



## Le laboratoire européen de biologie moléculaire

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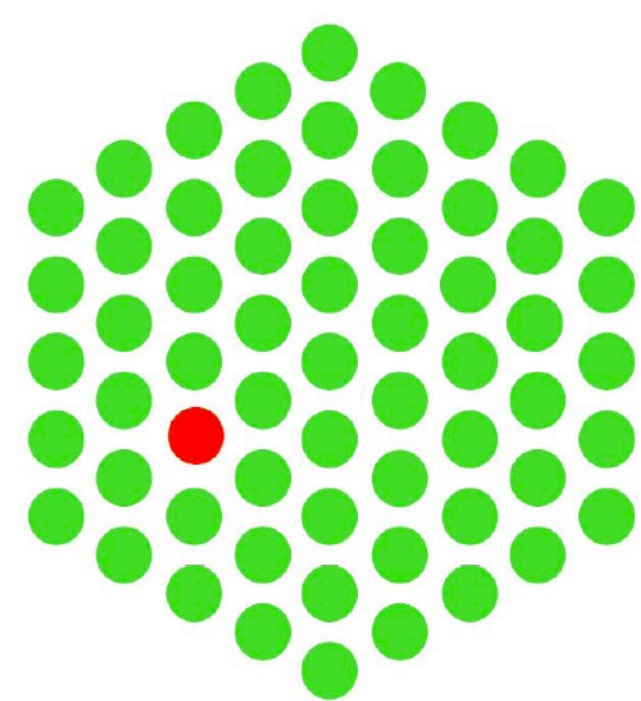
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## European Molecular Biology Laboratory

## Laboratoire Européen de Biologie Moléculaire

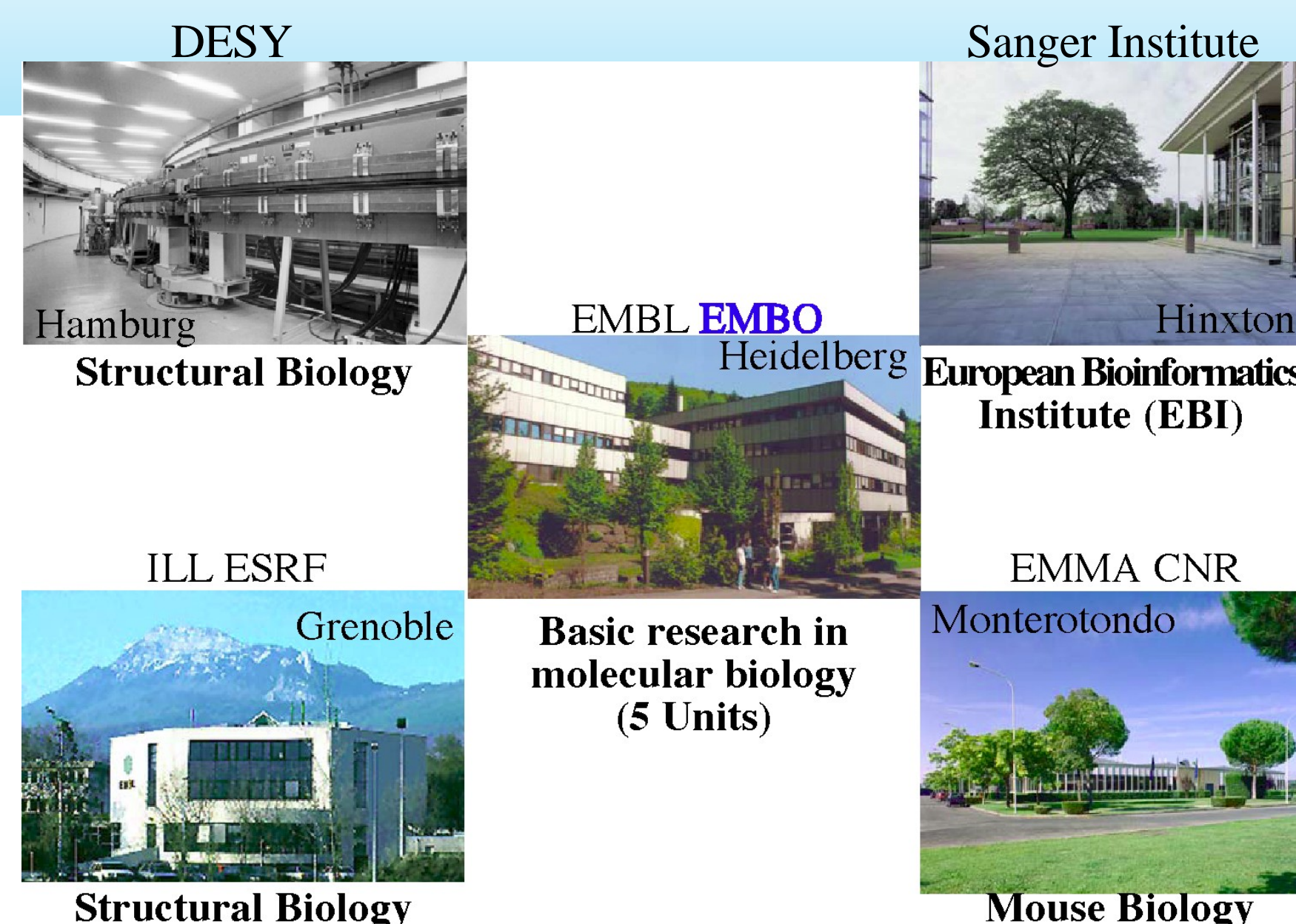
## Europäisches Laboratorium für Molekularbiologie

### THE RATIONALE

*"Such a Laboratory... would enable Europe to regain initiative in a field to which its contributions in the past have been so great, and which holds immense promise for the future of increases in human knowledge, or greater understanding of health and disease, and economic benefit."*

### AS VALID NOW AS IN THE 1960s

### The Five Branches of EMBL



### EMBL Units

- Gene Expression (Heidelberg, DE)
- Cell Biology and Biophysics (Heidelberg)
- Development Biology (Heidelberg)
- Functional Genomics Technologies (Heidelberg)
- Structural and Computational Biology (Heidelberg)
- Structural Biology (Hamburg, DE)
- Structural Biology (Grenoble, FR)
- European Bioinformatics Institute (Hinxton, UK)
- Mouse Biology (Monterotondo, IT)

For more information: [www.embl.org](http://www.embl.org)

### The Five Cornerstones of EMBL's Mission



### Training at all Levels

**Staff:** Time-limited contracts and turnover.  
Ambitious projects in an interdisciplinary, international environment;  
turnover after 9 years (approx. 80% move to member states).

**Students:** International PhD Programme.  
Degree-granting authority with strong links to national universities  
(currently 180 students from 50 countries).

**Visitors:** Collaboration and training.  
• World-famous EMBO/EMBL courses, conferences and workshops  
• Exceptionally strong visitors programme  
Over 12% of the people at EMBL are working visitors; more than 3000 visitors per year.

**Non-specialist community:** Outreach activities.

**ELLS:** Science training for high school teachers.

### Services for EMBL's Researchers and Visitors EMBL Scientific Core Facilities

- **Aim:** to cover the needs of scientists engaged in a wide spectrum of molecular biology research
- **Tight links to industries** (results feed directly back into improvements in instruments and methodologies)
- **Research goes hand in hand with the training of students, in-house staff and visitors**

- Advanced Light Microscopy
- Chemical Biology
- Electron Microscopy
- Flow Cytometry

- Monoclonal antibody
- Protein expression and purification
- Proteomic
- Genomics

### Recruitment and Admission

- **Deadline for application:** December or January
- **Outstanding applicant pool** ( $\approx 500$  / year)
- **Evaluation of applications:**  
short list for interviews ( $\approx 1:5$ )
- **Interview:** a week in March  
Offers at the end ( $\approx 1:10$ )
- **Starting date:** April-October

### Applications go through:

- Evaluation by EMBL scientists familiar with the countries' national education system
- Evaluation by 2 designated EMBL units
- 5-day selection by EMBL Faculty
- Each short-listed candidate interviewed by all Group Leaders of 2 EMBL units
- Candidate must pass the Final Admissions Assessment, a panel interview with representatives of all EMBL units.

### For France

1. Holding or expecting a DEA
2. Fellowships: internal or external

### Philosophy and Results

- High success rate for distinguished positions
- Interdisciplinarity and collaboration
- Fostering independence of students
- Students are ambassadors of both EMBL and their countries
- Creating an international network

### EMBL International PhD Programme

- Created in 1983
- Matthias Hentze, Dean; Anne Ephrussi, Associate Dean
- Since 1997 has the right to award its own PhD degree
- Joint PhD degree with 28 Universities in 18 Countries
- EMBL fellowships only for students from Member States
- 2 fellowships from Louis Jeantet Foundation for students from Eastern Europe
- 60% EMBL fellowships; 40% external fellowships
- Currently: 170 Students from 30 countries

<http://www.embl.org/training/phdprogramme/index.html>

### 28 Partner Universities

Katholieke Universiteit Leuven BE  
Univ. of Copenhagen DK  
Technical Univ. of Denmark DK  
Univ. of Helsinki FI  
Abo Akademi University FI  
Univ. Louis Pasteur de Strasbourg FR  
Univ. Joseph Fourier de Grenoble FR  
Univ. Pierre et Marie Curie Paris 6 FR  
Univ. Denis Diderot de Paris 7 FR  
Univ. Ruprecht-Karls of Heidelberg DE  
Univ. Ludwig-Maximilians Munich DE  
Univ. of Crete GR  
E tv s Lorand University HU  
Univ. of Iceland IS

Univ. College Cork IE  
Univ. di Milano IT  
Radboud Universiteit Nijmegen NL  
Univ. of Bergen NO  
Univ. of Oslo NO  
Univ. de Lisboa PT  
Univ. Nova de Lisboa PT  
Lomonosov Moscow State Univ. RU  
Univ. Aut noma de Madrid ES  
Univ. of Stockholm SE  
Karolinska Institutet SE  
Univ. of Geneva CH  
Univ. of Dundee UK

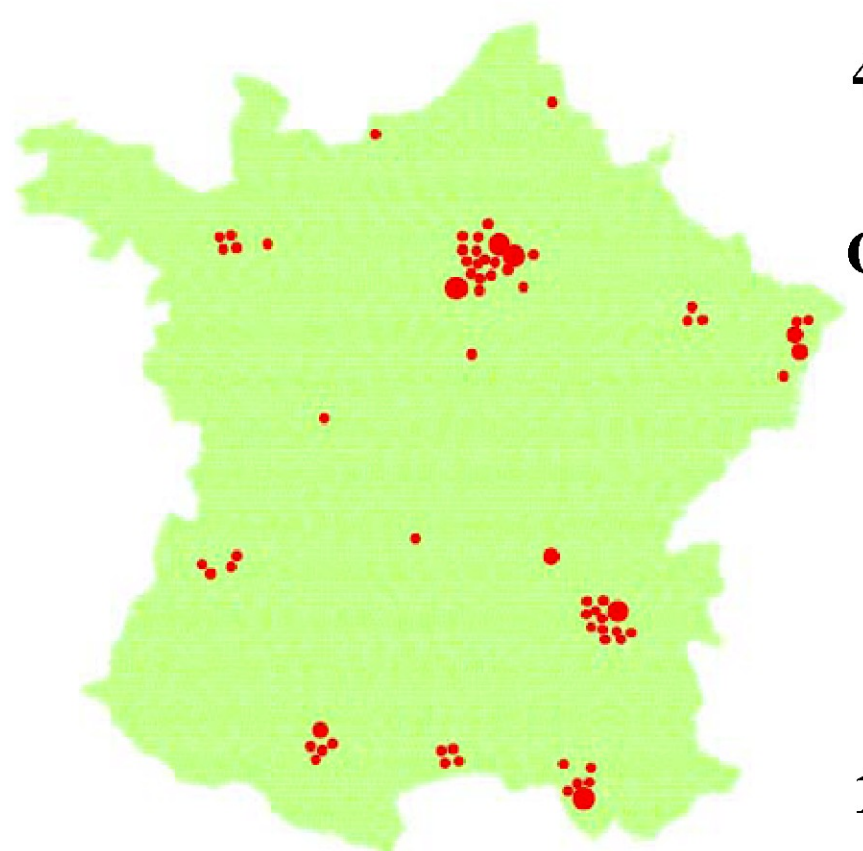
### Tutoring, Guidance and Thesis Defense

- Students attend a 2-month Core Course at the start of their PhD
- They are guided by a Thesis Advisory Committee:  
- 3 EMBL Group Leaders and 1 University Professor
- They meet annually with Thesis Advisory Committee to discuss annual progress and proposed future work
- They are enrolled for up to 4 years to complete their PhD
- They can defend and obtain their PhD degree:  
- from EMBL  
- jointly from EMBL and one of its partner universities  
- from national universities

Since PhD Programme began, several hundred students have defended their PhD thesis at nearly 100 different universities

### Core Course

- Structural and Computational Biology
- Cell Biology and Biophysics
- Gene Expression
- Functional Genomics and Proteomics
- Developmental Biology
- Visit to the Outstations
- Special training in Bioinformatics (EBI Hinxton)
- Safety in the laboratory
- Scientific Communication
- Good Scientific Practice
- Science and Society/Bioethics
- Intellectual Property and Technology Transfer
- EMBO/EMBL Meeting on Science and Society



181 EMBL alumni work in France  
(129 French, 52 non-French) 43 French alumni work elsewhere

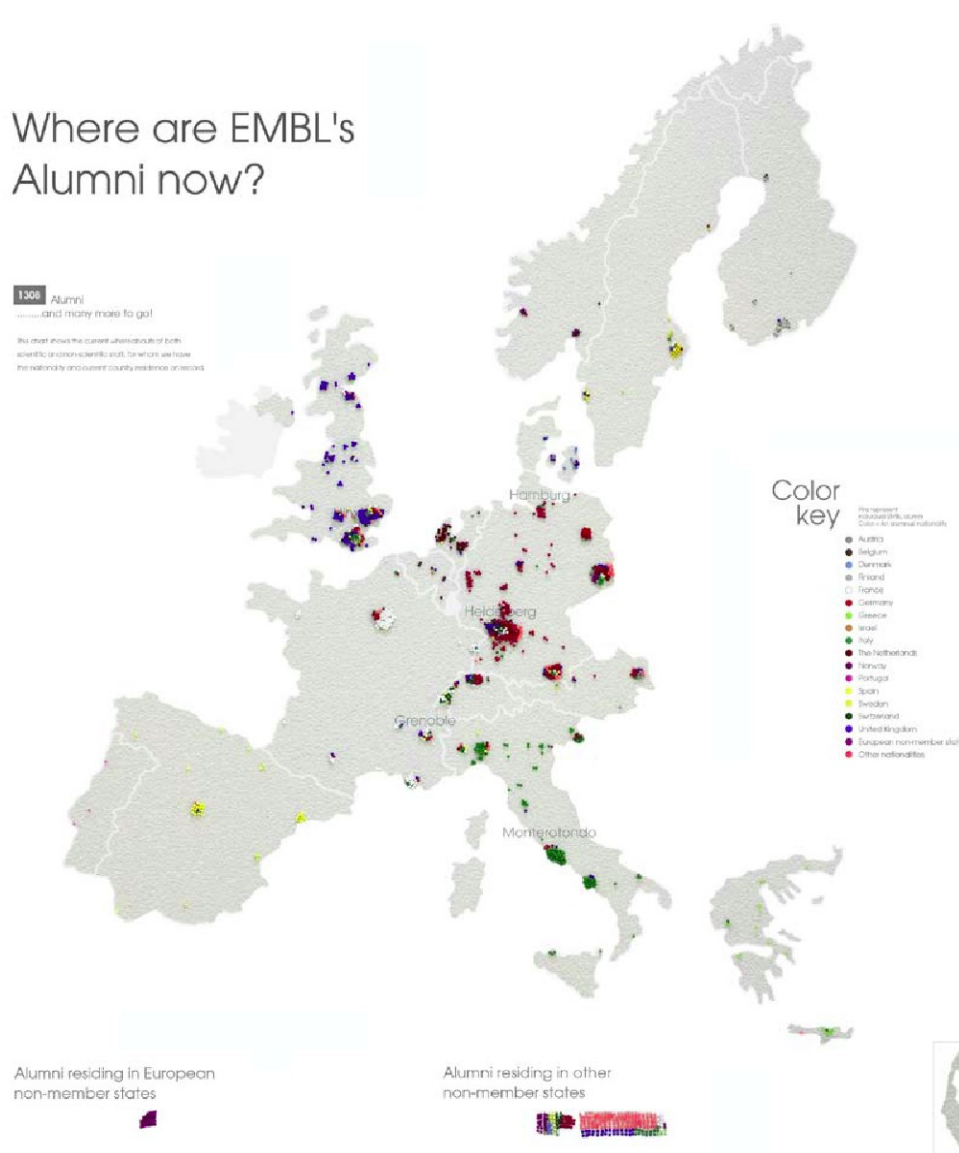
401 EMBL alumni work in Germany  
(252 German, 149 non-German) 131 German alumni work elsewhere

246 EMBL alumni work in UK  
(133 British, 113 non-British) 79 British alumni work elsewhere

174 EMBL alumni work in Italy  
(149 Italian, 25 non-Italian) 55 Italian alumni work elsewhere  
(all numbers in 2004)



[www.embo.org](http://www.embo.org)



Scientific leaders are the most precious EMBL product

Of 2,500 alumni traced in 44 countries, more than 85% are working in Europe

### EMBO activities

- Scientific reviews (e.g. Genopoles)
- Journals
- Science & Society programme
- Science policy (e.g. ERC debate)
- Scientific career issues (e.g. women in the Life Sciences)
- International programme
- Fellowships + Fellows network
- Courses & workshops
- Young Investigator programme
- Science & Society
- Electronic information Programme

**E-BioSci**

### European Molecular Biology Organisation

- Established in 1964 with the aim of promoting and developing molecular biology throughout Europe
- A strong trans-national approach
- A focus on training
- An emphasis on scientific criteria of excellence
- Composed of a membership of >1200 elected scientists
- Funded mostly by contributions from 24 Member States which form the European Molecular Biology Conference **EMBC**
- Some activities are initiated and funded by EMBO independently
- Others form part of the EMBC General Programme