

平成 31 年 1 月 21 日
21th, January, 2019

大学院学生各位
To All Graduate Students

平成 30 年度

基盤医学特論 開講通知

Information on Special Lecture Tokuron AY2018

連続講義のご案内 Guide of a Series of Lectures

日時：平成 31 年 2 月 4 日（月）15:00 より

Time and Date: February 4th, 2019 (Monday) at 15:00

場所：環境医学研究所 北館セミナー室

Room : Conference Room, North Wing, Research Institute of Environmental Medicine

[注意] 事前申し込みは不要です。 Notice: No Registration Required

* 関係講座・部門等の連絡担当者: 環境医学研究所 発生・遺伝 荻 朋男 (電話: 789-3873)

Contact : Tomoo Ogi, Genetics, RIEM (Phone: 789-3873)

Lecture 1 (15:00~16:30)

Title: Maintenance of genome integrity by transcription coupled repair.

Teaching Staff: Professor emeritus, Leon Mullenders, Department of Human Genetics, Leiden University Medical Center (LUMC)

Language : English

Abstract:

Interference of transcription by DNA damage is a severe toxic and mutagenic event. The arrested elongating RNA polymerase initiates a cascade of signaling events that eventually lead to apoptosis in nondividing and dividing cells. In dividing cells of the skin, transcription arrest by sunlight evokes transition mutations at site of photodimers that are hallmarks of human skin cancer. To counteract the hazardous effects of transcription arrest, nature has evolved a specialized repair pathway of nucleotide excision repair termed transcription coupled nucleotide excision repair (TC-NER). In the first part of my presentation I will discuss TC-NER as guardian of genome stability being an anti-mutagenic pathway that counteracts cell death. In the second part of my talk I will focus on the molecular mechanisms that underlie TC-NER, briefly the genes involved in TC-NER complex assembly and in more detail a novel complex called TRiC* that regulates TC-NER. Throughout my talk I will point to the relevance of TC NER for human health most clearly manifested by the severe clinical phenotype of Cockayne syndrome and Xeroderma pigmentosum patients.

* Pines et al, Nature Communications 2018 Mar 12:1040