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Gary Procop, MD
Chair, Billy Cooper Award Committee, MMSA
Chair, Clinical Pathology
Director, Molecular Microbiology, Mycology, and Parasitology
Cleveland Clinic
Cleveland, OH 44195

Dear Dr. Procop:

It is my privilege to highly recommend Dr. Mahmoud Ghannoum for the Billy Cooper Award of the Medical Mycological Society of the Americas for 2009.

I have known Dr. Ghannoum for the past 18 years, during which time he has distinguished himself as an outstanding medical mycologist in the fields of diagnostic mycology, molecular microbiology, and pathogenesis.

Dr. Ghannoum's career in medical mycology spans a period of three decades, beginning in England at the Loughborough University of Technology in 1978. Dr. Ghannoum returned to his native country of Kuwait where he rose through the ranks of Kuwait University to full Professor in the department of Botany and Microbiology. During the 11 years of his faculty appointment at Kuwait University, Mahmoud already demonstrated considerable proficiency in the characterization of membrane sterols in medically important fungi. As a result of the Persian Gulf War, Mahmoud and his family fled to the United States where he began his career as a Professor of Mycology Research at the UCLA School of Medicine. Mahmoud subsequently moved to Cleveland, where he became Scientific Director for the Center for Medical Mycology at the University's Hospitals at Case Western Reserve University.

Mahmoud is a leader in the studies of dermatophytes and dermatophytosis. As Director of the Center for Medical Mycology and Professor of Dermatology, Mahmoud has made enormous contributions to our understanding of the diagnostic microbiology of medically important dermatophytes and dermatophytosis. He directs one of the country's leading reference laboratories for dermatophytes. In 2000 Mahmoud conducted a large scale North American study of isolates from onychomycosis, and has since conducted other large epidemiological studies of dermatophytes and dermatophytosis.

Mahmoud's leadership within the field of dermatophyte medical mycology has been ground breaking. Mahmoud has been the lead investigator of the CLSI studies in the medical mycology of dermatophytes, as written in M-38A. Through his initiative and leadership, CLSI has developed key standardized methods for *in vitro* susceptibility testing of these medically important pathogens. He has coordinated numerous NCCLS/CLSI collaborative evaluations of filamentous fungi with a focus particularly on the dermatophytes, while also serving effectively as the co-chair of the Antifungal Subcommittee for standardization antifungal validation of *in vitro* susceptibility testing. Mahmoud has contributed to 17 published studies of CLSI/NCCLS and has written 15 papers on dermatophytes.

Mahmoud directs a major diagnostic and reference laboratory that is dedicated to both clinical service for dermatophyte infections, as well as a leading edge research laboratory whose innovative work includes new diagnostic techniques, *in vitro* susceptibility testing, experimental dermatophytosis animal models and molecular pathogenesis.

Mahmoud ranks among the few individuals whose knowledge and expertise spans the spectrum from clinical laboratory medical mycology to molecular pathogenesis. Among his contributions in molecular pathogenesis are the seminal descriptions of biofilms produced by fungi and their subsequent impact on antifungal drug resistance. The correlation between antifungal drug resistance and the formation of biofilms is a cogent example of Mahmoud's ability to combine clinical observation and molecular pathogenesis in a seamless effort to bring further meaning to diagnostic mycology.

As one of the foremost experts in the field of microbial biofilms and Mahmoud is the lead editor of the ASM text entitled "Microbial Biofilms". Mahmoud's research spans over more 150 research publications as well as numerous chapters, review articles, and monographs.

Mahmoud's accomplishments has been highly recognized through his receipt of distinguished awards, including the Kuwait prize from the Kuwait Foundation for the Advancement of Science, as well as the Bristol Myers Squibb Freedom of Discovery Unrestricted Research Grant. In addition to his clinical and academic achievements, Mahmoud is a kind, gracious, and caring individual who will endeavor to help anyone in our field. He is widely regarded for his prodigious accomplishments, scientific vision, and gentleness of character.

In summary, Dr. Mahmoud Ghannoum is a sterling credit to the field of medical mycology. He epitomizes the combined strengths outstanding clinical service and laboratory research that distinguish and honor recipients of Billy Cooper Award.

I therefore highly recommend Dr. Mahmoud Ghannoum for this important award of the Medical Mycological Society of the Americas.

Sincerely,

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