



DEPARTMENT OF BIOMEDICAL SCIENCES
PRESENTS A SEMINAR



香港城市大學
City University of Hong Kong

Angiogenesis in Disease

Prof. Yihai CAO

Professor

Karolinska Institutet



DATE: 4 December 2024 (Wednesday)

TIME: 11:00 - 12:30

VENUE: P4703, Yeung Kin Man Acad Building, CityU

Abstract:

Targeting angiogenesis for treatment of various diseases has become one of the most attractive approaches for drug development. Our research has been focused on understanding the cellular and molecular mechanisms that underlie neovascularization under various physiological and pathological conditions. Our goal is to define new angiogenic signaling pathways that are potential targets for treatment of various diseases. To this end, we have proposed new concepts and paradigms for disease therapy by targeting angiogenesis in the areas of cancer, cardiovascular disease, metabolic disease, eye disease and infectious disease. This lecture will provide some of the latest developments of this field and novel discoveries of our research.

Biography:

Yihai Cao is a Professor at the Karolinska Institutet, Stockholm, Sweden. He is a member of Chinese Academy of Engineering, Academy of Europe, European Academy of Sciences and Arts, National Academy of Inventors (US), and American Institute of Medicine and Biological Engineering (AIMBE). Yihai Cao received his medical training from Shandong Medical School and his Ph.D. from the Karolinska Institute. He received his postdoctoral training in Dr. Judah Folkman's laboratory at the Harvard Medical School. Cao's laboratory has focused their interests on studying angiogenesis in tumor growth, metastasis, and non-malignant diseases. Through mechanistic studies, he aims to define novel therapeutic targets and resolve clinically unmet demands of antiangiogenic cancer therapy by proposing new concepts and paradigms. His research interests include molecular mechanisms of pathological angiogenesis contributing to obesity, metabolic diseases, diabetic complications, cancer, metastasis, and cardiovascular diseases, with emphasis on clinical relevance and translational research. He received an honorary medical doctor degree (M.D.) from Copenhagen University, Denmark in 2006. He is a guest professor at Linköping University, Sweden; a guest professor at Leicester University, UK; an honorary professor at Copenhagen University, Denmark; and an honorary professor at Shinshu University Japan. He received the Fernström research prize, the Axel Hirsch Prize in medicine, and a distinguished professor award at the Karolinska Institutet. Dr. Cao received an ERC-advanced research grant award and the distinguished NOVO Nordisk-advanced grant award. He has published more than 260 research articles. The average impact factor (IF) of all his publications > 15.19 per article. His scientific articles have been cited for more than 43986 times. H-index = 106. Among Cao's numerous groundbreaking scientific contributions, his very recent scientific achievements have changed our way of thinking for treatment of diseases. For example, Cao has recently proposed a completely new concept of cancer therapy by activation of brown adipose tissue to alter cancer metabolism (Nature 2002). Although this concept has been validated in preclinical animal studies and warrants clinical corroboration, this is a completely new concept of cancer therapy. If it works in cancer patients, it can potentially revolutionize cancer therapy. Owing to his broad medical knowledge, Cao has implicated adipose metabolism and metabolic reprogramming in multiple diseases, including diabetes, cardiovascular disease, cancer, inflammatory disease, and infectious disease. Many of his findings are completely novel and have not been explored by others. These are just a few examples of his innovative research. Together, Cao is a highly creative scientist who aims to generate previously unprecedented medical knowledge for disease diagnosis, treatment, and prognosis.