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**Antonio Mastroberardino\*** (axm62@psu.edu), **Javed I Siddique**, **Richard J Braun** and **Daniel M Anderson**. *Tear Film Dynamics: Modeling the Glycocalyx as a Poroelastic Region*.

The human tear film is a complex fluid structure composed of an aqueous layer, an outermost lipid layer, and the glycocalyx, a forest of large transmembrane mucins that provide stability to the ocular surface. We formulate a thin film model based on lubrication theory and mixture theory in order to understand the dynamics between the aqueous layer and the glycocalyx, which we treat as a poroelastic region. (Received September 14, 2016)