

## CURRICULUM VITAE

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### EDUCATION

Ph.D. 1997 Department of Microbiology, The University of Tennessee.  
B.A. 1987 Department of Microbiology, The University of Tennessee.  
A.S. 1985 Liberal Arts, Volunteer State Community College.

### EXPERIENCE

2005-present Associate Professor, Food Science Department, Purdue University, West Lafayette, Indiana.  
2001-present Assistant Professor, Food Science Department, Purdue University, West Lafayette, Indiana.  
1999-2000 Research Assistant Professor, Department of Microbiology and Center for Environmental Biotechnology, The University of Tennessee, Knoxville.  
1998-2000 Adjunct Faculty, Roane State Community College, Harriman, Tennessee.  
1997-1999 Senior Research Associate, Center for Environmental Biotechnology, The University of Tennessee, Knoxville.  
1996-present Vice President and Cofounder of Critical Point Technologies Biotechnology company focusing on development of instrumentation and biosensors for diagnostics and remote sensing.  
1991-1997 Research and Teaching Assistant, Department of Microbiology, The University of Tennessee, Knoxville.  
1988-1990 Lab Manager, Center for Environmental Biotechnology, The University of Tennessee, Knoxville.  
1987-1988 Research Technician, Center for Environmental Biotechnology, The University of Tennessee, Knoxville.

### AWARDS

1994 Science Alliance Award, University of Tennessee, Knoxville.  
1993-1994 Waste Management Research and Education Institute Fellowship Recipient, University of Tennessee, Knoxville.  
1993 Graduate Student Travel Award, University of Tennessee, Knoxville.  
1992 Science Alliance Award, University of Tennessee, Knoxville.

## **AFFILIATIONS**

American Society of Microbiology  
International Society of Bioluminescence and Chemiluminescence  
Institute of Food Technologists (professional member)  
Hoosier section of Institute of Food Technologists  
Phi Tau Sigma Honorary Society

## **PATENTS**

*Apparatus and method for nucleic acid isolation using supercritical fluids.* David E. Nivens and Bruce M. Applegate. Patent # 5,922,536.

*Bioluminescent biosensor device.* Gary S. Sayler, Steven A. Ripp, Bruce Applegate. Patent # 6,544,729

*An implantable glucose sensor using a bioluminescent bioreporter integrated circuit (BBIC).* Gary S. Sayler, Michael L. Simpson, Bruce M. Applegate, Steven A. Ripp. Pending.

*In vivo biosensor apparatus and method of use.* Gary S. Sayler, Michael L. Simpson, Bruce M. Applegate, Steven A. Ripp. Pending.

*Cellular transcriptional logic devices.* Gary S. Sayler, Michael L. Simpson, Bruce M. Applegate, James T. Fleming. Pending.

## **DISSERTATION**

Construction of recombinant bacteria to elucidate catabolic regulation and critical catabolic reactions of phenanthrene metabolism by the nah system. University of Tennessee, Knoxville.

## **GRANTS**

Analysis of the osmotic regulation of thermal and oxidative stress in *Salmonella enteritidis*. USDA/NRI. Co PI.

Repercussion of carbon based manufactured nanoparticles on microbial processes in environmental systems. EPA. CoPI.

Understanding the Survival of the Fecal Microorganisms *Salmonella* and *E. coli* in Tile Drainage and Surface Water. USDA/NRI. CoPI.

Improving the safety of fresh fruits and vegetables with chlorinedioxide gas using a minaturized industrial-size tunnel system. USDA. CoPI.

Response of aquatic and terrestrial microorganisms to carbon-based manufactured nanoparticles. NSF. CoPI.

Nanotechnology interdisciplinary educational experiences for undergraduates in food and agricultural sciences. USDA. CoPI.

Use of *gfp* and *lux* to track pathogen contamination, growth, and inactivation on produce contaminated via manure/water (farm to fork). USDA. CoPI.

Multiplexed detection of pathogens using fluorescence resonance energy transfer in a spatial detection format. USDA/ARS. PI.

Genetic Engineering of Bioreporter Magnetotactic Bacteria for Magneto-electronic Sensing. DARPA. PI.

Minimizing Equivalent System Mass for a Regenerative Life-support System by Optimizing Kinetics and Energetics of Major Bio-transformations. NASA. CoPI.

Mechanism of chlorine dioxide inactivation of bacteria/spores. NSF. CoPI.

A Remotely Accessible Biosensor Instrumentation Technology (RABIT) laboratory. Purdue Instructional Computer Funds. CoPI.

## **PUBLICATIONS**

Perry, L., P. Heard, M. Kane, H. Kim, S. Savikhin, W. Dominguez and B. M. Applegate. 2007. Application of multiplex PCR to the detection of pathogens in food. *Journal of Rapid Methods and Automation in Microbiology* In Press.

Sellenet, P.H., B. Allison, B. M. Applegate, and J. P. Youngblood. 2007. Synergistic Activity of Hydrophilic Modification in Antibiotic Polymers. *Biomacromolecules*. 8 (1), pp 19-23.

Kim, H., M.D.Kane, S Kim, W. Dominguez, B. M. Applegate and S.A. Savikhin, S.A. Molecular beacon DNA microarray system for rapid detection of *E. coli* O157:H7 that eliminates false signal risk. *Biosens. Bioelectron.* 22(6):1041-7.

Smith, M. J., P. E. Sheehan, L. L. Perry, K. O'Connor, L. N. Csonka, B. M. Applegate and L. J. Whitman: 2007. Quantifying the Magnetic Advantage in Magnetotaxis. [\*\*Biophys J.\*\*](#) 91(3):1098-107.

Lynda L. Perry, Nathan G. Bright, Richard J. Carroll, Jr., M. Cathy Scott, Michael S. Allen, and Bruce M. Applegate. 2005. Molecular characterization of autoinduction of bioluminescence in the Microtox® indicator strain *Vibrio fischeri* ATCC 49387. *Canadian Journal of Microbiology*. 51(7): 549-557.

Sedgley, C.M., A.C. Nagel, D. Hall, B. Applegate. 2005. Influence of irrigant needle depth in removing bioluminescent bacteria inoculated into instrumented root canals using real-time imaging *in vitro*. *International Endodontics Journal*. Vol. 38(2), p97-104.

Sedgley C.M., B.M. Applegate, A.C. Nagel, and D. Hall 2004. Real-time imaging and quantification of bioluminescent bacteria in root canals *in vitro*. Journal of Endodontics. 30:893-898.

Han, Y., B. M. Applegate, R. H. Linton, and P. E. Nelson. 2003. Decontamination of *Bacillus thuringiensis* spores on selected surfaces by chlorine dioxide gas. Journal of Environmental Health. 66(4):16-20.

Mioni, C. E., A. M. Howard, J. M. DeBruyn, N. G. Bright, M. R. Twiss, B. M. Applegate and S.W. Wilhelm. 2003. Characterization and preliminary field trials of a bioluminescent bacterial reporter of iron bioavailability. Marine Chemistry. 83:31-46.

Hay, A. G., J. F. Rice, B. M. Applegate, N. G. Bright and G. S. Sayler. 2000. A Bioluminescent whole-cell reporter for detection of 2,4-dichlorophenoxyacetic acid and 2,4-dichlorophenol in soil. Applied and Environmental Microbiology. 66(10):4589-4594.

Simpson, M. L., G. S. Sayler, B. M. Applegate, S. Ripp, D. E. Nivens, M. J. Paulus and G. E. Jellison Jr. 1998. Bioluminescent bioreporter integrated circuits: novel whole-cell biosensors. Trends in Biotechnology. 16: 332-338.

Applegate, B. M., S. R. Kehrmeier and G. S. Sayler. 1998. A chromosomally based *tod-luxCDABE* whole-cell bioluminescent reporter for benzene, toluene, ethylbenzene and xylene (BTEX) sensing. Applied and Environmental Microbiology. 64: 2730-2735.

Heitzer, A., B. M. Applegate, S. R. Kehrmeier, H. C. Pinkart, O. F. Webb, T. J. Phelps, G.S. Sayler and D.C. White. 1998. Physiological considerations of environmental applications of *lux* reporter fusions. Journal of Microbiological Methods. 33: 45-58.

King, J. M. H., P. M. DiGrazia, B. M. Applegate, R. Burlage, J. Sanseverino, P. Dunbar, F. Larimer and G. S. Sayler 1990. Rapid, sensitive bioluminescent reporter technology for naphthalene exposure and biodegradation. Science. 249: 778 - 781.

Sayler, G. S., J. Fleming, B. M. Applegate, C. Werner and K. Nikbakht. 1989. Microbial community analysis using environmental nucleic acid extracts. In: Recent advances in microbial ecology, eds. T. Hattori, Y. Ishida, Y. Maruyama, R.Y. Morita and A. Uchida. Japan Scientific Societies Press.

### **ABSTRACTS and PAPERS PRESENTED**

Burgula, Y., M. Cousin, B. Applegate, R. Linton, B. Reuhs, L. Mauer. 2006. Effects of processing treatments on FT-IR based classification of dead E.coli K12 cells in comparison to live cells. IFT Annual meeting. Orlando Florida

Chen, Y., E. Halim, L. Farris, R. Turco, B. Applegate, B. Reuhs. 2006. Characterizing carbon utilization patterns of *Salmonella enterica* serotype poona using a bioluminescence reporter. IFT Annual meeting. Orlando Florida

Dominguez, W., S. Kim, H. Kim, S. Savikhin, M. Kane, and B. M. Applegate. 2005. Multiplex PCR for the Simultaneous Detection of the Foodborne Pathogens: *Escherichia coli* O157:H7, *Salmonella enterica*, and *Listeria monocytogenes*. American Society for Microbiology General Meeting, Atlanta, GA.

Eggink A., J. Fiser, A. Terekhov, R. Turco, and B. Applegate. 2005. The Effect of Carbon Nanoparticles on the Infectivity of Bacteriophage Using a T4 Phage-Based/Bioluminescent *Escherichia coli* Assay. American Society of Microbiology, Atlanta GA.

Hartano, L., M.L. Shroyer, L. Farris, H. Diefus-Dux, R. Turco, B. Reuhs, and B. Applegate. 2005. Development of an *Escherichia coli* O157:H7 Bioluminescent Reporter for Measuring Bioavailable Carbon. American Society of Microbiology, Atlanta, GA.

S. Kim, E. E. Igboegwu, A. I. Terekhov and B. M. Applegate. 2005. Bioluminescent Assay for Evaluating Bacteriophage Infectivity in a Food Model. American Society for Microbiology, Atlanta, GA

Shroyer, M., U. Minocha, M. Ladisch, and B. Applegate. 2004. Bioamplification using phage display for the detection of pathogens. American Society for Microbiology Conference on the New Phage Biology. Key Biscayne, FL.

Minocha, U., R. Jennings, A. Bhunia, and B. Applegate. 2004. Genome sequence analysis and evaluation of strain specificity of *E. coli* O157:H7 bacteriophage phi V10. American Society for Microbiology, New Orleans, LA.

Shroyer, M., U. Minocha, N. Bright, L. Perry, and B. Applegate. 2004. Development of a recombination system for rapid construction of *E. coli* O157:H7 reporter bacteriophage. American Society for Microbiology, New Orleans, LA.

Minocha, U., N. Bright, L. Perry, and B. Applegate. 2004. Detection of the foodborne pathogen *Escherichia coli* O157:H7 using an *ainS* recombinant phiV10 bacteriophage based bioluminescent reporter system. American Society for Microbiology Biodefense meeting, Baltimore, MD.

Bright, N. G., L. L. Perry, R. Carroll, Jr., and B. M. Applegate. 2003. Detection of pathogenic bacteria using a novel quorum sensing phage based assay. ASM Biodefense Research meeting: "Future Directions for Biodefense Research: Development of Countermeasures," Baltimore, MD.

Taliaferro, T.M., B. M. Applegate, Jr., Y. Han, B. N. Paxson, M. Budzik, R. H. Linton, P. E. Nelson, D. E. Nivens, and B. M. Applegate. 2003. Utilization of bioluminescent bacterial strains for online evaluation of bacterial decontamination efficacy. ASM Biodefense Research meeting: "Future Directions for Biodefense Research: Development of Countermeasures," Baltimore, MD.

Han, Y., B. M. Applegate, R. H. Linton, P. E. Nelson. 2003. Decontamination of *Bacillus thuringiensis* spores on selected surfaces by chlorine dioxide gas. ASM Biodefense Research meeting: "Future Directions for Biodefense Research: Development of Countermeasures," Baltimore, MD.

Auman, B. D., N. G. Bright, L. J. Mauer, B. M. Applegate. 2003. Development of a bioluminescent assay for the high throughput screening of virucidal activity. American Society for Microbiology, Washington D.C.

Perry, L.L., N. G. Bright, B. M. Applegate, Jr., R. J. Carroll, Jr., J. Patrick, and B. M. Applegate, Sr. 2003. Atypical autoinduction of bioluminescence in *Vibrio fischeri* strain ATCC 49387. American Society for Microbiology, Washington D.C.

Applegate Jr., B. M., M. Budzik, B. N. Paxson, N. G. Bright, B. M. Applegate, Sr. 2003. Thermal and light based communication for interfacing computers and bacterial cells. American Society for Microbiology, Washington D.C.

Taliaferro, T.M., L. J. Mauer, K. D. Hayes, B.M. Applegate. 2003. A rapid method for determining d and z values in a food processing laboratory course. Annual Meeting of the Institute of Food Technologists, Chicago, IL.

Applegate Jr., B. M., N. G. Bright, C. E. Mioni, S. M. Hussein, S. W. Wilhelm, L. J. Mauer, and B. M. Applegate, Sr. 2003. Development of a bioluminescence based assay to evaluate the efficacy of lactoferrin as a bacteriostatic agent. Annual Meeting of the Institute of Food Technologists, Chicago, IL.

Bright, N., R. Carroll, and B. Applegate. 2002. Bioamplification mechanisms to increase sensitivity of biosensors. Fifth Workshop On Biosensors And Biological Techniques In Environmental Analysis. Cornell University, Ithaca NY, USA.

Bright, N., R. Carroll, and B. Applegate. 2002. Biological bioluminescence amplification using quorum sensing molecules for increasing the sensitivity of light detection systems. Fifth Workshop On Biosensors And Biological Techniques In Environmental Analysis. Cornell University, Ithaca NY, USA.

Bright N. G., R. J. Carroll, and B. M. Applegate. 2002. Filter based assay for pathogen detection using a two-component bacteriophage/bioluminescent reporter system. American Society for Microbiology, Salt Lake City, UT.

Bright, N. G., R. J. Carroll, S. A. Ripp, G. S. Sayler and B. M. Applegate. 2001. Detection of specific foodborne pathogens using a two-component bacteriophage/bioluminescent reporter system. Cell to Cell Communication in Bacteria (ASM), SnowBird UT.

Applegate, B. M., D. E. Nivens, S. A. Moser, R. A. Carroll, J. Sanseverino, M. T. Simonich, C. Pettigrew, B. Larson and R. Bartolo. 2001. Determining disinfectant efficacy using bioluminescence. American Society for Microbiology, Orlando, FL.

- Dionisi, H. M., B. M. Applegate and G. S. Sayler. 2001. Construction of an ammonia biosensor based in the Ntr system of *Escherichia coli*. American Society for Microbiology, Orlando, FL.
- Nivens, D. E., E. Bolton, B. M. Applegate, T. McKnight, J. C. Armstrong, S. A. Moser, C. Carrasquillo, S. Ripp, M. Simpson and G. S. Sayler. 2001. Bioluminescent bioreporter integrated circuits: Determination of analytical parameters of a prototype system. American Society for Microbiology, Orlando, FL.
- Willard, J. E., E. N. Senning, B. Applegate, J. T. Fleming, M. L. Simpson and G. S. Sayler. 2001. Construction of *in-vivo* logic gates for whole cell biocomputing. American Society for Microbiology, Orlando, FL.
- Patterson, S. S., N. G. Bright, B. M. Applegate and G. S. Sayler. 2001. Expression of bacterial bioluminescence in eukaryotic organisms. American Society for Microbiology, Orlando, FL.
- Rahn J. J., B. M. Applegate, N. G. Bright and G. S. Sayler. 2000. Independent expression of the putative transport protein TodX in the bioluminescent reporter *Pseudomonas putida* TVA8. American Society for Microbiology, Los Angeles, CA.
- Bright, N. G., B. M. Applegate, M. L. Eldridge, G. S. Sayler and S. W. Wilhelm. 2000. Development of a bioluminescent reporter for the determination of aqueous iron bioavailability. American Society for Microbiology, Los Angeles, CA.
- Ripp, S., B. M. Applegate, N. G. Bright and G. S. Sayler. 2000. Whole-cell bioluminescent bioreporters for the detection of biogenic amines in food. American Society for Microbiology, Los Angeles, CA.
- Swiger-Patterson, S., B. M. Applegate, M. S. Allen, N.G. Bright and G.S. Sayler. 2000. Physiological effects of various solvents on bioluminescence from the reporter strain *Pseudomonas putida* 5RL. American Society for Microbiology, Los Angeles, CA.
- Nivens, D. E., B. M. Applegate, M. J. Paulus, G. E. Jellison, G. S. Sayler, S. Ripp and M.L. Simpson. 1999. Bioluminescent bioreporter integrated circuits: Sensing analytes with living microorganisms. The 50th Southeastern Regional Meeting of the American Chemical Society, Knoxville, Tennessee.
- Applegate, B. M. Bioluminescent bioreporter integrated circuits (BBICs) for tumor-specific protein detection. 1999. First NASA-NCI Workshop On Sensors for Bio-Molecular Signatures, Pasadena, CA.
- Sayler G. S., M. L. Simpson., D. E. Nivens, S. Ripp, B. M. Applegate, M. J. Paulus, G.E. Jellison. 1999. "Whole-cell environmental monitoring devices: Bioluminescent bioreporter integrated circuits (BBICs)". Abstracts of Papers of The American Chemical Society.

Ripp, S., B. M. Applegate, N. G. Bright, and G. S. Sayler. 1999. On-site field analysis of groundwater contaminants utilizing bioluminescent bioreporter microorganisms. 99<sup>th</sup> Annual Meeting, American Society for Microbiology. Chicago, Illinois.

Hay, A., B. M. Applegate, N. G. Bright, and G. S. Sayler. 1999. Construction of a whole-cell bioluminescent reporter for the detection of 2,4-dichlorophenoxy- acetate. 99<sup>th</sup> Annual Meeting, American Society for Microbiology. Chicago, Illinois.

Applegate, B. M., J. T. Shingleton, N. G. Bright, A. C. Nagel, S. A. Ripp, and G. S. Sayler. 1999. Induction of the *tod* operon by trichloroethylene in resting cells of *P. putida* TVA-8. 99<sup>th</sup> Annual Meeting, American Society for Microbiology. Chicago, Illinois.

Kehrmeyer, S. R., B. M. Applegate, J.T. Shingleton, J. Sanseverino and G. S. Sayler. 1998. A Modified mini-Tn5 *nahR*-P<sub>sal</sub> Expression transposon for insertion and expression in gram-negative bacteria. American Society for Microbiology, Atlanta, GA.

Hay A. G., B. M. Applegate and S. Sayler. 1998. Molecular characterization of community shifts during biodegradation of PAHs: A comparison of t-RFLP and DGGE. American Society for Microbiology, Atlanta, GA.

Applegate, B. M., S. R. Kehrmeyer, A. C. Nagel and G. S. Sayler. 1997. Generation of a chromosomally-based *tod-lux* reporter for detection and quantification of BTEX compounds in aqueous solutions. American Society for Microbiology, Miami Beach, FL.

Leblond, J. D., B. M. Applegate, F.-M. Menn and G. S. Sayler. 1997. Biotransformation of dimethylnaphthalenes by the NAH upper pathway. American Society for Microbiology, Miami Beach, FL.

Kehrmeyer, S. R., B. M. Applegate and G. S. Sayler. 1997. Construction of a chromosomally-encoded *nah-lux* reporter/control strain system for assessing surfactant-enhanced PAH bioavailability. American Society for Microbiology, Miami Beach, FL.

Kehrmeyer, S.R. and B.M. Applegate. 1996. Physiological and molecular aspects of the *tod-lux* bioluminescent reporter *Pseudomonas putida* B2. American Society for Microbiology, New Orleans, LA.

Applegate, B. M., J. D. Leblond and F-M. Menn. 1996. Metabolism of methyl- and chlorosalicylates by salicylate hydroxylase (*nahG*) and catechol 2,3-dioxygenase(*nahH*) from the archetypal NAH plasmid pKA1. American Society for Microbiology, New Orleans, LA.

LeBlond, J. D., B. M. Applegate, F.-M. Menn and G. S. Sayler. 1995. NAH plasmid-mediated metabolism of methyl-substituted naphthalenes. American Society for Microbiology, Washington D.C

Lackey, L. W., B. M. Applegate and G. S. Sayler. 1995. On-line monitoring of the co-oxidation of TCE in a packed-bed reactor utilizing a bioluminescent optical sensing technique. In situ and On Site Bioreclamation, Third Annual Symposium, San Diego, CA.

Kehrmeyer, S. R., B. M. Applegate, H. C. Pinkart, D. B. Hedrick, D. C. White and G. S. Sayler. 1995. Combined lipid/DNA extraction method for environmental samples. Third International Symposium on the Interface Between Analytical Chemistry and Microbiology: Analytical Chemistry in Environmental Microbiology, Knoxville, TN.

Applegate, B. M. and A. Heitzer. 1994. Physiological aspects of environmental applications of a catabolic bioluminescent reporter bacterium for naphthalene bioavailability. American Society for Microbiology, Las Vegas, NV.

Menn, F. M., B. M. Applegate and G. S. Sayler. 1994. Biodegradation of fluorene by *Pseudomonas fluorescens*: A NAH plasmid mediated metabolism. American Society for Microbiology, Las Vegas, NV.

Stapleton, R. D., B. M. Applegate, W. H. Johnston and G. S. Sayler. 1994. Microbial characterization of shallow, heterogenous aquifer system. American Society for Microbiology, Las Vegas, NV.

Applegate, B. M., F. M. Menn, J. Sanseverino, D. Zhang and G. S. Sayler. 1993. NAH7 mediated degradation of phenanthrene to 1-hydroxy-2-naphthoic acid by the upper pathway and the further degradation of 1-hydroxy-2-naphthoic acid by the nah system. Fourth International Symposium on *Pseudomonas*, Vancouver, B.C.

Johnston, W. H., B. M. Applegate and G. S. Sayler. 1993. Construction of a chromosomal marker system to monitor plasmid transfer of pUTK21 from *Pseudomonas fluorescens* 5RL. Fourth International Symposium on *Pseudomonas*, Vancouver, B.C.

Applegate, B., L. Lackey, J. McPherson and F. Menn. 1993. A bioluminescent reporter for the co-oxidation of trichloroethylene (TCE) by the toluene dioxygenase in *Pseudomonas putida* F1. American Society for Microbiology, Atlanta, GA.

Sanseverino, J., C. Werner, J. Fleming, B. Applegate, J. M. H. King and G.S. Sayler. 1993. Molecular diagnostics of polycyclic aromatic hydrocarbon biodegradation in manufactured gas plant soils. American Society for Microbiology, Atlanta, GA.

Menn, F. M., J. Sanseverino, B. Applegate and G. Sayler. 1993. NAH plasmid mediated catabolism of polycyclic aromatic hydrocarbons. American Society for Microbiology, Atlanta, GA.

Applegate, B., J. McPherson, F. Menn, A. Heitzer and G. S. Sayler. 1992. Application of bioluminescent reporter technology as a tool to investigate the involvement of the NAH system in the catabolism of different polyaromatic hydrocarbons. American Society for Microbiology, New Orleans, LA.

Jernigan, R., I. Rasario, B. M. Applegate, A. Heitzer, A. Layton and B. McFarland. 1992. Applications of biodegradative gene probes in monitoring petrochemical wastewater treatment. American Society for Microbiology, New Orleans, LA.

Callicotte, L., J. Sanseverino, B. Applegate and F. Menn. 1992. Preliminary characterization of the naphthalene catabolic pathway of *Pseudomonas sp.* JS1. American Society for Microbiology, New Orleans, LA.

Sanseverino, J., B. Applegate, K. Robinson and G. S. Sayler. 1991. Analysis of plasmids isolated from polynuclear aromatic hydrocarbon degrading bacteria. American Society for Microbiology, Dallas, TX.

Applegate, B. and C. M. B. Werner. 1990. PCR and lux constructions. Environmental Biotechnology, Knoxville, TN.

Sanseverino, J., C. Werner, J. Fleming, B. Applegate and G. S. Sayler. 1990. Molecular analysis of manufactured gas plant soils for naphthalene mineralization. Environmental Biotechnology, Knoxville, TN.

King, J. M. H., B. Applegate, J. Sanseverino and G. S. Sayler. 1990. Construction and application of a bioluminescent catabolic reporter plasmid for polycyclic aromatic hydrocarbon degradation. American Society for Microbiology, Anaheim, CA.

Applegate, B., H. King, J. Sanseverino and J. Blackburn. 1990. Characterization of catabolic plasmids that mediate the degradation of naphthalene, phenanthrene and anthracene. American Society for Microbiology, Anaheim, CA.

Werner, C., B. Applegate and C. Corcoran. 1990. Modification of a DNA extraction method and screening of the DNA with a PCR-generated single-stranded probe. American Society for Microbiology, Anaheim, CA.