

ICRC Seminar Series

千葉大学・上海交通大学国際共同研究センター 特別セミナー

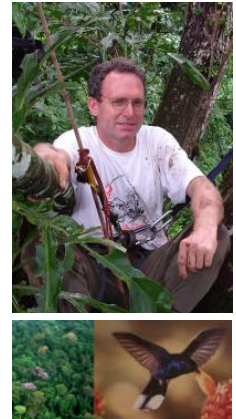
Prof. Robert Dudley

「From Gliding Ants to Andean Hummingbirds: The Evolution of Nature's Flying Machines」

開催日: 2015年7月7日(火) 16:10~17:40 Tuesday, July 7, 2015

会場: 自然科学系総合研究棟 2号館 2階マルチメディア講義室
Science and Technology Bld. No.2, 2F Multimedia Lecture room

講師: Prof. Robert Dudley
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講演題目 :

「From Gliding Ants to Andean Hummingbirds: The Evolution of Nature's Flying Machines」

概要 : Unsteady aerodynamic mechanisms underpinning animal flight have recently been intensively studied, but less well understood are those evolutionary pathways leading to the acquisition and subsequent elaboration of flapping flight. Recently discovered behaviors in Neotropical canopy ants demonstrate directed aerial descent in the complete absence of wings; controlled aerial behavior has preceded the origin of wings in insects and other flying animals. Use of experimental gas mixtures decoupling physiological from biomechanical limits to performance can elucidate physical constraints on flight in fully volant forms. Such constraints are revealed on an evolutionary timescale through the application of combined phylogenetic and biomechanical analyses to hummingbird and bumblebee flight capacity across steep altitudinal transects. Flying animals present many design opportunities for engineers; some possible research directions, including control systems and novel morphologies, will be discussed.

HP : <http://berkeleyflightlab.org/>

ホスト・問合せ先 :

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