

# 令和 7 年度 第 23 回 大学院セミナー

令和 7 年 6 月 18 日

分野名 Area of Research (責任者名)(内線)	病原原虫学分野 Dept of Medical Protozoology 責任者名(KANEKO Osamu) 内線(7838)
演題 Title	<b>Lysine methylation as a master regulator of motility and invasion in Apicomplexa</b>
講師等 Presenter	<b>Professor Dominique Soldati-Favre</b> <b>Department of Microbiology and Molecular Medicine Faculty of Medicine, University of Geneva, Switzerland</b>
概要 Abstract	The Apicomplexa phylum harbors some of the world's most notorious human pathogens responsible for malaria, cryptosporidiosis, and toxoplasmosis. Central to their virulence is a highly orchestrated lytic cycle that includes host invasion, replication, and egress. At the heart of this process lies the actomyosin-powered glideosome machinery, essential for motility and invasion, yet its full regulatory framework remains elusive. A striking feature of these parasites is the abundant lysine methylation of proteins in their apical complex, seen across <i>Toxoplasma gondii</i> , <i>Plasmodium falciparum</i> , and <i>Cryptosporidium</i> . These modifications are controlled by three conserved lysine methyltransferases, each localized to critical structures like the preconoidal rings (AKMT, PCKMT), the conoid (AKMT), and the inner membrane complex (IMC30). Among these, TgAKMT emerges as a pivotal regulator, controlling conoid extrusion and the strategic localization of the glideosome associated connector. A deep dive into the methylome of <i>T. gondii</i> focused on parasites depleted of these methyltransferases has uncovered a wealth of substrates, revealing the hidden mechanisms behind lysine methylation's impact on motility and structural organization of the parasite's invasion machinery. These findings shed light on how this posttranslational modification drives the dynamic movement and invasive capabilities in Apicomplexa.
開催日時 Date and Time	令和 7 年 7 月 14 日 (月) July/14/2025 16:00-17:00
開催方法 Online/Face to face	グローバルヘルス総合研究棟 4F セミナー室(405) Global Health Building 4F Seminar Room (405)
備考 Notes	

- ☐ 先端医療科学特論(基礎編)  
☒ 先端新興感染症病態制御学特論  
☐ 日本語(Japanese)  
☒ 対面(Face to face)

- ☐ 先端医療科学特論(臨床編)  
☐ 先端放射線医療科学特論  
☒ 英語(English)  
☐ オンライン(Online)