

# 212<sup>th</sup>

# iCeMS Seminar

April 3, 2018

3 pm–4:30 pm

Kyoto University KUIAS/iCeMS Main Building  
2F Seminar Room

Prof **Dino Di Carlo**

University of California, Los Angeles



## Quantum Diagnostics: From Single Cells to Single Molecules

The ultimate limits of sensitivity in measuring biological systems occurs at the level of single-cells and single-molecules. I will discuss our approaches leveraging microfluidic and microfabrication technologies to interface at the scale of these single entities. In particular, we make use of the ability to compartmentalize fluid volumes to a sub-nanoliter scale and manipulate cells using unique microscale physics. I will discuss progress in using these quantized or digital measurements towards new diagnostics in monitoring immune system dysfunction, characterizing the invasive state of circulating tumor cells, and screening for drugs that modulate the contractile forces that single muscle cells apply.

More details are available at the iCeMS website:  
[www.icems.kyoto-u.ac.jp](http://www.icems.kyoto-u.ac.jp)

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**Hosted by** Institute for Integrated Cell-Material Sciences (iCeMS),  
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