

Optical Filters

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Semrock, A Unit of IDEX Corporation

May 31, 2011

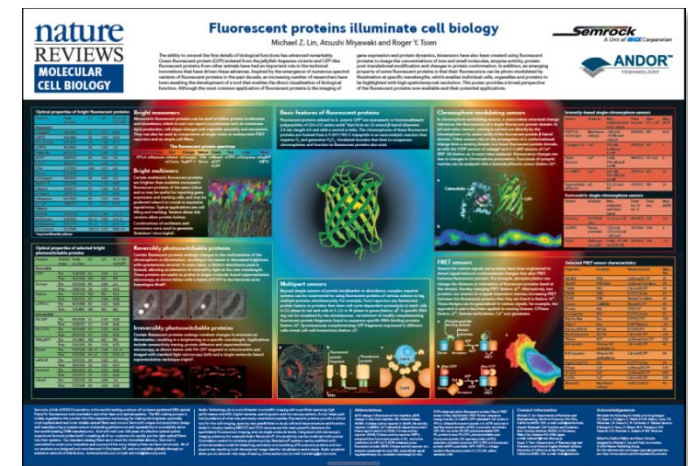
Announcements

- A “Technical Notes” CD-ROM is available
 - Includes white papers, journal articles, and notes related to this talk
 - All the material on the CD is also available at the Semrock website: www.semrock.com



- Poster (in Nature Reviews): “Fluorescent proteins illuminate cell biology,” *Michael Z. Lin, Atsushi Miyawaki, and Roger Y. Tsien* (2010)

www.nature.com/nrm/posters/fluorescent/index.html



People and place

- Currently ~ 110 employees
- Main facility in Rochester, New York (~ 28,000 ft² or 2,600 m²)
- Sales offices throughout U.S.A.



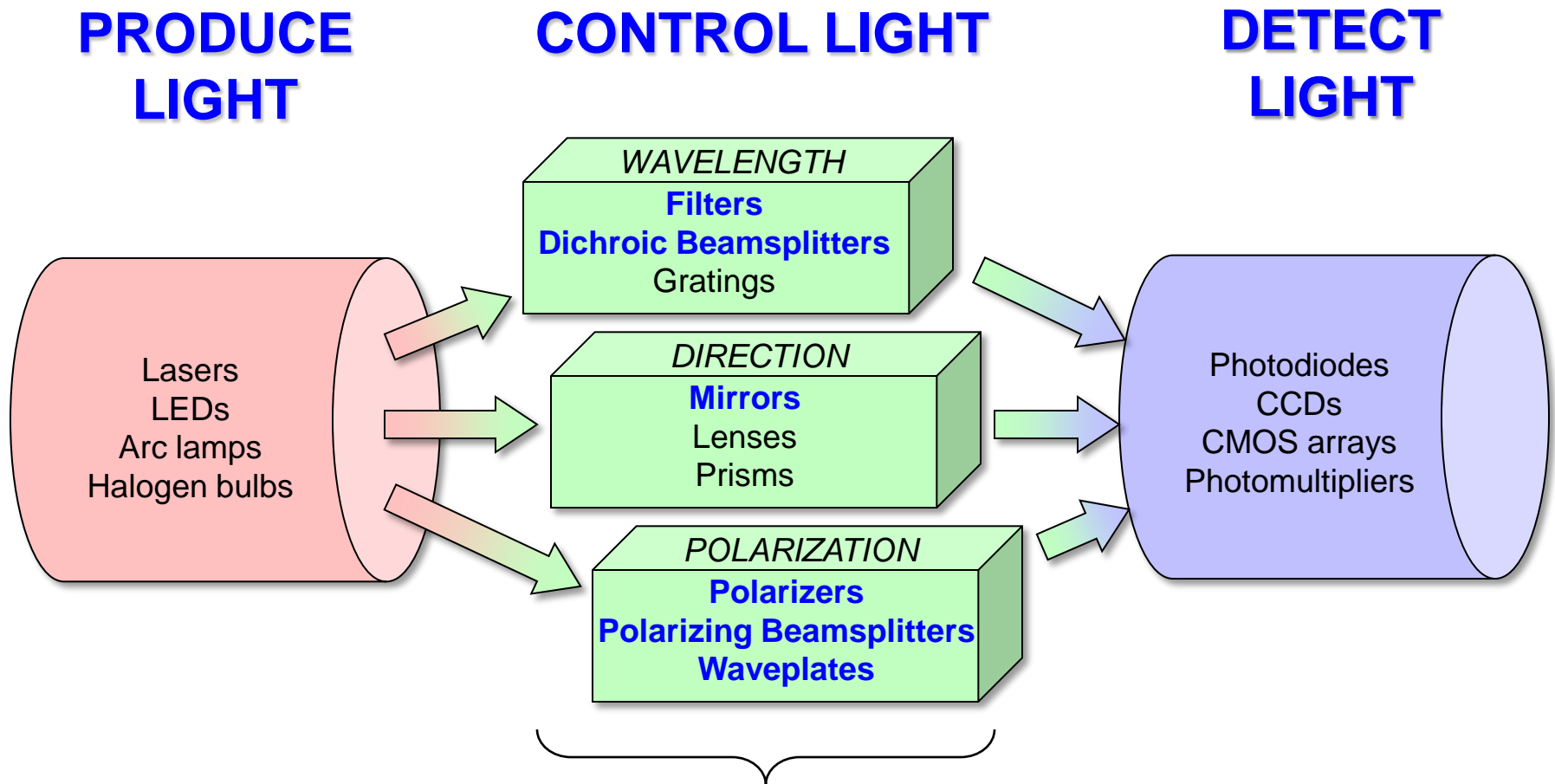
Semrock products ...

The Standard in Optical Filters for Life Sciences, Lasers & Optical Systems

- State-of-the-art optical filters with the highest available performance
- Cost-effective filters with competitive performance
- All Semrock filters have proven reliability for lasting performance and are reproducibly manufactured in high volumes



Three main aspects of any “optical system”

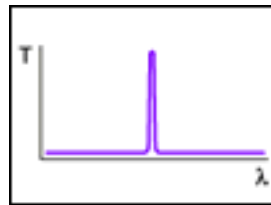


Colored components are addressable with thin-film coatings:

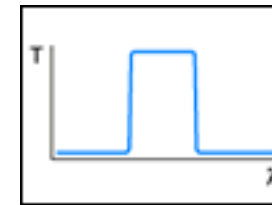
Semrock makes a variety of filter types

- Semrock's product address all three major aspects of general optical systems – examples include...

PRODUCE LIGHT



Laser / Source
Clean-up Filters

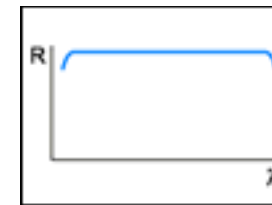


Bandpass
Filters

CONTROL LIGHT

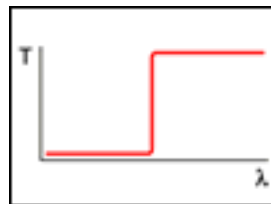


Dichroic
Beamsplitters

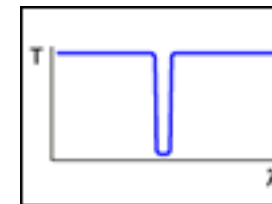


Ultrabroadband
Laser Mirrors

DETECT LIGHT



Steep Edge
Filters



Deep Notch and
Multi-notch Filters

Applications for Semrock filters

Fluorescence Instrumentation Filters



Fluorescence microscopy
DNA sequencing
In vivo imaging
Flow cytometry
Quantitative (q) PCR
High content screening
Microarray readers
Chemical process monitoring
Laboratory fluorometers

Raman Spectroscopy Filters



Raman microscopes
Portable Raman analyzers
(handheld)
Raman microprobes
(optical fiber probes)
Laboratory spectrometers

Other Laser & Optical System Filters



Surgical laser systems
(e.g., ophthalmological)
Scientific research
Environmental monitoring
Laser materials processing

Why is Semrock different?

- State-of-the-art ion-beam sputtering (IBS) thin-film coating
 - highly stable, low-loss, reliable, reproducible thin films
 - Semrock has now made IBS a high-volume process
- Highly advanced thin-film deposition-control technology
 - we routinely deposit hundreds layers of even arbitrary-thickness, for complex filters with superb spectral features
- Top optical talent – with our specific market focus we really understand *your* optical systems
 - for the best possible designs



Over half a million ion-beam-sputtered filters delivered!

Who are Semrock's customers?

- ~ 60% of Semrock's business comes from highly-tailored optical filters for **volume OEM manufacturers** of instrumentation
- Semrock also offers an extensive line of **standard catalog products** that are *in stock* and available for immediate delivery for both OEMs and end users
- All catalog products can be **custom-sized** or shaped in a matter of days



Semrock's parent company ...

- On October 21, 2008 Semrock became part of IDEX Corporation of Northbrook, Illinois
- IDEX, ~ \$1.5B corporation, manufactures and markets a range of engineered industrial products in the United States and internationally
- Semrock continues to maintain its very clear identity, and our goals (and relationships with our customers) remain unchanged!

... applied solutions associated with the movement and measurement of process critical fluids and gasses



... fluidic and specialty material solutions for precision equipment and life enhancing applications



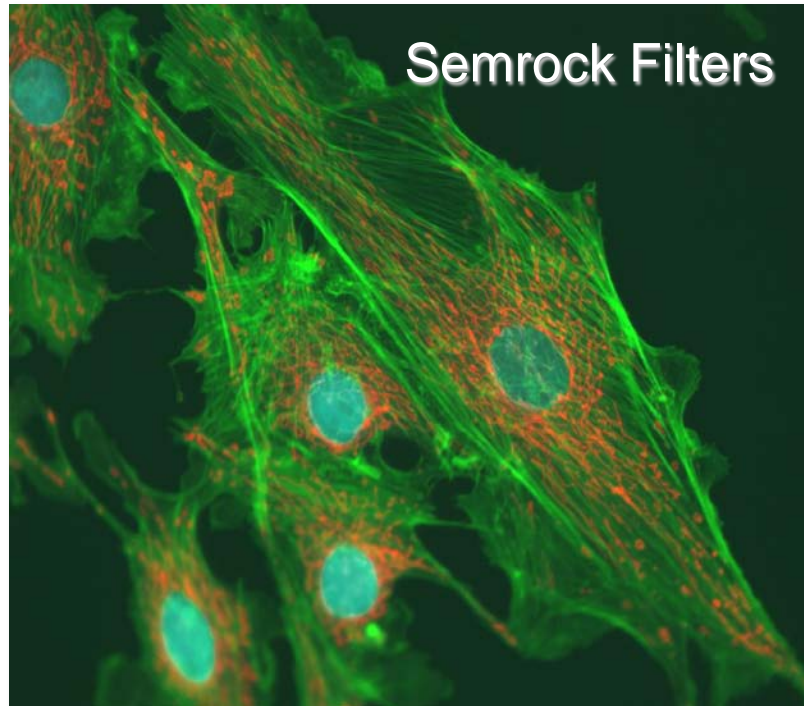
... customization solutions for the precise measurement and control of point-of sale applications



... life saving solutions for the mission critical needs of fire, rescue and disaster management



Independent images taken by commercial customer



Identical imaging conditions

