

***Young Researchers Day 2018***

Multidisciplinary Workshop

Brussels, Friday 7 December 2018

Palais des Académies ― Paleis der Academiën

rue Ducale 1 ― Hertogsstraat 1

1000 Brussels

Instructions for authors of abstracts

The accepted language are English, Dutch and French.

Authors should follow the guidelines using the indicated template. **(using the template below)**

The text of the abstracts should be typed in Times New Roman (size: 12pt). Abstracts will not exceed 1 page, including figures, tables, and references.

References

Publications referred to in the abstract should be listed at the end in alphabetical and chronological order. References should appear as indicated in the template.

Names of authors should be written in small capitals and titles of journals in italics.

**Abstracts are expected by October 15, 2018 at the latest**.

Abstracts will be peer-reviewed and selected by the scientific committee of the conference.

For further information, please contact contact@kaowarsom.be

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| *Young Researchers Day 2018*Royal Academy for Overseas SciencesBrussels, 7 December 2018 |
| **Population genetics and phylogeography of African Fruit Bats involved in ecology of Filoviridae (Ebola virus, Marburg virus) in West, Central and Southern Africa**Gailly Damien1\*, Michaux Johan1 KEYWORDS: — Fruit bats, Ebola, Filoviridae, Phylogeography, Africa. ABSTRACT: — The Filoviridae family including Ebola virus (EBV) and Marburg virus (MARV) has been responsible for many haemorrhagic fever outbreaks in humans and great apes, principally in Central Africa, and for several decades (*World Health Organization*). Since 2005, several studies have shown that certain African fruit bats species might be potentially capable of transmitting pathogens, including filovirus between geographically distant African regions (*Olival et al., 2014; Richteret al. 2008*). This would maybe explain the massive epidemic, which occurred in Western Africa in 2014-2016. However, very little information exists on the exact distribution of these species, on their taxonomy, as well as on the mobility and on the existing contacts between their populations. This doctoral thesis aims to better understand the biology of these species through two objectives. The first one will be to improve our knowledge of the taxonomy of bat species living in Central, Western and Southern Africa through a molecular phylogeny approach basis of nuclear markers and the complete mitochondrial genome sequencing. The phylogenetic methods used will give a better understanding of the evolution and the species distribution of this group in sub-Saharan Africa. It will also provide important information for a better understanding of the patterns of pathogens’ circulation among fruit bat species. The second objective will be to understand the spatial dynamics related to the migratory behaviour of these species through a study of the relationships existing between the populations of five frugivorous species (*Hypsignathus monstrosus*, *Epomops franqueti*, *Epomops buettikoferi*, *Eidolon helvum* and *Lissonycteris angolensis*), throughout Western, Central and Southern Africa and which were found to be positive for the Zaïre strain Ebolavirus. Population genetics studies will be achieved by single-nucleotide polymorphism obtained by genotyping by sequencing method. Our research will give a better knowledge on the mobility of these species as well as on their genetic structures and population relationships. This information will be also essential to identify networks of contacts between bat populations and communities as well as interactions between humans and bats, in order to estimate risks of transfer of filoviruses among African regions. This project is integrated in the EU funded EBO-SURSY project supervised by the World Organization for Animal Health (OIE) aiming to better understand the problematic of Ebola in Africa.REFERENCESOlival, K. J. & Hayman, D. T. S. 2014. *Filoviruses in Bats: Current Knowledge and Future Directions*. — Viruses, 6 (4): 1759–1788.Richter, H. V & Cumming, G. S. 2008. *First application of satellite telemetry to track African straw-coloured fruit bat migration*. — Journal of Zoology, 275: 172–176.*1*University of Liège, Liège, Laboratoire de génétique de la conservation - Quartier Vallée 1 Chemin de la vallée 4 4000 Liège, Belgique.*\**Corresponding Author. damien.gailly@student.uliege.be |