

Prof. Dr. Jean-Luc Pernodet

Institute of Integrative Biology of the Cell, CNRS,
University Paris-Sud

will give a presentation entitled

„ Exploring Streptomyces secondary metabolism“

Tuesday, January 20, 2015, at 17:00h s.t.
in Blg C4 3, Kleiner Hörsaal der Anorganischen Chemie

Host: Dr. Andriy Luzhetskyy

There is opportunity to talk with the speaker before the talk.
There will be a follow-up session (Nachsitzung).

For details and for making appointments please contact:
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Guests are welcome!

Summary

Bacteria belonging to the genus *Streptomyces* have been known for a long time to be prolific producers of secondary metabolites. The analysis of their genomes has shown that the wealth of their secondary metabolism has been seriously underestimated and numerous approaches aim at exploring the hidden secondary metabolome of *Streptomyces* and other microorganisms. For this purpose, various genome mining strategies have been developed, relying mostly on the search of homologs of known secondary metabolite biosynthetic genes. However, the study of cyclodipeptide synthases has shown that novel enzymes, unrelated to known secondary metabolism enzymes, can be essential in secondary metabolite biosynthetic pathways. Therefore, we undertook the development of a genome mining approach that relies on the detection of genomic islands in the genomes of closely related strains/species. Indeed, species- or strain- specific genomic islands have been observed to be enriched in genes of secondary metabolism. Thus, identifying genomic islands in closely related genomes may constitute a mean to isolate secondary metabolism gene clusters that fail to be detected by classical genome mining approaches because the biosynthetic genes constituting them are still uncharacterized. The first results of this approach will be presented.

CV

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Education and Employment

1979 : Engineering degree in agronomy, National Institute of Agronomy, Paris.

1982 : Thesis in microbiology and microbial genetics. National Institute of Agronomy, Paris.

1998 : Habilitation to direct research in biology. University Paris-Sud.

1983 to present: research scientist, CNRS, presently research director.

Head of the group "Molecular Microbiology of Actinomycetes"

Research interests

- *Streptomyces* secondary metabolism and its regulation
- Integrative and conjugative mobile genetic elements
- Comparative genomics of actinobacteria
- Pupylation (Prokaryotic ubiquitin-like protein modification) in actinobacteria