

ABIA Synergy Seminar

April 21, 2010
5 - 6 p.m.

Location:
Summa Health System
Raymond C. Firestone
Auditorium
55 Arch St.
Akron OH 44310

Who should attend:

This seminar is perfect for graduates, medical students, residents, fellows nursing students, medical professionals

CME Opportunity:

The Summa Health System designates this educational activity for a maximum of 1.0 AMA PRA Category 1 Credit(s) TM.

Physicians should only claim credit commensurate with the extent of their participation in the activity.

Summa Health System is accredited by the Ohio State Medical Association to sponsor continuing medical education for physicians.

Synergy Seminar

RSVP to the number below or fax your registration form to: Teri Donohue

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Silver Carbene Complexes for Antibiotic Treatment of Chronic Pulmonary Infections

Presenter: Wiley J. Youngs, Ph.D.
Distinguished Professor of Chemistry, University of Akron

In April's installment of the Synergy Seminar Series, Dr. Wiley Youngs, University of Akron Distinguished Professor of Chemistry, will discuss his research of antibiotic treatment for chronic pulmonary infections and its potential to significantly increase survival among patients with lung infections. Dr. Wiley will discuss the following:

- Development of silver carbene complexes (SCC) for use as a broad-spectrum therapy for patients with cystic fibrosis (CF)
- SCC's broad spectrum activity against virtually all bacteria
- Encapsulation of SCC into nanoparticles for prolonged delivery to the lungs and for targeted systemic delivery
- Projected pathway to clinical trials for SCC

Research Background

Dr. Youngs' research focuses on the development of silver-based antimicrobial agents, SCC, for use as a broad-spectrum therapy for patients with CF. The patients experience respiratory decline due to chronic pulmonary infections with multiple pathogens including *Pseudomonas aeruginosa*. To date, the research has found that SCC have antimicrobial activity against all CF pathogens tested, including multi-drug resistant species. SCC have broad spectrum activity against virtually all bacteria, including NIAID Category A and B bacteria *Y. pestis*, *B. anthracis*, *B. mallei* and *B. pseudomallei* and Emerging Infectious Disease bacteria, methicillin-resistant *S. aureus* (MRSA) and vancomycin-resistant *S. aureus* (VRSA).

A major focus of the research currently is the encapsulation of SCC into nanoparticles for prolonged delivery to the lungs and for targeted systemic delivery. Encapsulation of SCCs within biodegradable polymeric nanoparticles is designed to protect the silver complexes from chloride and argyrophilic proteins in the blood and allow for systemic delivery. Nanoparticles, including micelles, containing SCC have been formulated. Portions of the studies on the *in vitro* and *in vivo* antimicrobial properties of SCC nanoparticles will be presented. The projected pathway to clinical trials for the lead SCC will be briefly outlined.