



## **Curriculum Vitae**

### **Paula Heinz Vance**

**Position** Vice President, Environmental Consulting and Technical Services  
Microbiology Specialists Incorporated  
Houston, Texas

**Mailing Address** Microbiology Specialists Incorporated  
8911 Interchange Drive  
Houston, Texas 77054  
713-663-6888

**Birthplace** Corpus Christi, Texas

**Birth Date** November 25, 1952

**Education** B.A., Microbiology, University of Texas at Austin, 1974

### **Certifications**

- 1978 Registered Microbiologist (Pathogenic Bacteriology and Mycology), The National Registry of Microbiologists, #1814.
- 1979 Technologist in Microbiology, The American Society of Clinical Pathologists (CAP), #M-1413.
- 1980 Clinical Laboratory Specialist (Microbiology), The National Certification Agency, #0830822.
- 1994 Specialist Microbiologist (Public Health and Medical Laboratory Microbiology), The National Registry of Microbiologists, #1558.
- 1995 Specialist in Microbiology, The American Society of Clinical Pathologists (CAP), #SM-2440.
- 2001 Council-Certified Indoor Environmentalist, American Indoor Air Quality Council (IAQ), CIE #00609
- 2004 Licensed Mold Assessment Consultant, Texas Department of State Health Services  
License No. MAC0220, Control No: 7493.

### **Academic Appointments**

- 1990 MLT Instructor, Houston Community College, Houston, Texas.

### **Full-time Work Experience**

- 1974 to 1975 Laboratory Technician I (Chemistry and Mycobacteriology), Texas Bureau of Health Resources, Austin, Texas and Houston City Health Department Laboratory, Houston, Texas.

1976 to 1978 Microbiologist I (Medical Microbiology and Mycology), Houston City Health Department Laboratory, Houston, Texas.

1978 to 1980 Microbiologist II (Medical Microbiology and Mycology), Houston City Health Department Laboratory, Houston, Texas.

1980 to 1984 Microbiologist II (in-charge of mycology and quality control; clinical instructor for pathology residents and postdoctoral fellows in microbiology and infectious disease), Houston City Health Department Laboratory, Houston, Texas.

1984 Microbiologist III (Supervisor, Riverside Health Clinic Laboratory), Houston City Health Department Laboratory, Houston, Texas.

1984 to Present Vice-President, Environmental Consulting and Technical Services, Microbiology Specialists Incorporated, Houston, Texas.

### **Part-time Work Experience**

1978 Technologist at Venereal Disease Night Clinic Stat Laboratory, Houston City Health Department, Houston, Texas.

1980 to 1982 Special Technologist in Mycobacteriology and Mycology, Memorial City General Hospital, Houston, Texas.

1981 Weekend Technologist in Bacteriology, Bellaire General Hospital, Houston, Texas.

### **Professional Societies**

American Association of Bioanalysts  
 American Industrial Hygiene Association  
 American Conference of Governmental Industrial Hygienists  
 American Society for Microbiology  
 American Society for Health-System Pharmacists  
 Texas Society for Health-System Pharmacists  
 Indoor Air Quality Association  
 Medical Mycological Society of the Americas  
 Southwest Association of Clinical Microbiology

### **Abstracts**

**Clarner, P.R., D.E. Simmons, P.H. Vance, and A.S. Weissfeld.** 1992. Evaluation of a reformulated DNA probe for *Mycobacterium avium* complex (Gen-Probe) and comparison to the SNAP *Mycobacterium avium* complex DNA probe (Syngene). Abstr. Ann. Meeting Am. Soc. Microbiol. Abstr. C185, p.451.

**Jenschke, W.J., E. Trevino, P.H. Vance, and A.S. Weissfeld.** 1993. Comparison of direct urine and standard Kirby Bauer sensitivities. Abstr. Ann. Meeting Am. Soc. Microbiol. Abstr. C190, p. 479.

**Morey, P.R., J. Gallup, P.H. Vance, D. Walther, and A.S. Weissfeld.** 1994. Air sampling for environmental fungi: comparison of analytical results from three independent laboratories. Abstr. Ann. Meeting American Industrial Hygiene Conference and Exposition Abstr. 210, p. 70.

- Weissfeld, A.S., D.E. Simmons, P.H. Vance, E. Trevino, M. Haber, D. Jhala, J. Horton, S. Kidd, and P. Greski-Rose.** 1996. Comparison between isolation of *Helicobacter pylori* from gastric biopsies transported at 4°C in Stuart's medium and histological evidence of infection. Abstr. Digestive Disease Week, Abstr. 1219, p. A-305.
- Weissfeld, A.S., D.E. Simmons, P.H. Vance, E. Trevino, S. Kidd, and P. Greski-Rose.** 1996. *In vitro* susceptibility of pretreatment isolates of *Helicobacter pylori* from two multicenter United States clinical trials. Abstr. Digestive Disease Week, Abstr. 3912, p. A978.
- Vance, P.H., A.S. Weissfeld, B.J. Marino, and E. Trevino.** 1997. Use of direct specimen examination to detect parasites in bulk samples from indoor environments. Abstr. Ann. Meeting Am. Soc. Microbiol., Abstr. Q40, p. 462.
- Weissfeld, A.S., P.A. Fuselier, P.H. Vance, and K. Lamprecht.** 1997. Retrospective review of the suitability of stat requests for respiratory syncytial virus (RSV) direct exams. Abstr. Thirteenth Annual Clinical Virology Symposium, Abstr. T30.
- Weissfeld, A.S., G.E. Sepulveda, P.R. Clarner, C. Melendez, P.H. Vance, V. Polonio, and O.V. Torres.** 1997. Incidence and prevalence of Mycobacterium avium complex bacteremia and pneumonia in HIV-positive patients in Puerto Rico. Abstr. Ann. Meeting Am. Soc. Microbiol., Abstr. C453, p. 199.
- Smalik, H.J., M.M. Shelton, L.J. Carollo, J. Shelton, M. Linenberger, J. Sawyers, A.S. Weissfeld, and P.H. Vance.** 2000. The prevention of nosocomial infections in a bone marrow transplant unit during building renovations. Abstr. CDC 4<sup>th</sup> Decennial International Conference on Nosocomial and Healthcare-associated Infections, P-TI-66, p. 193.
- Weissfeld, A.S, D. Simmons, E. Trevino, P. Vance, D. Mandvia, M. Delaney, A. Onderdonk, and C.C. Davis.** 2001. Evaluation of transport media and sampling devices for the recovery of various bacteria and yeast from simulated and actual vaginal specimens. Abstr. Ann. Meeting Am. Soc. Microbiol., Abstr. C-54, p. 159
- Turner, B.P., A.S. Weissfeld, P.H. Vance, E. Trevino, D. Simmons, L. Jones, and A. Hightower.** 2001. A comparison of *Chlamydia trachomatis* culture and three molecular tests using swabs and urines. Abstr. Ann. Meeting Am. Soc. Microbiol., Abstr. C-203, p. 197.
- Weissfeld, A.S., B. Turner, P.H. Vance, E. Trevino, D.E. Simmons, L. Segura-Jones, and A. Hightower.** 2001. A comparison of *Neisseria gonorrhoeae* culture to three molecular tests using swabs and urines. Abstr. Ann. Meeting Am. Soc. Microbiol., Abstr. C-208, p.198.
- Turner, B., A.S. Weissfeld, P.H. Vance, E. Trevino, D.E. Simmons, and A. Hightower.** 2001. Comparison of the GenProbe APTIMA Combo 2 Assay with chlamydial culture, and the PCR and LCR diagnostic tests. International J of STD and AIDS 12, Supplement 2:116.
- Weissfeld, A. S., E. Trevino, D. Mandvia, and P. Vance.** 2004 Development of a quantitative culture assay to access the suitability of new viral transport media. Abstr. Ann Meeting Am. Soc. Microbiol., Abstr. C-253, ASM General Meeting, p. 158.
- Weissfeld, A. S., D. Mandvia, E. Trevino, and P. H. Vance.** 2005. Use of a novel quantitative assay to compare the viability of herpes virus in a new viral transporter with that of an existing commercial system. Abstr. Twenty-first Annual Clinical Virology Symposium, Abstr. TA1.
- Weissfeld, A. S., D. Mandvia, E. Trevino, and P. H. Vance.** 2005. Quantitative study of the ability of Copan UTM-RT™ and Remel Micro Test™ M4 specimen transporters to maintain viability of clinically important viruses, chlamydia, mycoplasma and ureaplasma. Abstr. Ann. Meeting Am. Soc. Microbiol., Abstr. C-303.
- Zaslavskaya, P., A. Weissfeld, D. F. Moore, D. Mandvia, P. Vance, J. Guzman, V. Jonas.** 2006. Description of a research TMA TB assay including internal control. Abstr. Ann. Meeting Am. Soc. Microbiol, Abstr. C-327.

**Mandvia, D., E. Trevino, P. Vance, and A. Weissfeld.** 2009. Millipore Light Diagnostics™ HSV1 & 2 typing DFA Kit for direct evaluation of clinical specimens and culture confirmation. 2009. Abstr. Twenty-fifth Clinical Virology Symposium, Astr. T32

**Buchan, B.W., K.M. Riebe, E.A. Trevino, N. Landes, P.H. Vance, A.S. Weissfeld, and N.A. Ledebouer.** 2012. Comparison of four culture and two nucleic acid detection methods to toxigenic culture for the detection of toxigenic *Clostridium difficile* in clinical stool specimens. Abstr. T-71. Clinical Virology Symposium. Daytona Beach, FL.

### **Peer-Reviewed Publications**

**Wallace, Jr., R.J., P.H. Vance, A.S. Weissfeld, and R.R. Martin.** 1978. Beta-lactamase production and resistance to beta-lactam antibiotics in *Nocardia*. Antimicrob. Agents Chemother. 14:704-709.

**Wallace, Jr., R.J., D.M. Musher, E.J. Septimus, J.E. McGowan, Jr., F.J. Quinones, K. Wiss, P.H. Vance, and P.A. Trier.** 1981. *Haemophilus influenzae* infections in adults: characterization of strains by serotypes, biotypes, and  $\beta$ -lactamase production. J. Inf. Dis. 144:101-106.

**Wallace, Jr., R.J., K. Wiss, R. Curvey, P.H. Vance, and J. Steadham.** 1983. Differences among *Nocardia* spp. in susceptibility to aminoglycosides and  $\beta$ -lactam antibiotics and their potential use in taxonomy. Antimicrob. Agents Chemother. 23:19-21.

**Duvic, M., Lowe, L., A. Rios, E. MacDonald, and P.H. Vance.** 1987. Superficial phaeohyphomycosis of the scrotum in a patient with the acquired immunodeficiency syndrome. Arch. Dermatol. 123:1597-1599.

**Weissfeld, A. S., R. J. Halliday, D. E. Simmons, E. A. Trevino, P. H. Vance, et al.** 2005. *Phototaxillum asymbiotica*, a pathogen emerging on two continents that proves that there is no substitute for a well-trained clinical microbiologist. J. Clin. Microbiol. 43:4152-4155.

**Vance, P. H. and A. S. Weissfeld.** 2007. The controversies surrounding sick building syndrome. Clin. Micro. Newsl. 29:73-76.

**Vance, P. H. and A. S. Weissfeld.** 2009. Microbial Monitoring in the Pharmacy. Clin. Micro. Newsl. 31:25-30.

**Novak-Weekley, SM, E.M. Marlowe, J. M. Miller, J. Cumpio, J. H. Nomura, P. H. Vance and A. S. Weissfeld.** 2010 *Clostridium difficile* testing in the Clinical Laboratory by use of multiple testing algorithms. J. Clin. Micro. 48: 889-893

**Joseph, R.A., T.V. Le, E.A. Trevino, P.H. Vance, and A.S. Weissfeld.** 2012. Straight out of the headlines: methods to prevent microbial contamination of compounded sterile preparations. Poster presented at Paul L. foster School of Medicine Texas Tech University Health Sciences Center. November

**Wengenack, N.L., G.L. Woods, L.Y. Berkeley, V. Chaturvedi, M.J. Dykstra, A.W. Fothergill, B. Gandhi, B.J. Harrington, P.L. Kammeyer, K.L.K. Krankoski, A.L. Mendoza, G.W. Procop, G.D. Roberts, M.A. Saubolle, W.A. Schell, A.N. Schuetz, G.St-Germain, D.A. Sutton, P.H. Vance, P. Williams, J.J. Zhou.** 2012. Principles and procedures for detection of fungi in clinical specimens – direct examination and culture; approved guideline. Clinical and Laboratory Standards Institute (CLIA) document M54-A. Wayne, PA.

**Weissfeld, A.S., R.A. Joseph, T.V. Le, E.A. Trevino, M.F. Schaeffer and P.H. Vance.** 2013. Optimal media for use in air sampling to detect cultivable bacteria and fungi in the pharmacy. J. Clin. Microbiol. 51:3172-3175.

**Vance, P.H., F. Schaeffer, E. Trevino, A.S. Weissfeld.** 2015. *Legionella*: a fascinating bacterium uncovered in the twentieth century. Clin. Micro. Newsl. 37:119-123.

**Vance, P.H., F. Schaeffer, P. Terry, E. Trevino, A.S. Weissfeld.** 2016. Mold causes and effects “in a material world.” Clin. Micro. Newsletter. 38:111-118.

**Schaeffer, M.F., B. Kennedy, N. Landes, E. Trevino, P. Vance, A.S. Weissfeld.** *Mycobacterium chimaera*: coming out of nowhere to dominate 2016 infection prevention discussion. Clin. Micro. Newsl. 39:43-47.

### **Guest Lectureships**

- 1978 Mycology Workshop. Alvin Community College, Alvin, Texas.
- 1979 Mycology Workshop. Alvin Community College, Alvin, Texas.
- 1979 Parasitology Workshop. Houston Community College, Houston, Texas.
- 1980 Mycology Workshop. Alvin Community College, Alvin, Texas.
- 1983 Mycology Workshop. University of Texas Medical School at Houston, Houston, Texas.
- 1994 Utility of spore counts in the sampling and analysis of non-culturable bioaerosols in indoor environments. American Industrial Hygiene Conference and Exposition, Anaheim, California.
- 1996 The Different Perspectives of Indoor Air Quality Problems. 57th Annual Southwest Conference in Fort Worth, Texas Safety Association, Fort Worth, Texas.
- 1996 Indoor Biological Contamination -- Identification and Remediation. The 1996 Insurance Industrial Hygiene Forum, American Industrial Hygiene Conference & Exposition, Washington, D. C.
- 1996 The Potential Impact of Outdoor Microbiological Contaminants to the Indoor Environment. Outdoor Air: Is It Safe Indoors? 1996 ASHRAE Annual Meeting Public Session, San Antonio, Texas.
- 1996 Indoor Air Quality -- Case Studies. 23rd Annual ASSE, Region III Professional Development Conference, Dallas, Texas.
- 1997 Coming InDirectly to the Point! A discussion of direct microscopic exams. ACGIH's Applied Bioaerosols Workshop, San Diego, California.
- 1997 A Discussion of Direct Microscopic Exams: How Direct Microscopic Exams Can Save Your Client Time and Money. Greater Houston Industrial Hygiene Council, Houston, Texas.
- 1997 2-day Professional Educational Course: Health Effects and Risk Assessment of Biological Contamination in Indoor Environment (A Clinical Approach to Environmental Issues), Sponsored by the World Health Organization and the Department of Health, National Centre for Occupational Health, South Africa. Course presented in Johannesburg, Durban, and Cape Town, South Africa.
- 1998 Travelers/Aetna Insurance Forum: IAQ Investigations/Case Studies *Legionella*, Metal Working Fluid, Atlanta, Georgia.
- 1999 Is Your Building Bugged? Florida Section Air and Waste Management Association Annual Meeting, Orlando, Florida.
- 1999 Is Your Building Bugged? Seminar on Indoor Air Quality: Good Air, Bad Air. Occupational & Environmental Training Program. University of Texas Health Science Center at Tyler. Dallas, Texas.
- 2000 The Prevention of Nosocomial Infections in a Bone Marrow Transplant Unit During Building Renovations. 4<sup>th</sup> Decennial International Conference on Nosocomial and HealthCare-Associated Infections, Atlanta, Georgia.
- 2000 Case Studies of Indoor Air Quality Conundrums: Microbiological Contamination. Texas Children's Hospital. Houston, Texas.
- 2000 Mold Remediation: Worker Training Course. Envirotest, Inc. Houston, Texas.

- 2001 Case Studies of Microbiological Conundrums: Microbiological Contamination, Infection Control and Microbiological Topics. University of Texas Health Science Center at Houston. Houston, Texas.
- 2001 “Are You Homesick?”. Texas Executive Women, Houston, Texas
- 2001 “Got Mold?” Corpus Christi Apartment Association, Corpus Christi, Texas
- 2001 Mealey’s Texas Mold Litigation Conference 2001: Practical and Affordable Methods of Determining IAQ. Houston, Texas.
- 2001 “Home Sick Home – The Impact of Mold on Real Estate”, Montgomery County Association of Realtors. The Woodlands, Texas.
- 2002 “Mold 101”; Conference on Mold Detection, Remediation and Management in Buildings. American Institute of Architects Brazos Chapter.
- 2002 “Preventing Nosocomial Infections in Healthcare Facilities During Construction, Remodeling and Renovations”, St. Joseph’s Hospital, Burbank, California.
- 2006 Mould Seminars, February 2006, The Australian Institute of Occupational Hygienists, Inc., Brisbane, Sydney, Melbourne, Adelaide and Perth, Australia.
- 2006 Introduction to USP Chapters <795> And <797>, March 2006, Presentation for Alabama State Board of Pharmacy
- 2006 “Setting Up an Environmental Monitoring Program”; June 2006, APEX™ Kinetic Aseptic 3-Day Training Program, Compounding Sterile Preparations (Based on USP <797> and the NIOSH Alert), Bethlehem, PA
- 2006 13<sup>th</sup> Annual E. G. Scott Microbiology Symposium. “USP<797> - An Opportunity for the Pharmacy Infection Control, and the Microbiology Laboratory to Join Forces for Patient Safety,” September, 2006. Mendenhall, Pennsylvania.
- 2007 “Implementation of an Environmental Monitoring Program in Compliance with USP<797> Requirements: The Story of the Tomball Regional Hospital Pharmacy”, October, 2007. Houston, Texas
- 2007 Weapons of Mass Destruction - Biological Agents, Advanced HazMat Course Fire Fighters Naval Air Station, Corpus Christi, Texas.
- 2013 “Implementation of an Environmental Monitoring Program in Compliance with USP <797> Requirements.” Webinar Presentation to the Pharmacy Compounding Accreditation Board, January 31.
- 2016 “Detection of Contaminated Material from Outside the Lab: It is Your Problem Too!” ASM Microbe 2016, Boston, MA, June 19.

### **Consultations**

Identification of molds and pollens for environmental studies, University of Texas School of Public Health at Houston, Houston, Texas.

Identification of fungus isolates from infected sea turtles, University of Texas Medical Branch at Galveston, Galveston, Texas.

Mycology consultations for Department of Dermatology, University of Texas Medical School at Houston, Houston, Texas.

Mycology consultations for Ministry of Health, Health Protection and Safety Division, Environmental Health Assessment, Victoria, British Columbia, Canada.

Indoor Air Quality consultation for National Aeronautics & Space Administration, Johnson Space Center, Houston, Texas.

Texas Department of Health – Mold Advisory Committee, Austin, Texas.

ACGIH Bioaerosols Committee Member - 2004-2005

ACGIH Bioaerosols Committee Vice-Chair - 2005-2006

ACGIH Bioaerosols Committee Acting Chair – 2006 – 2007

ACGIH Bioaerosols Committee Vice-Chair – 2007 - Present

ACGIH Leadership Committee Member – 2005-2007

Member of Ad Hoc Committee for American Society for Microbiology [ASM] for formulating ASM procedures for USP Chapter <797> Compliance – 2005 to Present

Member of the American Industrial Hygiene Association (AIHA) Healthcare Working Group – 2007 to Present

Member of the AIHA Healthcare Subcommittee on Infection Control – 2008 to present

Chair of the AIHA Healthcare Subcommittee on USP Chapter <797> Compliance – 2007 to 2013 (no longer a separate subcommittee)

### **Professional Development Courses**

“Pathogenic Species of *Fusarium*, *Acremonium* and *Trichoderma* and their Contaminating Cousins: Identification, Ecology and Molecular Developments,” The Centers for Disease Control and Prevention and the National Laboratory Training Network, Orlando, Florida, May 17-18, 2001.

“Mold Remediation in Buildings,” Environmental Testing & Technology, San Diego, California, July 20-21, 2001.

“Water Damage: Why Does It Happen,” Texas Department of Health, Bureau of Laboratories - March 8, 2002.

“Mastering Molds and Mycotoxins,” The Centers for Disease Control and Prevention and The National Laboratory Training Network, Salt Lake City, Utah, May 16 & 17, 2002.

“What Industrial Hygienists Need to Know about Building and Construction to Identify and Resolve IEQ Problems,” American Industrial Hygiene Conference and Exposition, San Diego, California, June 2, 2002.

“Contemporary Topics in Clinical Microbiology and Infectious Disease,” State University of New York, Upstate Medical University, June 13, 2002.

“Environmental Mold Symposium” and “IAQ Symposium - IAQ Research,” AIHce 2003, Dallas, Texas, May 10-11, 2003.

“Dealing with Mold Related Problems in Buildings,” University of Wisconsin, College of Engineering, Madison, Wisconsin, June 12 & 13, 2003.

“Getting the Work Done! Clinical Microbiology Workforce Issues,” ASM 104<sup>th</sup> General Meeting, May, 2004, New Orleans, LA.

“Mycobacteriology 2004: What Laboratories are Doing Now and Where They Are Headed,” ASM 104<sup>th</sup> General Meeting, May 2004, New Orleans, LA.

“Pitt on: Penicillium,” National Laboratory Training Network, A Program of the Association of Public Health Laboratories (APHL), May 31-June 4, 2004, New Orleans, LA.

“Texas IAQ & Mold Symposium,” Aerotech Technical Institute, January 18, 2005, Corpus Christi, Texas.

“Identification of Common *Aspergillus* Species,” National Laboratory Training Network and the Texas Department of State Health Services, April 5-7, 2005, New Orleans, LA.

“Moisture Control, Mold and the Science within the Building Envelope,” AIHce 2005, May 20-22, 2005, Anaheim, California.

“DNA & the Classical Way, Identifying Fungi in 2005,” National Laboratory Training Network, June 3, 2005, Atlanta,

IAQA-AmIAQ-IESO 2005, The Unification Conference, 20 CE Hours, October 6-9, 2005, Orlando, FL.

“Environmental Monitoring with Hospitals” and “Case Presentations in Clinical Microbiology,” ASM 106<sup>th</sup> General Meeting, May 21-25, 2006, Orlando, FL.

“Rapidly Changing Mycology: New Facts and Ideas,” Co-sponsored by the National Laboratory Training Network and the Minnesota Department of Health Public Health Laboratory. May 19, 2007, Toronto, Ontario, Canada.

IAQA Annual Meeting and Exposition, Technical Sessions, Total 20 CE Hours, October 14-17, 2007, Las Vegas, N.V.

“Mycological Methods: Susceptibility, ID, and Other Diagnostics,” Co-sponsored by the National Laboratory Training Network and the Texas Department of State Health Services, in cooperation with the MA State Laboratory Institute. May 30, 2008, Boston, MA.

IAQA 12<sup>th</sup> Annual Meeting & Indoor Air Expo, February 24 – 26, 2009, Fort Worth, Texas

AIHce “Discoveries Beyond Borders,” May 29 – June 4, 2009, Toronto, Ontario

Conference & Exposition of the Environmental Information Association. 24 CE Hours, March 27-31, 2010, Austin, Texas

American Society for Microbiology Annual Meeting, May 23 – 26, 2010, San Diego, California

American Society for Microbiology Annual Meeting, May 22 – 24, 2011, New Orleans, Louisiana

Mid-Year Conference, American Society of Health System Pharmacists (ASHP), December 4-8, 2011, New Orleans, Louisiana

American Society for Microbiology Annual Meeting, June 14-20, 2012, San Francisco, California

Mid-Year Conference, American Society of Health System Pharmacists (ASHP), December 2-6, 2012, Las Vegas, Nevada

American Society for Microbiology Annual Meeting, May 18-21, 2013, Denver, Colorado

Mid-Year Conference, American Society of Health System Pharmacists (ASHP), December 8-12, 2013, Orlando, Florida

American Society for Microbiology Annual Meeting, May 17-20, 2014, Boston, Massachusetts



Mid-Year Conference, American Society of Health System Pharmacists (ASHP), December 7-11, 2014, Anaheim, California

American Society for Microbiology Annual Meeting, May 30- June 2, 2015, New Orleans, Louisiana

Southwestern Association of Clinical Microbiology Annual Meeting, September 15-18, 2015, Shreveport, Louisiana

American Society of Health-System Pharmacists, 50<sup>th</sup> Mid-Year Clinical Meeting, December 6-10, 2015, New Orleans, Louisiana

ASM Microbe 2016, June 16-20, 2016, Boston, MA