Bioinformatics summer school
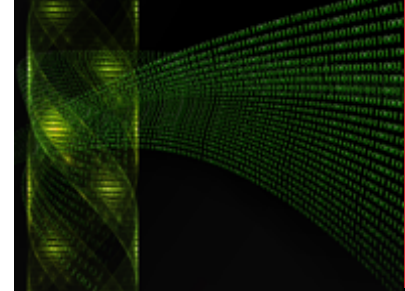
Challenges in bioinformatics

sessions

Warm up Session

1. Statistics and classification for genomic studies

2. Clinicobiological Databases

3. Visit of the Genomics and bioinformatics core facility

4. Introduction to "Next generation sequencing (NGS)

5. Bioinformatics and Business companies

6. Microbial metagenomics

7. Association mapping and system genetics – from GWAs to function

8. Optimization methods for bioinformatics

9. Case study and guided exercices on "Computer modelin of living systems"

Warmup session

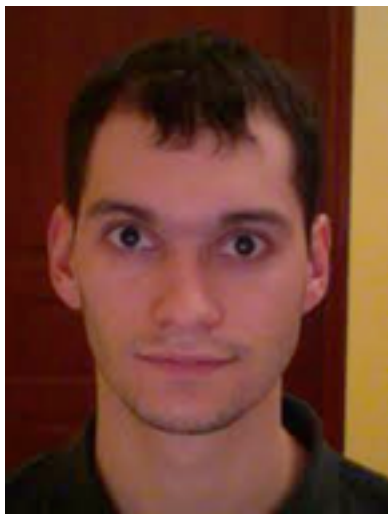**Frédéric Prioa, Assistant Professor, LAREMA**

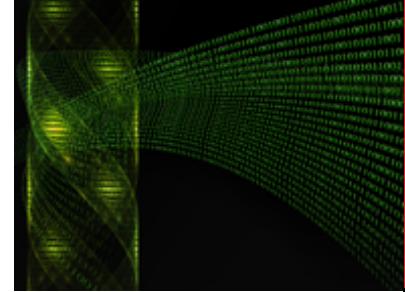**Marc Legeay, PhD student, LERIA**

Jérémie Bourdon, Assistant Professor, LINA

Basics in R

Basics in algorithmics (with Python)
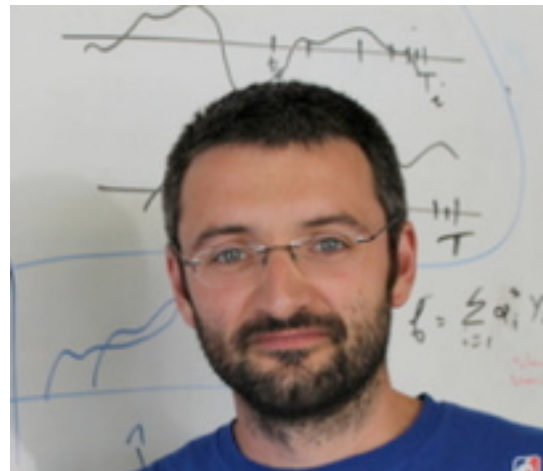
1st of July

Statistics and classification for genomic studies

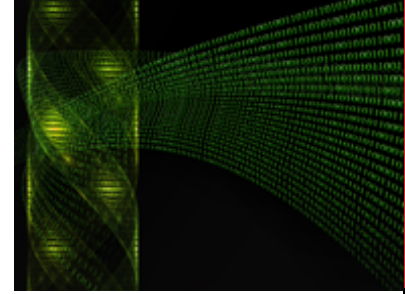**Invited speaker**: Stéphane Robin, INRA, Paris (FR)

Sébastien Loustau, LAREMA, Angers University (FR)
Frédéric Proia, LAREMA, Angers University (FR)

2nd of July

Clinicobiological Databases

Marc Ferre, BNMI, Angers University (FR)

Dan Milea, CHU, Angers University (FR)

3rd of July
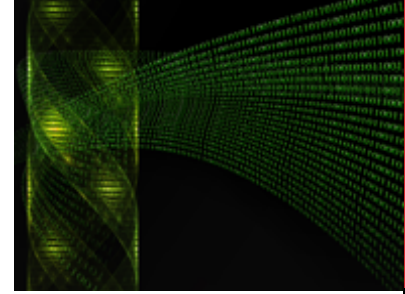
Daytrip in Nantes

Visit of the Genomics and bioinformatics platform in Nantes

Course and workshop on NGS analysis

Excursion at *Les machines de l'île*

Solena Le Scouarnec, Institut du Thorax, Nantes (FR)
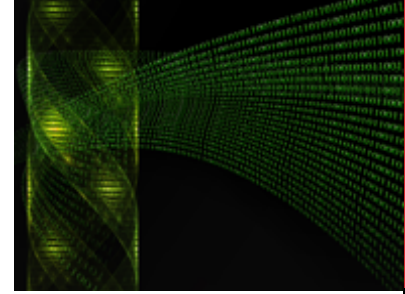
Pierre Lindenbaum, Institut du Thorax, Nantes (FR)

Richard Redon, Institut du Thorax, Nantes (FR)

Audrey Bihouée, BiRD, Nantes (FR)

6th of July

Bioinformatics and Business companies

Hubert Beaumont, Median Technologies, Valbonne (FR)

Mohammed Bennanni, President Qualees, Paris (FR)

Vincent Procaccio, Angers University (FR)

Sébastien Loustau, Angers University (FR)
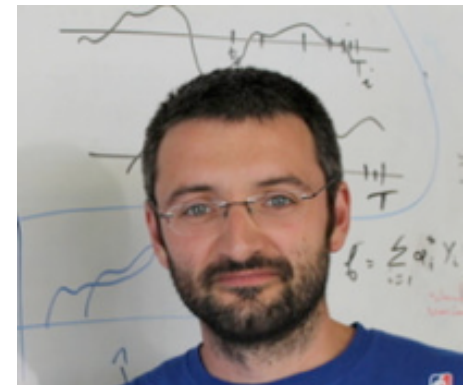
7th of July
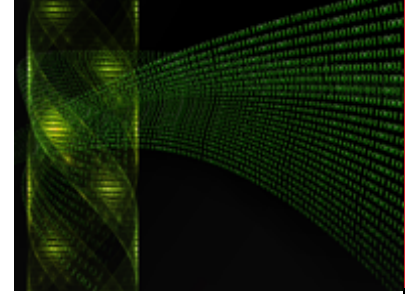
Microbial Metagenomics

Damien Eveillard, LINA, Nantes (FR)

Lois Maignien, Brest University, Brest (FR)

Workshop basics on metabolic network analysis

Marko Budinich, LINA, Nantes (FR)

Jérémie Bourdon, LINA, Nantes (FR)

8th of July

Association mapping and system genetics - from GWAs to function

Christian Dina, Institut du Thorax, Nantes (FR)

Juliana Ionita Laza, Columbia University (USA)

9th of July

Optimization methods for bioinformatics

Laëtitia Jourdan, INRIA Lille (FR)

Béatrice Duval, LERIA, Angers (FR)

Frédéric Lardeux, LERIA, Angers (FR)

Frédéric Saubion, LERIA, Angers (FR)

10th of July

Computer modeling of living system

Alexander Bockmayr, Freie University, Berlin (DE)

Jérémie Bourdon, LINA, Nantes (FR)

Damien Eveillard, LINA, Nantes (FR)

Marko Budinich, LINA, Nantes (FR)

Today

2pm-5pm Free time

5pm Plenary Conference: 'Polio: nearly extinct but not to be ignored'
Gareth Williams, Bristol University, (UK)
Faculty of languages - Amphi E (Campus Belle-Beille)

6:00-6:45pm   Opening of the Summer Schools
Isabelle Richard, Dean of the Faculty of Medicine, Angers (FR)
John Webb, Vice-president for International Relations, Angers (FR)

Large variety of labs...

Mathematics

   LAREMA

Computer science

   LERIA

   LINA

Health and biology

   BNMI

   Institut du Thorax

Agronomy

 ....

… Main particularity of bioinformaticians

About us ...
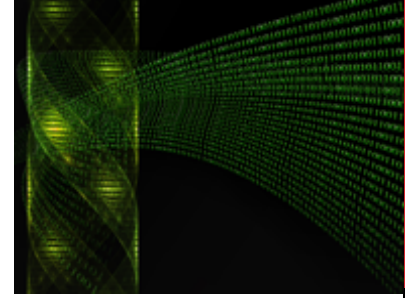
Frédéric Lardeux
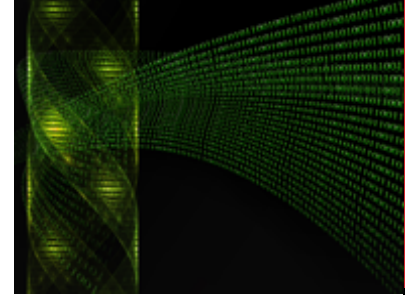
Assistant Professor

Université d'Angers

LERIA, « Metaheuristics, Optimisation and Applications » team

Algorithms dedicated to the characterization of biological data

Satisfiability problems and applications to solve biological problems

Jérémie Bourdon

Assistant Professor

Université de Nantes

LINA, « Combinatorics and Bioinformatics » team

Comparative genomics

Biological networks analysis
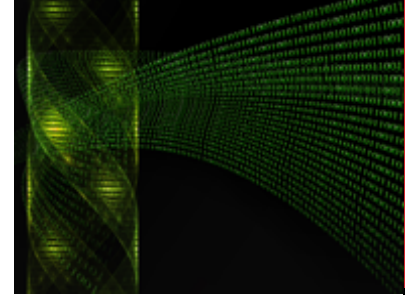
Stéphanie Noguet

Engineer for Bioinformatics education

GRIOTE project
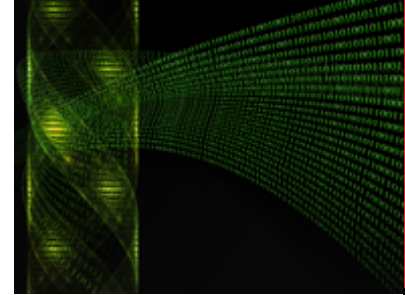
About you ...
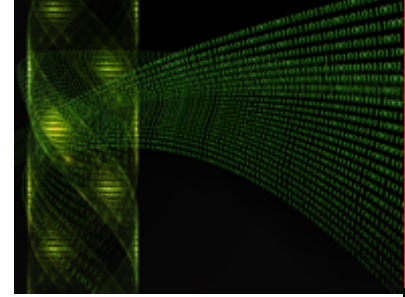
Europe

Legend:
- International Boundary
- Road
- River
- ★ National Capital
- • City or Town

Scale:
0 — 250 — 500 KM
0 — 250 — 500 Miles

© 2007 Geology.com

ICELAND — ★Reykjavik (Thjorsa)

Norwegian Sea

Faroe Islands

Shetland Islands

SWEDEN

FINLAND

Barents Sea

RUSSIA

Lake Onega

Perm' • Yekaterinburg
Chelyabinsk •
• Ufa

•Trondheim

Bergen • NORWAY (Nidaelven)

Gulf of Bothnia

Lake Ladoga

•Turku ★Helsinki

St. Petersburg •

Kostroma •

Kazan' •

Oslo★

Stockholm★

★Tallinn ESTONIA

Yaroslavl' •

Nizhniy Novgorod •

KAZAKHSTAN

U.K.

Glasgow • • Edinburgh
• Belfast

DENMARK

North Sea

Goteborg •

Riga★ LATVIA
Liepaja • Daugavpils •

Moscow★

Ryazan' •

• Ufa

UZBEKISTAN

IRELAND

★Dublin
Cork • Liverpool • • Manchester

Birmingham •

Bristol •
★London

• Arhus

Copenhagen★ • Malmo

Baltic Sea

LITHUANIA

★Vilnius

★Minsk

BELARUS

Tula •

Voronezh •

Don

Volga

NETHERLANDS
BELGIUM
★Amsterdam
Antwerp •
★Brussels

★Berlin

Gdansk •

POLAND

RUSSIA

★Warsaw
• Lodz

Kharkiv •

UKRAINE

Rostov •

Caspian Sea

TURKMENISTAN

Paris★

Nantes •

FRANCE

LUXEMBOURG

SWITZERLAND LIECHTENSTEIN

GERMANY

★Prague
CZECH REP.
Krakow •

Kiev★

L'viv •

Dnipropetrovs'k •

Donets'k •

Bern★

Lyon •

Milan •

AUSTRIA

Vienna★ ★Bratislava
SLOVAKIA

★Budapest

MOLDOVA
★Chisinau
• Odesa

GEORGIA

★Tiflis

AZERBAIJAN
★Baku

Bay of Biscay

Gijon •

Bilbao •

Toulouse •

Turin •

SLOVENIA
Ljubljana★
★Zagreb
CROATIA

HUNGARY

ROMANIA

• Brasov

ARMENIA
★Yerevan

AZ.

Oporto •

Valladolid •

PORTUGAL
Douro

Zaragoza •

Marseille •

Genoa •

SAN MARINO

BOSNIA HERZE.

★Sarajevo

SERBIA
★Belgrade

★Bucharest

Black Sea

Tabriz •

Tehran★

★Lisbon

★Madrid

ANDORRA
MONACO

Florence •

ITALY

MONTENEGRO
★Podgorica

BULGARIA
★Sofia

Istanbul •

IRAN
Qom •

Sevilla •

SPAIN

• Barcelona Corsica

★Valencia

Murcia •

★Rome

Naples •
Bari •

MACEDONIA
★Skopje

★Tirana
ALBANIA

• Thessaloniki

Bursa •

★Ankara

TURKEY

Izmir •

Adana •

Mosul •
Kermanshah •
• Aleppo

• Malaga

GIBRALTAR

Mediterranean Sea

Palermo •

Sardinia
• Cagliari

Sicily

GREECE

★Athens

Casablanca • ★Rabat

★Algiers

Constantine •

★Tunis

Catania •

MALTA

Crete

Nicosia★
CYPRUS

SYRIA

Baghdad★

Ahvaz •

Basra •

Beirut★ ★Damascus
LEBANON

IRAQ

Kuwait★

KUWAIT

MOROCCO

ALGERIA

TUNISIA

★Tripoli

Mediterranean Sea

Alexandria •

ISRAEL
★Jerusalem
★'Amman
JORDAN

SAUDI ARABIA

WESTERN SAHARA
— MAURITANIA

LIBYA

EGYPT

★Cairo

Atlantic Ocean

20

Questions ?