

*Fondazione
Adriano Buzzati-Traverso*

Sede

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**FONDAZIONE
ADRIANO BUZZATI-TRAVERSO**

Università degli Studi di Milano
Dipartimento di Bioscienze
Via Celoria 26 – 20133 Milano

**11th Giovanni Magni
Lecture**

**Milano, 10 Dicembre 2018
Ore 15.00**

**Aula 200
Settore Didattico
Via Celoria 20, Milano**

Programma

Ore 15.00

Benvenuto del Presidente della Fondazione
A. Buzzati – Traverso
Prof. Silvano Riva

Ore 15.10

Prof. Yves Barral
Institute of Biochemistry
ETH Zurich, Switzerland

**“Yeast as a model for studying the
problem of the soma”**

Brief Summary of Yves Barral Scientific Career

Yves Barral started his research career studying the machinery that controls cell cycle progression and particularly cell cycle entry, during his PhD in Paris and Tübingen, and the entry in mitosis, during his postdoc at Yale university. In both cases, he built his research on the use of budding yeast as a model system and molecular genetics as his approach of choice.

Since he established his own laboratory at the ETH Zürich, his interest has become increasingly focused on the use of the same organism to study the mechanisms

of asymmetric cell division. Indeed, asymmetric cell division plays a central role in the generation of cellular diversity in eukaryotes, as well as in ensuring self-renewal in stem cells and other eternal lineages. The investigations of the Barral laboratory have revealed several processes that play pivotal roles in the asymmetric segregation of cellular material between the yeast mother cell and the bud. The first one is the polarization of the mitotic spindle and the differentiation of the two spindle pole bodies (SPBs) from each other. Interestingly, this ensures that the two SPBs are not segregated randomly, but the bud nearly always inherits the oldest of the two SPBs. A second key process is the formation of lateral diffusion barriers at the mother-bud boundary and the roles that these barriers play in differentiating the mother and the future daughter cells from each other. Particularly, these studies have allowed to better understand how ageing yeast mother cells generates rejuvenated daughter cells. In recent years, these different findings have emerged as being highly relevant for our understanding of the biology of stem cells and immune cells in metazoans.