

# NEWS RELEASE

For Immediate Release

ATTENTION: BUSINESS & TECHNOLOGY REPORTERS, SCIENCE & MEDICAL WRITERS

## **Heat Sensor Offers Industries Unprecedented Quality Control New Brunswick innovator wins top \$100,000 Manning Principal Award**

Calgary, AB – **Mathis Instruments Ltd.**'s non-invasive thermal effusivity sensors are providing researchers, manufacturers and quality-control professionals with unprecedented speed, accuracy and flexibility in determining the heat-transferring characteristics of a wide range of materials. **Dr. Nancy Mathis**, of Fredericton, New Brunswick, has won the annual **\$100,000 Manning Principal Award** for her remarkable innovation, being used in dozens of research and commercial applications in the pharmaceutical, aerospace, automotive, petroleum and electronics industries.

Mathis, President and CEO of Mathis Instruments, developed her sensor technology while doing her Ph.D. in chemical engineering at the **University of New Brunswick**. Her sensors rapidly and non-destructively measure thermal effusivity and conductivity – unique properties related to a material's ability to transfer heat. "The sensor is almost like a stethoscope in how it measures," Mathis says.

If you touch a piece of metal and a piece of wood that are both at room temperature, for example, the metal feels colder. The sensation occurs because metal has a higher thermal effusivity, so the heat from your hand flows into the metal more quickly than wood. Mathis' sensors work like your hands. They supply the heat source, but they also measure far more subtle changes in temperature and thermal effusivity, to test materials instantly and non-destructively.

Mathis' sensors provide accurate measurements of a material's thermal properties in seconds, compared with conventional techniques and instruments that take hours. Unlike other methods, her sensors don't require meticulous sample preparation or destroy the sample being tested.

These qualities enable Mathis' highly portable and adaptable sensors to be used for quality control of materials in the laboratory, during production, and for the testing of finished goods.

Mathis Instruments has identified dozens of uses for its technology, including the detection of hairline cracks in structural materials, separation of liquids, and contamination in petroleum products. The pharmaceutical industry uses the sensors as an on-line quality control tool, to monitor the uniformity of powder-based medications as they're being blended prior to being pressed into tablets.

Mathis' sensors are used around the world by leading research organizations and major companies, including Wyeth, IBM, Exxon Mobil, Dow Corning, General Electric, Pioneer, Whirlpool, GlaxoSmithKline, and Avery Dennison. Almost 98 per cent of Mathis Instruments' products are exported to customers in the U.S., Britain, Taiwan, China, Korea, Australia, France, Turkey and Brazil.

**Dr. Hatsuo Ishida**, Director of the NSF Center for Molecular and Microstructure of Composites at **Case Western Reserve University** in Cleveland, Ohio, says: "Nancy Mathis' creative vision is changing the world of quality control."

Mathis has won the **\$100,000 Manning Principal Award**. Since 1982, the annual Manning Awards program has encouraged and recognized leading Canadian innovators with more than \$3 million in prize money. This year's four major winners, who will be honoured at the annual gala dinner Oct. 3 in Halifax, will share a total of \$145,000.

-30-

For more information about the award-winning **Mathis Instruments Ltd. Thermal Effusivity Sensor**, please contact **Nancy Mathis** at 1-877-827-7623 or email: [nancy@mathisinstruments.com](mailto:nancy@mathisinstruments.com)

For more information about the **Ernest C. Manning Awards Foundation**, please contact **Donald Park**, Executive Director, at (403)-645-8288 or e-mail: [Don.Park@encana.com](mailto:Don.Park@encana.com)