

**Gaywood Matile
and
Greg Keller
Manitoba Geological Survey**

**2011 Winners of the
Committee of Provincial
and Territorial Geologists
Medal**



The CPTG Medal has been awarded annually since 1999 by the Committee of Provincial and Territorial Geologists to geoscientists who have produced outstanding work at one of Canada's provincial or territorial geological surveys. The award recognizes major contributions in the areas of geoscience research and related applications that meet the mandates of the geological surveys. Winners are selected by a three-person committee comprising members from academia, industry and the Geological Survey of Canada.

Gaywood Matile (above right) and Greg Keller (above left) have had one of the most productive collaborative professional relationships in the history of the Manitoba Geological Survey. They have developed innovative methods to integrate surficial and bedrock datasets to produce digital three-dimensional models of the geology in southern Manitoba. The 3-D models unite these diverse datasets and put them into a single standardized nomenclature, which can then be used in a variety of applications, such as bedrock stratigraphy, hydrocarbon, groundwater and industrial-mineral resource development, and geological education.

Their pioneering 2-D and 3-D mapping techniques have resulted in their participation in multi-jurisdictional projects with neighbouring states and provinces. This work has brought them international notice and they are regularly asked to demonstrate their results at international conferences. Their work has been highlighted in keynote addresses around the world, and they were invited to be the first non-federal participants in OneGeology.org, an international initiative of geological surveys worldwide to create dynamic digital geological map data for the world.

They have accomplished this synergy by working closely together, Gaywood supplying an intimate knowledge of the surficial geology and Greg supplying the GIS and 3-D modelling skills required to integrate data and build geological models.

Gaywood Matile graduated with a B.Sc. in Geology from the University of Manitoba in 1976. He has been with Manitoba's Mineral Resources Division since 1977, originally in the Mines Branch as an Aggregate Resources geologist and, since 1991, with the Manitoba Geological Survey. Gaywood's past science interests include aggregate inventory, Lake Agassiz research and mineral exploration.

Greg Keller joined the Manitoba Geological Survey in 1996 as a student and permanently in 2000 following one year with the Geological Survey of Canada. He received an Honours B.Sc. in Physical Geography from the University of Winnipeg in 1998. He is currently responsible for advanced GIS and database methods development for the Manitoba Geological Survey.

Gaywood and Greg have been intimately involved with 2-D and 3-D geological mapping since the mid-nineties, developing methods and protocols that have been adopted by other jurisdictions across North America. They are responsible for compiling surficial geology for the entire province, culminating with the release of the *Surficial geology of Manitoba* in 2007, including a 1:1 000 000 map of Manitoba for which the back was designed entirely for educational purposes. In addition, 3-D geological modelling led to the development of the 1:600 000 scale *Phanerozoic geology of southern Manitoba* map set. They are currently nearing completion of a 3-D geological model of southern Manitoba south of 55°.