

# Multi-Wavelength Mode-Locked Laser

View U.S. Patent No. 7,613,214 in PDF format.

**WARF: P07171US** 

Inventors: Scott Sanders

The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a mode-locked laser capable of generating multiple, discrete beams of light with different wavelengths from a single cavity.

#### Overview

Many laser applications require multiple, simultaneous laser beams, each with a specific wavelength. But using multiple lasers and associated optical components increases the cost and size of the systems needed for such applications.

#### The Invention

A UW-Madison researcher has developed a mode-locked laser capable of generating multiple, discrete beams of light with different wavelengths from a single cavity. He has also developed a method of tagging the different wavelengths so the multiplexed beam can be measured by a single detector, which produces an output signal for each of the composite wavelengths.

In this device, multiple function generators are attached to a single laser. Each frequency provided by the function generators creates a different wavelength within the laser. The different wavelengths are then encoded by a single detector for analysis.

## **Applications**

• Applications such as the breath analyzer described in WARF reference number P05416US

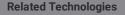
### **Key Benefits**

- · Simplifies applications requiring multiple wavelengths of light; multiple wavelengths can be measured separately without the need for isolated optical paths or additional optical components
- · Reducing the number of lasers reduces size and cost, and simplifies controls
- · Allows precise tuning of output laser beams
- · Capable of stable operation at specified wavelengths
- · Accommodates a range of wavelengths
- · Laser cavity can be extremely short, with a concomitant rapid response time.
- · Can work with typical, currently available lasers
- · Provides a more compact, rugged and inexpensive gaseous analysis and detection system

### **Additional Information**

We reservo kies of our safety enterties and improve our marketing efforts. By continuing to browse without changing your browser settings to block or delete

• Scott Sanders cookies, you agree to the storing of cookies and related technologies on your device. See our privacy policy





•	For potential applications for this new laser, see WARF reference number P05416US.
	Analytical Instrumentation, Methods & Materials : Lasers

For current licensing status, please contact Michael Carey at <a href="mailto:mcarey@warf.org">mcarey@warf.org</a> or 608-960-9867

We use cookies on this site to enhance your experience and improve our marketing efforts. By continuing to browse without changing your browser settings to block or delete cookies, you agree to the storing of cookies and related technologies on your device. See our privacy policy

