



UNIVERSITÀ DEGLI STUDI DI TORINO

ID

VP138\_DIP\_STF

## Visiting Professor Program Academic year 2022/2023

**TEACHING COMMITMENT:** 16 hours

### COURSE TITLE

**Structural understanding of genetic diseases**

### TEACHING PERIOD

2nd term

### SCIENTIFIC AREA

Biochemistry

### LANGUAGE USED TO TEACH

English

### COURSE SUMMARY

Introduction to the course and first subject:

Mendelian and no-mendelian mutation

Molecular basis for Neurodegeneration:

Friedreich's ataxia, Parkinson's disease, Huntington disease, SMA disease.

### LEARNING OBJECTIVES

This course will focus on understanding and investigating the following points:

- How mendelian and no-mendelian mutation are shared along with progeny;
- How neurodegenerations are linked to trinucleotides expansion;
- The molecular mechanisms leading to the expansion;
- The genetic alteration and molecular biochemistry of diseases associated with neurodegeneration;
- The difficulties associated with finding a cure for these type of diseases;
- Natural and synthetic bio-molecules as new drug for such diseases.

### **TUTORSHIP ACTIVITIES**

2-3 students attending the lab to prepare their experimental thesis in Biochemistry and Molecular Biology will take advantage of the visiting professor knowledge in biochemistry.

### **LAB ACTIVITIES**

N/A

### **OTHER ACTIVITIES BESIDES THE COURSE**

The visiting professor will hold seminars and conferences addressed to the students of the PhD course in Pharmaceutical and Biomolecular Sciences, as well as to research fellows of the Department of Chemistry and Pharmaceutical Technology of the Turin University.

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### **VISITING PROFESSOR PROFILE**

The visiting professor should have experience in teaching Molecular Biology and Biochemistry to undergraduate students.

He or She should especially emphasise the molecular genetics of diseases and the alteration of the molecular genetics and biochemistry of these diseases.

Due to the intermediate level of the background of the students (4rd year course), the visiting professors should combine the rigorous presentation of the topics with the ability to give the basic information, when required.

A sound experience in molecular biology, biochemistry and structural biology research will be highly appreciated. This higher scientific level will be especially exploited in the interaction with students involved in experimental lab to prepare their master thesis.

### **CONTACT PERSON AT THE DEPARTMENT**

Prof. Salvatore Adinolfi

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