

# Carolyn McGregor, PhD

**Professor, Faculty of Business and Information Technology, and two-time Canada Research Chair in Health Informatics at University of Ontario Institute of Technology**

Oshawa, ON, CA

International leading researcher in the area of critical care health informatics, specifically neonatal health informatics

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## **Description**

What if you could take years of data mining expertise in the financial services and retail industry and apply it to saving babies? That's exactly what Carolyn McGregor, PhD, did when she left a career at one of Australia's top banks to lead the research and development of a new data analytics platform in the neonatal care department at the University of Western Sydney.

Today, as Canada Research Chair in Health Informatics, Dr. McGregor's research is pioneering new ways for neonatal health experts to monitor and care for their patients. Collecting vast amounts of patient data including heart and respiratory rates, Dr. McGregor's approach to data management means 24-hour monitoring capabilities that can capture even the slightest abnormalities.

From a young age, Dr. McGregor's fascination with numbers and eventual pursuit of a computer science degree, led her to recognize the secret to managing "Big Data" was building the right infrastructure.

The system Dr. McGregor and her research team developed produces over 1,200 points of data per second. Multiply that with a growing database of patients, and it's easy to see the incredible volume and wealth of insight now readily available.

In addition to providing real-time monitoring tools, Dr. McGregor's research is also changing the way doctors are educated. With an expanding database of patients with varying conditions, Dr. McGregor's research makes it possible for doctors to dive deeply into specific ailments and make connection to insights that were previously unavailable.

In addition to the impact Dr. McGregor's research is having on the health care of premature babies, other intensive care departments are recognizing the profound impact data management can have, particularly where real-time, continuous monitoring is critical to patient care.

Internationally recognized as a thought leader in data management, Dr. McGregor's expertise is being sought beyond the medical community. She was approached by the Canadian Space Agency to apply her learning to monitoring the heart rates of astronauts participating in the planned mission to Mars.

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## **Availability**

Keynote, Panelist, Author Appearance

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## **Industry Expertise**

Women, Publishing, Think Tanks, Information Technology and Services, Writing and Editing, Health Care - Services, Health and Wellness, Mental Health Care, Research, IT Services/Consulting

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## Topics

Health Informatics, Women in Computing and It, Patient Journey Modelling, Cloud Computing in Health Care, Neonatal Health Informatics, Critical Care Health Informatics, Temporal Data Mining, Stream Computing, Intelligent Clinical Decision Support Systems, Service Computing in Health Care, Data Science

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## Affiliations

University of Technology, Sydney, Ontario Shores Centre for Mental Health Services and Providence Care, University of Ontario Institute of Technology, The Hospital for Sick Children, Toronto

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## Education

University of Technology, Sydney  
B. App.Sc Computer Science

University of Technology, Sydney  
Doctor of Philosophy (PhD) Computer Science

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## Accomplishments

### 2015 Advance Global Australian Award

Recipient of the 2015 Advance Global Australian Award for Technology Innovation, Australian-born Dr. McGregor is recognized for making remarkable contributions to her field while living abroad.

### IBM Centenary Video

Selected as one of only four people who were featured in the video as significant innovators of the century of IBM: <http://www.youtube.com/watch?v=ksQrJh7s7N0>

### Ingenious Award by the Information Technology Association of Canada (ITAC) for the not-for-profit category

Artemis project awarded the Ingenious award

### UOIT Research Excellence Award

Awarded UOIT Research Excellence Award â€œ Early Stage Researcher

### The Chancellors Award for PhD Dissertation

Finalist for the Chancellors Award for PhD Dissertation

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