# INTERVIEW WITH MSC.REGINALDO CRUZ ALVES ROSA

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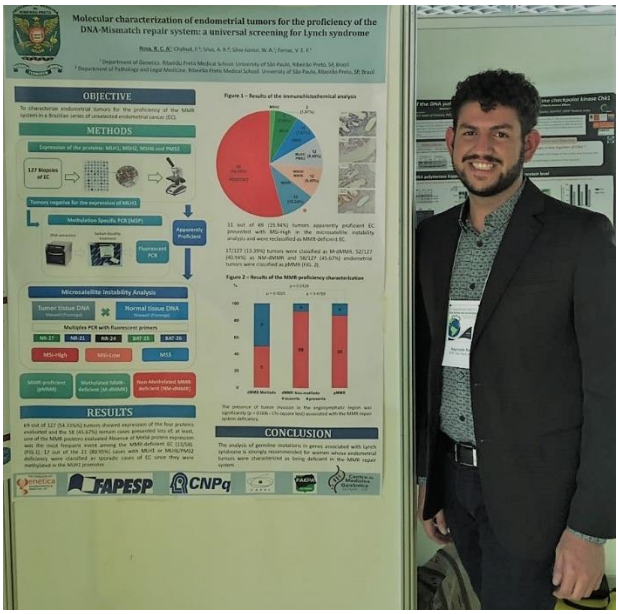
This month in the "10 questions for a scientist" section, we are pleased and proud to interview Reginaldo Cruz Alves Rosa, graduated from the Biological Sciences Course of UNIFOR, a rising star in the field of Brazilian Genetics.




*Reginaldo holds a bachelor's degree in Biological Sciences (Full Degree) from the Centro Universitário de Formiga (2015), a Master´s Degree in Genetics from the Ribeirão Preto Medical School of the University of São Paulo (2018) and currently holds a PhD in Genetics, also at the University of Sao Paulo. Since the master's degree, Reginaldo works in the area of Human and Medical Genetics, developing projects in the line of Oncogenetic research, mainly in the investigation of the molecular bases of hereditary tumors. Has experience with cancer genetic counseling, first and second-generation DNA sequencing and bioinformatic analysis of genomic data.*

**1) When did you decide to pursue an academic career? What was the most important factor that attracted you to this area?**

The decision to continue in the academic career was established even in the first years of graduation, while acting as a fellow of scientific initiation at the Centro Universitário de Formiga. The possibility of associating research with teaching practice was undoubtedly the factor that attracted me to this area.

**2) We consider your academic career, even if initial, very successful. Would you highlight something in your undergraduate degree that has been fundamental in getting you on the right track?**

Without a doubt, my participation in the scientific initiation program. Through scientific initiation, I was able to participate in several scientific events, especially in the area of genetics. This fact enabled me to publish the data I produced in the research laboratory and also allowed me to meet and establish partnerships with researchers in the field, still in the undergraduate degree.

**3) How did your participation in the scientific initiation program preponderate your academic trajectory?**

In addition to participating in scientific events, during the scientific initiation program, I was able to develop skills that are essential for a researcher. Such as the ability to elaborate and write research projects, analyze, present and discuss the data generated in the laboratory and, above all, the practice of the scientific method to raise and test scientific hypotheses.

**4) You have a unique trajectory; at the end of your undergraduate course, you were already approved (in the first place) at the greatest Brazilian university, USP, after completing your master's degree, which was approved at the same doctoral level. Tell our young readers the secret to such relevant approvals.**

I believe that two factors led me to achieve these two approvals: decision and dedication. I entered the Biological Sciences course determined to become a geneticist and this decision persisted and strengthened throughout my graduation. This is not always the case when taking a course as comprehensive as the Biological Sciences course, and undoubtedly getting a degree already decided in which area to specialize, has helped me to stay focused on my career goal. Once I decided what to do after graduation (genetics), I dedicated myself, and a lot, to the selective process of graduate studies. Whenever I got a chance, between graduate work and assessments and the workings of scientific initiation, I was reading books and solving genetics exercises. These two factors have helped me prepare for and pass the graduate selective processes. Once these skills were built, at the undergraduate level, it was only necessary to maintain them during the master's degree, in order to be approved also in the selective process to study my doctorate.

**5) What attracted you to genetics? Why this area of biology and not another?**

The possibility of studying and manipulating the molecule that holds all the information for the development and functioning of living organisms (DNA) was what attracted me most and continues to attract me in the field of genetics. During the course of Biological Sciences I had access to several other fields of the biologist, but none of them attracted me as much as genetics.

**6) In your relatively short experience at USP what was the biggest difficulty that you encountered and what was the most positive aspect of this ongoing experiment?**

I believe the biggest difficulty I encountered was going through the transition from undergraduate to graduate student. The routine of studies, experiments, and the myriad academic and bureaucratic responsibilities of a full-time master's and doctoral fellowship is more intense and exhausting than the routine I had as a graduate student. Adapting to this change was a great difficulty. I emphasize as a positive point to be part of an institution of the size of USP is the possibility of living with people from all over the world. This experience made possible the exchange of experiences, valuable cultural and scientific knowledge for my training as a researcher, geneticist and citizen.

**7) What do you intend to do after your PhD? Public exams? Continuity in a postdoctoral? In a foreigner country or in Brazil? Tell us a little about your plans.**

I intend to do postdoctoral studies abroad and seek to improve myself in the field of Bioinformatics which is very promising. In Brazil, this area of activity is still in simple development and, for this reason, the best opportunities for training and professional activity are found abroad, especially in the United States and in some European countries.

**8) What topics do you think, from your experience in advanced genetics, will be hot in the coming years? Give tips for students who want to pursue academic careers.**

It would highlight the area of gene editing, which is on the rise due to the introduction of CRISPR technology (a very precise, flexible and low-cost gene derived tool for bacteria). In addition, I believe that the areas of stem cell therapy and the area of molecular oncology are very promising because they have direct implications on human health.

**9) Tell us something of what you develop in your doctorate, what is the line, what is your perspective of results, of publications? And when will you grace us with one of your articles in our magazine?**

During the PhD, I seek, through new generation DNA sequencing technologies, to elucidate the molecular basis of endometrial tumors with molecular or clinical characteristics typical of hereditary tumors. I have some interesting preliminary results that point to new candidate genes as being associated with the etiology of hereditary endometrial cancer cases and I intend to publish those results as soon as I complete the experiments already underway that prove the role of these genes in the phenomenon I investigate. It will undoubtedly be a pleasure to publish some of these findings in Conexão Ciência journal.

**10) Send an encouraging message to our readers, students and teachers, who are unsure whether it is worth pursuing an academic career.**

Academic career is the driving force of science. Walking through this area gives access to an inexhaustible source of knowledge and challenges us to constantly overcome our own limits. It is undoubtedly a very pleasurable, challenging and promising career. But above all, it is a very important career for our society because only knowledge can efficiently solve the many socio-political problems we face daily. For these reasons, I remain motivated in the academic career and encourage the teachers and, most important, the students who still tread the journey for graduation, also invest in this career so fascinating and transformative.

**Thank you for your support, attention and collaboration for the publication of the Journal, on behalf of the UNIFOR / MG (Centro Universitário de Formiga / MG) and the Conexão Ciência Journal.**

*Dr. Heslley Machado Silva*
*Co-editor of Conexão Ciência Journal.*