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## ERASMUS-MUNDUS



EuSysBio MSc in Systems Biology  
**Winter School**

4-14 JAN 2011  
Instituto Superior Técnico  
Lisbon | Portugal



INSTITUTO SUPERIOR TÉCNICO 1911-2011

## PROGRAMME

### Tuesday, 4<sup>th</sup>

- 10:00 - "Walking around IST", *NAPE* (Student Support Unit)  
11:30 - "Welcome and Course Outline" (meeting room, Main Building),  
*José Santos Víctor* (Vice-President for *International Relations of IST*) and *Isabel Sá-Correia* (Coord. of EuSysBio at IST)  
12:30 - **LUNCH**  
14:00 - BSRG Research lines (room QA1.1, South tower)  
"Systems Biology approach to microbial stress response", *Isabel Sá-Correia*  
15:00 - BSRG lab tour (6th floor, South tower)  
16:45 **COFFEE BREAK**  
17:00 - KDBIO Research lines (room QA1.1, South tower)

### Wednesday, 5<sup>th</sup>

- 9:00 - "Portuguese Class"  
10:00 - "Bioinformatics Lab for genome-wide data analysis" (room QLTI, 5<sup>th</sup> floor, South tower), *Miguel Teixeira*  
11:00 **BREAK**  
11:15 - "Bioinformatics Lab for phylogenetic analysis based on comparative genomics" (room QLTI, 5th floor, South tower), *Paulo Dias*  
12:30 **LUNCH**  
14:00 **WALKING TOUR – Original Lisbon walk.**

### Thursday, 6<sup>th</sup>

- 9:00 - "Portuguese Class"  
9:00 - "Introduction to entrepreneurship" (room QA1.3, South tower), *Luísa Quintino*  
10:30 **COFFEE BREAK**  
11:00 - "Introduction to entrepreneurship" (room QA1.3, South tower), *Luísa Quintino*  
12:30 **LUNCH**  
14:00 - "Technology transfer" (room QA1.3, South tower), *Rodolfo Condessa*  
15:00 - "Case study: can we patent genes?" (room QA1.3, South tower), *Miguel Prazeres*  
17:00 **COFFEE BREAK**  
17:30 - "Successful spin-offs" (room QA1.3, South tower):  
"BIOTECA – Preservação de células estaminais SA"  
"PLUX Wireless Biosignals: From Research to Market"  
20:00 **DINNER at ADEGA DO KAIS**

### Friday, 7<sup>th</sup>

- 9:00 - "Portuguese Class"  
10:00 - BERG research lines and lab tour (room QA1.3, South tower), *BERG*  
12:30 **LUNCH**  
14:00 - MBBF research lines and lab tour (room QA1.3, South tower), *CQFM*  
15:30 **COFFEE BREAK (on the ground floor of the Mathematics Building)**  
16:00 - KDBIO lab tour (INESC building), *INESC-ID*  
17:00 - Thin-film MEMS and BioMEMS research lines and lab tour (INESC building), *INESC-MN*

### Saturday, 8<sup>th</sup>

- 9:00 – **Guided tour to Óbidos, Sintra and Cascais**

### Sunday, 9<sup>th</sup>

**F R E E D A Y**

### **Monday, 10th (room QA1.3, South tower)**

- 9:00 - "Bioinformatics in personalized cancer treatment approaches", *Alfonso Valencia*
- 10:30 **COFFEE BREAK**
- 11:00 - "The secret lives of proteins", *Alfonso Valencia*
- 12:30 **LUNCH**
- 14:00 - "Metabolic networks: introduction to in silico models and tools", *Kiran Patil*
- 15:00 - "Optimality principles in metabolic networks & in silico design", *Kiran Patil*
- 15:45 **COFFEE BREAK**
- 16:00 - "Data integration & further challenges", *Kiran Patil*
- 17:30 - PRELIMINARY ANALYSIS OF THE 2011 STUDENT APPLICATIONS

### **Tuesday, 11th (room QA1.3, South tower)**

- 9:00 - "A mixed computational and experimental investigation the non-coding RNAs in a human pathogen", *Erik Aurell*
- 10:00 - "Massive sequencing on the SOLiD platform and the transcriptome of *E. faecalis*", *Nicolas Innocenti*
- 11:00 **COFFEE BREAK**
- 11:30 - "Network aspects of chromosome interactomes", *Erik Aurell*
- 12:30 **LUNCH**
  
- 14:00 **Tour of Belém**

### **Wednesday, 12th (room QA1.3, South tower)**

- 9:00 - "Efficient alignment of pyrosequencing reads for re-sequencing applications", *Paulo Fonseca*
- 9:30 - "Heterogeneous Multi-Core Architecture for Biological Sequence Analysis", *Luís Russo*
- 10:00 - "Understanding Neurodegenerative diseases through Clinical and OMICS data integration", *Sara Madeira*
- 10:30 **COFFEE BREAK**
- 11:00 - "Understanding the topological and functional features of regulatory networks", *Alexandre Francisco*
- 11:30 - "Control based on dynamic modeling of HIV-1 infection for therapy design", *Susana Vinga*
- 12:00 - "Genetic Programming in Pharmacokinetics - an example on bioavailability prediction", *Sara Silva*
- 12:30 **LUNCH**
- 14:00 - "Gene therapy", *Torbjörn Gröslund*
- 15:00 - "New insights in the molecular events underlying *Medicago-Sinorhizobium* biological nitrogen fixation symbiosis", *Leonilde Moreira*
- 15:45 - "Characterization of Haa1p and Rim101p regulons in yeast cells under weak acid stress based on wet-lab and in silico approaches", *Nuno Mira*
- 16:30 **COFFEE BREAK**
- 16:45 - "Using systems biology approaches to study regulatory networks", *Miguel Teixeira*
- 17:30 - "Metabolic insights into the yeast response to propionic acid based on high resolution <sup>1</sup>H NMR spectroscopy: from raw data to the identification of metabolic alterations", *Artur Lourenço*

### **Thursday, 13th (room QA1.3, South tower)**

- 9:00 - "Modelling transmission of pneumococcal serotypes", *Fabian Hoti*
- 10:30 **COFFEE BREAK**
- 11:00 - "Sparse Bayesian gene mapping", *Fabian Hoti*
- 12:30 **LUNCH**
- 14:00 - "*Burkholderia cenocepacia* Pathoproteomics based on Difference Gel Electrophoresis (DIGE) technology", *Andreia Madeira*
- 14:45 - "Yeast Pharmacogenomics", *Sandra dos Santos*
- 15:30 **COFFEE BREAK**
- 16:00 - INTERVIEWS FOR 2<sup>ND</sup> YEAR PLACEMENT

**20:00 DINNER AT THE FORCADO FADO HOUSE**

**Schedule for Week 1 and II**

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		Portuguese Class (Main Bldg Entrance)	Portuguese Class (Main Bldg Entrance)	Portuguese Class (Main Bldg Entrance)	Tour  (Óbidos - Sintra - Cascais)
	Guided IST Tour 10h Welcome Remarks 11h30 Sala de Reuniões, Main Bldg	Bioinformatics Lab for genome-wide data analysis (BSRG) 10h Rm QLT1	Entrepreneurship 10h Rm QA1.3	Bioengineering (BERG) seminars & lab tour 10h Rm QA1.3	
	Reception/ Lunch 12h30-14h	Lunch break 12h30-14h			
	Functional Genomics Seminars & Lab tour (BSRG) 14h00 Rm QA1.1	Walking tour (Lisbon in the last 2000 years)  14h-18h	Patenting IP protection 14h Rm QA1.3	Biophysics (COFM) seminars & lab tour 14h Rm QA1.3	
	Poster Session (KDBIO) 17h00 Rm QA1.1		Case-studies 15h Rm QA1.3	Computational Biology lab (INESC-ID) 16h	
			Successful Spin offs 17h30 Rm QA1.3	Nanotechnology (INESC-MN) seminars & lab tour 17h	
			Dinner party at ADEGA DO KAS RESTAURANT 20h-23h		

Monday	Tuesday	Wednesday	Thursday	Friday
<i>Alfonso Valencia</i> CNO, Madrid  9h Rm QA1.3	<i>Erik Aurell</i> <i>Nicolas Innocenti</i> KTH, Stockholm  9h Rm QA1.3	<i>KDBIO</i> INESC-ID, IST, Lisboa  9h Rm QA1.3	<i>Fabian Hoti</i> TKK, Helsinki  9h Rm QA1.3	
Lunch break 12h30-14h				
<i>Kiran Patil</i> EMBL, Heidelberg  14h Rm QA1.3	Walking Tour :  (Lisbon and the Portuguese discoveries)  14h-18h	<i>Torbjörn Gräslund</i> KTH, Stockholm  14h Rm QA1.3	<i>BSRG</i> IST, Lisboa  14h Rm QA1.3	
<i>Preliminary Analysis of 2011 Applications</i>		<i>BSRG</i> IBB, IST, Lisboa  14h Rm QA1.3	Interviews for 2nd year placement	
			Farewell dinner 20h-23h FADO Restaurant O FORCADO	