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# 3rd Edition of World Congress on INFECTIOUS DISEASES

## 19-20 OCT 2022

VIRTUAL EVENT

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# BOOK OF ABSTRACTS

3RD EDITION OF WORLD CONGRESS ON

# INFECTIOUS DISEASES

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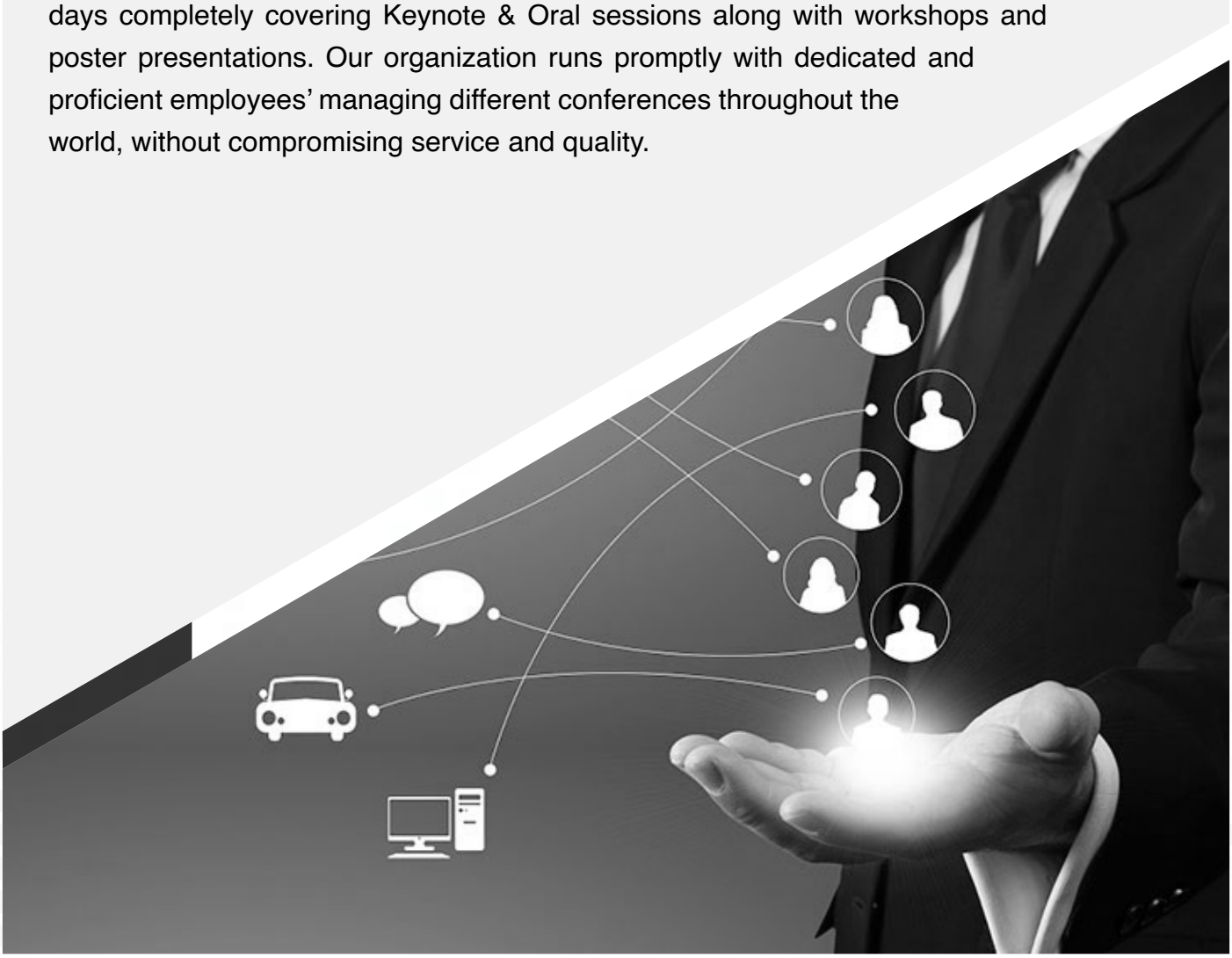
# ABOUT MAGNUS GROUP

**Magnus Group (MG)** is initiated to meet a need and to pursue collective goals of the scientific community specifically focusing in the field of Sciences, Engineering and technology to endorse exchanging of the ideas & knowledge which facilitate the collaboration between the scientists, academicians and researchers of same field or interdisciplinary research. Magnus group is proficient in organizing conferences, meetings, seminars and workshops with the ingenious and peerless speakers throughout the world providing you and your organization with broad range of networking opportunities to globalize your research and create your own identity. Our conference and workshops can be well titled as 'ocean of knowledge' where you can sail your boat and pick the pearls, leading the way for innovative research and strategies empowering the strength by overwhelming the complications associated with in the respective fields.

Participation from 90 different countries and 1090 different Universities have contributed to the success of our conferences. Our first International Conference was organized on Oncology and Radiology (ICOR) in Dubai, UAE. Our conferences usually run for 2-3 days completely covering Keynote & Oral sessions along with workshops and poster presentations. Our organization runs promptly with dedicated and proficient employees' managing different conferences throughout the world, without compromising service and quality.



# ABOUT WCID 2022

Magnus Group is pleased to invite you to participate in the Online Event- "**3rd Edition of World Congress on Infectious Diseases (WCID 2022)**" during **October 19-20, 2022** organized around the theme "*Striving for a New Era by Eradicating Infectious Diseases for Healthy Life*". This WCID 2022 is the international platform which brings together the collection of investigators who are at the forefront in the field of Infectious Diseases. The scientific program will include oral presentations of sub-disciplines, keynote sessions led by eminent scientists and poster sessions presented interactively by junior scientists and graduate students. It is the ultimate meeting place for all the experts worldwide for new interdisciplinary scientific collaborations and networking. With its scientific sessions, you are provided assurance to explore the latest technologies and breakthroughs that are specific to your area of work. No doubt the event has a broad scope of topics and continued in parallel sessions relative to the specific area of research.

We are confident that our conference will provide you with an incredible chance to explore new horizons in your field and we hope to see you at our upcoming **WCID 2023** conference during **October 23-25, 2023** at **Boston, Massachusetts, USA.**

# KEYNOTE FORUM

## DAY 01

3RD EDITION OF WORLD CONGRESS ON

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## Caroline Bilen

The Compass Health Consultancy, United Arab Emirates


## Universal approach to achieve surgical care during COVID-19 pandemic

The ultimate goals of healthcare professionals in surgical care is to achieve safety and prevent Surgical Site Infection (SSI). Many factors can contribute to the risk of SSIS. It requires specific measures to cut the risk such as patient preparation before, during, and after surgery, appropriate hand hygiene, sterility of the instruments, etc… Clinical evidence demonstrated that Operating Room (OR) activities related to asepsis and aseptic practices have the highest direct impact on the surgical team, in helping to reduce the patient's risk to surgical site infection and Covid-19 transmission. Having policies and procedures in OR does not mean compliance is guaranteed. The efficacy of these policies depends on the knowledge skills of the team and how well the surgical team adheres to them. Besides, team communication and collaboration are very critical to achieve excellence in ambulatory surgical care.

**Audience Take Away:**

- Surgical site infection Overview.
- Source of Contamination & Complications.
- Surgical pathway to achieve safety.
- Standard of care to prevent SSI During Covid -19.

**Biography:**

Caroline is recognized as a leader, consultant, and trainer in the healthcare industry. She has a BSN in nursing with a solid medical background with more than 29 years of experience in health care management and accreditation and 15 years of experience in the international health care industry and medical solutions. Caroline is a trainer for infection control, surgical safety, and patient safety programs. She held the position of operating room nursing manager, Director of Homecare Lebanon, and Scientific Affairs and Education Manager in CEEMEA regions. Since 2019, Caroline is managing a healthcare consultancy firm "The Compass Health Consultancy" to assist healthcare organisations to reach their key performs indicators and goals of excellence via executing tailor-made solutions and education programs. Caroline is passionate about patient safety and is regularly engaged as a keynote speaker and moderator at international and national symposia. She is a published author, and her work has been broadly published and quoted in the media. She is a member of many local and international scientific organizations as well as a member of the Worldwide Association of Female Professionals.


## Sarah El-Nakeep

Gastroenterology and Hepatology Unit, Department of Internal Medicine, Faculty of Medicine, Cairo, Egypt


## Antimicrobial resistance in gastrointestinal infections, a review of the literature

Gastrointestinal and hepatic infections are very common including (Helicobacter pylori gastritis, infectious diarrhea, bacterial peritonitis, bacterial hepatitis, and pancreatitis). The increased risk of antimicrobial resistance of bacteria to antibiotics is now the leading cause of death worldwide according to a recently published meta-analysis in the Lancet journal. The impact of resistant bacterial infections in the gastrointestinal system is high, increasing mortality and morbidity in even the simplest infectious diseases. In addition, there is the increased use of antibiotics in the current COVID-19 pandemic, which may cause more problems in future antimicrobial resistance. This is a literature review of the current situation and future insight on the solutions presented by the scientific and the clinical world.

**Audience Take Away:**

- In this presentation will aim to address the issue of antimicrobial resistance by showing the epidemiological weight of the problem, and its impact on the current clinical guidelines of treating GIT infections.
- The presentation will also aim to present the problems of different study designs in addressing the clinical problem of AMR in the gastrointestinal tract.
- The presentation will discuss the limitations encountered in the current clinical practice in addressing the AMR? This is a systemic review of the current literature.
- The presentation will display the future prospects of the new antimicrobials currently in clinical trials.

**Biography:**

Dr. Sarah El-Nakeep is an associate professor in the gastroenterology and hepatology unit, Internal Medicine Department, Faculty of Medicine, Ain shams University, Cairo, Egypt. She has an M.D. degree in internal medicine and specialized in gastroenterology and hepatology.

# SPEAKERS

## DAY 01

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# Enhancing Anti-Folic acid efficacy of Cotrimoxazole with a nano-Stabilizing agent {$Al_4(SiO_4)_3 + 3Mg_2SiO_4 \rightarrow 2Al_2Mg_3(SiO_4)_3$} for a new anti-trypanosmosis drug

**M. C. O. Ezeibe*, M. E. Sanda, C. A. Akpan, F. I. O. Onyeachonam, I. J. Ogbonna, E. M. Kalu, N. U. N. Njoku, M. I. Udobi**

College of Veterinary Medicine, Michael Okpara University of Agriculture, Umudike, Nigeria

Negatively charged ends and positively charged ends that coexist on nano-particles of Aluminum-Magnesium Silicate (AMS), a WHO approved medicine, make them to hydrate and form three dimensional colloidal structures, when in solution. The colloidal structures stabilize other drugs, formulated with AMS. Also, nanoparticles enhance drugs delivery to effect-targets and across physiological barriers. When drugs are stabilized, rate of their degradation in blood reduces, thus prolonging time they remain at high bioavailability. Prolonging time of high bioavailability and enhancing delivery to targets improve efficacy. With improved efficacy, lower doses achieve desired effects. Use of lower doses for desired effects, minimizes side effects so that immune responses improve. Synergy between improved efficacies and enhanced immune responses, lead to clearance of infections to prevent antimicrobial resistance. Even already resistant infections can be cured by same drugs being resisted. Some countries do not have natural deposits of AMS [$Al_2Mg_3(SiO_4)_3$] but they may have Aluminum Silicate [AS: $Al_4(SiO_4)_3$] and Magnesium Silicate [MS: $Mg_2SiO_4$]. So, we used AS and MS (approved medicines, too) to formulate AMS-brand {$Al_4(SiO_4)_3 + 3Mg_2SiO_4 \rightarrow 2Al_2Mg_3(SiO_4)_3$} and named it, *Medicinal synthetic AMS* {MSAMS}. Since protozoa need folic acid for replication, anti-folic acid efficacy of cotrimoxazole was exploited to develop a new drug for trypanosmosis (a debilitating tropical disease of man and animals). Cotrimoxazole was stabilized with MSAMS so that its anti-folic acid efficacy may improve. The drug alone, significantly ($P \leq 0.05$) reduced trypanosome-parasitemia in mice from 12.76±1.20 to 5.86± 0.43 while the cotrimoxazole-MSAMS formulation achieved 0.00±00 parasitemia. In infected sheep treated with the cotrimoxazole-MSAMS formulation, mean trypanosome parasitemia (1.00±0.00) was significantly ($P \leq 0.05$) lower than 81.60±27.71 of an untreated group, two days post treatment, while by nine days post treatment, the parasitemia had completely cleared and there was no relapse in sheep monitored for 70 days, post treatment.

**Biography:**

Maduike Ezeibe holds PhD, from University of Nigeria, Nsukka. He specialized in using animals for medical researches and invented theory of opposite charges electrostatic attraction for treatment of diseases of electrically charged pathogens. Since Aluminum-Magnesium Silicate (AMS) which has both charges may not exist in every country, he invented a formulation of Aluminum silicate and Magnesium silicate (approved medicines) to get Medicinal Synthetic Ams (MSAMS) and also invented an equation {$Al_4(SiO_4)_3 + 3Mg_2SiO_4 \rightarrow 2Al_2Mg_3(SiO_4)_3$} for the formulation. MSAMS has proved effective against viral/abnormal cell diseases. It also enhances efficacy of other medicines to prevent/cure antimicrobial resistant infections.

# The intestinal microbiota: Impacts of antibiotics therapy, colonization resistance, and diseases

**Taif Shah**
Faculty of Life Science and Technology, Kunming University of Science and Technology, Kunming, China

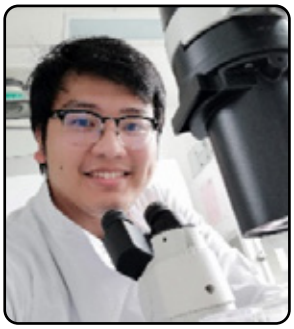
Trillions of microbes exist in the human body, particularly the gastrointestinal tract, coevolved with the host in a mutually beneficial relationship. The main role of the intestinal microbiome is the fermentation of non-digestible substrates and increased growth of beneficial microbes that produce key antimicrobial metabolites such as short-chain fatty acids, etc., to inhibit the growth of pathogenic microbes besides other functions. Intestinal microbiota can prevent pathogen colonization through the mechanism of colonization resistance. A wide range of resistomes are present in both beneficial and pathogenic microbes. Giving antibiotic exposure to the intestinal microbiome (both beneficial and hostile) can trigger a resistome response, affecting colonization resistance. The following review provides a mechanistic overview of the intestinal microbiome and the impacts of antibiotic therapy on pathogen colonization and diseases. Further, we also discuss the epidemiology of immunocompromised patients who are at high risk for nosocomial infections, colonization and decolonization of multi-drug resistant organisms in the intestine, and the direct and indirect mechanisms that govern colonization resistance to the pathogens.

**Audience Take Away:**

- In this presentation, Taif Shah will discuss mechanistic overview of the intestinal microbiome and the impacts of antibiotic therapy on pathogen colonization and diseases. Further, we also discuss the epidemiology of immunocompromised patients who are at high risk for nosocomial infections, colonization and decolonization of multi-drug resistant organisms in the intestine, and the direct and indirect mechanisms that govern colonization resistance to the pathogens. This will help the audience to understand direct and indirect mechanisms that govern colonization resistance to the pathogens.

**Biography:**

Dr. Shah studied Microbiology at Hazara University, Pakistan and graduated MS in 2015. He then joined the research group of Prof. Cui Xiuming at the Faculty of Life Science and Technology, Kunming University of Science and Technology (KUST), Kunming, Yunnan, China. He received his Ph.D degree in 2021 at the same institution. He then joined the research group of Prof. Xia Xueshan at the same faculty and institution for his postdoctoral fellowship program. He has published more than 25 SCI research articles in well-reputed journals.



## Outbreak of lumpy skin disease in cattle, Thailand 2021

**Tapanut Songkasupa*[1], Patchariya Laobannu[2], Sawai Yantaphan[2], Adundech Bungwai[3], Vaiyavet Ponyium[3], Orapun Arjkumpa[4], Minta Suwannaboon[4], Manoch Boonrawd[4], Issara Punyawan[4], Nutthakarn Suwankitwat[4], Prakit Boonpornprasert[4], Dilok Ounpomma[5], Waroonsiri Charoenlarp[6], Nuttavadee Pamaranon[6], Rotchana Prakotcheo[6], Noppawan Buameetoop[6], Veerasak Punyapornwithaya[7]**

[1]Virology Section, Department of Livestock Development, National Institute of Animal Health, Bangkok, Thailand

[2]Animal Health Section, Department of Livestock Development, Roi-Et, Thailand

[3]Pha Nom Phrai District Livestock Office, Department of Livestock Development, Roi-Et, Thailand

[4]Animal Health Section, Department of Livestock Development, Khon Kaen, Thailand

[5]Virology Section, Veterinary Research and Development Center (Upper Northeastern Region), Department of Livestock Development, Khon Kaen, Thailand

[6]Bureau of Disease Control and Veterinary Services, Department of Livestock Development, Bangkok, Thailand

[7]Veterinary Public Health and Food Safety Centre for Asia Pacific (VPHCAP), Faculty of Veterinary Medicine, Chiang Mai University, Chiang Mai, Thailand

Lumpy Skin Disease (LSD) is a vector-borne transboundary viral disease affecting cattle and buffaloes which causes significant economic loses in livestock production and trade. The first outbreaks of LSD were reported in Pha Nom Phrai district, Roi-Et Province, North-eastern Thailand, and an official document has been submitted to OIE on 9 April 2021. Since then, multiple outbreaks have been reported in other 67 provinces in Thailand, infecting 625,344 and killing 64,673 cattle. This study investigated the Thai LSD outbreak and confirmed that the disease spread rapidly during March – July 2021. Both cattle and buffaloes showed typical clinical signs of LSD, with appearance of several skin nodules and deep-seated, well-demarcated ulcers. The collected samples were first tested for the presence of LSDV by real-time PCR and virus isolation. We further applied molecular tools, RPO30, and GPCR, for additional characterization of the LSDV isolates circulating in Thailand. The LSD virus isolated in these first outbreaks was 100% identical to viruses isolated in China and Vietnam based on the RPO30 and GPCR genes. We also highlight the appearance of a recombinant hybrid genomes in the Thai LSDV isolate which containing LSDV Neethling and LSDV SIS-Lumpyvax vaccine strains, limiting us to differentiate them from the Thai isolates and vaccine isolates. This study demonstrates the importance of disease surveillance and the need to determine the source of the disease introduction, the extent of spread, modes of transmission, and the necessary control measures.

**Biography:**

Dr. Tapanut Songkasupa graduated Doctor of Veterinary Medicine from the Chulalongkorn University in 2012 and M.Sc at the University of Edinburgh in 2017. He obtain the position of veterinary virologist (professional level) at National Institute of Animal Health, Thailand. His responsibilities include the diagnosis of several viral diseases of animals, including import/export testing and the development and validation of diagnosis tests. Over 8 years of extensive virology laboratory research experience in livestock health including epidemiology, molecular microbiology, and diagnosis based on virus isolation, PCR, and nucleotide sequencing. Discovered and detected novel viruses in livestock such as AHSV, PPRV and LSDV.

# COVID 19 masks – Mandatory vs Monetary

**Chital Naresh*[1], Dhananjay Mankar[2]**

[1]School of Health System Studies, Centre for Public Health, TISS, Mumbai, Maharashtra, India

[2]Assistant Professor, Mumbai campus, Centre for Hospital Management, School of Health Systems Studies, TISS, Mumbai, Maharashtra, India

**Audience Take Away:**

- Using judiciously the recommended personal protective equipment.
- Using the personal protective equipment appropriately.
- Significance of following the government laid down guidelines.
- The presentation will enlighten the audience to be prepared for handling future epidemics or pandemics righteously.
- Considering every individual member in the audience will be a healthcare professional, they will learn the management of infectious diseases in a simple way.
- Every healthcare individual can broaden their view on the study.
- This could definitely influence the thinking of the healthcare providers to look critically into the problem and then initiate a solution.

**Biography:**

Chital Naresh is a Research Scholar in the School of Health System Studies, Centre for Public Health, TISS, Mumbai, Maharashtra, India. She is a qualified patient safety and quality healthcare professional. She has an experience of 19 years in the field of patient safety and quality in healthcare.

# Clinico- Epidemiological study and therapeutic outcomes of cutaneous leishmaniasis: An emerging disease in North India

**Shagufta Rather*, Mashkoor Wani , Faizan Younus Shah , Safia Bashir , Atiya Yaseen , Firdous Ahmad Giri , Rajesh Sharma , Sumaya Zeerak , Yasmeen Jabeen , Iffat Hassan , Devraj Dogra , Ruby Rishid**
Department of Dermatology/Pathology, Government Medical College Srinagar/Jammu, Jammu & Kashmir, India

An increasing number of patients with Cutaneous Leishmaniasis (CL) are reporting to tertiary care centers in Jammu and Kashmir, an area that has previously been non-endemic for this disease. This merits consideration of CL as a major health problem of considerable epidemiological importance. The aims of this study were firstly to describe the clinico-epidemiological profile, therapeutic characteristics, and outcomes of patients with CL and secondly to highlight this union territory as a new focus of endemicity for CL.

**Methods:** A two-center hospital-based prospective cohort study was conducted at two tertiary care hospitals in Jammu and Kashmir over a period of 10 years (July 2009 to June 2019). All patients presenting to the outpatient departments with lesions suggestive of CL were enrolled for the purpose of this study. Demographic data were recorded on a proforma questionnaire, along with a detailed history and the results of a meticulous examination. Patients diagnosed with CL based on clinical criteria were subjected to Slit Skin Smear (SSS) and histopathological examination for confirmation of the diagnosis. An intralesional pentavalent antimonial, Sodium Stibogluconate (SSG), was administered at a dose of 0.5 mL/cm2 (100 mg/mL solution) three times weekly to those patients with smaller lesions, and intravenously or intramuscularly at a dose of 20 mg/kg/day to those with larger lesions. The response to treatment was assessed by total re-epithelialization of the lesion and an absence of infiltration and erythema, with or without scarring. Treatment was given until complete resolution of the lesions or for a maximum duration of 10 weeks when given intralesionally and 3 weeks when given systemically. Clinical follow-up was performed twice weekly for the first 2 months and monthly thereafter. The final response to treatment was assessed at 6 months.

**Results:** The study included a total of 1300 patients with a mean age of 26.7 18.5 years. The mean duration of the disease was 28.52 13.5 weeks, ranging from 8 to 64 weeks. Lesions were noted mainly on exposed parts of the body, with the face being the most commonly affected site (89.00%). Noduloulcerative plaques were the predominant lesion type observed (73.92%). The presence of leishman– donovan bodies could be demonstrated on SSS and histopathology in 60.69% and 39.54% of patients, respectively. The presence of a recognizable histological pattern conforming to CL and a response to a therapeutic trial of SSG was considered to be confirmatory in the remaining patients. Complete cure was achieved in 84.23% of cases during the study period. Single lesions were more likely to respond to treatment as compared to multiple lesions. The route of administration did not have any significant impact on the final outcome.

**Conclusions:** With the disease showing an escalating trend in Jammu and Kashmir, the possibility of a new focus of endemicity and its impact on public health need to be contemplated and appropriate measures should be initiated to contain its spread.

**Audience Take Away:**

- This study aimed to draw attention to Jammu and Kashmir as a new focus of endemicity, which will be of considerable public health interest.
- Awareness of the disease and recognition of the varied clinical presentations is important for prompt diagnosis.
- A comprehensive and exhaustive clinicoepidemiological profile of CL is presented to guide further studies in this direction, especially those discerning predominant leishmania species, disease reservoirs, and vector control strategies in the region.
- Increase in the incidence, extension to previously non-endemic areas and varied clinical presentation underlines the importance of high index of suspicion among clinicians.
- Awareness among health workers regarding the disease and recognition among the differential diagnosis of asymptomatic/ulcerated papules and plaques is important for correct diagnosis, especially in non-endemic areas.
- In resource poor settings, confirmation of diagnosis based on epidemiological criteria, clinical criteria, giemsa stained slit skin smears (L.D bodies), and H and E stained skin biopsy sections should be sufficient.
- Different treatment options available must be based on leishmania species, geographic regions and clinical presentation.
- Reports about spontaneous resolution and effectiveness of local therapies have resulted in local therapies being considered as first line treatments in most cases.
- Intralesional treatment may be considered as a preferential form of treatment for OW CL, thus evading the toxicity associated with systemic administration of drugs.
- Studies to improve diagnostic algorithms for CL, including identification of vector and vertebrate host(s), and the diversity of leishmania species responsible for disease are warranted.
- Funding by world health agencies to carry out research for species identification (DNA based tests) in newly identified endemic foci for the disease.
- Non-availability of drugs is a major issue in developing countries. Antimonials are still one of the most effective modalities to treat cutaneous leishmaniasis, if given under supervision and proper monitoring carried out. World health agencies need to give attention to the disease and make drugs available (on the lines of MDT in leprosy) especially in resource poor countries.

**Biography:**

Dr. Shagufta Rather studied Medicine at the Government Medical College, Jammu and graduated as MD Dermatology in 2007. She then joined as faculty at Government Medical College, Srinagar, Jammu and Kashmir, India in 2011. She also did one month certificate course in "Contact Dermatitis" from All India Institute of Medical Sciences, New Delhi, India. She is an active member of Indian Association of Dermalogy, Venereology and Leprosy. She has published more than 50 research articles in national and international journals. Has authored 11 book chapters. Has presented her work in many national conferences. Her special areas of interest are Leprosy, Cutaneous Leishmaniasis, and overall Granulomatous Cutaneous Disorders. Has an experience of more than 4 years in Dermaoscopy in skin of color.

# Pulmonary tuberculosis presenting as lung mass

**S. Kishore*[1], Allwyn Vijay[2], Murugan Palaniappan[3], Rajeswari, Abaranam[4]**

[1]Postgraduate, Institute of thoracic medicine, madras medical college, Chennai, Tamilnadu, India

[2,3,4]Institute of thoracic medicine, madras medical college, Chennai, Tamilnadu, India

**Introduction:** Tuberculosis has a varied presentation and clinically mimics malignancy as both have similar symptoms. Lung masses are usually a benign or malignant lesion, but tuberculosis can also be an uncommon cause of such presentations. Usually the features of active tuberculosis on CT chest includes centrilobular nodules with tree in bud appearance, lobular consolidation, cavitation, bronchial wall thickening, necrotic mediastinal and hilar lymphadenopathy and pleural effusion. Histopathological examination shows epithelioid cell granuloma which constitutes epithelioid histiocytes, peripheral lymphocyte cuffing, langhans giant cells with caseating necrosis.

**Case Series:**

**Case 1.** A 52 year old female was admitted with complaints of breathlessness for 1 year, cough with expectoration for 6 months, reduced appetite and weight loss. She has no comorbidities, no prior tuberculosis history. Chest x-ray shows homogenous opacity in left upper zone. Sputum CBNAAT – Mtb not detected. CECT chest shows heterogeneously enhancing mass in left upper lobe with mediastinal lymphadenopathy. Fibre optic bronchoscopy shows anthracotic patches, bronchial wash NAAT – Mtb not detected. CT guided biopsy shows areas of caseating necrosis and inflammatory infiltrate composed of lymphocyte, plasma cell, epithelioid cell, langhan type of multinucleated giant cell. Based on the histopathological finding, anti – TB treatment was initiated.

**Case 2.** A 53 year old male was admitted with complaints of breathlessness, cough with expectoration for 1 month, with reduced appetite and weight loss. He is a known case of diabetes mellitus on treatment. He was a chronic smoker and had pulmonary tuberculosis 10 years back. CECT chest shows enhancing hyperdense lesion in left hilar region with multiple enlarged enhancing nodes seen at subcarinal and hilar level. Sputum AFB – negative. Fibre optic bronchoscopy shows mass obscuring the left main bronchus, bronchial wash NAAT Mtb not detected. CT guided biopsy shows dense collection of lymphoid aggregates, histiocytes forming granuloma. Based on the histopathological finding, anti – TB treatment was initiated.

**Discussion:** WHO estimated 9.6 million new TB cases to have occurred globally, of which 2.2 million is in India alone. There were estimated 1.5 million total TB deaths in 2014 or about 16 death per 1,00,000 population in the world. Tuberculosis of lung can mimic as a mass. Lung malignancy can be solitary pulmonary nodule or mass lesion with ill-defined, speculated or well defined mass with/without mediastinal lymphadenopathy. Pseudotumoral manifestation occur in 3.5 to 4.5 percent of immunocompetent tuberculosis patients even in endemic areas.

**Figure 1:** Chest X-ray of case 1

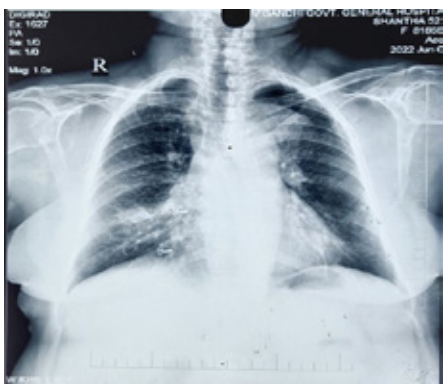
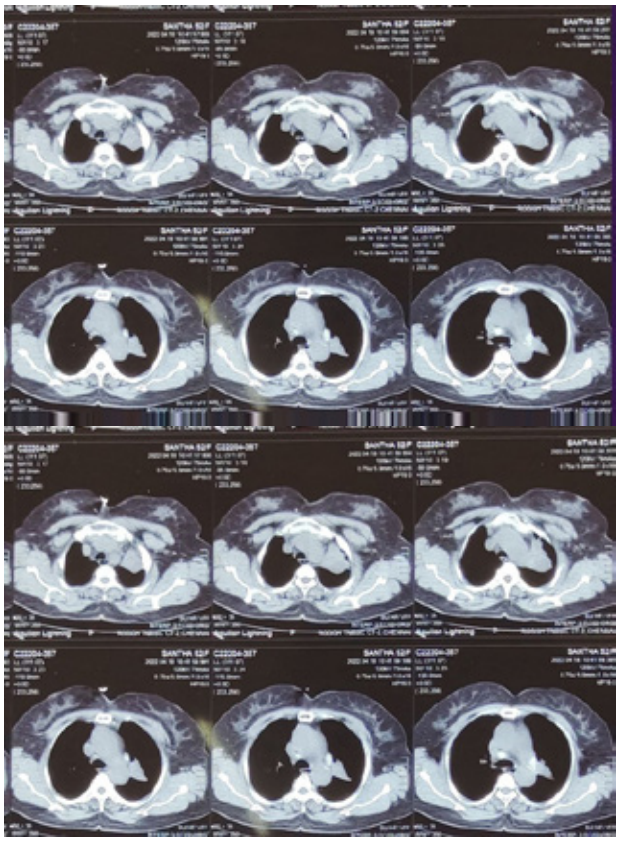


**Figure 2:** CECT chest of case 1



**Audience Take Away:**

- As in endemic countries like India, we should definitely suspect tuberculosis in a mass like lesions if patient present with breathlessness, loss of appetite and loss of weight which is classically present both in tuberculosis and malignancy.
- Histopathological evidence provides a better diagnosis in undiagnosed cases.
- Early initiation of treatment has good outcome.

**Biography:**

Dr. S. Kishore from Ramanathapuram, Tamilnadu, currently doing post-graduation MD Thoracic medicine in Madras medical college, Chennai. He completed MBBS degree under Pondicherry University in 2016.

# Cyst-like structures in the life cycle of trichomonas vaginalis: A possible non-sexual mode of transmission

**Priya Yadav**
Indian Institute of Science, Bangalore, India

Trichomonas Vaginalis is a parasitic protozoan known to cause a non-viral sexually transmitted infection known as Trichomoniasis. The infection encompasses a broad range of symptoms in both male and female patients ranging from acute inflammation, premature labour, low birth-weight of infants, vaginitis and increased susceptibility to life-threatening Human Immunodeficiency Virus (HIV) infection, cervical neoplasia and pelvic inflammatory disease. Although most of the infected patients are asymptomatic, the annual incidences of t richomoniasis are more than 170 million throughout the world.

Life cycle of the parasite has been traditionally described as consisting of motile and symptom-causing trophozoites which are sexually transmitted. In our current research, we show the formation of viable cyst-like forms in stationary phase of *T. vaginalis* axenic culture. Like cysts from other protozoan parasites like *entamoeba histolytica* and *giardia lamblia*, *T. vaginalis* Cyst-Like Structures (CLS) appear spherical, immotile, uniquely stains with calcofluor white, is resistant to osmotic lysis and detergent treatments. We used calcofluor white, a stain which specifically binds to chitin and cellulose-containing structures, to score for the cyst-like structures. We demonstrate and quantitate the processes of encystation as well as excystation *in vitro*; thus, completing the parasite's lifecycle without any chemical/ temperature alterations. We found that CLS play an important role physiologically as it is resistant to detergents, swimming pool water, and also able to convert back to trophozoites. Finally, we show that symptomatic human patient vaginal swabs have presence of both *T. vaginalis* trophozoites and CLS; thus, highlighting the role of cyst-like forms in clinical infections. The study highlights the plasticity of the pathogen and its rapid adaption when subjected to stressful environmental cues. Together, our findings suggest an important role of cysts-like structures in the parasite's life cycle, pathogenesis and transmission.

**Audience Take Away**

- The talk includes new findings which are relevant to the academic as well as clinical field.
- The audience will be benefited by learning the strategies used by the parasites to cope for survival and efficient transmission.

**Biography:**

Priya Yadav has completed Masters in life sciences in Indian Institute of Science at the age of 23. And pursuing PhD research from Indian Institute of Science in the field of neglected infectious diseases, one of which is a very common sexually transmitted infection caused by *Trichomonas vaginalis*. She is working with Prof. Utpal Tatu's group in Biochemistry department in IISc, India.

# Dengue and SARS COV2 co-circulation early warning according to climate variations in Cuba

**Yazenia Linares Vega*[1] and Paulo Lazaro Ortiz Bulto[2]**

[1]Provincial Meteorological Center, Ministry of Science, Technology and Environment (CITMA), Meteorological Institute, La Havana, Cuba

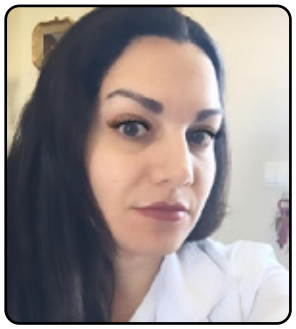
[2]Climate Center, Ministry of Science, Technology and Environment (CITMA), Meteorological Institute, La Havana, Cuba

Co-circulation Dengue and Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is a reality that is more dangerous in endemic regions of arboviruses. The circulation of both viruses continues to spread, mainly in tropical environments, causing a high impact on the health systems of the countries due to the high morbidity caused by each virus. Knowing in advance the areas where they circulate the most at the same time, allows decision makers to take effective measures to reduce the risk of both epidemics that can lead to the collapse of health systems. Therefore, forecasting the circulation of the SARS-CoV-2 and dengue virus based on the transmission mechanisms of each virus and the influence of climate variability on a temporal and spatial scale makes it possible to improve the alert system and provides a tool for decision-makers in the health system take the necessary control measures. Methods: Ecological study with retrospective-prospective analysis of the SARS-CoV-2 virus series, dengue, as well as aedes focus with its index and climatic anomalies described by the bulto complex climatic index ($BI_{l,r,t}$). The interpolation method was generated for the spatial structure with continuous information of 1200 nodes (Raster format). The kriging method combined with the inverse distance method (IDM) with a resolution of 10 $km^2$ was implemented.

The multivariate moran index was used to determine the spatial correlation. Models were developed for each indicator according to their transmission mechanisms and the influence of the environment on each one. For the prediction, the simultaneous autoregressive models and the spatial autoregressive conditional models were used. Temporal modelling was performed using the autoregressive conditional heteroscedastic model and the autoregressive model, both with exogenous variables. To obtain the forecast maps with co-circulation risk areas, a stratification of the predicted circulation of both viruses is performed and map algebra is applied. Results: The moments of greatest risk of dengue and SARS-CoV-2 co-circulation are the months corresponding to the second quarter of the rainy period August-October with conditions of high humidity, very high temperatures, high volume of precipitation, high cloudiness, being potential predictors. The areas with the highest viral co-circulation were the Central-Eastern region of the country. All these results led to the creation of the alert system for dengue and co-circulation with SARS-CoV-2 based on the observation and forecast of climatic factors. Conclusions: An early warning system for infectious diseases and their causal agents was created. This system strengthens the health sector's surveillance system for decision-making. It is evident that the climate is an important determinant for the health sector, and in particular to understand the behaviour and co-circulation of dengue and SARS-CoV-2, which strengthens the active health surveillance system. For the implementation of this system, it is necessary to form a transdisciplinary team, guarantee georeferenced information (climatic, virological and epidemiological date), which are the input in models on ArcGis and obtaining the forecast maps based on impact, and can be generalized to other regions, as well as have the information.

**Biography:**

Yazenia Linares Vega, meteorologist in Meteorology Institute of Cuba, researcher on climate and health, specifically models of spatial prediction of infectious diseases from climate conditions. Has given countless conferences, workshops, Professor on topic of infectious diseases and climate variability and change. She is a PhD student in topic: Effect of climate on dynamics and circulation of viruses, as well as prediction of viral spread. She has several publications in the theme. She collaborates and cconducts research with several institutes (e.g. Tropical Medicine IPK, Institute of Hygiene, Epidemiology and Microbiology) both Environmental and Health in Cuba as well as in different countries.



# A case report of melanoma as acute mastoiditis in a 10-month-old female child

**Konstantina Chrysouli**
ENT Department, Penteli Children's Hospital of Athens, Athens, Greece

We present a rare case of transplacental-transmitted maternal melanoma to the placenta and foetus during the pregnancy of a 34 year old woman. She was diagnosed with a melanoma at the age of 25, for which she was treated with chemotherapy. During her pregnancy, she presented with a recurrence of the disease and died 3 months after delivery. The 10-month-old female child presented with a recurrent retroauricular oedema on the left side, as in acute mastoiditis. A trephination of mastoid apophysis followed. Multiple fragments of dark-coloured tissue were sent for histological examination, and the immunophenotype showed a melanocytic tumour in the mastoid. A full radiological assessment showed no sign of metastasis. The child remained without treatment. Complete remission of bone metastatic lesion has been confirmed by follow-up; now, the child is 4 years old, alive, and without evidence of disease.

**Audience Take Away:**

- Foetal metastases are rare. Melanoma is the most common neoplasm with transplacental transmission to the foetus with very poor prognosis. We present a rare case with transplacental-transmitted metastases from maternal melanoma to the mastoid with spontaneous regression. The child presented with the similar clinical characteristics as those in acute mastoiditis .
- Melanoma involves 8% of the cases of cancer occurring during pregnancy. Foetal metastases are always associated with neoplastic involvement of placenta. Biological characteristics of foetal metastases from maternal cancer need further investigation. For this reason, in case of malignancy during pregnancy, we recommend immunohistological analysis of the whole placenta.
- We cannot exclude the possibility of a delayed presentation of the disease due to lack of long-term follow-up data on unaffected children born from mothers with metastatic melanoma Thus, newborns who do not present melanoma at birth should be considered at high risk and undergo close follow-up.

**Biography:**

Dr. Konstantina Chrysouli works as a specialist Otorhinolaryngologist at Penteli Children's Hospital, Athens, Greece. She is a Member of the European Rhinologic Society, of the European Society for Medical Oncology (ESMO), of the European Head & Neck Society (EHNS), the European Society of Pediatric Otorhinolaryngology (ESPO) and the European Academy of Fascial Plastic Surgery (EAFPS). She received her training in Otorhinolaryngology in the 1st ENT Department of University Hospital of Athens Hippocrates and in Athens General Children's Hospital "P. & A. Kyriakou". She also holds a Master's Degree in Rhinology from the University of Athens and the University of Patras.

Dr. Chrysouli has participated in many International and Global Conferences with speeches and Oral Presentations. Her current clinical and research interests cover the full breadth of Pediatric Otorhinolaryngology, with a particular interest, though, in Rhinology and Otology-Neuroaudiology. She has publications that have been cited many times and also serves as a Reviewer and as an Editorial Advisory Board Member of International peer-reviewed ENT journals.

# Investigation of a suspected case of diphtheria at the Eliazar Germain Hospital center, Petion-Ville Haiti, June 27th, 2022

**Rose Anaelle Pierre Jean freycinet*, Liline garcon**
Field Epidemiology Training Program Resident (FETP), Haiti

**Background:** From January 2019 to January 2020, global diphtheria coverage dropped by 33% and Haiti's by 79%. An alert was launched on June 24th, 2022 by the municipal health office of Pétion-Ville. The objective of this investigation was to ensure the detection of the case and to putin place control and prevention measures.

**Methods:** A descriptive study (case study) was carried out on June 27th, 2022. The case definition,the investigation and laboratory request form developed by the laboratory and research epidemiology department were used. Data analysis concerns the following variables: socio- demographic/epidemiological data, source of reports, clinical information, vaccination status, results, case classification and follow-up.

**Result:** This is a 34-year-old woman with: fever, tonsillitis, dyspnea, dysphagia, thick grey-white coating, pharyngitis and cervical lymphadenopathy. She was placed on amoxicillin-clavulanic acid. Her only contact is her husband; the latter was presenting with fever, tonsillitis and dysphagia.Case was investigated on June 27th, 2022. Culture results were negative. The vaccination records of the patient and her contact are not up to date.

**Conclusion:** This is a case classified as rejected having benefited from a follow-up (awareness by telephone). The negativity of the test can be explained by the administration of antibiotic therapy before sampling. This study shows the need to involve medical personnel in the monitoring of notifiable diseases, and the strengthen strategies for increasing vaccination coverage by implementing a vaccination policy for adolescents and adults.

**Biography:**
Dr. Rose Anaelle Pierre Jean Freycinet holds a Diploma of Specialized Higher Studies in Management of Health Services (DESS-MGSS). She works as head of the preparedness unit at the National Health Emergency Management Unit (UNGUS) at the Ministry of Public Health and Population (MSPP). She works closely with the monitoring and alert service of the said Unit. She is currently a resident at the intermediate level of the Field Epidemiology Training Program (FETP-Haiti).

# Investigation of a suspected case of measles in thomassin, Petion-Ville Haiti, May 2021

**Jean Lomega**
Field Epidemiology Training Program Resident (FETP), Haiti

**Background:** Measles, a highly contagious viral infection caused by a paramyxovirus (measles virus) particularly affecting children under 5 years old with a case fatality rate of 3 to 15% in developing countries according to the World Health Organization. Since 2012, Haiti has receivedthe certificate of its elimination but it remains an immediately reportable disease. On May 9, 2021,the Western health department was alerted to a suspected case of measles in thomassin, commune of Petion-Ville. An investigation was conducted to confirm the information in the community.

**Methods:** This is a descriptive analysis. The Measles case definition of the Directorate of Epidemiology, Laboratories and Research (DELR) was adopted. Interviews were conducted with the suspected case. The investigation form was used to collect sociodemographic, clinical and risk factor data. The sample was collected and transferred to the National Laboratory for testing. Microsoft Word and Excel were used for analysis and presentation of results.

**Results:** The case was a 36-year-old man, no vaccination status; he had fever, swollen eyelids, red eyes, cough, runny nose and the IGM antibody test was suspicious of measles. Another suspected case was identified by active search, her 3-year-old child; vaccinated and lived in the same house as the index case. The IGM antibody test was negative for measles and positive for rubella hencere-testing was requested but refused. Education sessions on the mode of transmission, signs and symptoms of measles/ rubella were done with the family.

**Conclusion:** The investigation conducted ruled out measles and confirmed Rubella in thecontact, but the new tests were refused by the patients.

**Biography:**
Lomega Jean, was born in Haiti on May 30 1978. Medical Doctor, graduated from Cuba sin 2008, specialist in family medicine. He is a health Services' manager. Now he is a resident in Field Epidemiology Training Program (intermediary level). He is working for the Ministry of Health in Haiti as Chef Service of Health Care.

# Title: Investigation of ethyl intoxication on April 27, 2022, in the locality of Tamarin, Thomonde, Centre, HAITI

**JOSEPH Vichenou**
Field Epidemiology Training Program Resident (FETP), Haiti

**Background:** Following an OSE alert at the Thomonde Health Centre on April 27, 2022, on people with acute gastroenteritis. In less than 24 hours, a team went to conduct an investigation in the tamarind locality, confirm the existence of the disease/ phenomenon, identify risk factors, and establish controls and Prevention.

**Methods:** Descriptive investigation of series of cases related to the Intoxication notified in the locality of Tamarin on April 27, 2022. An investigation team was formed, a case definition was developed, the investigation form for any unusual phenomena was used to collect demographic data, risk factors, and clinical and para-clinical data on case development. Collect and send the specimen to the laboratory. Use of software: word, Excel, Epi-Info 7.2 for data processing and analysis, and presentation of results in the form of tables and graphs.

**Results:** This is an ethyl intoxication grouping Thirteen (13) persons, age group between 21 and 47 years, mean=34 years, mode=32 years all men were recorded in the locality of Tamarin. The predominant signs were abdominal pain, vomiting, diarrhoea, and (40%) of the symptoms included: loss of consciousness and dizziness. Identified risk factor is a local rum, the sample of the rum has been sent to the laboratory and we wait for the result.

**Conclusion:** The notification of ethyl intoxication must be declared immediately, the strengthening of the surveillance system on unusual phenomena could improve the control on the consumption of alcoholic products in the country and limit the damage. To this end, the team promotes hygiene, awareness and prevention measures.

**Biography:**
Joseph Vichenou is from Field Epidemiology Training Program Resident (FETP), Haiti.

# Evaluation of the tuberculosis surveillance system in the south region, Haiti, April, 2022

**Djeamsly Salomon**
Field Epidemiology Training Program Resident (FETP), Haiti

**Introduction:** Tuberculosis is a contagious infectious disease caused by a mycobacterium of the tuberculosis complex, mainly the tuberculosis mycobacterium or Koch's bacillus. Globally, tuberculosis is the 13th leading cause of death and the second due to an infectious disease, behind COVID-19. Haiti is now on the list of high prevalence countries in the Americas region. This study aims to evaluate the tuberculosis monitoring system at the level of the South department.

**Methods:** A descriptive cross-sectional study was carried out using PNLT tuberculosis surveillance data from January to December 2021 in the South department. Data was collected by:individual interviews using an elaborate questionnaire. We appreciated the attributes of organization and operation, usefulness, stability, flexibility, responsiveness, simplicity, representativeness and data quality. Tuberculosis surveillance officers were interviewed. Data entered and analyzed on Excel and Epi Info 7.2.

**Results:** Of 22 confirmed cases of tuberculosis identified, men constituted 14 (64%), young people aged 15 and 49 represented 64% of cases. The system has an average simplicity of 905, an average acceptability of 79%, a flexibility of 58.8%, an average sensitivity of 87%, an average stability of 50% and an average representativeness of (90%).

**Conclusion**: The tuberculosis monitoring system in the South department appears to be functional. It is useful, simple, sensitive, representative, low in stability and flexibility. In order tohave better surveillance of this disease, the involvement of all health personnel in the departmentis highly necessary. Improve stability and flexibility.

**Biography:**

Mr. Djeamsly Salomon is a graduate in Computer Science. He is a student in Administrative Sciences at the Episcopal University of Haiti. He works at the Ministry of Health and Population as a Computer and Communication Technician in the departments of South and Grand 'Anse. He is currently a resident of the 11th cohort FETP-Intermediate, Haiti.

# Evaluation of the COVID-19 Surveillance Subsystem, Sud, Haiti, May 2022

**Edna Ariste**
Field Epidemiology Training Program Resident (FETP), Haiti

**Introduction:** A robust monitoring system is essential for a correct estimation of the disease and epidemic burden. In the southern department, there were 1,365 confirmed cases including 58 deaths as of February 23, 2022. Public health surveillance is "the collection, analysis, the systematic and continuous interpretation and dissemination of data concerning events related to health for use in public health actions aimed at reducing morbidity and mortality and improve health. The objective of this study was to evaluate the surveillance system of the COVID-19 of the department of the South.

**Methods:** A descriptive cross-sectional study was carried out in May 2022. The attributes quantitative and qualitative aspects of the COVID-19 surveillance system were assessed using the center for disease control and prevention (CDC) guidelines for system evaluation public health. A semi-structured questionnaire was used to collect data on attributes of this system. Excel and Epi info 7 were used for data analysis.

**Result:** 31 people were interviewed. We found a simplicity of 80%, a flexibility of 84%, a sensitivity of 76%, a representativeness of 64% and an acceptability of 45%.

**Conclusion: T**he COVID-19 surveillance system in the south department is useful. He is simple, flexible, less acceptable on the other hand, sensitivity and representativeness are not efficient. Improve acceptability, sensitivity and representativeness.

**Biography:**
Edna Ariste is from FETP, Haiti

# Investigation of a suspected case of Monkeypox in the Commune of Carrefour, Ouest, Haiti, May 2022

**Jacquet Dareus Elphana**
Field Epidemiology Training Program Resident (FETP), Haiti

**Introduction:** Monkeypox is a viral zoonotic infection that results in a skin infection similar to smallpox. It is a disease of great concern throughout the world. In America, particularly in Haiti, the MSPP through its epidemiology department is also concerned about this disease. On May 30, 2022, a patient with skin lesions was reported by a provider at the Center de Santé Mère Térésa, in the commune of Carrefour, Ouest, Haiti. Our goal is to confirm the existence of the disease, search for other cases and establish control and prevention measures.

**Methods:** This is a descriptive study based on an investigation of a suspected case of monkeypox notified on May 30, 2022 in the commune of Carrefour, Ouest, Haiti. For this, a multidisciplinary team was formed. A case definition was developed and an investigation file from the Epidemiology department of Laboratories and Research was used to collect demographic variables, clinical and paraclinical signs, and other information about the patient's condition. Further searches were carried out in the Registries to trace other similar skin lesions, as well as travel history. Make sure to take the sample for confirmation of the case. The treatment and the analysis of the data were carried out on Excel 2019 and the results were presented.

**Results:** This is a 56-year-old woman, the woman notified to the hospital of Mother Thérésa, Commune of Carrefour, seen in an outpatient setting, with the following signs and symptoms: fever, headache, skin eruption. The result is pending, and community follow-up for contact tracing has been conducted in the household of the case and in neighboring households of the suspected case.

**Conclusion:** Clinical signs and symptoms alone were not sufficient to confirm the suspected case of monkeypox. Although its signs and symptoms are not obvious, one should wait for the lab test result of the collected specimen. We sensitized the population of this locality on the mode of transmission of the disease and also to establish control and prevention measures to limit and cut the chain of transmission to such an epidemic in the community.

**Biography:**
Jacquet Dareus Elphana graduated in nursing since 2012. She worked with PIH/Zanmi Health from 2010-2011. She is working at Dr Raoul Pierre-Louis Hospital as an Epidemiological Surveillance Officer since 2012. Currently she is resident at FETP-Haiti, Fontline level.

# Evaluation of malaria epidemiological surveillance system, South Department, Haiti, 2018 - 2021

**Berger Saintius**
Field Epidemiology Training Program Resident (FETP), Haiti

**Background:** In 2021, 21,868 cases of malaria were recorded in Haiti. South department is one of the three departments with most cases of malaria. 1,559 cases were recorded in the south department in 2021, 603 cases in young adults aged 15-49 years. Despite multiple interventions implemented to fightmalaria in this department, the incidence is still high. This study aim to assess the malaria surveillance system in the South Department of Haiti.

**Methods:** A descriptive study with a mixed approach (quantitative and qualitative) was carried out to assess qualitative and quantitative attributes such as simplicity, flexibility, acceptability, responsiveness, representability, and utility using the CDC's 2021 updated guidelines for assessing Public Health Surveillance Systems. A questionnaire was administered to the personnel concerned on the basis of their involvement in surveillance activities. Quantitative and descriptive analyses were carried out. Malaria data exported from Monitoring Evaluation Surveillance Integrated platform 2018 to 2021 was analyzed using Epi info 7.

**Results:** 8,058 confirmed cases of malaria, including 13 deaths were reported from 2018 to 2021. 4,141 cases (51%) were men; 3,912 cases (49%) were aged 15-49 years; 69% of deaths were women. The incidence rate was 2.34 per 1000 inhabitants. We found a simplicity of 88%, flexibility of 100%, an acceptability of 71.75%, a reactivity of 60%, a representativeness of 61.66% and a stability of 85%. Reported cases were investigated (45%).

**Conclusion:** The malaria surveillance system is operational and useful. The program should emphasize the investigation of cases, regular staff updating and feedback. It is simple, flexible and acceptable. However, it is unrepresentative and unresponsive. Improve the system representativeness and responsiveness.

**Biography:**
Since 2013, Mr. Berger Saintius holds a Bachelor's degree in Administrative Sciences from the Public University of Les Cayes, South, and Haiti. For 9 years, he has worked for the Ministry of Public Health and Population (MSPP) as Communal Epidemiological Surveillance Officer, Coteaux, South (Haiti). Currently, he is training in Field Epidemiology, intermediate level (FETP-Haiti). He has already contributed to the realization of a CASPER (Rapid Needs Assessment) study carried out by FETP-Haiti/DELR in August 2021 following the earthquake of August 14, 2021 in Haiti; he has also already conducted a survey on the Evaluation of the Epidemiological Surveillance System for Malaria in the southern region of Haiti. His area of interest is epidemiological surveillance.

# Epidemiological profile of typhoid at Wesleyen hospital in La Gonave, 2018 to 2020, West, Haiti

**Mikenson Dorcinvil*, S. Jean Jacques, P. Samuel, G. Freycinet, N. Fenelon**
Field Epidemiology Training Program Resident (FETP), Haiti

**Background:** Typhoid fever, with a mortality rate of 10% to 30%, is a severe disease. Its transmission is inter human direct or indirect is a public health problem. Worldwide, the WHO estimates that there are 11 to 20 million cases resulting in 128,000 to 161,000 deaths each year. Typhoid, an endemic disease in Haiti, is under surveillance. Despite parcel analyzes, no comprehensive studies have been conducted on Gonâve disease. The purpose of this study is to describe the epidemiological profile.

**Methods:** A retrospective descriptive study was conducted over the 2018-2020 period. The data were taken from the Integrated Monitoring Evaluation and Surveillance (MESI) platform. Socio-demographic, clinical characteristics were our variables of interest. The data was cleared and entered on excel and the analyses were done on Epi-Info 7.2. The information was presented in tables and graphs. A Confirmed case is any suspicious case with isolation of salmonella typhi in the blood or in the stool.

**Results:** 756 cases were recorded, 15-49 years the age group most affected, 437 (57.8%) were female and 319 (42.1%) were male. 179 cases were identified in 2018, 452 cases in 2019 and 125 cases in 2020 in those years and no deaths were recorded. The highest number of cases was observed in 2019 at epidemiological week 5th and 13th.

**Conclusion:** In 2019, the number of cases is higher. With the efforts made, cases are reduced in 2020. Improve data transmission and quality. Conduct a similar assessment at the level of other health institutions on the island.

**Biography:**
Mr. Dorcinvil Mikenson, musician, studied nursing at the Wesleyan University of Haiti (UWH) and he received Bachelor of Science degree in January 2019 and graduated. He then joined the Public Health team in the Ile de La Gonave region where he worked as a nurse executive of service at the Mare-sucrin community health centre. In 2021, he graduated in epidemiology at the front line/basic at FETP-HAITI. From then on, he gives to scientific research and carry out research and investigations. He attended the first scientific congress of FETP-HAITI as an author.

# Generated immune response in COVID-19 and therapeutics & diagnostics

**Anju Kaushal**
Assistant Professor (Former) Shiva Gp of Institutions, India, Auckland, New Zealand

The ongoing pandemic of COVID-19 is continued to surge due to emerging variants/subvariants being responsible to affect the vaccinated and unvaccinated populations around the world. A total of 628 million cases and 607 million deaths have been reported as of 13 October 2022. In symptomatic patients, the virus can impair the immune response and activating the exerted macrophages and monocytes to produce a hyperinflammatory immune response in the lungs that can be distributed to the other organs, ultimately leading to cause the multi-organ failure and death. Various drugs like chloroquine, hydroxychloroquine, dexamethasone, tocilizumab, Favipiravir etc. have been repositioned to use in the clinical trials. The emerging nucleic acid vaccines are being used for mass immunization. The mRNA vaccine is easy to manufacture serving as the best candidates for rapid response applications as compared to the conventional vaccines. The molecular vaccines don't require toxic chemicals, animal products and pose a risk of adventitious viruses. The molecular vaccines are being produced on many platforms including RNA, DNA, Viral-Vector, Live attenuated vaccine and protein-based subunit vaccines. The humoral response is observed to be waning within 5-8 months after the primary vaccination reported to be improved after administration of boosters in short period of time.

Many variants (have emerged during pandemic have shown their vigorous transmission and immune evasion infected many people seeking hospitalization. The variant of concern, omicron including its seven subvariants such as, BA.4, BA.5, BA.2.12.1, BA.2.11, BA.2.13 and BA.2.75 have presently dominated the world. PCR is a reference method for the detection of SARSCoV-2. LAMP, CRISPR, and Isothermal amplification methods are also developed to detect the viral infection. Besides, other immunodiagnostic and serologic methods are being used to detect any breakthrough infection. NGS sequencing has been used largely to build the phylogenetic analysis of SARSCoV-2 and its variant could be useful to design the new vaccine candidates depending upon its higher transmissibility and infectiousness proven to be efficacious for developing neutralizing antibodies. mRNA vaccines do require -20 to -80 degree ultra-low temperature to preserve the stability of the vaccines, could be a challenge in maintaining the supply-chain for vaccine distribution. This presentation will signify the strategic modalities of modern diagnostics and therapeutics, against the emerging SARSCoV-2 infection have been proven to be beneficial to save the lives even in breakthrough infections. The challenges involved would increase the opportunities for further research on various fronts.

**Audience Take Away:**

- The audience will certainly learn from this seminar about the ongoing pandemic, immune response impairment during infection and the targeted drugs and vaccines are being used to combat the virus invasion.
- Yes, most of the biotechnology and pharmaceutical companies and academic institutions are working on these modalities and in related subjects, would inspire audience to work on new projects.
- Sure, this presentation increases the sphere of knowledge would open the new avenues to work on more research projects in many faculties of sciences such as, Microbiology, Biotechnology, Pharma, Chemistry, Biochemistry etc., especially on new drug modalities, diagnostics based on the immune response, to combat the challenges appeared during pandemic period. The waning immunity in such short period would be another subject taken under consideration.
- Since this presentation is based on the present pandemic, we have faced many challenges would indicate to work on the development of more robust methods, to explore on metagenomic sequencing for the precise stratification and optimization of the sequencing platforms, to work on the waning immunity in short period, using platforms like microbiota manipulations etc. Would help increase the immune regulations, vaccines stability at ambient temperature etc. However, this pandemic is a life time experience for all the researchers around the world help them to continue their research on all related challenges to solve them.

**Biography:**

Dr. Anju Kaushal received her MSc. Microbiology from Central Research Institute, Kasuali, India in 1993 and awarded with PhD Microbiology from Panjab University, Chandigarh, India in 2003. She worked in various scientific & medical institutes and companies in India and New Zealand. Her expertise is in Science and Technology, R&Ds, productions and QA/QC in the field of biologicals, diagnostics and academia. She worked on Rabies, Aspergillus, Candida, HIV, enzymes and fermentation technologies. Her area of interest includes vaccines, sera & diagnostics and novel therapeutics. She also attained, more than six years of experience in small business management, brand & marketing, communication & information. She has assisted many scientists in their careers. She has published 12 articles in Scientific Journals and more than 40 articles on LinkedIn.

# KEYNOTE FORUM

## DAY 02

3RD EDITION OF WORLD CONGRESS ON

# INFECTIOUS DISEASES

19-20 OCT

**Vijay Prabha*, Kalpana Rana**

Department of Microbiology, Panjab University, Chandigarh, India

## Assessment of the role of uropathogens in reproductive performance of male mice

Infertility is a condition in which conception does not occur even after one year of regular unprotected sexual intercourse. Out of the 15% of the affected couples, the male factor is involved in 40-50% of the infertility cases. Of the various reasons cited for male infertility, the microbial infections have not been given their due because of their asymptomatic nature. Even though the microorganisms could be isolated from semen of both fertile as well as infertile men, yet several reports have surfaced up regarding their greater frequency in semen samples from asymptomatic infertile patients than in those from fertile men. The microorganisms which are most prevalent in semen belong to uropathogens viz. Staphylococcus aureus, Enterococcus faecalis, Escherichia coli, Klebsiella sp, Proteus sp., Pseudomonas sp. and Serratia sp. The presence of these uropathogens in semen has been confirmed by various studies but their role in male fertility is still controversial.

These uropathogenic microorganisms can negatively affect the sperm motility leading to immobilization without (SI) or with agglutination (SA) while others donot impede with them at all (NSI-NSA). This can be attributed to either release of secretory factors or direct interactions. Apart from motility, SI/SA microorganisms also impair various other sperm parameters viz. viability, Mg2+- dependent ATPase activity and acrosome reaction. Further, the presence of Sperm Impairing (SI/SA) uropathogens in threshold number in the male urogenital system lead to reduced reproductive potential of male mice as a consequence of deterioration of process of spermatogenesis and the absence of same in case of NSI-NSA microorganisms highlighting that merely the bacterial colonization is not imperative; rather the sperm impairing property is vital. Moreover, SI/SA microorganisms also increased levels of inflammatory markers i.e. MDA and cytokines, which lead to oxidative stress and tissue injury, further indicating the participation of an additional mechanism i.e. inflammation, in subsequent development of male infertility.

**Audience Take Away:**

- The audience will get deeper insights into the relationship between microorganisms and male infertility.
- This research can be used further to better understand the mechanisms of infertility caused by microorganisms.
- New therapeutic measures can be exploited to ameliorate the infertility caused by various microorganisms.

**Biography:**

Dr. Vijay Prabha, is working as Professor in the Department of Microbiology, Panjab University, Chandigarh, India. She has 30 years of teaching and 40 years of research experience. Her area of expertise is "Role of microorganisms in male and female infertility and exploitation of microbial factors as male and female contraceptive agents". She has guided number of M.Sc. and Ph.D students. She has about 95 publications in national and international journals. She has also presented her work in various national and international conferences as an invited speaker. She is life member of Association of Microbiologists of India and Panjab University Research Journal of Science. She is editorial board member of various international and national journals.

# SPEAKERS

## DAY 02

3RD EDITION OF WORLD CONGRESS ON

# INFECTIOUS DISEASES

## 19-20 OCT

# Pulmonary tuberculosis mimicked as metastatic lung carcinoma: A case report

**Shane B. Villamonte*[1], Julie Christie G. Visperas**

[1]Fellow-in-Training, Department of Medicine, Section of Pulmonary and Critical Care Medicine, University of Santo Tomas Hospital, Manila, Philippines

[2]Associate Professor, Department of Physiology and Internal Medicine, University of Santo Tomas Faculty of Medicine and Surgery; Consultant, Department of Internal Medicine, Section of Pulmonary and Critical Care Medicine, University of Santo Tomas Hospital, Manila, Philippines

Tuberculosis has been regarded as a great mimicker as it can imitate various disease entities. Clinicians must be aware of tuberculosis's atypical clinical and radiologic manifestations, especially in areas where it continues to be a significant public health concern. This is a case of a 59-year-old female who presented with acute dyspnea, she is a non-smoker, hypertensive, non-diabetic, non-asthmatic, no previous tuberculosis treatment nor exposure. Lung physical examination revealed decreased breath sounds on the left lung field. Family history was negative for lung malignancy but is positive for colon cancer. On initial workup, a chest radiograph showed massive pleural effusion on the left and she underwent chest tube thoracostomy insertion. Subsequently, chest CT-scan with contrast was done revealing 79.9 x 71.1 x 69.4 mm solid heterogeneous mass with irregular calcification at the left upper lobe and lingula and 73.1 x 67.5 x 65.0 mm right mid lung mass with multiple varisized irregular nodules on both upper lobes. There was also minimal left-sided pleural effusion. The initial impression was a possible pulmonary malignancy with metastasis. Video-assisted thoracoscopic surgery, deloculation with biopsy of the left upper lobe mass was done which showed loculated pleural effusion and drained 70cc serous pleural fluid. A yellowish, well-encapsulated mass was situated medially, slightly adherent to the left upper lobe. Multiple samples from the left upper lobe mass were taken and sent for rush frozen section, revealing caseating granulomatous inflammation consistent with tuberculous etiology. She was started on anti-TB medications and was discharged improved and stable.

**Audience Take Away:**

- This atypical presentation of tuberculosis will add to the audience's knowledge of the other radiologic manifestation of tuberculosis.
- In cases when clinicians are presented with a patient who appears to have lung malignancy on a chest radiograph, infectious causes such as tuberculosis must be included in the differential diagnosis.
- For the field of research, higher-level studies may be under taken to investigate the incidence and prevalence of tuberculosis presenting like lung malignancy.

**Biography:**

Dr. Shane B. Villamonte finished her pre-medical course, BS Medical Technology, at the University of Santo Tomas, Manila, the Philippines, in 2012 and received her medical degree at the same university in 2016. She had her post- graduate internship in 2017 at the University of Santo Tomas Hospital, Manila, Philippines, and completed three years of Internal Medicine residency at the same institution in 2020. Dr. Villamonte is currently in her 2nd year of Adult Pulmonary and Critical Care Medicine training at the same institution.

# Prevailing microorganisms in confirmed COVID-19 patients admitted to the medical ICU of atertiary hospital in the Philippines

**Julie Christie G. Visperas*[1], Heather Abigail G. Gutierrez*[2]**

[1]Department of Physiology and Internal Medicine, University of Santo Tomas Faculty of Medicine and Surgery, University of Santo Tomas Hospital, Manila, Philippines

[2]Department of Internal Medicine, University of Santo Tomas Hospital, Manila, Philippines

One of the main problems encountered in the hospital setting is the increasing antimicrobial resistance due to overuse of antibiotics for viral infection. With the recent SARS COV2 pandemic and previous data showing a correlation of viral infection predisposing patients to bacterial infection resulting in an increase in morbidity and mortality rates, more so in the critically ill, it has been the practice to give empiric antibiotics to cover for bacterial coinfection in COVID-19 confirmed patients despite insufficient evidence. The difficulty to ascertain the cause being solely viral from concomitant bacterial infection due to similarities in clinical laboratory and imaging presentation, including the increased risk of these patients (use of a ventilator, catheters, venous access and prolonged hospital stay) has led to more aggressive use of antibiotics. The CDC defined superinfection as an infection following a previous infection while a coinfection is an infection concurrent with the initial infection. There are conflicting and limited data regarding the burden of coinfection and superinfection with COVID-19. Initial data suggests that superinfection was common, especially in those with comorbidities and more severe cases. However, current data indicate that bacterial coinfection is relatively infrequent and recommends against the use of empiric antibiotics unless an objective finding makes bacterial superinfection more likely. A total of 88 patients were included in the study. The study population included patients aged 18 years old and above who were admitted to the intensive care unit which turned out positive for COVID-19, detectedusing RT-PCR and with chest radiograph findings of infiltrates suggesting pneumonia considering their risk for multi-drug resistance, all patients were started on broad-spectrum antibiotics. Sputum culture and blood culture were requested. Another specimen for culture was sent as deemed necessary by the infectious disease consultant. We found that the most common prevailing microorganisms in critical COVID-19 patients seen at our ICU are staphylococcus epidermidis (11%), klebsiella pneumonia (7%), pseudomonas aeruginosa (6%) and stenotrophomonas maltophilia (6%). The more common fungal pathogens isolated were candida tropicalis (14%) and candida albicans (13%). The majority of the growth was collected from the respiratory specimen (44%). Of all the cultures collected and submitted per patient, 40% had no growth. Other accounted infection includes catheter associated urinary tract infection (12%), catheter related blood stream infection (10%) and bacteremia (0.06%). The early antibiotic administrationmay have affected the results of the culture samples rendering some organisms not detectable. Our findings indicate that severe COVID-19 is associated with a high risk of bacterial infection as a complication and significantly worsened prognosis.

**This study has the following objectives and significance:**

Examine the occurrence of coinfection and superinfection in COVID-19 patients and their clinical outcomes, which could therefore translate into early identification and treatment action, identify the prevailing microorganism affecting critically ill COVID-19 patients. This, together with the hospital's existing antibiogram data, will guide the clinicians in treating their patients and up hold antimicrobial stewardship to prevent further increase in microbial resistance. Identify the predisposing factors contributing to bacterial co-infection and superinfection in these populations.

**Biography:**

Dr. Visperas finished Doctor of Medicine at University of Santo Tomas Faculty of Medicine and Surgery in 2002. Subsequently, she finished Residency in Internal Medicine, Fellowship in Pulmonary Medicine at UST Hospital; post-doctoral Fellowship in Pulmonary Hypertension, under the direction of Dr. Richard Channick at Massachusetts General Hospital, Division of Pulmonary Hypertension, Pulmonary Critical Care Medicine, Boston USA in 2011. She received her Master in Health Professions Education Degree at UST Graduate School last June 2018. She heads the Medical Intensive Care Unit at UST Hospital and is an Associate Professor at UST Faculty of Medicine and Surgery, Department of Physiology and Department of Internal Medicine.

Dr. Gutierrez finished Doctor of Medicine at University of Santo Tomas Faculty of Medicine and Surgery in 2017. Subsequently, she finished Residency in Internal Medicine in December 2021. She is a Diplomate of the Philippine College of Physicians.

# A rare presentation of disseminated tuberculosis with involvement of bone marrow

**S. Ahamed*[1], Allwyn Vijay[2]**

[1]Postgraduate in MD Thoracic Medicine, Madras medical college, Chennai, Tamilnadu, India

[2]Professor of Thoracic Medicine, Madras medical college, Chennai, Tamilnadu, India

**Introduction:** Tuberculosis of bone marrow incidence reported range from 0.3 to 3% TB. Bone marrow tuberculosis is a form of hematogenously disseminated tuberculosis with nonspecific manifestations. Therefore, in early stage of presentation, bone marrow aspiration and bone marrow biopsy with histopathological and microbiological examination may facilitate confirmation of the diagnosis.

**Case Report:** 42-Year-old Asian male presented with complaints of productive cough, low grade fever, loss of appetite and weight loss, with grade 1 MMRC breathlessness for 5 months with h/o massive hemoptysis for 1 day. Patient had past history of treated and cured pulmonary tuberculosis at 2015. He is known case of type 2 Diabetes mellitus on insulin for past 1 year since 2020. Patient being evaluated in local health care center with baseline blood parameters within normal range and found to be sputum positive for AFB bacilli with CT chest suggestive of left upper lobe apicoposterior and lingular cavitary consolidation with centrilobular nodules and labeled as microbiologically confirmed pulmonary tuberculosis on ATT FDC for last 1 month. Inspite of antituberculosis therapy, patient had complainits of persistent cough and h/o hemoptysis, severe fatigability. On evaluation anemia (hb-7.5) and severe thrombocytopenia (platelet -1000 cells/ul, total WBC count 4220, peripheral smear-microcytic hypochromic anemia with thrombocytopenia. Bone marrow aspiration and biopsy suggestive of marrow hypoplasia with granulomatous infiltration of bone marrow with caseous necrosis with impression of bone marrow tuberculosis. Bone marrow aspirate genexpert detected mycobacterium tuberculosis low with rifampicin sensitive. Patient is diagnosed as bone marrow tuberculosis with rifampicin induced thrombocytopenia, patient started on modified ATT regimen (Isoniazid, Ethambutol, Pyrazinamide and Streptomycin) after individual drug challenge. Patient condition improved and responding well to treatment and on regular follow up.

**Discussion:** When a tuberculosis patient presented with complaints of severe fatigueness, weight loss, hemoptysis pancytopenia/ anemia/thrombocytopeni/leucopenia, peripheral smear should be done and other causes of pancytopenia/coexistant malignancy causes tobe ruled out. Bone marrow aspiration and biopsy tobe done histopathological and microbiological confirmation to be done for tuberculosis dissemination into bone marrow. Being rare incidence bone marrow tuberculosis should not be missed out as it has high rate of mobidity and mortality rate and treatment with antitubercular theraphy should be initiated as early as possible for better prognosis and outcome. Bone marrow changes in tuberculosis are myeloid hyperplasia; plasmocytosis; megaloblastoid maturation; aplasia/hypoplasia; haemophagocytosis; caseating and non caseating granulomas, bone marrow necrosis; myelofibrosis.

**Figure 1:** CT CHEST: left upper lobe apico posterior and lingular cavitary consolidation

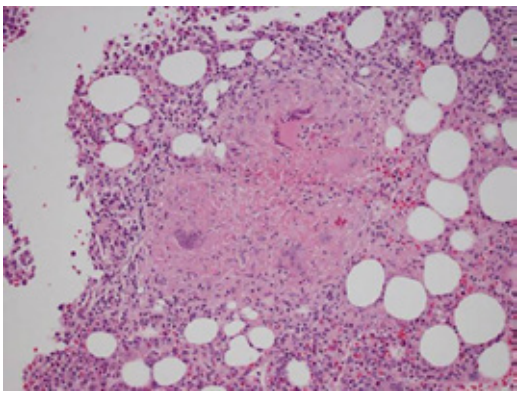


**Figure 2:** HPE showing bone marrow granuloma

**Audience Take Away:**

- Bone marrow involvement in tuberculosis being rare one should not be missed out.
- Bone marrow involvement is a marker of disseminated tuberculosis.
- Tuberculosis patient on Anti-Tubercular Therapy (ATT) should be followed up regularly and look for clinical prognosis and assessed for treatment failure, adverse drug reaction to ATT.
- Physicians should be trained in evaluating the causes for treatment failure and adverse drug reactions.

**Biography:**

Dr. S. Ahamed from Salem, Tamilnadu is graduated in MBBS degree under M.G.R University, Tamilnadu in 2018. Joined Postgraduation in MD thoracic medicine in 2020. Now pursuing final year postgraduation.

# Transmission dynamics and control strategy of single strain dengue disease

**Uttam Ghosh*, Pritam Saha, Gopal Chandra Sikdar**
Department of Applied Mathematics, University of Calcutta, Kolkata, India

In this paper we have considered a single strain dengue model with saturated incidence rate as well as saturated treatment. Three types of controls namely vaccination for susceptible humans, treatment for infected humans and mosquitoes killing effort by humans are considered here. Existence of different equilibrium points and their stabilityhave been investigated in terms of the basic reproduction number (R_0). The system experiences different types of bifurcations such as: Transcritical bifurcation, backward bifurcation depending on the different model parameters. To verify the validity of the proposed model, we have fitted the model with real reported data of Dengue outbreak in Singapore from 18th week, 2014 to 1st week, 2015. Performing sensitivity analysis we have identified most influentialmodel parameters to control the disease. We have discussed estimation of actual and effective reproduction number. Pontryagin's maximum principle has been used to find out the most effective control strategy for reducing dengue infection. Numerically we have shown the effect of different model parameters on disease spreading. Finally, using efficiency analysis we have identified that treatment for infected humans with mosquitoes killing effort is the most effective among considered control strategies.

**Biography:**
Uttam Ghosh is an assistant professor of Applied Mathematics in University of Calcutta. His research includes Biomathematics and Fractional calculus. He has more than 90 publications in reputed national and international journals.

# Development of Reverse Transcription Loop Mediated Isothermal Amplification (RT-LAMP) assay as a point-of-care diagnostics for SARS-COV-2

**Shweta Kelkar*[1], Rashmi H.M.[2]**

[1,2]Dairy Microbiology Division, NDRI, Karnal, Haryana, India

The present study aimed to develop a Reverse-Transcription Loop-Mediated Isothermal Amplification (RT-LAMP) assay as a "Point-of-care" (PoC) diagnostic solution which can be useful for the detection of SARS CoV-2. To develop this assay, the complete genome sequences of SARS CoV-2 reported from different States and Union Territories of India were downloaded from GISAID (Global Initiative on Sharing Avian Influenza Data) database. The sequences were aligned to identify conserved regions for designing RT-LAMP primers. After the literature search, three conserved regions with no previously reported primers for detection of SARS CoV-2 were selected and the primers were designed uniquely using primer explorer V5. A total of six sets (A, B, C, D, E and F) of primers, two each from the single conserved region were designed. The specificity of these primers was again checked *in silico* with BLAST tool in the NCBI server. The designed primers did not yield any similarity matches with the other human coronavirus except MERS-CoV and Bat SARS-CoV. On the other hand for the development of LAMP assay with these designed primers, the target conserved regions were got synthesized and analyzed for quality parameters before their use in the LAMP assay.

Later, the primers (type, concentration, and ratio) and LAMP reaction temperature were optimized in the development of LAMP assay using synthetic gene constructs. Further, the performance of the developed assay was evaluated at KCGMC, Karnal, Haryana, using cDNA synthesized from RNA of SARS-CoV-2 and the developed LAMP technique was found effective in the detection of SARS-CoV-2. The developed LAMP technique was further explored for the development of colorimetric/fluorometric LAMP assay for rapid visual detection of SARS-CoV-2. The performance evaluation of developed colorimetric and fluorometric LAMP assays yielded satisfactory results in the detection of SARS-CoV-2 RNA. Hence, the developed colorimetric and fluorometric LAMP assays can be used as PoC diagnostic tests for the detection of SARS-CoV-2. However, its performance directly with RNA or samples needs to be evaluated to make it an RT-LAMP assay and further validation is required with a larger sample size as per ICMR, India guidelines.

**Audience Take Away:**

- The developed assay can be beneficial for the detection of COVID-19 infections in a more efficient manner and within a short duration.
- In this study, we have developed unique sets of primers specific to target the selected conserved regions of the SARS CoV-2 genome.
- The presentation will also discuss the performance evaluation of the developed colorimetric and fluorometric LAMP assays.

**Biography:**

Miss. Shweta Kelkar completed her Post Graduation in the field of Dairy Microbiology from National Dairy Research Institute, Karnal, Haryana, India. During her M.Tech degree program at the institute, she performed the above stated research under the mentorship and guidance of Dr. Rashmi H.M. (Scientist, Senior Scale), Molecular Biology Unit, NDRI, Karnal, Haryana, India.

## Profile of rare community acquired uropathogens in a public health institute

**Sayan Bhattacharyya*, Atul Raj, Amit Banik**
Department of Microbiology, AIIH&PH, Kolkata, West Bengal, India

Urinary Tract Infections (UTI) may be caused by bacteria and also yeasts. The common uropathogens are escherichia coli and klebsiella pneumoniae, but sometimes rare bacteria like streptococcus bovis, burkholderia pseudomallei, enterococcus spp. and yeasts like candida spp. can also cause UTI. Materials and methods: Over a 2-year period we isolated many bacteria from midstream urine samples received in our lab from urban outpatient department. Isolates were identified by staining and other phenotypic and biochemical tests. Results: Overall culture positivity was 16-19% in urine samples over the 2-year study period. Most positive cases were seen in January-June. The commonest uropathogens were E. coli, proteus spp. and klebsiella spp. but rare bacteria were also isolated, like enterococcus spp., acinetobacter lwoffii, streptococcus bovis, yeasts like candida spp. and pichia anomala were also isolated. enterococcus spp. and streptococcus bovis were found more commonly in females than males. For enterococcus spp. the age group was variable, ranging from 3 years and 3 months to 60 years, and the most effective antibiotics were vancomycin , nitrofurantoin. linezolid and tetracycline. Yeasts were isolated only in females and belonged to species like candida tropicalis, pichia anomala and c. glabrata. fluconazole was effective in 80% yeast isolates. Burkholderia pseudomallei was also isolated, and only in 1 36-year old female patient. It was susceptible to cefotaxime, norfloxacin, azithromycin and nitrofurantoin. Conclusion: This highlights the importance of yeasts and non-fermenters and other rare bacteria as emerging causes of urinary tract infections in all age groups and seasons. Empirical chemotherapy also needs to be tailored accordingly in these patients.

**Audience Take Away:**

- The audience will get to know about rare bacteria and fungi causing community acquired UTI and realize that they can also cause UTI.
- They will get to know more about UTI which may help in their job prospects.
- Yes they can definitely use it for research and training.
- Yes it can be source of vital new information and can make learning more broad-based.
- Yes it will improve accuracy of laboratory diagnosis of UTI.
- New information will come out which will broaden the perspective of UTI diagnosis.

**Biography:**

Dr. Sayan Bhattacharyya studied Medical Microbiology at PGIMER, Chandigarh, India and postgraduated from there as MD in 2008. He then worked at various institutes and is now working as Associate Professor, Microbiology in All India Institute of Hygiene and Public Health, Kolkata, India. He has won many awards and has published more than 80 research articles in various peer reviewed international medical journals.

## Facial Pressure Ulcers incidence within pandemic in critical care depts. Are there feasible strategies to prevent this complication?

**Georgios D. Theodorakopoulos**
BSc (c) RPod, MBA, MSc, BSc RN, PgCert, Athens, Attica, Greece

The last 2 years after breakout of Covid pandemic there have been reported and published skin integrity complications mostly in critical care departments covid infected patients. International literature highlights the spread per 57% of facial pressure ulcer development, as consequence of critical care patient prone position, basic therapeutic element which minimize respiratory distress and reduce possible atelectasis presence. Increased number of hospitalized covid patients entering ICU on the onset of pandemic led to prolong hospital stay and cohort measures. On the other hand, mechanical force (mostly because of pressure >32mmHg and shear) in face (cheek), ears and chest area maximized magnitude of skin complication and put extra stress to intensivists and critical care dept. staff of how they could avoid skin damage without discounting lung therapy and patient discharge.

Aim of presentation is to sum up worldwide literature around FPU's incidence and impact, explaining critical care environment limitation for prevention of skin complications and feasible treatment options. Moreover, taking into consideration covid generated issues such as quality of health services within critical care, staff need for minimal contacts to avoid cross-contamination, possible lack of medical consumables and low skin integrity protocol compliance due to understaffing and difficulty in inspection of patient skin status.

It is suggested from clinicians that tackling FPU's in critical care to be a special focus prior to prone positioning including increase of skin protocol compliance, improved preventative measures, assess patients with fragile skin or malnourished, ensure offloading and redistribution of pressure. Finally, active involvement of more medical professions in critical care dept with expertise around skin complications to those areas such as ENT, Dermatologists and Wound Specialists would
help dept. to report lower FPU's incidence rate.

**Audience Take Away:**

- Audience will be able to implement take away messages around strategic prevention of FPU's in critical care by following a specific bundle of care around skin integrity during prone position
- Presentation will provide insights and condensed knowledge on how to protect skin at risk covid patients without jeopardizing respiratory therapy. Audience will be able to review robust up-to-date evidence and clarify available and feasible solutions by classifying initial and final steps of their future prevention FPUs strategy.
- Audience will have the opportunity to hear a wound expert with over of 13 years' experience in acute and chronic/ hard-to-heal wounds, former ICU Nurse well established in regional level among peers.

**Biography:**

Mr. Theodorakopoulos studied RN at Technological Institute of Patras and graduated in 2009. He worked for 4 years in neonate and adult ICU of Univ. Hospital of Patras and Olympion Clinic. In 2013 enter medical device market and worked for leading multinational companies as Clinical & Education Specialist. His passion around wound care and socioeconomic impact led him to receive a MSc in Wounds Care and an MBA in Health Economics. Currently he is a student of Podiatric Medicine (Queen Margaret Univ). He holds a certification in IC. Lecturer in national and international conferences around wound treatment-skin integrity and IC.

# Role of bronchoalveolar lavage fluid galactomannan in the diagnosis of invasive pulmonary aspergillosis in non neutropenic patients

**Gowtham Reddy Nomula*, Brijesh Sharma**
Department of Medicine, ABVIMS & Dr RML Hospital, New Delhi, India

Invasive Pulmonary Aspergillosis (IPA) is typically seen in immunocompromised hosts with classical risk factors but it is now being increasingly diagnosed in apparently immunocompetent patients. Unless suspected and diagnosed early in the latter group the morbidity and mortality are high just as it is in immunocompromised hosts. The EORTC/MSG case definitions apply to immunocompromised hosts only and the Bronchoalveolar Lavage Fluid (BALF) & serum galactomannan (GM) values have not been standardized for the non neutropenic hosts with newer risk factors. We conducted a study on 52 non neutropenic, suspected IPA patients out of which 16 were diagnosed IPA and 36 were not IPA cases. CKD as a risk factor was more common in IPA cases compared to non IPA cases (43.8% vs 13.9%, p value 0.03). Chest tomography showed cavity in significant number of IPA patients compared to non IPA cases (43.75% vs 14.3%, P value 0.021). BALF direct microscopy, culture and serum GM had sensitivities < 50% but specificities close to 95%. BALF GM showed promising results with sensitivity of 87.5% and specificity of 86.1% at cut off value 0.613. We suggest a lower cut off value of BALF GM against 1 as in EORTC/MSG criteria and to consider CKD as one of the risk factors for IPA.

**Audience Take Away:**

- This study highlights the magnitude of IPA in immunocompetent hosts thus the need for lowerthreshold for suspicion in such cases.
- Not many studies were done on diagnosis of IPA in immunocompetent hosts and the current studysheds light on the importance of GM in the diagnosis of IPA.

**Biography:**
Dr. Gowtham Reddy is currently working as senior registrar in ABVIMS & Dr RML Hospital, New Delhi from where completed his MD in General Medicine in May 2022. He graduated from esteemed Banaras Hindu University in 2018. He has presented many papers at national level conferences and is actively involved in research activity at the institute, currently working on rheumatoid arthritis and diabetes.

# Removal of Aichi (AIV), Adenovirus 41 (Ad41) and Hepatitis a viruses from drinking water by Zero-Valent Iron (ZVI) containing reverse osmosis membrane reactor

**Delia Teresa Sponza**
Dokuz Eylul University, Engineering Faculty, Environmental Engneering Department, Buca-Izmir, Turkey

The quality of drinking water have been recognized as increasingly critical issues for the coming decades. Among the factors that contribute to the looming water crisis are continued population growth and urbanization, deteriorating water infrastructure, increasing influence of wastewater and biosolids on drinking water sources, growing number of emerging contaminants due to climate change. The conventional water treatment processes, which are based on rapid sand filtration and chlorination and have stayed largely unchanged for decades, can adequately remove the many chemical and micrombial contaminants simultaneously. Among the problems facing water utilities and regulators, one particularly daunting challenge is how to control microbial pathonogens, disinfection by-products and residual disinfectants simultaneously – and to do so at an acceptable cost. On the one hand, high dosage of chlorine can produce high chlorine residuals and high levels of disinfection by products including trihalomethanes, haloacetic acids and haloacetonitriles. These cause cansirogenic effects in humans. In this study a reverse osmosis membrane containing zero-valent iron (ZVI) has been shown to remove the Aichi (AiV), the Adenovirus 41 (Ad41) and Hepatitis A viruses from groundwater, which suggests that it may be potentially useful for drinking water treatment. The effects of some operational conditions like pressure (4, 10, 15 and 25 bar) and permeate flux (2, 15 and 35 L/m2.h) on the removals of pollutants ana viruses were investigated. Removal efficiencies between 4.5 and 6 logs for all viruses was detected at apermeate flux of 36 L/m2.h and a pressure 25 bar. Total organic matter, dissolved organic carbon, SO4-2- ana NO3-1 removals were 98%.

**Biography:**
Prof. Dr. Delia Teresa Sponza is currently working as a professor at Dokuz Eylul University, Department of Environmental Engineering. Scientific study topics are; Environmental engineering microbiology, environmental engineering ecology, treatment of fluidized bed and activated sludge systems, nutrient removal, activated sludge microbiology, environmental health, industrial toxicity and toxicity studies, the effect of heavy metals on microorganisms, treatment of toxic compounds by anaerobic/aerobic sequential processes, anaerobic treatment of organic chemicals that cause industrial toxicity and wastewater containing them, anaerobic treatability of wastewater containing dyes, treatment of antibiotics with anaerobic and aerobic sequential systems, anaerobic and aerobic treatment of domestic organic wastes with different industrial treatment sludges, treatment of polyaromatic compounds with bio-surfactants in anaerobic and aerobic environments, treatment of petrochemical, textile and olive processing industry wastewater by sonication, treatment of olive processing industry wastewater with nanoparticles and the toxicity of nanoparticles. She has many international publications.

## The effectiveness of the national strategy for HIV prevention in Brazil

**Julia Palmieri de Oliveira**
Pontifical Catholic University of Parana, Curitiba, Parana, Brazil

Human Immunodeficiency Virus (HIV) infection is currently one of the greatest challenges relating to communicable diseases, given its high transmissibility and the absence of a cure. Since HIV became a pandemic, measures to restrain the virus are of global interest, with enormous efforts to find efficient ways to stop transmission and studies to discover a cure. In Brazil, the first case of the virus was identified in the 1980s. By 2021, there were more than a million reported cases of people living with HIV. Brazil has developed strategies as part of its public health policy to prevent HIV transmission throughout the population and reduce the comorbidities caused by the pathogen. These measures were named combination prevention and involved initiatives in biomedical, behavioural and legislative areas. This research intends to discuss what these interventions were to demonstrate their effectiveness in the domestic context of the HIV pandemic. Peer-reviewed articles were drawn from the databases PubMed, Medline and LILACS. In addition, official documents from the Brazilian Ministry of health were consulted. Throughout the actions taken in the country, there were therapeutic treatment free of charge for every infected person regardless of his or her viral load; follow ups of pregnant women to avoid vertical transmission; preventive actions, such as the free distribution of condoms and lubricants; availability of HIV and Sexually Transmitted Infections (STIs) tests in the primary care units for the general public; as well as primary and secondary prophylaxis. These measures enabled Brazil to reduce the total number of people infected with HIV. In addition, it maximised the quantity of infected patients with a suppressed viral load and people under consistent treatment. Hence, the country managed to reduce morbidity and mortality of individuals living with the virus.

**Audience Take Away:**

- The audience will be able to use what they learn in the areas of education, treatment or public policy to reduce HIV infections.
- Provide the audience with practical measures that were effective in the control of HIV infections to be applied in their respective jobs or areas.
- Present Brazil's HIV prevention policy and how it can be applied to other nations combating the HIV pandemic.
- Brazil's case study can be used to further research in HIV prevention.

**Biography:**

Julia Palmieri de Oliveira studied International Relations at University Centre of Curitiba, Brazil and graduated in 2012. She then graduated in Social Sciences at Federal University of Parana, Brazil in 2015. Currently, she is studying Medicine at Pontifical Catholic University of Parana, Brazil and will graduate in 2025. She presented several researches in national and international conferences, including the 1st Edition of World Conference on Planetary Health of WONCA and Inter league Congress on Woman's Health, which she won first place for her poster presentation. In July 2022, she took a Medical Practice Course at Oxford University, where she started her research on HIV prevention in Brazil.

## Life expectancy in pandemic times

**Scott J. Kush**
Life Expectancy Group, Menlo Park, CA, United States

Across the world, countries have experienced an unprecedented rise in life expectancy over the past 100 to 200 years. Public health measures, vaccines, antibiotics, improved medical treatments, technology, and access to care have driven the majority of these increases. In some countries, life expectancy has actually doubled during this time period. But wars and plagues can have significant impacts on life expectancy. In pandemic times, some of these monumental gains can be lost. Previous pandemics can be instructive on the quantity and length of these losses. With COVID-19 currently a top three cause of death for most countries throughout the world, the losses in life expectancy has been swift. However, this drop has not been equally disseminated throughout the population. Some countries and groups have been much more impacted than others. We will investigate which countries are doing the best and which ones have not been faring as well in our current pandemic.

**Audience Take Away:**

- What life expectancy is and how has it has changed over the past few hundred years.
- How past pandemics have impacted life expectancy.
- How the current pandemic is impacting life expectancy.

**Biography:**

Scott J. Kush, MD JD MS MPH is a medical researcher with the Life Expectancy Group. His focus is on life expectancy in general medical conditions, persistent vegetative state, traumatic brain injuries, cerebral palsy, and spinal cord injuries. This includes statistical and epidemiological mortality research on persons with developmental disabilities, injuries, and myriad chronic medical conditions across the various body systems. He is a fellow of the American Academy for Cerebral Palsy and Developmental Medicine. He has worked as an expert on over two thousand cases and testified in numerous depositions and trials. He regularly serves as a life expectancy expert and as an expert witness in the U.S. and abroad (including Canada, Australia, South Africa, and the UK).

# WORKSHOP

## DAY 02

3RD EDITION OF WORLD CONGRESS ON

# INFECTIOUS DISEASES

19-20 OCT

## Sarah El-Nakeep*, Sara F. Abbas*

MD, Associate Professor of Internal medicine and Gastroenterology, Faculty of Medicine, Ain Shams, Egypt

## Evidence based medicine for infectious diseases?

**Workshop Aims:**

It will aim to discuss the following:

- How to determine where the latest evidence to guide you in medical management?
- How to search different databases, the keywords, and the way to conduct a Boolean search?
- What is the level of evidence of different type of studies?
- What is GRADE assessment?
- Where to search for the guidelines in infectious diseases?

**Biography:**

Dr. Sarah El-Nakeep, Associate Professor of Internal Medicine, subspecialty; Hepatology and Gastroenterology in Faculty of Medicine, Ain Shams University. She has an M.D degree in Internal Medicine. She was a Sub-director of the Intermediate Gastroenterology ICU in Demerdash hospitals.

# POSTERS

## DAY 02

3RD EDITION OF WORLD CONGRESS ON

# INFECTIOUS DISEASES

19-20 OCT

# Clinical efficacy of cefazolin for enterobacteriaceae-related infections: A marginal structural model of a retrospective cohort

**Ngwe moe khine**
Khoo Teck Puat Hospital, Singapore

Cefazolin is useful for gram negative infections, however there are limited data on its clinical effectiveness.

**Objectives:** We aim to evaluate clinical efficacy of cefazolin on Enterobacteriaceae infections.

**Methods:** This is a retrospective cohort of adults hospitalized between June 1st 2015 to August 31st 2018, with Enterobacteriaceace susceptible to cephalothin or cefazolin isolated from blood, urine and intra-abdominal fluid within 48 hours of admission. Those who received either intravenous cefazolin, ceftriaxone or amoxycillin- Clavulanate between Day 2 and Day 4 after cultures and continued for ?3 days were included. Central nervous system infections were excluded. Patients who received cefazolin were compared to those who received Amoxycillin-Clavulanate (Group 1) or ceftriaxone (Group 2) with respect to time to defervesce (<38 C for 48 hours) and 30-day mortality. Covariates measured were age, gender, prior admission, empiric and concurrent antimicrobial use, Charlson comorbidities index, types of infection, white blood counts, C-reactive protein. Logistic regression model was used to calculate probability of receiving cefazolin in each group factoring in covariates. An inverse probability weighted model was used to assess risk difference of 30-day mortality in each group and bootstrap method for standard errors.

**Results:** There were 3963 patients with Enterobacteriaceae isolated from clinical cultures within 48 hours upon admission during the study period. Of those, 773 patients met inclusion criteria with 87, 162 and 523 patients received intravenous cefazolin, ceftriaxone and Amoxycillin- Clavulanate as their treatment respectively. 86% of Enterobacteriaceae isolated were Escherichia coli and Klebsiella pneumoniae. Common sites of infection were urinary (61%) and hepatobiliary (19%).There was no significant difference in time to defervescence of fever in Group 1 (HR 0.84; 95% CI 0.50 – 1.40, p=0.50) and Group 2 (HR 1.09; 95% CI 0.63 – 1.89, p=0.76).

Risk difference of 30-day mortality in Group 1 & Group 2 were - 2.3% (-5.7% - 1.0%, p=0.17) and -1.4% (-6.0% - 3.2%, p=0.56) respectively.

**Conclusion:** Cefazolin has similar clinical efficacy in the treatment of infections related to Enterobacteriaceae when compared to Amoxycillin-Clavulanate and ceftriaxone. Thus, cefazolin should be considered for treatment of clinically significant Enterobacteriaceae infections over other broad-spectrum antimicrobials.

**Biography:**
Ngwe Moe Khine is from Khoo Teck Puat Hospital.

# A retrospective cohort study on the duration of dexamethasone and clinical outcomes of chronickidney disease patients on dialysis with severe to critical COVID-19

**Marie Kathleen R. Uy-Huang Chih Chang*[1], Minette Claire O. Rosario[2]**
[1,2]M.D/ National Kidney and Transplant Institute Hospital,Quezon City Philippines

The COVID-19 outbreak has rapidly spread and overwhelmed the health care facilities and has driven an urgent need for a drug treatment. Systemic corticosteroid has been recommended by the World Health Organization for severe and critical COVID-19 patients. The Randomized Evaluation of COVID-19 Therapy (RECOVERY) trial has assessed the effects of potential treatments in COVID-19 patients wherein the experimental group received dexamethasone maximum of 10 days. The results of the trial have displayed a positive response for severe COVID-19 patients to dexamethasone. However, corticosteroid use presents to be a double-edged sword with significant efficacy but with potential, serious adverse effects. The researcher assessed the duration of dexamethasone use and clinical outcomes of Chronic Kidney Disease (CKD) patients on dialysis with severe to critical COVID-19 by comparing the efficacy of a 5-day course vsa 10-day course treatment. A retrospective cohort study design was used to compare the clinical outcomes of CKD patients on dialysis with severe COVID-19 among patients administered with dexamethasone for 10 days vs those who received the treatment for less than 10 days. The outcomes measured were length of hospital stay, mortality,duration of patients on oxygen support and P/F ratio. The study has not accounted adverse effects of the durations of the treatment.

**Audience Take Away:**

- To describe and compare the clinical profile of severe and critical COVID-19 patients with CKD who received short versus longer intravenous dexamethasone treatment.
- To determine the proportion of patients who received dexamethasone for only five days, and for 6- 10 days treatment, and to determine the median duration of dexamethasone treatment received by CKD patients with severe to critical COVID-19
- To determine and compare the length of hospital stay, 30-day In-Hospital Mortality, duration of patients on oxygen support, and P/F ratio prior to discharge between patients with short versuslonger dexamethasone treatment.
- To determine whether the duration of dexamethasone treatment is associated with survival of severe to critical COVID-19 patients with CKD, after adjusting for age, sex, comorbidities, other treatmentsreceived, and vaccination status.

**Biography :**

Dr. Uy-Huang Chih Chang is a third year internal medicine resident at National Kidney and Transplant Institute Hospital. She finished her medical education at University of the East Ramon Magsaysay Memoral Medical Center.

# Tuberculosis mimicking as a clavicular malignancy- *"PRIMARY TUBERCULOSIS OF THE CLAVICLE"*

**Dr. S. Ahamed*[1], Dr. Allwyn Vijay[2]**

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**Introduction:** Osteoarticular Tuberculosis involves 2-5% of all tubercular lesions in the body in which 50% affect spine. Tuberculosis of sternoclavicular region accounts for 1-2%. Primary tuberculosis of clavicle without involvement of adjacent joint is <1% . osteomyelitis of clavicle is a rare form of infection occurring from hematogenous spread or trauma. Incidence of clavicle osteomyelitis accounts for <3% of all osteomyelitis Therefore,early recognization of osteomyelitis and establishing cause will reduce unnecessary and invasive investigations or therapeutic procedures. Diagnosis by clinical, radiological, pathological and microbiological confirmation of clavicular swelling should be done at a initial presentation and appropriate treatment to be started as early as possible to improve the outcome and prevent complications.

**Case Report:** A 55year old Asian male presented with complaints of swelling over the left clavicle for 1month gradually progressive in size associated with pain over swelling and associated with history of decreased range of movement of left shoulder. There is no history of fever,weight loss, loss of appetite. No history of any associated respiratory complaints. No history of trauma, prior tuberculosis and antitubercular therapy in past. Patient had many consultation for above complaint diagnosed as fracture clavicle and conservatively managed at a regional local health center. But symptoms progressive in nature and patient presented at our hospital for further workup. Nil comorbidities. on examination, swelling of size 5*5*2cm over medial end of clavicle , firm to hard in consistency, notwarmth, tenderness and bony crepitus present.

On evaluation, base line blood investigation within normal limits, chest xray aand xray left shoulder showed expansile cystic lytic lesion over the medial end of clavicle with fracture of medial 1/3$^{rd}$ clavicle, no active pleuroparenchymal lesion. CT shoulder showed cystic lytic lesion of 5*5.5cm with communited fracture over medial end of clavicle with surrounding periosteal thickening and old healed fracture of middle and lateral 1/3 clavicle. With normal adjacent joint. High frequency ultrasound of left clavicle showed hypoechoiec collection measuring 3.3*1.5cm in subcutaneous plane extending into intramuscular plane with air pockets with possibility of abscess. FNAC of swelling done 1.5ml thick pus aspirated and analysed . which showed granulomatous lesion composed of epitheloid cells, multinucleate giant cells with lymphocytic background with few neutrophils with features of caseous necrosis. CBNAAT showed Mycobacterium tuberculosis detected low with rifampicin sensitive. Diagnosis of Primary Tuberculosis of Clavicle made and patient started on Antitubercular therapy and patient tolerating antitubercular therapy and showed improvement and patient on regular followup.

**Discussion:** Clavicular tuberculosis Is less common than other skeletal tuberculosis. Tuberculosis of clavicle can involve any site, with most common is noted in medial 1/3rd of clavicle. Adjacent joint involvement can be seen and is associated with pain without significant bone destruction, which may later present with cold abscess, discharging sinuses and non healing ulcers. Radiologically either destructive or proliferative and pathological fractures may be seen. Diagnosis based on plain radiography is challenging due to overlapping of anatomical structure. CT and MRI provide better diagnosis and confirmed by histopathological and microbiological confirmation with bony tissue specimen obtained by FNAC(fine needle aspiration cytology), core biopsy and curettage. The mainstay of treatment is antitubercular therapy. In case of non responsive or poorly responding individual surgical treatment combined with antitubercular therapy to be given. Clavicular Tuberculosis should be considered as an important differential for chronic swelling or non traumatic lesion of clavicle.

FIGURE 1: swelling over medial 1/3rd of left clavicle

FIGURE 2: xray showing expansile cystic lytic lesion over medial 1/3rd of left clavicle with fracture at medial 1/3rd of clavicle

**Audience Take Away:**

- Tuberculosis of clavicle can involve any site, with most common is noted in medial 1/3rd of clavicle.
- Clavicular Tuberculosis should be considered as an important differential for chronic swelling or non traumatic lesion of clavicle.
- CT and MRI provide better diagnosis and confirmed by histopathological and microbiological confirmation with bony tissue specimen obtained by FNAC(fine needle aspiration cytology),core biopsy and curettage.
- The mainstay of treatment is antitubercular therapy. In case of non responders or poorly responding individual surgical treatment combined with antitubercular therapy to be given.

**Biography :**

Dr. S. Ahamed from Salem Tamil Nadu, graduated MBBS degree under M.G.R university Tamil Nadu in 2018. He joined Postgraduation in MD thoracic medicine in 2020. Now pursuing final year postgraduation.

# A rare case of hepatosplenic abscess caused by sphingomonas paucimobilis, in an immunocompetent host

**Jekishan Jayeshbhai Hiraparaq*[1, 2], Punam Bhende**

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**Background:** Sphingomonas paucimobilis, a gram-negative organism, mainly infects immunocompromised hosts due to its low virulence. Patients with such an infection usually have contact with healthcare. Meningitis, peritonitis, visceral abscess, septic arthritis, septicaemia, post-traumatic endophthalmitis and keratitis are amongst the documented complications of sphingomonas paucimobilis infection. Such an infection is rarely seen in the literature as the one causing splenic and liver abscess and that too in an immunocompetent host.

**Case Description:** We present a case of a 23-year-old immunocompetent male, who presented with fever and other constitutional symptoms with recent onset of abdominal pain and fullness. Splenic and liver abscesses were detected on radiology with the growth of sphingomonas on blood culture and negative reports differential of other common organisms, thus being the cause of such abscess. The patient was managed on broad-spectrum antibiotics and additional medications for symptomatic relief. The patient gradually improved over 7 days of hospitalization.

**Conclusion:** This case report mainly focuses on sphingomonas paucimobilis infection, which is rarely seen and documented, and surprisingly in an immunocompetent host causing life-threatening infections and abscesses. Even though its a rare and a low virulence organism, such a presentation must not be over looked. A regular and focused laboratory work up for detection and management, with adequate antibiotic treatment, is a must to avoid a poor prognosis.

**Audience Take Away:**

- From this unique case, audience will implement this knowledge in their daily practice and can be better in early diagnosis and treatment.
- This case will help the physicians and intensive care specialist to think about this type of rare organism in Indian setup as well and this will help them to think in those directions where they are lacking and help them to diagnose early. This will definitely provide practical solution as this type of organism are affecting immunocompetent host as well.

**Biography:**

Dr. Jekishan is currently persuing his internal medicine from Pramukh Swami Medical College and Shree Krishna Hospital, Karamsad, Gujarat. He had immense interest and knowledge in research work. In his current state of learning state, he has involved in many research work. He had attended more than 40 national and international conferences and presented many posters and papers in them.

# The profile of the patients with double infection HIV and TB in a South West region of Romania

**Cristina Calarasu*[1], Alina Marinela Popa (Miulescu)[2], Florentina Dumitrescu[3], Floarea Mimi Nitu[4]**

[1]University of Medicine and Pharmacy of Craiova, Romania

[2]Leamna Hospital, Romania

[3]University of Medicine and Pharmacy of Craiova, Romania, Dumitrescu

[4]"Victor Babeş" Clinical Hospital of Infectious Diseases and Pneumophtisiology, Craiova, Romania

**Background:** Co-Infection with Human Immunodeficiency Virus (HIV)/Tuberculosis (TB) raises important diagnostic and treatment problems as the lung is one of the target organs for HIV. Studies have shown that an HIV patient is 5-15 times more likely to switch from Koch's bacillus-Infected status to active tuberculosis.

**Material and Method:** Retrospective study on 207 patients with HIV/TB coinfection in the Oltenia area registered in the regional center for monitoring and evaluation of HIV/AIDS infection in craiova to define the profile of patients with double TB-HIV infection in southern Romania for cases registered between 2005 -2015.

**Results:** 53.14% of patients were females. Most cases were from rural areas (56.10%) Half of them are born between 1988 and 1990 but only 5% graduated university. 66.18% don't have a job and are supported by state with a monthly minimum income. 29.4% are smokers. More than 60% of cases had pulmonary TB and other 25% had concomitent pulmonary and extra pulmonary TB. TB and HIV have been diagnosed almost at the same time in 25% of cases. At the time of TB diagnosis 75% of patients had CD4+ lymphocytes count <200cel/ml. We also noticed the absence of prophylaxis for TB in PIH and high incidence of hepatitis B (30.43%).

**Conclusions:** Clinical expression, radiological and bacteriological aspects are often atypical in HIV/TB coinfected patients. The lack of TB prophylaxis and TB endemicity in the studied area may justify the large number of TB cases in HIV-infected patients.

**Audience Take Away:**

- Romania has a unique cohort of HIV-Infected patients, large survivors, with multiple combinations of antiretroviral treatments, born in 1988, 1989, 1990 when there were peaks of HIV infection in children through insufficiently sterilized materials for injectable treatments (including vaccinations) or blood transfusions and derivatives. Half of the analyzed group is part of our group and this influences the demographical characteristics of the group. Also, the same reason is responsible for high percentage of Hepatitis B in people living with HIV (PIH) from this group. Also, Romania is considered a country with increased endemicity for tuberculosis.
- Chest radiography is used for screening and monitoring of PIH, but has no specificity, and the definitive diagnosis of TB disease requires a microbiological method. Patients with HIV infection may have a paucibacillary sputum, so the sensitivity and specificity of the microscopy for acid fast bacili is low and the culture can take up to 8 weeks to confirm a diagnosis. Using a combination of symptoms to early diagnose TB was very effective and practical in excluding active TB in HIV-Infected patients. Cough, fever or night sweats lasting more than 3 weeks had a sensitivity and specificity of 93%, respectively 36% in various studies. We had simultaneously diagnosis for TB and HIV in 1 of 3 cases due to the success of screening program in our country. This is why 71.5% of patients received concomitant treatments for HIV

and TB (antibacterial treatment was introduced before or after starting ART in a maximum of 4 weeks) and only 19 PIH (9.17%) died of TB during treatment in the same period. This is why we encourage screening for TB symptoms for all PIH patients.

**Biography:**

Dr. Calarasu is a pulmonologist and was born and educated in Craiova, Romania, where she is graduated from University of Medicine and Pharmacy of Craiova. In 2015, she co-founded the 9G Section (Next Generation), the youngest section of the Romanian Pneumology Society (SRP). Between 2018-2021 she was the Early Career Member (ECM) representative of respiratory infections for ERS. Her PhD thesis was about "Clinical and epidemiological links between TB and HIV between 2005 and 2015 in Southern Romania" She received her PhD degree in 2021 and since 2022 she is a teaching assistant at University of Medicine and Pharmacy of Craiova.

## Examining interventions that aim to enhance TB treatment adherence in Southeast Asia

**Rebekah A. Davis*[1], Hannah B. Leavitt[1], Aditya Singh[1], Eleni Fanouraki[1], Renata W. Yen[1], Reed W. Bratches**

The Dartmouth Institute for Health Policy and Clinical Practice, Geisel School of Medicine at Dartmouth, Lebanon, NH, USA

**Background:** Adherence is often a barrier to curative treatment of Mycobacterium tuberculosis (TB). There have been numerous interventions focused on increasing TB treatment adherence in Southeast Asia, but it is unclear if they are effective. This systematic review and meta-analysis aimed to compile and evaluate the literature on interventions designed to increase TB treatment adherence in Southeast Asia.

**Methods:** We searched Cochrane Library Reviews (CDSR) and Cochrane Library Trials (CENTRAL), Medline, CINAHL, Scopus, and Web of Science from 2000 to 2022 with no language restrictions. We included studies of any design conducted in Southeast Asia that implemented interventions to increase treatment completion in people diagnosed with TB and assessed completion as an outcome. We did not require a control group. Four investigators used a standardized data collection form to collate results. The heterogeneity across studies was explored by $I^2$ statistics. We assessed bias using the Newcastle-Ottawa Scale and Cochrane ROB 2.0. We used a random effects meta-analysis to calculate a pooled risk ratio with 95% confidence intervals.

**Results:** From 1,881 abstracts, we included 14 articles. There were 7,198 subjects with 3,163 (44%) receiving a TB treatment adherence intervention across eight countries. Interventions included directly observed therapy, text-message reminders, food incentives, and more. The risk ratio, derived from the meta-analysis of eight included studies with a control group and 6,618 participants overall, was 1.04 (95% CI 1.01,1.08; $I^2$ = 29%), favoring the interventions over controls with little concern for heterogeneity or risk of bias. When narratively assessed, the other six studies all reported increased adherence in the intervention group.

**Discussion:** The results suggested there is a small, statistically significant benefit of using interventions to promote TB treatment completion. Future research could look at additional strategies and combinations of strategies to promote adherence.

**Audience Take Away:**

- If TB treatment adherence programs are effective in Southeast Asia.
- This presentation will present an overview of what interventions have been tried to increase TB treatment adherence in Southeast Asia.
- This could lead to additional randomized controls trial testing TB treatment adherence programs so that money is allocated effectively.
- Ideally this presentations will provide insight into specific barriers faced by TB patients in Southeast Asia
- This presentation can assist in designing new TB treatment program.

### Biography:

Rebekah A. Davis, MPH received a degree in Finance from Northeastern University in Boston, MA. She then went on to study public health at The Dartmouth Institute for Health Policy and Clinical Practice. She currently is a medical student and hopes to combine clinical work with non-profit leadership upon completion of her training. Her passions include environmental disparities, global health and behavioural economics. In her spare time, she loves hiking, biking, and spending time with her dog Winter.

# Respiratory virus surveillance among outpatients in rural Zambia in 2021

**Evan Miller*[1], Justin Hardick[1], Mutinta Hamahuwa[2], Pamela Sinywimaanzi[2], Mathias Muleka[2], Pass well Munachoonga[2], Hellen Matakala[2], Juliet Morales[3], Katherine Z.J. Fenstermacher[4], Richard E. Rothman[4], Andrew Pekosz[5], Yukari, C. Manabe[1], Mwaka Monze[6], Philip E. Thuma[2], Edgar Simulundu[2], Catherine G. Sutcliffe3[7]**

[1]Department of Infectious Diseases, Johns Hopkins University School of Medicine, Baltimore, MD, USA

[2]Macha Research Trust, Choma, Zambia

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[4]Department of Emergency Medicine, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA

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[6]Virology Laboratory, University Teaching Hospital, Lusaka, Zambia

[7]Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA

**Background:** Respiratory infections are a major cause of morbidity and mortality globally but are relatively under studied in sub-Saharan Africa. To assess the diversity, prevalence and pathogen composition of circulating respiratory viruses amongst symptomatic outpatients in rural Zambia, we analyzed samples from an existing Influenza-Like Illness (ILI), Influenza Virus (IV) and Respiratory Syncytial Virus (RSV) surveillance program established in 2018 at Macha Hospital in Zambia.

**Methods:** Nasopharyngeal (NP) samples were collected year-round from outpatients with ILI and tested onsite for Influenza A and B viruses (IAV and IBV), RSV and SARS-CoV-2 using Xpert Xpress SARS-CoV-2/Flu/RSV (Cepheid, Sunnyvale, CA). Samples were additionally tested for the presence of other respiratory viruses by ePlex RP 2.0 (Genmark Diagnostics, Carlsbad, CA) using a novel capture and concentration sample processing methodology.

**Results**: IAV was detected from March to December (overall prevalence: 9.4%), with a peak (36.7%) in June. IBV was detected from June to December (overall prevalence: 12.5%), with a peak (54.3%) in September. RSV was detected from January to April (overall prevalence: 18.7%), with a peak (66.0%) in February. SARS-CoV-2 was detected throughout the year (overall prevalence: 4.1%), with a peak (16.5%) in December. The overall Rhinovirus/enterovirus (Rhv/Ev) was detected throughout the year (overall prevalence: 23.6%), with multiple peaks in March, April and October. Parainfluenza (PiV) had an overall prevalence of 9.8% with a peak in July (27.1%). Adenovirus (AdV) had an overall prevalence of 6.6% with a peak in June (28.8%), while non-SARS-CoV-2 seasonal coronaviruses (CoV, 229E, HKU1, OC43, NL63) had an overall prevalence of 4.3% with a peak in November (23.8%). Lastly, metapneumovirus (hMpV) had an overall prevalence of 2.5% with a peak in November (10.1%). Among participants tested with ePlex, a virus was identified in 76.5% of samples, including 11.5% where ≥2 viruses were identified. The most common coinfections were Rhv/Ev with either AdV (20.7%) or PiV (20.7%).

**Conclusion:** We found a broad diversity of viruses in addition to those detected by routine surveillance (IVs, RSV, SARS-CoV-2) in this population. The burden of respiratory viruses in this population can be significant, and depending on the time of year, may be contributed by multiple organisms.

**Audience Take Away:**

- The prevalence of various respiratory viruses circulating amongst outpatients in rural Zambia.
- Information regarding the seasonality of various respiratory viruses.
- Additional information acquired by screening individuals for multiple respiratory viruses.
- Additional information regarding the unique capture and concentration methodology used to analyse clinical NP samples.

**Biography:**

Mr. Miller is a lab assistant at the Johns Hopkins University School of Medicine Department of Infectious Diseases. During the year, he attends Johns Hopkins University and is pursuing a Bachelor's degree in Mathematics while taking pre-requisities for Medical School. After graduating from Talmudical Academy High School in 2017, he attended Yeshivas Toras Moshe, a Talmudic text-based institution, for three years. He has volunteered at a Bio-fluidics Lab and at the University of Maryland Shock Trauma Unit and tutors high school students in advanced Talmudic text. In his free time, he enjoys playing tennis and singing.

# Detection of SARS-COV-2 armored RNA in global interlaboratory harmonization study

**Frances Hui*, Maura Lloyd, Deepa Eveleigh**
Molecular Diagnostics Division, Asuragen, a Bio-Techne Brand, Austin, TX, USA

**Background:** Towards the beginning of 2020 a global effort began to effectively respond to the COVID-19 pandemic by developing molecular tests that could accurately and rapidly diagnose this emerging disease. A critical component lacking was a control to harmonize the results of the myriad of tests being developed. In order to address this urgent need, a Coronavirus standards working group was formed in March of 2020 to provide recommended infrastructure for COVID-19 testing and ensure reliability of test results. This international consortium was convened by the joint initiative for metrology in biology at Stanford University and included a variety of represented disciplines. The group systematically considered different aspects of the measurement process, including standards and controls, and how they impacted various stages of the testing process.

**Methods**: Part of this effort was a study planned by the consortium and executed globally by independent laboratories to assess multiple sources and types of molecular controls. The study involved fourteen laboratories running digital and real-time RT-qPCR worldwide that were provided SARS-CoV-2 RNA control material from eight vendors, one of which was Asuragen. Additionally, World Health Organization International Standards (WHO-IS) were prepared for each laboratory to use as calibrators.

**Results**: Measurements of the Asuragen armored RNA Quant SARS-CoV-2 (RUO) control were reported by each institution and plotted. In general, replicates within each institution were very tight as reported.

**Conclusion:** Despite the differences in quantitation methods of starting material, dilution schema, assays used, detection chemistry involved, platform used and laboratory location, all controls submitted to this inter laboratory global study demonstrated linearity, accuracy, and precision acceptable for clinical testing. The data summary highlights that bacteriophage-like RNAcontrols like Armored RNA Quant® perform as well as inactivated virus in the hands of laboratorians. These typesof commutable, surrogate controls can be rapidly and widely deployed as an important part of future response planning. Another advantage of Armored RNA controls is that once agreement on a consensus sequence is achieved, sufficient flexibility remains to allow quick updates when new variants emerge. Regardless of which control format is utilized, agreement between control suppliers and assay developers should be made to ensure that the supply of controls and standards does not become a limiting factor when faced with an aggressive timeline for assay development and validation during emerging pandemics.

**Biography :**
Frank Hui received his MS in Biochemistry and Molecular Biology at the University of Texas Southwestern Medical Center in 1998. He then joined the immunology research group of Dr. Akira Takashima in the Dermatology Department of the same institution. Since 2003, he has been part of the Custom Manufacturing Department of Asuragen, a Bio-Techne brand developing molecular controls and related molecular kits.

## Objective regressive regression as a function of infectious entities and natural disasters

**Rigoberto Fimia Duarte**
Professor and Senior Researcher. Faculty of Health Technology and Nursing, University of Medical Sciences of Villa Clara (UCMVC), Cuba

The control of infectious entities with repercussions on human health, as in the rest of animals, is becoming more complex every day, and it is even more difficult to control disease vector organisms and their etiological agents, which is why the scientific community is increasingly committed to research related to control alternatives that are much more efficient, sustainable, economical and environmentally friendly. We have gone through different methods and control alternatives, from biological, physical, ecological, genetic manipulation, chemical, among others, but the problem of confrontation and control of zoonotic entities remains latent, both in re-emerging and emerging entities, and will continue as long as the human species exists; This is the reason why the human intellect cannot cease in this struggle, hence our incursion and linkage with other disciplines of scientific knowledge, with emphasis on geographical sciences and mathematics, and especially, mathematical modeling and its different forecasting models, in the short, medium and long term, with emphasis on the methodology of the Regressive Objective Regression (ROR).

The modeling (ROR), based on a combination of Dummy variables with ARIMA modeling, where only two Dummy variables are created and the trend of the series is obtained, requires few cases to be used and also allows the use of exogenous variables that make it possible to model and forecast in the long term, depending on the exogenous variable, It has given better results than ARIMA modeling in some variables, such as HIV modeling, viral etiology/arbovirosis entities (Dengue, Zika and Leptospirosis), parasitic entities (Malaria, Fasciolosis and Angiostrongilosis) and even in the current COVID-19 pandemic, but its application has gone beyond, up to meteorological disturbances (cyclones and hurricanes) and earthquakes.

**Biography:**
Born in 1966 in the current province of Sancti Spiritus, Cuba. Graduated in 1989 in Biology Science. Professor and Researcher at the Central University "Marta Abreu" of Las Villas. Currently works at the University of Medical Sciences of Villa Clara (UCM-VC), Cuba. Vice-president of the Territorial Tribunal (Sancti Spiritus and Villa Clara) for the research categories: Aspiring Researcher and Associate Researcher. President of the Territorial Tribunal for the main teaching categories (Assistant Professor and Full Professor) of the University of Medical Sciences of Villa Clara. President of the Villaclareña Section of Entomoepidemiology and Related Sciences (SVECA). Vice-president of the Society of Disaster Reduction and Mitigation of Villa Clara. Member of the Society of Microbiology and Parasitology of Cuba and Cuban Society of Zoology. He has to his credit, more than 440 scientific results/publications, of which, he is the author of 310 scientific articles in specialized journals of recognized prestige and impact, both in Cuba and abroad, many of them indexed in group 1 and Web of Science (WoS) databases, as well as 24 books, among many others. Member of the Editorial Board of the scientific journals "The Biologist (Lima)", "Neotropical Helminthology (aphia)", Biotempo, Paideia XXI, "International Journal of Zoology and Animal Biology (IZAB)", "Acta Scientific Veterinary Sciences", as well as Associate Editor of the Board "Gulf Journal of Clinical Medicine and Medical Research" (GJCMMR). Reviewer/Referee for more than ten journals, both national and international. Recipient of the National Award of the Academy of Sciences of Cuba (ACC) in 2019. He has taught at the Central University "Marta Abreu" of Las Villas, Institute of Tropical Medicine "Pedro Kourí" (IPK), University of Medical Sciences of Villa Clara and the Universities of Medical Sciences of the provinces of Cienfuegos, Sancti Spíritus and Ciego de Avila.

# Participants List

# UPCOMING CONFERENCES

4th Edition of
**World Congress on Infectious Diseases**
June 21-22, 2023 | Rome, Italy
https://infectiouscongress.com

5th Edition of
**World Congress on Infectious Disease**
October 23-25, 2023 | Boston, Massachusetts, USA
https://infectious-diseases-conferences.magnusgroup.org/

## Questions? Contact

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## For Registration:

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