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# *Stenotrophomonas maltophilia*: A world-wide emerging multiple-drug-resistant opportunistic pathogen

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## Abstract

*Stenotrophomonas maltophilia* is an emerging global opportunistic multiple-drug-resistant (MDR) bacterial pathogen. It is associated with significant mortality among the immunocompromised patient population. This organism is found in water, foods, plant rhizospheres, and animals. Infections of humans with *S. maltophilia* have been reported including those of the respiratory tract (most common), bloodstream, soft tissue and bone, eye, heart, and brain. *S. maltophilia* has been co-isolated with other gram-negative MDR opportunistic pathogens, presenting the possibility of genetic exchange between these organisms. *S. maltophilia* can adhere to medical implants and catheters. A significant feature of *S. maltophilia* is its ability to form biofilms on plastics and host cells. Biofilms are sources of infections. Diagnosis and removal of implanted devices colonized with this MDR organism from patients are recognized by clinicians as important steps to aid treatment of infection. Our research uses molecular and biochemical techniques to isolate and identify *S. maltophilia* and study conditions that influence biofilm development to understand how this microorganism survives and persists in institutional and natural environments. We have studied biofilms of *S. maltophilia* clinical and environmental isolates on a variety of surfaces. We will discuss new strategies to investigate the prevention/inhibition of *S. maltophilia* biofilms.

## Biography

Brooke is an Associate Professor in the Department of Biological Sciences at DePaul University. She holds doctorate and masters degrees in microbiology and immunology from the University of Western Ontario (Canada), with emphasis on bacterial lipopolysaccharide assembly and bacterial ultrastructure, respectively. Her postdoctoral research at the University of Texas Southwestern Medical Center investigated the interactions of diphtheria toxin with its host cell receptor. Her current research focuses on understanding molecular mechanisms underlying the biofilms of *S. maltophilia*. She has another research track investigating the presence of potentially pathogenic bacteria on surfaces. She has published 17 papers in peer-reviewed journals.