

07. FileFormatsTeamsFacilities

Wednesday, September 11, 2024 2:44 PM

Today:

- Meet your team
- Team member Expectations
- Facilities and Equipment
- File formats**

Admin stuff:

- Please sit with your team, so you can discuss possibilities as they come up today
- Team First project plan and selfies due Weds 9/18. Short statement of what you are planning to do. Each person, online in Canvas.
- Team First image due Weds 9/25. Same upload and posting requirements as Get Wet.

Last Name	First		
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Scores:			
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Nicastro	Sam	samuel.nicastro@colorado.edu	3
Smith	Travis	travis.smith-1@colorado.edu	3
Scores:			
Botin	Pablo	pablo.botin@colorado.edu	4
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Scores:			
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Scores:			
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Scores:			
Caswell	Caidan	caidan.caswell@colorado.edu	7
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Scores:			
Cucuzzella	Lia	lia.cucuzzella@colorado.edu	1 (M)
French	Kate	katherine.french-1@colorado.edu	1 (M)
Hastings	Sarah	sarah.hastings-1@colorado.edu	1 (M)
Scores:			
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Scores:			
Aljadani	Turki	turki.aljadani@colorado.edu	8 (M)
Norris	Will	will.j.norris@gmail.com	8 (M)

Team Expectations

Was it hard to work alone on your Get Wet?

- a) Yes
- b) A little
- c) No

2022

Yes	35%
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was it hard to work alone on your get wet?

- a) Yes
- b) A little
- c) No
- d) I prefer to work alone
- e) I didn't work alone - I got help

2022

Yes	35%
Not much	42
Prefer	23

Posted on Course Info page:

Expectations For Teams Flow Visualization

Reasons for putting you on teams:

1. So that you can attempt to image more complex flow phenomena. If the work of developing a setup is spread out among you, then you can try a challenging experiment.
2. So that you can attempt more challenging imaging techniques. The teams were chosen to spread out photographic and fluids expertise and equipment amongst the teams.
3. To have partners to bounce ideas off of. This makes ideas multiply.
4. To get informal feedback on your work.
5. To interact with students from different backgrounds.

Thus, working on a team is **STRONGLY EXPECTED**, but not strictly required for the team assignments. You are not required to work only with your team, but you are expected to make significant effort to be available to help them with their images and ideas. You do not all have to use the same equipment. Do plan to spend at least an hour or two to help **each** of your teammates, and recognize that you can plan on having 4 to 8 person-hours at your disposal for your project. Plan multiple meetings. If you find you are not available for specific sessions, figure out how to make it up to your team.

I hope you will take advantage of the benefits of working in teams and of the opportunity to broaden your network. Strong recommendation: don't work only with your friends. Bad for you professionally.

Following from this, here are the expectations for the deliverables on the team assignments:

Each student is expected to turn in a unique image or video that they had primary artistic and scientific responsibility for. You must give credit appropriately in your report, by explicitly naming the teammates that contributed, and what they did.

Each image/vid must be accompanied by a report. If several images come out of the same setup, you can copy descriptions of the apparatus, and the basic physics. If appropriate, give credit to report section authors. Be sure to describe the details relevant to your particular image.

Meet Your Team

- 1) Exchange contact info. Cell numbers at least
- 2) Take or create a group selfie with your table tents showing
- 3) Plan a meeting to plan Team First Project
- 4) Review equipment and facilities:

Equipment and Facilities

Handout. Discuss in your team - 10 minutes

File Formats

	Still images, 3 files			Video		
	1) Original = straight from the camera. Do not edit or change file type	2) Edited Archival	3) Edited for posting	1) Original clips	2) Edited Archival	3) Edited for posting
Submit to	Canvas	Canvas	Flowvis.org	None	Canvas	Youtube or Vimeo
File type	As shot, preferably in camera raw format: NEF, CR2, HEIC etc.	PNG. Choose zero compression.	.jpg, with at least 90% quality	none	Mpeg/mp4 Must include title clip	mpeg. Must include title clip
Resolution	As shot, as high as your camera is capable of	As shot, minus cropping	Max 1300 px wide	none	Maximum, as shot	Max is recommended

Required in Title clip:
 Your name
 Date
 Collaborators
 Music credit
 Optional: video title, course name etc.

If assembling a video from multiple still images, upload a representative raw image along with edited final video.

Why does archival version have to be non-lossy?

Jpg loss example: By Marek Slusarczyk, CC BY 3.0, <https://commons.wikimedia.org/w/index.php?curid=143680321>



Most DSLRs and mirrorless offer a camera 'raw' or native format: NEF, CR2 etc. These contain the maximum information. Use this if

available!

Most other cameras store images as jpg only. Every time you edit and then save a .jpg, it compresses the image again, and you lose information because jpg compression is always *lossy*. Open in whatever, then edit and **do not store as jpg again until posting!**

Instead, store as a non-lossy format: png, PSD, Photoshop's native format or .XCF, in Gimp. Darktable doesn't affect original images, and only stores your edit information in a 'sidecar' xml file until you export at the end; thus is lossless.

DON'T use *Photoshop* RAW. Metadata is lost; images can't be opened.

Camera raw formats, like HEIC, NEF, CR2 etc, are good for original images.

HEIC is maybe lossy, maybe not; depends on compression setting.

For uploading to flowvis.org & Wordpress: YES save as jpg, max width 1300 px for landscape image. For portrait orientation image, make into a landscape format: save as 1100 wide by 900 high, with extra space on sides in a dark neutral gray. Our Wordpress theme, Impreza is 'responsive', resizes image for each device, but makes portrait orientation images too large and low res when selected as featured image for a post.

Gimp and older Photoshop cannot open camera raw formats. You will need a conversion program of some sort.

Darktable can open camera raw formats, even new ones.

Do not import from camera directly into a photo program; it will convert files automatically, and you could lose the original metadata.

Instead, **download, i.e. save to a file first**. Try plugging your camera or SD card from the camera into the computer, then drag files from camera to hard drive.

Post Processing

All images will benefit from cropping and/or contrast & brightness tweak.

Art/Sci line: Edit to enhance physics, not obscure it. With that first, aesthetics next.

Most image processing software will be adequate for this course: crop, brightness, intensity, spotting

Quick poll:

Monday's tutorial aside, I am familiar with

- A) No image processing program
- B) Photoshop
- C) Instagram image editor
- D) Darktable
- E) Other?

	2022	2023
a	37%	43
b	-	36
c	30	14
D	Gimp -	DT 4
E	Gimp, lightroom, RawTherapee	4%