

## A Forward-viewing Intravascular Imaging and Guided Therapeutic Intervention

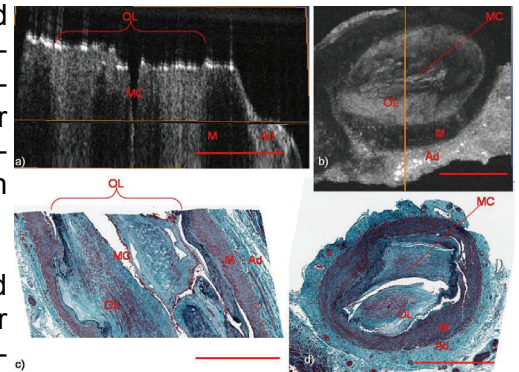
### Overview of Technology:

This technology provides a forward-looking imaging platform that enables cardiovascular and other restricted space catheter-based interventions and image-guided therapy.

### Market Need

Although side-viewing OCT/ultrasound catheter, endoscopic and angiography techniques are already established in clinics and surgical suites, there is currently no imaging platform that is small, sensitive and robust enough to be used in forward-viewing intravascular applications. As a result, there is an entire class of indications, including vessel occlusions that can not be imaged, or treated with non-invasive techniques.

UHN and Sunnybrook researchers Munce, Yang, Courtney and Thind have developed a simple forward-looking imaging catheter platform that is small enough to be used in cardiovascular applications and be the 'eyes' for guided therapeutic device interventions.



*Imaging of chronic total inclusion example using the forward-viewing imaging platform*

### Key Features

- A forward-looking catheter-based imaging platform compatible with OCT and non-cardio ultrasound.
- Can be integrated with ablation and other therapeutic means to target partial and total occlusions.
- Small (1.5-2.0mm dia.) and sufficiently flexible (~1cm rigid length) to be used in standard biopsy catheters, cardiovascular applications and other restrictive spaces of the body.
- Additional potential applications include GI, gynecological, and neurosurgery interventions.
- Very low cost (~\$100) compared with current side-viewing equipment.
- Based on dissipative polymer and electrostatic vibrational physics.
- Working prototypes and demos available.

### Related Publications:

Munce, N.R., et. al., Ex Vivo Imaging of Chronic Total Occlusions Using Forward-Looking Optical Coherence Tomography. *Lasers in Surgery and Medicine*. 38:28-35 (2007).

Munce, N.R. et. al., Electrostatic forward-viewing scanning probe for Doppler optical coherence tomography using a dissipative polymer catheter. *Optics Letters*. Vol. 33, No. 6 (2008).

### Patent:

US12/010,205 - Filed 22 Jan 2008

### Inventors:

Nigel Munce, Victor Yang, Amandeep Thind, Brian Courtney

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