

PROJECT ERASMUS +
FIT FOR WORK IN EUROPE
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Erasmus+

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Meeting with : IOC

The open institute of Catalunya is a distance public learning school which compose by 29 000 students from all over horizons. They bring courses via internet and in english for a lot. This institute exists since 10 years and had social necessities. Prices are different between school but it's the only one in Catalonia. School is free to the Baccalauréat and private schools are majoritar in Catalonia. This education is a complementary primary school.

It's an official center of Catalonia ad it's not free (~100-150€ per semester) but, there is study aid, scholarships, social... There is cursus of more than 1 year, bac, professional trainings, ...

Students :

The administration regroup all datas of students and they know the localisation (borrowed route), they have identity documents. Students have a registration number. They can choose their work rate.

Course :

The students have an access to a virtual classroom. The structure is the same for all specialities.

Example : Marketing policy

- Notes of teachers & alerts
- Student had a contact with his teacher, fast connection (immediate)
- + 18 years old
- Full work plan for the semester
- Web equipment : Some professors working on books, others not
- Students see their teachers only during exams
- Virtual learning because school subjects do not require physical presence
- ~ 400 hours of professional trainings
- No link with parents if the person is major
- The students are principally high-level athletes, from prison of sick people

COMMUNICATION : What are they doing?

- The communication with the customer is carried out through of :
- 30h of classes
- Theory completed by activities
- Exercises + self evaluation
- Catalan language (Except for language courses)

International trade

It's composed of quiz, activities, complex exercises : they have to pass on average 2-3 weeks on a lesson. The correction of the exercises is the same for everyone and they use Libreoffice.

The director tell us "We study all our life", he define distance learning as something allowing conciliate life and studies. There is 20% of unemployment because of failure of academic pursuit.

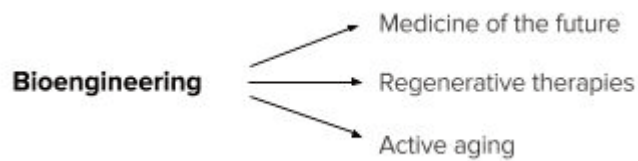
This school doesn't imposes an age limit for initial and professional training (except presential classes), but in professional training there is few failure because they know why they're here. They are motivated. The presential training is in 2 years but virtual training is in 3 years.

Meeting with : IBEC

The first day, we visited the “Parc científic de Barcelona IBEC”. We attended a school conference.

To exercise the researcher job, you need to pass a biophysical doctorate. The scientific park is multidisciplinary (bio engineering). It's research organization dedicated..

- Technology, sciences...
- The engineering mean to solve medicine and biolog problems,
- Bioengineering treats nanomedicine,



The projects at IBEC are :

- Nanorobots
- Electronic nose
- Dermoglass
- Nano malaria

There is 2905 kidney transplantations in 2015, 1162 livers, 299 hearts, 294 lungs, 97 pancreas and 12 intestines. They analyze organ failure, human donor transplant, clones of organs, ear transplant on a mouse, on an arm (hearing displaced on the human body).



Meeting with : Carol Mari

Carol Mari is the head of human resources. She have to make pay slips, managing problems with employees, much paperwork/ orders / informations about employees. She manages the administration and ensures employee values.



She is in charge of recruitment :

- She decides who is a good employee,
- She asks the boss to know what are free jobs,
- She manages informations,
- She makes selections,
- She makes choices,
- She submits candidates to online tests, skills, interviews,
- Stranger candidates get invitations.

When she agree, she establish a contract and negotiates with the future employee. When this person start the job, It is necessary to receive pro training (security, labo..).

Carol help strangers to acquire a CB, insurance, find someone to learn english language, security card (health), explain the functioning of this job.

The candidate must obtain a VISA 4 months before coming. It is mandatory to have a job. But sometimes it's complicated for non european persons.

She manages the family travel (fly, house, school, taxes), this is a service of the HR. She finds doctors who speak english , health specialists, technicians, etc... → BEFORE LEAVING.

A junior has an average salary of 16 500€ (gross per year → PHD).

There is 22 - 25 to PHD (doctorate), 43+39 jobs occupied by people who have a PHD (♀♂). Also, teams include 20 group leaders.

Carol makes payroll, labour contacts, database, statistics, report, internship...

Employees can organize their time on a day & are not constraints. It's flexible.

The head of HR needs to be on time and to have a good organisation : It's important.

Researchers are free and need creativity.

Enterprises reach out to students before their graduate to have the best employees. They organise events for students and young talents. On average 13 persons per year / 40 graduate : September, february.

Training is important : english, scientific writing, private lessons like a continuous training. They have to be motivated.

Sometimes, they need to send scientists abroad. They do not stay in the same place all their career because it's rewarding to move, learn other practices, to collaborate with the world entire. They can stay 4 years maximum. Scientists are not always send towards the same partnair. It's an exchange of 2 persons of 2 different countries who exercise the same job.

Memoranda of understanding

IBEC pursues opportunities to collaborate on a long-term basis with other world-class national or international research institutes, organisation or other bodies with a collaborative agreement or Memorandum of Understanding (MoU). These formalise the participation of IBEC and the partner institute in cooperative scientific projects, promote the exchange of researchers, aid dissemination of information, the sharing of resources and the organization of joint events and activities.

By 2015, IBEC had MoUs in place with the following organisations:

International

- National Institute for Materials Science (NIMS), Tsukuba, Japan
- Institute of Tissue Regeneration Engineering (ITREN), Dankook University, Korea
- University of Warwick's Centre for Cognitive and Neural Systems, UK
- Interstaatliche Hochschule für Technik Buchs (NTB), Switzerland
- Università degli Studi di Brescia, Italy
- The European Synchrotron Radiation Facility (ESFR), France
- Max Planck Institute for Intelligent Systems (MPI-IS), Germany

Local and national

- Fundació Clinic/Hospital Clinic, Barcelona
- Bellvitge institute for Biomedical Research (IDIBELL), Barcelona
- Vall d'Hebron Research Institute (VHIR), Barcelona
- Fundació Joan Costa Ronsa (JCRF), Terrassa
- Centre de Medicina Regenerativa de Barcelona (CMRB), Barcelona
- Institut De Recerca i Tecnologia Agroalimentaries (IRTA), Barcelona
- The Barcelona Global Health Institute (ISGLOBAL), the Center for Research in Environmental Epidemiology (CREAL) and the Institut de Diagnòstic Ambiental i Estudios del Agua (IDAEA-CSIC) to study DDT concentration detection in treated surfaces to tackle malaria
- CIBER (page 147); under a special agreement, IBEC's Nanotechnology Platform (see page 138) is considered an integrated service platform within the CIBERBBN programme, thus facilitating access to all researchers within the network
- The Open University of Catalonia (UOC)
- Escuela Superior de Ingenieros de Caminos, Canales y Puertos de la Universidad de Madrid
- Barcelona Macaula Foundation
- University of Barcelona (UB), Barcelona through its Cell Therapy Programme (TCUB) and also the Doctoral Programmes
- Polytechnic University of Catalonia (UPC), Barcelona
- Banc de Sang i Teixits (BST), Barcelona
- Federación de Asociación de Retinosis Pigmentaria (FARPE)

In contrary, enterprises/ industry looking for keep their employees, research centers looking to get them move/ travel. They must know how to work in team.

COMMUNICATION : What is she doing?

Carol Mari must work in a team. She have to make commitments, to be productive, to know how to communicate, to know how to take initiatives and important provisions. She's autonomous, flexible, integrate and she must adapt.

Meeting with : David Badiaa

David Badia is the managing director. He acts on the business and social and administration. He have to be free all the time and communicate is fundamental.



COMMUNICATION : What is he doing?

David define the communication as a tool to explain the researches (cancer, leukemia,...) and can make public the researches.

He manages money, like competitive funding, public money...

The european money is for the best selection.

The researches are coupled with the 4 corners of the world and 25% of all the projects represent 2 500 000 €. Ad Private companies = money to render services, and Organ donors

Their project is to print an organ in 3D (they receive money to make it real). They receive 2 000 000€ per year by the European Union.

COMMUNICATION AREA : What are they doing?

The communication area is composed of journalists who publish the researches in the newspapers. They have to contact constantly all the world, interview scientist researchers. Also, they have to catch the media's attention, create videos or photos to inform people. Their role is also to organise meeting with students and explain effectively a lot of things to their public.

There is few tests on animals (mouse only)

We've meet the business administrator who's named **Pillar***, she organise congress, she acts on the logistics of events.

She have to talk many languages because it opens doors and facilitates valuation and mobility. It's important to communicate with stranger people.

After, they have Diana , she the graphic designer : she takes photos, she manages design, web pages, facebook, twitter, LinkedIn, blog... All social medias are near of young people and it's accessible all over the world.

**Pillar has a PHD, it's a doctorate, but she doesn't have a scientist's pursuits. She's creative and she like technologies, cinema. She has to put across approaches easily to a public. Pillar must incite to donates and carry out blogs and school visits. She defines by what media they have to publish their projects.*

Communication is essential to marketing.

They have to explain meetings and reports them, after they have to publish on the blog all the week. The communication area recruit all around the world and attract talents. But, jobs of IBEC need a long schooling, PHD finish, they have to pass 2-3 years abroad with a constant training. They have to develop their own team (to be the boss). A junior is between 30 and 35 years old. And they can Perform administrative tasks.

There is a career development, you can gravel steps as and when while being able to. Also, you can communicate with brands.

D to D

There is 7 units (who depend directly by DB)

MANAGEMENT, what are they doing?

They work on project office (3 persons), technological office (7 persons), finance office (Supports), Human Resources office, communication office, IT : computing office, Co facility...

David have to coordinate the 7 departments, meet these persons and follow their projects with : their specifications, advertisements,regulation, helps.

1 & 2) Project/ Technological office :

They help researchers to do applications, write their project reports

3) Finance office :

They control money day by day, help researchers to find collaborations, codevelopment with private companies.

4) Human Resources office :

Get to the presentation of Carolina Mari..

5) Communication office :

Get to the presentation of Pilar & Diana..

finance goals, accounting, purchase of machines possible or not...

6) IT :

They do everything, they can't do anything without internet in office. It's essential.

7) CO- facility :

It's people in charge of equipment (technicians, repairs..).

They have competitors and collaborators worldwide but they want to be the first to find something, to be the first to discover anything. Scientific progress is still out of date because of publication of discoveries. So it's always a competition. There is no profit and benefit so no money problems.

The only profit or benefit (gain) is a reinvestment each time (human sector).

A futur sector is an occupation requested : biocomputing. They combine teams to be polyvalent and multi disciplined. The difficulties are to manage a team because you can have conflicts. There is much maneer to work and you have to adapt.

The work had to be shared if there is an absent to not lose the thread. They need to be free and involved. Also, the team is confront to major problems and they have to treat it.

The persons related to management have to develop an intranet with data bases. They do not work abroad because they have to be present (email for social, interpersonal not professional). The team is a lot of social and like a big family. All departments do activities : 1 day by month, the campus is close because they have a meeting of basketball, swimming-pool, volleyball, bowling, meeting interlanguages/ nationalities...

Meeting with : Esteve

We met Jose Miguel Vela who explain us how this companie work. The functionment is nearly the same that others but, he show us secret informations and datas of Esteve. Mr Jose Miguel Vela is a very friendly person, he put us at ease and he told us some interesting things. We went to the offices where we visited laboratories with him.



Meeting with : Anna Serra

The morning, we've met Anna Serra who's the communication and marketing director of the IBEC.

She made us a big visit of the scientific park.

She told us that they use an intranet to book laboratories or equipment.

Laboratories are submitted to a price according to use. That is why they have to take strategic decisions to save space of labo.

The park is constituted of 3 blocks : offices, laboratories...

The park depend of the university of Barcelona (they give some services to the enterprises. All the laboratories are full, and they cannot grow because it's important to be physically together and to be grouped. They're export managers.

She introduced us to IRB (Public Research Center) and Enantia (a private enterprise).

At the park, there is only research and no production because the scientific park subcontracted.

Enterprises do not care with maintenance. Rooms are in construction but it need funding (money).

The auditorium has never been completed because it was too expensive.

COMMUNICATION : What is she doing?

Anna Serra acts on communication with :

- The organization of group activities (like football, basket...),
- Maintain visual information like enterprises logos... ,
- Once a month, she organises cocktail at the cafeteria,
- Forum dedicated to young talents, and other people...



Meeting with : Intelligent Pharma



INTELLIGENT PHARMA



After, we've met David Bermúdez, computer engineer at Intelligent pharma.

Intelligent pharma is a private pharmaceutical enterprise who does drug research.

Drug development lasts between 10 and 15 years because, the ideas lasts 3 to 6 years, the conception lasts between 6 and 7 years (and cost 1\$ billion), the test lasts 0,5 to 2 years.

Preclinical stage :

Drug discovery (in silico).

Tests in vitro / vitro - vivo

Clinical stages :

10 - 20 people (first step)

100 - 200 people (second step)

FDA regulation (Food and Drug Administration : american administration of foodstuffs and medications). Up for sale, monitoring of stored data

During drug discovering (in silico), they identify targets : identification of problem. They hit ID : finding the right molecule (between 10 000 and 15 000).

Drugs are expensive because of development and need a lot of people, equipment and a lot of time. Medicine is a business.

Intelligent Pharma is a service company and there is 3 careers:

- Molecular modeling service
- Scientific software development service
- Alliances and partnerships service

The shops are in Europe, USA, South Africa, Asia and offices are in Spain, Canada, UK,

They have specific technologies :

- PEGASUS (2D ligand based)
- MEDEA (QSAR & data miningtool)
- HERCULES (3D)
- CHIRON (computer-aided optimization)
- SELENE (receptor based)
- PYTHIA (Discovery of pharmacological profile)
- HYPORION (allosteric site detection)
- Etc...

Example : Design, web architecture , management, data bases, etc... *YouTube : Helios Intelligent Pharma*

MARKETING : What are they doing ?

Segments : Pharmaceutical enterprises, Biotech companies, Starts Ups, VPC, Academic institutions

Web Site : **INTELLIGENTPHARMA.COM**

They need physical presence because they have to work in team. But also they have virtual offices, collaborators and agents (CANADA).

They have different culture, for example : Europe versus Asia. So they have a communication : in english, time difference, face to face.. And also, they have to take into account political changes.

They come from all over the world and they use global marketing. They invest in travel and events (about 20 and 30 per year) :

- Scientifics and business,
- Networking,
- Marketing missions,
- Balance EU-USA & ROW,
- Key events,

They have events in partnership (100 - 4000 events)

They use marketing strategy, they have website and newsletter and social medias.

They use agile methodologies (Scrum) and all 2 week, there is a new planning.



The image shows a screenshot of the Intelligent Pharma website. The header features the company logo on the left and navigation links for 'Services & Products', 'News & Events', 'About us', 'Blog', and 'Contact' on the right. The main content area is titled 'Molecular Modeling Services' and includes a detailed 3D molecular model of a protein-ligand complex. Below this, there are two columns of news items: 'Events' with the headline 'Drug discovery reinvented' and 'Highlighted' with the headline 'Intelligent Pharma receives Marie Curie Training Award'.

The last day, we've visited the natural history museum within the framework of a preparation of a course. It was so interested and we learned a lot of our world.



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...

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Esteve

Le lycée Savary de Mauléon