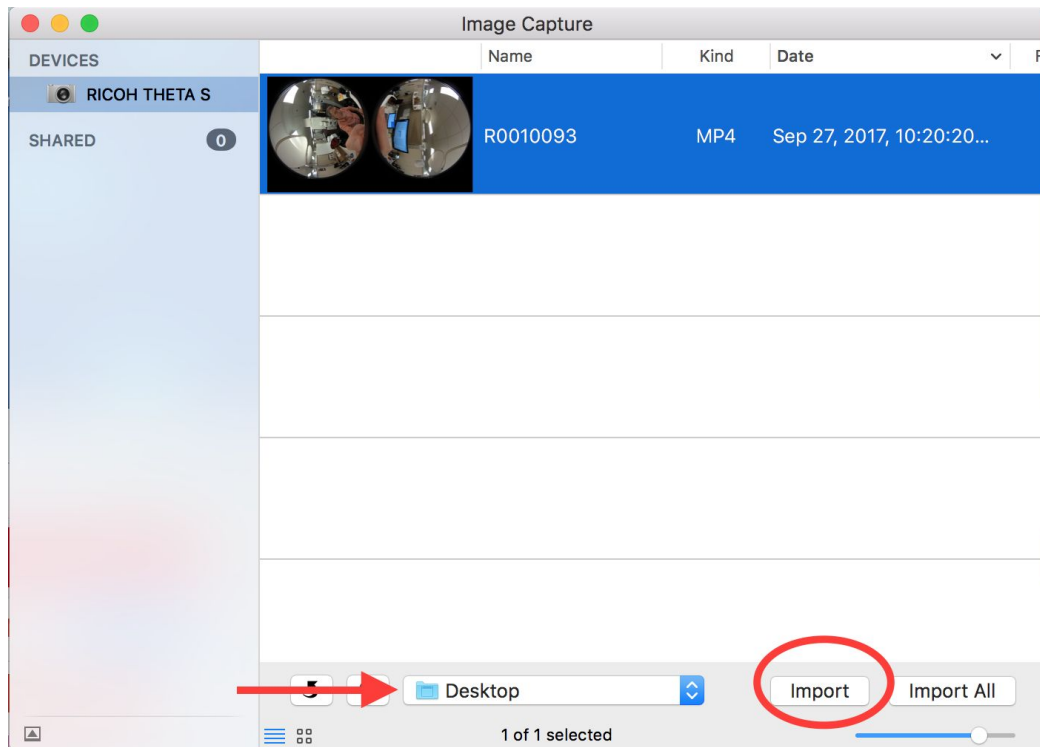
Type in “image capture”



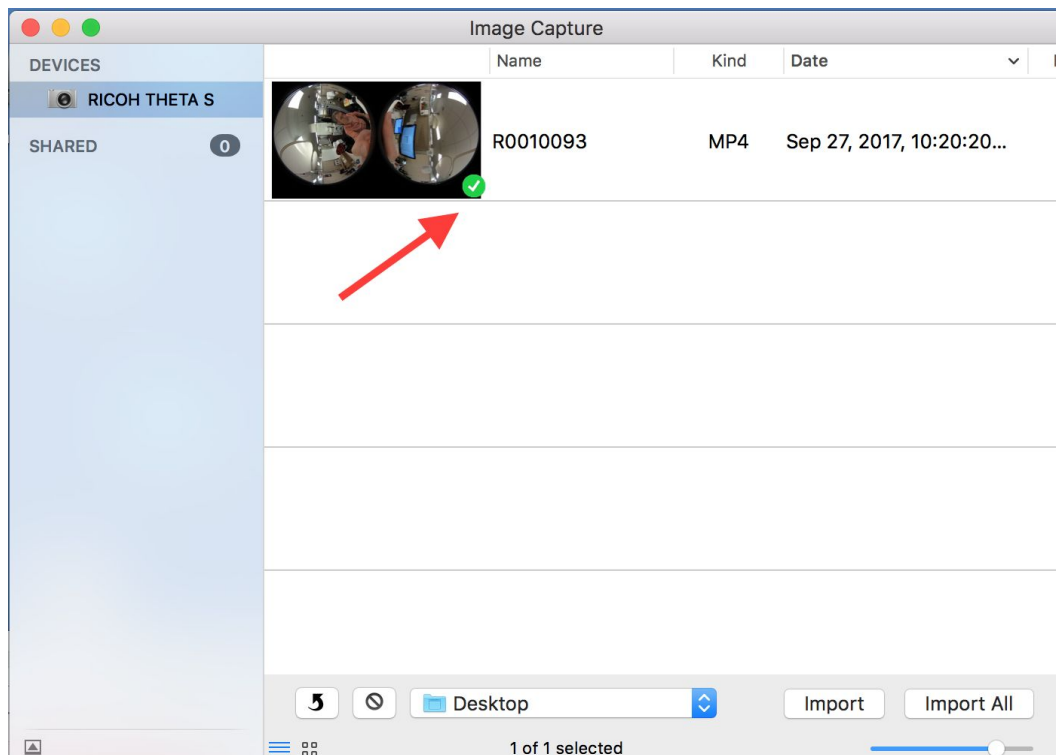
Double click on “Image Capture” to open the app. The Theta camera should be recognized by the app and files on the cameras will appear.



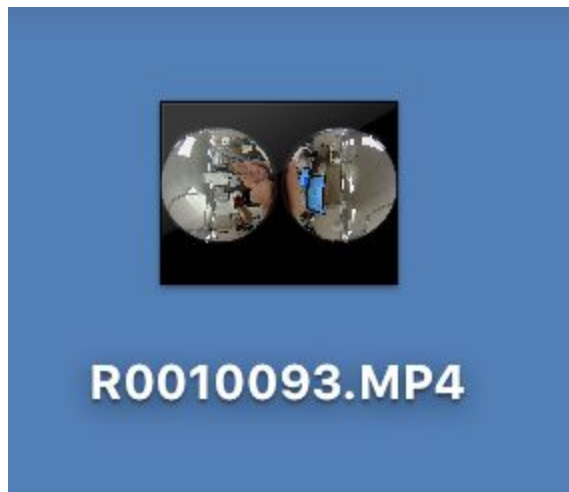
Highlight the files you want to import, make sure “desktop” is the location to save to, and click on import.



After importing the file will have a green circle with a checkmark next to it.



The file will be on the desktop and look something like this.



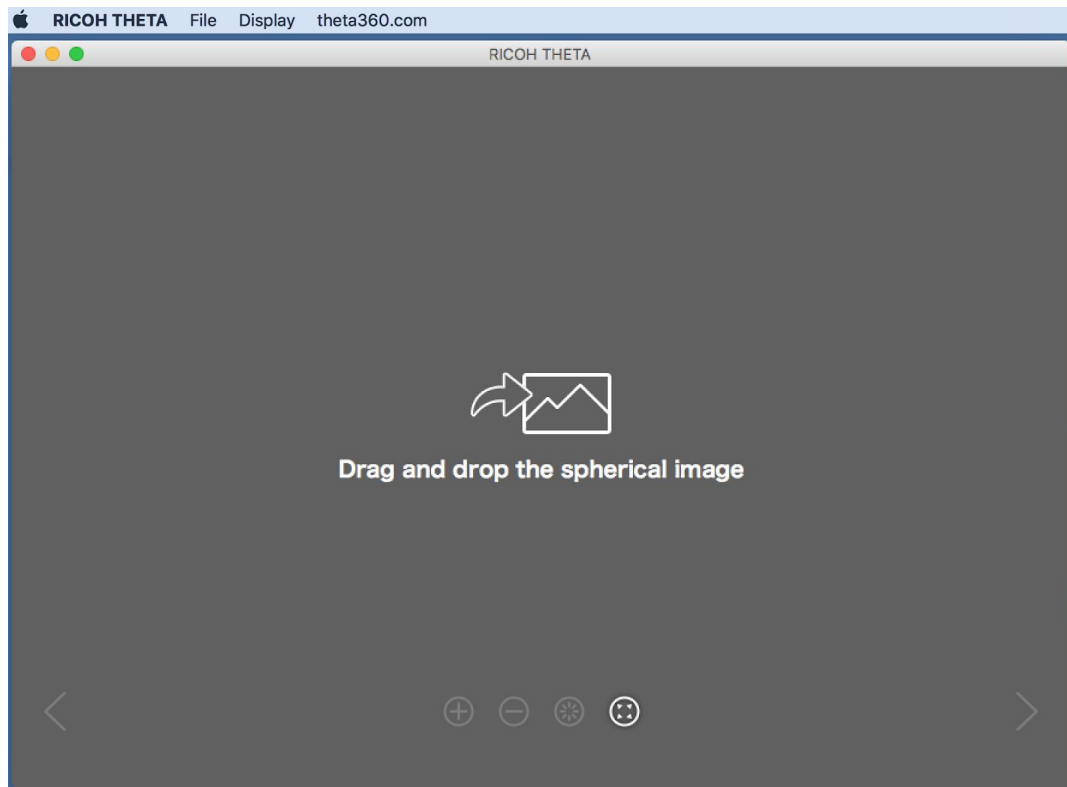
Stitch the Image

Now we need to stitch the two separate images together. Download the free “Basic app” from:
<https://theta360.com/en/support/download/>

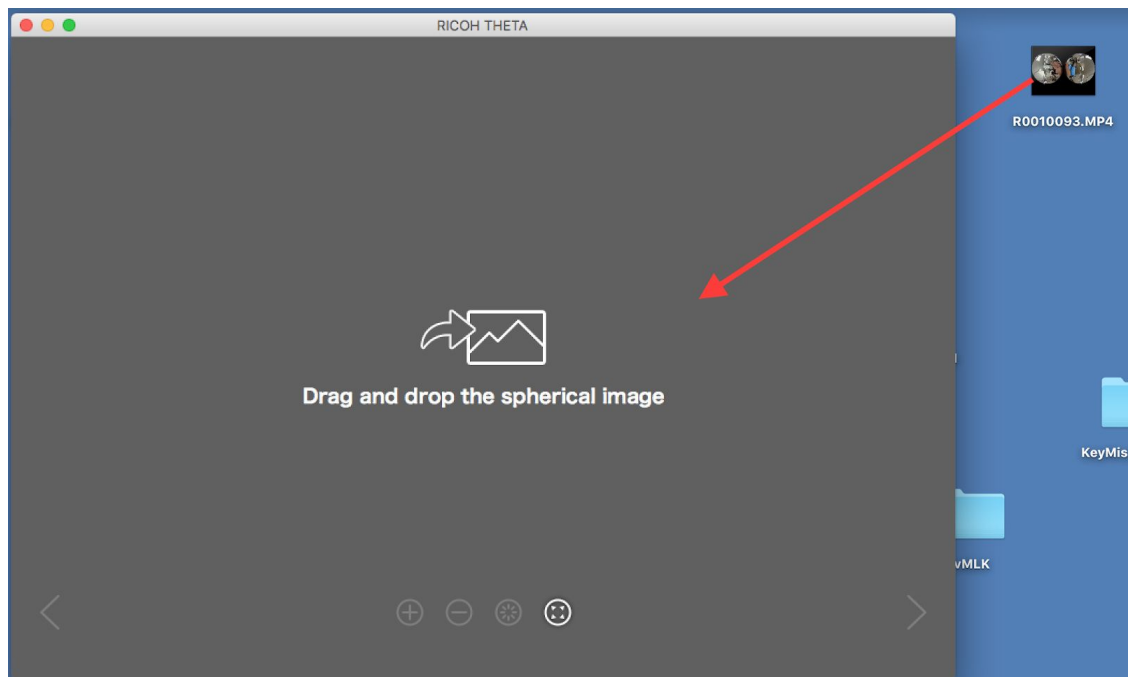
Open the Ricoh Theta app by double-clicking its icon in the toolbar on the computer.



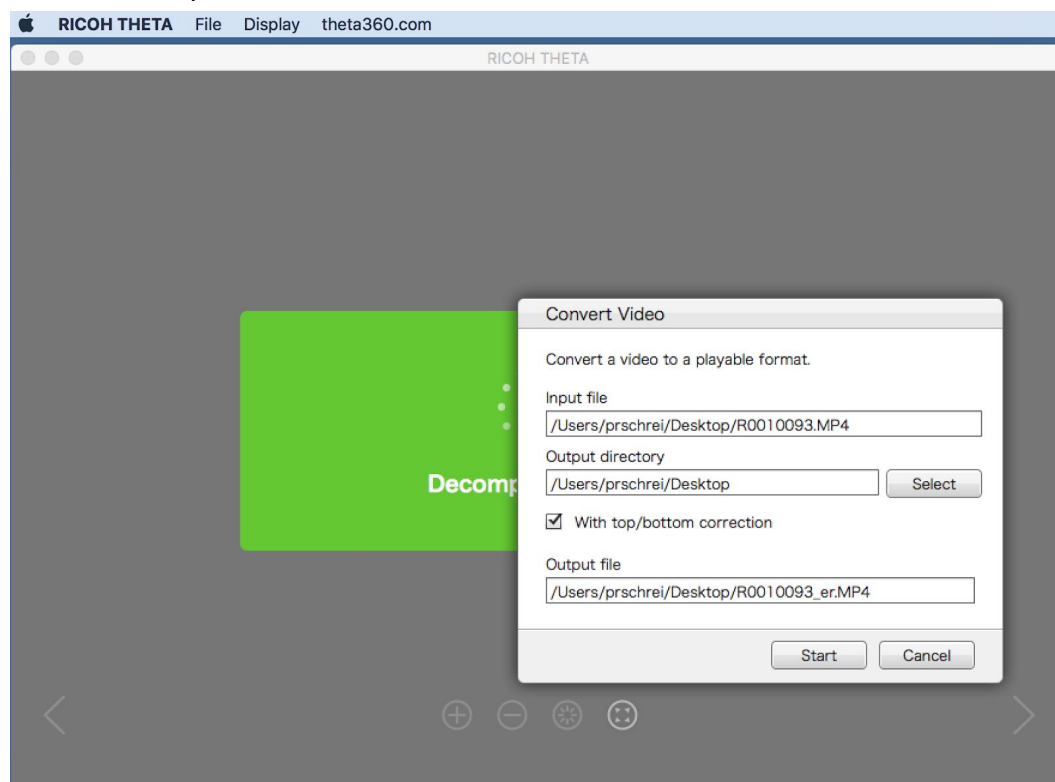
The app will open.



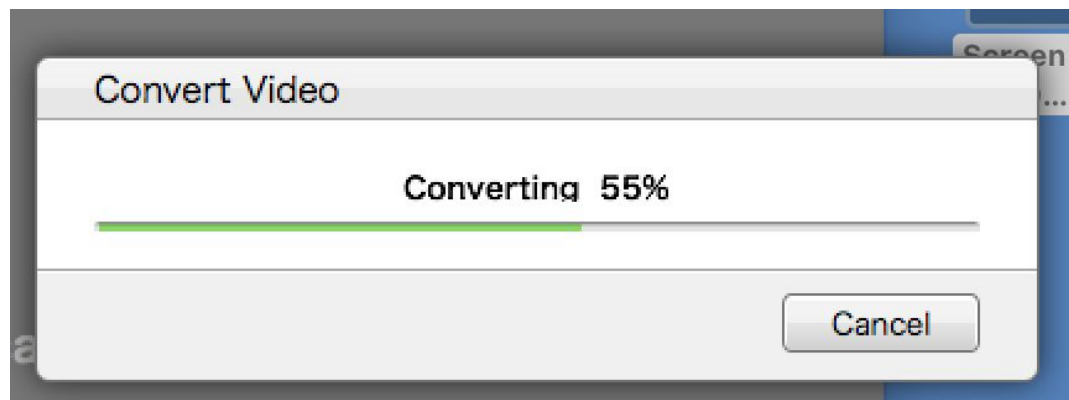
Drag the .mp4 file from the desktop into the app box.



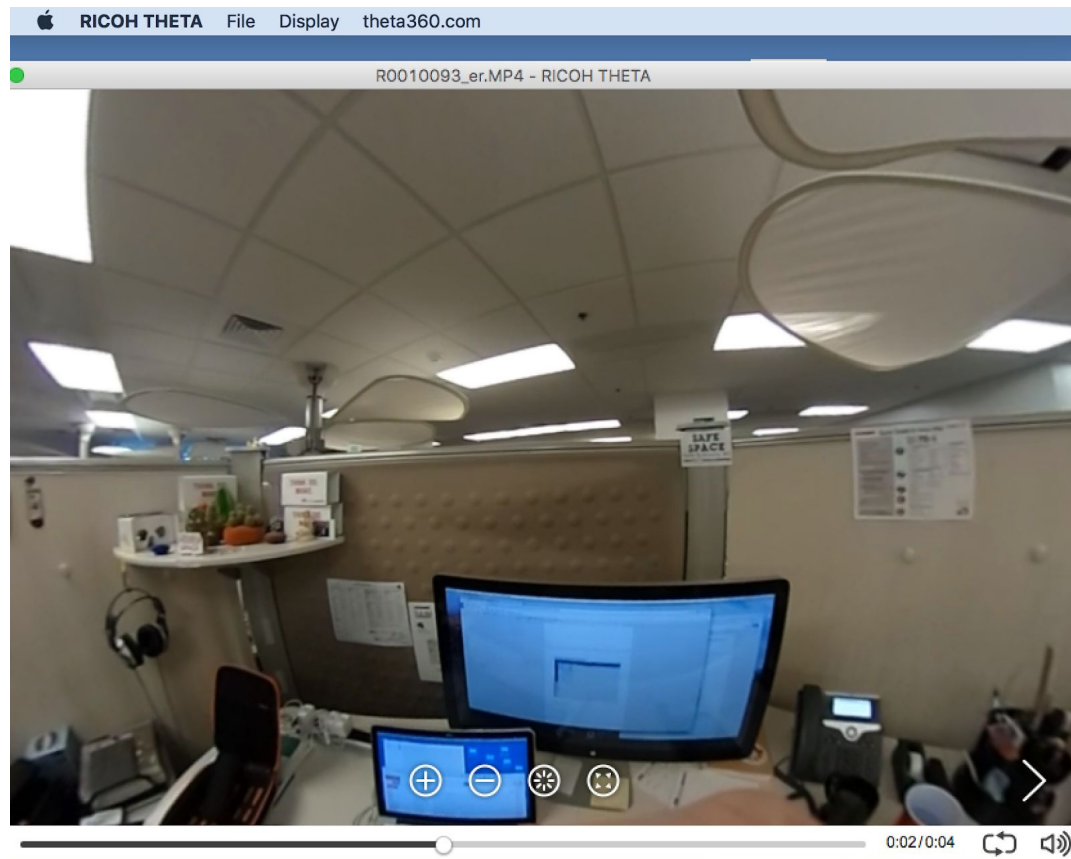
This box will open. Click start.



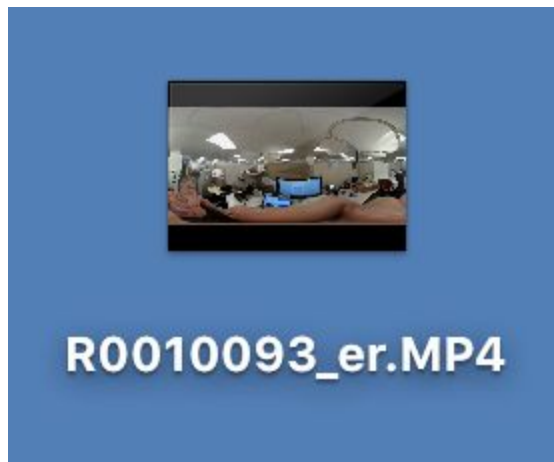
This box will open and show the progress of the conversion.



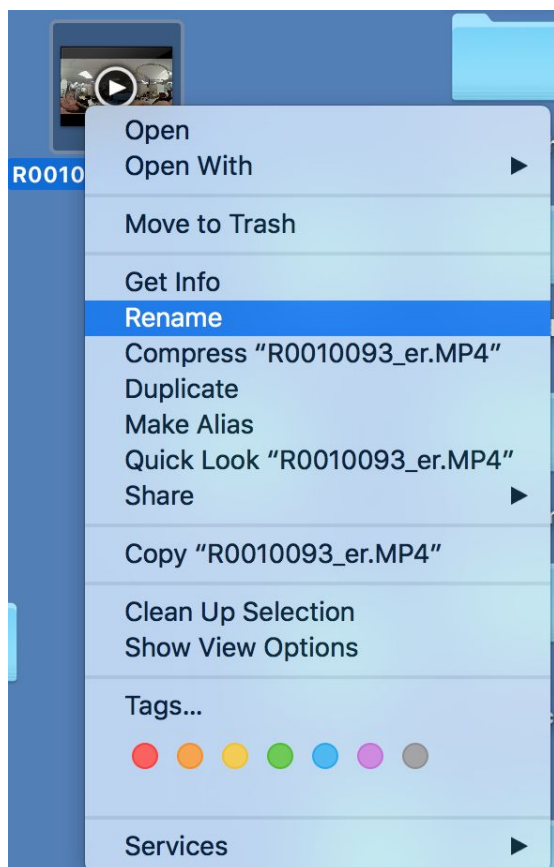
Then your video will play in spherical form in the Ricoh Theta app. This is a chance to review your footage. You can click and drag to see the entire 360° image.



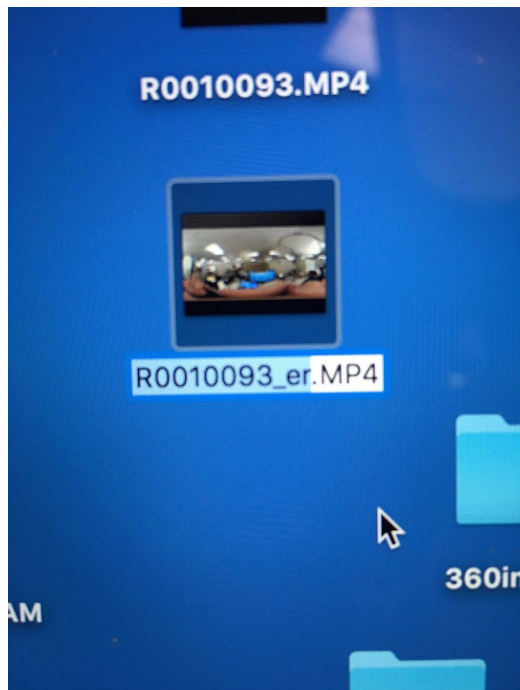
Close the Theta app. Your file will now be saved to the desktop in the stitched format, called equirectangular, and will have “.er” added to the file name.



You may want to rename the file, especially if you have multiple clips, so it's easier to find them later. Control-click on the file and select Rename from the drop down menu.



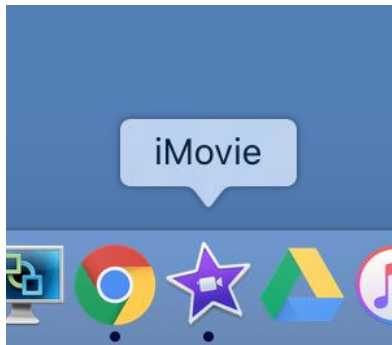
Change the name but keep in the “_er” so you can identify the clip as stitched later.



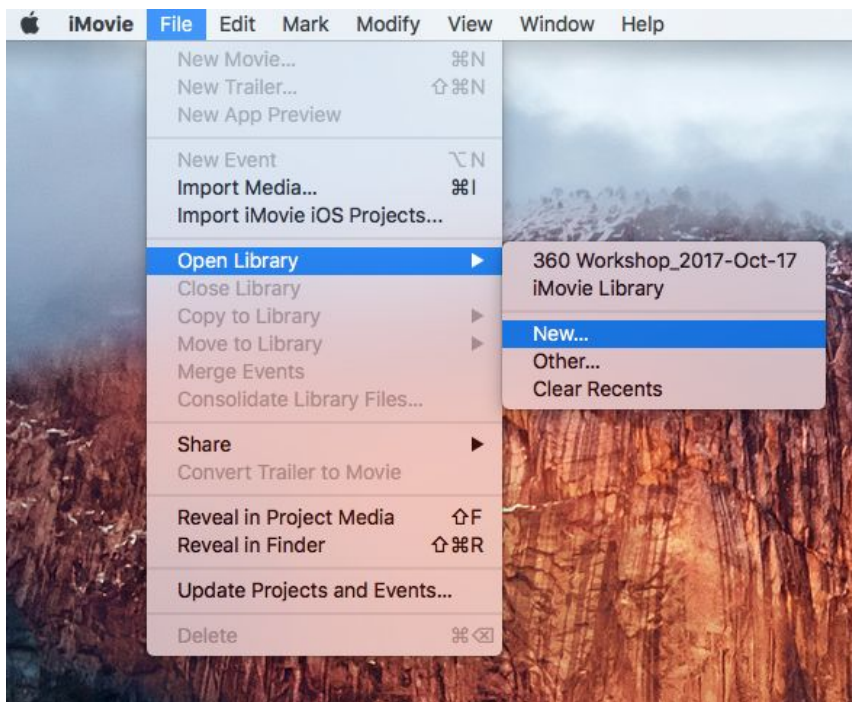
Edit

Now it's time to import the clip into iMovie and edit your movie.

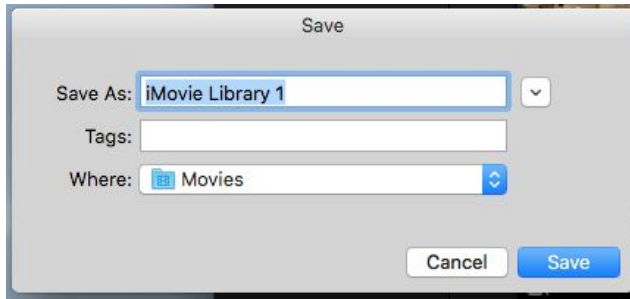
Open iMovie by double-clicking on the app icon in the toolbar.



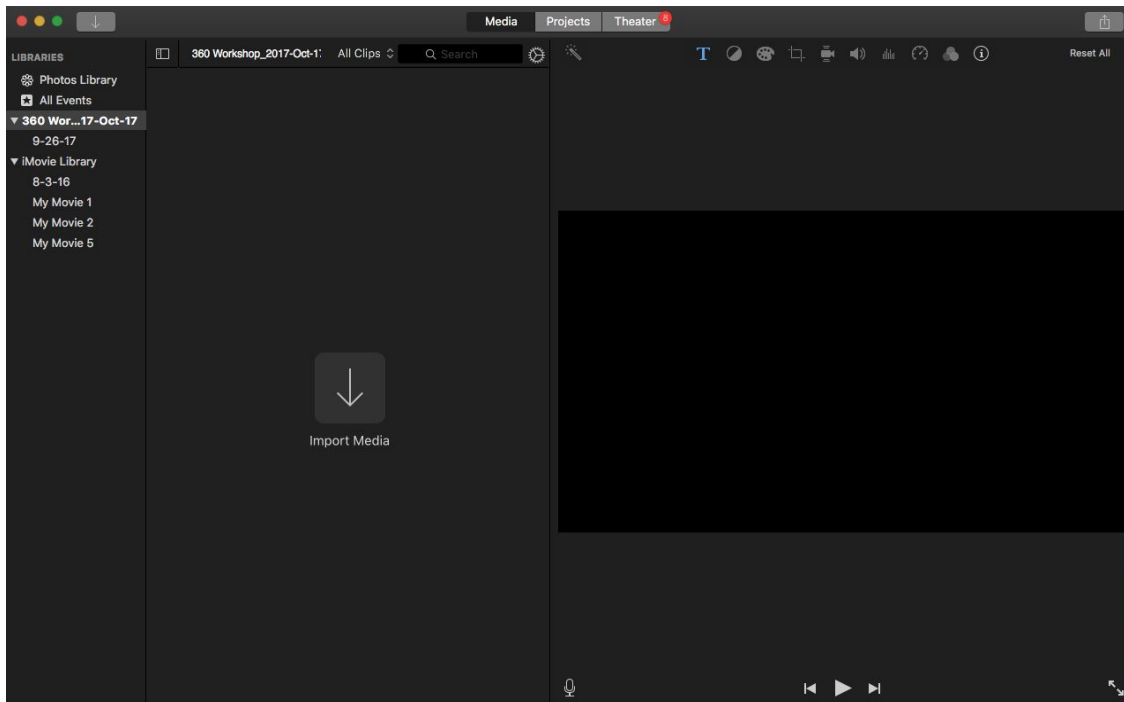
Go to File > Open Library > New



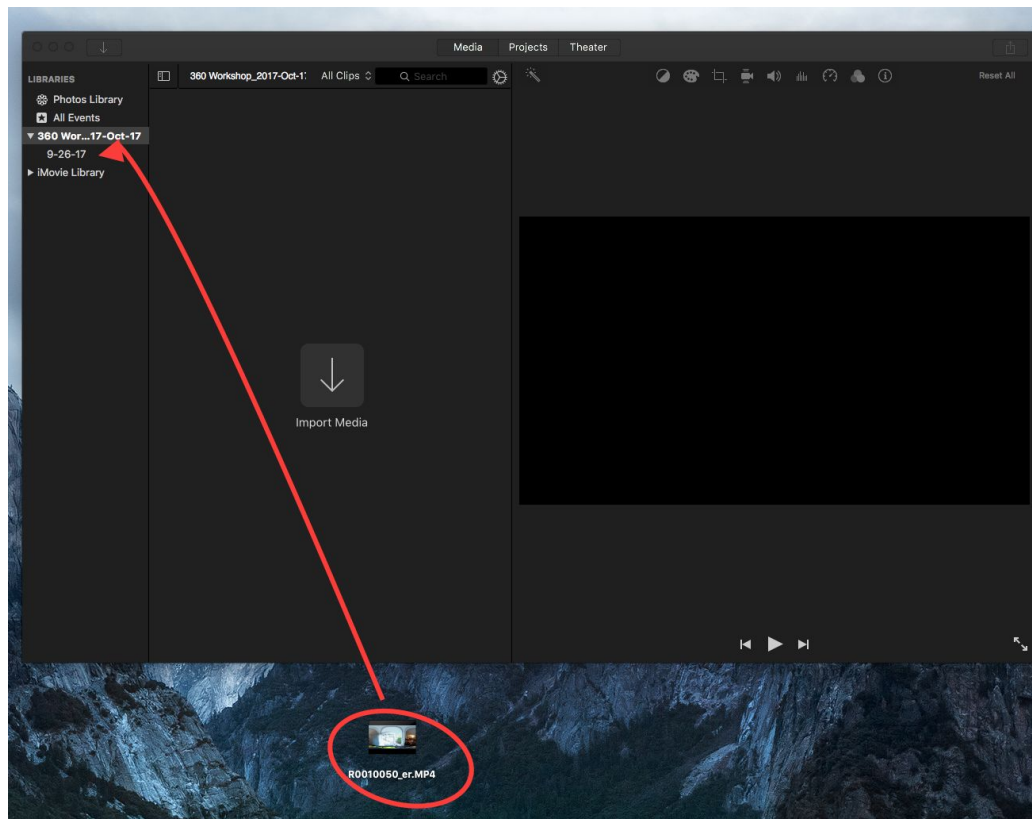
Name your Library



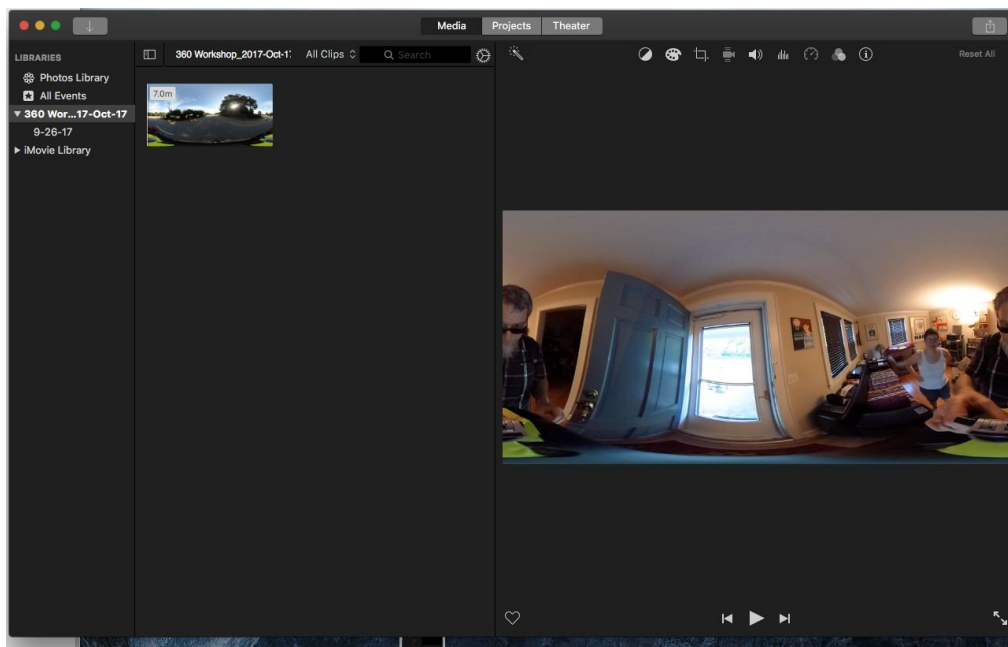
Go to Media and open the Library you created



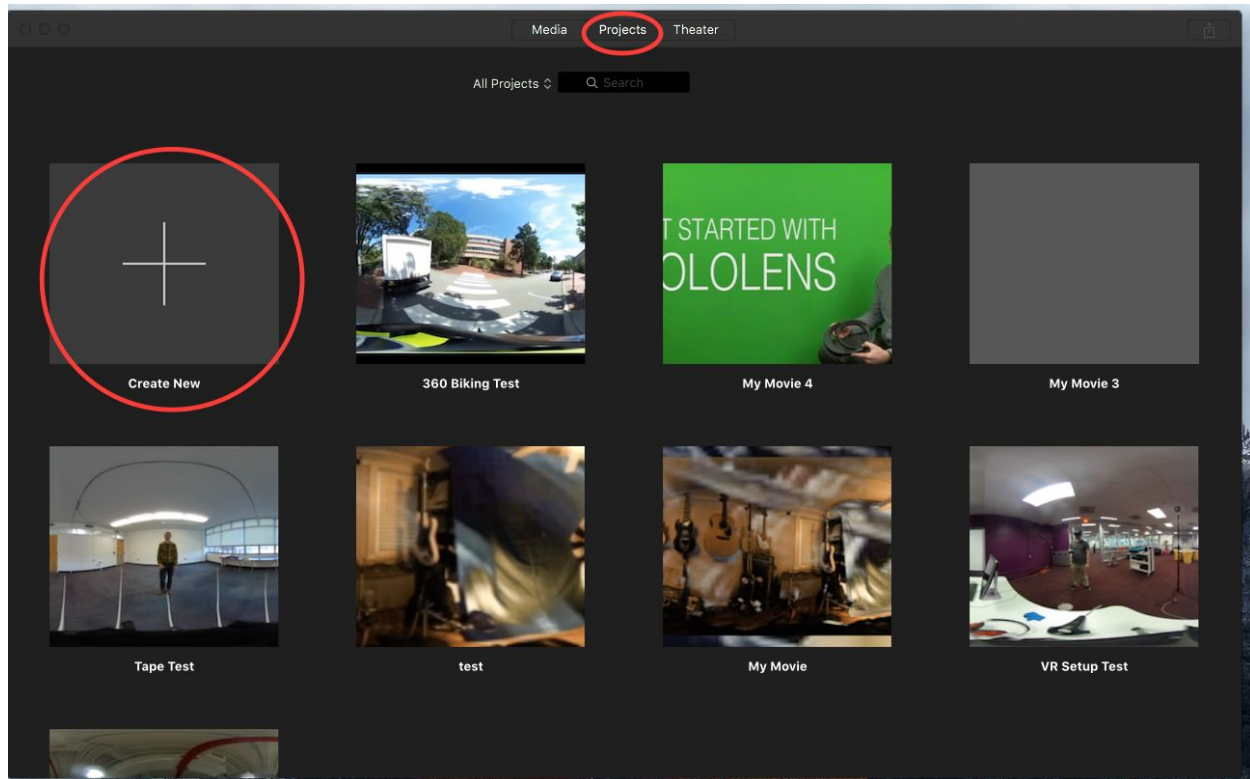
iMovie will create a new subfolder based on “today’s” date. Drag your .er mp4 file(s) into the Library.



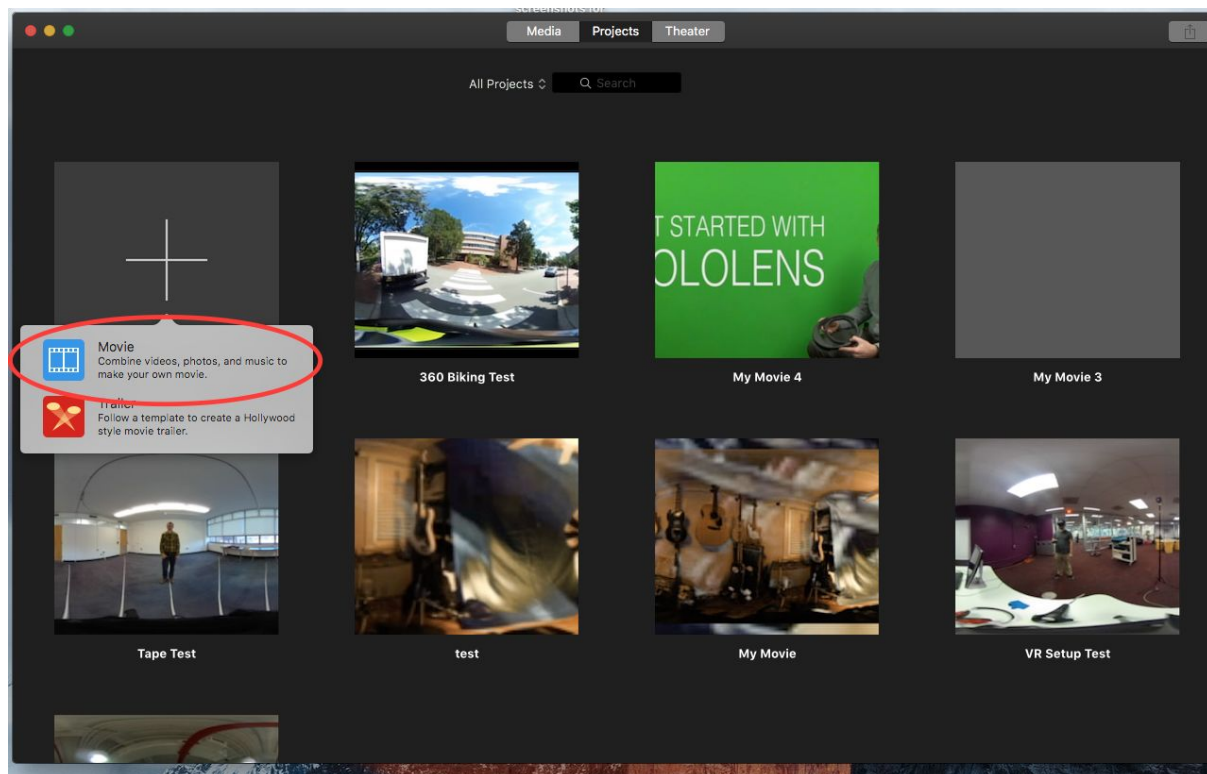
It will then appear in the Media section



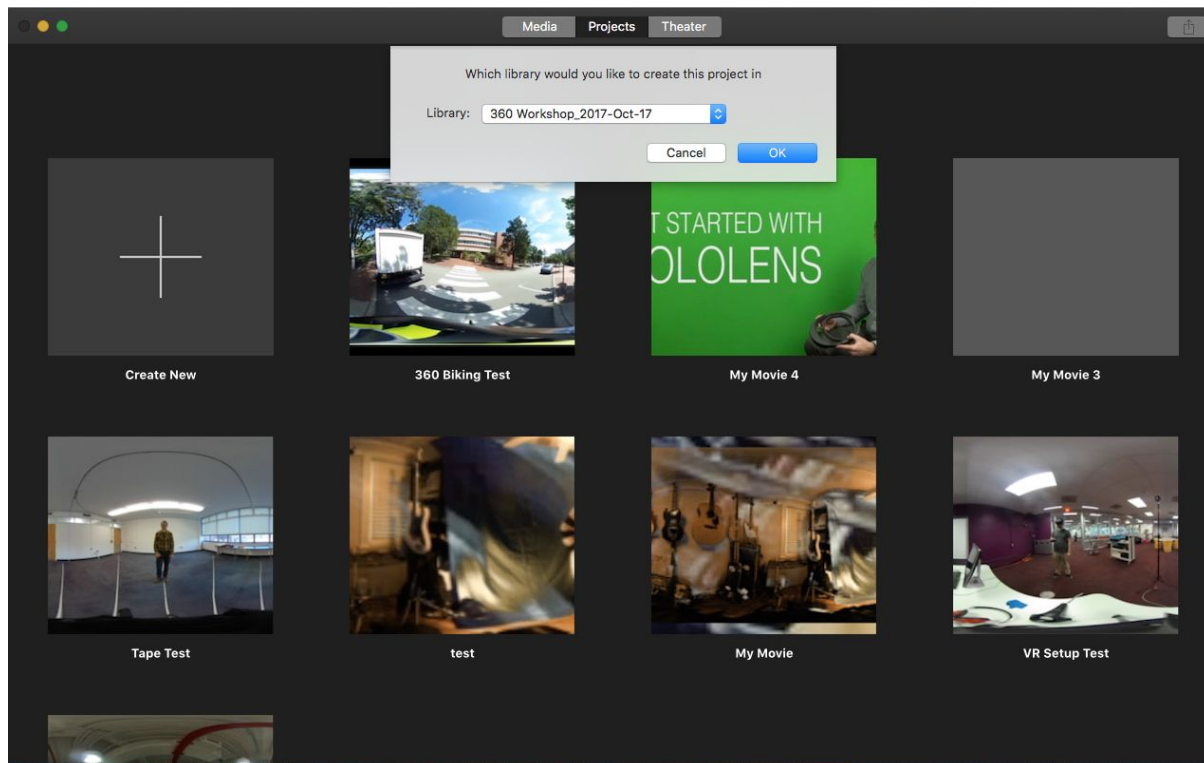
Now go to Projects and click on Create New



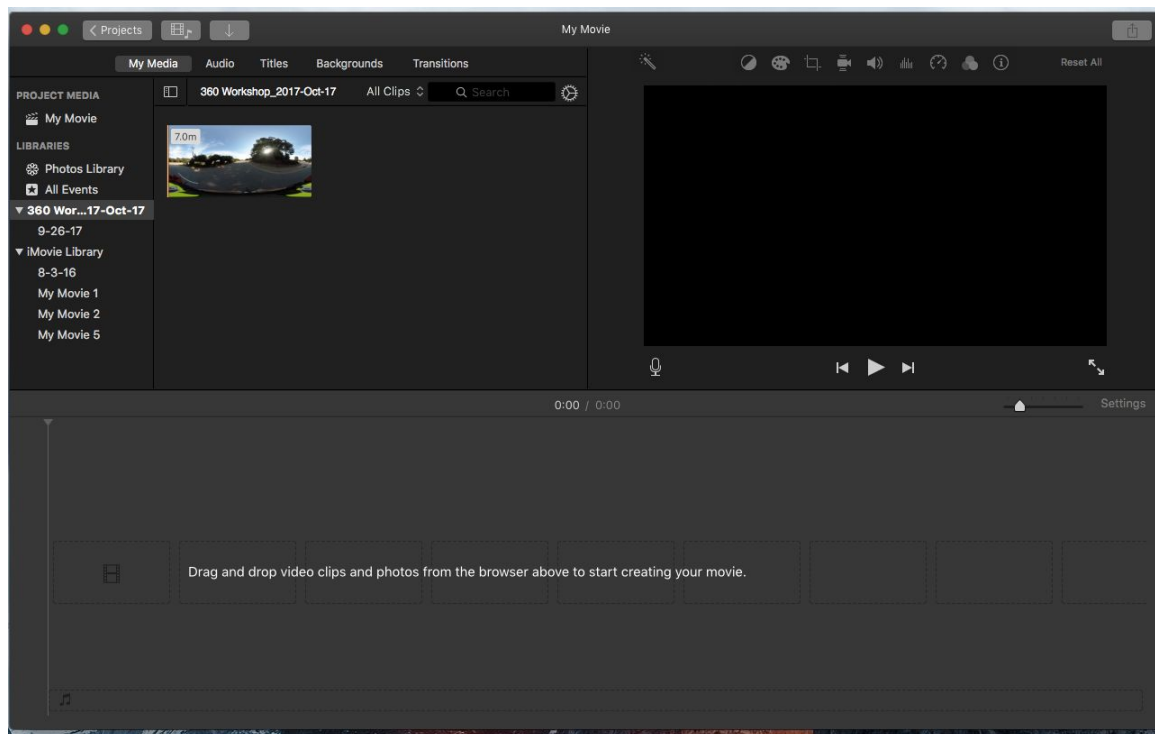
Choose Movie



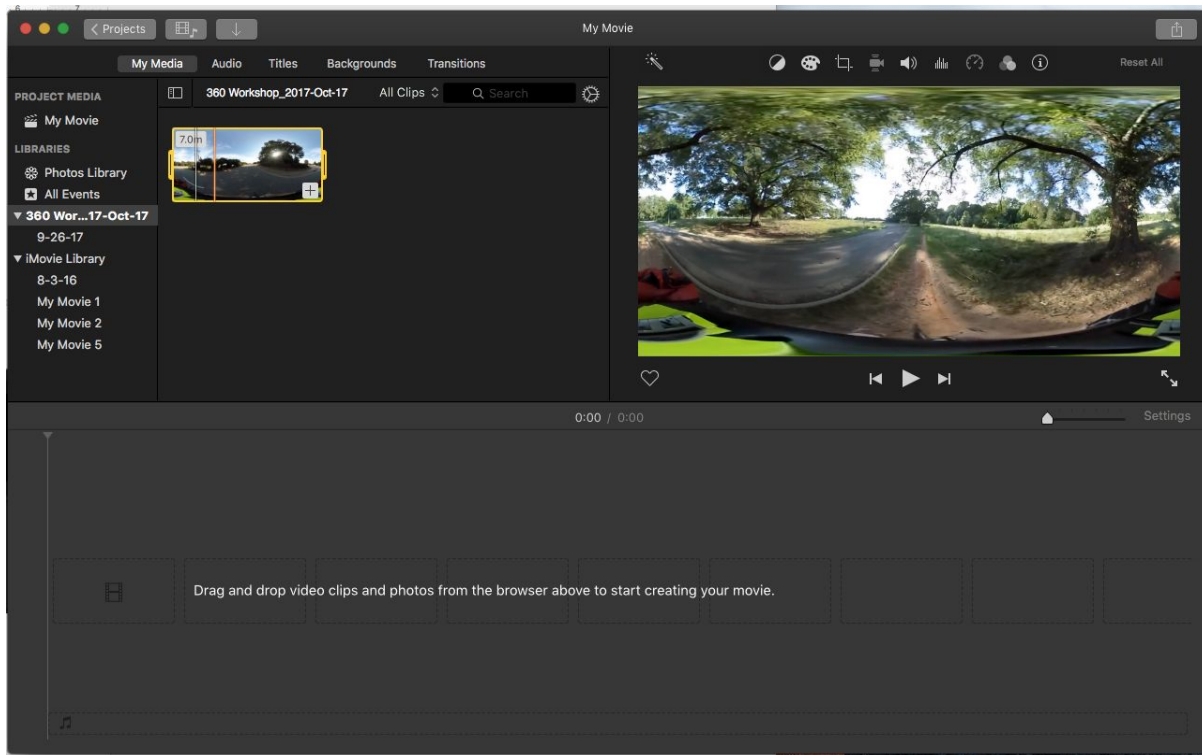
You will be asked which library you want to create this project in. Make sure it is the one you created and choose OK.



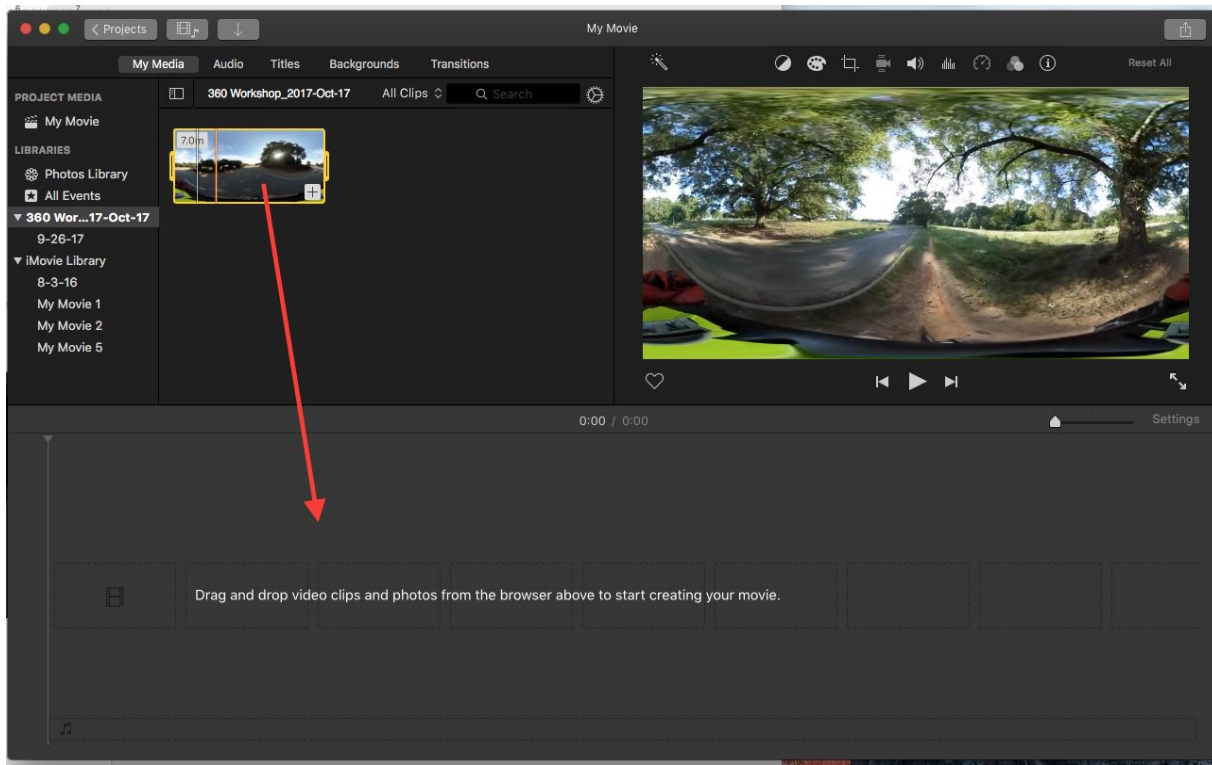
Now the My Movie screen will open. It should look like this. If not, click on the name of your Library on the left.



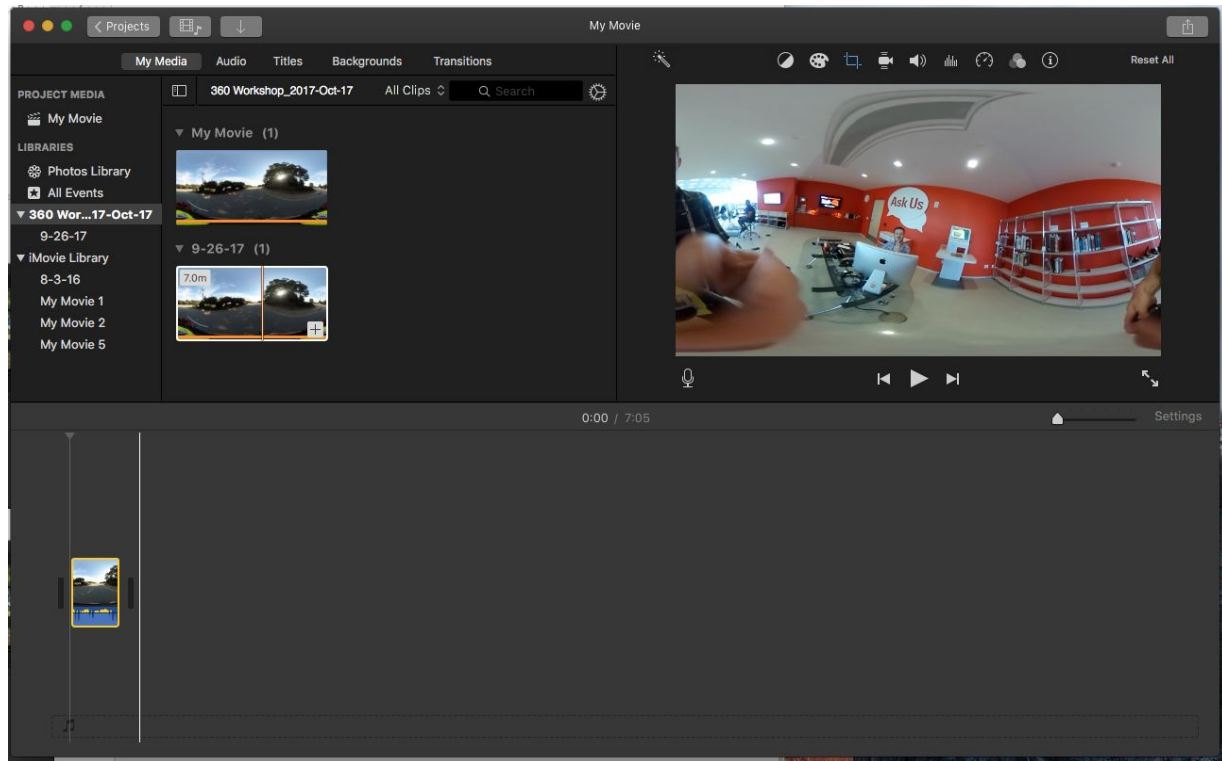
If you click on your movie clip, it will be highlighted in yellow. You can hover your cursor across it (without clicking) to scroll through the footage.



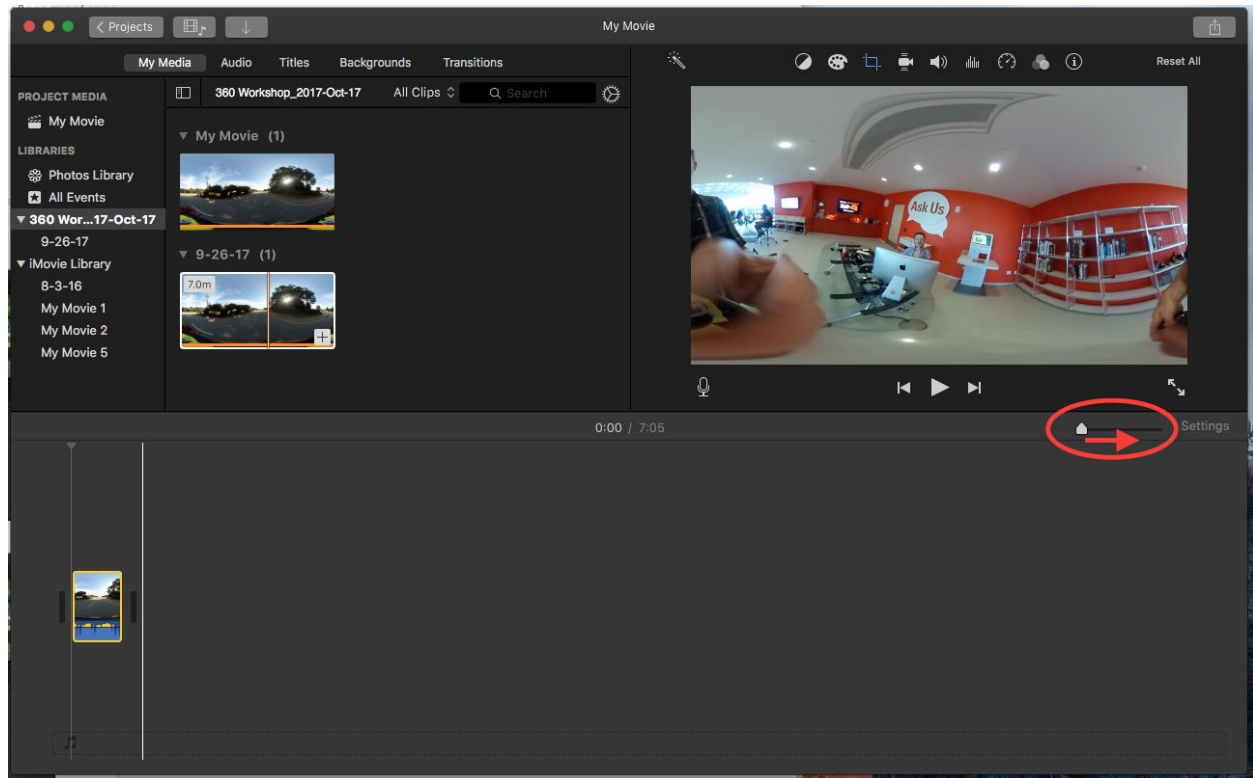
Drag clip into timeline. You can drag in multiple clips if you have them.



Now the screen should look like this. Your clip is duplicated in the media section and it appears in the timeline at the bottom of the screen.



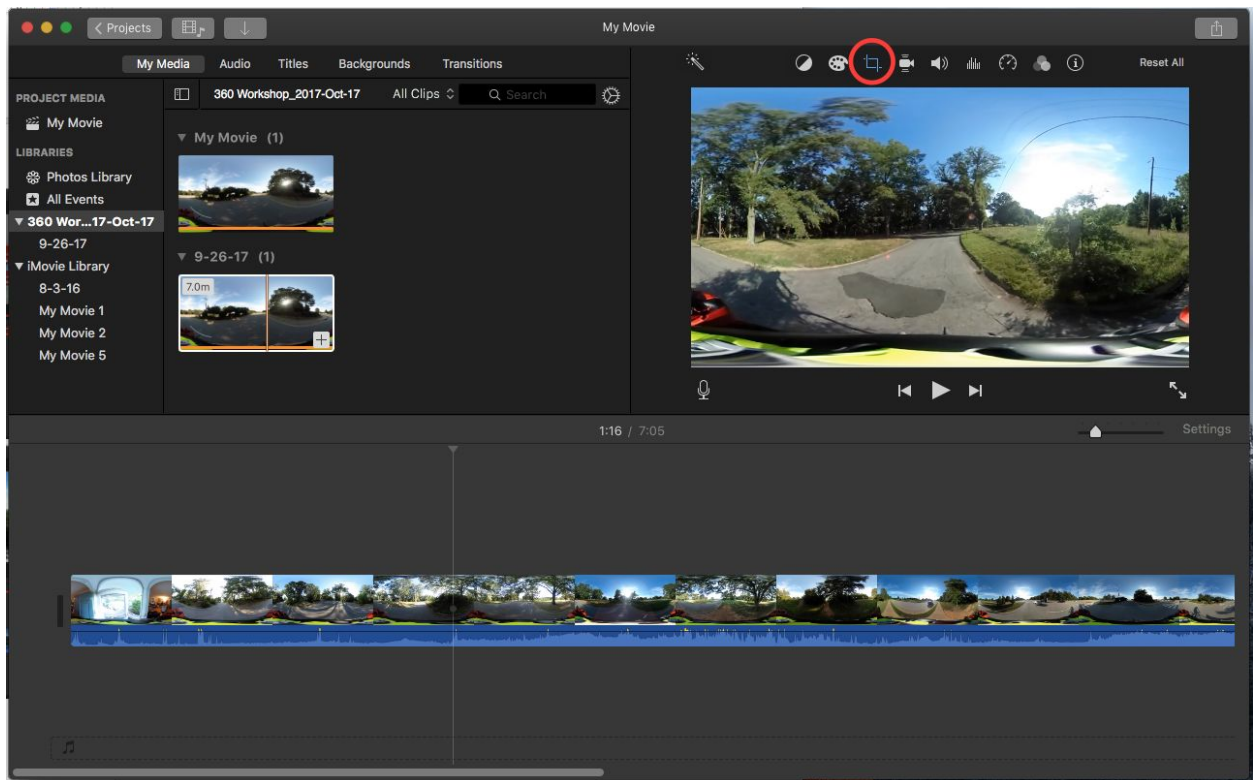
The clip is compressed on the left side of the timeline. Use the slider at the right to stretch out your clip on the timeline.



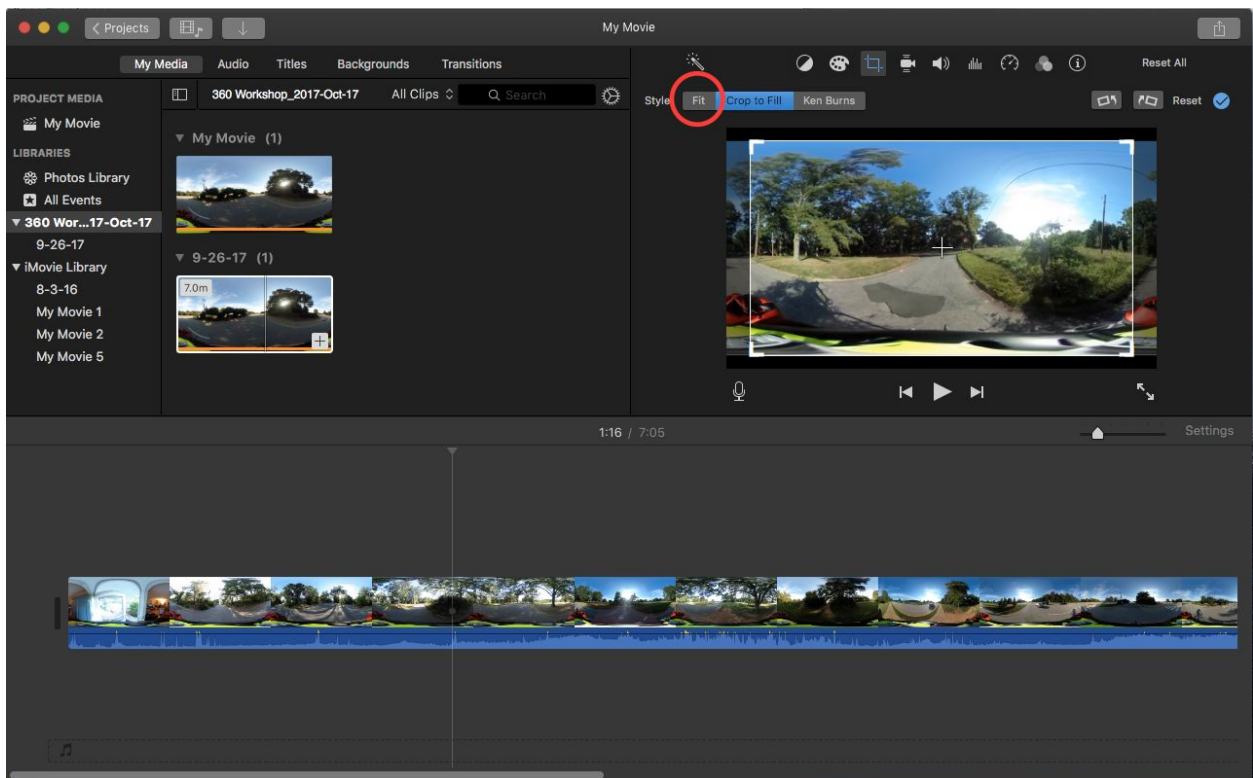
Now you can play back your clips in the viewer. Click in the timeline where you want to start and click on the Play icon or press the spacebar to start the clip. Press the Pause icon or the spacebar to stop the clip.



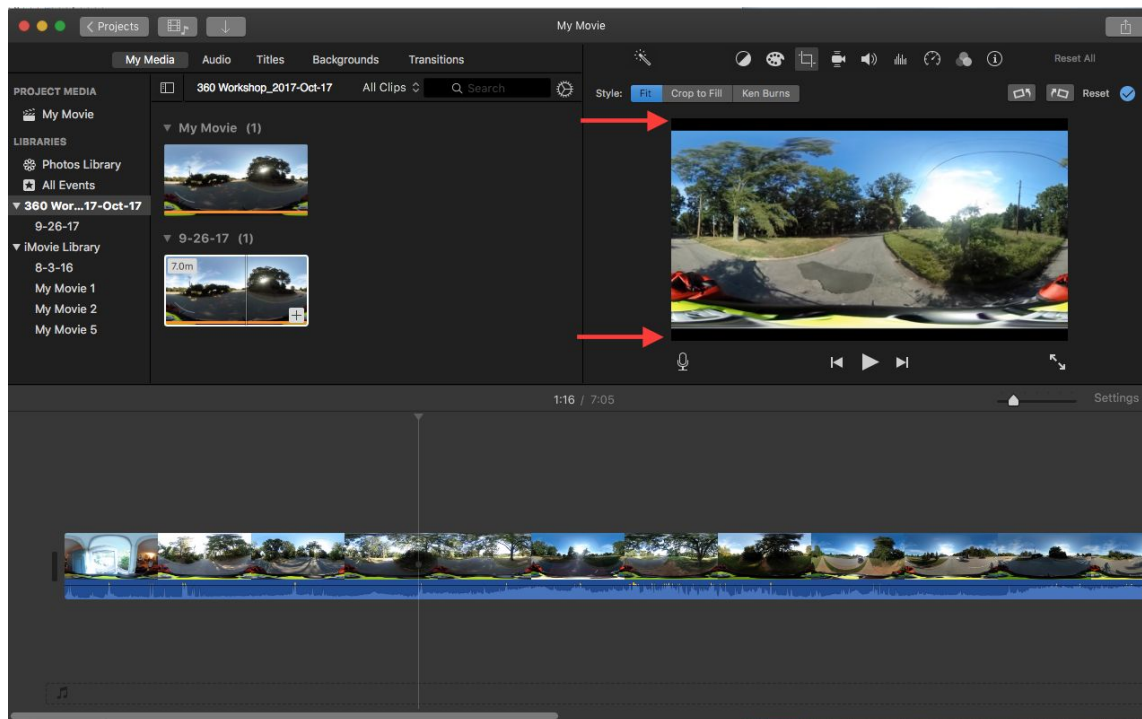
Click on the Crop icon above the viewer.



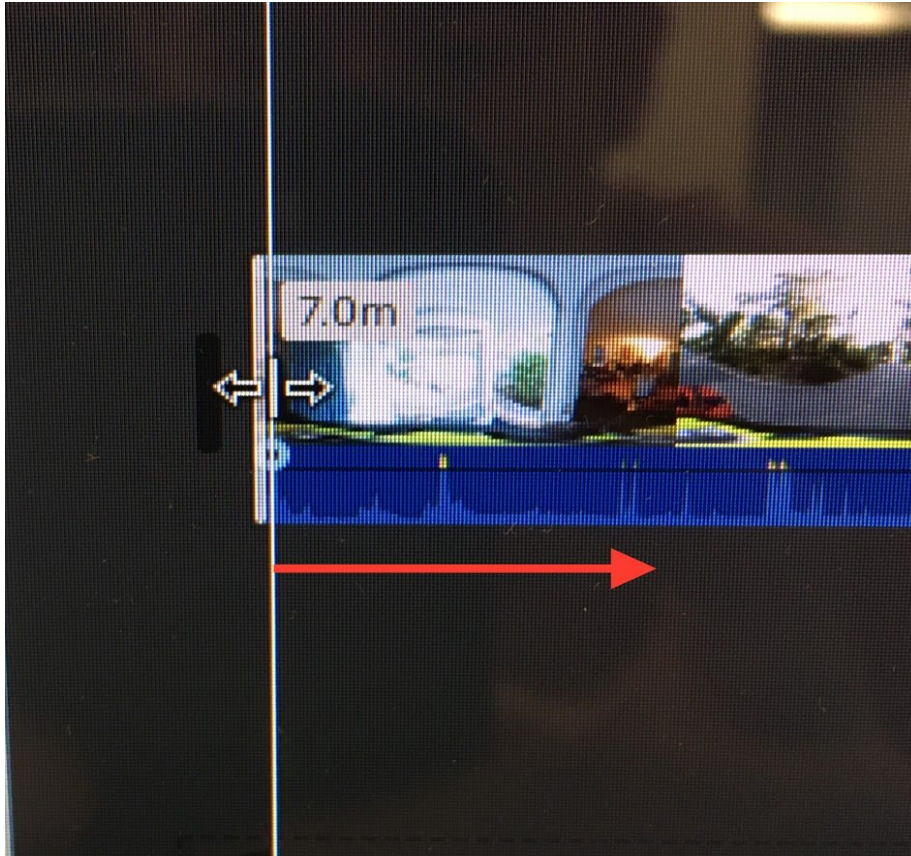
Click on “Fit” to make sure we get the full 360° view in our final movie.



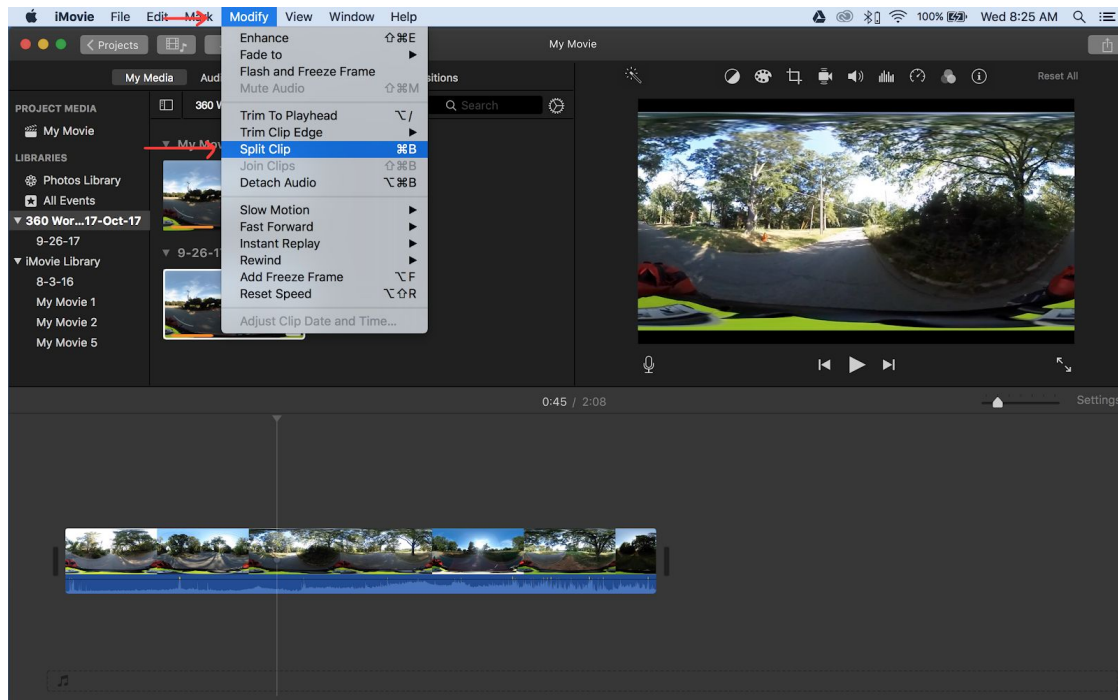
Notice that not there are now black bars at the top and bottom of the viewer.



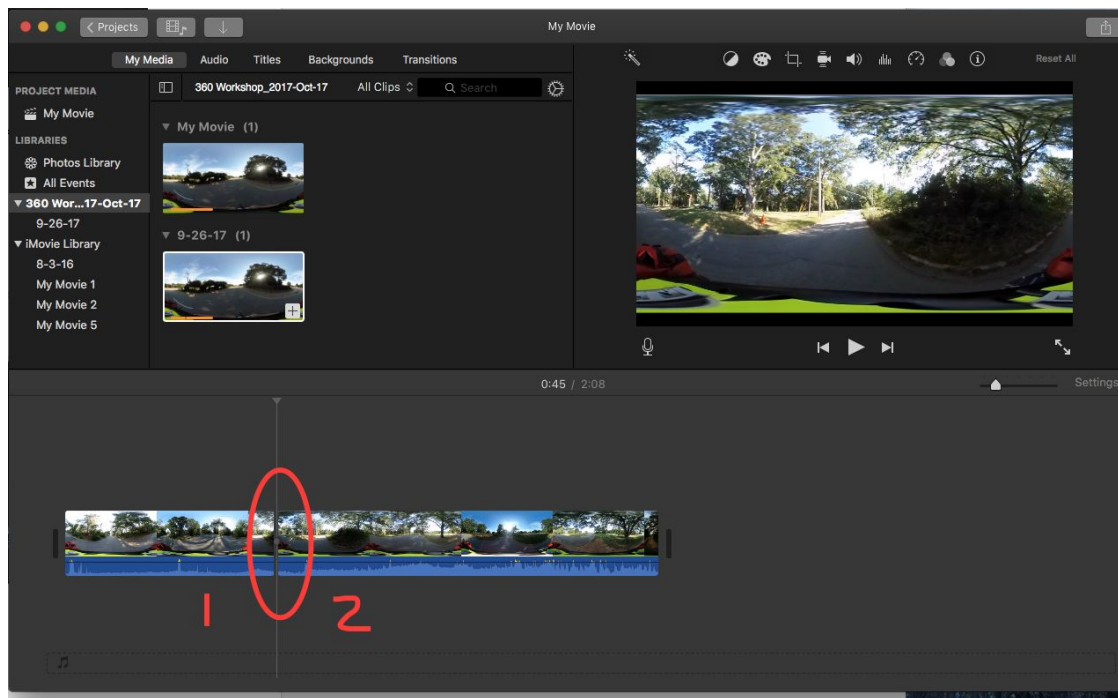
Adjust the length of clip by hovering your cursor over the left side of your clip until you see the double arrows appear. Now click and drag to the right. This will remove the beginning of the clip but it is reversible so you can make adjustments. You can do the same thing for the end of the clip.



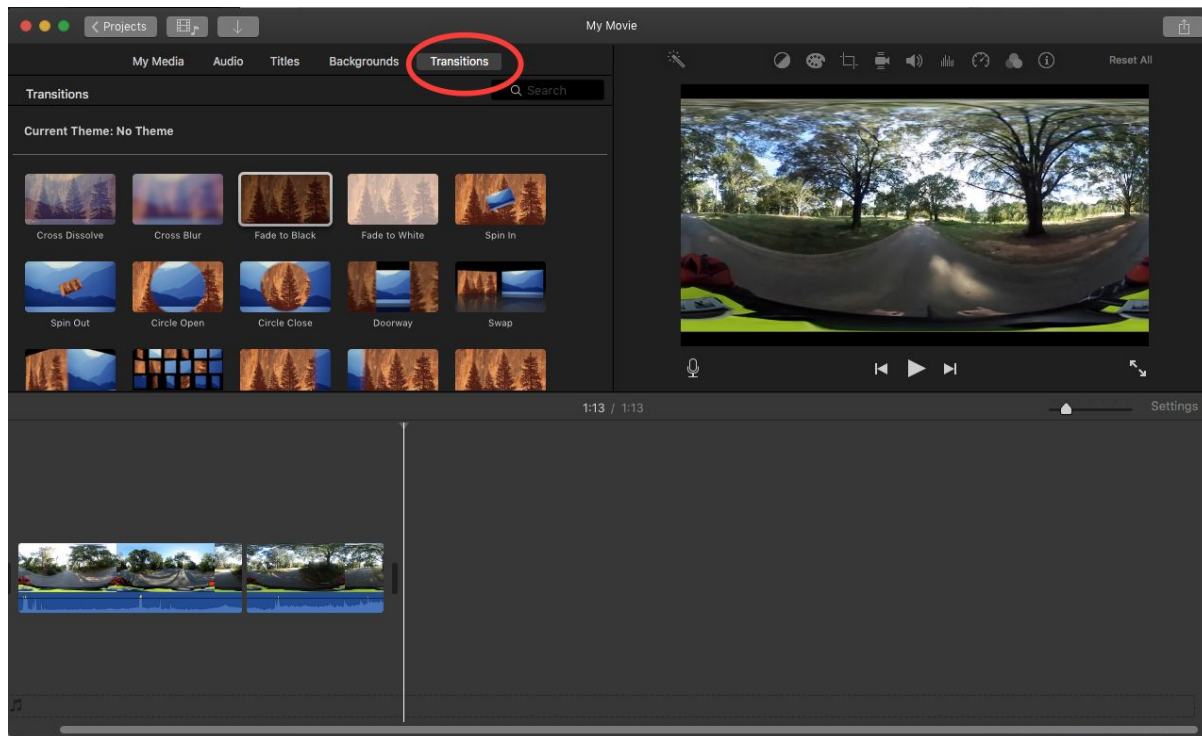
To divide a clip, click in the timeline where you want to make the split. Then go to “Modify” at the top menu bar, and click on “Split Clip.”



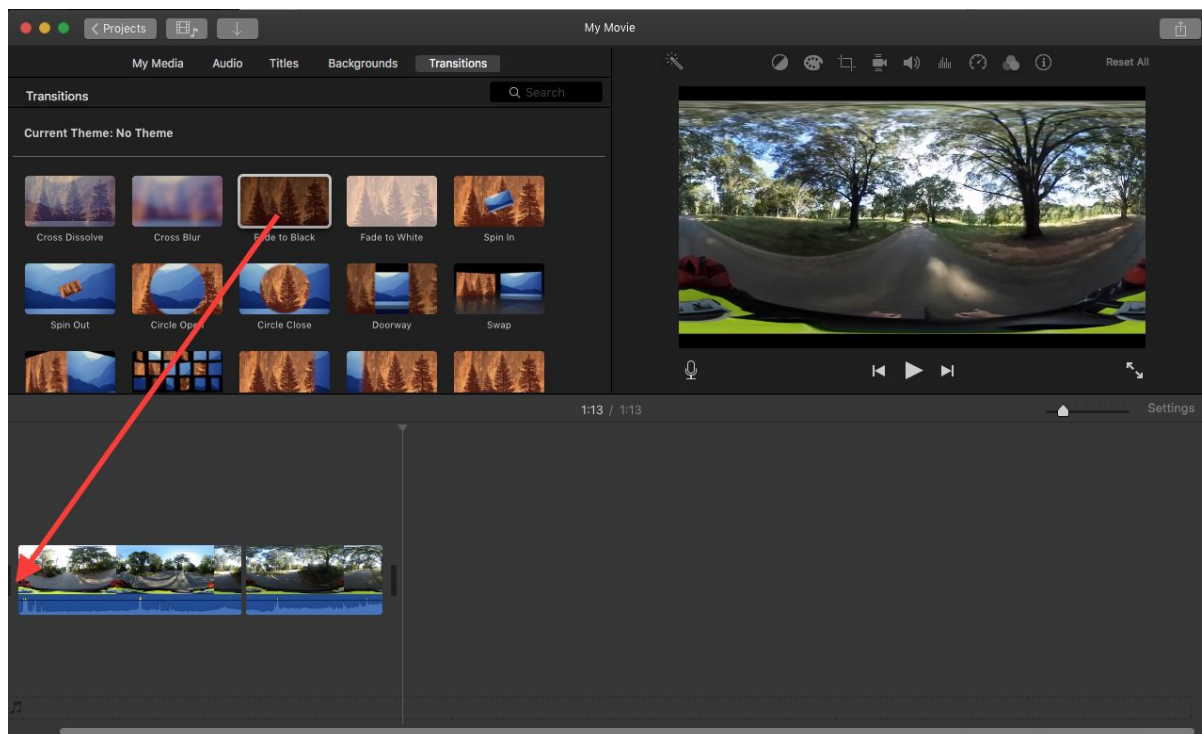
Now your clip is in two separate sections. You can remove half by clicking on it and pressing delete on the keyboard, or keep both.



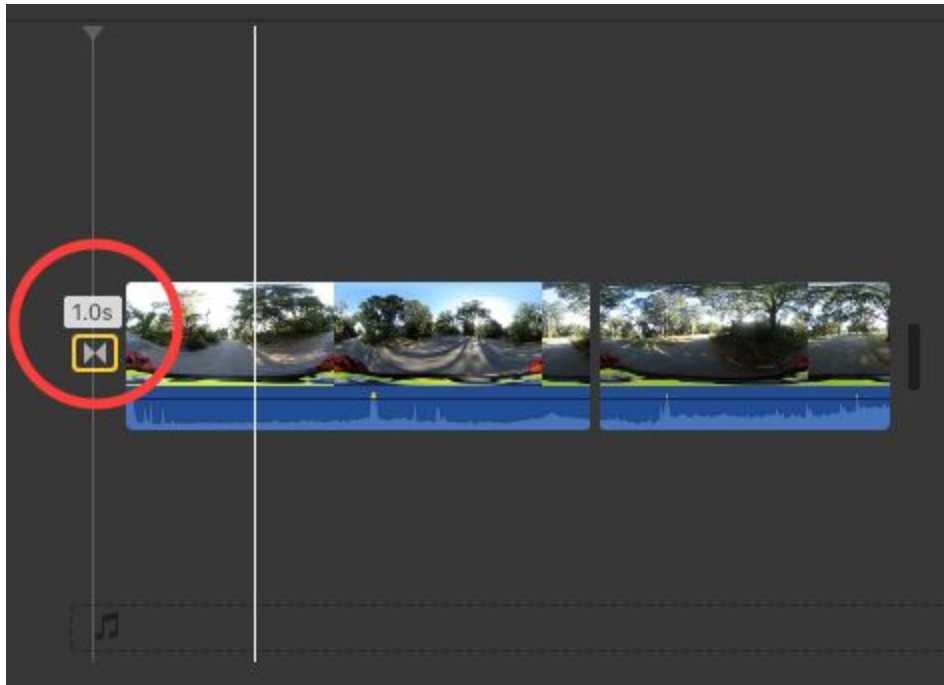
You can add transitions like “fade in” at the beginning of your clip, or “cross fade” between clips. First click on “Transitions.”



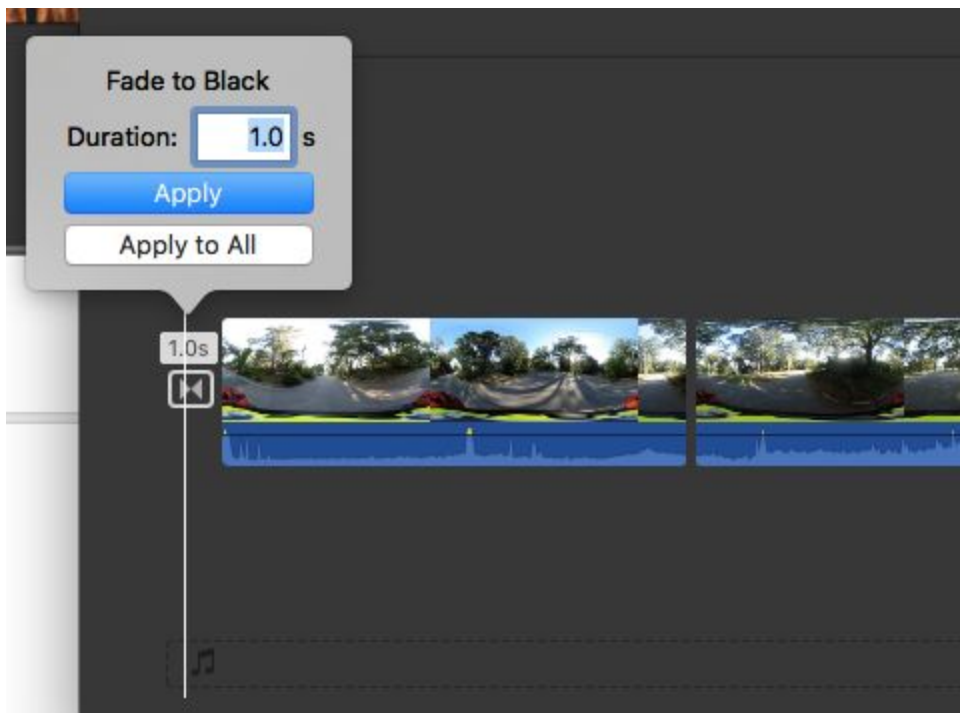
Click on the transition you want and drag it into the timeline to the place you want it. Here is “Fade to black” at the beginning of the clip. In this case, it will be fade *from* black.



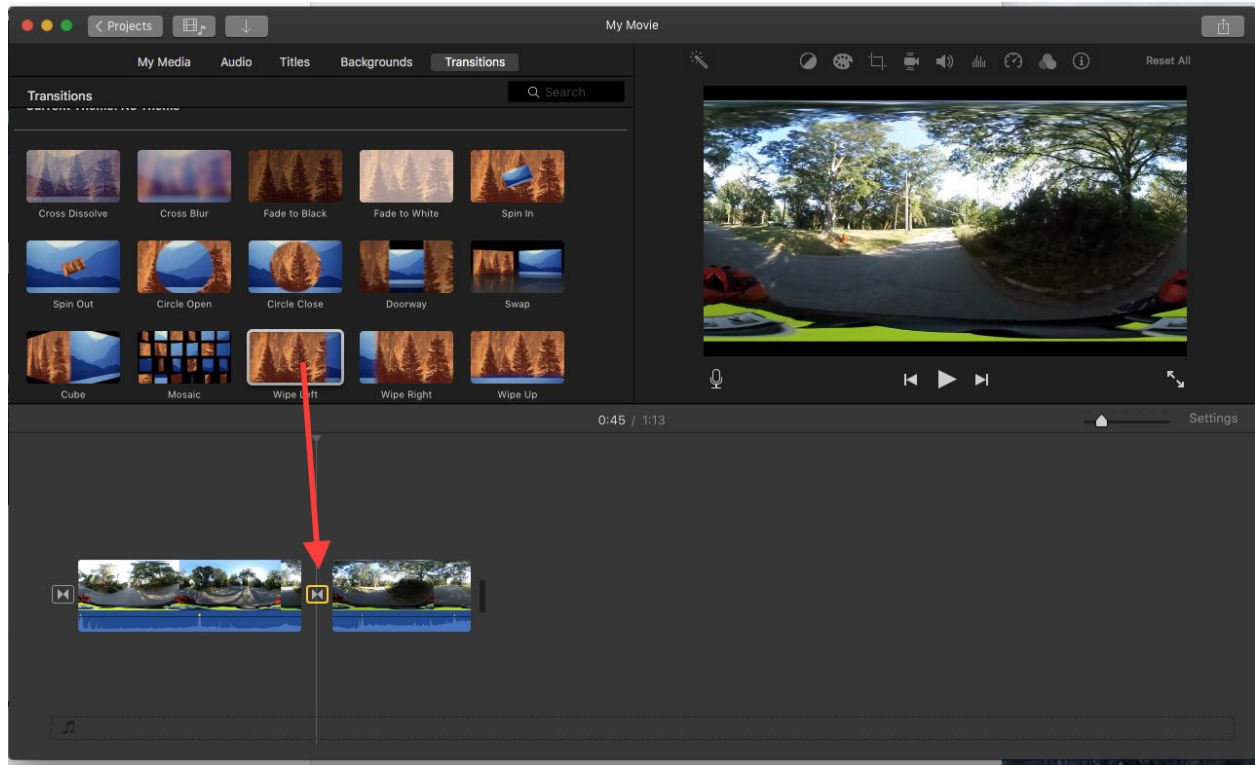
The transition will appear in the timeline and look like this.



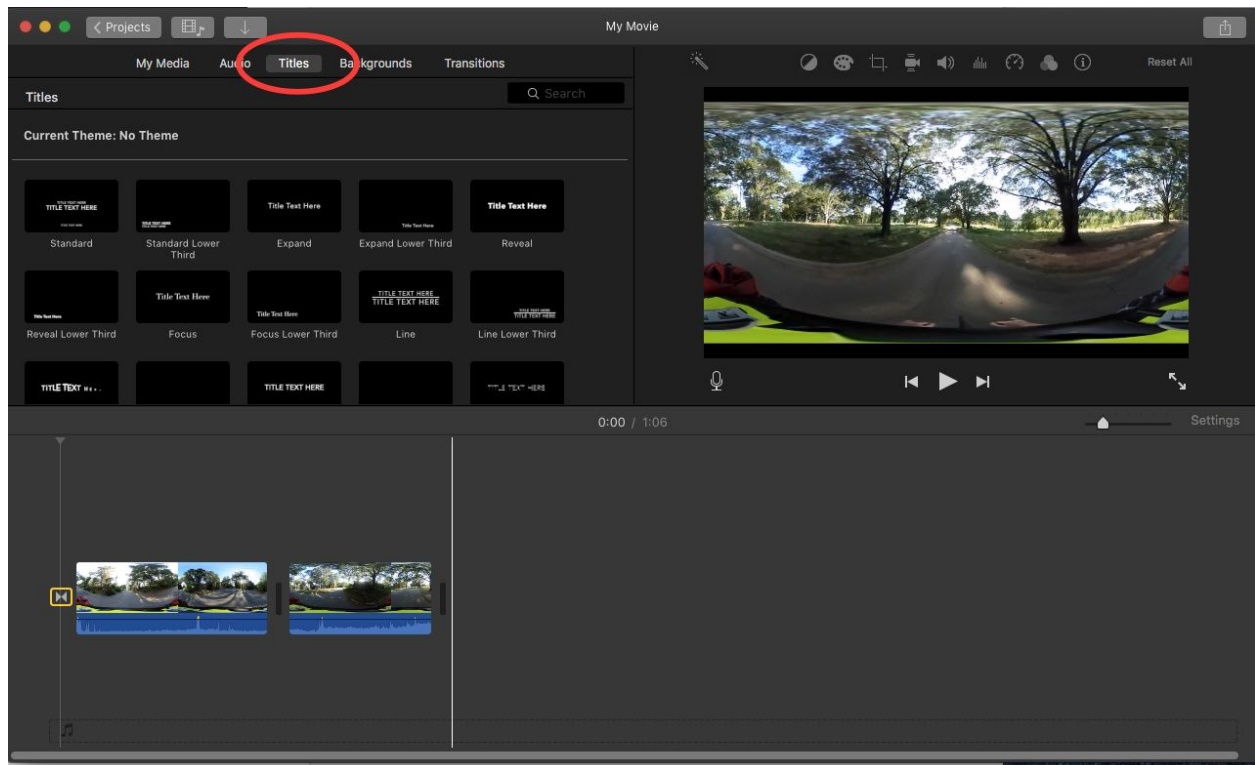
Double click on it to adjust the length of the transition. Then click on Apply.



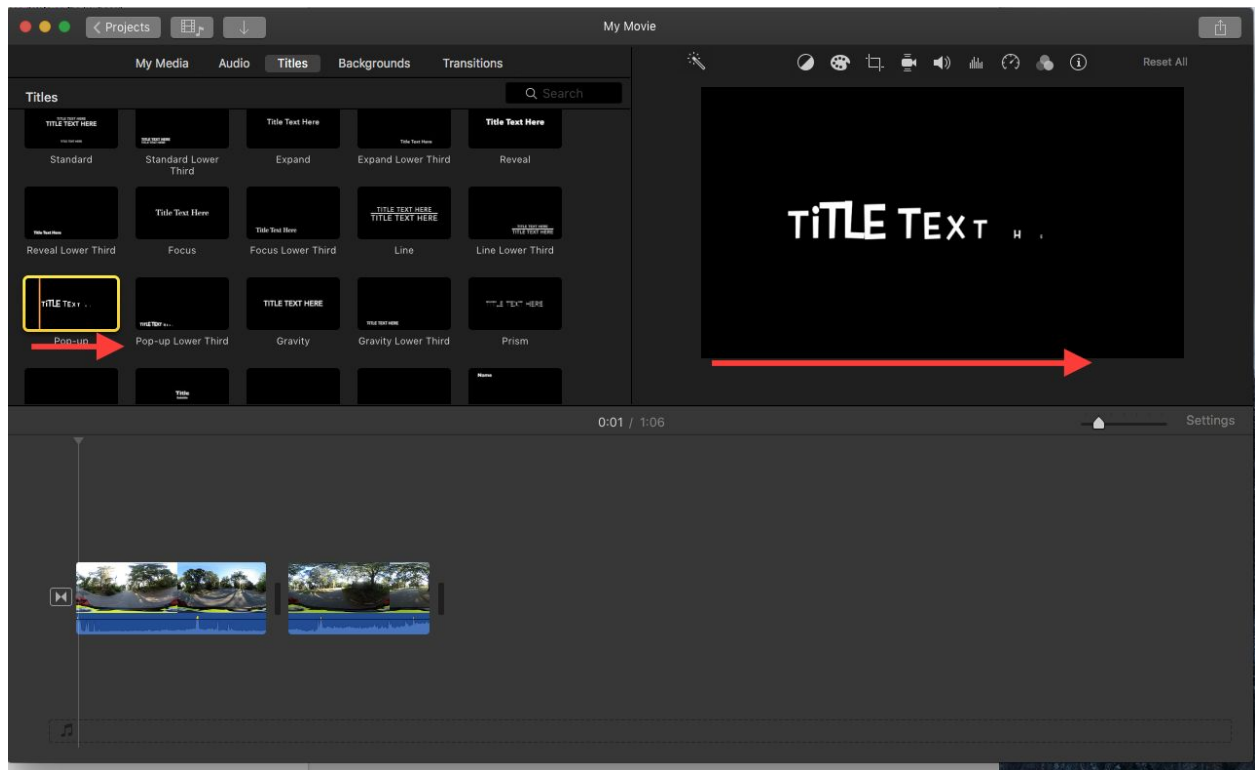
To add a transition between clips, drag the transition to where you want it on the timeline and adjust as necessary. To remove a transition, click on it and press delete on the keyboard.



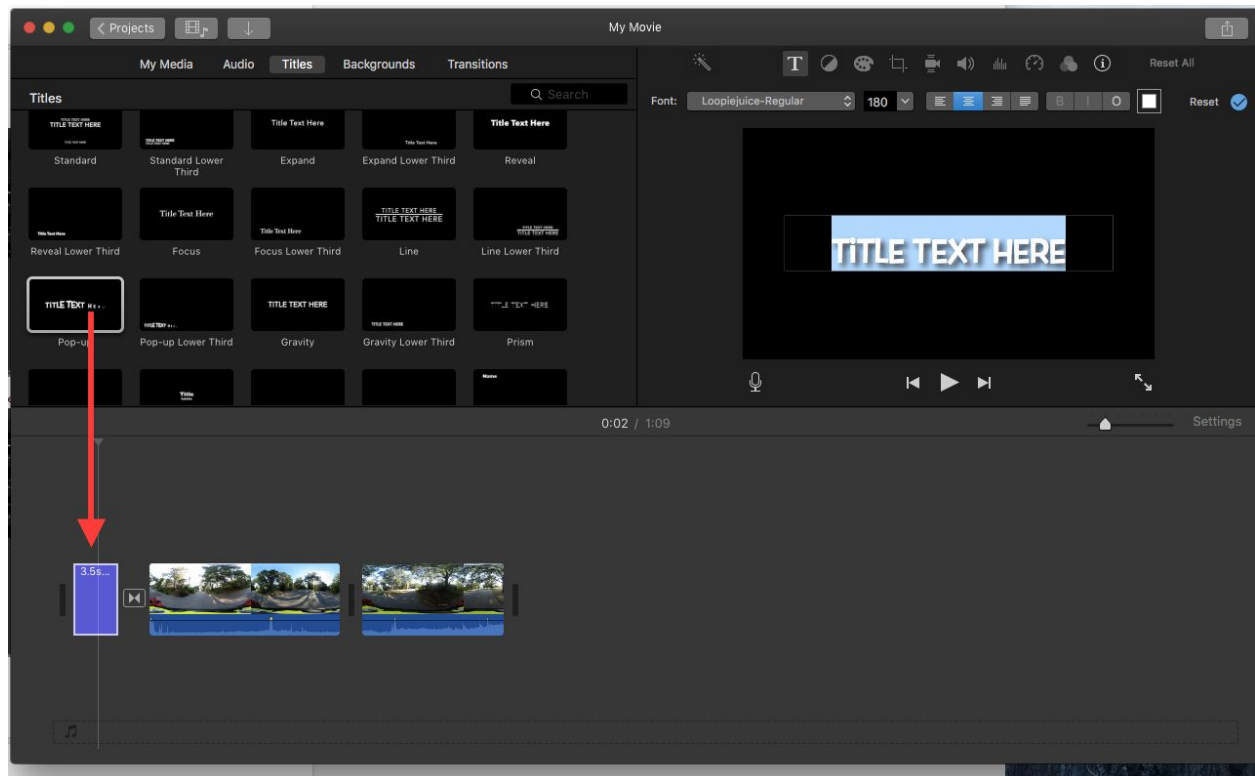
To add text, click on “Titles”



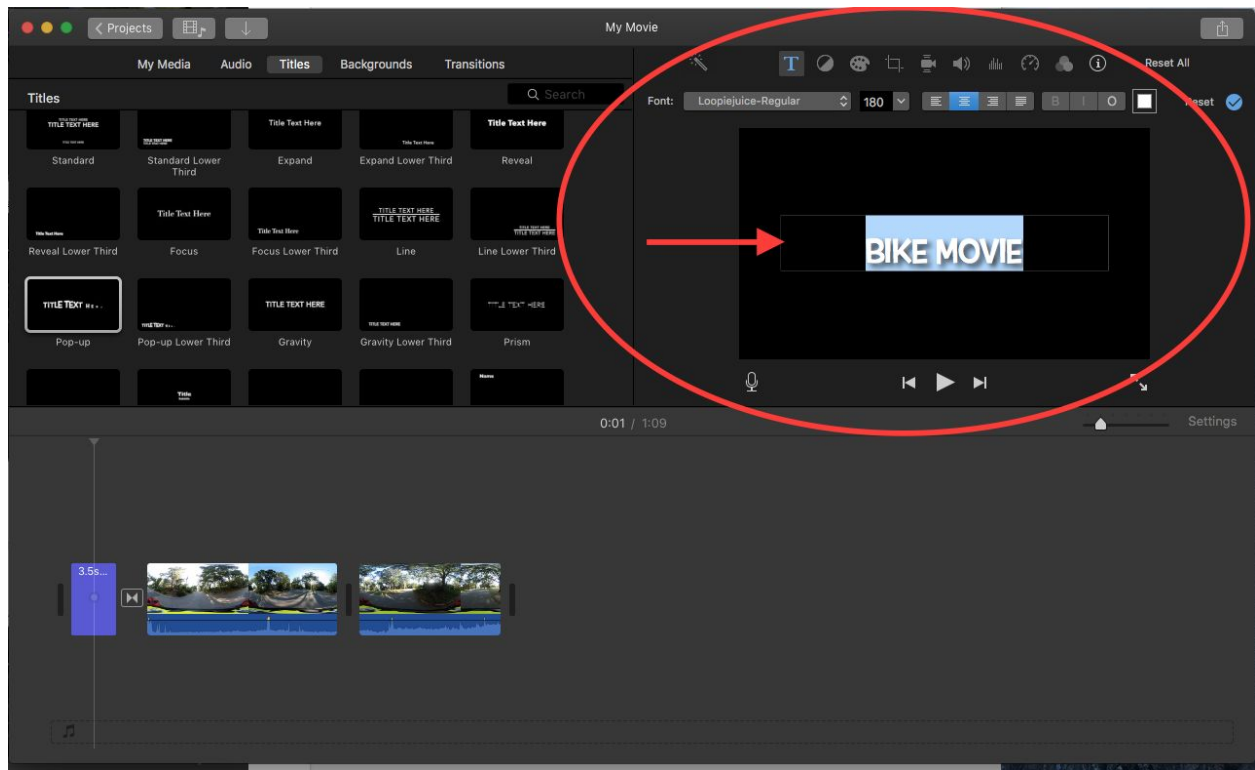
Click on a title style and drag the mouse to see how it will appear in action in the viewer.



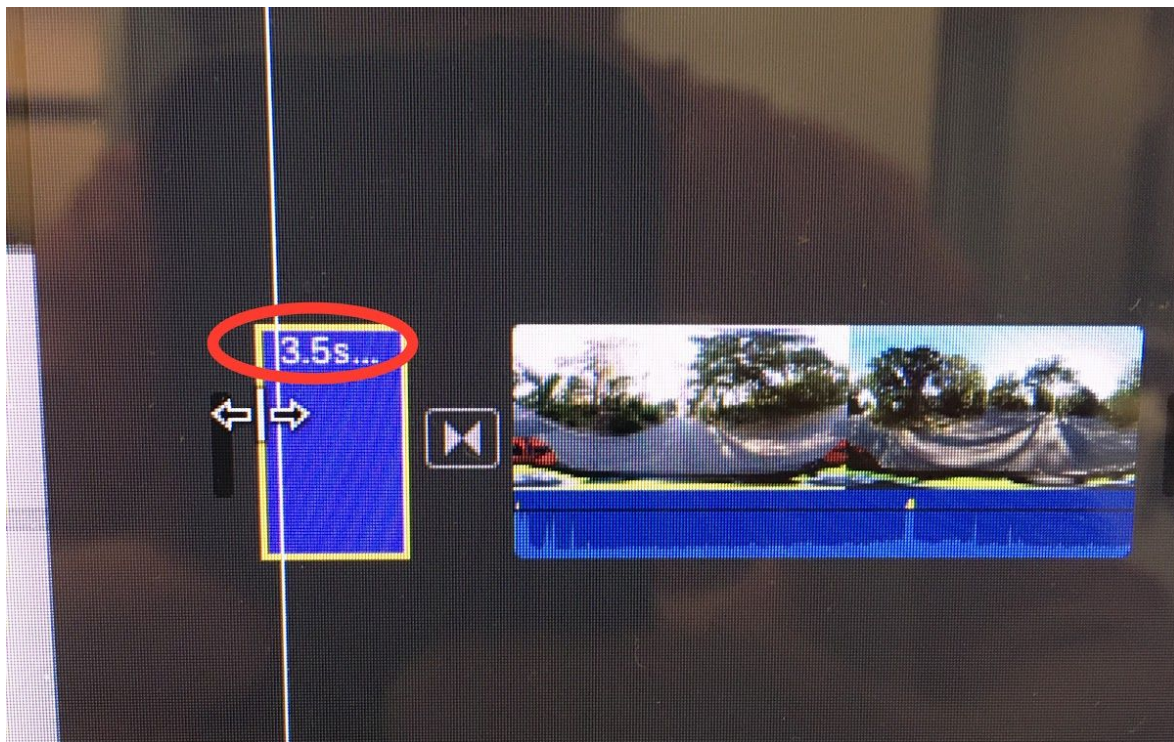
Drag the title style you want into your timeline where you want it to appear in your movie.



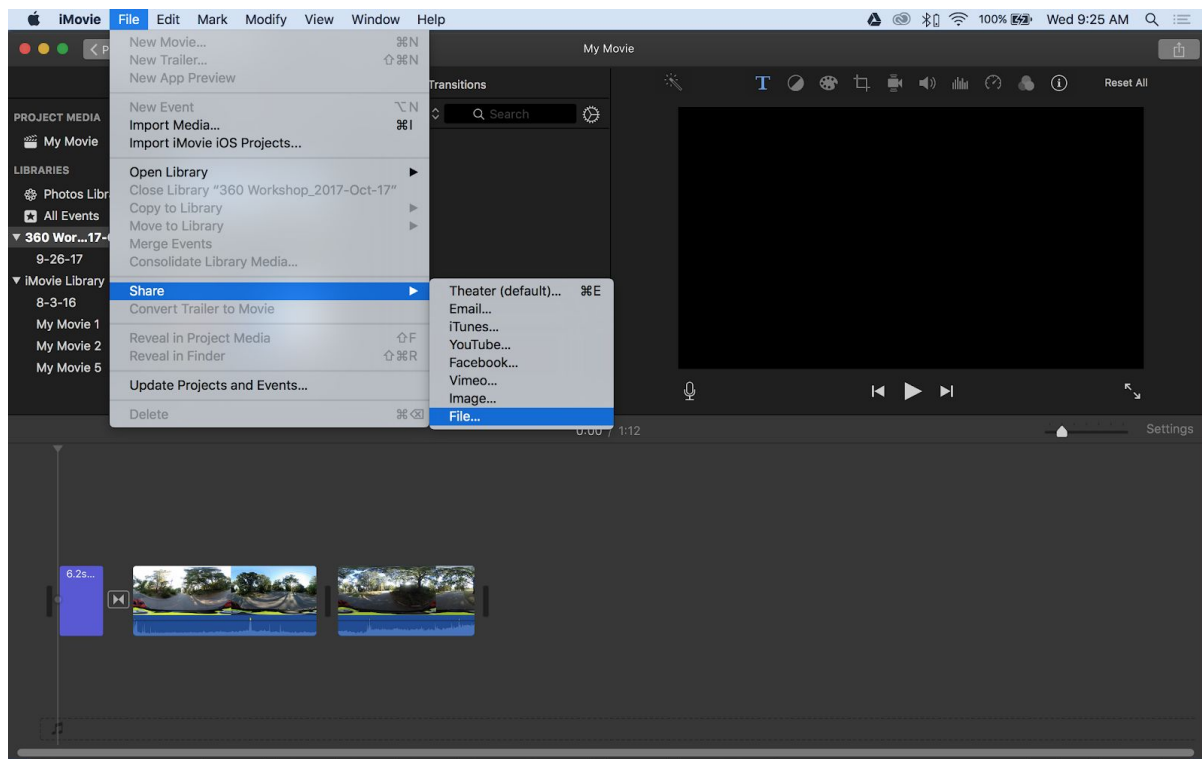
Add text and use the editing controls in the titles editor to adjust your titles.



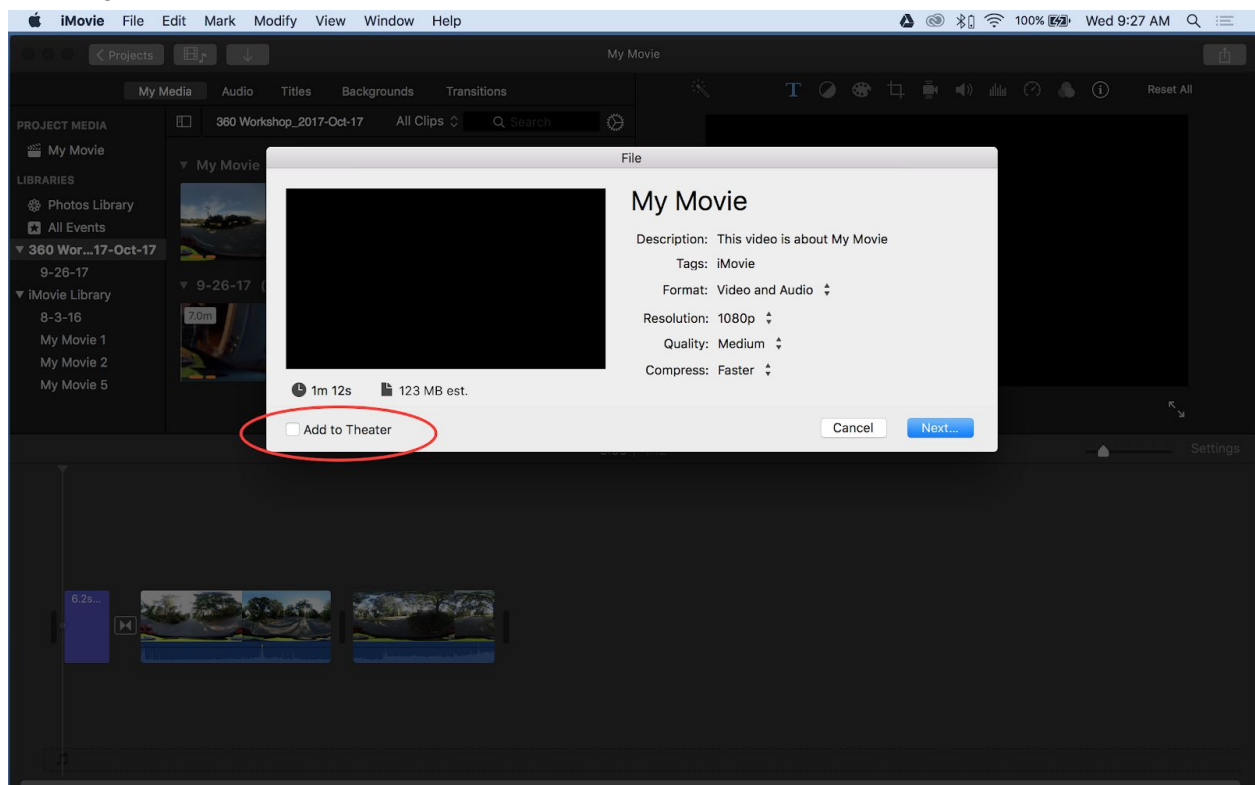
Hover your cursor over the edge of the title section in the timeline to adjust the length of time the title will appear. The length will be shown at the top of the title box.



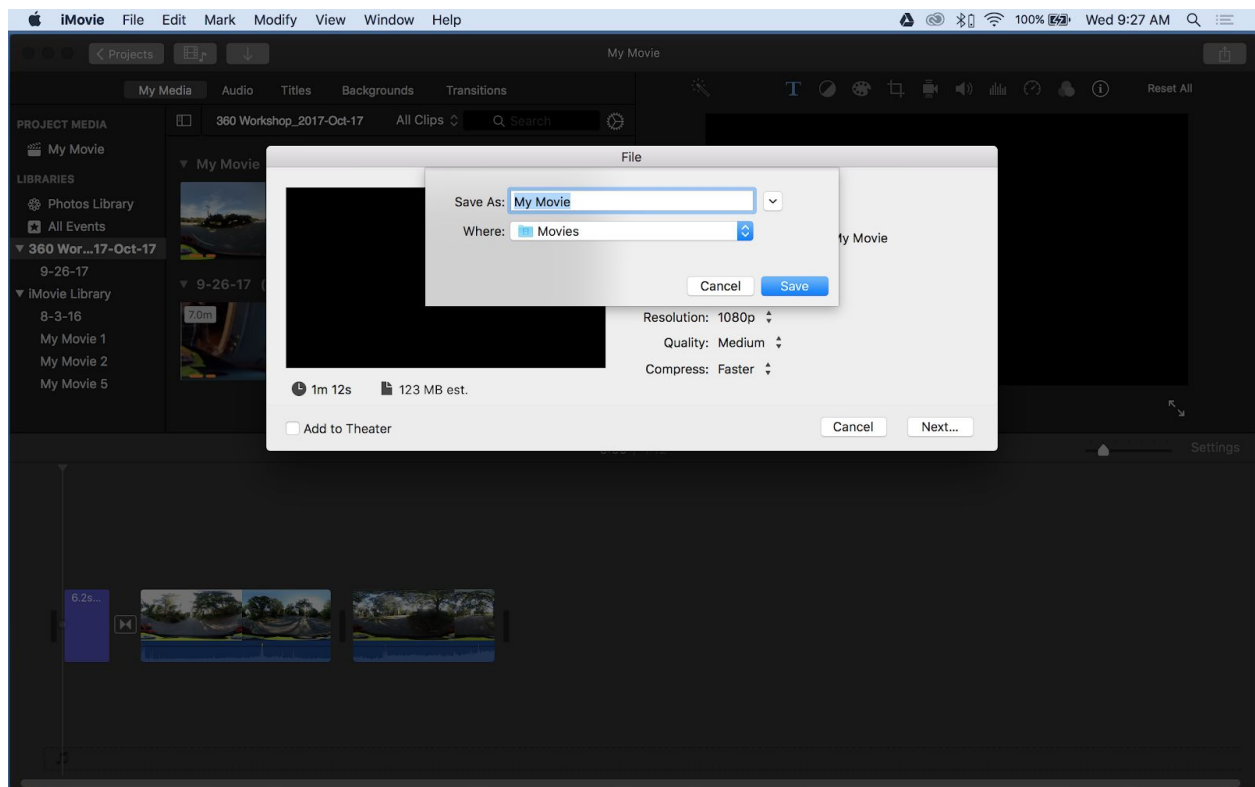
Play through your movie to make sure everything looks good. Then go to File > Share > File.



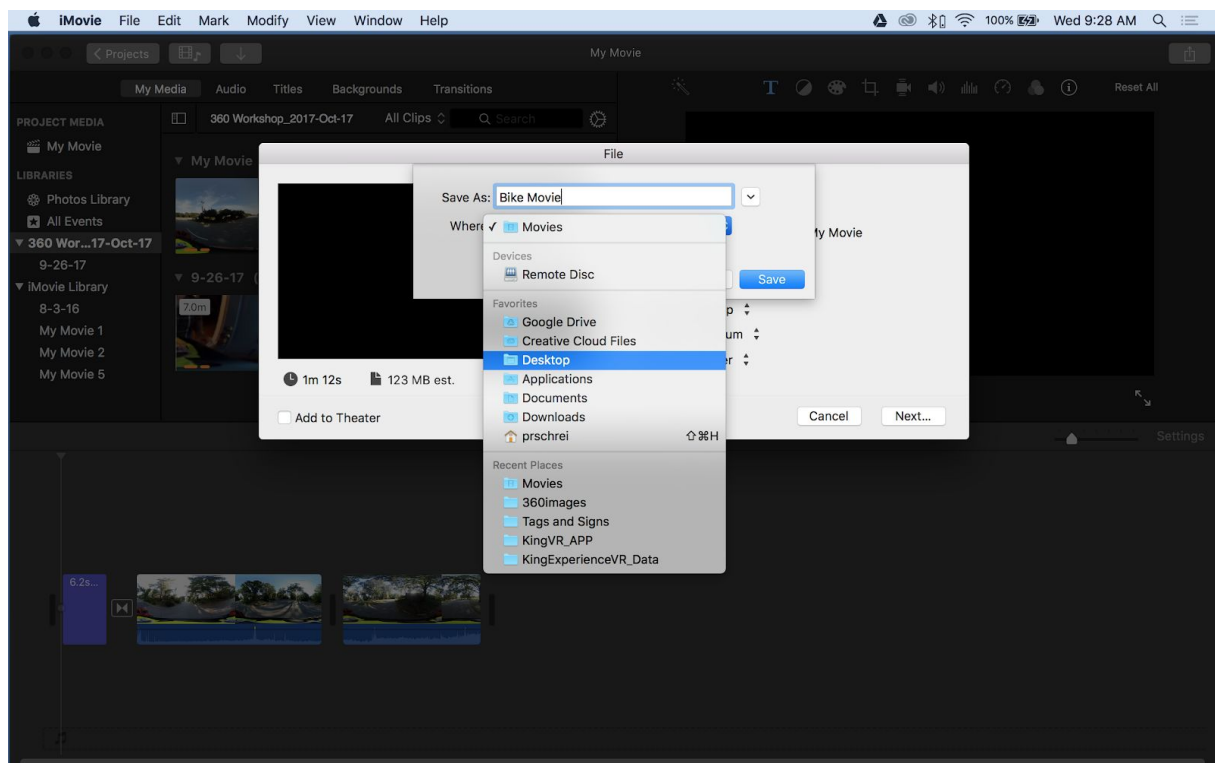
This page will appear, un-check “Add to theater” and click next.



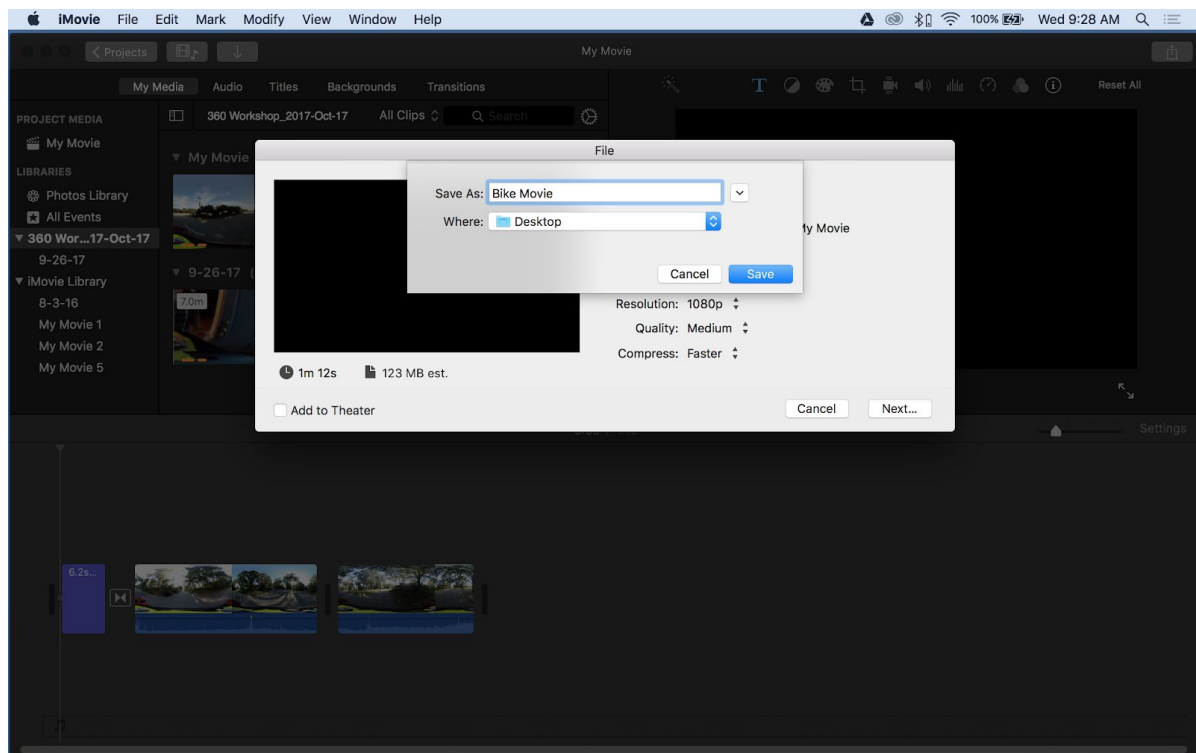
Now name your movie.



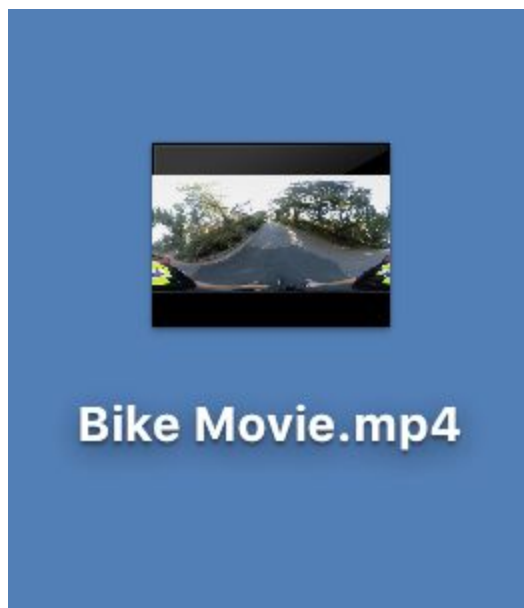
Now choose the desktop as the location to save it.



Now click on save.



Your edited movie will be on the desktop, saved as an mp.4 file.



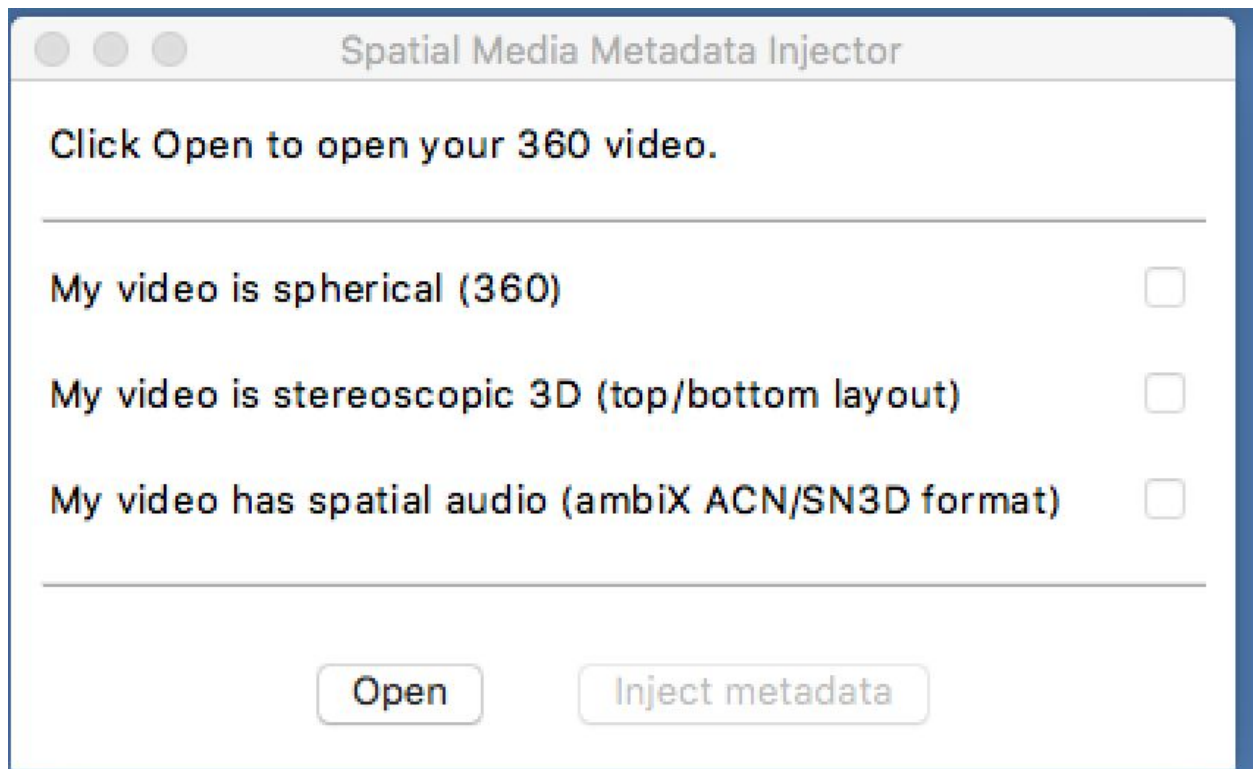
Add 360° metadata

The movie is in equirectangular format. Now we will add 360° metadata to the movie file so youtube will play it back spherically. Download the free metadata injector app at: <https://support.google.com/youtube/answer/6178631?hl=en> it is under “Step 2 Prepare for Download”

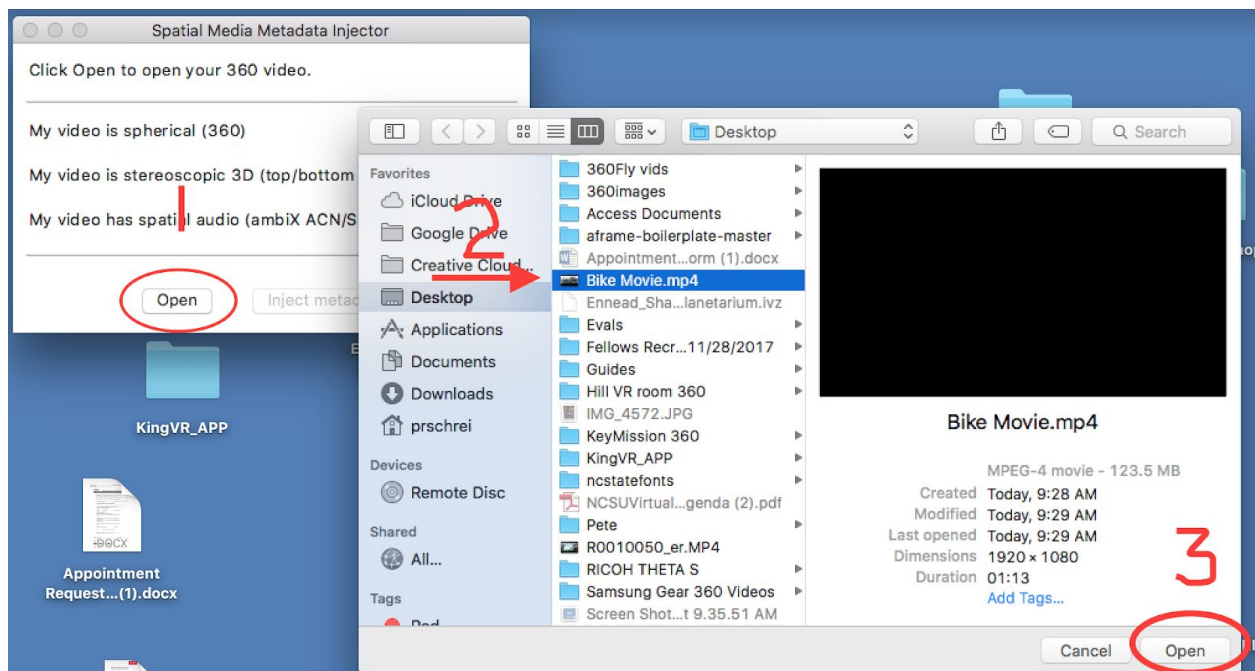
Open the Spatial Media Metadata Injector app by double-clicking on the icon in the toolbar.



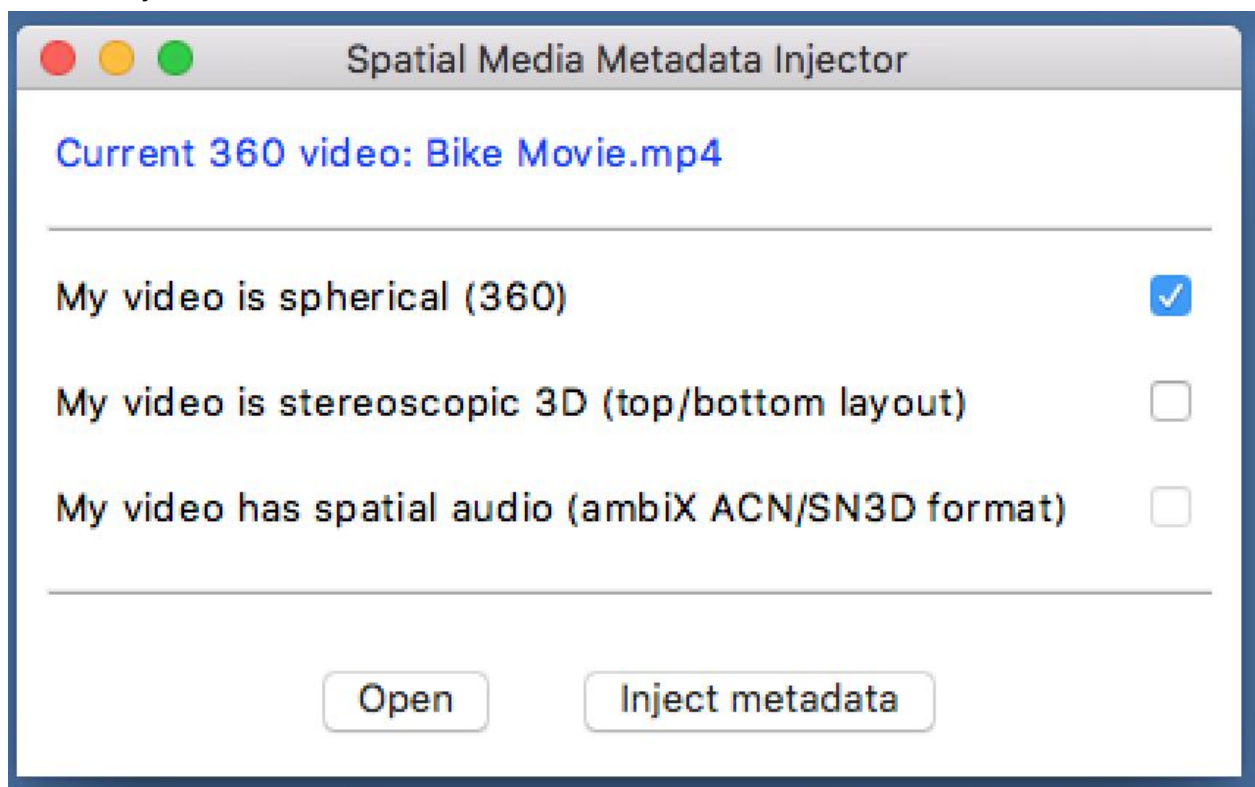
This box will open.



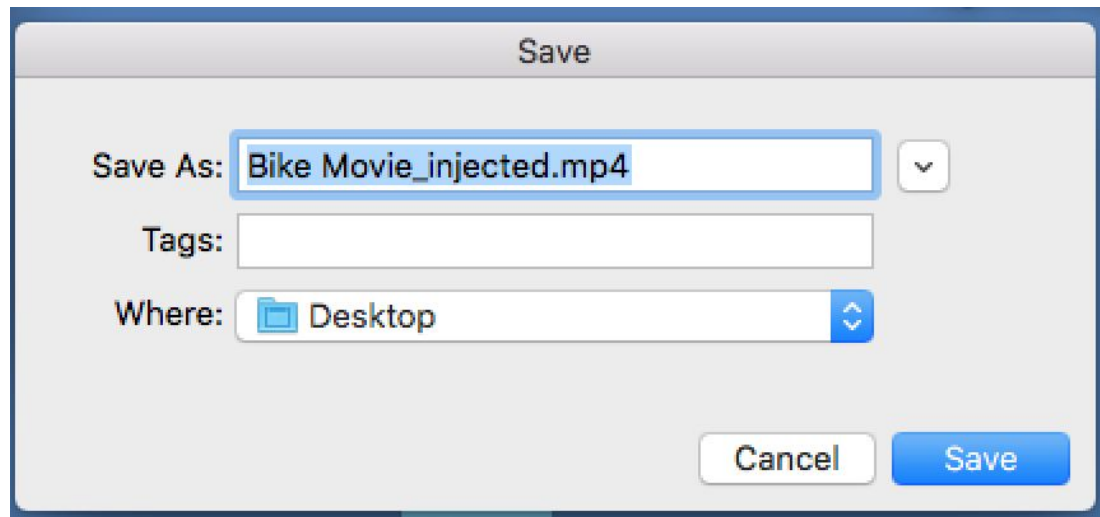
Click on Open, then navigate to your movie on the desktop, and click Open.



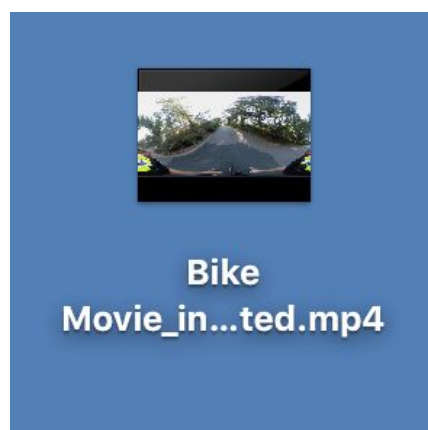
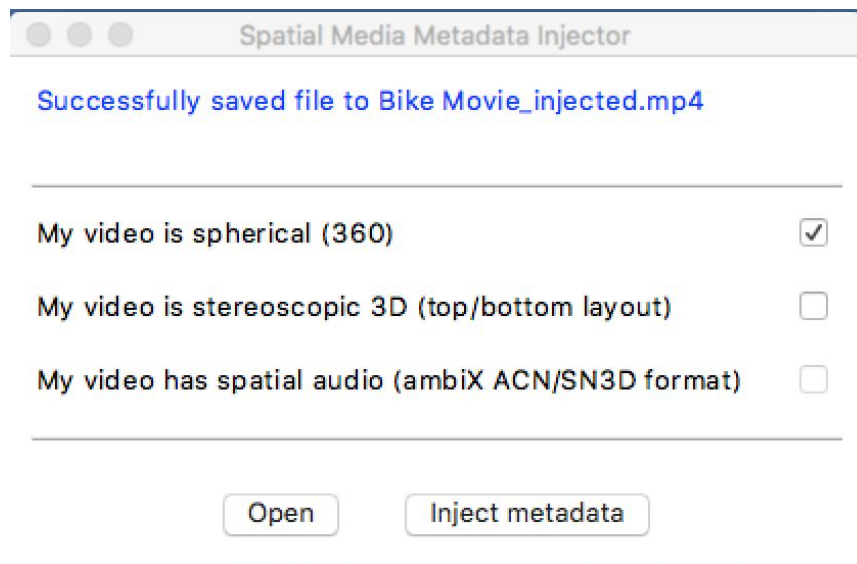
Make sure the correct file opened and the “My video is spherical (360)” box is checked. Then click on “Inject metadata.”



This box will open. Notice that the file will be saved with the word “_injected” added to the file name. Click on save.

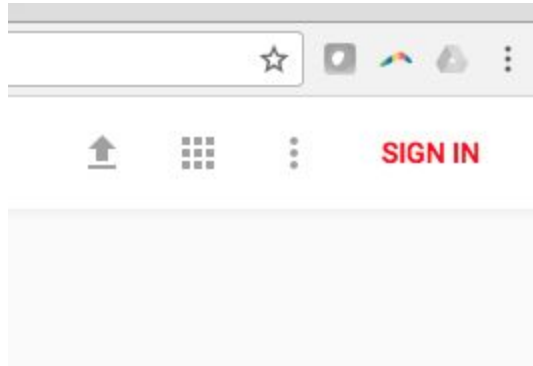


You will get this message and your “injected” file will be saved to the desktop.

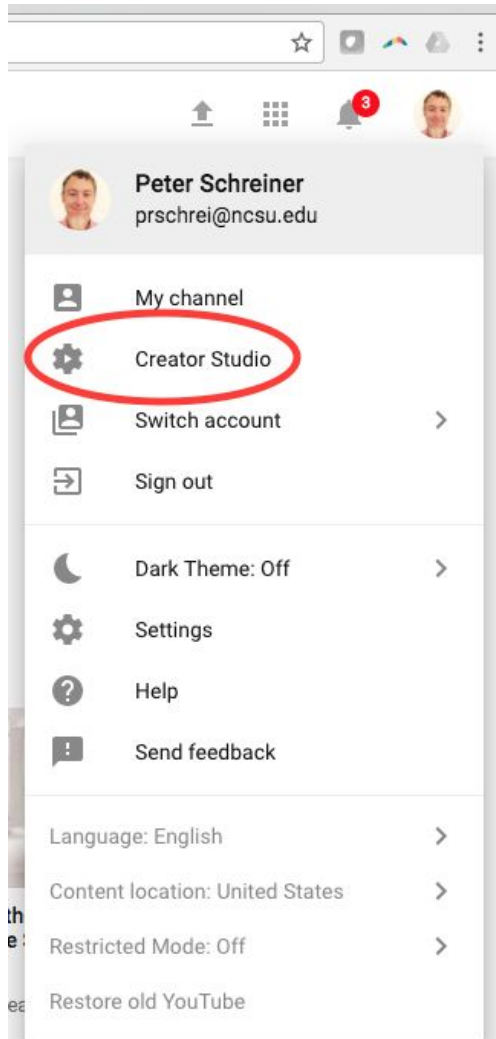


Upload video to youtube

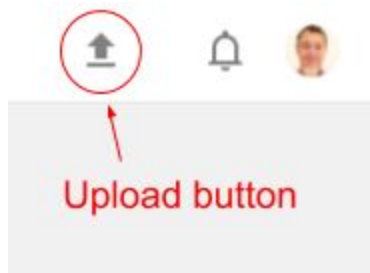
Go to www.youtube.com and sign in to your account by clicking on “Sign In” at the upper right corner of the page. Create an account if you don’t have one.



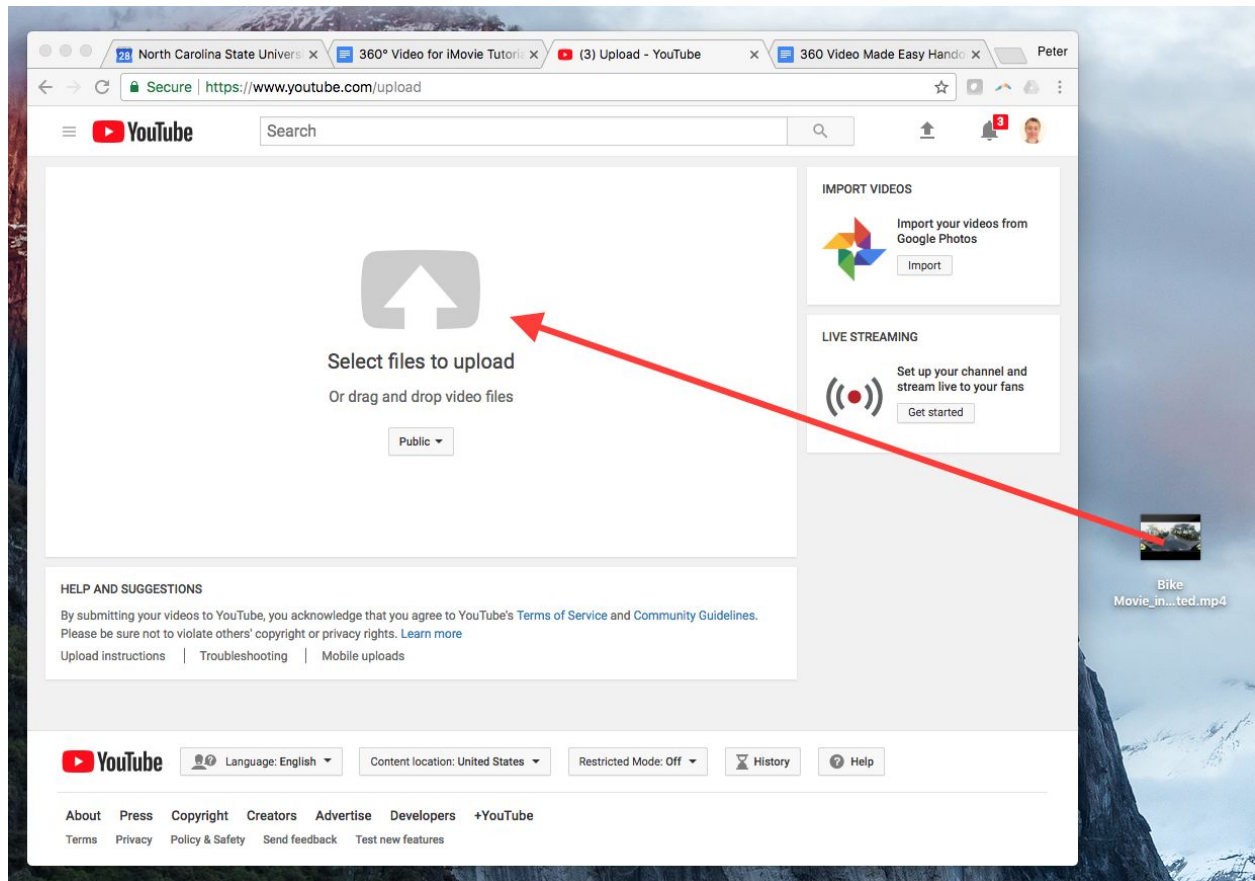
Click on your image or placeholder image and choose “Creator Studio” from the drop down menu.



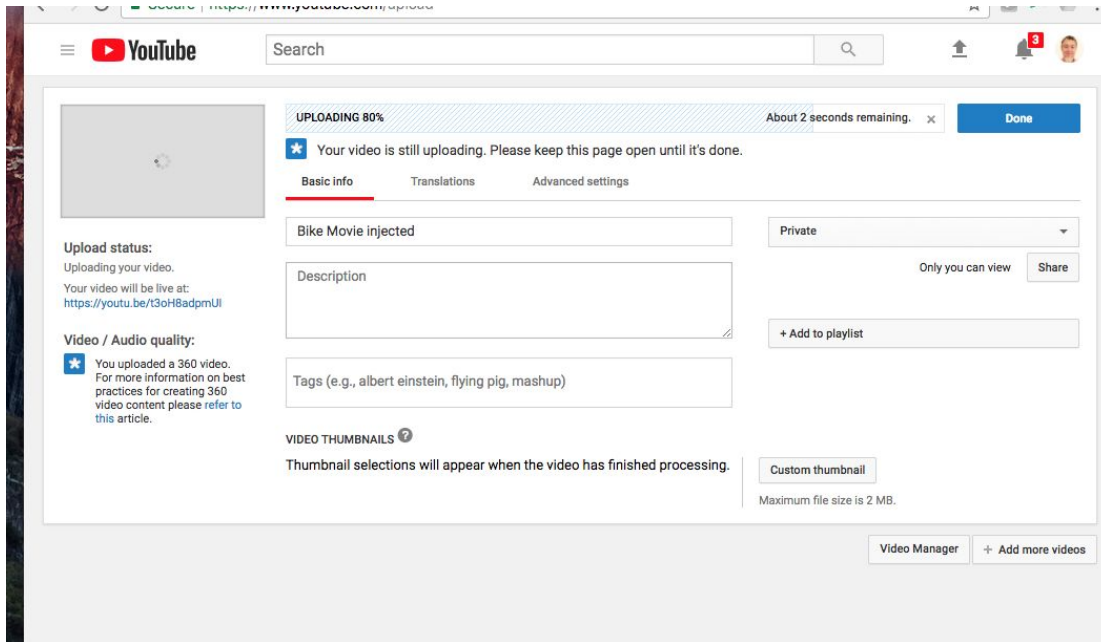
Click on the upload button at the upper right corner, near the user photo.



Follow the prompts to drag in, or search and select, your video. Make sure you upload the file with "injected" in the name.



Youtube will begin uploading and processing the video. The time this takes depends on the length of your video and the speed of your internet connection. While it uploads and processes you can fill in some information.

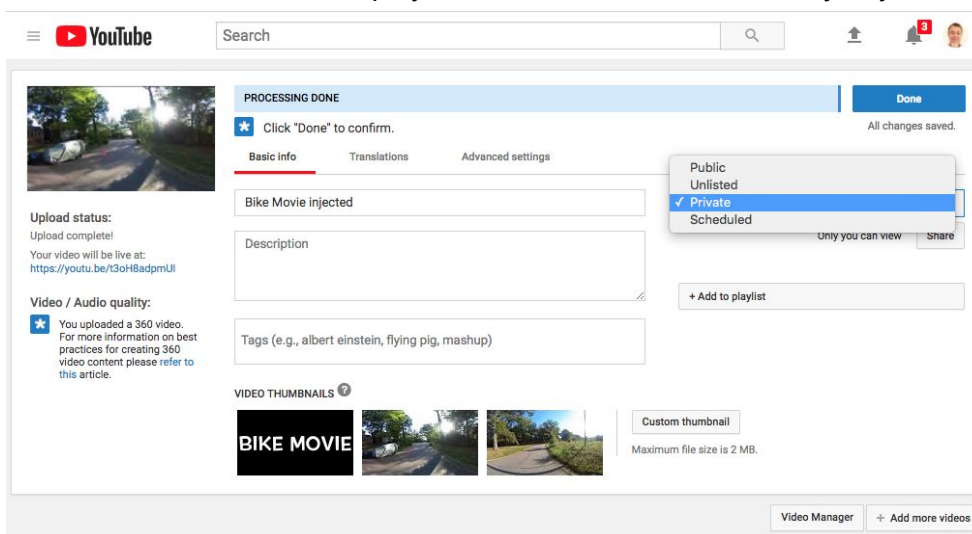


Change the title if you want, and add a description. This can include info about your movie, credits, and links.

You can add tags to make finding your movie easier for viewers.

Select *public*, *unlisted*, or *private* video from the dropdown menu on the right.

- **Public** videos and playlists can be seen by and shared with anyone.
- **Private** videos and playlists can only be seen by you and the users you choose.
- **Unlisted** videos and playlists can be seen and shared by anyone with the link.



Choose a thumbnail image for your video. The thumbnail is the still image that represents your video in search results, etc.

VIDEO ON



3



2

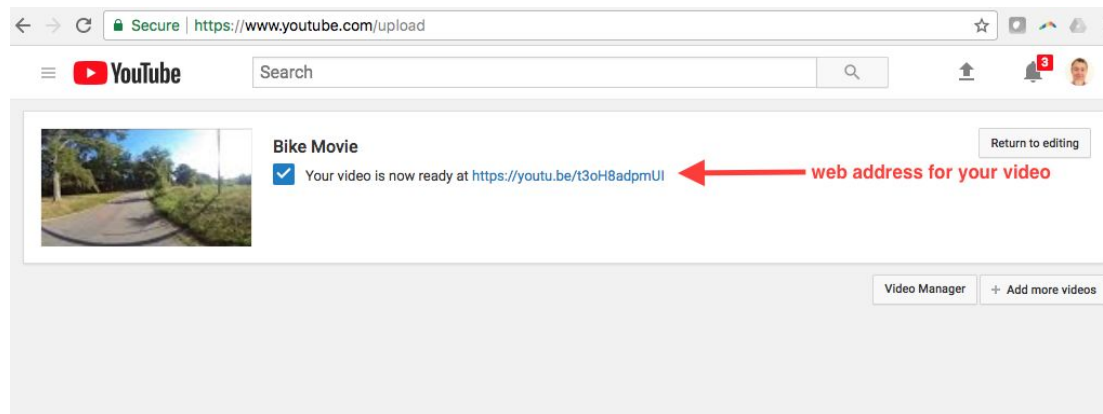


Once you choose a thumbnail, it will highlight in red but the image on the upper left side of the upload page may not change immediately.

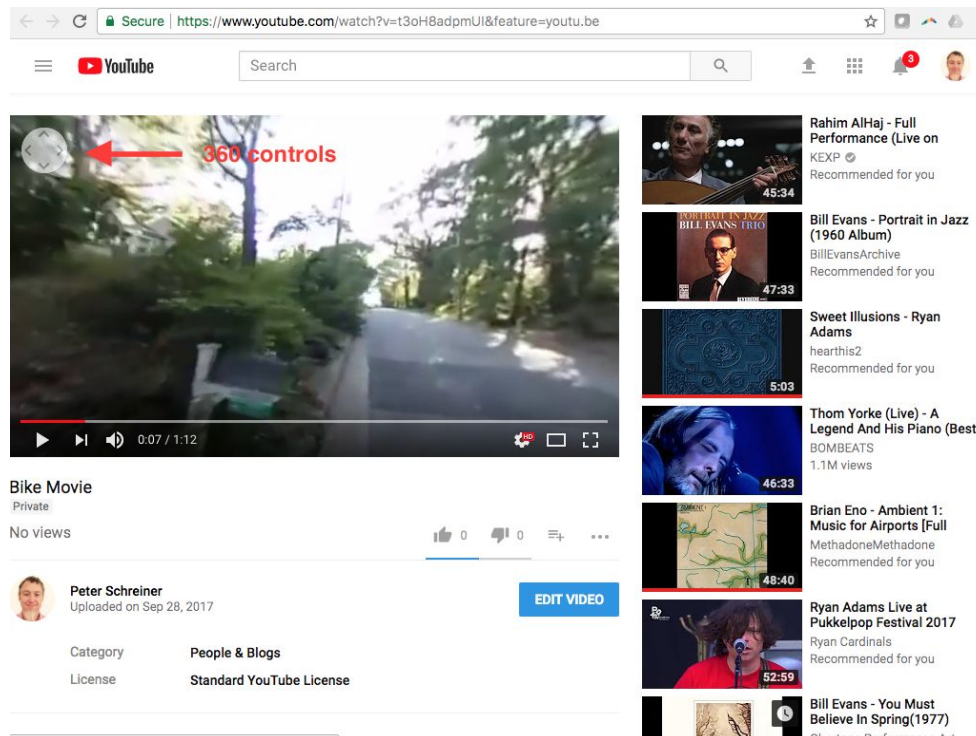
VIDEO THUMBNAILS ?



Click on “Publish” to finish. Youtube will display the URL (web address) for the video.

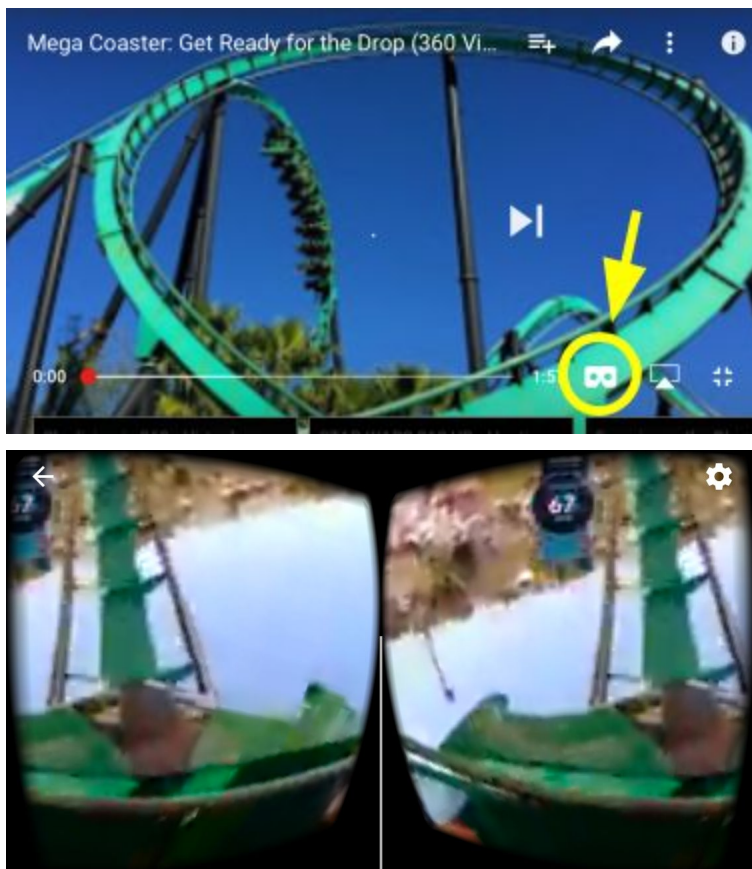


Click on the link to watch your 360° video. Note: it can take up to an hour for the video to be playable in 360°. During that time, it will appear as equirectangular. Use the 360° controller to see different views, or click and drag with your mouse in the image to rotate the viewpoint.



Watch

Once it's on Youtube you can access the video from the internet. To watch 360° videos, you need the latest version of Chrome, Opera, Firefox, or Internet Explorer on your computer. The video will appear in the same frame as a normal video, but you can click and drag with the mouse to change the portion of the scene that is displayed. On mobile devices, use the latest version of the Youtube app (using Youtube through a browser on a phone does not support 360° viewing, you must use the Youtube app). The view will change as you move the device around you in space. The video will also be viewable in Google cardboard type viewers. Select cardboard view by touching the cardboard icon and the display will switch to 2D stereoscopic.



Watch 360° video in Cardboard: <https://support.google.com/youtube/answer/6239930?hl=en>