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Βοηθήστε να γίνουν τα φάρμακα πιο ασφαλή και Αναφέρετε ΟΛΕΣ τις ανεπιθύμητες ενέργειες για ΟΛΑ τα φάρμακα Συμπληρώνοντας την «ΚΙΤΡΙΝΗ ΚΑΡΤΑ»

***Inside front cover**: The Erechtheion on the north side of the Acropolis (the Porch of the Maidens) and the Columns of the Olympian Zeus with the Parthenon on the background.*

***Inside back cover**: The "Dromeas" statue of glass in front of the Hilton Athens on Vassilissis Sofias avenue and view of the Acropolis Museum.*

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ICHS Executive Director

William R. Kirkpatrick
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Contents

FOREWORD .....

ORGANIZERS .....

GENERAL INFORMATION .....

SOCIAL PROGRAM .....

SPEAKERS .....

BRIEF PROGRAM .....

PROGRAM

Sunday, June 17 .....

Monday, June 18 .....

Tuesday, June 19 .....

POSTERS .....

MODERATORS-SPEAKERS INDEX .....

AUTHOR INDEX .....

Foreword

Athens, Greece, June 2018

Dear colleagues

Welcome to the 20th biennial meeting of the International Immunocompromised Host Society. The meeting takes place in the shadows of Parthenon that was dedicated to the goddess of wisdom and knowledge, Athena, and this is a fitting location! These are exciting times for our Society which was founded, almost 40 years ago, by towering figures in the field. The transformation of treatments for various cancers and autoimmune diseases, improvements in critical care and the accelerating use of design drugs, instead of high dose cytotoxic chemotherapies create a changing landscape in terms of risk and types of opportunistic infections. Historically, conventional chemotherapies resulted in mucosal barrier injury and cytopenias that were the main risk factors for opportunistic infections. In contrast, current mutation-driven "design drugs" or targeting therapy is transforming the management of many diseases. We currently are in a transition point where traditional immunosuppressive agents are increasing blended with new agents. Thus, the epidemiology of opportunistic bacterial, fungal and viral infections is constantly changing, in parallel to advances of treatment of underlying conditions and fascinating questions into the pathogenesis and treatment of these infections remain, although progress has been constant and accelerating. "One size fits all" prognostication for infectious risk might not be that accurate in the era of personalized treatments. Highly individualized decision-making based on the type, sequence and intensity of immunosuppressive regimens, risk stratification based on clinical and potentially immune-genetic profiling would allow different prophylaxis strategies. The steady progress realized over the last 4 decades in reducing death due to opportunistic infection has allowed more patients to receive curative chemotherapy and prolonged disease free survival. All these concepts will

be discussed and deliberated during these 3 days of the conference, facilitated by major thought leaders in the field.
On behalf of the ICHS council, I would like to thank the local organizing agency Ascent and the chairs of the local organizing committee for all their hard work. I would like to express my gratitude to the industry sponsors of the meeting for their generous support. Without them, the meeting would not be successful. Enjoy the meeting, the camaraderie of our members. Do not forget to visit historic Athens and immerse to the unique beauty and culture of Greece. Finally , I would like to invite you in the 21st ICHS meeting in Melbourne, Australia in 2020, that will be organized by our upcoming president-elect, Professor Monica Slavin.

Thank you for your support to ICHS, wishing you a fantastic meeting and stay in Athens and looking forward to more interactions and your contributions to our historic Society

Sincerely

Dimitrios P. Kontoyiannis,
MD, ScD, PhD (Hon), FACP, FIDSA, FECMM, FAAM, FAAAS
Texas 4000 Distinguished Endowed Professor For Cancer Research
Deputy Head, Division of Internal Medicine
The University of Texas MD Anderson Cancer Center
Adj Professor Baylor College of Medicine
Adj Professor University of Houston

Organizers

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21st SYMPOSIUM ON INFECTIONS IN THE IMMUNOCOMPROMISED HOST

General information

Registration Desk and Secretariat

The Registration desk will be open the following times:

Sunday, June 17:	08.00-20.00
Monday, June 18:	08.00-20.30
Tuesday, June 19:	08.00-20.30

Registrants should collect their conference materials and name badges from the Registration Desk.

Name Badges

Delegates must wear their badges at all times to ensure entry to the scientific sessions and social functions.

Posters presentation

Posters will be displayed on the Ground floor of the conference centre (Divani Palace Acropolis Hotel, Aristotelis B Hall). It is important that posters be placed on the relevant board. All posters have been assigned numbers. Posters will be visited by members of the ICHS Council during these two times:

Monday, June 18 and Tuesday, June 19 (from 10.00 till 11.00)

- *Presenters are expected to stand by their posters at the specific time and date.*
- *Any posters not removed will be discarded.*

Certificates of Attendance

These will be available on Tuesday morning, June 19 at the Registration Desk.

CME Credits

20th Symposium on Infections in the Immunocompromised Host (Athens, Greece, 17-19/6/2018) has been granted 21 European CME credits (ECMEC®s) by the European Accreditation Council for Continuing Medical Education (EACCME®).

Morning/Afternoon Breaks

Coffee breaks will take place in the Conference Hall Lobby area
(Divani Palace Acropolis)

Please visit Greeka.com (www.greeka.com) and find an extended list for you with things that you should know or things to have in mind before you travel to Greece and the Greek island!

The Organizing Committee will not accept any responsibility for any loss of personal or other belongings. Safety deposit boxes are available. Please enquire at the hotel reception.

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Social program

SUNDAY, JUNE 17, 20.00

Welcome Reception-DIVANI ACROPOLIS PALACE (Roof Garden)

Buffet and music to relax, meet your old friends and make new friends. This will be held in the roof garden of the Divani Acropolis.
Free of charge for all the registered delegates
Accompanying persons, 50 Euros (at the registration Desk)

MONDAY, JUNE 18, 21.00

Greek traditional dinner at a taverna in Plaka

Live Greek music, traditional cuisine at a local greek taverna in Plaka.
Ticket: 50 Euros/people (at the registration Desk)

WEDNESDAY, JUNE 20

One day cruise

Ticket: 100 Euros/people (at the registration Desk)

What's included: We pick you up from your hotel early in the morning in order to take you by coach to the port for embarkation on the cruise ship. At 08:15 the cruise ship departs and sails for the first stopover on the island of Hydra. You will spend approximately one hour, thus you have free time to explore the unique island. Embarkation and sail to the island of Poros, separated from Peloponesse by a narrow strait and offering a most enchanting view of Poros town. Leisure time in Poros will be approximately 60 minutes. After two hours trip we shall arrive to the last port, the island of Aegina, where you have time either to make an optional tour visiting the Athena Afea Temple or to swim to the nearest beaches of the island. Total time to be spent one hour and a half. Lunch is served on board during the voyage. Re-embarkation and sailing back to the port. Arrive late in the afternoon and transfer by coach back to your hotel.

Awards

AWARD

AWARD

AWARD

Speakers

J.M. Aguado, MD, PhD, Professor of Medicine,
Head, Infectious Diseases Unit,
University Hospital 12 de Octubre, Madrid, Spain.

Modern Concepts in Stewardship: in Hematology Unit

The use of broad spectrum antibiotics produces the selection of multiresistant bacteria and superinfection by fungi and *Clostridium difficile*. This is a major problem for patients with hematologic cancer who are treated with multiple cycles of antibiotics during prolonged periods of neutropenia. Antibiotic resistance is growing and it is increasingly necessary to optimize the use of antibiotics in haematological patients. The principles of antimicrobial administration and its application for patients with hematology will be discussed in this conference. These strategies include: (i) Local surveillance of antibiotic resistance, consumption and patient outcomes, with regular monitoring reports; (ii) development and periodic updates of protocols and multidisciplinary algorithms for the diagnosis, prevention and treatment of infections; (iii) rapid notification of microbiological results by the laboratory, which allows a progressive reduction of empirical broad spectrum regimens and shortening of antibiotic therapy; iv) optimization of dosing regimens based on pharmacodynamic principles, particularly for high-risk patients and (v) frequent frequent multidisciplinary rounds. The implementation of responsible administration, which is complementary to good infection control, requires close collaboration between the hematologist / oncologist, the microbiology laboratory, the hospital pharmacy and a service for the consultation of infectious diseases. Although it has not yet been widely introduced in the centers of hematology, the administration is justified by the crisis of resistance and the scarce development of new antibiotics.

S. Arikan-Akdagli, MD, FESCMID, FECMM, Professor,
Head, Mycology Laboratory,
Hacettepe University Medical School Department
of Medical Microbiology, Ankara Turkey
Editor, Antimicrobial Agents and Chemotherapy,
Scientific Committee, Clinical Microbiology and Infection, Turkey

Fungal Resistance: Diagnosis and Clinical Impact. *Azole Resistance in Aspergillus*

Aspergillus species remain significant as causative agents of invasive infections in immunocompromised individuals. While voriconazole is the primary drug of choice in treatment of invasive aspergillosis, emergence of azole resistance in *Aspergillus* has

been a concern since the first report of acquired resistance of *Aspergillus fumigatus* to itraconazole in 1997. The potentially possible acquisition of azole resistant *Aspergillus* strain is either via selection in the individual patient during azole therapy (i.e. selection of resistance in vivo) or de novo acquisition of resistant strains from the environment. In the latter, the source appears as the agricultural use olf azole compounds. Mutations in the target gene *Cyp51A* (occasionally together with) a tandem repeat in the promoter region of *Cyp51A* are the commonly detected resistance mechanisms. Efflux pumps may also contribute to azole resistance in *Aspergillus* strains and the mechanism remains yet unknown for a number of resistant isolates. National and global surveillance studies are in progress and azole resistance in *Aspergillus* has so far been reported from many countries and centers and at varying rates. Azole minimum inhibitory concentration (MIC, µg/ml) values against *Aspergillus* strains may be determined using CLSI (Clinical and Laboratory Standards Institute) or EUCAST (European Committee on Antimicrobial Susceptibility Testing) reference microdilution antifungal susceptibility testing methods. Epidemiological cut-off values have been determined for CLSI method whereas clinical breakpoints as well as epidemiological cut-off values are available for interpretation of the EUCAST MICs for some azole-species combinations. In general, itraconazole is a sensitive marker of azole resistance and itraconazole together with voriconazole should be tested as a minimum for in vitro susceptibility. Agar screening method was recently validated and approved by EUCAST for detection of azole resistance in *A. fumigatus*, in particular. This screening method is recommended to be routinely used as the initial test for detection of resistance to be followed by reference MIC testing where needed. Based on the international expert opinion for azole resistant *A. fumigatus* infections, modification in the management is recommended in existence of environmental azole resistance rate of >10%. Correlation of clinical outcome with the MIC value or with the existence of *Cyp51A* resistance associated mutations are being explored. Data on azole resistance in *Aspergillus* are expanding globally and appear promising for providing further insight for clinical implications.

R.K. Avery, MD, FIDSA, FAST,
Professor of Medicine, Division of Infectious Diseases,
Johns Hopkins University, USA

Severe Infections in Lung and Liver Transplant Recipients

In addition to the infections for which all solid organ transplant recipients are at risk, lung transplant and liver transplant recipients have unique profiles of susceptibility to infections based on the allograft's surgical anatomy, immunobiology, and relationship to the external environment. This presentation will focus on what clinicians need to know about the differential infection risk in these transplant groups, and will include case presentations of both typical and unusual pathogens.

M. Battegay, MD, Dr, Professor Chief,
Div. of Infectious Diseases & Hospital Epidemiology,
University Hospital Basel and University of Basel, Switzerland

HIV/ Aids Treatment in 2018

Antiretroviral treatment (ART) has dramatically reduced morbidity and mortality since the mid 90ties. Today, if ART is started early and adherence is excellent, life expectancy of an HIV-infected individ-ual is likely to be normal. Co-morbidities, co-infections and drug related issues such as drug-drug interactions become more important, also in an ageing HIV-population. The standard of care in Eu-rope as well as worldwide is still very different. Also, new infections are still rising in Eastern Europe, the only region worldwide with increasing numbers.Both latter issues are related to ART. In view of the above, the concept of treatment as prevention (TasP) was impressively demonstrated by the HPTN052 study in 1'763 HIV+/HIV-partnerships, with a drastic 96% reduction of transmissions with early ART.The PARTNER-study investigating 888 sero-different couples and sexual activity without condoms more formally proved TASP. No within-couple-transmission was found in over 58'000 sex acts when the HIV+ partner had a supressed viremia.In line, TasP has significantly contributed to worldwide lower new infection rates, in particular in Sub-Sahara Africa, withnow over20 million indi-viduals treated. Originating from prevention of mother-to-child transmission, the concept of pre-exposure prophylaxis (PrEP) has been recently introduced as preventive measure. PrEP, supported by the WHO and other societies, is defined by the use of antiretroviral drugs started before sexual exposure and continued after exposure to reduce the risk of HIV-acquisition during high-risk behav-iour. In two large RCT's, the PROUD and the IPERGAY study, 86% identical reductions of transmis-sion were found.If adherence is high, protection rates were found to be well above 95%.Challenges of PrEP remain: How can PrEP be best implemented and delivered? Is it cost effective? And are STI's increasing? Solutions discussed and implemented currentlyare partnering with clinical soci-eties and community groups, training, setting-specific guidelines and sharing implementation prac-tices. This lecture reviewsimportant aspects of ART, TasP and PrEP.

P.-Y. Bochud, Professor, Chief Physician,
University Hospital and University of Lausanne, Switzerland

Immunogenetics and fungal risk

Invasive fungal infections represent a major threat in immunocompromised hosts, such as those undergoing myeloablative chemotherapy for the treatment of onco-hematological diseases, hematopoietic stem cells or solid organ transplantation. While prophylactic antifungals are useful to prevent these infections, their systematic use is challenged by important costs, toxicities and emergence of resistance. The detection of genetic factors associated with the risk to develop invasive fungal infections would provide a basis for individual risk stratification and personalized prophylactic strategie

M. Boeck, MD, PhD,
Member, Vaccine and Infectious Disease & Clinical Research Divisions Head, Infectious Disease Sciences Program, Fred Hutchinson Cancer Research Center, Professor, Department of Medicine, University of Washington, USA

Respiratory viruses cause morbidity and mortality in patients with hematologic malignancies and after stem-cell transplantation. The clinical spectrum includes asymptomatic infections, upper respiratory tract infections, and acute and chronic lower respiratory tract disease. The presentation will discuss the current state of knowledge of the clinical implications of respiratory viruses that are now detectable by multiplex molecular detection platforms.

T. Calandra, MD, PhD, Professor of medicine,
Head, Infectious Diseases Service
University Hospital Lausanne, CH-1011 Lausanne, Switzerland

Sepsis in the Neutropenic Leukemia Patient

Sepsis is a medical emergency with considerable unmet needs. Significant progress has been made in our understanding of host defense mechanisms against microbes and other danger signals (1). However, our knowledge about the pathobiology of sepsis remains incomplete (2,3).

Recent epidemiological studies suggest that the incidence of sepsis is increasing while the mortality is decreasing (4). Yet, one can argue about the reality of these trends given that most common infectious causes of sepsis are stable or even slightly decreasing. Less severely ill patients may also have been enrolled in recent sepsis studies, hence a lower mortality. Long-term outcome studies of sepsis revealed persisting morbidity due to residual organ damage, sustained inflammation and an increased risk for recurrent infections and cardiovascular events significantly affecting the quality of life sepsis survivors (5,6).

A new definition of sepsis has been published in 2016 (7). Sepsis is defined as a "life-threatening organ dysfunction caused by a dysregulated host response to infection". Organ dysfunction can be identified as "an acute change in total Sequential [Sepsis-related] Organ Failure Assessment (SOFA) score greater than two points consequent to the infection". In patients with suspected infection, a SOFA score of more than two is associated with an overall mortality risk around 10%. Septic shock is defined as "a subset of sepsis in which underlying circulatory and cellular/metabolic abnormalities are profound enough to substantially increase mortality". Clinically, patients with septic shock can be identified based on a persisting hypotension requiring vasopressors to maintain mean arterial pressure of greater than 65 mmHg and a serum lactate level greater than 2 mmol/L despite adequate volume resuscitation. Investigators have debated about the novelty, clinical usefulness and the abandon of the systemic inflammatory response syndrome (SIRS) criteria. A bedside clinical score, named quick SOFA (qSOFA), was developed to facilitate the identification of patients with suspected infection who are likely to have a prolonged ICU stay or to die in the hospital (8,9). qSOFA is not part of the new sepsis definitions. The qSOFA score is composed of three clinical criteria: an alteration in mental status, a systolic blood pressure of less than 100 mmHg and respiratory rate greater than 22 per minute. In the community, emergency departments or general hospital wards, the presence of two qSOFA criteria is associated with a poor outcome. Two systematic reviews and meta-analyses examined the performance and prognostic accuracy of qSOFA (10,11).

Neutropenic cancer patients are at high risk of developing infection, sepsis and septic shock. Fever is the first and often only sign of infection in the neutropenic host. Delayed onset of antimicrobial therapy is a risk factor for the development of septic complications during neutropenia and tardy admission to intensive care units has been associated with increased mortality. In a large prospective cohort, 40% of patients with hematological malignancies and solid tumors presented with septic shock at the time of ICU admission (12). Overall mortality was 39.3% at three months and as high as 75% in patients admitted to the ICU for mechanical ventilation, adrenergic support or hemofiltration. Neutropenia was independently associated with an increased risk of death (hazard ratio 1.7) (13). Hence, the old dogma that neutropenic cancer patients with sepsis or septic shock had a very grim prognosis, which resulted for many years in a very restricted policy of ICU admission for cancer patients in many centers. More recent studies showed that neutropenia is not anymore a key determinant of outcome (12,14). Taken together with notable improvements in the management and outcome of cancer patients, this led to a re-evaluation of ICU admission strategy for patients with hematological malignancies and solid tumors.

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C. Cervera, Dr., Assistant Professor,
Division of Infectious Diseases, Department of Medicine,
University of Alberta, Canada.

Transplantation in HIV-positive patients

Solid-organ transplantation in patients with HIV-infection has become a standard-of-care practice in many centres worldwide. Historically, HIV infection was considered a contraindication for solid organ transplantation. With the availability of combined antiretroviral therapy, organ transplantation became feasible and safe in patients with sustained controlled HIV replication and optimal immune recovery. Several advancements have contributed to improve the outcome of solid organ transplantation in HIV-infected patients. Sofosbuvir-based regimens have shown excellent efficacy to treat HCV infection in HIV-infected patients after liver transplantation. The use of integrase inhibitors-based antiretroviral regimens has minimize the problem of pharmacological interactions between antiretrovirals and immunosuppressants. Due to the good outcome of liver and kidney transplantation in HIV-infected patients, some cases of heart, pancreas and lung transplantations have also been performed. Finally, the possibility of organ transplantation from HIV infected donors to HIV infected recipients will be discussed.

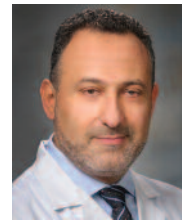
PML in patients with MS treated with biologics

Since the first descriptions of PML in patients receiving Natalizumab for relapsing-remitting multiple sclerosis, this complication represent the most important side effect related to the use of biologic antibodies and other new drugs for the treatment of this disease. PML is caused by JC virus that belong to the family Polyomaviridae. Infection with JC virus is asymptomatic and the virus remains in latency in the urothelial tract and the bone marrow for life. To estimate the risk of PML with the use of disease-modifying agents for MS is crucial to understand the pathophysiology of the disease. Some rearrangements in the NCCR region of the JC virus genome are responsible to transform JC virus in the prototype (PML-type) virus. After that, transportation to the CNS is mediated by lymphocytes B. A decrease of JC-specific T cells in the cerebrospinal fluid and brain is the last required step to develop the disease. In this lecture, I will discuss the risk of PML with the use of different disease-modifying drugs including Natalizumab, Fingolimod, Fumarate, Alemtuzumab and Ocrelizumab.

G. Chamilos, MD
IMBB Group Leader
Associate Professor,
Clinical Microbiology and Microbial Pathogenesis Unit,
School of Medicine, University of Crete, Greece

Small protein kinase inhibitors and fungal risk

Opportunistic infections caused by *Pneumocystis jirovecii, Cryptococcus neoformans*, and ubiquitous airborne filamentous fungi (*Aspergillus, Fusarium, Mucorales* spp.) have been recently reported in patients with hematological malignancies traditionally being considered at low risk for invasive fungal infections (IFIs) following the receipt of certain small molecule tyrosine kinase inhibitors (SMKIs). In view of the surge in development of SMKIs targeting immune signaling pathways for treatment of malignant, inflammatory and autoimmune diseases, it is possible that there would be an emergence of IFIs associated with unanticipated and/or off-target effects of these molecules on the immune system. In this lecture, I will discuss the complex and pleiotropic immunodeficiency following treatment with certain SMKIs that could lead to excess risk for IFIs. In addition, I will emphasize the need to invest in basic research and preclinical assessment of the effects of certain SMKIs on antifungal immunity in order to develop new therapeutic strategies against IMIs that could lead to prevention, earlier diagnosis and better outcomes of affected patients.



R.F.. Chemaly, MD, MPH, FIDSA, FACP,
Professor of Medicine, Director, Infection Control Section,
Director, Clinical Virology Research, University of Texas MD
Anderson Cancer Center, Houston, USA

Infection Control Practices in Cancer Patients and Multidrug Resistant Organisms: Special Considerations and Challenges

Infectious complications contribute greatly to morbidity and mortality in patients with cancer. As these patients undergo prolonged chemotherapy and are in frequent contact with health care settings, they are at high risk for nosocomial and health care-associated infections.This long-term relationship with the hospital setting represents a major opportunity for infection prevention. Several new infection control strategies are currently used to reduce the transmission of hospital-acquired infectionsin cancer patients, particularly infections with multidrug-resistant organisms. Bundle interventions have proven to be effective at preventing infections with these organisms. No one method is effective alone. Thus, we must blend technical knowledge with socio-adaptive skills in order to combat hospital acquired infections in patients with cancer, and create a vision where harm prevention, quality and safety are everyone's responsibility, including optimal communication between key players and education of staff and patients.

T. Chiller, MD MPHT, Chief, Mycotic Diseases Branch,
Division of Foodborne, Waterborne, and Environmental Diseases,
National Center for Emerging and Zoonotic Infections,
Centers for Disease Control and Prevention, Atlanta, USA

Candida auris is an emerging and often multidrug-resistant yeast that has caused healthcare-associated outbreaks in numerous countries. Although it shares a genus with *Candida albicans* and other common pathogenic yeasts, it has distinctive characteristics, necessitating a clinical and public health response unlike that used for other *Candida*. This 'fungal superbug' has underscored the need for improved detection of emerging fungal pathogens.

C. Cordonnier, Professor,
Hematology Department, Henri Mondor University Hospital, France

Vaccination strategies against influenza viruses in SCT recipients

Influenza infection is potentially life-threatening after hematopoietic stem cell transplantation (HSCT), with mortality rates between 6-28 %. Among all the vaccines recommended after HSCT, the nactivated influenza vaccine (IIV) is the only one whose clinical efficacy has been clearly shown in a cohort of 177 BMT recipients vaccinated from 6 months after transplant during a Brazilian outbreak. The response rates to IIV within the first 6 months after transplant is low, in the range of 10-40%. It improves over time from 6 months to 10-72% with the seasonal and 37-84% with the H1N1 vaccine to become close to the response of healthy individuals at 2 years. The response is decreased by lymphopenia, hypogammaglobulinemia, graft-versus-host disease (GvHD), immunosuppressive drugs, and recent administration of rituximab.
Due to a lower response rate than with most other vaccines in HSCT recipients, several approaches were developed in order to improve it. An adjuvanted IIV was not more immunogeneic than a non-adjuvanted vaccine after allogeneic HSCT. The benefit of 2 doses versus one dose was suggested both for seasonal and H1N1 vaccines but not found in a randomized study after allogeneic HSCT. A high-dose (60µg) antigen trivalent IIV - not available in Europe - was more immunogenic than a standard-dose (15µg) vaccine but induced more injection-site reactions. GM-CSF administered with the seasonal vaccine improved the response to influenza B but not to H1N1 or A/H3N2. Finally, donor or recipient pretransplant vaccination improved seroprotection during the first 2 months but this possible benefit was transient and disappeared thereafter with no improvement of the vaccine response in patients who, or whose donor were vaccinated before transplant. Finally, there is no evidence that the adverse events are different in nature and frequency in HSCT recipients when compared to healthy individuals.
Although the response rate to IIV is not high in the first two years after transplant, the benefit/risk ratio of IIV largely supports the IIV vaccination of HSCT recipients and the recent ECIL guidelines for vaccination of HSCT recipients strongly recommend this vaccination yearly from 6 months, 1 dose, at the beginning of flu season and pursued during the first years following transplant, at least until 6 months after stopping any immunosuppressor, and as long as the patient is judged to be immunosuppressed (A II after allogeneic HSCT, BII after autologous HSCT) and eventually life-long (B II) in allogeneic HSCT recipients (http://www.ecil-leukaemia.com).
In adults, a second dose given 3-4 weeks after the first one may be considered in patients with severe GVHD or low lymphocyte counts or in the setting of a community outbreak, when patients require vaccination within 6 months after transplant (B II).
Children 6 months through 8 years, receiving IIV for the first time after transplant should receive a second dose at least 4 weeks after the first dose (B II)
It is also recommended that the household contacts of HSCT recipients and healthcare workers of the transplant ward be yearly vaccinated by IIV.
The intranasal influenza live attenuated vaccine is contra-indicated after HSCT.

O.A. Cornely, MD, Professor of Translational Research,
CECAD Cluster of Excellence, University of Cologne, Director,
Center for Clinical Trials, University Hospital
Deputy Head Infectious Diseases, Dep. I for Internal Medicine,
University Hospital Cologne, Germany

Diarrhea in the immunosuppressed patient – C. difficile

Immunosuppression is animportant risk for *Clostridium difficile* infection. While endogenous anti-toxin antibody deficiency is one explanation, changes in microbiota composition resulting from antibiotic and antineoplastic chemotherapy are other well-established risk factors. CDI is an everyday problem in haematology, with incidence rates of 12-13% in acute myelogenous leukaemia patients and allogeneic stem cell transplantation recipients. Most CDI cases in these patient populations occur during the first few weeks after treatment.
Cancer patients are more difficult to treat, and have a longer time to resolution of diarrhoea, and they reach lower rates of clinical cure and sustained clinical cure, defined as cure for more than 4 weeks post CDI treatment. If cancer patients are treated successfully, recurrence of CDI is more likely than in patients without underlying malignancy. An extended fidaxomicin tapered regimen may reduce that recurrence rate. Cancer patients with CDI have shorter survival times than patients without cancer diagnosis, but that may be due to underlying malignancy.
A single infusion of bezlotoxumab, a fully humanized monoclonal IgG antibody directed against *C. difficile* toxin B,was shown to reduce CDI recurrence rates over a period of at least twelve weeks.Post-hoc analysis showed that bezlotoxumab reduced the CDI recurrence rate compared with placebo in patients with haematologic malignancy. Moreover, a second post-hoc analysis in solid tumour patients found a similar result. These are promising results, but all such exploratory analyses were not pre-planned and were done on subgroups oflimited size, so that there is room left for future studies.

Other immunocompromised patient groups with high risk of CDI are patients on chronic dialysis, and patients on intensive care units on artificial ventilation. Management of the latter group is specifically challenging because of the lack of reliable intravenous treatment options.

P.J. Donnelly, Professor, Editor in Chief,
Journal of Antimicrobial Chemotherapy and visiting Professor
to the University of Manchester, U.K.

New concepts in diagnostics in medical mycology – PCR

A quarter of a century ago, Spreadbury et al reported using the polymerase chain reaction (PCR) to detect Aspergillus fumigatus in respiratory samples from confirmed cases of invasive aspergillosis (IA) [1]. However, despite the steady number of publications on PCR, the technique was not incorporated into the original or the revised EORTC/MSG definitions of invasive fungal disease [2, 3]. Never the less, a growing number of laboratories across the globe offer their own "home grown" versions of PCR for diagnosis. The ISHAM working group European Aspergillus PCR Initiative (www.eacpri.eu) set out achieve a standard for *Aspergillus* PCR so that it could incorporated into an updated EORTC/MSG definitions. Its approach to laboratory standardisation [4], use of systematic reviews to assess the diagnostic potential [5, 6] and validation in the prospective strategic trial of the EORTC Infectious disease and Leukaemia groups (ClinicalTrials.gov Identifier: NCT01288378). The roadmap proved successful and led to extending the groups' scope to include other fungal diseases including candidiasis, pneumocystosis and mucorales as well as exploring tissue diagnosis. To reflect this the group changed its name to Fungal PCR Initiative and now includes 54 people from 19 countries in Europe, Australia and North America. The 5 laboratory and 5 clinical and translational working parties aim to achieve standards for the respective PCR tests so that fungal PCR can finally take its rightful place alongside other diagnostic tests to provide a robust and reliable means for screening for these IFD's as well as confirming the diagnosis, either alone or in combination with other mycological tests.

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C. Durand, MD, Assistant Professor of Medicine and Oncology,
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HIV/HCV Donor Transplantation

For those living with end-stage organ disease, transplantation provides a clear survival benefit. However, due to a critical shortage of donated organs, many individuals awaiting organ transplantation will die before every receiving an organ offer. As such, innovative strategies to expand the organ donor pool are needed. One such strategy is the use of organs from donors with chronic viral infections. More specifically, the use of organs from HIV-infected (HIV+) donors for HIV+ transplant candidates and the use of organs from hepatitis C virus-infected (HCV+) donors for HCV-uninfected transplant candidates is currently under investigation.

HIV-to-HIV kidney transplantation was pioneered in South Africa in 2010 with good results in a small cohort. Inspired by this experience, in the United States the HIV Organ Policy Equity (HOPE) Act was enacted in 2013 and reverses the federal ban on HIV-to-HIV transplantation. Pursuant to the HOPE Act, HIV-to-HIV transplants have been allowed within research protocols since 2015. The first HIV-to-HIV kidney and liver transplants were performed at Johns Hopkins in March of 2016 and a national multicenter study of HIV-to-HIV kidney and liver transplantation is ongoing. This session will discuss the potential risks and benefits of HIV-to-HIV transplantation and transplant outcomes to date.

Since HIV remain an incurable illness even with effective antiretroviral therapy, the use of HIV+ donors for those without HIV is not being considered. However, for chronic HCV infection, direct acting antivirals (DAAs) provide a definitive cure for HCV including for transplant recipients. Moreover, in the United States high-quality organs from HCV+ donors are currently underutilized and represent a neglected public health resource. Pilot studies have investigated the use of DAAs as pre-emptive or prophylactic treatment in combination with kidney transplantation from HCV+ donors for HCV- recipients. This session will also review the results of these trials and discuss the potential that HCV+ to HCV- transplantation has to expand organ options more broadly.

H. Einsele, Dr. Professor,
Director of the department of internal medicine II,
University Hospital Wuerzburgh, Germany

T-cell therapy for viral and fungal infections post SCT

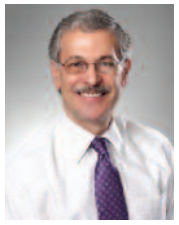
Viral and fungal infections are still common causes of morbidity and mortality in immunosuppressed patients after allogeneic hematopoietic stem cell transplantation. Infections caused by virus such as cytomegalovirus, adenovirus, and Epstein-Barr virus or fungi like candida or Aspergillus species are associated with significant mortality. In addition, several other viruses have been recently reported to be causes of significant complications. As the delay in recovery of virus- and fungus specific cellular immune response after transplant is associated with viral

and fungal reactivation and disease, adoptive immunotherapy to restore virus- and/or fungus-specific cellular immunity is an attractive option. Recent clinical trials showed the safety and effectiveness of adoptive immunotherapy against viral diseases.
This presentation will summarize the current status of adoptive immunotherapy against several viral and fungal diseases including cytomegalovirus, adenovirus, Epstein-Barr virus and fungal infections.

R.W. Finberg, MD, Chair, Department of Medicine,
Richard M. Haidack Professor,
University of Massachusetts Medical School, USA

Influenza is cancer and transplant patients

Influenza continues to be a world-wide plague which takes a heavy toll on immunocompromised patients. As an RNA virus that replicates in the nucleus, influenza employs several strategies for enhancing it replication and pathogenicity. These include a polymerase that leads to multiple mutations, an ability to reassort gene segments that also leads to increased mutations, and an ability to transcribe hybrid host-virus RNA messages. The development of new ways to target influenza as it rapidly evolves should lead to new approaches to treat and prevent influenza infections in immunocompromised patients.



M. Ghannoum, PHD, MBA, FIDSA, FAAM,
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Bacteriome and Mycobiome Polymicrobial Interactions Defines Health and Disease: A New Paradigm

Recent studies revealed that microbial communities (bacteriome and mycobiome) have adopted inter-kingdom cooperative evolutionary strategies that culminate in biofilm formation. In microbial dysbiosis, biofilms are beneficial to both bacterial and fungal communities but detrimental to the host. This inter-kingdom interaction is best exemplified in Crohn's disease (CD). We used Ion Torrent sequencing to characterize the gut bacterial microbiota (bacteriome) and fungal community (mycobiome) in patients with CD and their non-diseased first-degree relatives (NCDR) in familial clusters and in healthy individuals from families living in the same area (non-CD unrelated, NCDU). Principal components analysis, diversity, and abundance analyses were conducted and CD-associated inter- and intra-kingdom microbial correlations determined. Significant microbial interactions were identified and validated using single- and mixed-species biofilms. CD and NCDR groups clustered together in the mycobiome, but not in bacteriome. Microbiota of familial (CD, NCDR) samples were distinct from that of non-familial (NCDU) samples. Abundance of *Serratia marcescens* (SM), *Escherichia coli* (EC) was elevated in CD patients, while that of beneficial bacteria was decreased. Abundance of the fungus *Candida tropicalis* (CT) was significantly higher in CD compared to NCDR ($P = 0.003$), and positively correlated with levels of anti–*Saccharomyces cerevisiae* antibody (ASCA). Abundance of CT was positively correlated with SM and EC, suggesting these organisms interact in the gut. The mass and thickness of Triple species (CT+SM+EC) biofilm were significantly higher than single and double species biofilm. CT biofilms comprised of blastospores, while double and triple species biofilms were enriched in hyphae. SM used fimbriae to co-aggregate or attach with CT/EC, while EC closely apposed with CT. Specific inter-kingdom microbial interactions may be key determinants in CD.
The ability fungi to form inter-kingdom biofilms with bacterial species emphasize, not only their paramount importance, but also the complexity of studying whole microbial communities, and their interspecies interactions. Investigations into mechanisms underlying these polymicrobial interactions are critical, warranted, and will lead to novel translational approaches that will impact chronic diseases.

The Emerging *Candida auris*, a New Multidrug Resistant Fungus: Virulence Factors and Susceptibility to Antifungals Under Development

The Centers for Disease Control and Prevention recently alerted that emerging multidrug-resistant *Candida auris* is causing invasive infections with high mortality. Reduced susceptibility of *C. auris* to the three major classes of currently available antifungals (azoles, polyenes, echinocandins) limits treatment options. Originally isolated in 2008 from a Japanese woman's ear canal, *C. auris* was initially thought to only cause external ear infections. However, starting in 2011, researchers discovered that *C. auris* caused serious invasive infections with high mortality. *C. auris* has caused serious infections in Japan, South Korea, India, Kuwait, South Africa, the United Kingdom, and, recently, Venezuela and the United States. The incidence of *C. auris* infections is likely underestimated since it is often misidentified as *C. haemulonii, C. famata, C. sake,* or *Rhodotorula glutinis* using conventional identification methods. Therefore, DNA typing, or MALDI-TOF is necessary to achieve an accurate identification. Our studies show that *C. auris* isolates failed to germinate, produced phospholipase, adhered and formed biofilms - albeit to a lesser extent than *C. albicans. C. auris* has high MICs to amphotericin B and fluconazole, with some isolates showing resistance to all available antifungals. Fortunately, recent *in vitro* and *in vivo* testing shows that *C. auris* is susceptible to antifungals under development including SCY-078, APX001 and Rezafungin.

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BK Polyomavirus Infection in SOT and HCT: How to follow up and when to start treatment

BKPyV is one of at least 13 HPyV and infects more than 90% of the general adult pop-

ulation and then asymptomatically persists in the kidney. Despite the presence of functional BKPyV-specific T-cell responses and neutralizing antibodies, BKPyV is shed in low levels into the urine of at least 10% of *bona fide* healthy blood donors. In immunocompromised patients, BKPyV replication is readily reactivated and very high urine viral loads of more than 9 log10 GEq/mL are detectable. However, disease manifestations appear substantially different:

After kidney transplantation, 1%-15% of patients develop BKPyV-associate nephropathy, which cause premature allograft failure and return to renal replacement therapy[1].

After allogeneic hematopoietic cell transplantation (HCT) 5% - 20% of patients develop hemorrahic cystitis, which cause severe immobilizing pain, anemia, and obstructive renal failure[2].

These specific patient groups share impaired immune control and allogeneic constellations between infected host cell and immune effectors[3]. In this presentation, differences in pathophysiology are discussed as well as current approaches to diagnosis and management.

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Adenovirus infections

Human adenovirus (HAdV) encompass >50 species of different tropisms causing pneumonia, nephritis, hemorrhagic cystitis (kerato-)conjunctivitis, encephalitis, hepatitis, and gastrointestinal disease, which may progress to often fatal disseminated HAdV disease[1]. Especially the latter type of HAdV infections can significantly complicate allogeneic hematopoietic cell transplantation (HCT) due to impaired virus-specific T-cell functions following lymphocyte depletion, or the use of haploidentical, unrelated or cord blood grafts. Diagnosis is based on clinical suspicion and laboratory confirmation at sites of involvement and in peripheral blood. Screening is currently only recommended for HAdV in high-risk pediatric patients[2]. Unlike Human Polyomaviruses, HAdV encode a viral DNA polymerase, which could be targeted by antivirals such as cidofocir or brincidovir (CMX001). In this presentation, the clinical and diagnostic approach to immunocompromised patients with diarrhea and evidence of HAdV replication is discussed.

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Antifungal agents and liver toxicity

The number of antifungal agents has increased in the last decades. These agents differ in their spectrum of activity, pharmacokinetic/pharmacodynamic properties, dosing, safety profile and cost. The liver is responsible for concentrating, metabolizing and eliminating the vast majority of drugs and toxins. Like for many other medications, the risk of developing hepatotoxicity by an antifungal agent is multifactorial including the chemical properties of the drug, age, sex, underlying diseases, pre-existing liver disease, environmental and genetic factors. In general, liver injury is indicated by elevations in serum aminotranferase levels. However, as liver has a great capacity for self-repair and injury might be unapparent, clinicians should focus on liver function. When function is impaired symptoms and clinically significant disease appears. Clinically significant hepatic injury is manifested as acute hepatocellular, cholestatic or mixed hepatocellular-cholestatic reactions.[1] Hepatotoxicity induced by antifungal therapy range widely from mild and asymptomatic abnormalities in liver function test results to potentially fatal fulminant hepatic failure occurring more frequently in patients treated with azole antifungal agents. Usually with rare exceptions drug induced liver injury subsides after cessation of treatment with the responsible drug. On the other hand hepatic disease can affect the elimination of some antifungal agents. For the majority of antifungal agents, however, in patients with mild to moderate hepatic insufficiency, no dose modifications are required with the exceptions of voriconazole and caspofungin[2-4]. Drug monitoring for early detection of liver injury with prompt withdrawal of the offending agent are crucial and remain the most effective methods for prevention.

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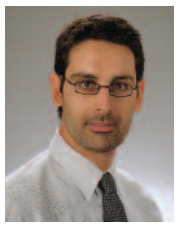
PK/PD and the Role of TDM in the Highly Immunosuppressed ICU Patient

Critically-ill patients have multiple pathologies that alter the distribution and clear-

ance of antimicrobial agents. This pharmacokinetic variability increases a patient's risk of treatment failure, breakthrough infections with resistant pathogens, or drug toxicity if dosing is not adjusted. Several multi-national pharmacokinetic point-prevalence studies reported that nearly 20% of patients receiving beta-lactams, glycopeptides or antifungals did not achieve the most conservative PK/PD targets for efficacy, and more than 40% of patients do not achieve antibiotic exposures needed to suppress resistance.

A possible solution to this problem is to improve strategies for individualized antibiotic dosing in the ICU. A roadmap to how this can be achieved was proposed by The International Society of Anti-Infective Pharmacology and the Pharmacokinetics and Pharmacodynamics Study Group of the European Society of Clinical Microbiology and Infectious Diseases. After carefully considering patient physiological characteristics (e.g., age, weight, albumin, augmented renal clearance, volume overload, extracorporeal circuits), antibiotics are dosed based in a PD-optimised manner taking into account patient physiological characteristics and local susceptibility data. Increasingly, new dosing told based on population PK studies of ICU patients and Monte-Carlo simulation are now available at the point of care (e.g., smartphones) to optimise estimation of the first dose. Bayesian dose adaptation and therapeutic drug monitoring (TDM) can then be used with specific MIC information if available to ensure that an individual patient's exposure meets PK/PD targets.

New approaches to rapid point-of care TDM, analogous to a glucose finger stick, and possibly in the future real-time continuous TDM with adaptive dose adjustments are on the horizon. However, we also need to explore more direct approaches for bedside assessment of antifungal pharmacodynamics (an *"in vivo MIC"*) to truly achieve the goal of individualised antibiotic therapy in the ICU.



M. Lionakis, Fungal Pathogenesis Section,
Laboratory of Clinical Immunology & Microbiology (LCIM),
National Institute of Allergy & Infectious Diseases (NIAID), NIH, USA

Invasive candidiasis is the most common nosocomial bloodstream fungal infection in the intensive care unit (ICU) affecting >250,000 individuals annually worldwide with mortality rates that exceed 40% despite antifungal therapy. Despite similar clinical and microbiological risk factors for invasive candidiasis, only a small proportion of high-risk medical or surgical ICU patients develop infection, indicating that individualized host immune-related genetic variations may contribute to patient-specific susceptibility. Hence, understanding the determinants of host immunity in protection against invasive candidiasis is critical and may lead to devising (1) precision-medicine risk stratification, prophylactic and/or prognostication strategies and (2) adjunct immune-based therapeutics in the ICU. This talk will discuss our current understanding of host immune-related gene factors that affect susceptibility to the infection at the population-genetic level and show promise for informing such personalized strategies in patients.

P. Ljungman, MD, PhD, Senior physician,
Dept of Cellular Therapy and Allogeneic Stem Cell Transplantation,
Karolinska University Hospital, Professor em (adjunct),
Division of Hematology, Dept. of Medicine Huddinge,
Karolinska Institutet, Stockholm, Sweden

Unmet needs in transplant patients with CMV

Although many advances have been made in the management of CMV infections in transplant patients, CMV reactivation remains a risk factor for death after allogeneic stem cell transplantation and having a CMV seropositive donor is still a negative factor for a CMV negative transplant recipient. Two main strategies are used to manage CMV patients; antiviral prophylaxis and preemptive antiviral treatment. Limitations have been the availability of safe and effective antiviral drugs especially in high risk patients and those experiencing repeated viral reactivations. Therefore, new and safe antiviral drugs are urgently needed to manage transplant patients. Letermovir has in a phase III trial recently been shown to be effective as prophylaxis in CMV seropositive recipients of allogeneic hematopoietic stem cell transplant recipients reducing clinically significant CMV infection and also decreasing all-cause mortality. Maribavir is being developed for therapy of resistant and refractory CMV infection with promising phase II results in transplant recipients. Both these drugs seem to be safe with limited side effects most importantly not influencing bone marrow or renal function.

O. Manuel, MD, Professor,
Infectious Diseases Service and Transplantation Center,
University Hospital (CHUV) and University of Lausanne,
Lausanne, Switzerland

Focus on Solid-Organ Transplant Recipients. Pretransplant evaluation

Evaluation of transplant candidates before transplantation is a crucial period for assessing the potential risk of infection post-transplant and for applying preventive strategies to reduce this risk. Some of the patients, in particular cystic fibrosis patients waiting for lung transplantation, have active infections that may jeopardize allograft and patient survival in the post-transplant period. Diagnosis and treatment of latent infections and update of vaccination is also essential to reduce both the potential risk of infection reactivation and the development of vaccine preventable disease, respectively. This is particularly important in the era of globalization and travel, as some endemic diseases can reactivate years after the initial infection. Patients receiving mechanical support (for example ventricular assist devices in heart transplant candidates or ECMO in pre lung transplantation) are also at higher risk for infectious complications in the pre-, peri- and post-transplant periods. Thus, a systematic evaluation of all transplant candidates by a transplant infectious diseases specialist should be included in the routine management of these patients.

G. Maschmeyer, MD, Professor of Internal Medicine,
Chair, Dept. of Hematology, Oncology and Palliative Care,
Klinikum Ernst von Bergmann, Academic Teaching Hospital
of Charité University Medical School Berlin, Germany

Guidelines – Pulmonary Infiltrates

Up to 40% of patients with profound neutropenia lasting for >10 days develop lung infiltrates. A causative pathogen frequently remains undetected in the majority of cases. In patients who have received trimethoprim-sulfamethoxazole prophylaxis, filamentous fungi appear to be predominant, yet commonly not proven at the time of treatment initiation. Microorganisms isolated from blood cultures, bronchoalveolar lavage or respiratory secretions may not be relevant for the etiology of pulmonary infiltrates and should be interpreted carefully. Laboratory tests for detecting *Aspergillus* galactomannan, beta-D-glucan or DNA from blood, bronchoalveolar lavage or tissue samples, may facilitate the diagnosis. Respiratory adverse events from antineoplastic agents, radiotherapy, or pulmonary involvement by the underlying malignancy should be considered for differential diagnosis and may require invasive diagnostic procedures. Pre-emptive treatment with mould-active systemic antifungal agents improves clinical outcome. High-dose trimethoprim-sulfamethoxazole remains first-line treatment of *Pneumocystis* pneumonia, while cytomegalovirus pneumonia is treated primarily with ganciclovir or foscarnet in most patients.
Intensive care should be unrestrictedly provided in patients whose prognosis is not desperate due to other reasons.

J.F. Meis, MD PhD, FRCPath, FIDSA, FAAM,
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Centre of Expertise in Mycology Radboudumc/CWZ,
National Aspergillosis Reference Centre,Nijmegen,
The Netherlands

Update on in vitro resistance of fungal infections

Fungi have a remarkable capacity to become resistant to antimycotic agents, threatening thereby the efficacy of the available limited arsenal and potentially becoming a public health treath. Common fungal pathogens, such as Aspergillus and Candida may cause devastating invasive infections with treatment options limited to only three classes of approved antifungal drugs. Development and detection of resistance will be discussed using examples from the actual problems in Candida and Aspergillus.

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The morbidly obese patient

Obese patients are continuously increasing in developed countries. The altered physiology (increased adipose tissue and lean muscle mass) and associated pathology (diabetes, hypercholesterolemia, cardiac failure, renal and hepatic impairment etc.) of obesity may affect the pharmacokinetics of antimicrobial drugs sufficient enough to require dose adjustment in order to ensure efficacy and avoid toxicity. Obesity has been associated to antibiotic treatment failure as a significant risk factor. A relationship between obesity and higher volume of distribution (Vd) and clearance (CL) for several drugs have been detected, whereas the need of changes on the standard dosing regimens is not clear.
The Vd and CL of penicillins is increased in obese patients and therefore intermittent infusion regimens can result in suboptimal pharmacodynamics. Several studies have shown inadequate tissue penetration and subtherapeutic levels of cephalosporins prompting for using higher more frequently administered doses in obese patients. For carbapenems, dose escalation may not be warranted based on obesity alone although prolonged infusion of meropenem and doripenem can be considered for less susceptible pathogens. Aminoglycosides seems to distribute in adipose tissue and therefore have increase Vd requiring a loading dose calculated using the adjusted body weight with a correction factor. Among fluoroquinolones, higher ciprofloxacin and levofloxacin doses may be used against gram negative pathogens in obese patients whereas preliminary data do not support moxifloxacin dose adjustment. To decrease the risk for nephrotoxicity, colistin may be dosed using the ideal body weight whereas polymyxin B using the adjusted body weight with a correction factor. Increased vancomycin Vd and Cl in obese patients have been found prompting for using lower loading and maintenance doses. Oxazolidinones do not appear to require dose adjustments in obesity whereas higher daptomycin exposure was observed in obese patients when dosed by total body weight. Among lipoglycopeptides, a high telavancin dose may be considered in obese patients whereas no dose adjustment do not appear to be necessary for dalbavancin and oritavancin. However, given the differences in underlying conditions, co-morbidities and co-administered therapies as well as the lack of standardized estimation of renal clearance and the variable use of dosing weights, optimal dosing of antimicrobials in obesity is challenging increasing the importance of therapeutic drug monitoring (TDM) in this group of patients.
The main goal of TDM is to adjust the dose by measuring actual drug concentrations in plasma in order to attain PK/PD targets for increased efficacy against certain pathogens. PK/PD targets have been determined for several drugs in pre-clinical

and clinical studies although very few obese patients were included. A PK/PD target of Cmax/MIC>8-10 was determined for aminoglycosides whereas for b-lactams a T/MIC >40-50% (100% for immunesuppressed state) was found. For quinolones, daptomycin and linezolid an AUC/MIC >80-200 can be targeted whereas for glycopeptides and polymyxins a trough concentration >20-25 mg/l and >2 mg/l, respectively is needed.
Thus, a one-size-fits all dosing approach cannot be applied to all antimicrobials and individualized dose optimization may be needed in order to increase efficacy and reduce toxicity in obese patients.

INTERNATIONAL SOCIETY IMMUNOCOMPROMISED HOST
ICHS
SYMPOSIUM ON INFECTIONS IN THE IMMUNOCOMPROMISED HOST

Brief Program

SUNDAY – JUNE 17

	ERECTHEION	ARISTOTELIS A	THEMISTOCLES
08:15-09:45	**Workshop-1.** Update in Identification of fungal infections and in vitro resistance. Moderators: **J. Meis** and **T.J. Walsh** 1. Clinical Mycology: New species and Taxonomy, **N. Wiederhold** 2. Diagnosis in tissue, **T.J. Walsh** 3. In vitro methods, **J. Meis**		
09:45-10:00	Coffee break		
10:00-12:00	**Workshop -2. Round Table**: New concepts in diagnostics in medical mycology. Moderators: **P. Donnelly** and **T.F. Patterson** 1. Galactomannan, b-D-Glucan and Lateral flow device, **T.F. Patterson** 2.PCR, **P. Donnelly** 3. MALDI-TOF, **R. Patel**		
12:00 -13:00	**Industry Symposium "New Antifungals"** *with lunch* (Cidara Therapeutics, Matinas Biopharma Holdings, Amplyx Pharmaceuticals) Moderator: **T.F. Patterson**		
13:00-14:30	**Opening of the Symposium**, Modern concepts in Stewardship Moderators: **M. Slavin** and **J. Patterson** 1. In ICU: Deescalation Strategies, **N. Wiederhold** 2. In Hematology Unit, **J.M. Aguado** 3. Bacterial vs antifungal stewardship: commonalities and differences, **M. Slavin**		
14:30-16:00	**Guidelines** Moderators: **G. Maschmeyer** and **G. Daikos** 1. Pulmonary infiltrates, **G. Maschmeyer** 2. Bacteriology, **C. Viscoli** 3. Mycology, **T.F. Patterson**		
16:00-16:30	Coffee break		
16:30-18:00	**Philosophy of Medicine** Introduction, **D.P. Kontoyiannis** Supportive care of the immunocompromised patient: Biological, ethical and philosophical dilemmas, **G. Samonis**		
18:00-18:30	Free time		
18:30-20:00	**Opening lecture:** The evolution of infectious disease management in the neutropenic patient: reflection of the last 50 years, **P. Pizzo**		
20.00	**Welcome reception** (Divani Palace Acropolis Roof Garden)		

MONDAY – JUNE 18

	ERECTHEION	ARISTOTELIS A	THEMISTOCLES
08:00-09:00	**Meet the Professor**. Fungal resistance: diagnosis and clinical impact, **M. Ghannoum** and **S. Arikan**	**Meet the Professor**. Returning immunosupressed traveler: A case-based lecture, 1. **J. Adachi**, 2. **R. Rabagliatti**	**Meet the Professor**. 1. Infection and liver diseases. Candidemia and cryptococcemia in cirrhotic patients, **M. Bassetti** 2. Antifungal agents and liver toxicity, **D. Kofteridis**
09:00-10:00	**Plenary session 1**: Microbiome and immunosupressed host, challenges and promises, **E. Pamer**	Open (Plenary)	Open (Plenary)
10:00-10:45	Coffee break - Poster viewing day 1 (Aristotelis B)		
10:45-11:45	**Round Table**: Immunoenhancement strategies and new risks Moderators: **D.P. Kontoyiannis** and **H. Einsele** 1. T-cell therapy for Viral and fungal infections post SCT, **H. Einsele** 2. Small protein kinase inhibitors and fungal risk, **G. Chamilos**	**Round Table**: Respiratory viruses in hematological patients Moderators: **P. Ljungman** and **C. Cordonnier** 1. The burden of respiratory viruses in hematological patients, **M. Boeckh** 2. Vaccination strategies against influenza viruses in SCT recipients, **C. Cordonnier**	**Round Table**: Pediatric fungal infections Moderators: **E. Roilides** and **M. Santolaya** 1. *Candida* sepsis in premature neonates, **T. Zaoutis** 2. Aspergillosis in pediatric patient with leukemia, **E. Roilides** 3. Mucormycosis, Fusariosis and other rare mycoses, **M. Santolaya**
11:45-12:45	**Round Table**: Immunogenetics and fungal risk Moderators: **T. Callandra** and **M. Lionakis** 1. Aspergillosis, **J.P. Bochud** 2. Candidiasis, **M. Lionakis**	**Round Table**: Global issues of importance for the immunosupressed host Moderators: **C. Kauffman** and **M. Bassetti** 1. Investigating epidemics: *C. auris*, **T. Chiller** 2. International travel and spread of MDR organisms, **T. Zaoutis**	**Round Table** by the **Hellenic Society of Medical Mycology** Invasive Fungal Infections in Patients with Hematological Malignancies In Greece: an update – Moderators: **G. Samonis** and **N.V. Sipsas** 1. Epidemiology of IFIs in Greece, **G. Vrioni** 2. Progress and challenges in the management of IFIs in Greece, **N.V. Sipsas** • IFIs in Greek patients with Hematological Malignancies: research opportunities *(panel discussion)*
12:45-13:00	Free time		
13:00-14:30	**Industry sponsored Symposium by MSD** *with lunch* Cytomegalovirus prophylaxis – The new paradigm Chair: **D.P. Kontoyiannis**	Open (Plenary)	Open (Plenary)
14:30-16:00	**Round Table**: Bacterial resistance in cancer patients Moderators: **G. Daikos** and **I. Raad** 1. Gram positive bacteria, **B.E. Murray** 2. Gram negative rods, **M. Akova** 3. Infection control issues, **R. Chemaly**	**Round Table**: Severe viral reactivations in immunocompromised patients Moderators: **R. Avery** and **H.H. Hirsch** 1. Hepatitis B and C virus in Hematology patient, who, how and when to start antiviral prophylaxis? **H. Torres** 2. Hepatitis C virus and liver transplantation: How I do manage the risk? **C. Durand** 3. BK virus infection in SOT and HCT: How to follow up and when start treatment? **H.H. Hirsch**	
16:00-17:00	**Industry sponsored Debate by Gilead** Polyenes – are they still relevant in 2018? Chair: **J. Adler-Moore**	Open (Plenary)	Open (Plenary)
17:00-18:00	Coffee break and Poster viewing day 1	**ICHS Business Meeting**	Open (Plenary)
18:00-19:30	**Round Table**: Hot topics in HIV Moderators: **N.V. Sipsas** and **M. Battegay** 1. HIV/AIDS treatment in 2018, **M. Battegay** 2. HIV and chronic kidney disease, **P. Gargalianos** 3. Transplantation in HIV-positive patients, **C. Cervera**	**Round Table**: PK/PD and the role of TDM in highly immunosupressed patient Moderators: **J. Meletiadis** and **A. Groll** 1. ICU, **R.E. Lewis** 2. The pediatric patient, **A. Groll** 3. The morbidly obese patient, **J. Meletiadis**	**Round Table**: Diarrhea in the immunosuppressed patient Moderators: **O. Cornely** and **K. Rolston** 1. *C. difficile*, **O. Cornely** 2. New treatments of mucositis, **J. Maertens** 3. Adenovirus infections, **H.H. Hirsch**
19:30-20:30	**Plenary session 2**: Mega-data to assess risk and treatment effects in the compromised host: promises and caveats, **J. Ioannidis**	Open (Plenary)	Open (Plenary)
	21:00-23:30 – Traditional dinner (off site)		

TUESDAY – JUNE 19

	ERECTHEION	ARISTOTELIS A	THEMISTOCLES
08:00-09:00	**Meet the Professor**. 1. Influenza in patients with leukemia or transplant, **R. Finberg** 2. Rhinovirus in HSCT recipients, **M. Boeckh**	**Meet the Professor**. How I treat breakthrough fungal infections: A case-based approach, **G.R. Thompson** and **G. Maschmeyer**	**Meet the Professor**. 1. Infections in multiple myeloma and lymphoma: the role of new agents, **V. Morrison** 2. Check point inhibitors and infection, **M. Slavin**
09:00-10:00	**Plenary session 3**: Tissue engineering and infectious diseases, **A. Mikos**	Open (Plenary)	Open (Plenary)
10:00-11:00	Coffee break - Poster viewing day 2 (Aristotelis B)		
11:00-12:00	**Round Table**: Focus in the solid organ transplant recipient Moderators: **O. Manuel** and **J. Fishman** 1. Pretransplant evaluation, **O. Manuel** 2. Severe infections in lung and liver transplant recipients, **R. Avery**	**Round Table**: Biologically active agents and unusual Infections Moderators: **D. Boumbas** and **H. Masur** 1. TNF inhibitors in rheumatology patients, **S. Tsiodras** 2. PML in patients with MS treated with biologics, **C. Cervera**	**Round Table:** Infections in patients with cystic fibrosis Moderators: **D. Stevens** and **J.M. Aguado** 1. Fungal infections, **D. Stevens** 2. Mycobacterial infections, the *M. abscessus* threat, **O. Lortholary**
12:00-13:00	**Round Table**: Quantifying the net state of immunosupression Moderators: **G. Papanicolaou** and **T.J. Walsh** 1. How one assesses immunosuppression? **G. Papanicolaou** 2. Immune reconstitution and AIDS, **O. Lortholary**	**Round Table**: Febrile neutropenia Moderators: **M. Akova** and **C. Gogos** 1. Risk assessment strategies in Febrile Neutropenic patients, **K. Rolston** 2. Severe sepsis in the neutropenic leukemia patient, **P.-Y. Bochud**	
13:00-14:00	**Shire CMV Symposium** *with lunch* Unmet needs in transplant recipients with CMV Chair: **H.H. Hirsch**		
14:00-15:30	**Round Table**: Whole Genome sequencing and Infectious diseases Moderators: **M. Ghannoum** and **J. Perfect** 1. The bug, **D. Perlin** 2. The host, **P.-Y. Bochud** 3. Microbiome/Mycobiome, **M. Ghannoum**	**Round Table**: Fungal Infections in South America - (An *InFocus* Symposium) Moderators: **A. Colombo**, and **F. Queiroz-Telles** 1. Histoplasmosis: **T. Chiller** 2. Paracoccidioidomycosis: **A. Colombo** 3. Sporotrichosis: **F. Queiroz-Telles**	
15:30-16:30	**Industry sponsored Symposium by Pfizer GR** Advances and new treatment options in invasive aspergillosis (IA) and mucormycosis (MM) Chairs: **N. Sipsas** and **P. Panagiotidis**	Open (Plenary)	Open (Plenary)
16:30-17:30	Coffee break and Poster viewing day 2	Open (Plenary)	**ICHS Council Meeting**
17:30-18:45	**Stump the Professor** Moderator: **T.F. Patterson** Panelists: **H. Masur, J. Fishman, T.J. Walsh, J. Perfect, M. Slavin, D.P. Kontoyiannis** Presenters: **A. Anastasopoulou, A. Andrianaki, M.N. Gkamaletsou, P. Ioannou, M. Orfanidou**	**Round Table**: Devise associated infections Moderators: **I. Raad** and **A. Skoutelis** 1. Bloodstream infections and lock therapy, **I. Raad** 2. VP- shunt infections, **C. Kauffman** 3. Diagnosis of periprosthetic infections, **R. Patel**	**Round Table**: GvHD Moderators: **R. Chemaly** and **P. Panayiotidis** 1.What is new in prevention? **A. Spyridonidis** 2. Current concepts in immunobiology of GvHD, **H. Einsele** 3. Infections in patients with severe GvHD, **G. Papanicolaou**
18:45-19:45	**Plenary session 4**: Infectious diseases causes of cancer, **H.H. Hirsch**	Open (Plenary)	Open (Plenary)
19:45-20:30	**Closing and awards ceremony**		

SYMPOSIUM ON INFECTIONS IN THE IMMUNOCOMPROMISED HOST
ICHS INTERNATIONAL IMMUNOCOMPROMISED HOST SOCIETY

SUNDAY, JUNE 17

MORNING SESSIONS (Hall A)

ERECTHEION (Hall A)

08:15-09:45 **Workshop-1**: UPDATE IN IDENTIFICATION OF FUNGAL INFECTIONS AND IN VITRO RESISTANCE
Moderators: **J. Meis** (The Netherlands) and **T.J. Walsh** (USA)

1. Clinical Mycology: New species and Taxonomy, **N. Wiederhold** (USA)
2. Diagnosis in tissue, **T.J. Walsh** (USA)
3. In vitro methods, **J. Meis** (The Netherlands)

09:45-10:00 Coffee break

10:00-12:00 **Workshop -2. Round Table**: NEW CONCEPTS IN DIAGNOSTICS IN MEDICAL MYCOLOGY
Moderators: **P. Donnelly** (UK) and **T.F. Patterson** (USA)

1. Galactomannan, b-D-Glucan and Lateral flow device, **T.F. Patterson** (USA)
2. PCR, **P. Donnelly** (UK)
3. MALDI-TOF, **R. Patel** (USA)

12:00 -13:00 **Industry sponsored Symposium by Cidara Therapeutics, Matinas Biopharma Holdings** and **Amplyx Pharmaceuticals** *(with lunch)*
NEW ANTIFUNGALS
Moderator: **T.F. Patterson** (USA)

- Rezafungin: a novel echinocandin for Treatment and Prevention of IFI, **T. Sandison** (USA) *(Cidara Therapeutics)*
- MAT2203: Safe, Oral Delivery of Amphotericin B Utilizing Lipid Nano-Crystal ("LNC") Platform Technology: A New Paradigm **J.D. Jabbour** (USA) *(Matinas BioPharma Holdings)*
- APX001: A Novel Antifungal to Treat Life Threatening Invasive Fungal Infections, **P. Cole** (USA) *(Amplyx Pharmaceuticals)*

EVENING SESSIONS (Hall A)

ERECTHEION (Hall A)

13:00-14:30 **Opening of the Symposium**,
MODERN CONCEPTS IN STEWARDSHIP
Moderators: **M. Slavin** (Australia) and **J. Patterson** (USA)

1. In ICU: Deescalation Strategies, **N. Wiederhold** (USA)
2. In Hematology Unit, **J.M. Aguado** (Spain)
3. Bacterial vs antifungal stewardship: commonalities and differences, **M. Slavin** (Australia)

14:30-16:00 GUIDELINES
Moderators: **G. Maschmeyer** (Germany) and **G. Daikos** (Greece)

1. Pulmonary infiltrates, **G. Maschmeyer** (Germany)
2. Bacteriology, **C. Viscoli** (Italy)
3. Mycology, **T.F. Patterson** (USA)

16:00-16:30 Coffee break

16:30-18:00 **Lecture**: PHILOSOPHY OF MEDICINE

- Introduction, **D.P. Kontoyiannis** (USA)
- Supportive care of the immunocompromised patient: Biological, ethical and philosophical dilemmas, **G. Samonis** (Greece)

18:00-18:30 Free time

18:30-20:00 **Opening lecture**: THE EVOLUTION OF INFECTIOUS DISEASE MANAGEMENT IN THE NEUTROPENIC PATIENT: REFLECTION OF THE LAST 50 YEARS, **P. Pizzo** (USA)

20.00 *WELCOME RECEPTION*
(Divani Palace Acropolis Roof Garden)

MONDAY, JUNE 18

MORNING SESSIONS (Halls A, B, C)

ERECTHEION (Hall A)

08:00-09:00 **Meet the Professor**
FUNGAL RESISTANCE: DIAGNOSIS AND CLINICAL IMPACT,
M. Ghannoum (USA) and **S. Arikan** (Turqey)

09:00-10:00 **Plenary session 1:** MICROBIOME AND IMMUNOSUPRESSED HOST, CHALLENGES AND PROMISES, **E. Pamer** (USA)

10:00-10:45 Coffee break – Poster viewing day 1 (Hall Aristotelis B)

10:45-11:45 **Round Table:** IMMUNOENHANCEMENT STRATEGIES AND NEW RISKS
Moderators: **D.P. Kontoyiannis** (USA) and **H. Einsele** (Germany)

1. T-cell therapy for viral and fungal infections post SCT
H. Einsele (Germany)
2. Small protein kinase inhibitors and fungal risk
G. Chamilos (Greece)

11:45-12:45 **Round Table:** IMMUNOGENETICS AND FUNGAL RISK
Moderators: **T. Callandra** (Switzerland) and **M. Lionakis** (USA)

1. Aspergillosis, **J.P. Bochud** (Switzerland)
2. Candidiasis, **M. Lionakis** (USA)

12:45-13:00 Free time

13:00-14:30 **Industry sponsored Symposium by MSD** *(with lunch)*
CYTOMEGALOVIRUS PROPHYLAXIS – THE NEW PARADIGM
Chair: **D.P. Kontoyiannis** (USA)

- Welcome and introduction **D.P. Kontoyiannis** (USA)
- The Clinics: Cytomegalovirus Infection and Disease
H. Einsele (Germany)
- Early Anti-CMV Intervention: What Level of CMV Replication is Acceptable? **J. Maertens** (Belgium)
- Cytomegalovirus: A Costly "Opportunistic" Infection
C. Cordonnier (France)
- Letermovir – Study Evidence of a Newly Approved CMV-Terminase Inhibitor, **R. Chemaly** (USA)
- Closing Remarks, **D.P. Kontoyiannis** (USA)

ARISTOTELIS A (Hall B)

08:00-09:00 **Meet the Professor**
RETURNING IMMUNOSUPRESSED TRAVELER: A CASE-BASED LECTURE, 1. **J. Adachi** (Peru), 2. **R. Rabagliatti** (Chile)

09:00-10:00 **Open** (Plenary)

10:00-10:45 Coffee break – Poster viewing day 1 (Hall Aristotelis B)

10:45-11:45 **Round Table**: RESPIRATORY VIRUSES IN HEMATOLOGICAL PATIENTS
Moderators: **P. Ljungman** (Sweden) and **C. Cordonnier** (France)

1. The burden of respiratory viruses in hematological patients,
M. Boeckh (USA)
2. Vaccination strategies against influenza viruses in SCT recipients,
C. Cordonnier (France)

11:45-12:45 **Round Table**: GLOBAL ISSUES OF IMPORTANCE FOR THE IMMUNOSUPRESSED HOST
Moderators: **C. Kauffman** (USA) and **M. Bassetti** (Italy)

1. Investigating epidemics: *C. auris,* **T. Chiller** (USA)
2. International travel and spread of MDR organisms, **T. Zaoutis** (USA)

12:45-13:00 Free time

13:00-14:30 **Open** (Plenary)

THEMISTOCLES (Hall C)

08:00-09:00 **Meet the Professor**
1. Infection and liver diseases. Candidemia and cryptococcemia in cirrhotic patients, **M. Bassetti** (Italy)
2. Antifungal agents and liver toxicity, **D. Kofteridis** (Greece)

09:00-10:00 **Open** (Plenary)

10:00-10:45 Coffee break – Poster viewing day 1 (Hall Aristotelis B)

10:45-11:45 **Round Table**: PEDIATRIC FUNGAL INFECTIONS
Moderators: **E. Roilides** (Greece) and **M. Santolaya** (Chile)

1. Candida sepsis in premature neonates, **T. Zaoutis** (USA)
2. Aspergillosis in pediatric patient with leukemia
E. Roilides (Greece)
3. Mucormycosis, Fusariosis and other rare mycoses
M. Santolaya (Chile)

11:45-12:45 **Round Table** by the **Hellenic Society of Medical Mycology**
INVASIVE FUNGAL INFECTIONS IN PATIENTS WITH HEMATOLOGICAL MALIGNANCIES IN GREECE: AN UPDATE
Moderators: **G. Samonis** (Greece) and **N.V. Sipsas** (Greece)

1. Epidemiology of IFIs in Greece, **G. Vrioni** (Greece)
2. Progress and challenges in the management of IFIs in Greece
N.V. Sipsas (Greece)
- IFIs in Greek patients with hematological malignancies: research opportunities *(Panel discussion)*

12:45-13:00 Free time

12:45-13:00 **Open** (Plenary)

EVENING SESSIONS (Halls A, B, C)

ERECTHEION (Hall A)

14:30-16:00 **Round Table:** BACTERIAL RESISTANCE IN CANCER PATIENTS
Moderators: **G. Daikos** (Greece) and **I. Raad** (USA)

1. Gram positive bacteria, **B.E. Murray** (USA)
2. Gram negative rods, **M. Akova** (Turkey)
3. Infection control issues, **R. Chemaly** (USA)

16:00-17:00 **Industry sponsored Debate by Gilead**
POLYENES – ARE THEY STILL RELEVANT IN 2018?
Chair: **J. Adler-Moore** (USA)
- Welcome, **J. Adler-Moore** (USA)
- Not all polyenes are the same, **R. Lewis** (Italy)
- The Debate: Polyenes – are they still relevant in 2018?
  Proposer: **P. Donnelly** (The Netherlands)
  Opposer: **T.F. Patterson** (USA)
  (Panel discussion and audience Q & A)
- Summary and close, **J. Adler-Moore** (USA)

17:00-18:00 Coffee break – Poster viewing day 1 (Hall Aristotelis B)

18:00-19:30 **Round Table:** HOT TOPICS IN HIV
Moderators: **N.V. Sipsas** (Greece) and **M. Battegay** (Switzerland)

1. HIV/AIDS treatment in 2018, **M. Battegay** (Switzerland)
2. HIV and chronic kidney disease, **P. Gargalianos** (Greece)
3. Transplantation in HIV-positive patients, **C. Cervera** (Canada)

19:30-20:30 **Plenary session 2**: MEGA-DATA TO ASSESS RISK AND TREATMENT EFFECTS IN THE COMPROMISED HOST: PROMISES AND CAVEATS, **J. Ioannidis** (USA)

ARISTOTELIS A (Hall B)

14:30-16:00 **Round Table**: SEVERE VIRAL REACTIVATIONS IN IMMUNOCOMPROMISED PATIENTS
Moderators: **R. Avery** (USA) and **H.H. Hirsch** (Switzerland)

1. Hepatitis B and C virus in Hematology patient, who, how and when to start antiviral prophylaxis? **H. Torres** (USA)
2. Hepatitis C virus and liver transplantation: How I do manage the risk? **C. Durand** (USA)
3. BK virus infection in SOT and HCT: How to follow up and when start treatment? **H.H. Hirsch** (Switzerland)

16:00-17:00 **Open** (Plenary)

17:00-18:00 **ICHS Business Meeting**

18:00-19:30 **Round Table**: PK/PD AND THE ROLE OF TDM IN HIGHLY IMMUNOSUPRESSED PATIENT
Moderators: **J. Meletiadis** (Greece) and **A. Groll** (Germany)

1. ICU, **R.E. Lewis** (Italy)
2. The pediatric patient, **A. Groll** (Germany)
3. The morbidly obese patient, **J. Meletiadis** (Greece)

19:30-20:30 **Open** (Plenary)

THEMISTOCLES (Hall C)

18:00-19:30 **Round Table**: DIARRHEA IN THE IMMUNOSUPPRESSED PATIENT
Moderators: **O. Cornely** (Germany) and **K. Rolston** (USA)
1. *C. difficile*, **O. Cornely** (Germany)
2. New treatments of mucositis, **J. Maertens** (Belgium)
3. Adenovirus infections, **H.H. Hirsch** (Switzerland)

21:00-23:30 Traditional dinner (off site)
– Tickets at the Secretariat Desk–

TUESDAY, JUNE 19

MORNING SESSIONS (Halls A, B, C)

ERECTHEION (Hall A)

08:00-09:00 **Meet the Professor**
1. Influenza in patients with leukemia or transplant, **R. Finberg** (USA)
2. Rhinovirus in HSCT recipients, **M. Boeckh** (USA)

09:00-10:00 **Plenary session 3:** TISSUE ENGINEERING AND INFECTIOUS DISEASES, **A. Mikos** (USA)

10:00-11:00 Coffee break – Poster viewing day 2 (Hall Aristotelis B)

11:00-12:00 **Round Table:** FOCUS IN THE SOLID ORGAN TRANSPLANT RECIPIENT
Moderators: **O. Manuel** (Switzerland) and **J. Fishman** (USA)

1. Pretransplant evaluation, **O. Manuel** (Switzerland)
2. Severe infections in lung and liver transplant recipients, **R. Avery** (USA)

12:00-13:00 **Round Table:** QUANTIFYING THE NET STATE OF IMMUNOSUPRESSION
Moderators: **G. Papanicolaou** (USA) and **T.J. Walsh** (USA)

1. How one assesses immunosuppression? **G. Papanicolaou** (USA)
2. Immune reconstitution and AIDS, **O. Lortholary** (France)

13:00-14:00 **Industry sponsored Symposium by Shire** *(with lunch)*
UNMET NEEDS IN TRANSPLANT RECIPIENTS WITH CMV
Chair: **H.H. Hirsch** (Switzerland)
- Introduction, **H.H. Hirsch** (Switzerland)
- Unmet needs in transplant recipients with CMV
  P. Ljungman (Sweden)

ARISTOTELIS A (Hall B)

08:00-09:00 **Meet the Professor**
How I treat breakthrough fungal infections: A case-based approach, **G.R. Thompson** (USA) and **G. Maschmeyer** (Germany)

09:00-10:00 **Open** (Plenary)

10:00-11:00 Coffee break – Poster viewing day 2 (Hall Aristotelis B)

11:00-12:00 **Round Table:** BIOLOGICALLY ACTIVE AGENTS AND UNUSUAL INFECTIONS
Moderators: **D. Boumbas** (Greece) and **H. Masur** (USA)

1. TNF inhibitors in rheumatology patients, **S. Tsiodras** (Greece)
2. PML in patients with MS treated with biologics
C. Cervera (Canada)

12:00-13:00 **Round Table:** FEBRILE NEUTROPENIA
Moderators: **M. Akova** (Turkey) and **C. Gogos** (Greece)

1. Risk assessment strategies in Febrile Neutropenic patients,
K. Rolston (USA)
2. Severe sepsis in the neutropenic leukemia patient
P.-Y. Bochud (Switzerland)

THEMISTOCLES (Hall C)

08:00-09:00 **Meet the Professor**
1. Infections in multiple myeloma and lymphoma: the role of new agents, **V. Morrison** (USA)
2. Check point inhibitors and infection, **M. Slavin** (Australia)

09:00-10:00 **Open** (Plenary)

10:00-11:00 Coffee break – Poster viewing day 2 (Hall Aristotelis B)

11:00-12:00 **Round Table**: INFECTIONS IN PATIENTS WITH CYSTIC FIBROSIS
Moderators: **D. Stevens** (USA) and **J.M. Aguado** (Spain)

1. Fungal infections, **D. Stevens** (USA)
2. Mycobacterial infections, the *M. abscessus* threat,
O. Lortholary (France)

EVENING SESSIONS (Halls A, B, C)

ERECTHEION (Hall A)

14:00-15:30 **Round Table:** WHOLE GENOME SEQUENCING AND INFECTIOUS DISEASES
Moderators: **M. Ghannoum** (USA) and **J. Perfect** (USA)

1. The bug, **D. Perlin** (USA)
2. The host, **P.-Y. Bochud** (Switzerland)
3. Microbiome/Mycobiome, **M. Ghannoum** (USA)

15:30-16:30 **Industry sponsored Symposium by Pfizer GR**
ADVANCES AND NEW TREATMENT OPTIONS IN INVASIVE ASPERGILLOSIS (IA) AND MUCORMYCOSIS (MM)
Chairs: **N.V. Sipsas** (Greece) and **P. Panagiotidis** (Greece)

Burden of disease and challenges in the treatment of IA and MM
E. Olavarria (UK)
Isavuconazole: A novel triazole in our armamentarium
O. Cornely (Germany)
Isavuconazole: Patient profiles and Case discussion,
N.V. Sipsas (Greece)

16:30-17:30 Coffee break – Poster viewing (Hall Aristotelis B)

17:30-18:45 **Stump the Professor**
Moderator: **T.F. Patterson** (USA)
Panelists: **H. Masur** (USA), **J. Fishman** (USA), **T.J. Walsh** (USA), **J. Perfect** (USA), **M. Slavin** (Australia), **D.P. Kontoyiannis** (USA)
Presenters: **A. Anastasopoulou** (Greece), **A. Andrianaki** (Greece), **M.N. Gamaletsou** (Greece), **P. Ioannou** (Greece), **M. Orfanidou** (Greece)

18:45-19:45 **Plenary session 4:** INFECTIOUS DISEASES CAUSES OF CANCER,
H.H. Hirsch (Switzerland)

19:45-20:30 **Closing and awards ceremony**

ARISTOTELIS A (Hall B)

14:00-15:30 **Round Table:** FUNGAL INFECTIONS IN SOUTH AMERICA – (An *InFocus* Symposium)
Moderators: **A. Colombo** (Brazil), and **F. Queiroz-Telles** (Brazil)
1. Histoplasmosis: **T. Chiller** (USA)
2. Paracoccidioidomycosis: **A. Colombo** (Brazil)
3. Sporotrichosis: **F. Queiroz-Telles** (Brazil)

15:30-16:30 **Open** (Plenary)

16:30-17:30 Coffee break – Poster viewing (Hall Aristotelis B)

17:30-18:45 **Round Table:** DEVISE ASSOCIATED INFECTIONS
Moderators: **I. Raad** (USA) and **A. Skoutelis** (Greece)
1. Bloodstream infections and lock therapy, **I. Raad** (USA)
2. VP- shunt infections, **C. Kauffman** (USA)
3. Diagnosis of periprosthetic infections, **R. Patel** (USA)

THEMISTOCLES (Hall C)

15:30-16:30 **Open** (Plenary)

16:30-17:30 **ICHS Council Meeting**

17:30-18:45 **Round Table:** GvHD
Moderators: **R. Chemaly** (USA) and **P. Panayiotidis** (Greece)
1. What is new in prevention? **A. Spyridonidis** (Greece)
2. Current concepts in immunobiology of GvHD, **H. Einsele** (Germany)
3. Infections in patients with severe GvHD, **G. Papanicolaou**

Posters