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**Discipline:** Mathematics

**Subdiscipline(s):** Differential Equations

**Areas of Research** Nonlinear Partial Differential Equations and Real Functions.

**Interests:**

**Skills:**

**Research Summary** The focus of my current research is in finding a solution of the  
(*current, performed* Porous Medium Equation.  
*in the past 5 year;*  
*300 words or less*)

$$u_t = \Delta(u^m); \quad m > 1$$

Where,  $u = u(x, t)$ ,  $x \in R^n$ ,  $n$  is the space dimension and  $t \in R$ , the time.

This is equation is one of the simplest examples of nonlinear evolution equation of parabolic type. It appears in the description of various natural phenomena, and its theory and properties depart strongly from those of the linear heat equation. The equation represents the standard model of gas flow in porous medium, the model of nonlinear heat transfer and the model of population dynamics.

**Keywords (5** Porous media, interface, fluid flow.  
**maximum)**