

Genomics/Metagenomics and NGS approaches for discovering new enzymes useful for industrial applications

Updated scientific program 12 -23 June 2022

Sunday 12th June 2022

Welcome participants and hotel accommodation

Monday 13th June 2022

- ✓ **9h-9h30: Opening Ceremony:**
 - Welcome addressed by **Prof. Samir BEJAR**, coordinator of the ICGEB Course
 - Welcome addressed by **Prof. Mamdouh Ben ALI**, Head of the LBMIE
 - Official opening by **Prof. Slim TOUNSI**, GD of the CBS
- ✓ 9h30-10h30: Plenary Conference 1: Prof. Samir BEJAR/ Metagenomic and Genomic approaches for discovering useful enzymes for industrial applications. Cases of Dromedary microbiota and the thermophilic *Caldicoprobacter algeriensis* and *Caldicoprobacter guelmensis* strains
- ✓ 10h30-11h: Coffee Break
- ✓ 11h-12h: Workshop program training presentation (for participants only) and presentation of all participants and Staff
- ✓ 12h 30-14h 30: Lunch
- ✓ 14h30- 15h30: Theoretical lectures 1: Principle of Genomic and/or metagenomic libraries construction. (Prof. Samir BEJAR)
- ✓ 15h30- 17h30 (including Coffee Break): Practical demonstration in Lab: Result of spreading libraries & Manual test of some obtained clones for some enzymatic activities eg: amylases, cellulases, proteases, xylanases, and peroxidases. (Dr. Nadia ZARAÏ JAOUADI and Dr. Rihab AMERI)

Tuesday 14th June 2022

- ✓ 9h-10h: Plenary conference 2: Prof. Marco MORACCI/Carbohydrate active enzymes: structure, function and biotechnological applications
- ✓ 10h-10h30: Coffee Break
- ✓ 10h30-11h15: Theoretical lectures 2: Screening of Genomic and/or metagenomic libraries using manual of high-throughput methodology and DNA extraction with high quality for NGS sequencing (Dr. Rihab AMERI)
- ✓ 11h15- 12h15: Theoretical lectures 3: high-throughput sequencing using the MiSeq Illumina technology. (Dr. Nedja ZARAI JAOUADI)
- ✓ 12h 30-14h 30: Lunch
- ✓ 14h30- 17h30 (including Coffee Break): Practical demonstration in lab: Library preparation For NGS sequencing: Tagmentation of DNA, PCR amplification and clean up. (Dr. Nadia ZARAÏ JAOUADI and Dr. Rihab AMERI)

Wednesday 15th June 2022

- ✓ 9h-10h: Plenary conference 3: Prof. Marco MORACCI/Discovery of carbohydrate active enzymes from hyperthermophiles by genomic and metagenomic approaches

- ✓ 10h- 10h30: Coffee Break
- ✓ 10h30- 12h15: Practical demonstration in lab: Library preparation For NGS sequencing: library normalization. (Dr. Nadia ZARAÏ JAOUADI and Dr. Rihab AMERI)
- ✓ 12h 30-14h 30: Lunch
- ✓ 14h30- 15h-30: Practical demonstration in lab: Perform a high-throughput sequencing using the MiSeq technology: Library pooling for NGS (Illumina MiSeq). (Dr. Nadia ZARAÏ JAOUADI and Dr. Rihab AMERI)
- ✓ 15h30- 15h45 Coffe Break
- ✓ 15h45- 17h30: Training on Linux language (Mr Riadh Ben MARZOUG)

Thursday 16th June 2022

- ✓ 9h-10h: Plenary conference 4: Prof Ali GARGOURI: Genomic approaches for discovering useful enzymes for industrial applications from fungal strains.
- ✓ 10h- 10h30: Coffee Break
- ✓ 10h30- 12h30: Practical demonstration in silico: Results of the high-throughput sequencing using the MiSeq technology and evaluation of the outputs quality (How to know and select the FastQ of high quality). (Dr. Andrea STRAZZULLI)
- ✓ 12h 30-14h 30: Lunch
- ✓ 14h30- 17h30 (including Coffee Break): Practical demonstration in silico De novo assembly: From paired-end reads in FASTQ format to scaffolds in FASTA format (Part 1/ Dr. Andrea STRAZZULLI).

Monday 20th June 202

- ✓ 9h-11h: Theoretical lecture 4: In-silico approaches for enzyme discovery from genomic or metagenomic sequences data. (Part 1/ Prof. Samir BEJAR and Dr Rihab AMERI)
- ✓ 11h00-11h30 : Coffee Break
- ✓ 11h30-12h30: Participants presentation of work project (20 min each participant /Part 1)
- ✓ 12h30-14h 30: Lunch
- ✓ 14h30-15h30: Participants presentation of work project (20 min each participant /Part 2)
- ✓ 15h30-16h : Coffee Break
- ✓ 16h30-17h30: Theoretical lecture 4: In-silico approaches for enzyme discovery from genomic or metagenomic sequences data. (Part 2/Prof. Samir BEJAR and Dr. Rihab AMERI)

Tuesday 21th June 2022

- ✓ 9h-10h30: Plenary conference 6: Prof Ali GARGOURI: Genomic approaches for discovering useful enzymes for industrial applications from fungal strains.
- ✓ 10h30-11h : Coffee Break
- ✓ 11h- 12h: Participants presentation of work project (20 min each participant/Part 3)
- ✓ 12h 30-14h 30: Lunch
- ✓ 14h30-17h30 (including Coffee Break): Participants presentation of work project (20 min each participant /Part 4)

Wednesday 22th June 202

- ✓ 9h30-10h30: Participants presentation of work project (20 min each participant /Part 5)
- ✓ 10h30-11h : Coffee Break
- ✓ 11h-12h: General discussion with all staff: Questions/ responses
- ✓ 12h30-14h 30: Lunch
- ✓ 14h30-15h30: General discussion with all staff: Questions/ responses
- ✓ 15h30-16: Concluded remarks

Thursday 23th June 202
Participants' departure