

Research Directions

Office of Research Services

Monitoring Neonatal Medical Alerts

Dr Carolyn McGregor, School of Computing and Mathematics, is researching Data Stream Event Correlation (DSEC) and Intelligent Decision Support Systems (IDSS) in partnership with the Nepean Hospital Neonatal Intensive Care Unit (NICU). This ARC Linkage project applies Dr McGregor's previous research to monitoring newborn infants requiring intensive care after birth.



'Nearly twenty percent of newborn babies require intensive care after birth' said Dr McGregor. 'Several electronic instruments monitor a baby's vital signs, such as blood oxygen, blood pressure and heart rate but these systems are not integrated, limiting their capacity to warning of deterioration in the baby's overall condition'.

The project aims to provide advanced neonatal clinical support by creating a framework and prototype to draw these systems together. The Event Stream Processor will be a model for creating a high frequency data stream that will significantly improve current NICU procedures and provide for better clinical management.

'This new technology could also be used when transferring sick newborns from regional or remote areas providing greater monitoring and stability of the baby during transport' explained Dr McGregor.

Project title: *High Frequency Data Stream Event Correlation for Complex Neonatal Medical Alerts*

Research Partner: Nepean Hospital Neonatal Intensive Care Unit (NICU).

Funding has been set at: \$72,444.

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