

When: **December 11, 16.00**
Where: **Skoltech, MR 407**

CPQM Seminar

Skoltech

Skolkovo Institute of Science and Technology

MEASURING ONCOGENE *SIGNALING*

with
*Positron
Emission
Tomography*



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ABSTRACT

Noninvasive imaging tools that measure the activity of central oncogenes could significantly impact cancer diagnosis and management. We have applied omics technologies to identify cell surface antigens that are upregulated by important oncogenic drivers like KRAS, mTOR, MYC and the androgen receptor. Subsequently, we have applied phage display technologies with the Wells lab at UCSF to develop recombinant human antibodies that selectively bind to antigens with expression restricted to tumors harboring the respective oncogenic driver. Using traditional and site specific bioconjugation chemistries, the antibodies have been radiolabeled with isotopes like Zr-89 and F-18 for preclinical and clinical studies. More recently, we have shown that antibodies emerging from this selection process have antitumor effects against highly chemorefractory cancers (e.g. PDAC) when coupled to clinically relevant beta-emitting radionuclides like Lu-177. Taken together, this body of work has resulted in several new technologies to study or target the pathobiology of important cancer signaling pathways in higher organisms, using a discovery approach that scales to many central oncogenes.

BIOGRAPHY

Michael Evans, PhD, is an Assistant Professor in Residence in the Department of Radiology and Biomedical Imaging at the University of California, San Francisco. He is an experienced chemical biologist with a focus on molecular imaging and organic chemistry. Dr. Evans earned a BA in Chemistry from St. Mary's College, Maryland and he obtained his PhD in Organic Chemistry from The Scripps Research Institute in La Jolla, California under the supervision of Professor Benjamin Cravatt, followed by postdoctoral fellowship in Molecular Imaging from the Memorial Sloan Kettering Cancer Center in New York under the supervision of Professors Charles Sawyers and Jason Lewis. In 2013 Dr. Evans joined UCSF as an Assistant Professor.

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