

PhD school in Molecular and Cellular Biology

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What is a PhD degree

- **Doctor of Philosophy**
- **Highest University degree
(Bachelor – Master – Ph.D.)**
- **All academic fields**



History

- In Medieval Europe the doctor title was (arts, theology, medicine and law) like a master degree.
- The doctorates were not like the Ph.D. degree as we know it now: no original research but a learning based degree.
- Probably the first Ph.D. degree was awarded in Paris around 1150



History

- In Germany in 1650 the Ph.D degree started replacing the Master degree as highest academic degree
- **Early 19th century at University of Berlin for obtaining the Ph.D. degree original research contributions were needed.**
- This system attracted many students from abroad (incl. USA) and in 1861 Yale University adopted the Ph.D. degree for original research in science and humanities



History

- In England in 1917 the Ph.D. was introduced in line with Germany and the USA
- Italy: Ph.D. degree (dottorato) introduced in 1980.



How to obtain a Ph.D. Degree?

- Many countries different systems
- All based on original scientific research contributions
- Increase our knowledge
- Dissertation/thesis
- Defence for a academic commission (experts in the field)
- Scientific publication(s)



Italian system

- PhD schools: science and humanities
- PhD school management is composed of a Coordinator and a Board (Collegio)
- Board: selection, approval procedures, teaching
- Specific criteria to become part of board
- Ph.D. schools are evaluated by the Ministry for University and Research (MUR) for their performance: quality control!!



Italian system

- Board organises yearly teaching program
- The PhD school giunta is composed of a small group of board members
- Representatives of the students are invited to join meetings



Ph.D. students selection

- Ph.D training fellowship is a 3 years research position
- Every year the University assigns positions to our school (8 this year)
- Collegio members may also propose extra positions
- Call for proposals (June/July 2020)

<https://bioscienzebio.unimi.it/dmcb>



Ph.D. students selection

Selection criteria:

- CV
- Lauree Bachelor and Master
- Erasmus
- Scientific activities: conferences, publications
- Project
- Interview (Project)



Ph.D. students selection

- Final ranking list
- Selection of projects proposed by school



Ph.D. supervision

- Supervisor
- Tutor commission
- Mentor
- (Students representatives)



Ph.D. student training

- 3 years (short!!)
- Research
- Scientific training courses proposed by school
- Soft skill courses proposed by UNIMI
- Seminars (20/year)



Ph.D. student training

- Yearly report
- Tutor commission evaluation
- 2nd year: visit foreign tutor laboratory + seminar
- Research activities abroad
- Writing scientific article



Final examination

- Writing thesis (English)
- Thesis evaluation by a commission of experts
- Final thesis defence (independent commission of experts)



Why doing a Ph.D.?

Directions

Start: My Location

End: Chiasso, Switzerland

51 min
61 km · Tangenziale Nord
Tolls required · Fastest route

55 min
55 km · Autostrada dei Laghi
Tolls required

1 hr 3 min
58 km · Strada Statale dei Giovi
Avoids tolls

Route crosses international borders.

51 min

55 min

1 hr 3 min

Ph.D.

DOTTORATO DI RICERCA
DBMC
IN BIOLOGIA MOLECOLARE E CELLULARE

Why doing a Ph.D.?

- Important academic education
- Research career.....essential!!!
- Position in higher education
- Better job opportunities, also in industry
- Improve communication and management skills

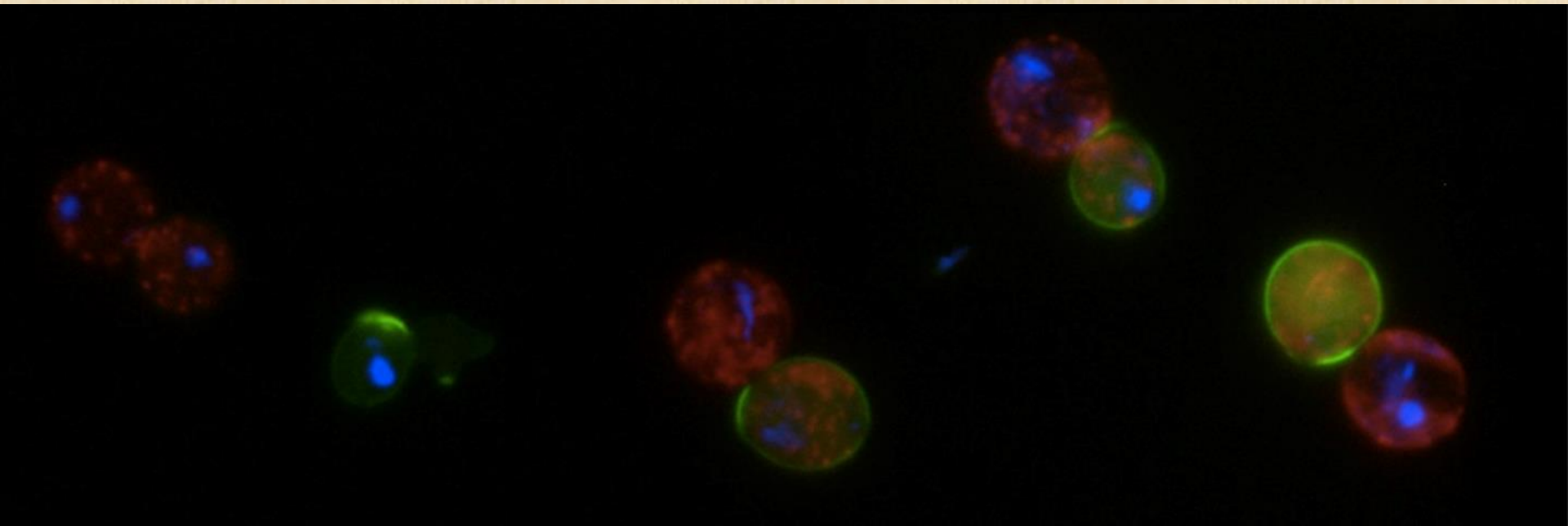


What is needed to do a Ph.D.

- Strong motivation
- Passion for research
- Willing to study and discover new things
- Willing to dedicate a lot of your time!!
- Stress resistant



Ph.D. School in Molecular and Cellular Biology



- I. the molecular and biophysical analysis of biological molecules and their structures;
- II. control of gene expression in prokaryotes and eukaryotes;
- III. functional genomics, bioinformatics and system biology;
- IV. molecular mechanisms controlling cell proliferation and degeneration, cell differentiation and development.

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