



# Catheter to measure intra-arterial pressure gradients

**A catheter coated in carbon nanotubes and pressure membranes that measures intra-arterial pressure changes.**

**IP Status:** US Patent Issued; US Patent No.10,993,629

## Applications

- Real-time measurement of intra-arterial blood pressure
- Simultaneous collection of pressure measurements in multiple locations along the length of the catheter

## Technology Overview

Intravascular blood pressure measurements provide important diagnostic information used in the evaluation and treatment of peripheral vascular diseases. Currently, devices have a single pressure sensitive tip and can only measure one area at a time leading to inaccurate measurements. Researchers at the University of Minnesota have developed a novel catheter that is coated in carbon nanotubes with pressure membranes spaced at regular intervals. As the material deforms in shape, the resistance changes, which provides a signal indicating pressure differentiations. This novel design decreases the time needed to measure intra-arterial pressure in a region while simultaneously increasing the accuracy of the pressure measurements.

## Phase of Development

**TRL: 3-4**

Proof of concept prototype constructed.

## Desired Partnerships

This technology is now available for:

- License
- Sponsored research
- Co-development

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## Researchers

- Sean Moen, Assistant Scientist, Department of Radiology
- [Andrew Misselt, MD](#) Assistant Professor, Department of Radiology
- Jack Stubbs, Program Director, Department of Urologic Surgery

**Technology ID**

20150095

## Category

Life Sciences/Human Health  
Life Sciences/Medical Devices

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