Professional Experiences

Lycée Galilée - Genevilliers, France (Biotechnology Teacher for technical degree (BETC)and high-school student)

As a biotechnology teacher, the work involved daily courses, preparation and correction of weekly exams, as well as bench practical session. To handle the particularly difficult high-school students, I created quizzes and activities to keep their attention.

Seqlab, Genoscope, CEA – Evry, France (Production Manager)

Co-Management of 15 people including administrative tasks, training, work organisation and meetings. Platform daily routine includes monitoring hundreds of samples running on the platform, follow up on technical issues, implementation of safety rules, protocols optimization, reporting on projects (financial and technical), organisation of meetings, contacts with providers, collaborators and various administrations…

Lipofabrik – Lille, France (Research engineer)

Creation of environmental *Bacillus subtilis* strains *via* GMO and non-GMO mutagenesis for the production of anti-fungal product. Development of high-throughput mutagenesis and screenings, anti-fungal assays (filamentous/non-filamentous). Genomic and transcriptomic characterization of the clones.

Proteomic response to stress of synthetic microbial communities – Mons, Belgium

Understanding biodiversity and functional response of bacterial communities in response to environmental cues. Synthetic bacterial communities were built to mimic environmental ones and monitored in different conditions following growth, biodiversity and functional responses using molecular technics (QPCR, DGGE, …) and MS analysis. Development of Mass Spectrometry and Q-PCR protocols for the analysis of rarer species inside synthetic communities. Scripting *via* R, Python and VBA for excel to create a giant database describing the communities.

Chromosomal organization in *Bacillus subtilis* – München, Gemany

Creation of a BACmid tool able to recruit Smc (a DNA-binding protein involved in chromosomal condensation in *Bacillus subtilis*) and follow Smc binding via fluorescent microscopy and ChIP-qPCR.

Creation of a bank of Smc mutants via GoldenGate cloning and Taq-mutagenesis, screening high-throughput for desired phenotypes.

Transcriptional regulation in *Salmonella typhimurium* – Paris, France (M2 and PhD project)

Characterization of the ^{S}-dependent YncC transcriptional regulator: -galactosidase assays on lacZ fusions, cloning and plasmid complementation, ProteinCHIP SELDI-TOF (mass spectrometry) and *in vitro* biochemical assays to understand the mechanism of YncC activation (*i.e.* Footprinting, EMSA, *in vitro* transcription assays).

Characterization of attenuation levels of 4 *rpoS* mutants by ProteinCHIP SELDI-TOF and development of computational programs with VBA (Visual Basic for Applications) to organize the results.

Training Period:

Cloning and characterization of 6 DEAD-BOX ARN helicases from *Pseudoalteromonas haloplanktis* - IBPC, France: 2 month training period to clone, purify and characterize 6 DEAD-box helicases from *E. coli* and *P. haloplanktis* in order to compare their activity and processing.

Molecular and biochemical characterization of cat-disrupted mutants of *Arabidopsis thaliana* - IBP, France: Training period to characterize insertion mutants (PCR, Southern Blot) of *Arababidopsis thaliana*. Mutation spreading in offspring (growth control, seeds extraction), assessment of gene expression by RT-PCR, catalase activity assays, and measurement of oxidized glutathione pool by HPLC.

And also:

Organization of seminars and leisure events, reporting for projects, mentoring students, secretary of StaPa (association of young researchers from Institut Pasteur), contact person for the lab in the course of our European Project while in Mons.