Bioinformatics

The students perspective

ISCB REGIONAL Student GROUP

Italy

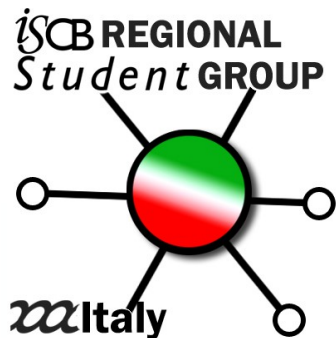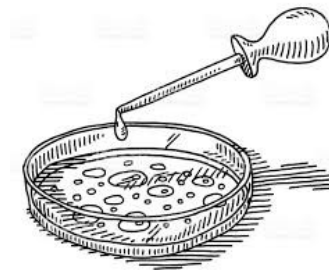**Three surveys:**

1) Studying Bioinformatics
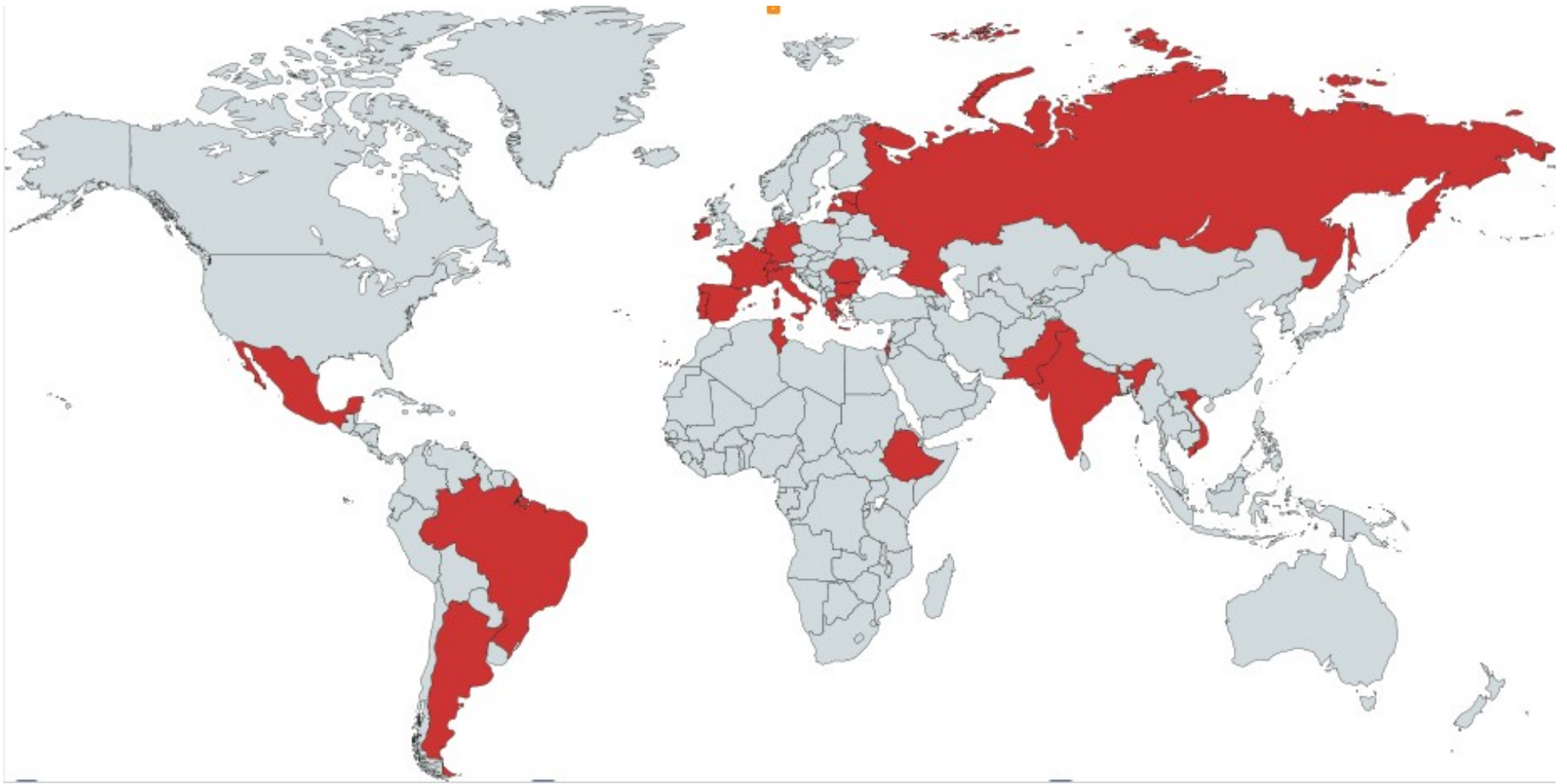
2) Bioinfromatics training

      To computer scientistis

3) What is Bioinformatics?

      To wet-lab biologists
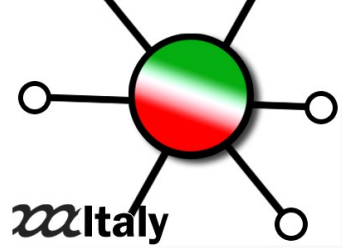
307 answers from 23 different countries

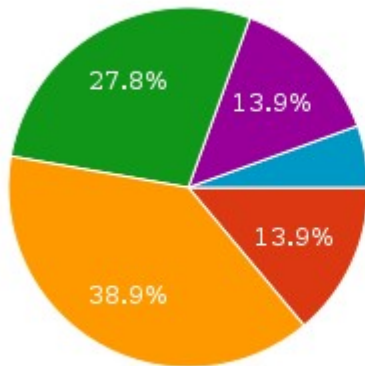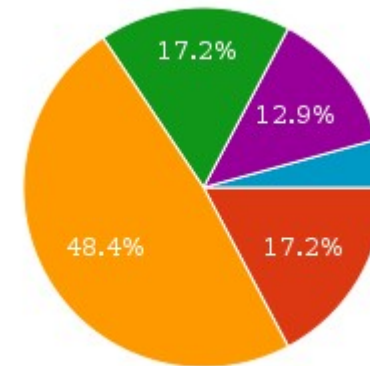ISCB REGIONAL
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Students' point of view

Participants age

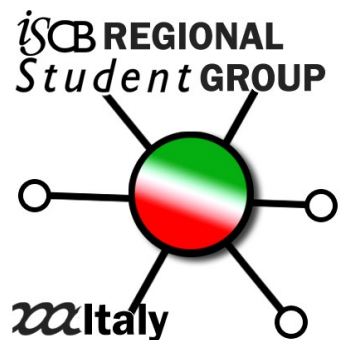## Studying Bioinformatics

Bioinformatics training

What is Bioinformatics

- less than 18
- 19-22
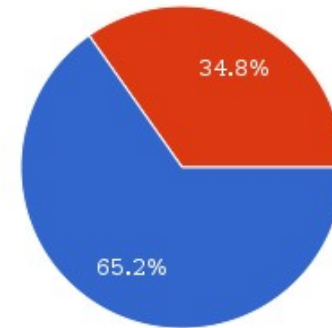- 23-26
- 27-30
- 31-35
- more than 35

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Participants gender

Studying Bioinformatics

41.7%

58.3%

Bioinformatics training

34.8%

65.2%

What is Bioinformatics

77.5%

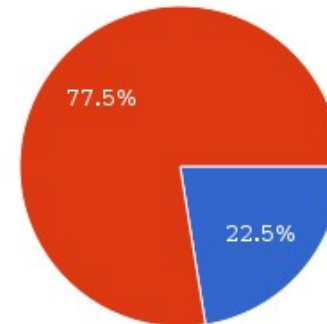22.5%

● Male
● Female
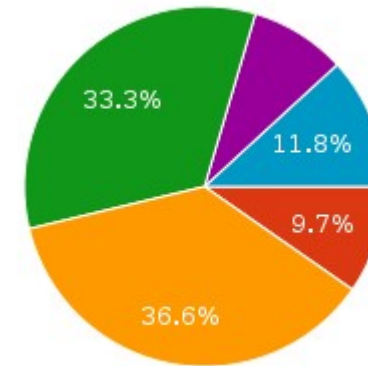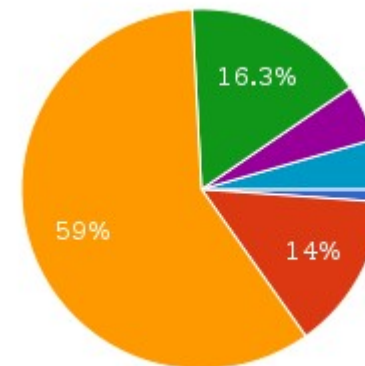
Participants occupation

Studying Bioinformatics
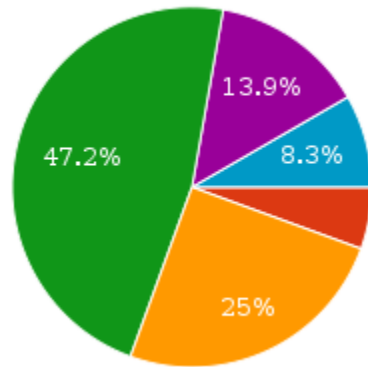
Bioinformatics training

What is Bioinformatics

- 🔵 High School Student
- 🔴 Bachelor Student
- 🟠 Graduated Student
- 🟢 Phd Student
- 🟣 Post Doc
- 🔵 Other

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Studying Bioinformatics

How a Bioinformatics course should be done, according to students.

1) Do you think that the following exams should be part of a bachelor/master degree in Bioinformatics? (1 to 5)
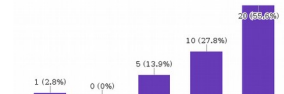
Molecular Biology	Informatics
Evolutionary Biology	Biophysics
Biotechnology	Engineering
Agricolture	Chemistry
Medicine	
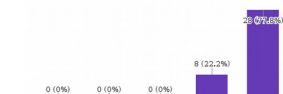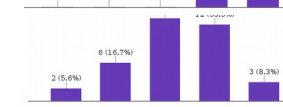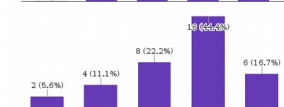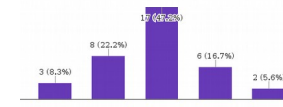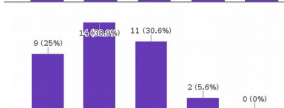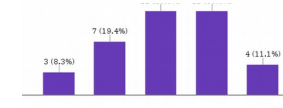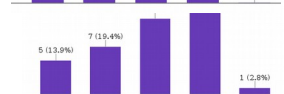
… and they suggested:

Statistics, Programming, Mathematics, System biology, Genomics, Microbiology and Parassitology.

Studying Bioinformatics

2) To become a great bioinformatician, do you recommend.. (1 to 5)

.. to enroll in a very specific course of studies

.. to do long internships

.. to go abroad for a semester
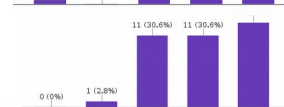
.. to do the thesis (or final project) abroad

.. to work in a society/industry

.. to apply for a PHD position
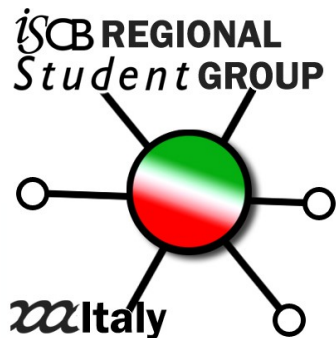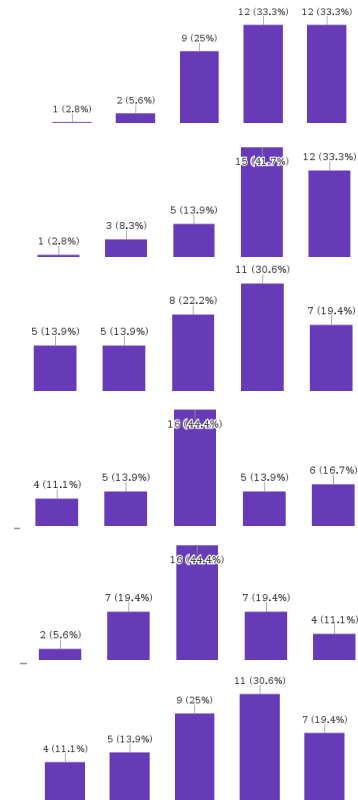
… and they suggested:
"Learn how to explain the importance of your work", "Have many and short internships", "check online resources"

Students' point of view

Studying Bioinformatics

3) My advice to a Bioinformatics candidate is...

Correct your sitting posture

Run.

Master both aspects of bioinformatics!

Know the basics of all. Study the details of many. Master some.

Start with a python/r

to go for internships with supportive young members (phd, postdocs) to get hands on the pogramming and analysis tasks. Theory is good, but applications (in bioinformatics) is more relevant.

to be open to new ideas and try other (less conventional) methods

Take computer class

Choose the topics that interests you before choosing "which bioinformatics" you want to do.
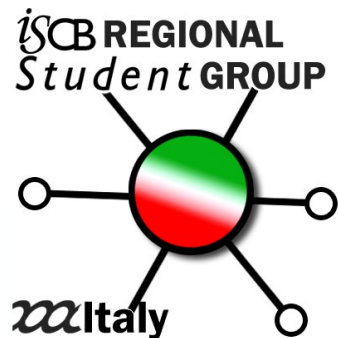
Students' point of view

Bioinformatics training

Assess the level of satisfaction of Bioinformatics students as regards their studies

68 different Universities, 5 of which italian (Bologna, Padova, Milano, Roma, Trento)

- Yes, seminars
- Yes, college lectures
- Yes, my degree is in Bioinformatics
- No
- Other

When I selected seminars I meant coursera.org

Students' point of view

Bioinformatics training

1) How much are you satisfied of your preparation in bioinformatics?
2) How do you evaluate your academic education for a career as a bioinformatician?
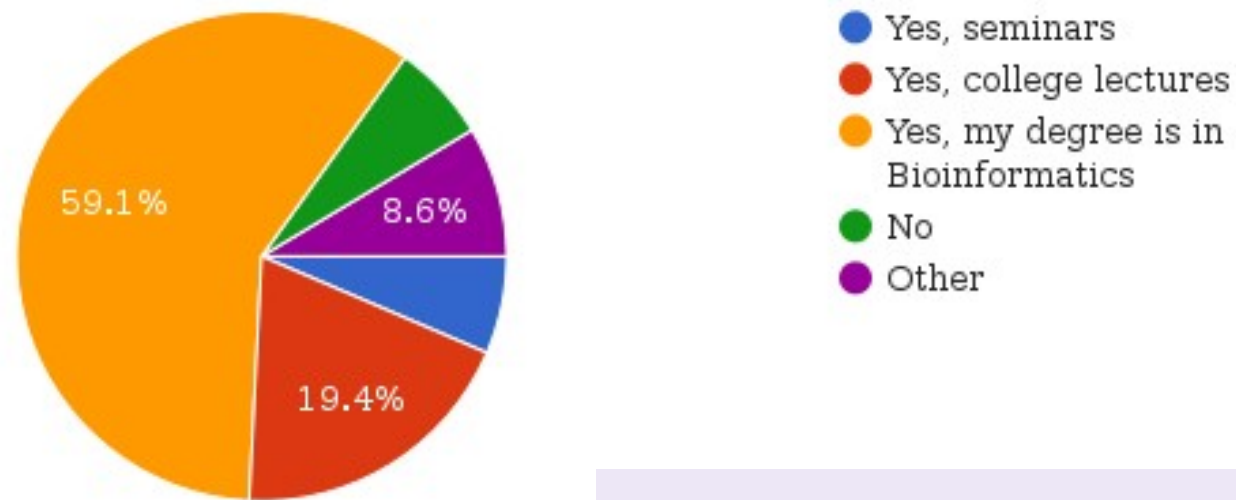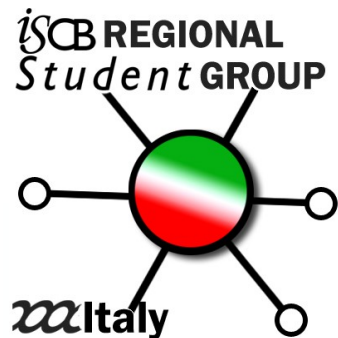3) How much do you consider your degree related to Bioinformatics topics?
4) How much do you consider appropriate the basic tools you have learned during your academic degree for a bioinformatics career?

Almost 40% score 4, 20% score 5 and few scores 1,2,3
However...

5) Do you think that training courses and post-graduate training are necessary for a career as bioinformatician?
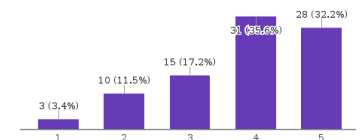
6) Do you feel as you need more specific and advanced courses during university?

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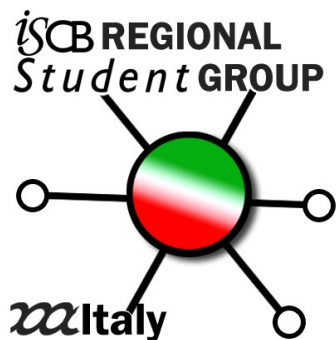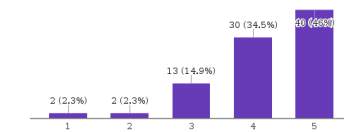# What is Bioinformatics?

Understand the awareness of Bioinformatics among wet-lab biologist and people interested in Biology.

- Yes, seminars
- Yes, college lectures
- Yes, my degree is in Bioinformatics
- No
- Other
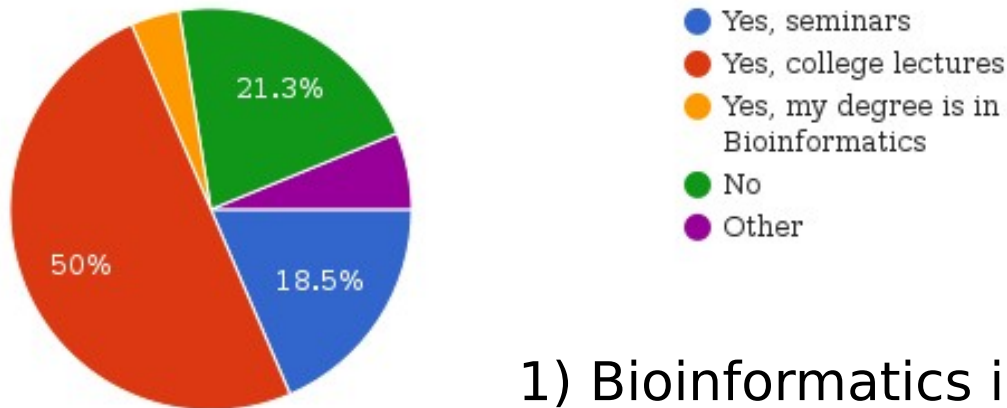
1) Bioinformatics is..

A multidisciplinary field of science
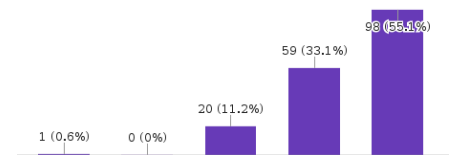
More theoretical than practical

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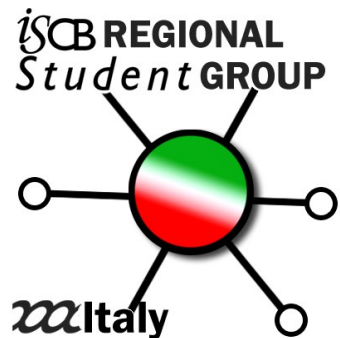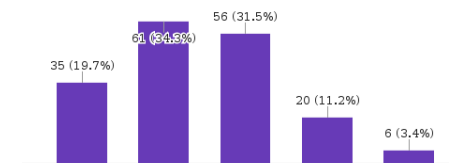
What is Bioinformatics?

2) Bioinformatics has to do with...

RNA, genes, proteins

Human diseases and medical issues

Agricolture and breeding

Machine learning
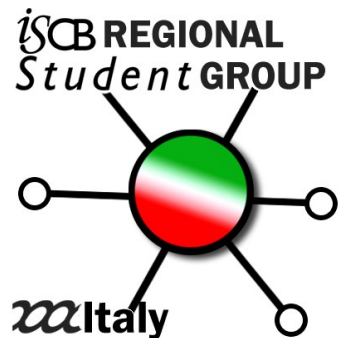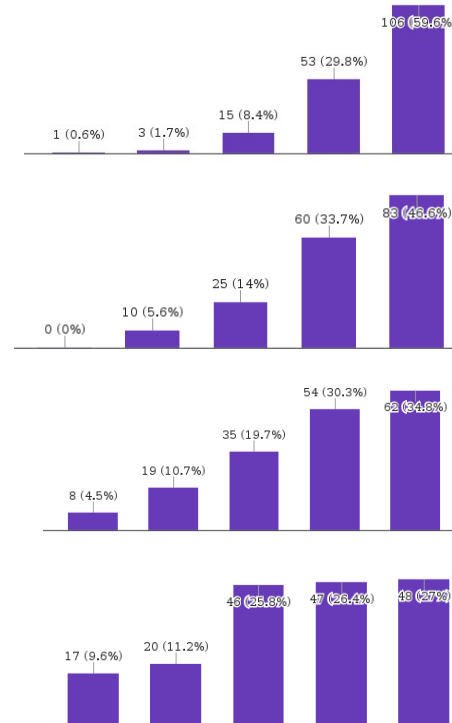
What is Bioinformatics?

3) A Bioinformatician is...

A technician that solves technical problems in the lab

A computer expert

A biomedical engineer

A biologist that knows how to use specific softwares

4) They only will become good bioinformaticians:

Informaticians

Biologist and biotechnologist

What is Bioinformatics?

Uno strumento tanto complesso quanto necessario è uno strumento scientifico che in futuro diventerà imprescindibile dalla biologia classica. Tutti i biologi dovrebbero essere an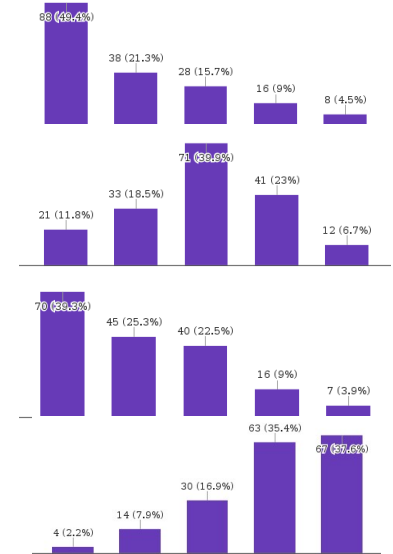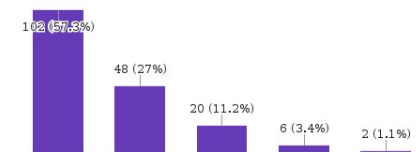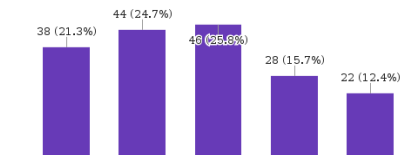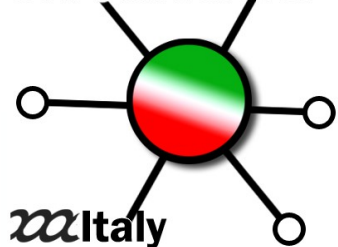che Bioinformatici, peccato che in italia non tutti i corsi di biologia abbiano moduli di bioinformatica, anzi molti 3+2 si concludono senza neanche un esame a riguardo.

At my university, Bioinformatics course was a little bit too theoretical. I would like if there is more pratical and more real problem-solving exercise.

is a quite difficult science for how has a biology background but helps in all kink of analysis and is the base for the future

I like bioinformatic, but in Italy there's not a lot of good master to prepare students to this work.

My master degree course (Molecular Biology, Italian University, graduated in 2014) did not take too much consideration in Bioinformatics, just some lectures. My opinion is to prepare more university courses for understanding better the bioinformatics field in research projects.

Bioinformatics is mandatory in a research lab, and a bioinformatician is a nodal job position. But it is also essential for all biologists and biotech to understand a little bit of bioinformatics.

Tutti gli studenti di biologia e biotecnologie dovrebbero avere bioinformatica nel piano di studi.

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Exasperating and very badly taught
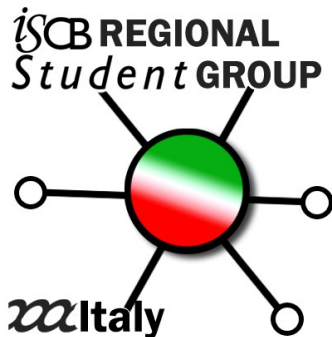
Students' point of view

its a good initiative as to bring forth different professions together on this platform.
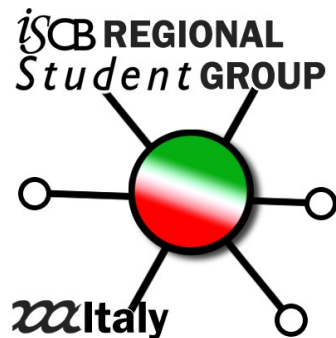
This could be greatly helpful for Student Council and RSGs planning. Thanks for the initiative!

Nice job guys ! Thats a good initiative :D

This survey is very helpful

thanks so much

Thank you