

# AMP explores technology advancements to improve diagnosis and treatment for infectious diseases

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The Association for Molecular Pathology (AMP), the premier global, non-profit organization serving molecular diagnostics professionals, today announced a new report that examines how sophisticated technology advancements are being implemented to improve diagnosis and optimize treatment selection for multiple invasive, opportunistic and often deadly infectious diseases. The manuscript titled "Emerging and Future Applications of MALDI-TOF Mass Spectrometry in the Clinical Microbiology Laboratory: A Report of the Association for Molecular Pathology" has been released online ahead of publication in the November 2016 issue of *The Journal of Molecular Diagnostics*.

Over the past 20 years, the morbidity and mortality rates for infectious diseases have increased as more patients are becoming immunocompromised due to factors such as transplantation and various oncology treatments. Clinical microbiologists are now using matrix-assisted laser desorption ionization time-of-flight mass spectrometry (MALDI-TOF-MS) for rapid identification and diagnostic applications beyond the routine identification of bacteria and yeast. In this report, the AMP MALDI-TOF in Infectious Diseases Work Group highlights three of these important application areas, including the identification of specific invasive infectious diseases and antimicrobial susceptibility testing. After a thorough evaluation, the team determined MALDI-TOF-MS could successfully identify filamentous fungi, such as *Aspergillus*, and mycobacteria, such as *M. tuberculosis*. However, the team believes

that more testing must be performed before it can recommend the use of MALDI-TOF-MS for antimicrobial susceptibility applications.

"MALDI-TOF-MS is not only more accurate than growth-based microorganism identification systems, but it is also faster and more affordable," said Christopher Doern, PhD, Lead of AMP MALDI-TOF in Infectious Diseases Working Group, Associate Director of Microbiology at Virginia Commonwealth University Health System. "It is very likely that MALDI-TOF-MS will soon become common practice for the identification of more invasive [infectious diseases](#) in the clinical laboratory."

"With reported mortality rates now in excess of 50 percent, the incidence of opportunistic invasive fungal infection has substantially risen in the last two decades, particularly in patients with hematologic malignancies," said Michael Lewinski, PhD, Chair of the AMP Infectious Diseases Subdivision, Senior Director of Medical Affairs, Microbiology at Roche Molecular Systems. "Looking forward, MALDI-TOF has the potential to transform modern healthcare by helping microbiologists identify these microorganisms down to the species level and enabling clinicians to determine the optimal antifungal therapy for each patient."

**More information:** Christopher D. Doern et al, Emerging and Future Applications of Matrix-Assisted Laser Desorption Ionization Time-of-Flight (MALDI-TOF) Mass Spectrometry in the Clinical Microbiology Laboratory, *The Journal of Molecular Diagnostics* (2016). [DOI: 10.1016/j.jmoldx.2016.07.007](https://doi.org/10.1016/j.jmoldx.2016.07.007)

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