

Career Sheet: Researcher in Human Genetics



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I studied medical biotechnologies at the University of Bologna. For my thesis, I worked at the research hospital G. Gaslini in Genova, where I had my first approach to the medical genetics field. I then obtained a PhD in Human Genetics from the University of Torino. I worked as a post-doc in the USA for eight years, in the lab of Nobel Laureate Mario Capecchi, at the University of Utah. During my post-doc, I specialized in mouse genetics. I moved back to Italy to join the Medical Genetics Unit at the University of Bologna.



OVERVIEW OF THE JOB

I work in an academic environment, and my job involves research and teaching. My work focuses on the study of rare genetic diseases aiming to identify the genetic cause of these conditions. To do so, we rely on different technologies spanning from next-generation sequencing to genome editing. Besides teaching University courses, I am also involved in dissemination projects targeted at high school students.



WHAT INSPIRED YOU

I always had an interest in genetic disorders and in the understanding of the mechanism causing these diseases. In particular, I have always been fascinated by diseases whose causes are unknown.



TYPICAL WORKING DAY

Usually, in the morning I discuss with colleagues and students about projects and strategies. We examine the results of experiments and we plan the following steps. I leave the afternoon for meetings, administrative affairs, and writing.



STUDY & CAREER PATH

I attended a biotechnology program with a specialization in medical applications. Then I obtained a PhD in human genetics. I choose a post-doctoral research experience in a slightly different subject. This gave me the opportunity to work with mice as models for genetic disease.

A career path in our field is usually characterized by a PhD and post-doctoral experience. Many of my colleagues followed a similar career path.



KEY SKILLS

Research is peculiar in terms of skills. In fact, in my work it is particularly important to perform experiments very diligently, trying to be as precise and analytic as possible. This involves data analysis and problem-solving skills. At the same time, one has to be creative and imaginative to imagine the next scientific question.

It is also important to be able to communicate at different levels your research, and this involves very good presentation and writing skills.



CAREER PROSPECT

My background is suitable for working in an Academic environment and in pharma companies. In companies there are different options as pharma representative, product specialist, in research and development units or as scientific advisor.



CHALLENGES

In my job, we face several types of challenges. Research funds are crucial and are the bottleneck for the expansion of research activities. On the other hand, looking for the right scientific questions is necessary to contribute to the progress of the medical research.



YOUR ADVICE TO STUDENTS

I think it is of pivotal importance to identify your passion as early as possible, and let it guide you through your path. Equally important is to find good mentors to accompany you in your journey.



YOUR ADVICE TO TEACHERS AND PARENTS

Family and school are essential in fostering the passion of young people. Teachers and parents should always encourage children in this search. Teachers, as experts in specific fields, can become mentors, and keep inspiring students even after graduation.

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LEARN MORE

This is a great and inspiring contribution by Professor Mario Capecchi of the University of Utah:

<https://www.youtube.com/watch?v=ZNsMJAsZ26c>



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