



**THREE SERIES OF TALKS ON NEW
DEVELOPMENTS IN PARTIAL DIFFERENTIAL
EQUATIONS**



PIMS / AMI / PDE Seminar

Talk 2

Friday, November 22, 2013

3:00 p.m.

CAB 657

**“Counterparts of the De Giorgi's
conjecture”**

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Abstract

De Giorgi stated his conjecture for bounded monotone solutions of the Allen-Cahn equation in 1978. Even after 35 years this conjecture plays a fundamental role in the theory of nonlinear elliptic PDEs. This celebrated conjecture lies in the connection of PDEs, Differential Geometry (minimal surfaces) and Mathematical Physics (phase transitions). We review the known facts about this conjecture from the PDE perspective and then we attempt to state a counterpart of this conjecture for elliptic systems. In addition, we construct a few m -Liouville theorems for higher dimensional solutions that are strongly motivated by the De Giorgi's conjecture.

Refreshments will be served in CAB 649 at 2:30 p.m.