

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research*

*Department of Mathematics*

# WORKING SEMINAR

## Professor Antoine Danchin

President, AMAbiotics SAS (a biotech company), France

Member of the French Academy of Sciences

November 4, 2019 (Monday), 2:30 – 3:30pm

Rm 210, Run Run Shaw Building, HKU

## The two Turings

### Abstract

Alan Turing is known for two discoveries. He designed the basic principles that would allow construction of computers that manage logic and computing, tying up practical computation with Number Theory. He also explored the possible formation of biological patterns based on a specific view of partial differential equations. These views are orthogonal to each other and compete in the way conceptual reflection may account for the secrets of life. We will discuss some of the unfortunate consequences of the emphasis placed by a majority of embryologists on the second Turing, with a hidden assumption of some "animation" of biological chemistry that would be based on a general principle of "auto-organisation". We will subsequently discuss the possible role of competition for limited resources in the formation of patterns, first in two dimensions, opening up conjectures about the situation in three dimensions.

*All are welcome*