

Career Sheet: Head of Medical Laboratory



Halida Avdihožić, Head of Medical Laboratory at Institute “NALAZ”

I’m doing a PhD in Genetics and Bioengineering at International Burch University in Sarajevo. I’ve finished my undergraduate and master’s studies at the same University’s Department of Genetics and Bioengineering. Currently, I’m employed at the Institute for Biomedical Diagnostics and Research “NALAZ” in Sarajevo, Bosnia and Herzegovina. I’m working as head of a laboratory at the Institute, which involves laboratory assistantship, research, and educating the new generations of young laboratory technicians at the Department of Molecular Diagnostics. Over the course of the COVID-19 pandemic, my department has been playing a vital role in providing accurate diagnostics through RT-PCR tests, which were overseen by me directly.



OVERVIEW OF THE JOB

Institute “NALAZ” is a laboratory that is working in the field of microbiology, serology, virology, immunology, biochemistry, and molecular biology. My job as the head of a laboratory is to oversee and facilitate a broad range of medical tests that we do for patients daily and ensure that the data obtained from these tests is properly catalogued and stored. I also supervise and participate in research on interesting topics from medicine, epidemiology, genetics, etc. Finally, I’m often working with undergrad students, educating them about work in the lab. One of the obligations is to create new educational approaches for students and give them a chance to work in the lab so that they can become more familiar with practical work in their future profession.



WHAT INSPIRED YOU

I’ve always wanted to work in a profession where through my work I could contribute and help people and science. This job was an ideal match for me because I can work with patients, helping them precisely determine health issues they have so that they can receive proper medical treatment as soon as possible. I was also inspired by the opportunity to help educate young people, let them gain valuable professional experience and influence in some way their choice of profession. Finally, I always get a chance to research things that interest me the most, especially viruses and bacteria that are of interest to public health.



TYPICAL WORKING DAY

Every morning there is an analysis that is done as part of regular testing of patients (for chlamydia, human papillomavirus, thrombophilia, etc.) After the DNA testing, the installation on the RT-PCR

machine and the knocking of the findings are done, I go to do invoices for our clients. Then, I start by extracting the RNA SARS-CoV-2 virus, detecting it on the RT-PCR machine and knocking out the findings. Additionally, I take some time to work on my research projects (I can have even four at a time, so I work on someone else every day). I finish my working day by making arrangements for the next day. It's never the same and we always have some unheeded things going on so time at work passes quickly. Plus, I always have a student to show and train on the things I am doing at the time!



STUDY & CAREER PATH

After I completed my graduate study of Genetics and Bioengineering, my curiosity and desire for knowledge lead me to pursue a master's. Recognizing my desire for work and research, my mentor and professor at the university, Acc. Prof. Dr. Mirsada Hukić, invited me to work with her at the Institute "NALAZ", to practice and study various techniques that I needed for my thesis. I eventually got a job there and continued my education. I'm currently in my first year of doctoral studies and working on various projects related to COVID-19, which will most likely be the topic of my doctoral thesis.



KEY SKILLS

Key professional skills needed to do my job are:

Analytical reasoning: You need to be able to comprehend and analyse all the factors to determine if a medical test you run has produced viable results.

Problem-solving: It's essential to be able to resolve any issues quickly because the health and well-being of patients depend on the results of your tests.

People management: Medical laboratory is a complex setting where many skilled professionals work, so you have to be able to manage them efficiently and give them tasks according to their qualifications.

Strategic planning: There are many reagents, expendables, and other resources needed for the lab to function which cannot be bought at a whim, plus you work with infectious agents such as bacteria and viruses, so all operations must be strategically planned out.

Key personal skills needed in this profession are:

Curiosity: There'll be plenty of interesting findings in the lab which may prompt deeper research.

Flexibility: As you may have to juggle a couple of medical testing batches for different things.

Personal responsibility: Because other people's health is in your hands.

Self-discipline: As you are working with small samples and sensitive equipment.



CAREER PROSPECT

COORDINATOR



PREMIUM PARTNERS



GENERAL PARTNERS



Genetics and Bioengineering are fields in which there is a broad range of opportunities for every science enthusiast. My graduate colleagues and I took up a variety of career paths, each of us driven by different ambitions and goals in life, such as academic careers in teaching, research and publication, working in pharmaceutical companies, medical laboratories and research laboratories for a broad range of fields that fall under the umbrella of genetics and bioengineering.



CHALLENGES

The biggest challenges in this profession are: (a) knowing when the findings are falsely positive and falsely negative; (b) when the sample collecting is done poorly, we may not have enough DNA or RNA material to conduct testing, (c) when we don't have internal control, it may be hard to find where a mistake was made, (d) we always have to be focused and have a steady hand because we handle small amounts of samples (in microliters), and (e) obtaining adequate research funding is often difficult.



YOUR ADVICE TO STUDENTS

Never give up doing what you are passionate about, even though sometimes the road will not be easy, and it'll require a lot of hard work, struggle, and self-sacrifice. Eventually, you'll end up getting there! It's also important to choose the subject of your interest well, be at peace with your choice and embrace it, find a mentor you enjoy working with, and be persistent until you succeed.



YOUR ADVICE TO TEACHERS AND PARENTS

Every young person always needs support and motivation, so try to be the wind at their back. Sometimes you may need to have more understanding for them and convince them that even when things don't turn out the way they'd like, they never have to give up on their ambitions.



LEARN MORE

Have fun learning all kinds of Genetics and Bioengineering facts and skills here: <https://learn.genetics.utah.edu/>

Try out these free virtual labs to experience working in a lab from the comfort of your home: <https://www.labxchange.org/library?t=ItemType:interactive>

<https://virtuallabs.nmsu.edu/index.php>

Check out loads of amazing TED talks under these topics to see what attracted me to this career:

<https://www.ted.com/topics/genetics>

<https://www.ted.com/topics/medical+research>

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<https://www.ted.com/topics/microbiology>

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This career sheet was submitted by Jasin Hodzic and is among the winners of the STEM Alliance & STE(A)M IT - Professionals Go Back to Schools Competition 2021.



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