Welcome to the *Mycoses Study Group Education and Research Consortium (MSGERC) Bi-Annual Newsletter, Summer 2014*. This newsletter is intended to keep our investigators and supporters informed of the developments within the MSGERC and to encourage support and involvement in our ongoing activities. We encourage networking among key opinion leaders to extend opportunities for our unique evidence-based educational offerings.

I. Meetings and Live Educational Events

**MSG 2014 Annual Meeting**

The MSGERC Annual Meeting will take place immediately after the Live Satellite CME Symposia at ICAAC at 7:30 PM on September 7, 2014 at the Marriott Marquis Hotel located at 901 Massachusetts Avenue, NW, Washington, DC.

The Meeting Agenda:
- MSGERC Update
- MSG Clinical Trials Updates
- Industry Updates
- PFN Update
- MSGERC Education Committee Report
- Disease Breakout Reports
  - Candidiasis
  - Aspergillus
  - Crypto/Endemic

This year, Disease Breakout Sessions will take place prior to the MSG Annual Meeting via Live Web-Based Conference Meetings using Webex. This will allow for timely collaboration and consensus building on issues surrounding unmet needs in terms of invasive fungal infection epidemiology, diagnostics, treatment and prevention.

**ICAAC LIVE Satellite CME Symposia - Clinical Decision Making in Mycology: Working Through Difficult Clinical Scenarios**

On September, 7, 2014, from 5:30- 7:30 PM at the Marriott Marquis Hotel located at 901 Massachusetts Avenue, NW, Washington, DC.
The University of Nebraska Medical Center for Continuing Education, in conjunction with the Mycoses Study Group Educational & Research Consortium (MSG–ERC), and Terranova Medica, LLC, is pleased to announce the funding of the ICAAC-affiliated live CME symposium and companion web-based enduring materials initiative entitled, *Clinical Decision Making in Mycology: Working Through Difficult Clinical Scenarios.*

**Speakers**

- **Introduction and review of existing and emerging diagnostics and therapeutics**
  - Peter G. Pappas, MD, FACP
  - *William E. Dismukes Professor of Medicine; Principal Investigator, Mycoses Study Group; Division of Infectious Diseases; University of Alabama at Birmingham*

- **Hematologic malignancy/HSCT patient**
  - Oliver A. Cornely, MD, FACP, FIDSA
  - *Professor of Internal Medicine, Clinical Trials Centre Cologne, University of Cologne, Germany*

- **At-risk ICU patient**
  - David R. Andes, MD
  - *Professor of Medicine and Medical Microbiology and Immunology; Head, Division of Infectious Diseases; University of Wisconsin School of Medicine and Public Health*

**Program Overview**

Despite advances in IFI management, unmet needs remain for these challenging conditions. Many factors affect IFI outcomes—some are modifiable, while others are not. Do we know which decisions under clinician control are most critical for achieving optimal outcomes in IFI management? What kind of difference do newer diagnostics and therapeutics make or do we anticipate they will make? Can clinicians recognize barriers to effective treatment and overcome them to improve patient outcomes?

*Clinical Decision Making in Mycology: Working Through Difficult Clinical Scenarios* is an MSGERC CME symposium designed to address these questions. After an introduction and review of commercially available and emerging therapeutic and diagnostic options, the activity will turn to an in-depth exploration of 2 cases—a hematologic malignancy and an intensive care unit case—that illustrate key decision points affecting potential outcomes across the disease spectrum. By using a branching, decision-tree approach that follows the cases out to potential logical conclusions, the activity challenges learners to evaluate their own practice patterns in an effort to overcome barriers and achieve better outcomes for IFIs.

This activity has been funded through grants from Merck; Gilead Sciences Europe, Ltd; T2 Biosystems; and Miravista Diagnostics.

**The New Antifungal Toolkit: The Pharmacopeia and Beyond**

The University of Nebraska Medical Center for Continuing Education, in conjunction with the Mycoses Study Group Educational & Research Consortium (MSG–ERC) and Terranova Medica, LLC, is pleased to submit a grant request for an internet-based CME initiative with 4- and 8-month updates entitled, *The New Antifungal Toolkit: The Pharmacopeia and Beyond.* This initiative will provide up-to-date information about new FDA-approved agents/reformulations for
the management of IFIs. In addition, it will also feature analyses of key strategies for managing IFIs as well as where the newer therapeutic options fit into such strategies. Finally, the initiative will include a broader pharmacopeia of all FDA-approved agents for invasive mycoses as a useful point for comparison as well as a practice reference. The initiative will be housed on the http://www.funguscme.org/, which will serve as the CME site for all MSG-ERC activities. As such, the activity is likely to become a helpful companion resource for clinicians as they incorporate the newer agents into clinical practice.

This initiative, which is based on an MSG-directed needs assessment that includes evaluation of prior MSG CME activities, is directed to infectious disease physicians, hematologist/oncologists, critical care physicians, transplant physicians, pathologists, and other healthcare providers responsible for the management of invasive mycoses.

The learning objectives are

- Compare and contrast newly FDA-approved and emerging antifungal agents with established antifungal therapeutics
- Provide appropriate prophylactic, pre-emptive, empiric, and definitive treatment for IFIs across a range of host types
- Manage IFIs according to the principles of good antifungal stewardship

This initiative will be accredited for 2.0 hours of AMA PRA Category 1 Credits™ total (original launch plus the 2 updates).

The 2012 and 2013 MSG-ERC events were very successful live events, with attendance more than doubling year over year. In addition, the enduring activities from 2012 as well as the first part of the series from the 2013 initiative are available at http://www.funguscme.org/. Building on the success our collaboration for the last 6 years, we hope to even further expand the reach of our high-quality mycology programming.

II. Research: MSG Clinical Trials Update

MSG-01: A randomized, double-blind, placebo controlled trial of caspofungin prophylaxis followed by preemptive therapy for invasive candidiasis in high risk adults in the critical care setting.
PI: Luis Ostrosky-Zeichner
Corporate Sponsor: Merck
This study was completed with 222 subjects enrolled. The data analysis is complete; the data were presented at SHEA 2011 in March. The study has been published in Clinical Infectious Diseases (2014;58:2019-26)

MSG-03: Invasive Aspergillosis Combination Study
PI: Kieren Marr
Corporate Sponsor: Pfizer
This trial was completed on February 22, 2011 with a total of 459 patients enrolled and 454 patients dosed. A poster was presented at ECCMID in London in April 2012. The manuscript has been submitted in revised form to Annals of Internal Medicine (May 2014).

MSG-05: A re-analysis of the voriconazole versus amphotericin B followed by other licensed antifungal therapy for invasive aspergillosis trial (Herbrecht et al. NEJM 2002; 347: 408-15)
PI: Raoul Herbrecht  
Corporate sponsor: Pfizer  
The purpose of this project was to reanalyze the existing database from the pivotal study comparing voriconazole to amphotericin B followed by OLAT for primary treatment of invasive aspergillosis. The analysis was presented at ICAAC 2012. This study is completed and a final version of the manuscript is being submitted to Clinical Infectious Diseases (CID).

MSG 06: The Phaeohyphomycosis Registry  
PIs: Sanjay Revanker, John Baddley, Sharon Chen  
Corporate sponsors: Merck, Gilead, Astellas  
Enrollment began on October 31, 2012. 54 cases have been entered to this point. The registry will include cases diagnosed from January 1, 2011 to present. Fifteen sites are active, one is in the IRB approval and contract phase, and site selection is complete. Sites included are from South America (1), Australia (2), and North America (13). This project will prospectively identify 150 patients from these sites and collect all relevant clinical, diagnostic, mycological and treatment/outcome information relating to this uncommon mycosis. These data will ultimately be merged with relevant data from the ongoing Fungiscope project led by Oliver Cornelly in FRG. An important component of this study is that CDC has agreed to serve as specimen repository for the project, providing access to these clinical specimens by all MSG investigators. An abstract describing the first look at 57 enrolled patients was submitted to ICAAC.

MSG 07: Cryptococcosis Combined Analyses  
PI: Peter Pappas, John Baddley, Sharon Chen, Emilio DeBess, Eleni Galanis, Julie Harris, Nicola Marsden-Haug, John Perfect, Peter Phillips  
Corporate Sponsor: Merck  
This retrospective study proposes to evaluate archived cases of C neoformans and C gattii from UAB, Duke, Australia, BC Canada, Washington, and Oregon. Up to 1200 well defines cases are anticipated. UAB has signed data use agreements with all sites. UAB has received data from DUMC and Westmead, and data merger has begun. UAB will receive data from BCC, WA and OR in the near future. An abstract including all available data will be submitted as a late-breaker abstract to ICAAC in July 2014.

MSG 08: Epidemic Mold Infections in U.S.  
PI: Carol Kauffman, John Bennett, Dimitrios Kontoyiannis, Kieren Marr, Tom Patterson, John Perfect, Sanjay Revankar, Tom Walsh, Tom Chiller, Peter Pappas  
Corporate Sponsor: CDC, Gilead, Merck  
MSG has received funding from Merck, Gilead, and the CDC to support a project based on capturing the detailed long term clinical and therapeutic features of this outbreak. Data points are to include diagnostic, clinical, radiologic, treatment and outcomes data, and these data will be reviewed in a real-time fashion in order to help define disease management. MSG’s role includes site selection, electronic case report form development, data management and analysis, and to create a Clinical Advisory Panel. Initially, investigators at sites with at least 10 cases will be invited to participate. Once these sites are operational, then the group will consider including sites with lower case burdens. Seven sites have received IRB approval and three are in the IRB and contract phase. Enrollment has begun at 7 sites. Current enrollment is at 354. Available data will be analyzed and submitted as a late breaker to ICAAC or IDSA in July 2014. All cases which have been completed through 6 months of follow up and are received by June 15, 2014, will be included in this analysis.

MSG 09: Prospective study of cryptococcosis among non-HIV infected patients  
PI: Kieren Marr, MD  
Sponsor: NIAID
The newest MSG study was proposed by Kieren Marr to prospectively identify patients with cryptococcosis who are HIV negative. This study is observational, and will capture all relevant epidemiology, clinical and therapeutic data. In addition, immunologic and genetic studies will be performed on each study participant to explore host response to infection and genetic predispositions to disease expression. Enrollment began at several US sites in March 2014. To date, 5 cases have been enrolled.

The study was originally proposed as an international study, but is limited to US sites due to NIAID budget limitations. A parallel international study, MSG 09a, is being proposed and would potentially involve sites in Canada, Australia, France, Brazil, Vietnam, and Taiwan. Gilead and Astellas have been approached for support of this proposal, their decisions are pending.

**EORTC/MSG Update Treatment Definitions Project**

The EORTC and MSG are partnering again to update the definitions of invasive fungal infections. Ten working groups constituted of investigators from EORTC and MSG have been formed and working on revising these definitions which were last updated in 2008. Several of the groups have started the process of updating these definitions, and work will continue through the end of 2014.

**III. Other Activities**

**PRESS RELEASE- The Establishment of the MSG ERC**

**Birmingham, Alabama.** July, 2014. The Mycoses Study Group Central Unit is pleased to announce the establishment of the Mycoses Study Group Education & Research Consortium (MSGERC) as a non-profit, 501c3 charitable organization. The MSGERC was established in late 2013 to continue the MSG’s collective mission as thought leaders in mycology and is representative of over 160 physicians and scientists from leading national and international universities.

In the new era of clinical research, the MSGERC will continue to champion evidence-based diagnoses, prophylaxis, treatment, and management of IFIs through its tripartite mission:

- **Education:** Championing excellence and innovation in the development and delivery of evidence-based medical knowledge in invasive fungal disease management for patients globally.
- **Research** Translational thought leadership for the development of diagnostics and medicinal antifungals for invasive fungal infections.
- **Scholarship:** Scholarly work among academic centers and professional organizations to promote antifungal stewardship, investigational outbreak tracking, implementation science, publications, and leadership.

To learn more about the goals and offerings of the MSGERC, please visit the newly launched MSGERC site, [www.msgerc.org](http://www.msgerc.org).

**The benefit of the establishment of the MSGERC to antifungal education**

The organizational change and increased focus on education has already led to an expansion of educational programming and greater involvement of MSGERC Education Committee members in setting the educational agenda. According to Peter Pappas, MD, Director of the MSGERC,
“I am so pleased with the strides the MSGERC has made recently. With the establishment of the MSG ERC as a non-profit organization, the development of the first exclusive MSG website (msgerc.org), and our continued success in education programming, we are gaining significant momentum as an organization. We are also pleased to see great attendance at our international CME events as well as increased traffic to our dedicated CME site, http://www.funguscme.org/. I look forward to the continued expansion of our educational efforts in terms of innovative educational designs, increased audience reach, and high-level outcomes evaluations. I thank Carolynn Thomas Jones, DNP, MSPH, RN, for her invaluable help in getting the non-profit established and working; Dr. Lisa Tushla and Mr. Tom Davis at Terranova; Lois Colburn at UNMC CCE for all of their efforts in moving this educational collaboration forward; and the Education Committee of the MSG ERC, particularly Chairs Drs. John Baddley and G.R. Thompson, for their leadership in fungal education. We also thank our commercial supporters, who have provided the continued financial support that makes all this wonderful programming possible.”

ABOUT THE MSG EDUCATIONAL COMMITTEE

The MSGERC Education Committee is a group within the MSGERC dedicated to education in the area of mycoses. The educational committee includes 21 MSGERC members from across with teaching expertise and an expressed interest in antifungal education. This committee’s mission is to set the educational agenda for mycology and provide top-quality continuing education initiatives to MSGERC member institutions and other institutions throughout the United States and worldwide. Currently, the MSGERC educational committee is under the leadership of US Co-chairs, John Baddley, MD, of UAB Medical Center, and George Thompson, MD, of UC Davis School of Medicine.

ABOUT TERRANOVA MEDICA, LLC

Terranova Medica is a medical education company that combines a strong heritage in medical communications with a passion for innovation, to achieve one goal—improved patient outcomes. Led by Lisa Tushla, PhD, H(ASCP), the organization specializes in interactive/e-learning, with a concentration on hematology/oncology and anti-infectives. For more information, visit www.terranovamedica.com.

About the University of Nebraska Medical Center, Center for Continuing Education

The UNMC Center for Continuing Education is one of this country’s oldest accredited providers of continuing education to physicians and is accredited by the ACCME. The Center offers a broad range of programming ranging from primary care issues to the latest developments in oncology and draws attendees from throughout the region, nation and internationally. UNMC-CCE sponsors nearly 300 activities annually that reach approximately 22,000 healthcare providers. Through its outreach program to rural communities, UNMC-CCE brings the latest medical knowledge to healthcare practitioners in Nebraska and the surrounding states.
What People Are Saying About the MSG-ERC

According to John Perfect, MD, James B. Duke Professor of Medicine, Chief of Infectious Diseases and Director of the Mycology Research Unit at Duke University:

“The MSG for many years has been the critical organization to shape medical mycology. It has led in the evaluation of new therapies and many, many patients are reaping the benefits of its collaborative studies created and completed by this group. It is important to note that the MSG not only evaluates the medical mycology landscape and its antifungals, it has made a commitment to teach the next generation from the insights gained by the studies and its members. This group of largely volunteer experts has met the challenge of the advancing epidemic of invasive mycoses in the world today.”

Jack Sobel, MD, Professor and Chief of Infectious Diseases at Wayne State University School of Medicine, further states:

“This new transition of the MSGERC represents a new chapter in clinical and research mycology and will provide the impetus to a new operational structure ensuring the leadership role of the MSG in North America. New blood/fuel in pushing mycology ahead…just what we need!”

John R. Wingard, MD, Professor of Medicine, Price Eminent Scholar, Director of Bone Marrow Transplant Program at the University of Florida Health Sciences Center and Deputy Director for Research at UF Health Cancer Center states:

“Over the years, the MSG has had an important, even indispensable role in the conduct of antifungal therapy trials that have resulted in important advances in management of fungal infections and defined our ever changing practice standards. It has continued in this role and in the past several years has expanded its role to offer education to infectious disease specialists and oncology and transplant professionals.”
Haran T. Schlamm, MD, previously with Pfizer Pharmaceuticals and current Vice President, Clinical Science and Medical Affairs at K2 Therapeutics and HTS Pharma Consulting emphasized:

“Working with the MSG on the combination treatment of aspergillosis study enabled us to conduct the study at more regions and sites than we would have otherwise. Also, the MSG provided valuable support during the publication authorship discussions”.

According to Carolynn Thomas Jones, DPN, MSPH, RN:

“I had the opportunity to work with the original leader of the MSG, Dr. William E. Dismukes who advanced mycology through the efficient, quality development of new antifungal drugs. National and international expert academic investigators emerged through the clinical trial work of the MSG and today the leadership mission is broadened by Dr. Peter Pappas who has tirelessly brought the MSGERC to this new chapter. For over 3 decades, the MSG has made pivotal public health contributions in evidence-based diagnosis and treatment of adult and pediatric patients who have normal or compromised immune systems. The MSG was at the forefront of the HIV epidemic, as fungal infections were claiming lives as AIDS-defining opportunistic infections and as it claimed the lives of transplant recipients. Furthermore, this group of experts began working with CDC and molecular biologists to explore risk and host factors and improved diagnostics for rapid detection and early treatment. This group knows fungal disease and I’m pleased to have the opportunity to work with these fine physicians, pharmacists and scientists again!”

Coming Soon! An updated website for http://drfungus.org the MSGERC companion website produced by the MSGERC Education Committee.

This news release has been featured on the Terranova website at: http://terranovamedica.com/news.html and the MSG Website http://msgerc.org

Invasive Fungal Infections After Solid Organ Transplantation

In this interactive, enduring, multimedia activity is based on the third and final component of the ICAAC 2013 satellite symposium, Invasive Mycoses: Consider the Source, Consider the Host. In Invasive Fungal Infections After Solid Organ Transplantation, Barbara D. Alexander, MD, MHS, FIDSA, discusses a case highlighting the management of an invasive mold infection in a patient post lung transplantation. In this activity, Dr Alexander reviews fungal epidemiology based on type of organ transplanted and time from transplantation, explores the performance characteristics of fungal diagnostics specifically in the SOT setting, reviews the guidelines for management of fungal infections in SOT, and discusses genomics and other host defense issues impacting response to therapy. The activity will also include bonus material about current and emerging antifungal therapy and diagnostic options (developed by Peter G. Pappas, MD, FACP). Register online at: http://www.funguscme.org/

Pediatric Mycoses: Same But Different

In this interactive, enduring, multimedia activity is based on the second component of the live ICAAC 2013 satellite symposium, Theoklis Zaoutis, MD, MSCE, discusses cases illustrating the state-of-the-art management of invasive fungal infections (IFIs) in children. Highlighting important issues for the prevention and management of invasive candidiasis and invasive mold infections in oncology and ICU settings, Dr Zaoutis also reviews the levels of evidence behind different diagnostic tests in children, drug dosing strategies, as well as the role of therapeutic dose monitoring. The activity will also include bonus material about current and emerging antifungal therapy and diagnostic options (developed by Peter G. Pappas, MD, FACP). Register online at: http://www.funguscme.org/
In this interactive, enduring multimedia activity based on a live ICAAC 2013 Satellite Symposium, Andrew Ullmann, MD, FIDSA, discusses cases illustrating optimal antifungal strategies for at-risk hematopoietic stem cell transplantation (HSCT) patients and for those with documented infections. Join him as he reviews prophylactic strategies as well as first-line and second-line therapy options for aspergillosis and fusariosis. Dr Ullmann also reviews risk-assessment criteria, diagnostic challenges, and host factors affecting outcomes. The activity will also include bonus material about current and emerging antifungal therapy and diagnostic options (developed by Peter Pappas, MD). Register online at: http://www.funguscme.org/

V. MSG Administration

MSG Central Unit:
Peter G. Pappas, MD, PI
Beth Deerman, RN, MSN, Administrator, MSG Central Research Unit
Vicki Noles, Administrative Assistant
Joy Fleisher, Financial Associate
Dorothy Shaw and Deborah Lowman, Regulatory Specialists, MSG Central Research Unit

MSG Education and Research Consortium:
Peter G. Pappas, MD, PI
Carolynn Thomas Jones, DNP, MSPH, RN, MSG ERC Consultant Executive Director

MSGERC Steering Committee (SC):
Peter G. Pappas, Chair (US)
Helen Boucher (US) Peter Donnelly (NETH) Raoul Herbrecht (FR)
Carol Kauffman (US) Bart-Jan Kullberg (NETH) Kieren Marr (US)
Marcio Nucci (BRA) Tom Patterson (US) John Perfect (US)
Jack Sobel (US) Tania Sorrell (AU) Thomas Walsh (US)
John Wingard (US)

John Bennett, Jack Edwards, Emilio Bouza, Eric Bow and Thierry Calandra serve as ‘emeritus’ non-voting advisors.

MSGERC Education Committee (EC):
US: George R. Thompson (Chair) John Baddley (Co-chair)
Barbara Alexander David Andes John Bennett
Helen Boucher Graeme Forrest Alison Freifeld
Susan Hadley Carolyn Jones Dimitrios Kontoyiannis
L.Ostrosky-Zeichner Peter Pappas Tom Patterson
Europe: Olivier Lortholary (FR) Oliver Cornely (FRG)
Bart-Jan Kullberg (NETH)

Latin America: Luis Thompson (CHI) Marcio Nucci (BRA)

Australia: Monica Slavin (AUS)

Educational Partners: Lisa Tushla, Tom Davis (TerraNova Medica, LLC)
Lois Colburn (University of Nebraska, CME)

CONTACT US!
http://www.msgerc.org