

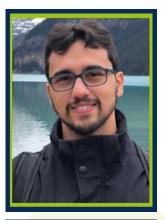
# **Event Summary Report**



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#### **1. THE ORGANIZING COMMITTEE**





#### Daniel Paiva Barros de Abreu

Daniel is a D.V.M from the Federal Rural University of Rio de Janeiro (UFRRJ), Brazil. He is specialized in Veterinary Diagnostic in microbiology, focusing on the detection of infectious agents and antimicrobial stewardship at the UFRRJ's Veterinary Hospital. He has a Masters degree in Veterinary Medicine from the same university, working with sporotrichosis, an important zoonotic disease in Rio de Janeiro. Daniel is currently a Ph.D. student at UFRRJ, conducting research with an emphasis on tick identification and tick-borne diseases by molecular approaches.

#### Ana Filipa Martins

Born in Lisbon, Portugal, Ana has an undergraduate degree in Microbiology from the University of Lisbon's Faculty of Medicine and a Masters degree in Applied Microbiology from the same university. She is currently a Ph.D. student at the Federal University of Rio de Janeiro, Brazil, conducting research with an emphasis on antibiotic resistance, veterinary and environmental microbiology.



Lana is an M.D from the State University o Rio de Janeiro (UERJ), with an ophthalmology specialization and she is a member of the Brazilian Society of Retina and Vitreous. She is currently a Masters student in Medical Sciences from UERJ, conducting research in age-related macular degeneration and genetic polymorphism.



#### Maristela Peckle Peixoto

Maristela is a D.M.V from the Federal Rural University of Rio de Janeiro (UFRRJ), Brazil. She attained a Masters degree in Veterinary Sciences with emphasis on infectious agents transmitted by vectors. In 2015 she spent a period abroad, in the Canadian Food and Inspection Agency (Saskatchewan, Canada), standardizing a molecular diagnostic technique applied to Equine Piroplasmosis. At present, she is a Ph.D. student in the Post-Graduate Program in Veterinary Sciences at UFRRJ and has been working on etiological bacteria transmitted by ticks to animals and humans.

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Tassia holds a bachelor's degree in Biology from Santa Ursula University, Rio de Janeiro, Brazil, a post-graduate degree in Teaching of Sciences from The Federal Institute of Rio de Janeiro (Instituto Federal de Educação Ciência e Tecnologia do Rio de Janeiro – IFRJ), and a master's degree in veterinary science from The Federal Rural University of Rio de Janeiro (Universidade Federal Rural do Rio de Janeiro – UFRRJ). She is currently a Ph.D. student at the same university studying the coccidioses on wild birds in the Center for the Screening of Wild Animals (CETAS -Seropédica) trying to understand the ecology related to these infections.

# Tays Araujo Camilo

Tays is a D.V.M with a master's degree in Veterinary Sciences from the Federal Rural University of Rio de Janeiro (UFRRJ), Brazil. She is currently a Veterinary Sciences Ph.D. student and works at the Public Health Department's Multi-user Laboratory for Molecular Biology and Avian Health, also at UFRRJ.

#### Thiago Bernardo Pedro

Thiago is a D.M.V from the State University of Northern Rio de Janeiro (UENF), Brazil. He obtained a Masters degree in Veterinary Sciences from the Federal Rural University of Rio de Janeiro (UFRRJ), with emphasis on vector control and epidemiology, and a specialization degree in Applied Statistics from the same university. He has professional experience in public health and epidemiological surveillance. He is currently a Ph.D. student at the UFRRJ, conducting research on spatial analysis applied to triatomine control.

The proof of "Students in Good Standing" letters (with their respective English translations) for each team member can be found in the appendices at the end of this document.



We also received the support of veterinary medicine and biology undergraduate students from the university's One Health Study and Actions Group during the I One Health Day at UFRRJ.

at UFRRJ



#### 2. INTRODUCTION

#### 2.1 The University

The Federal Rural University of Rio de Janeiro (Portuguese: Universidade Federal Rural do Rio de Janeiro, UFRRJ) is a non-profit public institution for higher education, research, and extension, located in the Brazilian state of Rio de Janeiro. Recognized for establishing the basis of agricultural studies in our country, its history began in October 1910 upon the establishment of The Superior School of Agriculture and Veterinary Medicine. Initially situated in what is now the former capital of Brazil, Rio de Janeiro, the school offered three courses: Agronomy, Veterinary Medicine and Industrial Chemistry. The institution was attributed the status of University in 1943, becoming the Rural University. In 1948 the campus was transferred to its current location, in the municipality of Seropédica and in 1965 received its present name.

The current headquarters of the Federal Rural University of Rio de Janeiro is located within the largest university campus in Latin America, covering an area of approximately 3.024 hectares and an architectural set of 131.346 m<sup>2</sup> of buildings. UFRRJ also has campuses in three other municipalities within the state of Rio de Janeiro (Figure 1).

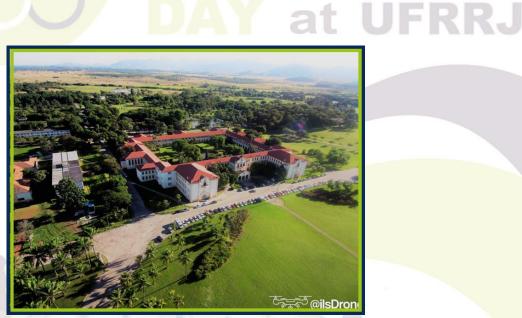


Figure 1. Aerial view of the Federal Rural University of Rio de Janeiro main building, where the I One Health Day was held (Source: ilsDrone).

The academic activities at UFRRJ were traditionally focussed upon agrarian, exact and biological sciences. However, during for the last 20 years the university has instituted several new undergraduate courses in human and social sciences. The purpose was to meet the growing demand for courses in those areas among the population of the neighbouring municipalities, a region known as Baixada Fluminense. Since the early 2000s, the Brazilian Ministry of Education has provided financial support to promote the physical, academic and pedagogical expansion of Brazilian public universities. As a result, The Federal Rural University of Rio de Janeiro increased the number of undergraduate programs offered from 23 to 57, with approximately 18,000 enrolled students. Moreover, our institution has approximately 2,000 students enrolled in 41 graduate programs, with more than half of those programs offering doctoral degrees.

The municipality of Seropédica (Figure 2), where the main campus is located, has an estimated population of nearly 80,000 inhabitants. The municipality covers an area of approximately 284 km<sup>2</sup>, with a demographic density of 275 inhabitants/km<sup>2</sup>. Main activities include trading, mineral extraction, and light industries. Seropédica is inserted within the region called Baixada Fluminense, which neighbours the capital of the state. Over the last decades, social, habitational, educational and public security issues have gradually arisen. Population agglomerates within the Baixada Fluminense have arisen and grow irregularly, without planning, preventing governments from ensuring satisfactory public services for most of the population of the Baixada Fluminense, which currently comprises almost 4 million people.



Figure 2. Municipal map of Rio de Janeiro (state), Brazil. Green highlighting corresponds to the municipality of Seropédica, where the UFRRJ is located.

In this context, UFRRJ, mainly due to its location, is extremely strategic for the development of the region. It is the only public university based in the Baixada Fluminense, standing as a pole of excellence offering free access to high quality higher education, to a population in need of adequate public services. Moreover, events and extension projects performed by the university promote the interaction between residents and the academic community, generating a powerful and enriching exchange for both entities.

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#### 2.2 One Health in Brazil

The One Health concept was initially discussed in Brazil at the beginning of the century. Veterinary teaching and research institutions were pioneers, with public health veterinarians actively trying to disseminate and apply knowledge about the theme, to little avail due to the lack of acknowledgment and willingness from professionals of other areas.

Ten years ago, when the Family Health Extended Centers were created, the Brazilian Ministry of Health took an important step towards promoting One Health in the Brazilian health system, which is one of the biggest and most complex public health systems in the world. The Brazilian public health system guarantees that the country's entire population has full, universal and free access to proper medical care. The aim of the Family Health Extended Centers is to support and consolidate the Basic Attention system in Brazil, enlarging the health supply in the service network, as well as the resoluteness, coverage, and target of actions. These centers are led by multi-professional teams, which can include physicians, veterinarians, chemists, physiotherapists, nutritionists, among other professionals from the public health area.

Since 2015, the Federal Board of Veterinary Medicine has strongly supported the discussion around the importance of the One Health approach as a cornerstone towards the improvement of Brazilians' quality of life. In 2017, for example, the One Health concept was widely discussed during the National Meeting of Animal Health Management, held twice a year by the Ministry of Agriculture, Livestock and Supply. Also, for the last two years, One Health-focused events have taken place in multiple locations throughout Brazil, although the focus was most frequently set on the veterinarian's perspective.

The shortage of events, in Brazil, capable of bringing together professionals from various areas of expertise that could promote a committed, substantial multidisciplinary discussion propelled us to plan the I One Health Day at UFRRJ and bring this project to fruition.

#### **3. OBJECTIVES**

Our event sought to disseminate and discuss the importance of One Health to provide solutions for contemporary and multidisciplinary problems, as well as to present the potential for application of this concept in the research and extension projects performed at our university and in other institutions in the state of Rio de Janeiro. The main idea was to integrate professionals from distinct areas which adopt One Health approaches in their professional activities or in their research projects.

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#### 3.1 Attendees at the I One Health Day at UFRRJ

The first important aspect about our event concerns the audience we wished to reach. Considering the number of undergraduate and graduate programs available at our University and the relevance of One Health in these different areas, it was our goal:

- a) to attain 200 registrations by the day of the event;
- b) to bring together students and professors from at least 5 undergraduate programs of our University);
- c) to assemble a mixture of undergraduate, Masters and Ph.D. students as well as at least 10 professors at our event in order to enrich the debate on each presentation;
- d) to bring together students from at least 5 different universities from our state with the idea of building bridges to other institutions;
- e) to improve the knowledge of and have a positive impact upon, our attendees concerning the relevance of the One Health concept and its applications.

#### 3.2 Abstract Submission

Providing the opportunity for the presentation and discussion of research projects and activities that integrate the One Health concept and are currently under development at our university was one of the main objectives of the I One Health Day at UFRRJ. The call for the submission of abstracts took place between August 20<sup>th</sup> and September 30<sup>th</sup> of 2018. Abstracts should be in accordance with the provided norms for submission and be written in either Portuguese or English. To achieve our objectives, two main goals were to be accomplished:

 a) to receive at least 25 abstracts suitable for poster presentation during the I One Health Day at UFRRJ;

b) to select 5 abstracts for short oral presentations to be scheduled during our event.

#### 3.3. One Health Photography Contest

In order to make the event more dynamic and interesting for the attending audience, a photography contest was introduced for the I One Health Day at UFRRJ. The participants were encouraged to submit up to three photographs and participate in the contest. The photo had to be related to the concept of One Health, covering human, animal, and environment interactions.

We aimed to receive fifteen (15) photos relating to the One Health concept from at least ten contest participants. Submitted and exhibited photographs would stimulate a debate on accurate depictions of the One Health concept in a day to day context.

#### 3.4 Multidisciplinarity of themes and speakers' expertise

Establishing a link between different fields of knowledge is one of the most important aspects of the One Health approach. Taking this into consideration, the organizing committee invited speakers from different areas of expertise and from a variety of institutions. Our goal for the I One Health Day at UFRRJ Programme was to:

a) invite speakers from a minimum of four different fields and institutions;

b) ensure that the event would encompass the basic concepts of the One Health approach, presenting clear examples that show the intersection between human, animal and environmental health.

#### 3.5 Advertising

Our main goal for the I One Day at UFRRJ was to generate an interest in the concept, to involve as many participants as possible from different academic fields, and to stimulate discussion from many different points of view so that the event would be multidisciplinary in nature. To accomplish this goal, diverse advertising channels were used to reach as broad an audience as possible.

The aim was to attract as many people as possible, appealing not only to people who already had insights into One Health, but especially to those who were unaware of the One Health concept, its practical implications and the diversity of disciplines and research it potentially involves. Presently, due to the advertising methods used, it is not possible to measure the exact number of people we were able to reach.

One of our main tools was the use of internet-based media, such as social media, websites and e-mail, as well as physical advertisements, including banners and posters (A3 format). By using internet-based methods of advertising, we could reach people from different universities and areas of expertise who could be interested in One Health, and through physical advertisement we could reach the local UFRRJ community to promote participation in this event.

#### **4. EVENT REPORT**

#### 4.1 Organization of the I One Health Day at UFRRJ

After attending the 5th International One Health Congress in Saskatoon, Canada (June 2018), two Brazilian scholars (DPBA and MPP) were able to learn more about One Health,

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understand the need to introduce and develop the concept in their setting and thus, began planning the I One Health Day at UFRRJ in Brazil. Aiming to further explore the basis of the One Health concept from a Brazilian perspective, the goal was to bring together a multidisciplinary team of graduate students from different educational institutions in the state of Rio de Janeiro. The organizing committee was comprised of Daniel Paiva Barros de Abreu, Maristela Peckle Peixoto, Tays Araujo Camilo and Thiago Bernardo Pedro (Veterinarians - UFRRJ), Tassia Torres Furtado (Biologist - UFRRJ), Lana Sayuri Makita (Physician - UERJ) and Ana Filipa Martins (Microbiologist - UFRJ).

The main objective was to organize an event that would build bridges and link different disciplines that either directly or indirectly impact human, animal, and environmental health. By breaking the boundaries that divide the different undergraduate and postgraduate courses at the UFRRJ, we could join forces and share knowledge and research in order to face many of the current and future challenges in our respective fields. Also, given the current budgetary cuts in Brazilian research, the collaboration between different professional fields could also allow for the optimization of projects and research activities, conducive to the achievement of more robust data and a better understanding of the practical applications. Since this is the first edition of the event, we sought to provide basic information and give practical examples of the One Health concept, in order to raise awareness within the academic community about the necessity for new approaches that consider the intersection between human, animal, and environmental health.

Spreading the concept and encouraging discussion about the subject were within the scope of the I One Health Day at UFRRJ. We began this process through social network online Facebook, platforms. On we created а page (@onehealthufrrj https://www.facebook.com/onehealthufrrj/) which could serve as a channel of communication between the organizing committee and the academic community. In this webpage, we posted relevant data and reference materials to raise people's interest in the upcoming event. Given that the great majority of available information, articles, and data, on the internet are in English, we proceeded to translate the content of introductory videos and texts into Portuguese before making them available. The social network boost tool allowed us to reach as many people as possible. Additionally, we used an Instagram page (@onehealthufrrj), where we provided background information regarding the upcoming event in order to reach a different audience and making it an all-inclusive action. Furthermore, information about the event was posted on the University website (http://portal.ufrrj.br/) and shared through the institutional e-mails of undergraduate and graduate programs.

There were multiple posts on Facebook about the event, notably concerning the chronogram, the submission of abstracts, the photography contest, and the donation of blood to qualify for a registration fee exemption. On Facebook, the organizing committee also posted

texts and images about possible points of interest published in scientific journals and websites which featured One Health approach. These informative short texts were released on Facebook to introduce and raise awareness on One Health's worldwide relevance to current issues, such as: "The top 10 challenges of One Health for the future of the Earth" (with one post per challenge during a 10-day period), the Interdisciplinary Approach of One Health; Plant Molecular Farming (PMF) as an alternative to conventional vaccines; Rabies: a zoonosis; Sporotrichosis in the state of Rio de Janeiro: epidemic status, etc.

Also, short videos with Portuguese subtitles illustrating the concept of One Health were posted on Facebook:

Video 1: https://www.facebook.com/onehealthufrrj/videos/208905086447535/ Video 2: https://www.facebook.com/onehealthufrrj/videos/214365489234828/

Physical advertising consisted in the printing and hanging of A3 posters (Figure 3) throughout different institutes and educational institutions in the state of Rio de Janeiro, providing all the relevant information regarding the event. An advertising banner was also featured at the main entrance of the university campus (Figure 4) which could be viewed by a significant portion of the academic community and by passers-by. We also disseminated information about the event and promoted the One Health concept during classes with undergraduate and graduate students during the period prior to the event.





Figure 4 and 5: I One Health Day at UFRRJ posters, displayed throughout various buildings of UFRRJ; I One Health Day at UFRRJ banner on display at UFRRJ's main entrance

To attend the event one could either access the Even3 platform (<u>https://www.even3.com.br/onehealthdayufrri</u>), where payment could be made by credit card or bank ticket generation, or in person by completing the registration form available in two different locations on campus. The registration fee was R\$20.00 (US\$5.19) until October 10th or R\$25.00 (US\$6.49) after this date. There was also the possibility of exemption from

registration fees through proof of receipt for financial assistance from the university or housing accommodation, as well as through the presentation of proof of blood donation. To attract some students to our event, we also created discount coupons available at our Facebook page. It was also possible to register on the day of the event, which took place on November 7<sup>th</sup>, 2018.

The discussion of research projects and academic activities through posters and oral presentations was undoubtedly at the core aim of the event. Guidelines for submission were made available through our communication channels and submissions were initially accepted during the period August 20<sup>th</sup> to September 30<sup>th</sup>. This deadline was eventually extended till October 15th. The Abstracts were submitted for peer review by members of the organizing committee, and selections were made for the oral presentations to be made at the event.

Additionally, in an attempt to find new ways of representing the intrinsic relationship between human beings, other animal species, and our environment, a photo contest was planned, in which photos should represent the complex network of interactions between these three entities. The photographs authored by the participants were received in the period between August 20<sup>th</sup> and October 31<sup>st</sup>. These were exhibited on the day of the event where attendees could vote on their selection for the best photograph with the winner being announced at the end of the day.

Additionally, a channel of communication between the organization committee and people interested in the event was created through an e-mail account (onehealthufrrj@gmail.com). Through this channel, the organizing committee was able to receive not only questions or suggestions, but also the submitted abstracts, photographs, and all relevant documentation regarding exemption from registration fees.

#### **4.2 Event Description**

The I One Health Day at UFRRJ took place on Wednesday, November 7, 2018, at the Gustavo Dutra Auditorium, in the Central Building of UFRRJ Seropédica campus. This location, which is accessible to all of the university institutes, was chosen to convey the idea of common interest and ownership by all of the participating disciplines (as opposed to just the Veterinary Institute) and to attract a greater variety of undergraduate and postgraduate programs (Figure 5a, 5b and 5c).

The event began at 07:30 am with the validation of registered participants (which allowed us to issue an attendance certificate for each participant after the event), the distribution of complimentary kits (Figure 6), and the exhibition of posters and photographs. As previously mentioned, it was also possible to register for the event throughout the course of the day.



Figure 5. Gustavo Dutra Auditorium audience at the I One Health Day at UFRRJ. The auditorium is located in the Main Building of the UFRRJ Seropédica campus.

The opening ceremony started at 09:00am, with a brief greeting given by the UFRRJ's Extension Dean (Professor Roberto Carlos Costa Lelis), a representant of the Veterinary Science Graduate Program (Professor Douglas McIntosh) and the director of the university's One Health Study and Actions Group, known as Grupo de Estudos e Ações em Saúde Única – GEASU (Professor Isabele da Costa Angelo). Furthermore, as a result of connections established during the 5<sup>th</sup> International One Health Congress in Saskatoon, we were able to arrange for an opening address via video (with Portuguese subtitles) by Neil Venzeau, President of the International Student One Health Alliance (ISOHA). This address can be viewed at the following link:

#### https://www.dropbox.com/s/8fnycwoiwt281pk/Neil%20Venzeau%20Video.avi?dl=0.

These opening statements were followed by presentations by our guest speakers, each consisting of a 40-minute talk followed by a 10-minute question/answer period from members of the audience. Following the guidelines of the One Health concept, we asked our speakers to adopt a multi-disciplinary approach in their talks about their respective fields. The Programme is available as appendix (in Portuguese). Individual information about each presentation is available in Section 4.3.

Two breaks were scheduled for this event: a lunch break took place from 11:30 am to 1:00 pm, and an afternoon coffee break, originally planned for 2:30 pm, was delayed to 3:15 pm. Time was optimized to delineate speaker sessions from the cycle of oral presentations that would close the event. During the afternoon coffee break (Figure 7), networking was encouraged between participants and speakers. During this break, exhibited posters were evaluated by professors experienced with the One Health concept, and participants could vote on the photos that were on display throughout the event.



**Figure 6 and 7.** Complimentary kits distributed to all I One Health Day at UFRRJ participants. Kits contained a notepad, a flyer and a personalized folder; Snacks and refreshments provided during the coffee break, encouraging attendees to interact freely, discuss and share different points of view and experiences within the scope of the One Health concept.

The afternoon coffee break was followed by 10-15 minute oral presentations of selected abstracts. At the end of these, a question and discussion period took place, though, due to unforeseen delays, this open discussion had to be curtailed and finished at 18:00 pm.

At the close of the day, the photo "A Charming Tick" from biologist Mariana de Oliveira was awarded Best Photography (Figure 8) and the veterinarian Andresa Guimarães was awarded Best Abstract for the submitted work "Opossums as reservoirs of hemoparasites transmitted by arthropod vectors that effect domestic animals and human health ". In the concluding remarks, all of participants were invited to attend the One Health Study and Actions Group weekly meetings that take place at our university.



**Figure 8.** The winning photograph, "A Charming Tick", submitted by the attendee Mariana de Oliveira, one of the participants in the One Health Photography Contest at UFRRJ.

#### 4.3 Evaluation of the I One Health Day at UFRRJ

After the event, it was necessary to assess the immediate impact of the I One Health Day upon the academic community of UFRRJ. To this end, a follow-up questionnaire was sent to the participants. In order to entice them to answer the questionnaire, a download link for the attendance certificates would become available only after the submission of completed questionnaires. This questionnaire can be accessed on the following website link:

### https://docs.google.com/forms/d/e/1FAlpOLSdiGlJJgaMKxgztjZwjlLFdueVE74qn0W\_UHYtaD813NVGDg/viewform?usp=sf\_link.

The link through which the certificates were made available once questionnaires were completed is: <u>https://drive.google.com/open?id=1cOzKw5KHslOAGiUFOffOr-PAp3efMPnq</u> (file: I OHD – Certificados Ouvintes.pdf).

Amongst the questions asked, we had a special interest in the profile of people who attended our event (age group, institution of origin, area of activity and level of education), their knowledge about the One Health concept before and after the event, talks that particularly drew their attention, and also comments concerning the event itself (organization of the event, coffee breaks, perception about cost and benefits, interest in attending a second edition of the event, etc.). We also provided space for feedback, comments and suggestions. Many of the answers provided through this questionnaire will be useful for the current document.

It was not an objective of our event to achieve a monetary profit from the registration fees. The goal was to cover expenses relating to the I One Health Day at UFRRJ and, in the event of a surplus, we chose to donate the remaining amount. Consequently, a total of R\$ 693.46 (US\$ 180.11) was donated to the local Associação Casa de Repouso Amor Eterno de Seropédica (Registered Number: 15.700.205/0001-57), a nursing home located in the municipality of Seropédica, and the funds were used to purchase geriatric diapers and personal hygienic products. A financial statement for the event is available in box 1.

Income	
Registration	+ R\$1300.00
On-line registration	+ R\$2152.50
Sponsorship (Seropec)	+ R\$300.00
Sale of I One Health Day T-Shirt	+ R\$110.00
Total	R\$3,862.50
Expenses	
Promotional Material	- R\$245.00
Personalized Gifts	- R\$216.15
Stationery	- R\$294.48
Hosting and Food	- R\$110.00
Transportation	- R\$450.00
T-shirts making	- R\$390.00
Coffee Break	- R\$1200.55
On-line Subscription Service	- R\$262.86
Total	- R\$3.169,04
Final Balance (Donation)	+ R\$693,46
	au

Box 1. Financial Statement for the I One Health Day at UFRRJ

#### 5. RESULTS

#### 5.1 Attendees at the I One Health Day at UFRRJ

Our initial goal concerning the number of registrants was not reached until November 7<sup>th</sup>. Where we had planned on 200 attendees, the number of registrations was, in fact, 190. Of those, 169 (88.95%) attended the event. It is interesting to highlight that of the 190 registrants, 24 were students who could attend free of charge due to their financial status or by providing proof of having donated blood. Based on the 112 answers received at the time of writing this report, we were able to trace the profile of participants as well as the immediate impact of our event.

While most undergraduate and graduate students attending our event were from veterinary schools (including from our university), participants represented more than 5 different bachelor degrees, as can be seen in Figure 9. However, the absence of human medicine students and professionals is something that needs to improve for future editions of this event. Since medicine is not offered at the undergraduate level at UFRRJ, in the future we will need to increase the advertising in other Universities.

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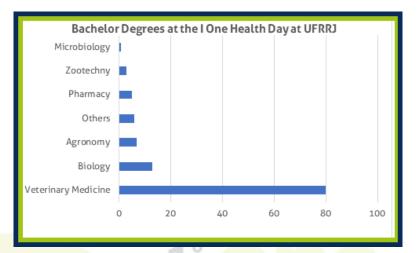


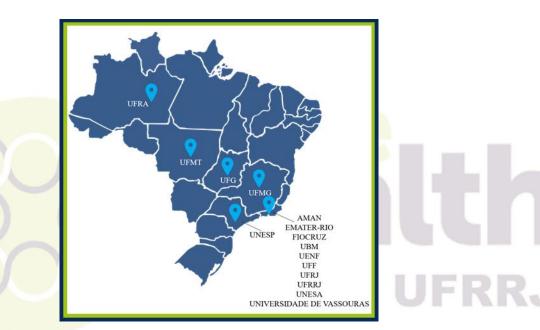
Figure 9. Representation of the programs present at the I One Health Day at UFRRJ.

Another characteristic concerning our participants was that most of them were undergraduate students. This was confirmed by the age range and the level of studies indicated by respondents to our questionnaire. More details in these regards can be seen in figures 10 and 11. The interest manifested by students at the beginning of their academic lives is also very significant, and it should be noted that generating an interest in multidisciplinary approaches at the undergraduate level will be important if current paradigms are to be changed. Also, the presence of different degree programs at the I One Health Day at UFRRJ resulted in stimulating debates after each talk. We also noted the presence of 15 professors during the event, which leads one to believe that this concept is gaining acceptance and being adopted within the university community.



Figure 10 and 11. Age range of participants at the I One Health Day at UFRRJ; Educational level of the participants at the I One Health Day at UFRRJ

We received students from 10 different institutions from the state of Rio de Janeiro during the I One Health Day at UFRRJ, which exceeded our expectations. Furthermore, we had participants from three institutions from other states in Brazil (in addition to the speakers from Minas Gerais and São Paulo). Finally, we also had a participant from Portugal, who is an exchange student at UFRRJ and attended our event. This is a great example of the many ways in which the One Health concept can help us break boundaries that exist in academia. This also shows the power of digital media nowadays, since some of these universities did not receive any kind of physical advertising. This can be seen in Figure 12 and 13.



**Figure 12.** Map of Brazil. Blue location pins highlight the Brazilian states and corresponding institutions with representatives attending the I One Health Day at UFRRJ.



Figure 13. Municipal map of Rio de Janeiro (state), Brazil. Blue location pins highlight municipalities and corresponding institutions with representatives attending the I One Health Day at UFRRJ.

Finally, the most important goal of our event was to improve the knowledge of the academic community about the One Health concept and its applications. Through this effort, we aim to encourage multidisciplinary partnerships and discussions in our community. The immediate impact of our event was easily observed as a result of the answers provided by the questionnaire. Participants were asked to give a self-assessment and provide a score for their knowledge about One Health before and after the event. The results represented in Figure 14 easily demonstrate the improvements and gains made by the participants. Even those who scored 4 after the event (n = 2) show an improvement from their score prior to the event. These positive results highlight the relevance of One Health Day events around the world as a tool to spread the message concerning the intersections of the human, animal and environmental sciences and the need for multidisciplinary approaches in our fields of research and work.

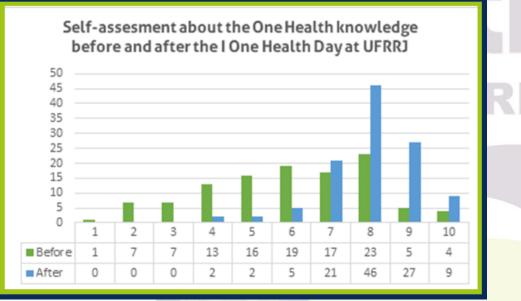


Figure 14. Self-assessment regarding awareness and knowledge of the One Health concept before and after the I One Health Day at UFRRJ.

Those good results are also reflected in the positive feedback and the proportion of participants that demonstrated interest in a second edition of the One Health Day. According to the questionnaire, 73 (65.2%) would very likely attend on a second edition, and 37 (33%) would likely attend. Only two participants answered that would unlikely register for a future event about the subject (one of those justified their choice because they live in another, distant, state).

#### **5.2 Abstract Submission**

Though a submission deadline had been set for September 30<sup>th</sup>, too few submissions had been received by then and the deadline was extended to October 15<sup>th</sup>. In the end, a total of 36 abstracts were submitted, which exceeded the expectations of the organizing committee. Of these, only one was not considered acceptable, because it did not satisfy the rules and guidelines for submission of abstracts.

Of the 35 abstracts evaluated by peer review, 13 were deemed to be possible candidates for oral presentation. These were analyzed and ranked by the members of the organizing committee and, finally, five were chosen for inclusion in the event. Further information about the selected abstracts can be seen in table 1.

 Table 1. Abstracts selected to be presented as an oral presentation on the I One Health Day at

 UFRRJ

Speaker	Title
Greiciane Bronzato, Ph.D. (UFRRJ)	Virulen <mark>ce profile of <i>Vibrio alginolyticus</i> in a One Health perspective</mark>
Joice Rezende Vilela, Ph.D. (EMATER-RIO)	Applications of an Alternative Biodigester Septic Tank Technology (EMBRAPA Model) as a Public Health Instrument Towards Improvement of Rural Quality of Life
Gabriela Albuquerque, M.Sc.	Dogs and Cats from the Serra da Tiririca Project: Population control data in the
(UFF)	state park of Serra da Tiririca, RJ
lury Uzêda da Rocha (UFRRJ)	Zoonosis Notification: The role of Veterinary Medical Professionals in Public Health
Camila Costa de Oliveira	Detection of the mcr-1 Colistin Resistance Gene in Agriculture Production and
(UFRRJ)	Ecological Reserve Soils in Nova Friburgo, Rio de Janeiro

An interesting aspect about the submitted abstracts relates to their origin. Initially, it was thought that abstracts would most likely originate from the host institution. However, in the end, abstracts were not only from the UFRRJ (22), but also from the Federal Fluminense University (UFF – 3), Rio de Janeiro State University (UERJ – 1), The Technical Assistance and Rural Extension Agency of Rio de Janeiro (known as Empresa de Assistência Técnica e Extensão Rural, EMATER-RIO – 1), Vassouras University (5), Iguaçu University (1), and Barra Mansa University (1). Amongst these were some of the nominees for oral presentation, as seen in table 1. This diversity permitted that the discussion on One Health extended beyond the boundaries of UFRRJ, and it allowed a broader, richer and a more inclusive and meaningful exchange between Brazilian researchers.

Upon reading the submitted abstracts, it was perceived that the One Health concept was still not completely understood by all the authors. Specifically, not all the submissions promoted a simultaneous impact on human, animal and environmental health. Such studies were accepted for poster presentation and during the evaluation, possible expansions of the work were discussed, between the evaluators and the presenters, towards the need for a more inclusive, multidisciplinary approach. On the next edition of the One Health Day, after an entire year of work on the concept within and beyond the university, we hope that this multidisciplinary approach will have taken hold within the academic community and that this evolution will be reflected in the future presentations of research at the II One Health Day at UFRRJ. The Book of Abstracts is available (in Portuguese) at Google Drive on the link <a href="https://drive.google.com/file/d/1QGDml\_RuAD957C4pCRvHWfxzjpIMLXNw">https://drive.google.com/file/d/1QGDml\_RuAD957C4pCRvHWfxzjpIMLXNw</a> (file: Livro de Resumos – I One Health Day da UFRRJ.pdf).

#### 4.3. One Health Photography Contest

Photographic submissions prior to the event were fewer, when compared to abstract submission (8 photos compared to 36 abstracts), even though we used advertising and postponed photo submissions until the day of the event. Nevertheless, during the event, many participants were interested in viewing and analyzing the photographs, and many expressed an interest in submitting their own photographs for the next edition of this event. By encouraging the audience to vote for what they considered to be the best depiction of the One Health concept, a discussion naturally arose on which photos should or shouldn't be there, and why. To stimulate such discussion had been our goal.

The photos received were amateur in nature and authored by the participants, as requested in the contest guidelines, and they comprised different subjects and diverse themes. The winning photo was previously shown in section 3.2 (Figure 8). Bringing this new modality to the event was an innovative proposal, one which offers great potential for growth and development in the next One Health Day at UFRRJ (Figure 15).

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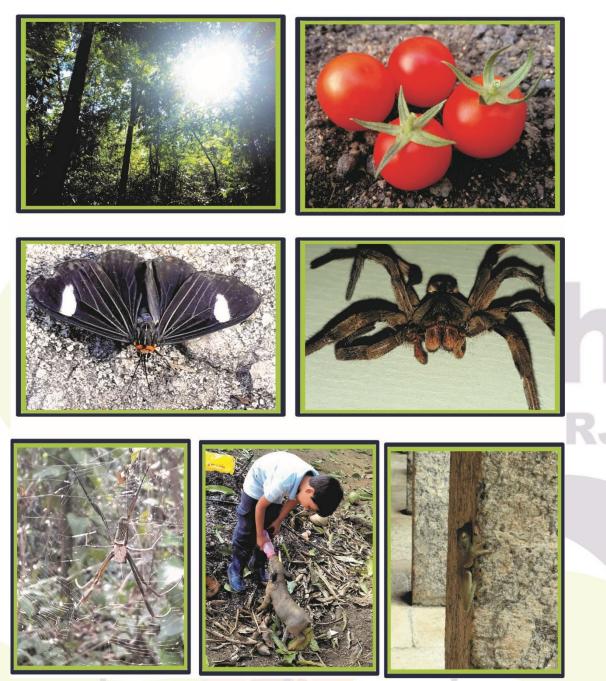


Figure 15. Photographs submitted for the One Health Photography Contest and exhibited at the I One Health Day at UFRRJ.

#### 5.4 Multidisciplinarity of themes and speakers' expertise

To highlight the multidisciplinary character of the event, the conglomerate of speakers consisted of two veterinarians, two biologists, a microbiologist, and a physician. Among them, four speakers have Ph.Ds. and are permanent researchers from reputed teaching and research institutions in Brazil: Federal University of Rio de Janeiro (Universidade Federal do Rio de Janeiro, UFRJ), Oswaldo Cruz Foundation (Fundação Oswaldo Cruz, FIOCRUZ) and Federal University of Minas Gerais (Universidade Federal de Minas Gerais, UFMG). The other two speakers are Ph.D. students from UFRJ and São Paulo State University (Universidade Estadual Paulista, UNESP). The English titles of each talk can be seen on table 2.

Speaker	Talk	
Douglas McIntosh, Ph.D. (UFRRJ)	Assessing the Health Status of Research on One Health at UFRRJ	
David Soeiro, Ph.D. (UFMG)	Practical Applications of the One Health Concept in the Control of Zoonotic Diseases	
Gabriela Pala, M.Sc. (UNESP)	One Health – A New Approach to Old Problems	
Cláudio Parente, M.Sc. (UFRJ)	The Inconvenient Side of Animal Production: Human and environmental exposure to antibiotics and Pyrethroids	
Rodrigo Meire, PhD (UFRJ)	The (Im)pure air from the Mountains: Insights on Atmospheric Pollution and its Environmental Consequences	
Maria Eugênia Gallo, Ph.D. (FIOCRUZ)	Leprosy – A Neglected Disease. A Public Health Issue. A zoonotic disease?!	

Table 2. English titles of Talks presented at the I One Health Day at UFRRJ

The microbiologist, Douglas McIntosh, Ph.D. (UFRRJ), is known at our university for his work on diagnosis and prevention of microbial and parasitic diseases in animals, with emphasis on molecular biology. He is also responsible for the course "One Health: Concepts and Importance for Veterinary Science" offered every year to graduate students. In his lecture, he addressed the One Health researches in progress at the university.

The veterinarian David Soeiro, Ph.D. (UFMG), has considerable experience in the epidemiology of communicable diseases and in health surveillance, having done exchanges at Harvard School of Public Health and at World Health Organization. He talked about the application of the One Health concept to control zoonotic and vector-borne diseases. Gabriela Pala, M.Sc. (UNESP), also a veterinarian, works with microbiology and parasitology of aquatic organisms, focusing on biosecurity of commercial fish farms. She addressed how the One Health approach may be key to solving old problems which involve the interaction between humans, animals and the environment.

The attending biologists both work with environmental contamination and monitoring. Cláudio Parente, M.Sc. (UFRJ) researches routes of environmental contamination by antibiotics and pesticides derived from agricultural production. The core of his lecture was the discussion of human and environmental exposition to antibiotics and pyrethroids residues. Rodrigo Meire, Ph.D. (UFRJ), works in the field of pollution ecology, with emphasis on transportation of persistent toxic substances, pesticides and organochlorines, and polychlorinated biphenyls. His lecture focused on the environmental consequences of atmospheric pollution for different types of populations.

Besides being a researcher in leprosy and polychemotherapy for more than three decades, the physician Maria Eugênia Noviski, Ph.D. (FIOCRUZ), also advises the Ministry of

Health in the National Program for Leprosy Control. She travels throughout the country assessing the implementation of control measures for the disease and investigating its possible correlation to handling and consumption of armadillo meat, which was the core of her lecture.

This variety of themes and speakers generated lively discussions between undergraduate and graduate students, public health professionals and researchers from different fields. Since this was the first event to discuss One Health in our University, we focused on introducing the concepts and providing good examples of the challenges and approaches that we can have through a multidisciplinary approach. For the next edition of our event, and after an entire year of discussion about One Health on the weekly meetings on the One Health Study and Actions Group (GEASU), we will be able to invite new speakers with differing backgrounds. The introduction of researchers from the social sciences, for example, would attract even more undergraduate and graduate students from our University and it would highlight the need for our perspective to be as broad as possible.

#### 5.5 Advertising

The principal means advertisement consisted of social media (notably Facebook and Instagram), e-mail and websites, as well as physical advertisements in the form of A3 posters and a huge banner displayed at the main entrance of the UFRRJ Campus. Due to concerns regarding environmental issues and unnecessary waste of paper, we decided against the distribution of flyers as a means of advertisement.

With nearly 140 million internet users as of 2016, Brazil is the largest internet market in Latin America and the fourth largest market in the world when it comes to users of the internet. For this reason, we concentrated our efforts mainly on social media, webpage and email to communicate information about One Health. Also, to raise awareness of our first event, the submission of abstracts and photos was also advertised through use of this media. The creation of a webpage served mainly to facilitate the registration process for the I One Health Day at UFRRJ.

Even though the exact number of people reached by these communication channels is unknown, it is possible to gain some interesting insights:

On Facebook, approximately 703 people were reached as a result of the 30 posts published between June 10 and October 22, 2018. The most viewed publication was the event scientific chronogram, which reached 5,487 people. Also, the I One Health Day at UFRRJ page on Facebook received 332 likes and currently has 333 followers, a number which is increasing each day. This will now be used as the main way of communication at our university for those interested in the subject.

- The profile "One Health Day of UFRRJ" on Instagram has 126 followers and received a mean of 22 likes in 11 publications, which were released from October 12 up to the day of the event. Some posts were submitted in the "stories" category, mainly reaching the undergraduate student community.
- Physical advertisements, focusing on the local community (UFRRJ), could have reached up to some 18,000 students across campus, covering different undergraduate and graduate programs, fields of expertise, areas of interest and academic and professional levels.

#### **6. CONCLUSION**

By the end of the I One Health Day at UFRRJ, it was clear that these initiatives, the sharing of knowledge regarding the concept and its applications around the world, are a necessity. The interconnection between human, animal and environmental health is a reality supported by research and strategical interventions against past and present challenges. Only through a multidisciplinary approach, with active collaboration between professionals from different backgrounds, will we be able to overcome some of the biggest current and future challenges.

In a world where geographical borders are disappearing, and technology allows us to cross the globe in a matter of hours, it is still possible to sense the invisible lines that divide undergraduate and graduate programs in the academic world, as well as the lack of interaction between the medical and non-medical professions. It is necessary to overcome those barriers in order to develop an integrated approach which will enable us to face complex and urgent health threats and take effective measures in prevention and control.

Feedback from our participants allowed us to recognize that there is still much to be done. Some of the participants, especially from other universities, reported that this was their first contact with the concept and recommended better advertisement for upcoming editions in order to reach more people and, especially, a greater number of undergraduate programs. Because of the importance of this concept, they also suggested that the event should not be limited to one day, but rather that it should occur over a three-day period in order to allow for a greater number of presentations and more opportunity for discussion. Following the event, we came across various people who claimed they did not register for the I One Health Day at UFRRJ because they did not know what the term "One Health" means and what it entails. Consequently, if we can overcome this challenge, we can expect a larger and more productive second edition of this event.

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As described in this report, we have considered numerous improvements for the optimization of the next edition of our event. The inclusion of social sciences in the Programme, a better advertisement campaign focusing on medical schools, as well as heightened time management skills to avoid delays in the schedule, are among some of the improvements to be considered. These notwithstanding, we do find, in the end, our experience with the One Health Day at UFRRJ to have been extremely valuable and worthwhile. By building bridges and improving communication between students and professionals in a wide array of fields, we expect to make the multidisciplinary approach to our work a reality. This will surely bring about a much-needed paradigm shift, especially in developing countries like Brazil.

#### 7. ACKNOWLEDGMENTS

We would like to thank the Federal Rural University of Rio de Janeiro and its Veterinary Science Graduate Program for their valuable support. We also with to thank our sponsors: Seropec, Camisa Mania, Sabor Anthigo Restaurant and New Life Gym.

DAY at UFRRJ



# APPENDICES<sub>t</sub> UFRRJ



CNPJ: 29.427.465/0001-05 BR-465, Km 7, Seropédica-Rio de Janeiro - CEP: 23.890-000 saproppg@ufrrj.br

# DECLARAÇÃO

Declaramos, para os fins a que se fizerem necessários, que **DANIEL PAIVA BARROS DE ABREU** é aluno(a) REGULAR vinculado(a) a este(a) universidade, sob o número 2017150241, no programa de CIÊNCIAS VETERINÁRIAS - DOUTORADO -SEROPÉDICA.

Pro-Reitoria de Pós-Graduação do(a) Universidade Federal Rural do Rio de Janeiro, em Seropédica, 27 de Novembro de 2018.

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ATENÇÃO



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# Declaração

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21 de Agosto de 2018, emitido às 13:18h

5 dalla histing horp

Andréia Cristina Lopes Frazão da Silva Superintendente Acadêmica de Pós-Graduação

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DECLARAÇÃO

Declaramos, para os devidos fins, que **LANA SAYURI MAKITA** é aluna com matrícula regular no Programa de Pós-Graduação em Ciências Médicas da Faculdade de Ciências Médicas da UERJ, nível Mestrado, com previsão de término para julho de 2020.

Rio de Janeiro, 25 de novembro de 2018.

ROGÉRIO LOPES RUFINO ALVES Coordenador do Programa de Pós-Graduação em Ciências Médicas



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30 November, 2018

TO: Whom it may concern

FROM: Postgraduate Program in Veterinary Sciences (PPGCV/UFRRJ)

SUBJECT: Official proof of the academic status of Maristela Peckle Peixoto

Identification of Student: Full name: Maristela Peckle Peixoto Date of birth: June 27th, 1986. Professional ID: CRMV-RJ 12241 PhD Graduate Student Program: Universidade Federal Rural do Rio de Janeiro, Curso de Pós-Graduação em Ciências Veterinárias – Veterinary Parasitology Registration No.: 201315020010-2 Brazilian Advisor: João Luiz Horácio Faccini

This memo is to inform that **Maristela Peckle Peixoto** is a PhD student at PPGCV, at **Federal Rural University of Rio de Janeiro**, Brazil, under supervision of João Luiz Horacio Faccini.

Sincerely,

hur Santiago Junior

Arthur Santiago Junior 1st Secretary of PPGCV/DPA/IV/UFRRJ



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# DECLARAÇÃO

Declaramos, para os fins a que se fizerem necessários, que **TASSIA TORRES FURTADO** é aluno(a) REGULAR vinculado(a) a este(a) universidade, sob o número 2016150256, no programa de CIÊNCIAS VETERINÁRIAS - DOUTORADO -SEROPÉDICA.

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# DECLARAÇÃO

Declaramos, para os fins a que se fizerem necessários, que **Tays Araujo Camilo** é aluno(a) REGULAR vinculado(a) a este(a) universidade, sob o número **2017150261**, no programa de **CIÊNCIAS VETERINÁRIAS - DOUTORADO -SEROPÉDICA**.

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# DECLARAÇÃO

Declaramos, para os fins a que se fizerem necessários, que **Thiago Bernardo Pedro** é aluno(a) REGULAR vinculado(a) a este(a) universidade, sob o número **2016150230**, no programa de **CIÊNCIAS VETERINÁRIAS - DOUTORADO -SEROPÉDICA**.

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ATENÇÃO

# ENGLISH TRANSLATION OF "STUDENTS IN GOOD STANDING OF EACH TEAM MEMBER

We hereby declare that **DANIEL PAIVA BARROS DE ABREU** is currently bound to this University, enrolled as a student, number 2017150241, in the postgraduate program Veterinary Sciences – Doctorate – Seropédica.

To whom it may concern,

We hereby declare that **ANA FILIPA MOREIRA MARTINS**, passport number L827534, issued by Passpt/99 is currently enrolled as a Doctorate Student at this University, registered under student number 1141773353.

To whom it may concern,

We hereby declare that **LANA SAYURI MAKITA** is currently enrolled as a student at UERJ Faculdade de Ciências Médicas, Medical Sciences Post Graduation course. Expected to end by July 2020, with the acquisition of a master's degree.

We hereby declare that **TASSIA TORRES FURTADO** is currently bound to this University, enrolled as a student, number 2016150256, in the postgraduate program Veterinary Sciences – Doctorate – Seropédica.

We hereby declare that **TAYS ARAUJO CAMILO** is currently bound to this University, enrolled as a student, number 2017150261, in the postgraduate program Veterinary Sciences – Doctorate – Seropédica.

We hereby declare that **THIAGO BERNARDO PEDRO** is currently bound to this University, enrolled as a student, number 2016150230, in the postgraduate program Veterinary Sciences – Doctorate – Seropédica.





# PROGRAMAÇÃO

8:00	Entrega do Material e Credenciamento
8:30	Cerimônia de Abertura
9:00	Avaliando a Saúde das Pesquisas em One Health na UFRRJ Palestrante: Dr. Douglas McIntosh (UFRRJ)
	Aplicações Práticas do Conceito de Saúde Única no
9:45	Controle de Doenças Zoonóticas Palestrante: Dr. David Soeiro (UFMG)
10:30	One Health - Uma Nova Abordagem para Velhos Problemas Palestrante: Msc. Gabriela Pala (UNESP)
11.15	Almoso
11:15	Almoço
13:00	O Lado Inconveniente da Produção Animal: Exposição Humana e Ambiental a Antibióticos e Piretróides Palestrante: Msc. Cláudio Parente (UFRJ)
10.45	O Ar (Im)puro das Montanhas: Percepções sobre a Poluição
13:45	Atmosférica e suas Consequências Ambientais Palestrante: Dr. Rodrigo Meire (UFRJ)
14:30	Coffee Break / Exposição de Posteres
15.00	Hanseníase - Doença Negligenciada.
15:00	Um problema de Saúde Pública. Uma zoonose?! Palestrante: Dra. Maria Eugênia Gallo (FIOCRUZ)
15:45	Mesa Redonda: Saúde Única na UFRRJ
17.00	Encerramento



# Palestrantes da Mesa Redonda

 Perfil de virulência de Vibrio alginolyticus como uma abordagem em Saúde Única. Dra. Greiciane Bronzato (UFRRJ)

- Utilização de Tecnologia Alternativa de Fossa Séptica Biodigestora Modelo EMBRAPA como Instrumento de Saúde Pública e de Melhoria da Qualidade de Vida no Campo. Dra. Joice Aparecida Rezende Vilela (EMBRAPA)

 Projeto Cães e Gatos da Serra da Tiririca: Dados do Controle Populacional no Parque Estadual da Serra da Tiririca, RJ MSc. Gabriela Lins Albuquerque (UFF)

> Notificação de Zoonoses: A importância do Profissional Médico Veterinário na Saúde Pública. Iury Uzêda da Rocha (UFRRJ)

 Detecção de Gene de Resistência à Colistina (mcr-1) em Solos de Produção Agrícola e Áreas de Reserva Legal em Nova Friburgo, Rio de Janeiro.
 Camila Costa de Oliveira (UFRRJ)