

# **From combinatorial chemistry to nanotheranostic agents**

Monday, 23 November, 2020, h16:00

**WEBINAR**

Dipartimento di Chimica "Giacomo Ciamician"



*Kit S Lam MD, PhD*

Distinguished Professor and Chair  
Department of Biochemistry and Molecular Medicine  
Professor of Medicine, Division of Hematology & Oncology,  
Sue Jane Leung Presidential Chair in Cancer Research  
Harold Albin Johnson Endowed Chair in Biomedical Research  
UC Davis NCI-Designated Comprehensive Cancer Center  
**University of California, Davis**



## Short bio and honors of Prof. Lam

### **Prof. Dr. Lam, Kit S.**

He obtained his Bachelor of Arts in Microbiology in 1975 at the University of Texas, Austin, and his Ph.D. in Oncology in 1980 from McArdle Laboratory for Cancer Research, University of Wisconsin, and his M.D. (Medicinae Doctor) in 1984 from Stanford University School of Medicine. He completed his Internal Medicine residency training and Medical Oncology Fellowship training at the University of Arizona. In 1999 he moved to the University of California, Davis. In 2010 he became the Chair of Department of Biochemistry and Molecular Medicine, and Professor of Medicine, Division of Hematology/Oncology Division.

### **Honors**

2007 Society of Combinatorial Sciences Award; 2009 Fellow of American College of Physicians; 2010 Harold Albin Johnson Endowed Chair in Biomedical Research; 2013 Vincent du Vigneaud Award (American Peptide Society); 2018 Sue Jane Leung Presidential Chair in Cancer Research He has been serving on the NCI Board of Scientific Counsellor – Basic Sciences since 2016; he was one of the founding scientists of Selectide Corporation in Tucson, which was later acquired by Sanofi.

### **Scientific interests.**

Dr. Lam is a physician-scientist, a board-certified internist and medical oncologist, and an expert in combinatorial chemistry, chemical biology, drug development, molecular imaging, nanotherapeutics, and biomaterial.

He invented the one-bead-one-compound (OBOC) combinatorial library methods, published in Nature in 1991, a paper cited over 1,600 times, that have been used for the development of cancer targeting ligands. He has made great contributions in the fields of cell surface targeting ligands, nanotheranostic agents, exosome diagnostics, genetically-encoded small illuminants for 4D functional imaging of living cells. He has recently developed a novel class of telodendrimers that can self-assemble to form nanomicelles or nanodiscs. These nanoparticles can serve as efficient carriers for drug delivery. He is also an expert in the development of drug-polymer conjugates. Very recently, he reported on the development of receptor-mediated transformable peptide nanoparticles for effective in vivo cancer therapy. He has tremendous experience in xenograft and transgenic tumor models for cancer imaging and therapy.

He is the author of more than 360 peer review articles and he is an inventor of over 30 issued patents.

### **Representative papers**

1. Nature, 1991, 354(7), 82-84.
2. Nature Chemical Biology, 2006, 2(7), 381-389.
3. Nature Medicine, 2012, 18(3), 456-462.
4. Nature Communication, 2014, 5, 4712.
5. Nature Medicine, 2016, 22(5), 488-496.
6. **Nature Nanotechnology, 2020, 25(2), 145-153.**