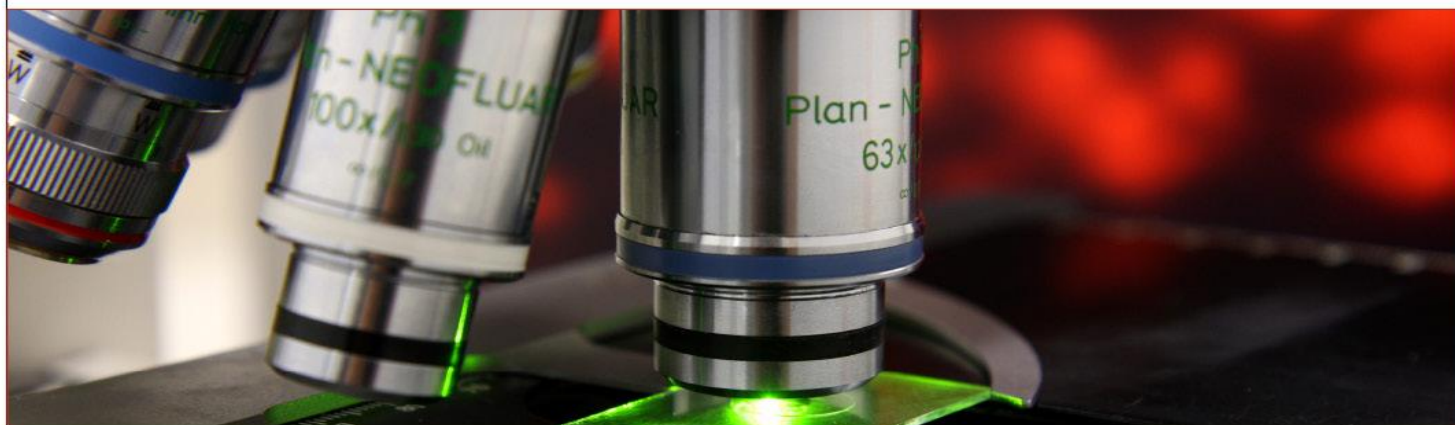


SÉMINAIRES ET CONFÉRENCES



Ertuğrul M. Özbudak, Ph.D.

**Department of Cell and Developmental Biology
Northwestern University**

“ Two distinct timers control vertebrate embryo segmentation ”

Sequential segmentation of the body axis is conserved across diverse animal phyla. The timing of somite segmentation in vertebrates is thought to be controlled solely by the segmentation clock but their periods mismatch. By combining real-time imaging of the segmentation clock, pharmacological and surgical treatments, we show that the segmentation timing is governed by two sequentially acting distinct timers: while the segmentation clock controls initial segmental commitment, self-organization of committed cells into a somite is regulated by an hourglass-like timer, whose duration is proportional to somite size and regulated by cytoskeletal activities. By modulating the hourglass timer, we converted zebrafish segmentation from periodic to irregular, mimicking the anterior somites of chicken, altered the number of predetermined compartments at will and change the somite sizes. Our work demonstrates that duration of somite commitment and segmentation are modularly regulated.



Faculté de médecine
Département de biochimie
et médecine moléculaire

Université 
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Le jeudi 22 octobre, 12h30

Pavillon Joseph-Armand-Bombardier, Salle : 1035

Et

[Zoom](#)

invité de Paul François
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