

BPC Bulletin

Biomedical Photographic Communications + Fall 2012





table of contents

+letter from the editors	++++	03
+meet the freshman class of 2016	++++	04
+co-op interviews	++++	06
<i>David Beyerlein</i>	++++	07
<i>Alexander Hannan</i>	++++	08
<i>Lauren Held</i>	++++	09
+interviews with professionals	++++	10
<i>telemedicine with Paul Crompton</i>	++++	11
<i>teleophthamology with Christye Sisson</i>	++++	12
<i>plant pathology with Kent Loeffler</i>	++++	13
<i>25 years of ophthamology</i>	++++	15
+student gallery	++++	16
+BTPA events	++++	29
+contributors	++++	30

welcome to the new BPC

+ embracing new methods of publishing

letter
from
the
editors

We are proud to introduce you to the first all digital issue of the BPC Bulletin ever released. Like the shift from film to digital sensors, this issue reflects the current trend in the publishing industry. This issue of the Bulletin was not printed, and instead is digital, including the ability to be viewed on smart-devices.

While we are saddened by RIT's loss of the services from the Printing Applications Lab (PAL), the printing press that we have used in the past, we are embracing the change to the online publication options that are

available to us. This is not only the first all-digital issue, but it is the first time that the Fall Issue includes color images, as well as the first Bulletin ever to include videos. Furthermore, since this issue is not limited to a finite number of print copies, we are pleased that we will reach a broader audience. In addition, each person's name listed as a photo caption is a clickable email hyperlink, further increasing the connectivity of students to our readers.

Changes are not only happening to the Bulletin, but also to the Biomedical Photographic Communications Program and Rochester Institute of Technology as a whole. Starting in fall of 2013, RIT will be switching from a quarter system to a semester system. Included with this change is a transformation to the BPC Program. Next year, the two Bachelor of Science degrees in photography offered at RIT, Biomedical Photographic Communications and Imaging and Photographic Technology, are being merged into a single program—Photographic and Imaging Technology. As a result of this merge, this year we requested work from students in Imaging and Photographic Technology. This issue of the Bulletin demonstrates the best scientific and personal photography from students in both programs.

Our workspaces changed as well. With the advent of the combined majors comes a refurbished lounge area. Tech Alley is now home to several large iMacs and new furniture. The area is designed to foster friendships between students in the two photo science programs. To help this process, a new club was formed—the Biomedical and Technical Photographic Association. This club aims to further unite the two programs through social events, photography demonstrations, and presentations from professionals throughout the year.

With more students, new equipment, new spaces, and more, the programs are growing at a rapid pace. While change is not easy, we believe that many changes are for the better. By choosing the motif of a plus sign, we designed this issue of the Bulletin to reflect what is happening to the program. We hope that you are excited as we are about what is to come!

Finally, we would like to extend our thanks to Rachael Gootnick, Josh Shagam, and Christye Sisson for being our faculty advisors and making this publication possible.


Sarah Ryan Kylie
Sarah Oros Ryan Harriman Kylie Madigan

meet the freshman class of 2016

+ new students join the ever-growing program



+Natanya Lerner

from: Bethany, CT
shoots: Canon
favorite ice cream: Coffee Oreo
found BPC: "An eye doctor told me about the program"



+Juliette Molella

from: Poughkeepsie, NY
shoots: Nikon
favorite ice cream: Death by Chocolate
found BPC: "An open house and tour, and the BPC Bulletin!"



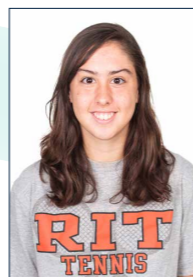
+Julia Radwan

from: Buffalo, NY
shoots: Canon
favorite ice cream: Piece of Cake
found BPC: RIT's website



+Scott Finke

from: Tolland, CT
shoots: Nikon
favorite ice cream: Pistachio
found BPC: Portfolio Day at Hartford Art School



+Kelsie Redburn

from: Byram, NJ
shoots: Canon
favorite ice cream: Chocolate Chip
Cookie Dough
found BPC: RIT's website



+Nick Bagley

from: Hammonsport, NY
shoots: Nikon
favorite ice cream: Cookies 'n' Cream
found BPC: An advisor at MCC



+Amber Kates

from: Philadelphia, PA
shoots: Canon
favorite ice cream: Peanut Butter
found BPC: RIT's website



+Giselle Payan

from: Manchester, NH
shoots: Nikon
favorite ice cream: Cookies 'n' Cream
found BPC: A student ambassador



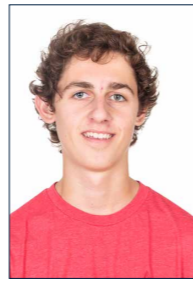
+Christine Henri

from: Pendleton, NY
shoots: Canon
favorite ice cream: Chocolate Peanut Butter
found BPC: RIT's website

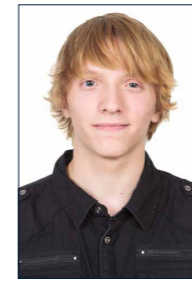




+ Sierra Kiss
 from: Sauquoit, NY
 shoots: Nikon
 favorite ice cream: Coffee Oreo
 found BPC: RIT's website



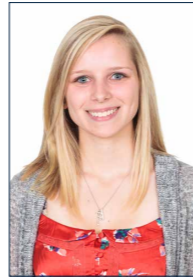
+ Shaun McConnaghy
 from: Skaneateles, NY
 shoots: Nikon
 favorite ice cream: Stephen Colbert's
 AmeriCone Dream
 found BPC: Connection to an alumnus



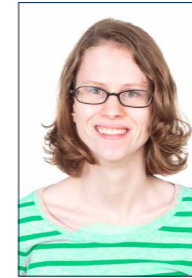
+ Andrew Kempchinsky
 from: Freeland, PA
 shoots: Nikon
 favorite ice cream: Cookies 'n
 Cream
 found BPC: Photojournalism switch



+ Maddie Becker
 from: Burke, VA
 shoots: Nikon
 favorite ice cream: Mint Chocolate
 Chip
 found BPC: Exhibit of faculty work



+ Jena Pedersen
 from: Rochester, NY
 shoots: Canon
 favorite ice cream: Chocolate Fudge
 Brownie
 found BPC: RIT's website



+ Rachel Varner
 from: St. Louis, Missouri
 shoots: Canon
 favorite ice cream: Mint Chocolate
 Chip
 found BPC: RIT's website

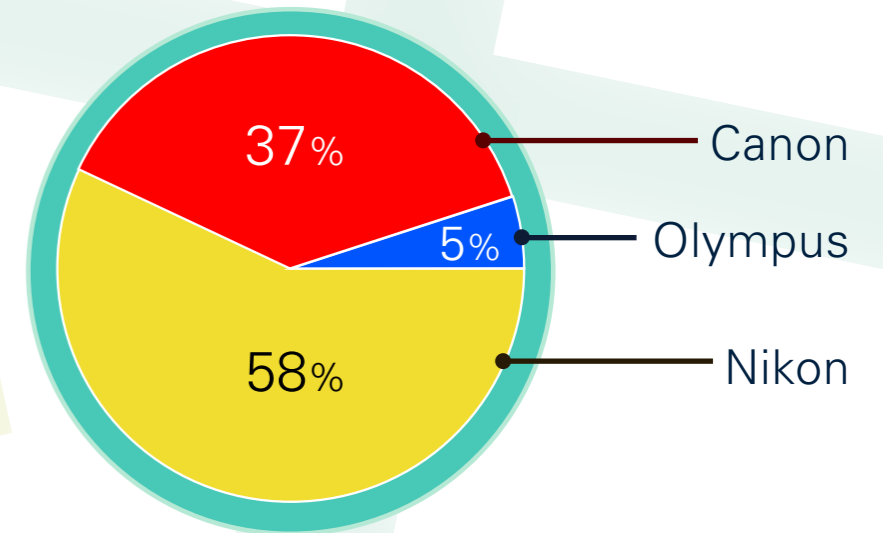


+ Emily Shriver
 from: Alden, NY
 shoots: Nikon
 favorite ice cream: Cannoli
 found BPC: Photojournalism switch

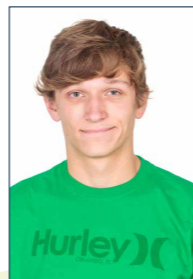


+ Jordan Salkin
 from: Cleveland, OH
 shoots: Nikon
 favorite ice cream: Mint Chocolate
 Chip
 found BPC: RIT's website

camera brand preferences



+ Arielle Hirsch
 from: Oceanside, NY
 shoots: Nikon
 favorite ice cream: Vanilla
 found BPC: "RIT helped me find it"



+ Wyatt Dorschutz
 from: Coplay, PA
 shoots: Olympus
 favorite ice cream: Cookie Dough
 found BPC: College career resource
 in high school



+co-op interviews

The Biomedical and Photographic Communications and Imaging and Photographic Technology Programs have decades of co-op experience. Full-time job experiences both near and far have been sought out by students in the photographic sciences. Learning new photographic techniques as well as cultural differences, read what these ambassadors for RIT had to say as they showed the “real world” what we can achieve.

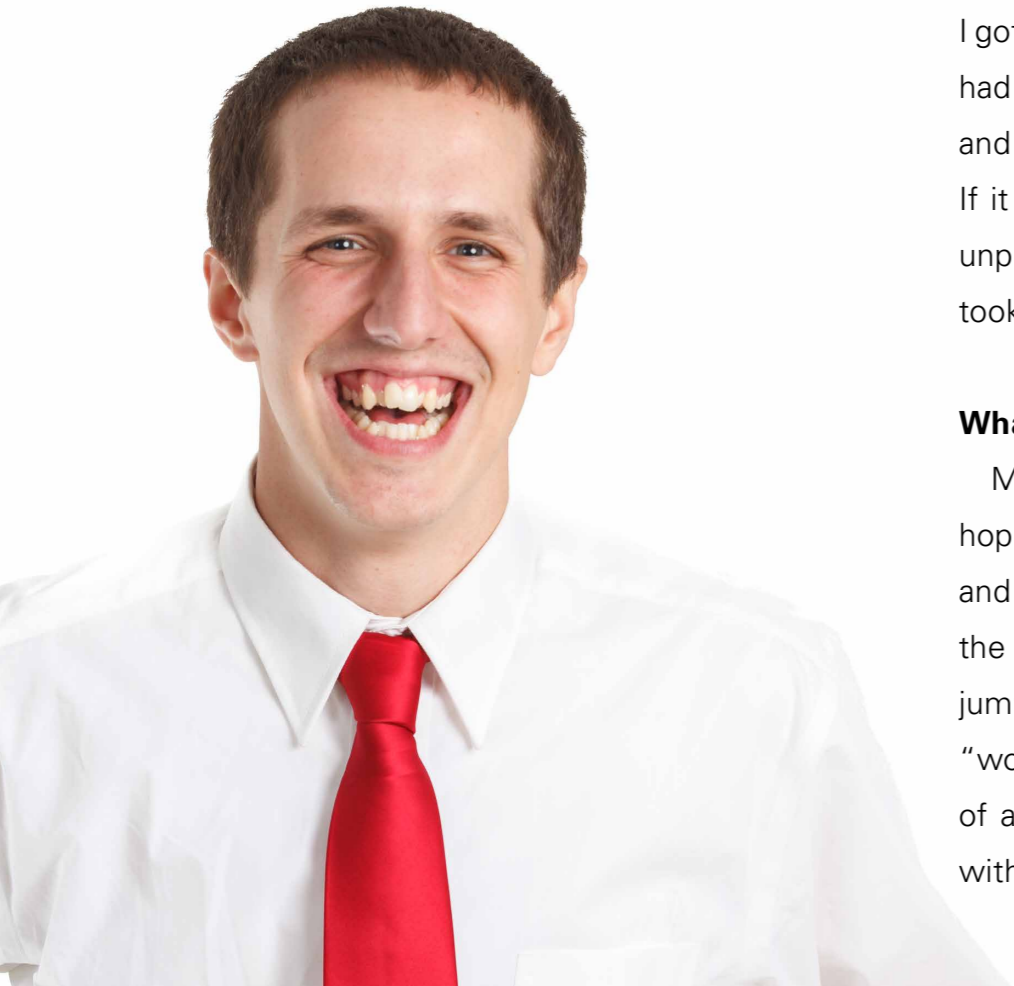


David + Beyerlein

Student Photo Technician

Missoula Technology and
Development Center

Missoula, Montana



What were your day to day tasks?

Every day was different. The bulk of my time was spent doing still photo work for pretty much every department, including next door ranging from Wildland Fire Chemical Systems, the Fire Research Lab, and textiles. Some work involved studio shooting for catalogues, others were photographing procedures, and some were for record-keeping purposes. I worked with Phantom High-Speed cameras for projects at least once a week.

Did you feel prepared for your experience?

On the whole, yes, I felt prepared. For example, I did have some experience with high speed video from taking the high speed class here with Andrew Davidhazy, where I got to use a Phantom camera and PCC software. I wish I had more mechanical, hands-on skills, but the work ethic and troubleshooting skills I learned at RIT were helpful. If it weren't for the High Speed class, I would have felt unprepared for the co-op, so I am very thankful that I took advantage of that class.

What was your favorite moment?

My favorite moment was on one of my first days. We hopped into one of the facility trucks with a generator and high speed video gear, drove up a hill overlooking the city, and recorded Smoke Jumpers taking practice jumps out of a Sherpa airplane. The idea that I was put to "work" on a beautiful landscape to record something out of an action movie—with gear that I dream of working with when I graduate—was beyond surreal.

What was your largest challenge?

Work-wise, being in a new environment and making a good impression and showing a good work ethic was a challenge. Also, a few pieces of equipment happened to break, coincidentally or not, in my hands. I had to step up my caution level to a new point.

Would you recommend your co-op?

No word describes it other than "perfect". At MTDC, it was great to see the different departments working together to make technical advances, but also to see things that I learned at RIT being used in a practical setting on a day to day basis.

What advice would you give to future students?

Be cautious, and ask lots of questions, see if there are mechanical skills or anything that you can look into improving before going, and finally, have an open mind.



David Beyerlein + Wildland Fire Chemical Systems Lab

Alexander + Hannan

Trainee Medical Photographer

Media Resources Centre at the
University Hospital of Wales

Cardiff, Wales



What were your day to day tasks?

Shadowing clinical photographers, learning about different specialties in the medical field, learning technical and patient considerations. About a third of the time was spent photographing anesthesia equipment.

Did you feel prepared for your experience?

Absolutely! I felt very prepared. The program really does a nice job of exposing us to the various scenarios we might encounter and I felt like I could easily handle most situations that I was exposed to.

What was your favorite moment?

The people really made the experience worthwhile for me. They were very light-hearted, friendly, and welcoming. They loved teaching and I really felt a sense of belonging with them. I liked learning about all the different specialties that the hospital had to offer.

What was your largest challenge?

It was difficult photographing all of the metal. Reflections were fun yet challenging to control. The setups ended up looking like cityscapes of Styrofoam, paper and tape.

Would you recommend your co-op?

Yeah, I really would! It was like a fantasy extended vacation plus a great job! It was really nice and I had an amazing experience. The job was really rewarding and everyday was a new experience, and being in Wales was

an adventure. I have Welsh heritage, so it was a really soulful experience, seeing the land of my forefathers.

What advice would you give to future students?

Take advantage of the resources that are all around you. For example, Christye and Michael know so many people. There is such a network of people here, so just ask questions, have a chat with your advisors, and ask about people they might know in the field. Most importantly, branch out and send an email or two!



Alexander Hannan + Antique Anesthetic Device

Lauren + Held

Confocal Microscopy Intern

Confocal Microscopy Core of
Brigham & Woman's Hospital

Boston, Massachusetts



What were your day to day tasks?

I learned how to use and maintain their confocal microscope, took photomicrographs for researchers, wrote protocols for imaging procedures, quantified data from photomicrographs, and learned basic cell culture and lab procedures. I also got to fabricate a camera mount for the confocal scope and learned how to maintain their flow cytometry machine.

Did you feel prepared for your experience?

Yes, the microscopy course really helped with all the different techniques. I mostly worked with fluorescence, some brightfield, and some differential interference contrast (DIC) microscopy.

What was your favorite moment?

I really enjoyed having the opportunity to get experience with equipment that I otherwise would not have been able to use. A truly unique part of my co-op was that I lived with my boss, an alumni from our program. I found this to be very helpful in learning to get around Boston and feeling comfortable in a new environment.

What was your largest challenge?

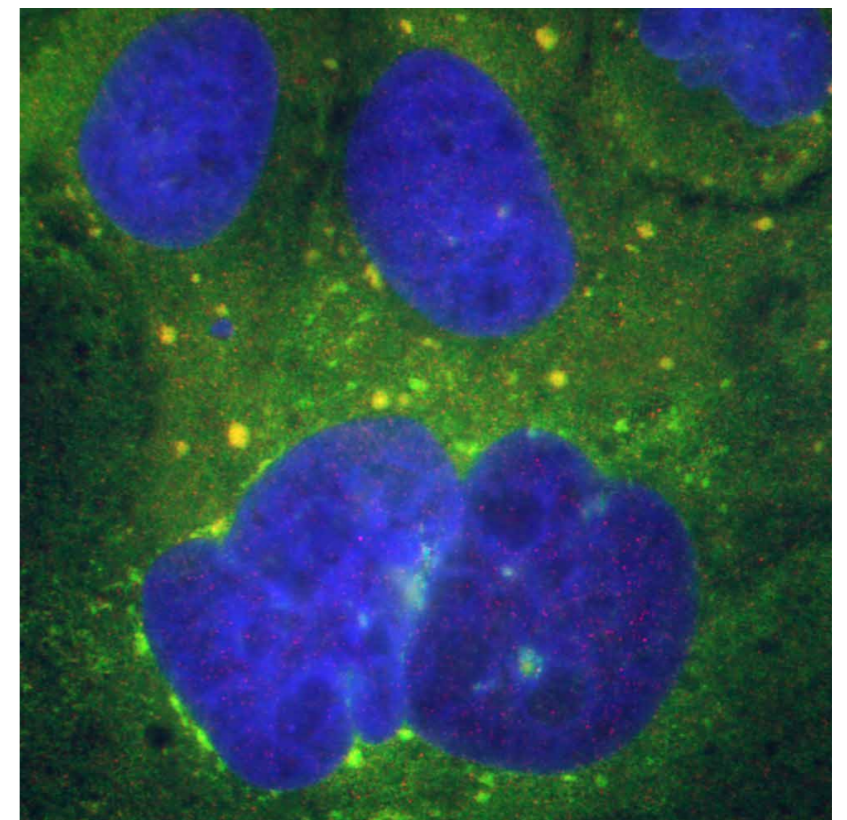
My largest challenge was communicating with researchers about their projects; it really made me wish that I had a stronger background in biology. It took all summer for me to start to begin to understand what some of them were talking about. I would definitely recommend that my fellow classmates take a few more

courses in biology and molecular biology if they plan to work in microscopy.

That being said, I would absolutely recommend my co-op. The experience was great, everyone was really friendly, and I learned so much!

What advice would you give to future students?

First, try and learn as many techniques before applying anywhere, bulk-up your portfolio, and get your images together in an organized manner. However, you are there to learn, you are not expected to know everything before you get there, so ask questions and take in as much as you can. Never turn down an opportunity to learn something new, gain experience, or create a professional contact.



Lauren Held + Mutated Cancer Cells of Human Bone

+ interviews with professionals

With a huge and growing network of professionals that work in the field of photographic sciences, we had the pleasure of talking with professionals about topics relevant to our studies. With topics ranging from imaging plant pathology to the future of biomedical photography, read what these professionals have to say about their work.



tele dermatology

+ Paul Crompton speaks from the University Hospital of Wales

Telemedicine is an exciting field for anyone interested in medical imaging and diagnostics. Essentially defined as "medicine-at-a-distance," all forms of telemedicine utilize electronic communication to transmit patient data, opening up a plethora of opportunities for diagnostics. Paul Crompton from the University Hospital of Wales in Cardiff, Wales, and Christye Sisson from Rochester, NY, talk about their unique experiences with specialized projects in the field of telemedicine.

Can you define tele dermatology?

Essentially, it is about using communications technology to bridge a gap between one healthcare worker and their patient (or in some cases, the patient themselves directly) with a remotely located expert.

The visual nature of dermatology suggests that telemedicine and dermatology would be a natural fit, though it isn't without its problems and detractors. In teleradiology or telepathology the expert is making assessments of the images in the same way they would in non-tele practice. Whilst a visual assessment of the lesion or rash is a critical part of the dermatology assessment, so too is the feel and the context of the lesion; by that I mean what does the rest of the patient's skin look like? It isn't quite the same. There has been a lot of research into whether diagnosis via telemedicine can be accurate and/or reliable. It is now generally accepted as being as reliable of face-to-face consultations.

How did this being at the University Hospital?

Our service was established back in 2005 by dermatologist, Dr. Richard Motley. Here, the National Health Service (NHS) system has General Practitioners (GPs) in primary-care acting as gate-keepers to specialist, hospital services, such as dermatology. About 25% of patients visiting GPs have skin problems and many are treated in primary care, but GPs have very limited training in dermatology (and it is worth realizing that there are about 3,000 dermatology conditions), so there are a lot of referrals to hospital specialists. This leads to long waiting lists of patients waiting to see a dermatologist.

Tele dermatology can help by triaging these waiting lists. By prioritizing the urgent cases and giving diagnosis back to the GPs to allow them to manage the patients themselves. Our project, whilst it does triage and diagnose, was setup as a means of educating the GPs. If you improve the dermatologists understanding and expertise, you will naturally reduce the number of referrals to hospital specialists.

What is the process of the images being captured, transmitted, stored, and interpreted?

We provide the GPs with a compact digital camera which has been programmed with pre-defined settings specifically for tele dermatology: the magnification, resolution, ISO, f-stop, and shutter speed are all set into the camera memory. The images are stored in the GP

system and then simply emailed with a referral letter, to a generic email account at the University Hospital. The dermatologists review and reply to the messages. We manage the email account and facilitate training (and retraining) of the photographers.

The service has been very successful. Out of 72 GP practices in Cardiff and Vale we have about 50 regularly using the system. We receive about 3,000 referrals a year. In about 70% of these the GP is given advice and they continue to manage the patients in the practice. Of the 30% referred they can be seen more efficiently and effectively because the dermatologists can make sure they are seen in the right clinics.



Portrait of Paul Crompton, courtesy of Carl Rogers

teleophthamology

+ Christye Sisson talks about an exciting project at the Rochester General Hospital

Can you define teleophthalmology?

Teleophthalmology is the ability to provide ophthalmic care from a distance using technology as an intermediary. The most common application of tele-ophthalmology is retinal imaging, by which an image is taken of the back of the eye, and then sent electronically to an ophthalmologist for clinical evaluation. The ophthalmologist would then send back a report on those images, with details on any disease or abnormality.

What are some of the goals of the project?

The goal of this project is to provide diabetic eye care at the primary care level using teleophthalmology. In this case, we are working with the primary care clinic at Rochester General Hospital (RGH). Diabetes is reaching nearly epidemic proportions in this country, primarily associated with the rise in obesity. From 1980-2010, diabetes cases have risen 176%¹. Diabetes can have devastating effects on eye health, and can result in total blindness and even the loss of the eye.

The diabetes diagnosis is followed by patient counseling and referrals to several different specialists to monitor the potential damage to different systems of the body. Since a patients' main point of contact is primary care, they are more likely to comply to a set of images taken in the course of their standard visit than to make a separate trip to the ophthalmologist. We are participating in diabetes education days at the clinic, to hopefully not only allow

the patient's eyes to be photographed, assessed and followed, but also to provide another educational element by utilizing those images.

In terms of making the photographs, we are training the primary care team to use a non-mydratic fundus camera. This could include nurses, technicians, and even a pharmacist. They will be making the images themselves, following training and certification by the project team.

How and when did the project start?

Rajeev Ramchandran, MD, an attending retinal ophthalmologist at the Flaum Eye Institute contacted me a little over a year ago when he was putting together the grant for the project to the Greater Rochester Health Foundation. He asked if I could provide help with training and image assessment.

What are some challenges that this project faces?

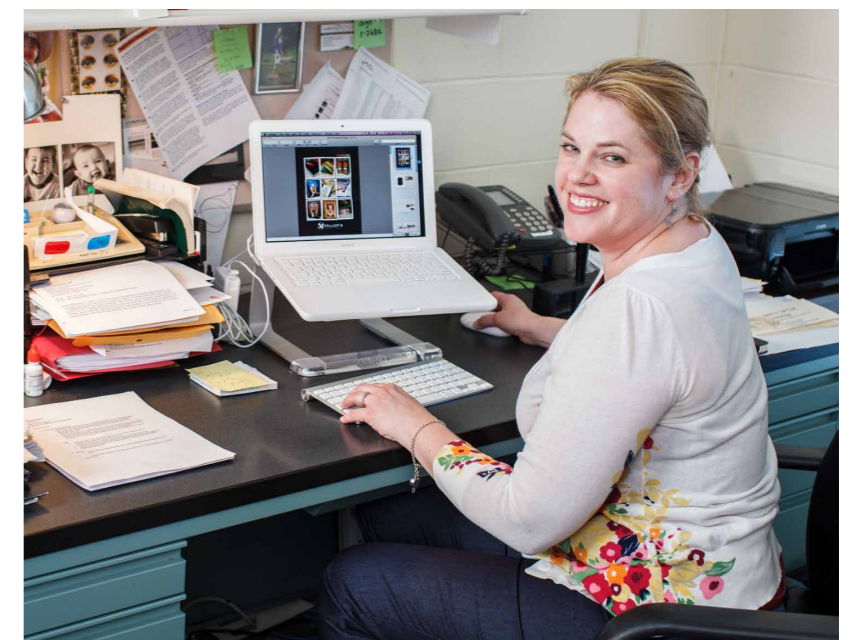
Logistics of systems are always issues with anything related to technology, but I think even more so when it comes to different systems from different institutions, as each come with different sets of rules. Consistency of the images is a training challenge, particularly given the different levels of experience of the people taking the images. Also, even though the fundus camera is non-mydratic, not many diabetics dilate well, even in a darkened room. This presents a major challenge for the image quality control.

For biomedical photographers, what impact on the job market do you think projects like this will have?

Honestly, I don't see this as taking anything away from our graduates, and this is why: technology can be a great equalizer, but you still need to have an expert to set up the system. The analogy to traditional photography holds true—the cameras are easier to use, they are smarter, but they do not always mean you get a great photo.

It is the graduates in this field that will be the ones setting up the systems, training the individuals, assessing or reading the images. This type of implementation of technology sets up more opportunities for people with this experience, not less, especially given the need and growth potential of these types of systems.

¹ <http://www.cdc.gov/diabetes/statistics/prev/national/figage.htm>



Christye enthusiastically discusses the project at RGH

plant pathology

+ Kent Loeffler and his work at the plant pathology lab at Cornell

What are the responsibilities of your job?

I run the Photo Lab for the Department of Plant Pathology & Plant-Microbe Biology, which is in the College of Agriculture and Life Sciences at Cornell University. I'm responsible for maintaining the facilities of the lab (cameras, optics, lights, computers, scanners, printers etc.) and producing publication quality imaging for everyone here who needs it.

The work is often interesting and includes such projects as creating panoramic images of the campus for PR publications, using deep-focus techniques to photograph tiny insects for book projects, making time-lapse movies of food rotting and mushrooms growing and also doing field photography of plant disease symptoms and fungi. Along with these interesting projects are the mundane such as photographing thousands of petri plates, tobacco leaves and Arabidopsis plants (the lab rat of the plant disease researcher).

What do you enjoy most about your job?

I would have to say that my favorite thing about this job is its tremendous diversity. One day I'll be setting up specimens for a time-lapse movie and trying to figure out a video editing program, next I'll be asked to do large format film portraits of certain graduating students for a publication and the next day I'll be slogging around in a bog photographing tiny mushrooms. The work rarely becomes boring here. Another great thing about this

job is that I have been involved in several large, long term projects. For example, I've been working with an Entomologist for the last 3 years to photograph invasive weevil species using deep-focus techniques. So far we've photographed about 300 species and they will be published as a coffee table book sometime soon.

What has been the most interesting specimen you have had the chance to photograph?

It's hard to choose any one specimen but as a group, the weevils I mentioned have been amazingly interesting to work with. The diversity in size, shape and texture of these critters is truly remarkable. Some of them are the size of your thumb and others the size of a grain of sand. Some are hairy and look oddly similar to dogs while others appear to have bodies of shiny chrome! Using deep focus techniques (multiple pictures taken at high magnification and combined using stacking software) we've been able to capture these beasts in great detail. Last year we printed 2 dozen of them on wide-format printers and displayed them at a gallery on the Cornell campus. It was great to see people's jaws drop when being confronted by these tiny insects blown up to gigantic proportions.

How has the Biomed Photo program impacted you?

Greatly! Nile Root, who was the chair of Biomed Photo when I went to RIT, had a huge influence on me. Nile was



Curculio elephas

a consummate technical photographer and he also taught us to appreciate and incorporate artistic principles in our work. This combination of technique and design skills has really helped me in my dealings with scientists and art directors. For example, most scientists are pleased with a straight forward image that illustrates a particular principle of their research but if you go a step further and use your design knowledge to make the image interesting and/or beautiful the image might wind up as a cover for a scientific book, journal or magazine. I've had over 3 dozen of these covers over the years and believe me, the scientists love having their research highlighted by being on the covers.

plant pathology

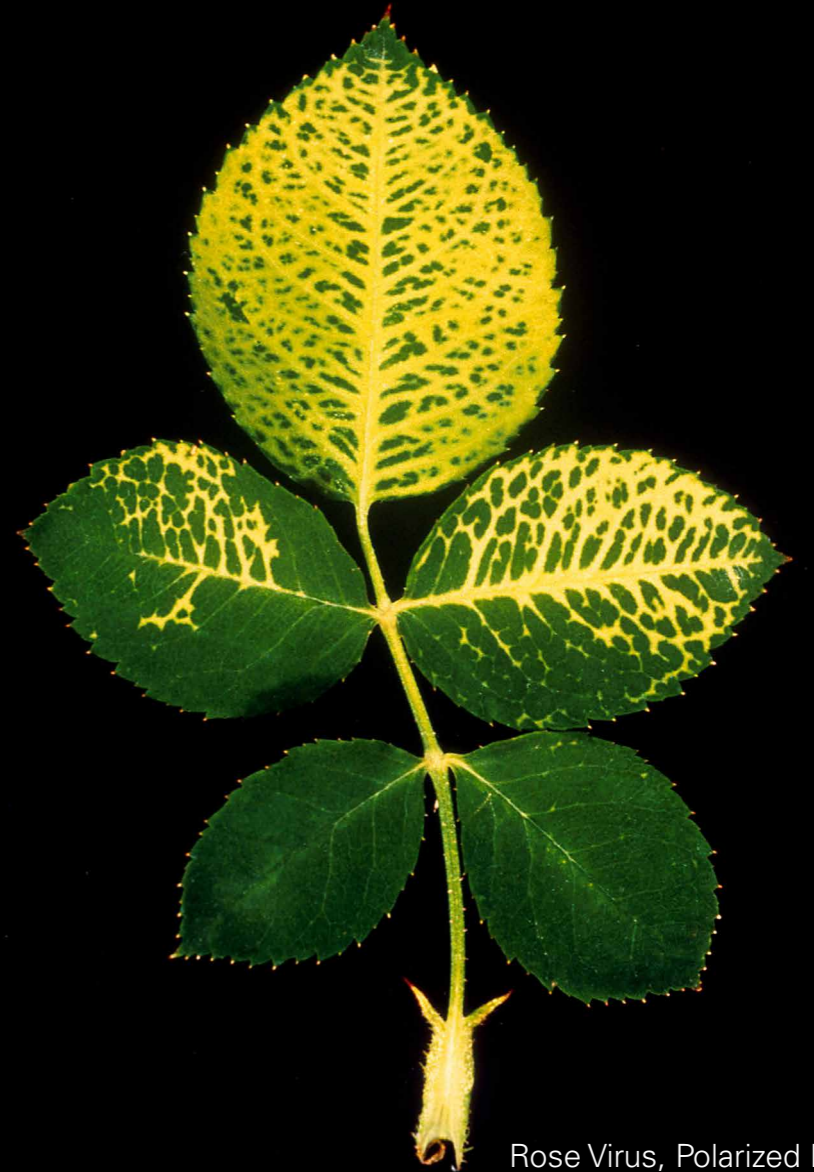
+ Kent Loeffler and his work at the plant pathology lab at Cornell

+

Do you have any advice for current students?

I would suggest that you really make use of all the facilities and faculty expertise that RIT has to offer. RIT is the mother lode of photographic knowledge so don't be shy about extracting all you can from it.

Finally, I would recommend that while at RIT you broaden your studies to include all digital media, not just photography. This might include video, illustration, design, web and even programming. There are very few strictly photographic jobs available (unless you start your own studio) and I think that employers are looking for someone who is a Digital Media Specialist these days. To compete these days you should not only have digital photography mastered but should also be competent with every program in the Adobe Creative Suite and a few others to boot!



Rose Virus, Polarized Light



Emerald Ash Borer

For more photography by Kent Loeffler:

Photo Lab website: <http://www.plantpath.cornell.edu/PhotoLab/Default.htm>

Time Lapse Videos: <http://www.youtube.com/user/CUPlantPathPhotoLab>

25 years of ophthalmology at RIT

+ discussing the past, present, and future of the ophthalmic photography program

+
Bill Fischer and Christye Sisson have been the only two professors at RIT to teach ophthalmic photography. Christye, who started out as a student in the program, has switched roles to become the current professor. Ophthalmic photography is a growing and changing profession, and many alumni who work in the field of ophthalmic photography got their initial training from RIT as undergraduates. Here are Christye's thoughts on the past, present, and future of the program and the career outlook for those interested in the field.

What is ophthalmic photography?

Ophthalmic photography covers most imaging of the eye for the purposes of medical documentation and diagnosis. As a practice this includes fundus, or retinal photography, fluorescein angiography, slit lamp biomicroscopy, optical coherence tomography (OCT) as well as other specialty imaging techniques.

The foundations of this type of imaging really come from the ability to view the vasculature of the eye by simply dilating the eye. It was a logical progression to move from viewing to imaging and photographing. The field got an additional boost in the late 1960's with Alvis and Novotny's experimentation with fluorescein angiography; this was the first time photography could be utilized in a diagnostic way, and really cemented the practice of ophthalmic photography as a field.

How do the ophthalmic photography courses at RIT differ from on-the-job training?

The nature of ophthalmic photography is very practical and hands on, but within the context of anatomy and physiology of the eye. As students are learning how to use specialty equipment like fundus cameras, they are also learning as much as possible about what they are photographing in order to provide the best possible care. Ophthalmology is such a vast and complex field, but the goal is to provide students with the basic tools and knowledge to act as a strong foundation entering the field. The biggest disadvantage would be that the students photograph each other to learn, rather than patients. Our relationship with the Flaum Eye Institute at the University of Rochester's Strong Memorial Hospital allows the students to do a clinical rotation, which provides them at least some patient contact.

The ophthalmic photography program has existed for 25 years—what has changed in the field over since the program's inception?

Technology! The foundations are pretty much the same, but the job looks very different. As compared to the being in the darkroom at least part of the time 25 years ago, now our image management lives in the world of information technology. So having that knowledge is essential moving forward.

Where do you think this program will go in the future?

I think there is a big move toward images with quantitative data. Right now those are primarily from OCT/SLO type systems, but I foresee data mining within photography as a whole. Adaptive optics is a step toward that direction as well, as the image making itself process relies upon data feedback.

What advice would you give students interested in ophthalmic photography?

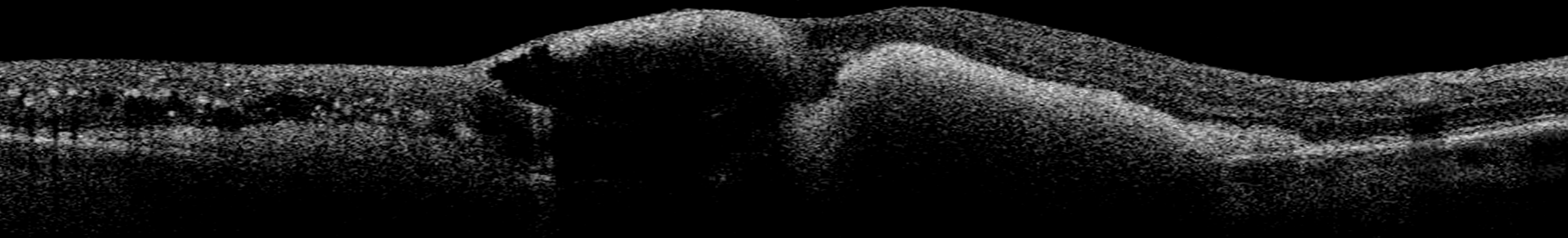
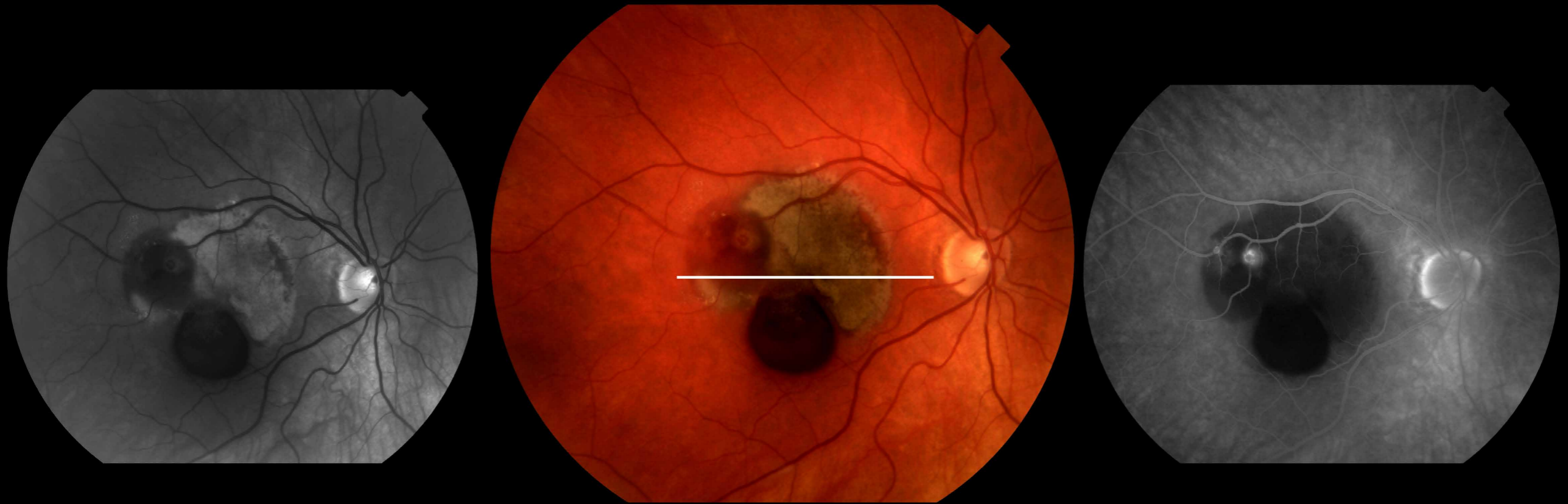
Only to learn more about it; it is often not what people expect. If you love medicine, science, and imaging, it is a great combination. But you also need to be a people person and like working with patients, since ultimately, it is all about providing them the best possible care.



Christye helps students in the Ophthalmic Photo Lab

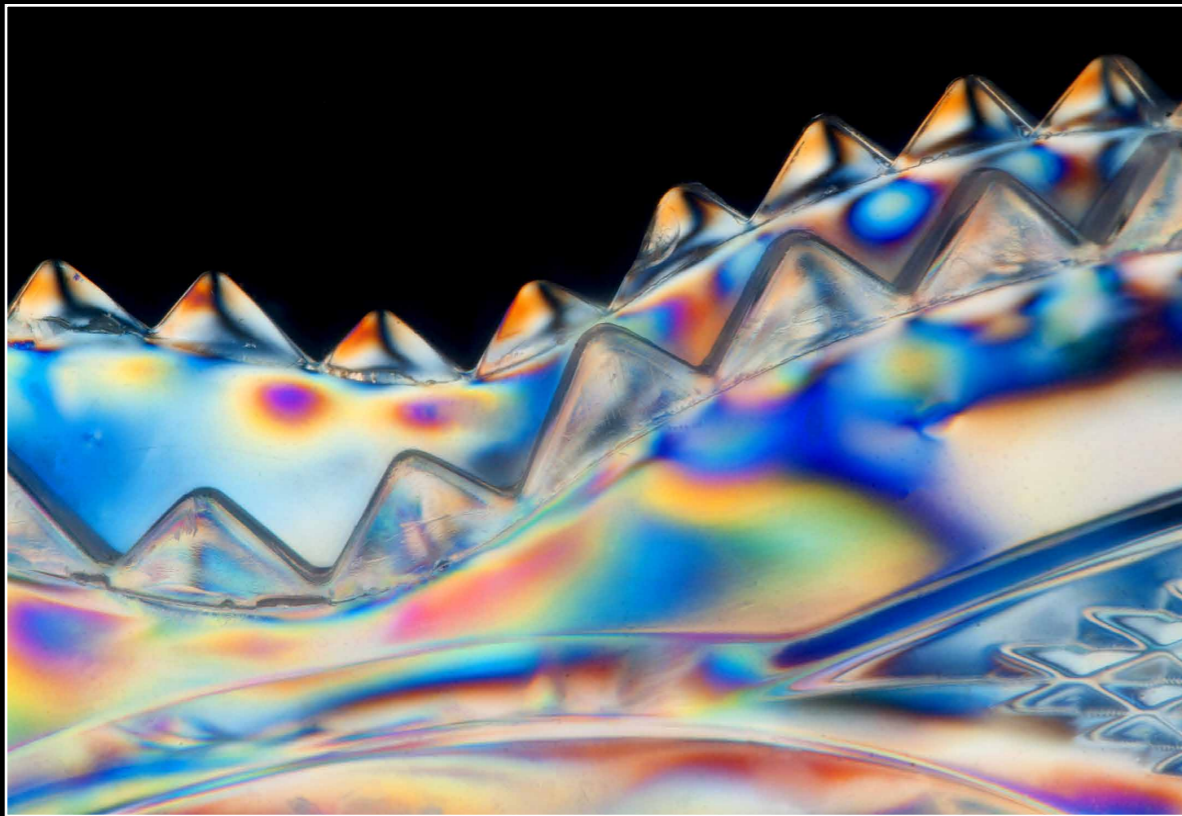
+ student gallery

In the Biomedical Photography and Imaging and Photographic Technology programs, students use technical knowledge and creative skills to obtain incredible images. Here is a selection some of their best work.





Lindsay Quandt + Train Ride by a House in China



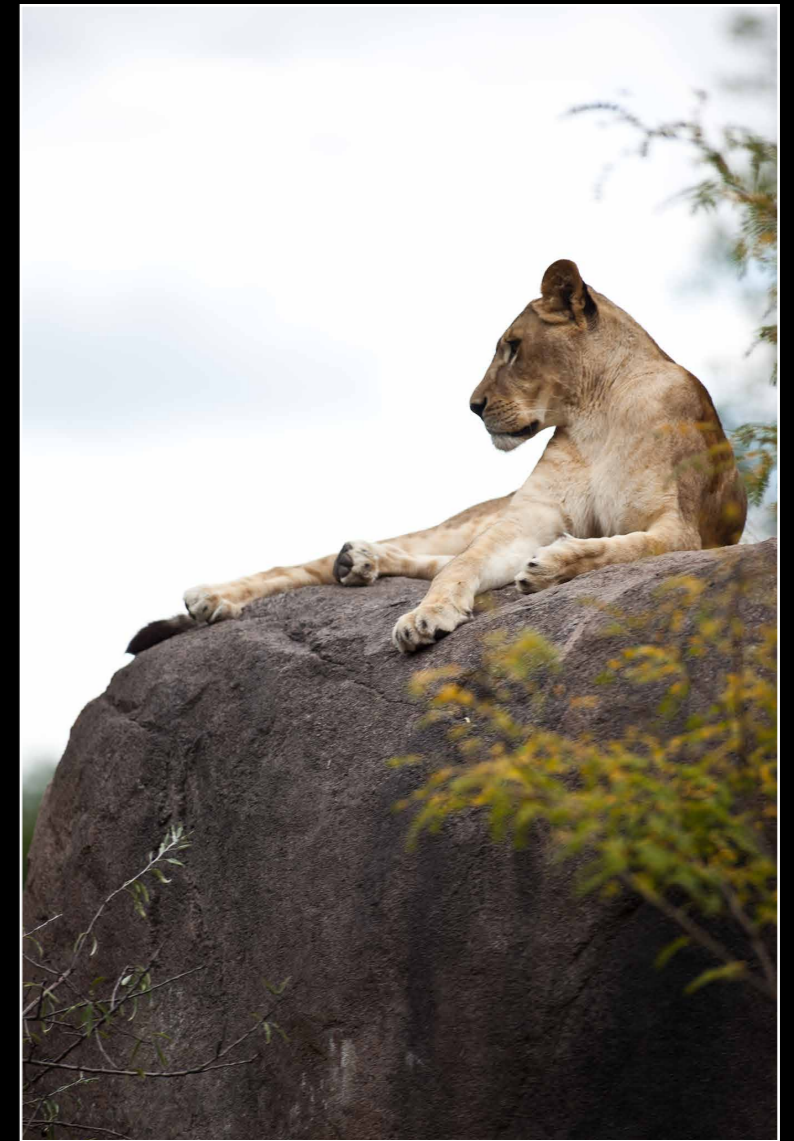
Abby Jaske + Cross-Polarized Stress Patterns in Plastic



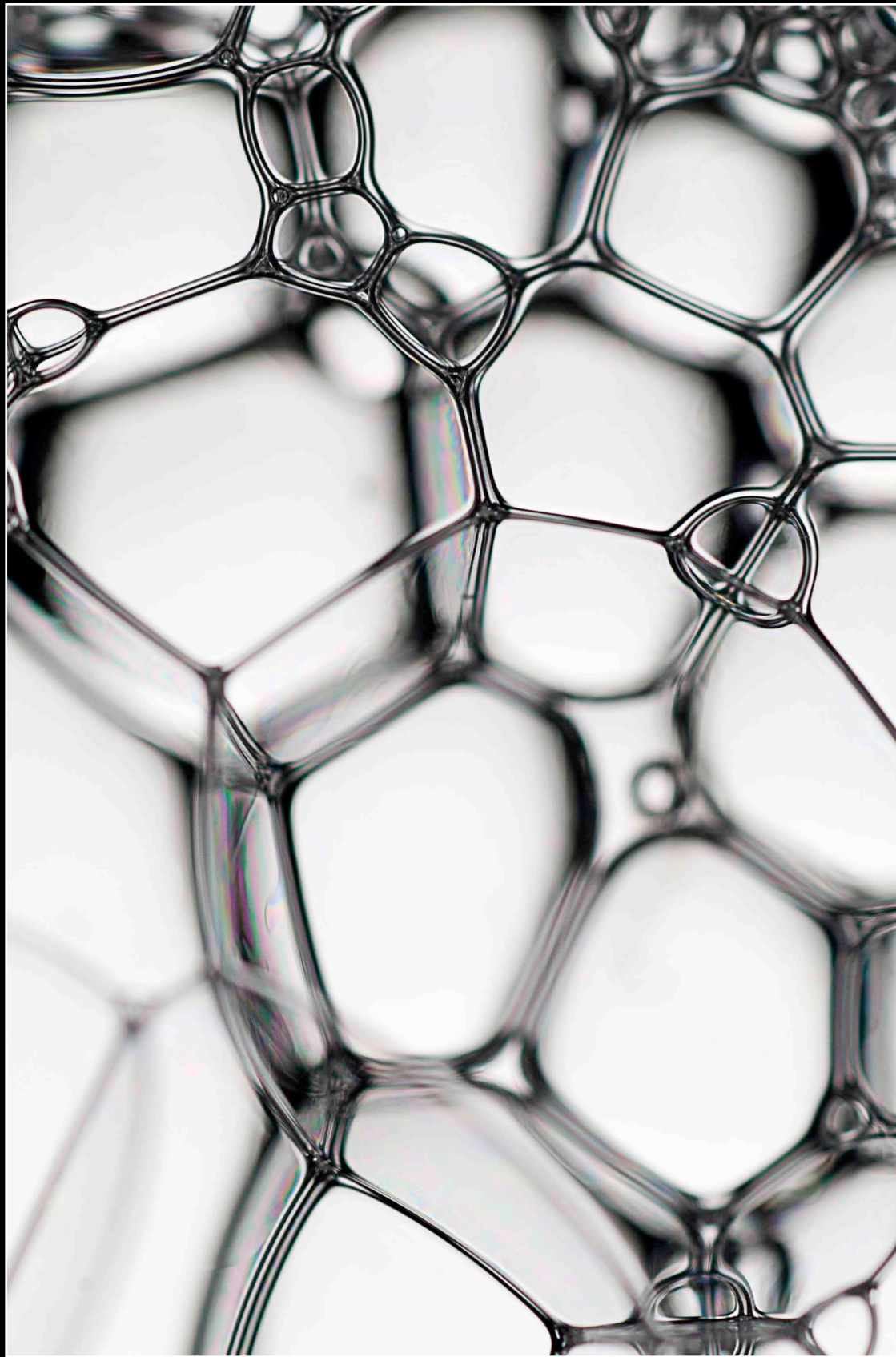
Erin Walsh + Fluorescent Honey Bear



Abby Jaske + Landscape in Infrared Light



Evan Darling + Lioness



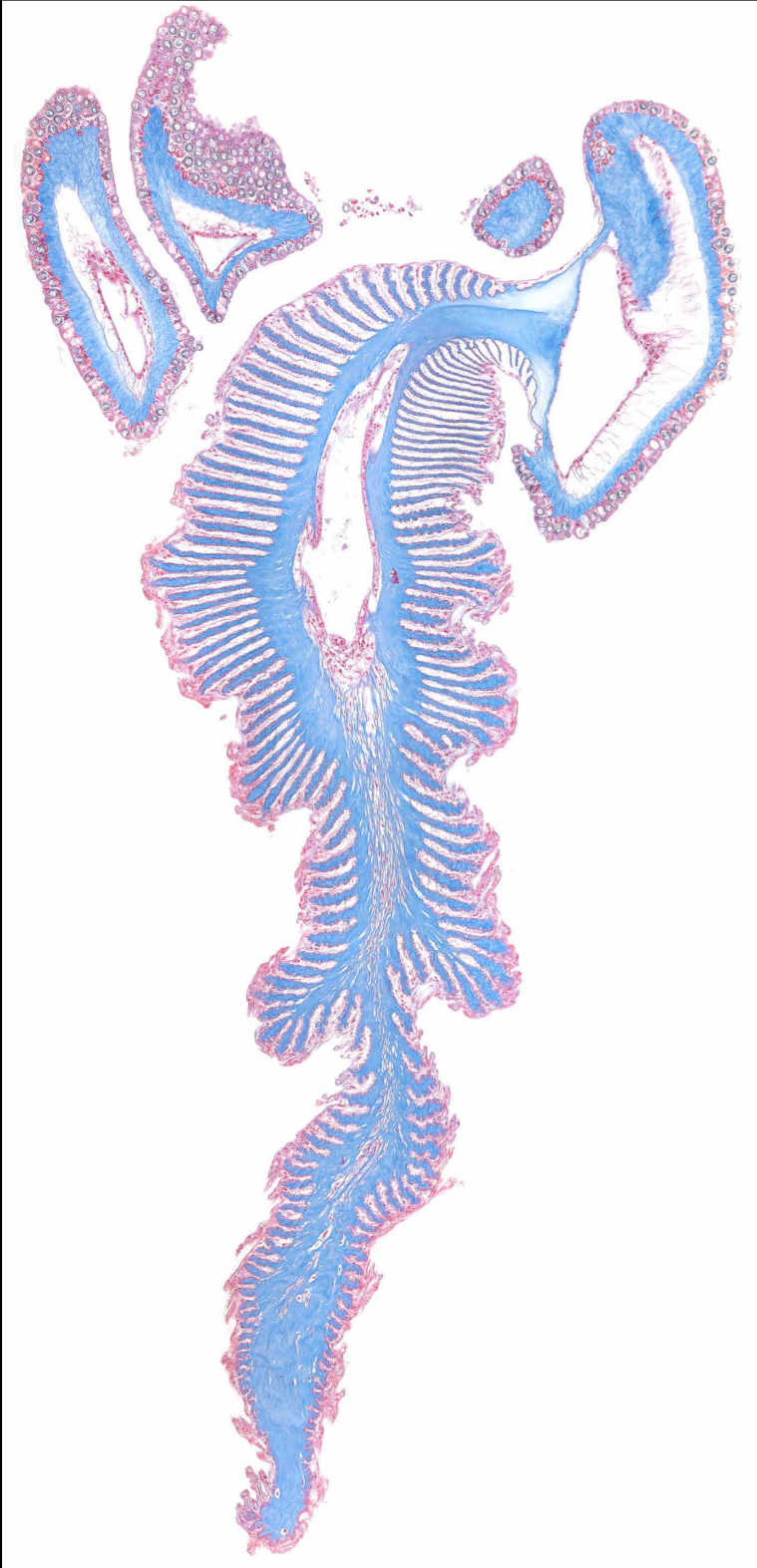
Lindsay Quandt + Soap Bubbles



Lily Gerhardt + Frog, In situ



Casi Fleischman + Campfire



Lindsay Quandt + Portugese Man O' War



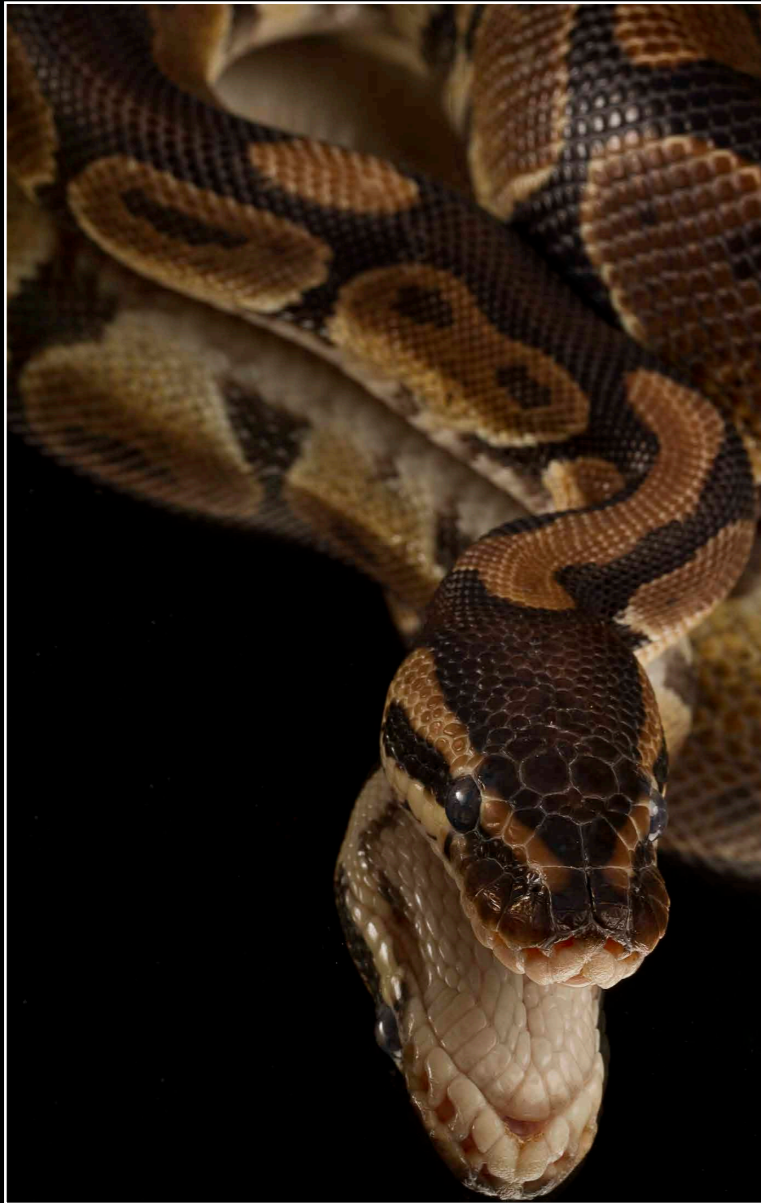
Katie Lachut + Lionfish



Claire Smith + Cuban Weevil



Tamra Hirsch + Dirt Biking



Marissa Masek + Ball Python



Carissa Hurdstrom + Tick



Claire Smith + Dogwood Flower Pistil



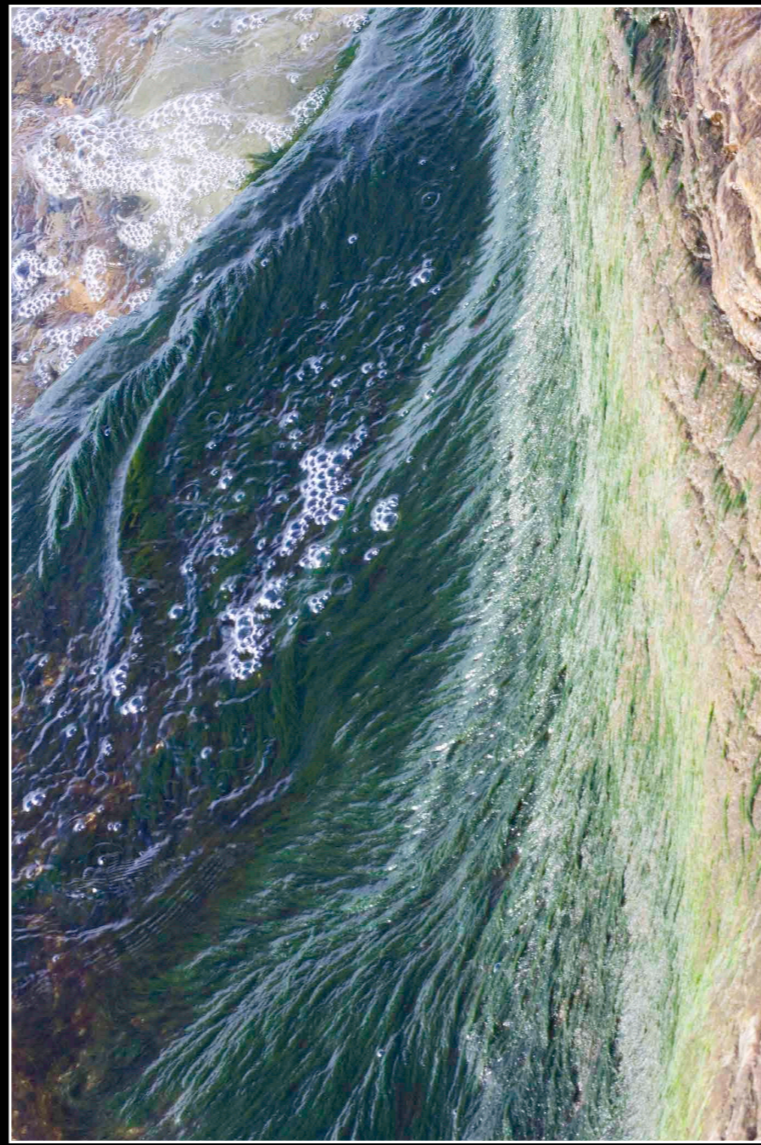
Abby Jaske + Dogwood Tree Berry



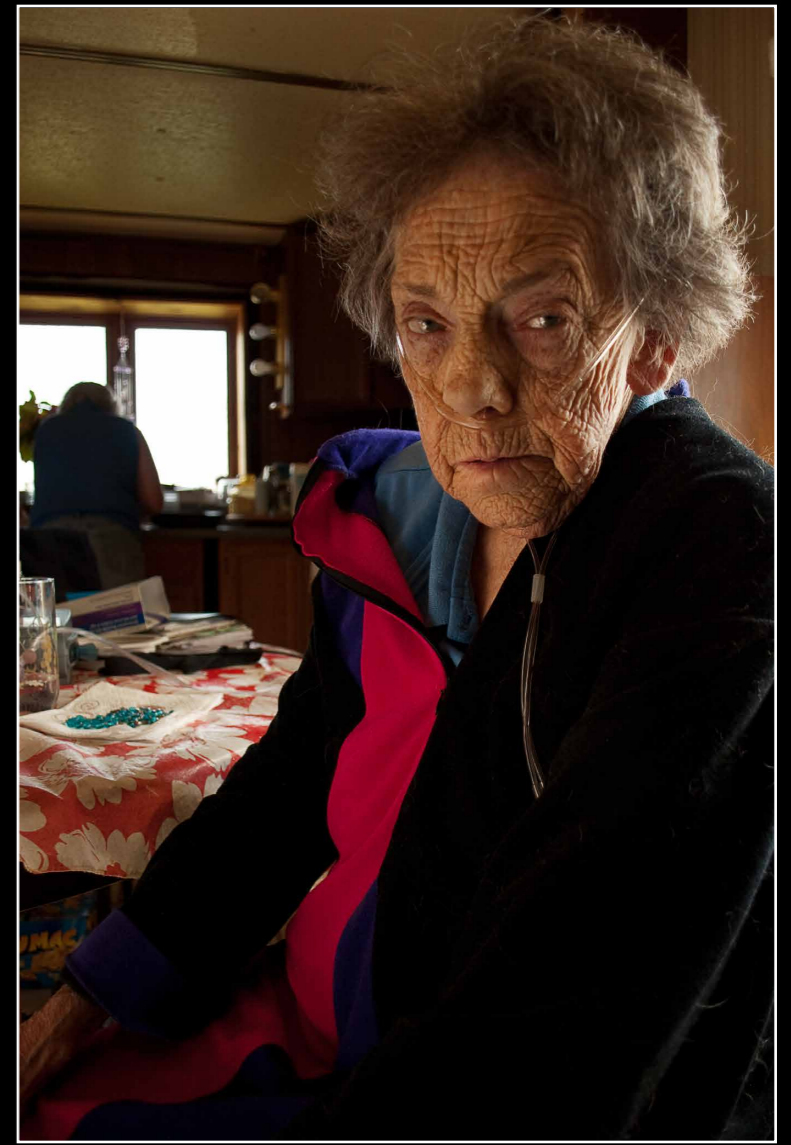
David Beyerlein + Rappelling Practice at Missoula Technology and Development Center



Sarah Oros + Agate



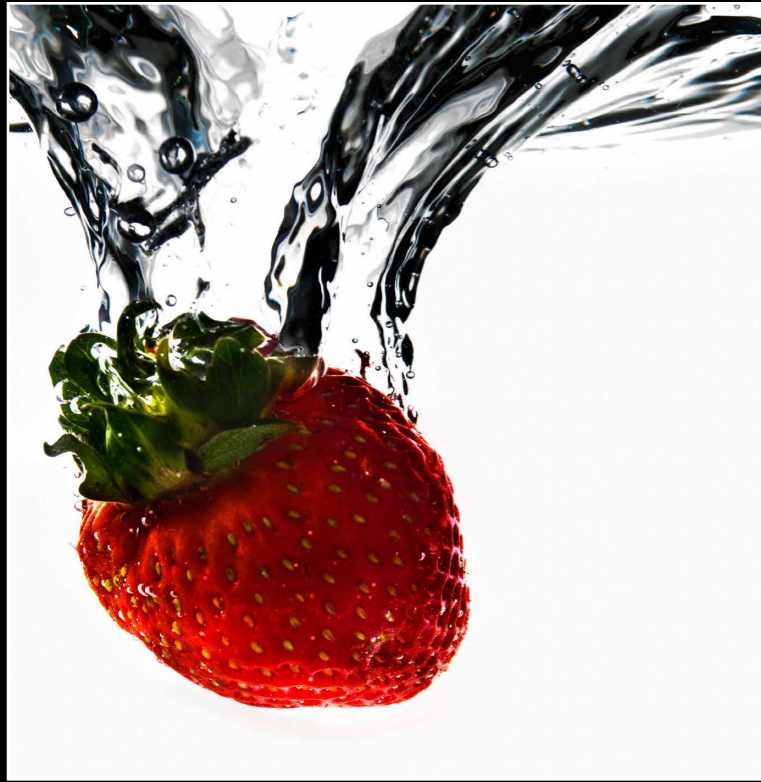
Kylie Madigan + Algae



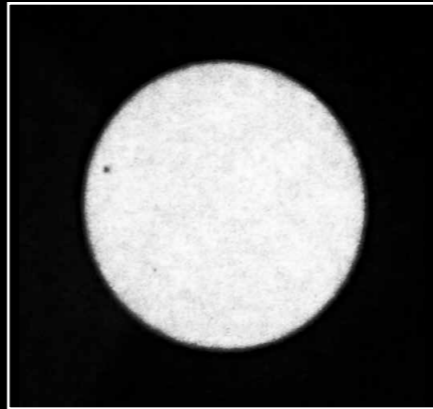
Katie Lachut + Grandmother



Carissa Hurdstrom + Anchorage, Alaska



Carissa Hurdstrom + Strawberry



Jamie Kraus + Transit of Venus



Giles Holbrow + Smashed Fruit



Jamie Kraus + *The Blue Angels* in the Chicago Air and Water Show



David Beyerlein + Self Portrait in Arches National Park

+ student video gallery

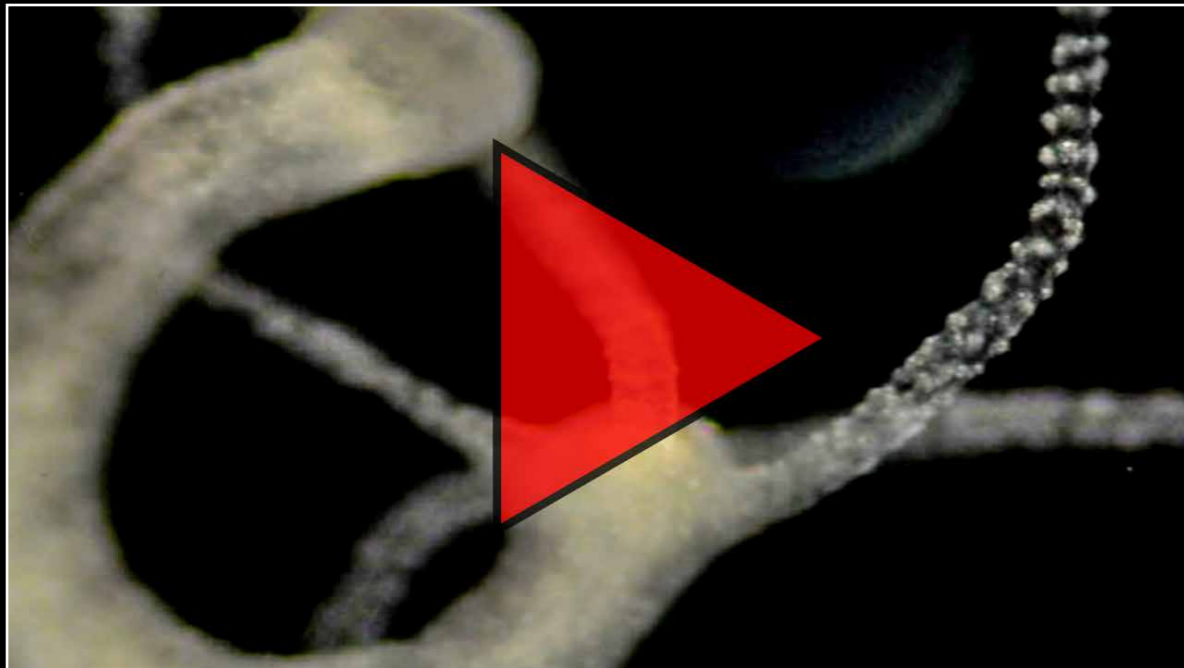
For the first time ever, digital publishing allows us to include videos in the BPC Bulletin. Students in the photographic science programs are not only highly skilled photographers, but they also receive experience with video production. Press play to watch the amazing productions by students!

If you are viewing this document on a PC or Mac, we recommend Adobe Reader for best video playback compatibility.

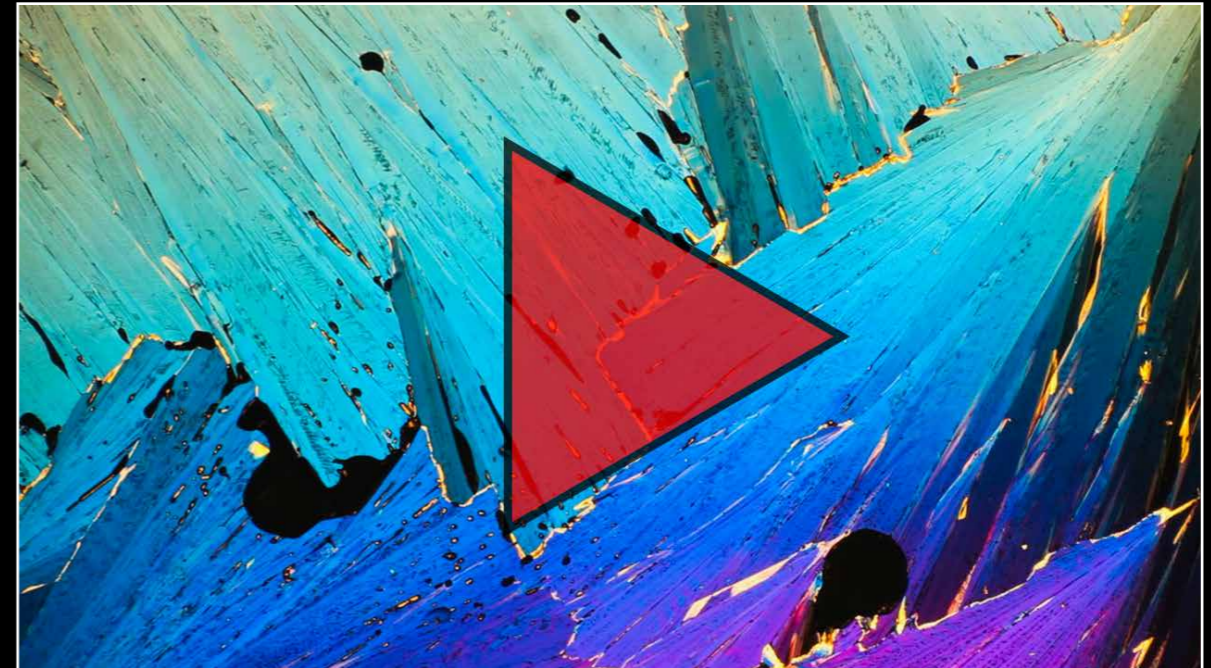
If you are viewing this document on an iPad or other smart-device, videos will play in a separate HTML5 video player.



Abby Jaske + A Day in the Life of Dewayne "Drumwerk" James



Lauren Held + Tiny Troubles



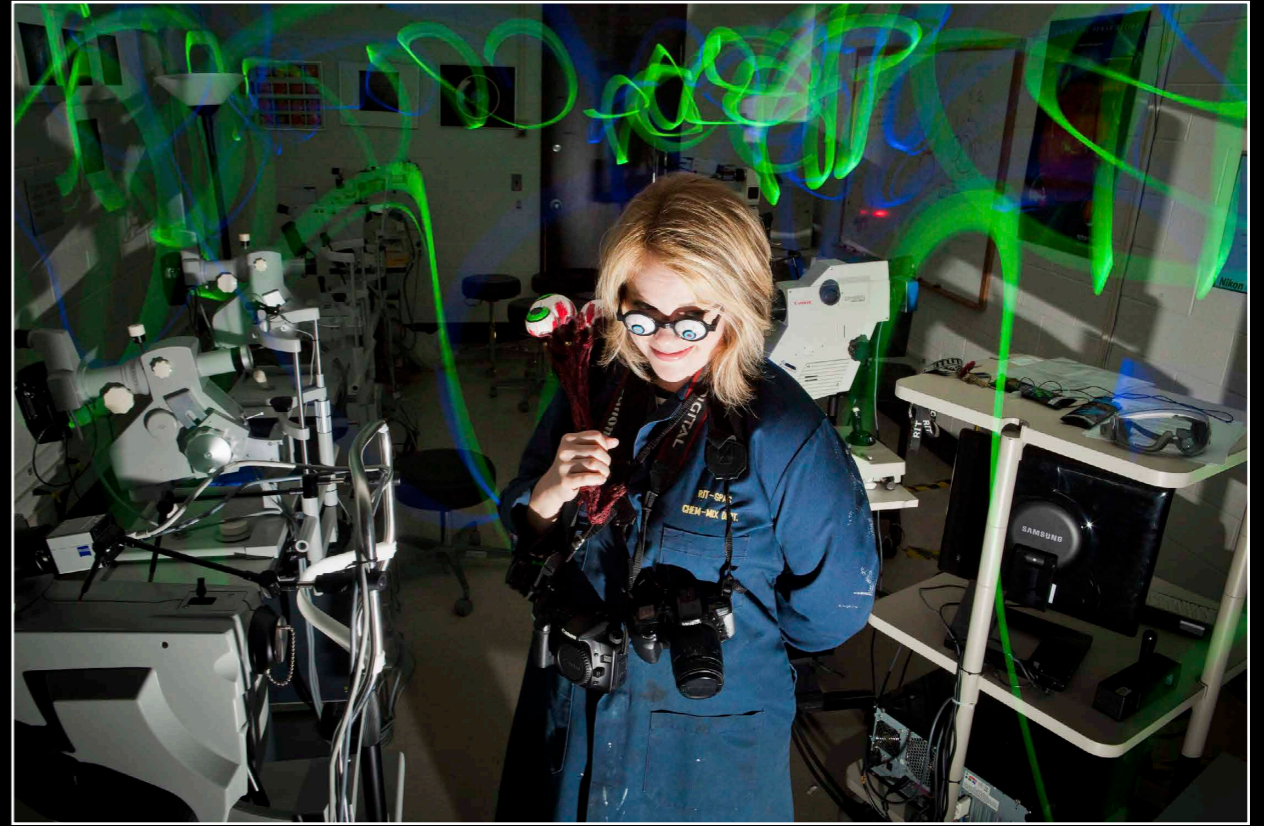
Tim Tiebout + Polarized Videomicrography

+ BTPA events

The Biomedical and Technical Photographic Association put on some great events and had a awesome time this fall. Check out these photos by David Beyerlein!



High Speed Photography Demo



Christy Sisson—BTPA Faculty Advisor Extraordinaire



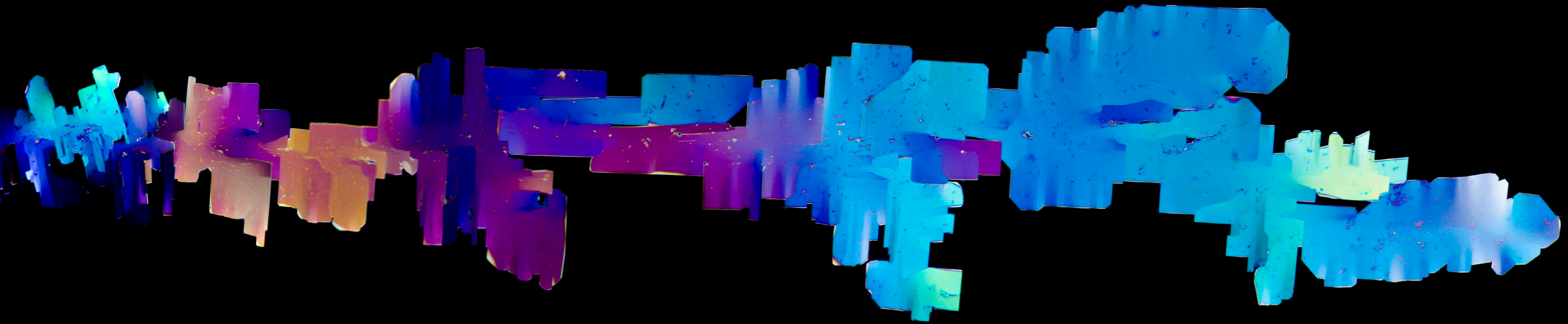
Newly Renovated Tech Alley Open House



BTPA Movie Night

BPC Bulletin

Biomedical Photographic Communications + Fall 2012



We would like to thank the following sponsors for their interest and support to the photo science programs at RIT:

Barbara Giordano

Bill Fischer

Bill Halas

Biocommunications Assn, Inc.

Canfield Scientific, Inc.

Carl Zeiss Meditec, Inc.

Carl Zeiss MicroImaging, Inc.

Don Drake

Dan DiGregorio

Escalon Digital Solutions

Joe Territo

Keith Bullis

Keith Mancini

Kristen Frye Orłowski

Mark Fairchilds

Rachel Hollar

Ted Kinsman

Topcon America Corporation

Jim Bashant

Xerox Corporation

Jennifer McEnery

Chris Irick

Dorothea Castillo

Frederick Dushay, MD

Kevin Langton

Lindsey Rima

Nancy Bickel Weigle Jay Packer, MD

Michael Turano

Jim Fosse, RBP, FBCA

Art Papier, MD

Ralph Pennino, MD

Heidelberg Engineering, Inc.

Chris Wong

Tim Steffens

Ophthalmic Photographer's Society

Rochester General Hospital

Flaum Eye Institute at Strong Memorial Hospital

Retina Associated of Western New York

Jewish Associates of Greater Rochester

Jack Vetter Family

Glenn Doherty

Julie Ducharme

John Czerniawski

Richard Labombard

Paul Hosier

We welcome your feedback! Contact us at:

bpcbulletin@gmail.com