BIOINFORMATICS SUMMER SCHOOL – 2017
Program

MONDAY 26TH JUNE

10:30 – 11:30 AM	**Participant Arrival & Coffee Break** Presentation of the participants and their research interests/experiences Faculty of Sciences – Room BAT. H room 002 (H002)
11:30 AM – 1:00 PM	**Unix Command Initiation (optional)** SAUBION Frédéric, University of Angers (FR) BOURDON Jérémie, University of Nantes (FR) Faculty of Sciences – Room BAT. H room 002 (H002)
1:00 PM	Lunch at cafeteria *L'Escale* Campus Belle-Beille
5:30 – 6:30 PM *Conference*	**Plenary Conference: "Lessons learned from the Mirage 2000 cockpit: what can we transfer from modern combat jets in our professional activities?"** HENRY Jean-Pierre, STAN Institute (FR) Faculty of Sciences – Amphi L002 Campus Belle-Beille
6:30 – 7:00 PM	**Opening Ceremony of the Summer Schools** Faculty of Sciences - Amphi L002 Campus Belle-Beille
7:00 PM *Social activity*	**Welcome Barbecue** Campus Belle-Beille

TUESDAY 27th JUNE

9:00 AM-12:30 PM *Workshop*	**Session 1: Warm up session (Python)** BOURDON Jérémie, University of Nantes (FR) Faculty of Sciences – Room BAT. H room 002 (H002)
12:30 – 2:00 PM	Lunch at cafeteria *L'Escale* Campus Belle-Beille
2:00 – 5:30 PM *Workshop*	**Session 1: Warm up session (R)** AL MASRY Zeina, University of Angers (FR) CLOTAULT Jérémy, INRA Angers (FR) Faculty of Sciences – BAT. H room 002 (H002)
8:00 – 9:00 PM *Social Activity*	**Visit of Angers by train** Car park of the castle of Angers

WEDNESDAY 28TH JUNE

9:00 AM - 12:30PM *Workshop*	**Session 2: Introduction to protein structure prediction** TELETCHEA Stéphane, University of Nantes (FR) Faculty of Sciences – BAT. H room 002 (H002)
12:30 – 2:00 PM	Lunch at cafeteria *L'Escale* Campus Belle-Beille
2:00 – 5:30 PM *Workshop*	**Session 2: Introduction to protein structure prediction** TELETCHEA Stéphane, University of Nantes (FR) Faculty of Sciences – BAT. H room 002 (H002)

THURSDAY 29TH JUNE

08:30 AM	**Departure for Nantes** The bus will pick you up at 08:30 am at Belle-Beille student residence to drive you to Nantes
10:00 AM–12:30 PM *Visit*	**Visit of the biopolymers core facility / Visit of the BIBS platform and a zoom on the ABC's of proteomics** LOLLIER Virginie, TESSIER Dominique & ROGNIAUX Hélène, INRA Nantes (FR)
12:30 – 2:30 PM	Lunch at Nantes Self INRA
2:30 – 5:30 PM *Visit*	**Visit of the genomics and bioinformatics "GenoBIRD" core facility in Nantes / Next generation sequencing (NGS) in genetics and genomics** BIHOUEE Audrey, LE SCOUARNEC Solena, BONNAUD Stéphanie & CHARPENTIER Eric, University of Nantes (FR)
06:00 – 07:30 PM	**Guided tour of Nantes** The visit starts at 6:00 PM at Nantes Tourisme – 9 rue des Etats and lasts two hours.
07:30 – 11:00 PM	**Free time in Nantes**
11:00 PM	**Departure for Angers** The bus will pick you up at 11:00 PM at Quai Moncousu to drive you back to the student residence

FRIDAY 30TH JUNE

9:00 AM –12:30 PM *Workshop*	**Session 3 : Ontologies and biology databases** BARRE Benjamin, LANDES Claudine, University of Angers (FR) BOURBEILLON Julie, INRA Angers (FR) Faculty of Sciences – BAT. H room 002 (H002)
12:30 – 2:00 PM	Lunch at cafeteria *L'Escale* Campus Belle-Beille
2:00 – 5:30 PM *Lecture*	**Session 4 : Environmental Genomics** EVEILLARD Damien, University of Nantes (FR) Faculty of Sciences – BAT. H room 002 (H002)

WEEKEND 1ST – 2ND JULY

ATLANTIC COAST DAY

Social Activity

You will get groups ticket (5 persons), meaning you can hop on any regional trains (TER) during the week-end (only for departure from Angers or Pays de la Loire, not Paris)

Travel time: around 90mn

Make sure to bring your swimsuit along!

MONDAY 3RD JULY

9:00 AM - 12:30 PM *Workshop*	**Session 5 : Artificial intelligence for bioinformatics** DUVAL Béatrice, LARDEUX Frédéric, SAUBION Frédéric, University of Angers (FR) ROUSSEAU David, University Claude Bernard, Lyon 1 (FR) RASTI Pejman, University of Angers (FR) Faculty of Sciences – BAT. H room 002 (H002)
12:30 – 2:00 PM	Lunch at cafeteria *L'Escale* Campus Belle-Beille
2:00 – 5:30 PM *Workshop*	**Session 5 : Artificial intelligence for bioinformatics** DUVAL Béatrice, LARDEUX Frédéric, SAUBION Frédéric, University of Angers (FR) ROUSSEAU David, University of Lyon (FR) RASTI Pejman, University of Angers (FR) Faculty of Sciences – BAT. H room 002 (H002)
6:30 – 8:30 PM *Social activity*	**Kayak session** Lac de Maine

TUESDAY 4TH JULY

9:00 AM - 12:30 PM *Lecture*	**Session 6 : Association mapping and system genetics - from GWAs to function** DINA Christian, University of Nantes (FR) IONITA-LAZA Juliana, Columbia University (US) Faculty of Sciences – BAT. H room 002 (H002)
12:30 – 2:00 PM	Lunch at cafeteria *La Gabare* Campus Saint-Serge
2:00 - 5:30 PM *Workshop*	**Session 6 : Association mapping and system genetics - from GWAs to function** DINA Christian, University of Nantes (FR) IONITA-LAZA Juliana, Columbia University (US) Faculty of Sciences – BAT. H room 002 (H002)

WEDNESDAY 5TH JULY

9:00 AM – 12:30 PM *Workshop*	**Session 7 : Statistics and classification on genomic data** PROÏA Frédéric, University of Angers (FR) AZAÎS Romain, INRIA of Nancy (FR) Faculty of Sciences – BAT. H room 002 (H002)
12:30 – 2:00 PM	Lunch at cafeteria *L'Escale* Campus Belle-Beille
02:00 – 5:30 PM *Workshop*	**Session 7 : Statistics and classification on genomic data** PROÏA Frédéric, University of Angers (FR) AZAÎS Romain, INRIA of Nancy (FR) Faculty of Sciences – BAT. H room 002 (H002)

THURSDAY 6TH JULY

9:00 AM - 12:30 PM *Workshop*	**Session 8 : Introduction to Metabolic Networks** BOURDON Jérémie, University of Nantes (FR) LARHLIMI Abdelhalim, University of Nantes (FR) Faculty of Sciences – BAT. H room 002 (H002)
12:30 – 2:00 PM	Lunch at cafeteria *L'Escale* Campus Belle-Beille
2:00 - 5:30 PM *Workshop*	**Session 8 : Introduction to Metabolic Networks** BOURDON Jérémie, University of Nantes (FR) LARHLIMI Abdelhalim, University of Nantes (FR) Faculty of Sciences – BAT. H room 002 (H002)
6:30 PM *Social Activity*	**Summer Schools Challenge**

FRIDAY 7TH JULY

9:00 AM – 12:30 PM *Workshop*	**Session 9 : Analysis of proteomics data : a case study** LOLLIER Virginie, TESSIER Dominique & ROGNIAUX Hélène, INRA Nantes (FR) Faculty of Sciences – BAT. H room 002 (H002)
12:30 – 1:30 PM	Lunch at cafeteria *L'Escale* Campus Belle-Beille
1:30 – 3:15 PM *Lecture*	**Session 10: Bioinformatics analysis and clinical applications** PROCACCIO Vincent, GOUDENEGE David, University of Angers (FR) GENIN Bérengère, INTEGRAGEN, Evry (FR) Department of Medicine – Bat. F room 102 (F102)
5:00 – 6:00 PM	**Closing Ceremony of the Summer Schools 2017** Department of Medicine – Amphi 200
6:30 – 7:30 PM	**Visit of Jean Lurçat tapestries and Farewell drinks** Jean Lurçat and contemporary Tapestry museum Boulevard Arago

VISIT OF THE GENOMICS AND BIOINFORMATICS CORE-FACILITY OF NANTES

The Genomics and Bioinformatics Core Facility of Nantes brings together 2 Biogenouest/IBiSA certified core-facilities which includes genetic, functional genomic and bioinformatics activities. These activities are certified according to the ISO 9001: 2008 standard.

This structure is part of two French national infrastructures in genomics (Biogenouest Genomics) and bioinformatics (IFB-GO) and is hosted by the INSERM « institut du thorax laboratory : a high qualified public center devoted to patient care, research and training in cardiovascular, respiratory and metabolic diseases.

The genomics core-facility, which includes 6 staff members, provides scientists with the necessary tools for carrying out research in genomics in marine bio-resources, agronomy, environment and health. It runs the following equipment:

- 2 next-generation sequencing machines (Illumina HiSeq1500 and MiSeq)
- 1 high-throughput system for genotyping & expression profiling (Affymetrix GeneTitan MC®)
- 2 microarray scanner stations (Agilent Biotechnologies and InnoScan)
- 1 capillary DNA sequencing machine (Applied Biosystems 3730)
- 1 real-time PCR machine (Roche LightCycler 480)

The bioinformatics core-facility BiRD, which employs four computer biologists and one system administrator, holds two large-scale computing systems, each consisting of 448 cores (4-GB RAM per core) and 200 TB of secured data storage. The facility provides the regional scientific community in life sciences with computer resources for large-scale data management offering a complete bioinformatics environment: computing power, storage, databanks, software and data analysis.

BiRD is also specialized in microarray and NGS analyses and provides support for bio-analysis in genomics projects or project guidance to IT solutions for biology.

BiRD manages and deploys a Galaxy portal which hosts standard genomics tools (NGS and micro-array) for the scientific community.

A comprehensive bioinformatics training is offered: tools, methodologies, programming languages, transcriptomic data analysis.

BIOINFORMATICS SUMMER SCHOOL - 2017
List of speakers

AZAIS Romain, INRIA of Nancy (FR)

BARRE Benjamin, University of Angers (FR)

BIHOUEE Audrey, University of Nantes (FR)

BOURBEILLON Julie, INRA Angers (FR)

BOURDON Jérémie, University of Nantes (FR)

DINA Christian, University of Nantes (FR)

DUVAL Béatrice, University of Angers (FR)

EVEILLARD Damien, University of Nantes (FR)

GENIN Bérengère, INTEGRAGEN, Evry (FR)

GOUDENEGE David, University of Angers (FR)

HENRY Jean-Pierre, STAN Institute (FR)

IONITA-LAZA Juliana, Columbia University (US)

LANDES Claudine, University of Angers (FR)

LARDEUX Frédéric, University of Angers (FR)

LE SCOUARNEC Solena, University of Nantes (FR)

LOLLIER Virginie, INRA Nantes (FR)

PROCACCIO Vincent, University of Angers (FR)

PROIA Frédéric, University of Angers (FR)

RASTI Pejman, University of Angers (FR)

REDON Richard, University of Nantes (FR)

ROGNIAUX Hélène, INRA Nantes (FR)

SAUBION Frédéric, University of Angers (FR)

TELETCHEA Stephane, University of Nantes (FR)

TESSIER Dominique INRA Nantes (FR)

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Origins of the participants