



My Name isn't *Intern*

By: The Super Intern (Michael Forkner)

The Optical Society (OSA)

Mentors: Curtis Burrill, Jenifer Mehlretter, Becky Andersen



From Blogging to Bartending – and Everything in Between

- Blogging
- Approving Grant Applications
- Optics Curriculum development
- Website Management
- Administrative Tasks
- Catering
- Networking
- Data entry
- Bartending



Incubators

- Small conference style meetings
- Approximately 30-40 people
- Specialized groups

Integrated Semiconductor Quantum Photonic Devices

- Barriers to introductory researchers
- Increased collaboration

Materials for Optomechanical Actuation

- Light into mechanical work
- Large application in military aviation

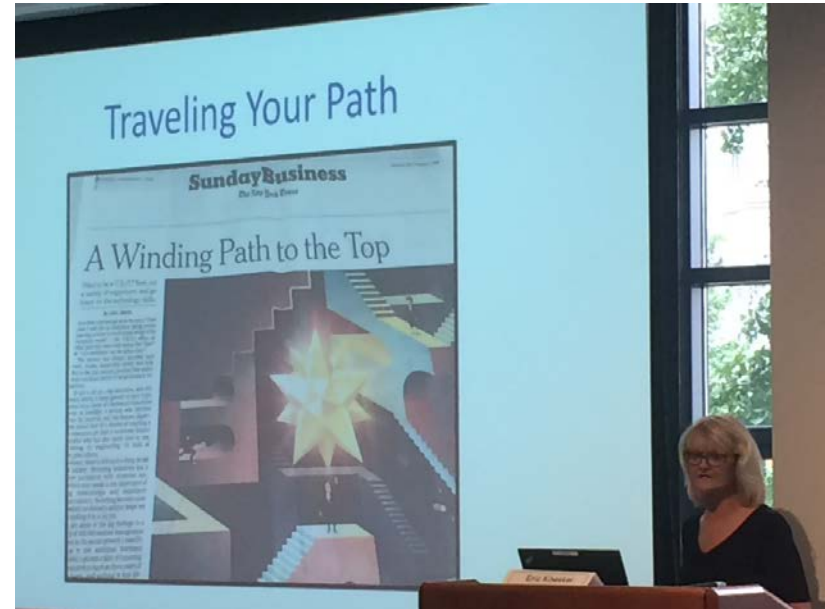


Peter Morrison commenting on the cyclic nature of his research at the *Materials for Optomechanical Actuation* Incubator

Innovation School

- 4-day school on innovation
- Graduate students to professionals
- Pitch competition
- Talks from CEO's and presidents of companies
 - Amy Eskilson – Inrad Optics
 - Lora Allemeir – Ocean Optics
 - Martin Seifert – Nufern

Diversity through different experiences



Amy Eskilson speaking on *Traveling Your Path*

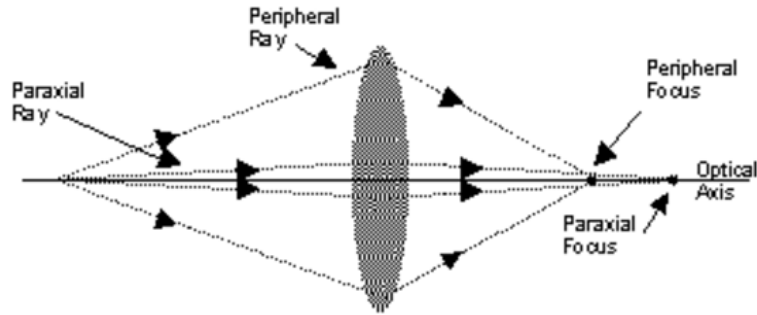
Optics for Kids

- Outdated language
 - Radical
 - Wicked
- Broken links
- Kids and adult pages the same
- Incorrect/badly explained physics
- Worked with OSA ambassadors to create new activities
- Redesigned the site map



Optics for Kids

- Public domain images
- Added/fixed captions
- Updated all equations to LaTeX formatting



$$\theta_c = \sin^{-1} \left(\frac{n_2}{n_1} \right)$$

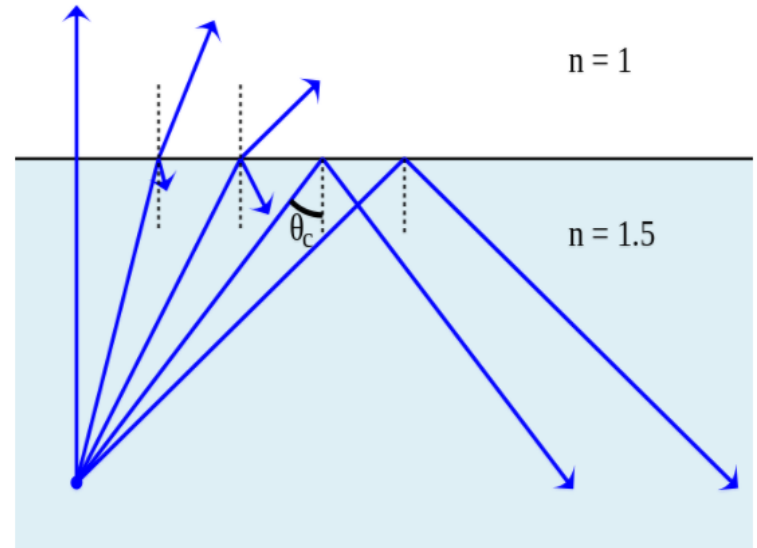


Figure 2: Diagram showing refraction and reflection from a glass to air boundary.

© Lasse Havelund / CC-BY-SA-3.0

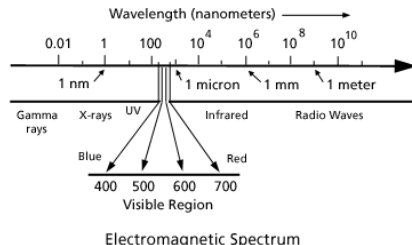
Optics for Kids

Student Chapter Competition

- Designed competition
- Students will create activities based on a rubric
- Winning students/chapters receive cash prize
- All finalists will present at the annual FiO competition in September

Light: Photons and Waves

Isaac Newton discovered in 1672 that light could be split into many colors by a prism, and used this experimental concept to analyze light. The colors produced by light passing through a prism are arranged in a precise array or spectrum from red through orange, yellow, green, blue, indigo and into violet. The students' memory trick is to recall the name "Roy G. Biv" where each letter represents a color. The order of colors is constant, and each color has a unique signature identifying its location in the spectrum. The signature of color is the wavelength of light.

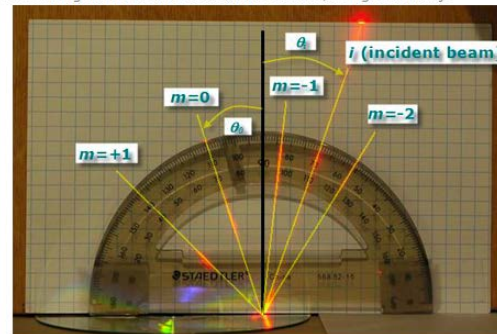


Required Materials

1. DVD
2. Blu-ray
3. Laser pointer
4. Protractor
5. Printing paper
6. Cardboard
7. Glue/tape

Activity Directions

CD's, DVD's were the most common way to store large amounts of data. Now blu-ray disks have become more prominent, replacing DVD's as the way to store movies and video games. How do these disks store the information? Information is written on the disk in binary format (ones and zeros) in the form of bumps and flat areas. On a DVD each of the bumps are very small (320x400x120 nanometers). If you look carefully at a DVD you can see that there are tiny circular tracks. Each track consists of these bumps and flat areas. The separation between the tracks is 740 nanometers. To read the tracks, a red laser is used. Blu-ray disks store even more information (5 times a DVD). The separation between tracks on a blu-ray disk is 320 nanometers. In order to read this, you need a blue laser. A blue laser has a shorter wavelength which makes it easier to focus tighter to be able to read the closer spacing accurately.



Optics for Kids

Navigate OSA ▼ Not a Member? Join OSA

Login (My Account)

Language: EN ▼

Search OSA



[About OSA](#) [Awards](#) [Career](#) [Directories](#) [Video](#) [Newsroom](#) [Help](#)

[Journals & Proceedings](#)

[Meetings & Exhibits](#)

[Celebrating 100 Years](#)

[Explore Membership](#)

[Industry Programs](#)

[Get Involved](#)

[Foundation & Giving](#)

[Home](#) / [Get Involved](#)

Diversity & Inclusion in OSA

Get Involved

[Chapters and Sections](#)

[Public Policy](#)

[Diversity & Inclusion in OSA](#)

[Technical Divisions](#)

[Local Sections](#)

[Early Career Professionals](#)

[Students](#)

[Professional Development](#)

[Education Outreach](#)

[Corporate Members](#)

[Librarians](#)

[International Day of Light](#)



The Optical Society believes that every individual in the optics and photonics field is entitled to a work or research environment that is safe and inclusive. That's why OSA develops programs and initiatives that support a more diverse profession.

In the course of my career, I came out as a transgender woman. The transition was not easy, but going to networking events offered by OSA have helped me to get a better feel for navigating the professional world as a transwoman and increased my confidence in the person that I am today.

— Willa Rawlinson



2017 STEAM Fair and Reception

- Women's Congressional Policy event on Capitol Hill
- Networked with National Science Foundation
- Worked with The Girl Scouts to start to process of creating an *Optics* badge



My Summer in DC



What's Next

Next Year

- August 21st – Bronx Prep

Fall 2018

- Invited to apply to graduate school in Oslo, Norway for a Master's in Physics Education Research (PER)

After

- Pursue my PhD in PER or Cognitive Sciences



**DEMOCRACY PREP
PUBLIC SCHOOLS**

Work Hard. Go to College. Change the World!



UiO ●●
University of Oslo

Thank you OSA and SPS

