Curriculum Vitae

Leo J. Kenefic, PhD
Assistant Professor
University of Maryland School of Medicine

Contact Information

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Education

1986	BS, Microbiology, Arizona State University, Tempe, AZ
2000	MS, Biomedical Sciences, Hood College, Frederick, MD
2008	PhD, Biology, Northern Arizona University, Flagstaff, AZ, Thesis: "Genetic diversity of *Bacillus anthracis* in North America"

Post Graduate Education and Training

2011	Postdoctoral Fellowship, University of Maryland, Baltimore School of Medicine
2012	Teaching Internship, Goucher College, Department of Biological Sciences

Certifications

1992	Technologist in Microbiology (ASCP)
1994	Specialist in Microbiology (ASCP)
2009	Registered Bio-safety Professional (RBP), American Biological Safety Association (ABSA)

Employment History

1987-1995 **Microbiologist**, Carondelet St. Marys' Hospital, Tucson AZ. A full service microbiology lab based in a regional medical center.

Key responsibilities:

I was engaged in all aspects of clinical microbiology including: bacteriology, serology, mycology and parasitology.

I was responsible for maintaining QA/QC records for College of American Pathologists (CAP) compliance and Clinical Laboratory Improvement Amendment (CLIA) regulations. I also maintained certification with the American Society for Clinical Pathology (ASCP).

1995-2000 **Senior Research Technician**, Science Applications International Corporation (SAIC), NCI-FCRDC, Frederick, MD. Our lab was an internationally recognized research group investigating human genetic polymorphisms implicated in resistance to HIV infection and progression to AIDS.

Key responsibilities:

I was responsible for development of hybridization and PCR protocols; Southern Blots; PCR-RFLP; SSCP analysis; T-7 NIRCA; and DNA sequencing.

2000-2003 **Research Scientist III**, Center for Molecular & Cellular Diagnostics, University of New Mexico, Cancer Research Facility, Albuquerque, NM. Our lab was a nationally recognized leader in pediatric leukemia molecular diagnostics. We specialized in designing assays for the detection and diagnosis of fusion gene transcripts implicated in pediatric leukemia.

Key responsibilities:

RNA and DNA isolations; RT-PCR; Southern Blot hybridization; ECL detection; DNA sequencing; fragment analysis on ABI 310 and Agilent 2100; cloning PCR products into suitable vectors for sequencing; 11q23 assay development and a working knowledge of MS Access database. Maintained Quality Control and Quality Assurance (QA/QC) records for College of American Pathologists (CAP) compliance.

2003-2008 **BSL2 Research Projects Coordinator** (2003-2006)
Assistant Director (2006-2008)
Center for Microbial Genetics and Genomics, Northern Arizona University, Flagstaff, AZ

Our lab was an internationally recognized leader in pathogen genomics. Some of my research projects involved the processing of forensic samples including: Chain of Custody; DNA isolations from bacterial cells; and PCR based genotyping (VNTR analyses and allelic discrimination assays) of bacterial strains on suitable platforms. I developed and validated Real-Time PCR assays for detection of bacterial pathogens in complex backgrounds and worked to transfer this technology to government agencies. I assisted in populating genotyping databases for *B. anthracis* to use in the Center for Microbial Genetics and Genomics data portal. I provided data analysis and manuscript editing for submission to peer-reviewed journals. I also designed Real-Time PCR assays for *Ricinus communis* for work involving population genetics and genomics with the goal of detecting complex Ricinus population signatures in mixed samples, and research into the genetic diversity in *Pasteurella multocida* using VNTR analyses.

Key responsibilities:

Managed the daily operations of the BSL2/BSL2*(3) laboratories including the training program for new staff.

Coordinated the work of both technical staff (research technicians and specialists) and undergraduate student researchers.

Wrote protocols for work in a high containment environment with special attention to adherence to federal, state and local regulations governing Select Agent pathogens.

2009-2011 **Program Manager/Research Supervisor,** Center for Vaccine Development-Malaria Section, University of Maryland School of Medicine, Baltimore, MD

Our lab is recognized as an international leader in the molecular epidemiology and genomics of *Plasmodium falciparum*, a causative agent of malaria. We also serve as the molecular component to the Worldwide Antimalarial Resistance Network (WWARN).

Our research uses genetic markers to select suitable targets for vaccine development and to monitor emerging drug resistance.

Ongoing collaborations involve whole genome sequencing to identify sequence variation in artemisinin resistant isolates; genotyping known polymorphisms to support a study of the molecular evolution of drug resistance in *P. falciparum*;

and sequencing vaccine candidate genes to describe allele specific efficacy to vaccines in Phase II clinical trials.

Key responsibilities:

I coordinated the efforts of technicians, post-doctoral fellows, graduate and undergraduate students investigating genetic polymorphisms in *P. falciparum*

I managed the daily operations of the molecular genetics laboratory and parasite culturing facility.

2011-2013 **Postdoctoral Fellow,** Center for Vaccine Development- Malaria Section. University of Maryland School of Medicine, Baltimore, MD. My research on *P. falciparum* is focused on genetic markers to monitor emerging drug resistance and to select suitable targets for vaccine development. Ongoing collaborations use Next Generation Sequencing technologies to identify sequence variation in artemisinin resistant isolates and vaccine candidate genes.

2013-Present **Assistant Professor,** Department of Medical and Research Technology, and Center for Vaccine Development- Malaria Section. University of Maryland School of Medicine, Baltimore, MD.

Our department is Maryland's largest medical technology program. We offer both undergraduate and graduate degrees, as well as, opportunities for professional certification. Both Biotechnology and Medical Technology tracks are upper level allied health curricula offered in two years of full-time or three years of part-time study. In addition to lecture and laboratory instruction, students in both tracks complete externship training. The graduate program offers Masters of Science in both Biomedical Research and Laboratory Management.

Key responsibilities:

I currently serve as Course Coordinator for Pathogenic Microbiology (MEDT 490) and participate in the Comprehensive Review Course (MEDT 402) where I teach the Clinical Virology and Molecular Diagnostics review for students taking their Board of Registry exam. I also provide support to MEDT451 (Cell and Molecular Biology) where I teach molecular diagnostics lectures and labs. Additionally, I am the course coordinator for the graduate course in QC & Regulatory Compliance (MEDT 687). I am involved in community outreach programs and attend faculty and curriculum meetings for the department. I participate in orientation sessions for our students; attend faculty training and development seminars; and pre-commencement and awards ceremonies. In the area of research, I am involved with ongoing projects at the Center for Vaccine Development- Malaria Section. My main projects involve the characterization of genetic diversity in vaccine candidate antigens. Other projects involve taking a genomics approach to ascertain the causative agent of disease in patients presenting with febrile illness other than malaria.

Professional Society Memberships

1996-present	American Society of Clinical Pathologists (ASCP)
2007-present	American Society for Microbiology (ASM)
2007-2009	American Biological Safety Association (ABSA)
2012-present	Maryland Branch- American Society for Microbiology (ASM)
2012-present	American Society for Tropical Medicine and Hygiene (ASTMH)

Honors and Awards

1978 Navy ROTC Scholarship
2007 Arizona Science Foundation Graduate Fellow

Administrative Service

Institutional Service

2005 Northern Arizona University, Hiring Committee for University Biosafety Officer
2013-present University of Maryland, Baltimore School of Medicine, Department of Medical and Research Technology, Graduate School Committee member.
2013-present University of Maryland, Baltimore School of Medicine, Department of Medical and Research Technology, Student Appeals Committee member.
2014-present University of Maryland, Baltimore School of Medicine, Faculty Council Member

Local and National Service

2008 *Ad hoc* reviewer, *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, & Science*.
2010 *Ad hoc* reviewer, *Infection, Genetics, and Evolution. Journal of Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases (MEEGID).*
2011 *Ad hoc* reviewer, *BMC Ecology*.
2014 *Ad hoc* reviewer, *PLoS One.*
2015 *Ad hoc* reviewer*, PLoS Neglected Tropical Diseases.*

Teaching Service

1991-1992 **Pima Community College (PCC), Tucson, AZ**
Adjunct faculty, *Communicable Diseases* (BIO 220)
Communicable Diseases (3 credits) was a requirement of the Respiratory Therapy program and an elective in the Associate Degree Nursing program. Designed syllabus, lectures, examinations, grading and coordinated class activities for approximately 20 students per semester.
PCC is also a community college set in a diverse student population.

2002-2003 **Central New Mexico Community College (CNM), Albuquerque, NM**
Adjunct faculty, *Microbiology Laboratory* (BIO 239L), *Introduction to Microbiology* (BIO 239) and *Genetics Problems Solving* (BIO 222)
Introduction to Microbiology (3 credits) with the Laboratory (1 credit) was a core requirement for the Nursing and Respiratory Therapy programs. The course was designed to transfer directly into similar programs offered at the University of New Mexico. Genetics Problem Solving (2 credits) was an elective course designed to augment the General Genetics curriculum.
Designed syllabus, administered lectures and examinations. Graded exams and coordinated class activities for approximately 35 students per semester.
CNM is one of the largest post-secondary institutions in New Mexico with a student population of over 20,000. The diverse student population has a strong Hispanic and Native American influence. Additionally, many adult learners are also represented.

Fall 2005 **Northern Arizona University, Flagstaff, AZ**
Graduate Seminar presentation, Hot Topics in Microbiology (BIO698). Molecular Epidemiology and Genotyping Bacteria of Public Health Interest.

Fall 2007 Guest Lecturer, *General Genetics* (BIO340).
Delivered one lecture detailing the history and use of recombinant DNA technology and introduced students to the field of Genomics. Afterwards, I discussed career paths in molecular genetics.
BIO340 is a 3-credit required course with approximately 80 students.

Fall 2008 Guest Lecturer*, Microbiology* (BIO205) *& Medical Microbiology* (BIO460).
Molecular Diagnostics in Clinical Microbiology,
Delivered a short series of lectures (3 contact hours) on the role of molecular diagnostics in the clinical laboratory. I later discussed career options in clinical microbiology with several students, one of whom became an undergraduate researcher in our lab.
Microbiology (3 credits) is an introductory required course with approximately 80 enrolled students whereas Medical Microbiology (3 credits) is an upper division elective with approximately 25 students.

2009/2010 **University of Maryland, School of Medicine, Baltimore, MD**
Lecture Series Coordinator, Doris Duke Charitable Foundation
Planned and scheduled guest lecturers on various topics related to malaria research and lab activities to facilitate the training of medical school students in advance of traveling to malaria endemic countries.
Intensive three week series with 6-8 contact hours per day for 3-4 medical school students that ultimately participate in clinical research studies in Mali or Malawi.

2013-present **University of Maryland, School of Medicine, Baltimore, MD**
Course Coordinator, *Pathogenic Microbiology* (MEDT 490). Four credits with Laboratory. This course is a requirement for the Medical and Research Technology programs. Students are introduced to bacteria, which may cause disease or reside as normal flora in humans. In the lecture portion of the course each genera of pathogenic bacteria is studied according to its classification, structure, virulence, epidemiology, clinical syndrome(s) and treatment. Major emphasis is placed on learning the basic characteristics of each of the genera studied and the differentiation of the various species within each genus. Gram positive/negative, cocci/bacilli, aerobic/anaerobic organisms are studied as well as mycobacterium, mycoplasma/Chlamydia, actinomycetes, rickettsia, and spirochetes. Conventional and/or automated and molecular techniques are discussed. The laboratory portion of the course supports the lectures by providing practical experience in the identification of pathogenic bacteria by conventional techniques. The student obtains expertise by working with known organisms as well as unknown samples. The course is designed to prepare students for Clinical Microbiology (MEDT 471) and for Board of Registry examinations.
I prepared syllabus; administered lectures and examinations; graded exams; and coordinated class activities for approximately 25 students. Our department is the largest medical technology program in Maryland with a diverse student population.

2013 Guest Lecturer, *Advanced Cell and Molecular Biology* (MEDT 671). This course is an elective in the graduate program in Biomedical Sciences.

I delivered two lectures: *PCR Applications in Molecular Diagnostics* and *Plasmid Biology*. Afterwards, I discussed career paths in molecular genetics.
MEDT 671 is a 3-credit course with approximately 5 students.

2013-present Seminar Coordinator, *Novel Aspects in Biomedical Sciences*. This Regularly Scheduled Series (RSS) is offered for 1 Continuing Medical Education (CME) credit per session.
I insure that all speakers have no non-disclosed conflicts of interest; assist in building learning objectives for each session; prepare flyers; monitor session evaluations; and issue bi-annual reports to the Office of Continuing Medical Education (OCME). I also prepare and distribute certificates of completion for CME hours annually.

2013-present Lecturer, *Cell and Molecular Biology (MEDT 451)*. This course helps students acquire the basic skills, concepts, and theoretical background needed for the biotechnology research and clinical laboratories. The first part of this course focuses on the basic concepts of molecular and cell biology. The molecules, structures, organization, and function of prokaryotic and eukaryotic cells are examined and compared. Experimental techniques used to analyze and manipulate cells are explained. The second part of this course is devoted to the application of molecular biology principles to the diagnosis of human disease. This includes lectures covering oncology and hematology applications as well as forensic and infectious disease applications. In the laboratory portion of the course, the students learn basic skills in DNA technology. Initially students prepare buffers, reagents, and growth media and then practice sterile techniques, determine cell counts, and establish a bacterial growth curve. Additional laboratory skills are learned through agarose gel analysis of DNA, plasmid transformation, selection and identification of recombinant clones, DNA isolation and purification, restriction endonuclease analysis and mapping, Southern blot analysis, PCR and DNA sequencing principles.
I am responsible for lectures and labs pertaining to the molecular diagnostics of infectious disease with an emphasis on PCR techniques including the use of Allele Specific Oligonucleotides (ASO); PCR-RFLPs; Site Directed Mutagenesis; and DNA Sequencing for polymorphism detection.

2014 Guest Lecturer, *Advanced Topics in Laboratory Science* (MEDT 654). This course is an elective in the graduate program in Biomedical Sciences. I delivered the lectures concerning Next Generation Sequencing and its applications in the clinical laboratory. MEDT 654 is a 2-credit course with approximately 6 students.

2014 Course Coordinator, *QC and Regulatory Compliance.* (MEDT 687). This course is a 2-credit elective in the graduate program in Biomedical Sciences. The course is designed to present in-depth information on the topics of quality control and regulations governing both the clinical and biotechnology industries. Instructional formats include lecture, discussion, question and answer, data analysis and assignments. I prepared syllabus; administered lectures and examinations; graded exams; and coordinated class activities for approximately 6 graduate students.

2015-Present Lecturer, *Professional Development* (MEDT 309). (Credits: 1) Using a problem-based learning approach towards instruction, this course is designed to heighten students' awareness of professional and ethical issues impacting the practice of clinical laboratory science and biomedical science research. Modes of instruction include group exercises, web-based activities, oral presentations and written assignments. Professional societies are introduced along with career development strategies, cover letter and resume writing and interviewing skills. In

addition, emphasis will be placed on fine-tuning presentation skills. Students will be required to give a group presentation using a graphics software program. At the end of the term, each student submits a portfolio, which is an accumulation of course assignments and their individually tailored career plan. I participated in activities addressing Disaster Preparedness, and Ethical Considerations in the Clinical and Research laboratory settings. I also held Mock Interview sessions for our students.

Consultative Services

2008-2009 **Flagstaff Medical Center, Flagstaff AZ**
Provided consultative services in their efforts to establish Real-Time PCR based analyses in their laboratory. This included a baseline correlation study between their MicroScan Walkaway 96 and the PCR-based Cepheid Gene Expert. After correlation and validation
Training all laboratory staff and provided expert assessment of microbiology laboratory operating guidelines and writing updated SOPs to CLSI standards where necessary.

June 2004 **U.S. Civilian Research and Development Foundation (CRDF)**, **Institute of Virology (IoV), and Center on Prevention and Quarantine of Highly Infectious Diseases (CPQMHI), Tashkent, Uzbekistan.**
Provided consultation to CRDF for the assessment of laboratory infrastructure and the ability of lab personnel to conduct collaborative biological research with scientists in the United States.
Assessed staff scientists' progress at the Institute of Virology in an ongoing collaboration with U.S. scientists. Separate assessments were provided to CRDF in the form of detailed written reports with accompanying pictures when available.

April 2004 **U.S. Civilian Research and Development Foundation (CRDF**), **Ministry of Defense Labs, Tashkent, Uzbekistan.**
Provided consultation to CRDF for the assessment of laboratory infrastructure and the ability of lab personnel to conduct collaborative biological research with scientists in the United States. This assessment was provided to CRDF in the form of detailed written reports with accompanying pictures when available.

Publications

Peer Reviewed Journal Articles

1- Chitkara YK, McCasland KA, **Kenefic L**. Development and implementation of cost-effective guidelines in the laboratory investigation of diarrhea in a community hospital. Arch. Intern. Med. 1996, 156 (13): 1445-1448. *(ran analyses, provided statistical interpretation)*
2- Hendel H, Hénon N, Lebuanec H, Lachgar A, Poncelet H, Caillat-Zucman S, Winkler CA, Smith MW, **Kenefic L**, O'Brien S, Lu W, Andrieu JM, Zagury D, Schächter F, Rappaport J, Zagury JF. Distinctive effects of CCR5, CCR2, and SDF1 genetic polymorphisms in AIDS progression. J. Acquir. Immune. Defic. Syndr. Hum. Retrovirol. 1998, 19(4):381-6. *(determined analytic methods, ran analyses)*
3- DeWoody JA, Schupp J, **Kenefic L**, Busch J, Murfitt L, Keim P. Universal method for producing ROX-labeled size standards suitable for automated genotyping.

BioTechniques. 2004, 37(3): 348-354. *(determined analytic methods, ran analyses, document preparation)*

4- Easterday WR, Van Ert MN, Simonson TS, Wagner DM, **Kenefic LJ**, Allender CJ, Keim P. Use of Single Nucleotide Polymorphisms in the plcR Gene for Specific Identification of *Bacillus anthracis*. J Clin Microbiol. 2005, 43(4):1995-7. *(determined analytic methods, document preparation)*
5- Cheung DT, Kam KM, Hau KL, Au TK, Marston CK, Gee JE, Popovic T, Van Ert MN, **Kenefic L**, Keim P, Hoffmaster AR. Characterization of a *Bacillus anthracis* Isolate Causing a Rare Case of Fatal Anthrax in a 2-Year-Old Boy from Hong Kong. J Clin Microbiol. 2005, 43(4):1992-4. *(determined analytic method, ran analyses)*
6- Maho A, Rossano A, Hächler H, Holzer A, Schelling E, Zinsstag J, Hassane MH, Toguebaye BS, Akakpo AJ, Van Ert M, Keim P, **Kenefic L**, Frey J, Perreten V. Antibiotic Susceptibility and Molecular Diversity of *Bacillus anthracis* Strains in Chad; Detection of a New Phylogenetic Subgroup. J Clin Microbiol. 2006, 44(9):3422-5. *(determined analytic method, ran analyses)*
7- Van Ert MN, Easterday WR, Simonson TS, U'Ren JM, Pearson T, **Kenefic LJ**, Busch JD, Huynh LY, Dukerich M, Trim CB, Beaudry J, Welty-Bernard A, Read T, Fraser CM, Ravel J, Keim P. Strain-Specific Single-Nucleotide Polymorphism Assays for the *Bacillus anthracis* Ames Strain. J Clin Microbiol. 2007, 45(1):47-53. *(determined analytic method, ran analyses)*
8- Van Ert MN, Easterday WR, Huynh LY, Okinaka RT, Hugh-Jones ME, Ravel J, Zanecki SR, Pearson T, Simonson TS, U'Ren JM, Kachur SM, Leadem-Dougherty RR, Rhoton SD, Zinser G, Farlow J, Coker PR, Smith KL, Wang B, **Kenefic LJ**, Fraser-Liggett CM, Wagner DM, Keim P.2007. Global Genetic Population Structure of *Bacillus anthracis*. PLoS ONE. 2007 May 23;2:e461. *(determined analytic method, ran analyses, document preparation)*
9- Auerbach RK, Tuanyok A, Probert WS, **Kenefic L**, Vogler AJ, Bruce DC, Munk C, Brettin TS, Eppinger M, Ravel J, Wagner DM, Keim P. *Yersinia pestis* Evolution on a Small Timescale: Comparison of Whole Genome Sequences from North America. PLoS ONE. 2007 Aug 22;2(1):e770. *(determined analytic method, ran analyses)*
10- Foster JT, Okinaka RT, Svensson R, Shaw K, De BK, Robison RA, Probert WS, **Kenefic LJ**, Brown WD, Keim P. Real-time PCR Assays of Single-Nucleotide Polymorphisms defining the major *Brucella* clades. J Clin Microbiol. 2008 Jan;46(1):296-301. *(determined analytic method, ran analyses)*
11- **Kenefic LJ**, Beaudry J, Trim C, Huynh L, Zanecki S, Matthews M, Schupp J, Van Ert M, Keim P. A High Resolution Four-Locus Multiplex Single Nucleotide Repeat (SNR) Genotyping System in *Bacillus anthracis*. J Microbiol Meth. 2008 Jun;73(3):269-72.
12- **Kenefic LJ,** Beaudry J, Trim C, Daly R, Parmar R, Zanecki S, Huynh L, Van Ert MN, Wagner DM, Graham T, Keim P. High Resolution Genotyping of *Bacillus anthracis* Outbreak Strains Using Four Highly Mutable Single Nucleotide Repeat (SNR) Markers. Letters in Applied Micro. 2008, 46 (5): 600-603.
13- Okinaka RT, Henrie M, Hill KK, Lowery KS, Van Ert M, Pearson T, Schupp J, **Kenefic L**, Beaudry J, Hofstadler SA, Jackson PJ, Keim P. Single Nucleotide Polymorphism Typing of *Bacillus anthracis* from Sverdlovsk Tissue. Emerging Infectious Diseases. 2008, 14(4):653-656. *(determined analytic method, ran analyses)*
14- **Kenefic LJ,** Pearson T, Okinaka RT, Chung WK, Max T, Trim CP, Beaudry JA, Schupp JM, Van Ert MN, Marston CK, Gutierrez K, Swinford AK, Hoffmaster AR, Keim P. Texas isolates closely related to *Bacillus anthracis* Ames. Emerging Infectious Diseases. 2008 Sept;14(9):1494-6.
15- **Kenefic LJ,** Pearson T, Okinaka RT, Schupp JM, Wagner DM, Hoffmaster AR, Trim CB, Chung WK, Beaudry JA, Jiang L, Gajer P, Foster JT, Mead JI, Ravel J, Keim P. Pre-

Columbian Origins for North American Anthrax. PLoS One. 2009 March 13. doi:10.1371/journal.pone.0004813

16- Simonson TS, Okinaka RT, Wang B, Easterday WR, Huynh L, U'Ren JM, Dukerich M, Zanecki SR, **Kenefic LJ**, Beaudry J, Schupp JM, Pearson T, Wagner DM, Hoffmaster A, Ravel J, Keim P. *Bacillus anthracis* in China and its relationship to worldwide lineages. BMC Microbiol. 2009 Apr 15;9:71. *(determined analytic method, ran analyses)*

17- Rasko DA, Worsham PL, Abshire TG, Stanley ST, Bannan JD, Wilson MR, Langham RJ, Decker RS, Jiang L, Read TD, Phillippy AM, Salzberg SL, Pop M, Van Ert MN, **Kenefic LJ**, Keim PS, Fraser-Liggett CM, Ravel J. *Bacillus anthracis* comparative genome analysis in support of the Amerithrax investigation. Proc Natl Acad Sci USA. 2011 Mar 22;108(12):5027-32. *(determined analytic methods, ran analyses, document preparation)*

18- Shaukat AM, Gilliams EA, **Kenefic LJ**, Laurens MB, Dzinjalamala FK, Nyirenda OM, Thesing PC, Jacob CG, Molyneux ME, Taylor TE, Plowe CV, Laufer MK. Clinical manifestations of new versus recrudescent malaria infections following anti-malarial drug treatment. Malar J. 2012 Jun 18;11(1):207*. (determined analytic method, ran analyses, document preparation)*

19- Takala-Harrison S, Clark TG, Jacob CG, Cummings MP, Miotto O, Dondorp AM, Fukuda MM, Nosten F, Noedl H, Imwong M, Bethell D, Se Y, Lon C, Tyner SD, Saunders DL, Socheat D, Ariey F, Phyo AP, Starzengruber P, Fuehrer HP, Swoboda P, Stepniewska K, Flegg J, Arze C, Cerqueira GC, Silva JC, Ricklefs SM, Porcella SF, Stephens RM, Adams M, **Kenefic LJ**, Campino S, Auburn S, Macinnis B, Kwiatkowski DP, Su XZ, White NJ, Ringwald P, Plowe CV. *A genome-wide association study of* Plasmodium falciparum *resistance to artemisinin treatment in Southeast Asia*. Proc Natl Acad Sci USA. 2013 Jan 2;110(1):240-5. *(determined analytic methods, ran analyses)*

20- Khattak AA, Venkatesan M, Khatoon L, Ouattara A, Kenefic LJ, Nadeem MF, Nighat F, Malik SA, Plowe CV. *Prevalence and patterns of antifolate and chloroquine drug resistance markers in Plasmodium vivax across Pakistan*. Malar J. 2013 Sep 5;12:310. (*assisted in data collection and analyses*)

Book Chapters

1- Kenefic L, Okinaka R, and Keim PS. *Chapter 9: Phylogeography of Anthrax in North America* in Bacterial Population Genetics in Infectious Disease. Editor(s): D. Ashley Robinson, Daniel Falush, Edward J. Feil, New Jersey, Wiley Publications, 2010.

Major Invited Speaches

Local

1- Kenefic L and Vogler A. Genotyping *B. anthracis* by multi-locus VNTR analysis. Pathogen Genotyping Workshop. Flagstaff AZ, USA. 2005.

2- Kenefic L, Smith A, Welty-Bernard A, Matthews M, Van Ert M, and Keim P. A Retrospective Molecular Epidemiological Study of Industrial Exposure to *Bacillus anthracis*. 46th Annual Meeting of the Arizona-Nevada Branch of the American Society for Microbiology. Flagstaff AZ, USA. 2007.

3- Kenefic L. Malaria Control: Vectors, Drugs, and Vaccines. Maryland State Entomological Association. Baltimore MD, USA. 2012.

4- Kenefic L. Department of Medical & Research Technology: Programs and Research Activity. Baltimore City Community College. Baltimore MD, USA. 2013 and 2014.

National

1- **Kenefic L**, Van Ert M, and Keim PS. Molecular genetics as a tool to investigate bacterial bio-threat agent outbreaks. 48th Annual American Biological Safety Association Conference. Vancouver, Canada. 2005**.**

Proffered Communications

National

1- **L. Kenefic,** Michalska MM, Martin KE, Willman CL, and Harvey RC. RT-PCR/ Capillary Electrophoresis assay for fusion transcripts in a high-throughput clinical lab. 44th Annual American Society of Hemotology Meeting. Philadelphia PA, USA. 2002.
2- **L. Kenefic**, Ouattara A, Adams M, Abah T, Jacob C, Thera M, Niangaly A, Coulibaly D, Tolo Y, Doumbo O, Takala-Harrison S, Silva JC, Plowe CV. Comparative gene sequencing of vaccine candidate antigens in falciparum malaria. 115th General Meeting of the American Society for Microbiology. New Orleans LA, USA. 2015 (Accepted)

International

1- **L. Kenefic**, Beaudry J, Van Ert M, Wagner DM., Pearson T, Ravel J, Hugh-Jones M, Keim PS. Genetic Diversity of *Bacillus anthracis* in North America. 7th International Conference on Anthrax, and the 5th International Workshop on the Molecular Biology of *Bacillus cereus, B. anthracis, and B. thuringiensis*. Oslo, Norway. 2007.
2- **L. Kenefic**, Bethell D, Saunders D, Kwiatkowski D, MacInnis B, Dondorp A, White NJ, Miotto O, Nosten F, Ringwald P, Takala-Harrison S, and Plowe CV. Detecting sequence variation in candidate gene markers of artemisinin resistance by capillary and Illumina sequencing. 4th Genomic Epidemiology of Malaria Conference. Wellcome Trust Genome Campus, Hinxton, Cambridge, UK. 2012.