

Name: Bobby L. LaRue, Jr.

Title: Associate Professor, Department of Forensic Science

College of Criminal Justice

Sam Houston State University

Degrees Earned

- PhD, Molecular Biology, University of North Texas, 2010
- BS, Biochemistry, University of North Texas, 2002

Professional Licensure and Certifications

Peer-Review Publications and Artistic Performances/Exhibitions

Articles

- Mendenhall AR, LaRue BL, Padilla PA. *Glyceraldehyde-3-phosphate dehydrogenase mediates anoxia response and survival in Caenorhabditis elegans*. **Genetics** **2006**;174(3):1173-1187.
- LaRue BL, Padilla PA. *Environmental and genetic preconditioning for long-term anoxia responses requires AMPK in Caenorhabditis elegans*. **PLOSOne** **2011**;6(2): e16790.
- LaRue BL, Ge J, King JL, Budowle B. *A validation study of the Qiagen Investigator DIPplex® kit; an INDEL-based assay for human identification*. **International Journal of Legal Medicine** **2012**; 126(4):533-540.
- LaRue BL, Sinha SK, Montgomery AH, Thompson R, Klaskala L, Ge J, King J, Turnbough M, Budowle B. *INNULs: A Novel Design Amplification Strategy for Retrotransposable Elements for Studying Population Variation*. **Human Heredity** **2012**; 74(1):27-35.
- LaRue BL, King JL, Budowle B. *A validation study of the Nucleix DSI-Semen kit—a methylation-based assay for semen identification*. **International Journal of Legal Medicine** **2013**; 127(2):299-308.
- Warshauer DH, Lin D, Hari K, Jain R, Davis C, LaRue BL, King JL, Budowle B. *STRait Razor: A length-based forensic STR allele-calling tool for use with second generation sequencing data*. **Forensic Science International: Genetics** **2013**; 7(4):409-417.
- LaRue BL, Lagacé R, Chang C-W, Holt A, Hennessy L, Ge J, King JL, Chakraborty R, Budowle B. *Characterization of 114 insertion/deletion (INDEL) polymorphisms, and selection for a global INDEL panel for human identification*. **Legal Medicine** **2014**;16(1):26-32.
- King JL, LaRue BL, Novroski N, Stoljarova M, Seo SB, Zeng X, Warshauer DH, Davis CP, Parson W, Sajantila A, Budowle B *High-quality and high-throughput massively parallel sequencing of the human mitochondrial genome using the Illumina MiSeq* **Forensic Science International: Genetics** **2014**;12(9):128–135.
- Marshall PL, Stoljarova M, Larue BL, King JL, Budowle B *Evaluation of a Novel Material, Diomix X-Swab™, for Collection of DNA*. **Forensic Science International: Genetics** **2014**; 12(9):192-198.
- LaRue BL, Moore A, King JL, Marshall PL, Budowle B *An evaluation of the RapidHIT® system for reliably genotyping reference samples*. **Forensic Science International: Genetics** **2014**; 13(11):104-111.

- Moura-Neto RS, Silva R, Mello IC, Nogueira T, Al-Deib AA, LaRue B, King J, Budowle B. *Evaluation of a 49 InDel Marker HID panel in two specific populations of South America and one population of Northern Africa*. **International Journal of Legal Medicine** **2015**; 129(2): 245-249.
- Seo SB, Zeng X, King JL, Larue L, Assidi M, Sajantila A, Budowle B. *Underlying Data for Sequencing the Mitochondrial Genome with the Massively Parallel Sequencing Platform Ion Torrent™ PGM™*. **BMC Genomics** **2015**; 16 (Suppl 1): S4.
- Zeng X, King JL, Stoljarova M, Warshauer DH, LaRue BL, Sajantila A, Patel J, Storts DR, Budowle B. High sensitivity multiplex short tandem repeat loci analyses with massively parallel sequencing. **Forensic science international. Genetics**. 2015 May; 16: 38-47.
- Zeng X, Chakraborty R, King JL, LaRue B, Moura-Neto RS, Budowle B. Selection of highly informative SNP markers for population affiliation of major US populations. **International Journal of Legal Medicine**. 2016 January.
- Wendt F, Warshauer D, Zeng X, Churchill J, Novroski N, Song B, King J, LaRue B, Budowle B. Massively parallel sequencing of 68 insertion/deletion markers identifies novel microhaplotypes for utility in human identity testing. **FSI:Genetics** November 2016
- Tasker E, LaRue B, Gangitano D, Hughes-Stamm S. *Analysis of DNA from Post-blast Pipe Bomb Fragments for Identification and Determination of Ancestry*. **FSI:Genetics Manuscript submitted November 2016**
- Brown H, Thompson R, Pineda Murphy G, Peters D, La Rue B, King J, Montgomery A, Carroll M, Baus J, Sinha S, Wendt F, Song B, Chakraborty R, Budowle B, and Sinha SK. *Development and Validation of a Novel Multiplexed DNA Analysis System, InnoTyper® 21*. **FSI: Genetics Submitted November 2016**
- Thompson L, Zeng X, Sage K, Sturm S, King JL, Budowle B, LaRue BL. Selection of a panel of 60 Ancestral Insertion and Deletion (INDEL) Markers that will distinguish between four major global populations. **Human Genetics**; 2016 manuscript in preparation
- Sage K, Sturm S, Thompson L, King JL, Budowle B, LaRue BL. Developmental validation of a novel panel of 49 insertion/deletion markers (INDELs) for human identification for both capillary electrophoresis and massively parallel sequencing platforms. **International Journal of Legal Medicine**; 2016 manuscript in preparation
- Sturm S, Sage K, Song B, Zeng X, Thompson L, King JL, Budowle B, LaRue BL. Developmental validation of a novel panel of insertion/deletion markers (INDELs) for ancestral informativeness for both capillary electrophoresis and massively parallel sequencing platforms. **Forensic Science International: Genetics**; 2016 manuscript in preparation

Books

N/A

Chapters

N/A

Proceedings

N/A

Artistic Performances

N/A

Artistic Exhibitions

N/A

Research Monographs and Technical Reports

N/A

Funded External Grants

- **National Institute of Justice: Award number: 2013-DN-BX-K036**, *Development of Improved Insertion-Deletion Assays for Human and Ancestral Identifications from Degraded Samples*; \$330,000 for two years (PI).
- **American Osteopathic Association: Sub-award from UNTHSC ORC for SNP Array genotyping**, *GWAS studies associated with pre-disposition for progression from sub-acute to chronic lower back pain*; \$160,000 for 1 year.

Peer-Review Presentations/Posters

- Mendenhall AR, LaRue BL, Padilla PA. *C. elegans survival guide for anoxia: the requirement of metabolic and heat shock gene products*. GSA International Worm Meeting 2005.
- Mendenhall AR, Mohan D, LaRue BL, Padilla PA *Morphological, developmental and genetic analysis of post-embryonic Caenorhabditis elegans exposed to anoxia*. GSA Development & Evolution Meeting 2006.
- Mendenhall AR, Mohan D, LaRue BL, Stewart NM, Padilla PA *Identification of genes involved with prolonged anoxia survival in Caenorhabditis elegans*. GSA International Worm Meeting 2007.
- LaRue BL, Padilla PA *Identification of Mutants Capable of Surviving Prolonged Anoxia in the Nematode Caenorhabditis elegans*. GSA Aging, Stress, Pathogenesis, and Heterochrony Meeting 2008.
- LaRue BL, Padilla PA *Environmental and genetic mechanisms associated with prolonged anoxia survival in Caenorhabditis elegans*. GSA International Worm Meeting 2009.
- LaRue BL, Padilla PA *The role of AMPK in anoxia in the nematode Caenorhabditis elegans*. GSA Aging, Stress, Pathogenesis, and Heterochrony Meeting 2010.
- LaRue BL, Budowle B *INDELs and Similar Markers for Forensic Investigation*. Intelligence Community Scientific Colloquium 2011.
- LaRue BL, King JL, Ge J, Budowle B *Indel markers for human identification: Validation of the Investigator DIPplex human identification kit*. 22nd International Symposium for Human Identification 2011.
- LaRue BL, Frumkin D, Wasserstrom A, Davidson A, Budowle B *Development and Validation of a Semen-specific DNA-based Methylation Assay*. 22nd International Symposium for Human Identification 2011.
- LaRue BL, Sinha SK, Montgomery AH, Thompson R, Klaskala L, Ge J, King J, Turnbough M, Budowle B. *INNULs, a new strategy for human identification based on retrotransposable elements*. 23rd annual International Symposium on Human Identification 2012.
- LaRue BL, Moore A, King JL, Budowle B *Highly Reliable Reference Sample Genotyping Utilizing An Automated Rapid DNA Typing Platform*. 24th International Symposium on Human Identification 2013.
- Budowle B, Warshauer D, Seo S, King J, Davis C, LaRue B. *Deep Sequencing Provides Comprehensive Multiplex Capabilities*. Forensic Science International: Genetics Supplement Series 2013; 4(1): e334-e335.
- LaRue BL, Sinha SK, Montgomery AH, Pineda G, Thompson RA, King JL, Ge J, Chakraborty R, Budowle B *Innotyper- A novel approach to genotyping degraded DNA samples utilizing LINEs and SINEs* AFDA Summer meeting 2014.

- LaRue BL, King JL, Novroski N, Stoljarova M, Seo SB, Zeng X, Warshauer DH, Davis CP, Parson W, Sajantila A, Budowle B *The use of Massively Parallel Sequencing (MPS) to accurately and rapidly sequence the mtGenome of 283 individuals from 3 North American populations.* 25th International Symposium for Identification 2014.
- Thompson L, King JL, Budowle B, and LaRue BL *Development of Insertion-Deletion (INDEL) panels for ancestral and individual identity genotyping.* 25th International Symposium for Identification 2014.
- Seo, S. B., Zeng, X., Assidi, M., LaRue, B., King, J., Sajantila, A., Budowle, B *High throughput whole mitochondrial genome sequencing by two platforms of massively parallel sequencing.* BMC Genomics 2014; 15 (Suppl 2), P7.
- Rachel Wiley, Sarah Sturm, Kelly Sage, Jonathan King, Bruce Budowle, Bobby LaRue. *An evaluation of a new Rapid DNA platform for field forward applications.* Proceedings of the International Society of Forensic Genetics 2015 Congress 2015.
- Rachel E. Wiley, Kelly A. Sage, Bruce Budowle, Bobby L. LaRue. *An evaluation of a new Rapid DNA platform for field forward applications.* 26th Annual International Symposium on human Identification 2015.
- Kelly A. Sage, Sarah Strum, Bing Song, Jonathan L. King, Bruce Budowle, Bobby L. LaRue. *Two Novel Multiplex INDEL Assays for Determining Ancestral and Individual Identity for Use with Degraded DNA samples.* 26th Annual International Symposium on Human Identification 2015.

Work or Professional Experiences

- 2012-2015, Assistant Professor, UNT Health Science Center
- 2010-2012, Intelligence Community Postdoctoral Research Fellow, UNT Health Science Center
- 2004-2010, Teaching Assistant, University of North Texas
- 2004-2010, Research Assistant, University of North Texas
- 1993-1997, Infantryman, US Army 1st Cavalry Division, 1st Armored Division

Honors and Awards

- 2010 Intelligence Community Postdoctoral Research Fellowship
- 2009 UNT Dissertation Award Scholarship
- 1996 Army Commendation Medal

Other Competencies

Institutional Service

- 2015-Present, UNTHSC Institutional Review Board, Vice Chair
- 2014-2015, UNTHSC Institutional Review Board, Member
- 2014-2015, UNTHSC Inter-professional Education (IPE), Facilitator
- 2014-2015, RTI/FTCOE Tech Transfer, Contributor
- 2014-2015, Center for Forensic Excellence, Lecturer
- 2013-2015, TCOM, Interviewer
- 2013-2015, UNTHSC DFIG RTI Seminar Series, Lecturer
- 2013-2015, Introduction to Faculty Research, Lecturer
- 2013-2015, Faculty Senate, Member

Professional Service

- 2015-Present, Nature Publishing Group: Scientific Reports, Reviewer
- 2014-Present, PLOSOne, Reviewer
- 2014-Present, Electrophoresis, Reviewer
- 2013-Present, Forensic Science International: Genetics, Reviewer
- 2012-Present, National Institute of Justice, Grant Reviewer
- 2012-2013, Molecular Biotechnology, Reviewer