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**Brian D Zoltowski\*** (bzoltowski@smu.edu), Department of Chemistry, FOSC Rm 231, Dallas, TX 75275. *Mathematical modelling of circadian networks in plants.*

Organisms have developed circadian oscillators to allow adaptation to daily fluctuations in light-intensity, metabolic resources and oxidative stress. Regulatory networks governing these sensory networks are complex, adaptive and difficult to study using traditional biological techniques. Herein we employ a combination of protein engineering and biophysical techniques to develop complex mathematical models that interrogate sensory input and adaptation in circadian networks. These methods enable the identification of previously unknown chemical parameters necessary for proper regulation of circadian timing that dictate growth and development in plants. (Received July 14, 2017)