CSDS 500 and ECSE 500
Fall 2020 Colloquium

11:30AM to 12:30PM
Tuesday, October 20, 2020

Zoom Webinar ID: 862 815 806
Passcode: 914464

"Toward Point-of-Care Assessment of Blood Coagulation Using Miniaturized Dielectric Coagulometry"

Rapid and comprehensive assessment of abnormalities in blood coagulation at the point-of-care (POC) is important for patients who are severely injured, on anticoagulation therapy or have a congenital bleeding disorder. Laboratory and in-hospital coagulation tests may not be available in a timely manner and extant POC tests do not provide information on the complete blood coagulation process. In this talk, I will present the development of novel dielectric microsensor, termed ClotChip™, which is based on the electrical technique of dielectric spectroscopy for rapid, comprehensive assessment of whole blood coagulation at the POC using less than a drop of blood. The ClotChip™ features a three-dimensional, parallel-plate, capacitive sensing structure with a floating electrode integrated into a microfluidic channel, and permittivity measurements of whole blood at 1MHz are shown to provide information on multiple aspects of the blood coagulation process. The presentation will include data from several pilot clinical studies, commercialization of the ClotChip™ system, and future directions for POC assessment of hemostasis using miniaturized dielectric coagulometry.

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Michael Suster is a Senior Research Associate in the Department of Electrical, Computer, and Systems Engineering at Case Western Reserve University (CWRU). He received his B.S., M.S., and Ph.D. degree in electrical engineering from CWRU and has held the position of Postdoctoral Researcher in the Electrical and Computer Engineering Department at the University of Utah. He holds three patents related the ClotChip™ technology and has authored numerous journal and conference articles in the areas of point-of-care diagnostics, microfabricated sensors and systems, and integrated circuits.

This is to certify that _____attended this seminar. Certified by _____.
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