

**Report of event sponsored by the Brazilian Society of Immunology to IUIS  
– III World Day of Immunology Workshop– May 2<sup>nd</sup> and 3<sup>rd</sup>, 2019**

Institution: *Universidade Estadual de Goiás (UEG: University of the Goiás State) – Campus Itumbiara, Goiás, Brazil*

**1) III Workshop Dia Internacional da Imunologia (“III Workshop World Day of Immunology”).**

2) Description of the event:

We started to organize the event in October 2018, when we submitted a proposal of activities to the Brazilian Society of Immunology (SBI), which approved it two months later. Among 5 events of the Day of Immunology throughout the country happening simultaneously from April 28<sup>th</sup> to May 3<sup>rd</sup>, also sponsored by the SBI, ours was the biggest one, regarding the number of participants. There were 318 subscribers participating in the event, with 178 in the first lecture at the May 2<sup>th</sup>, and 135 in the last one, in the end of the May 3<sup>rd</sup>. The Immunology Symposium in Fortaleza, Ceará, in the Northeast of the country, had up to 80 participants. Additionally, there were more 66 Physical Education course’s students which subscribed only to watch the Dr. Marcelo Sales’ lecture, “**Anti-inflammatory effect of the physical exercise**”, or Nursing course students, for MSc. Lucíola Sandim’s lecture, “**Hepatitis B vaccine’s immunogenicity and reactogenicity in individuals deprived of their liberty**”. However, other (not only) health course students (Medicine, Pharmacy, Economy and History) and also High School’s teachers and students were also present in these lectures, confirming the interdisciplinary role of Immunology among the different themes approached in the lectures. We could also dare to say that finally, after 3 years, the international feature of the event was reached, with the participation of an Equatorial Guinea student (from our Medicine graduation course). Although we did not know then, which would be the theme selected by IUIS for 2019, by the time we had submitted the proposal, we believe we had a good feeling, as I shall explain following.

Differently of the 2 previous editions, when this coordinator actively sought sponsor and/or support from private companies and other institutions, mainly in the health area, as it is becoming a tradition in Itumbiara city, this year I began to be looked for by companies and/or individual collaborators, to expose their products and publicize their companies’ and clinics’ brands. Thus, the Pharmacy student, Thalles Duarte da Costa, which works in a party decoration company, and who is also today my Scientific Initiation (SI) student, holding a scholarship to study cancer Epidemiology, asked me specifically to organize 1. the coffee break, 2. the tasting of “Unconventional Food Plants” (UFP, PANCs in Portuguese) and 3. the visual presentation of the event, without any cost, participating thus, of the Organizing Committee of the event. In total, there were 16 students and 4 Professors participating in the Organizing Committee.

Prof. Dr. Joyce Rover, whose family owns the Biocell Lab of Clinical Analyses and is also the UEG Itumbiara’s Lab Coordinator came to talk to me, offering the ABO and Rh blood systems typing for free to the participants. Also noteworthy, the Pharmacist Camila Melo, which graduated from our Pharmacy course, is an Immunology and Workshop enthusiast, having studied in my subjects of Hematology and Immunology. From this partnership, we received invitation to lecture to their patients in the lab about preventive aspects of many diseases (future challenges) and also I was invited to Supervise the Clinical Lab Internship of the Pharmacy Course and also the Complementary Activities Coordination, both course positions that I credit to the activities performed for the Workshop organization. About the tests, it was interesting that the big line formed of students wanting to be tested, shows the amount of people who still did not know their blood type, which also means they are not blood donors but should be potentially, which suggests a new field of research for the future in our town. Other Pharmacy student, Hellem Marçal, contacted me to work in the workshop organization, and is also now my SI student, having submitted a project to the Ethical Committee and Research Coordination of the University, about Hematology, and also because she already works in the City’s Blood Bank. Thus, it is interesting to observe that the students who come to talk to me to participate in the event organization are interested not only in filling their curriculum with certificates, but better than this, early in their academic life, they

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understand and seek to do activities which aggregate to their professional background.

As another unfolding of the workshop, I was also invited to organize, together with the student Jonathan Ballico de Moraes (UEG Medicine course), the “Pint of Science Brazil 2019” in the “Espaço Container Gastronomy”, Itumbiara-GO, talking about the “May 31<sup>st</sup> – World No Tobacco Day”. As it was a karaoke bar, I started speaking a little bit of the songs used by the tobacco advertisement in the 80s, which helped to boost the tobacco industry.

Jonathan is also a master in Immunology by the University of São Paulo and designed an art in the hall of entrance of the Workshop amphitheater. Again, we believe our role in the “III World Day of Immunology Workshop” has contributed to these important Scientific Divulcation events in the city, once we approached, among other activities, the role of Immunology in cancer prevention and treatment. The city of Itumbiara covers a range of 18 cities, strategically situated around at least two States, Goiás and Minas Gerais, among almost 300000 inhabitants, leading to the capital of the State and Brasília (Federal District), the capital of the country, but also relatively close to the States of São Paulo and Mato Grosso do Sul.

Lectures and minicourses ministered (following the chronological order of the program enclosed; described here with more details only the most relevant to the 2019 IUIS theme):

1. Opening (May 2<sup>nd</sup>, UEG amphitheater) – **“The International Day of Immunology”**, as a habit, because not all participants were present in the previous events, I explained how the idea of organizing the event for the first time emerged, while divulgating the book “Your Amazing Immune System” from 2012, when I received permission from EFIS and JSI to translate it to the Portuguese language up to 2019. The cartoons of this book were used to illustrate some of my slides, the T-shirts distributed freely over the 3 years (written in Portuguese: “April 29<sup>th</sup>: World Day of Immunology”) and also the folders for divulgation in the social media (Facebook, Instagram, SBI blog, UEG website etc; hashtags #diadaimunologiaueg, #diadaimunologia, #diadaimunologia2019, #worldimmunologyday, #dayofimmunology, #dayofimmunology2019) and banner with the program in the hall entrance. The T-shirts were distributed to the Organizing Committee, the lecturers invited and others were drawn for the audience, always with the goal of increasing Immunology’s visibility through scientific divulgation to lay people and others interested.

I also emphasized the 2019 International Union of Immunological Societies’ (IUIS) theme: Cancer Checkpoint Blockade, briefly explaining about Immunotherapies with monoclonal antibodies to treat cancer and autoimmune diseases, based on the concept of regulation of T-cell costimulation inhibition by CTLA-4 or PD-1/PD-L1 or in tumors which express this latter molecule. I also stressed the fact that these discoveries were essential to the decision of awarding their authors with Nobel Prize of Medicine or Physiology in 2018, having the Immunotherapy then regarded as the Breakthrough of the Year 2013, by the Science magazine and website. And of course, relating this central theme with the ones to be approached in the next lectures.

Following, I briefly introduced the “Role of Microbiota on the Immune System”, explaining about the regional mucosal immune system of the gastrointestinal, respiratory and genitourinary tracts. I talked about some commensal and pathogenic microorganisms and how they interact with the mucosae, activating or regulating the immune response, emphasizing the gastrointestinal tract. In this context, I approached the literature about many different types of food antigens/hormones (phytoestersols), lipids, proteins and carbohydrates from diet that are routinely modulated or produced by bacteria and affect not only the local mucosae, but also may do it systemically (VELDHOEN & BRUCKLACHER-WALDERT, 2012; KOCH *et al.*, 2016; ANNAND & MANDE, 2018). Thus, it was also possible to approach the relationship between the intestinal and lung microbiota, as shown by ANANDE & MANDE, 2018. The intention was to make people salivate until the end of the day, passing through the round table about **“Anti-inflammatory effects of UFP and medicinal plants”**, the lecture about **“Education in Immunology”** and the cultural presentation of the **ULBRA Choir**, to only then the “UFP Tasting” cocktail (without alcohol) would be offered the audience.

The next activity was performed by Dr. Rosa Maria Elias, from Universidade de Várzea Grande (UNIVAG) and Universidade de Cuiabá (UNIC), Cuiabá (Mato Grosso State), talked in her

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minicourse **“Unveiling the Immune System”** about the fictitious case of a “buble girl” with Severe Combined Immunodeficiency (SCID). We did not previously combine what we were going to say, but she thanked my presentation because, in her words, the basic immunology was well introduced for her minicourse, even for those who never had it before. The almost 100 students subscribed to the minicourse were divided in groups so that in the end they would present what the girl has or does not have in her immune system. Thus, a group was invited to “unveil the immune system”, taking out of the wall the charts of the other group of students had previously drawn or written, so that they could show which molecules and cells were not part of the immune system (figures attached in other pdf file).

In the end of the 1<sup>st</sup> day, the ULBRA Choir (Universidade Luterana do Brasil), which I am a member for more than 1 year, performed the traditional Brazilian songs “Sabiá (Luís Gonzaga)”, “Porto Solidão (Jessé)” and the versions “Milagres são reais” (“Miracles are real” version for “When you believe”, Mariah Carey /Whitney Houston, from the Disney movie “Prince of Egypt”) and finishing with “Por um mundo melhor” (“For a better world” version of Michael Jackson’s “We are the world” with USA – United Supporting Artists for Africa). Under much applause, the Master Cárta Simões Vilela explained the song, before beginning it, saying it was very important to participate in this event, for the moment the Brazilian education is passing through, but for the opportunity to take culture to many people who had never heard a choir before. It was not combined either, but she reminded us of the food collected as subscription, which would be donated later, and said that music, food and charity are good combinations for our immunity, and “We are the world” was especially designed to unite the different people in the world. She did not know that we have an African student who has some difficulties of adaptation, but we are uniting teachers and students of all the courses to help her finishing her graduation. I do not have enough words to describe the commotion caused in everyone. In the end, Dr. Auro Nomizo asked the mic to say that we were talking in his lecture exactly about humanizing the students for a better professional background, which passes through education and culture, not only technical concepts.

The 1<sup>st</sup> day of the event finished with the UFP tasting of diverse plants of our Cerrado (Brazilian Savannah), which are recommended by nutritionists and other health professionals for a better health. This is a project from Dr. Cristiane Bolina, who teaches Pharmacognosy to the Pharmacy students. We the SBI sponsorship, I bought the ingredients and she cooked all the products of the coffe break and cocktail, helped by her research and extension students.

Although it happens only at April 29<sup>th</sup>, apparently, one day per year, we organize events celebrating Immunology the whole year, as we have already cited, the May 31<sup>st</sup> as example. But we also have a volunteer project in Public Elementary and High Schools where we take university students to engage with the community. The last ones, in December 2018 and February 2019, we talked about “Vaccines and Fake news” in our “Immunology at Schools Project”. We also take the opportunity to divulgate the April 29<sup>th</sup>, when we reach about 200 students. Unfortunately, because of internal bureaucracy, the students are not allowed to leave the school to participate in the Workshop, which is why we decided to take Immunology to them in parallel events. We have authorization and collaboration with the Education and Health Secretaries of the city, so that Nurses go to schools to vaccinate children during the events, while we do the lectures. However, we are happy that for the first time, we had 4 High School students participating in the III World Day of Immunology Workshop.

Itumbiara, Goiás, Brazil, May 31<sup>st</sup>, 2019

João Paulo Martins do Carmo