

## **VICTOR G. WADDELL, Ph.D.**

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Phoenix, Arizona, 85007  
602.364.0609

### **PROFESSIONAL PROFILE**

Ph.D. in Molecular Biology. Publications. Scientific Collaborator. Team Concepts. Laboratory Director. Executive Director Biomedical. President of Several National and International Public Health Organizations. Manager Microbiology. Supervisor. Bioinformatics and next generation sequencing. Trainer. Communication Skill. Consultant Medical Facilities. Newborn Screening Program. Genetics. Public Health Professional. Public Health Preparedness and Crisis Management. Thrive in High Pressure Environments. Medical Supply Logistics. Pandemic preparedness and response. Independent Research Projects. Experimental Design. Immunology. Master of Science. Environmental Science. Bachelor of Science. The Queen's University of Belfast, U.K. Twenty-Five Years Professional Experience. Public Health Microbiologist II Epidemic Detection and Response. Quality Assurance Coordinator. Arizona Department of Health Services. Dependable. High Integrity.

### **PROFESSIONAL EXPERIENCE**

**Laboratory Director**, Arizona Department of Health Services, Phoenix, AZ 2004 – Present

**Executive Director**, Arizona Biomedical Research Centre, Arizona Department of Health Services, Phoenix, AZ 2015 - Present

**Microbiology Office Chief**, Arizona Department of Health Services, Phoenix, AZ 2002 – 2004

- Microbiology Section Manager
- Principle investigator for CDC/FDA SARS coronavirus test development, AZ
- Coordinating testing for Norovirus detection

**Quality Assurance Coordinator**, Arizona Department of Health Services, Phoenix, AZ 2001 – 2002

- Quality improvement plan implementation
- Procedures and guidelines for shipment of hazardous materials
- Preventative maintenance plan development
- Plan of correction Health Care Financing Administration
- Quality assurance for regional laboratories
- Newborn Screening Committee
- Newborn Screening Quality Assurance Program (CDC)

- Secure Integrated Response Electronic Notification System (SIREN)

**Microbiologist II**, Arizona Department of Health Services, Phoenix, AZ 2001 – 2002

- Establish protocols
- Multiplex PCR, RT-PCR, Real-Time PCR
- Consulting with facilities and the media during the Bioterrorism Threat 2001
- Epidemic Detection and Response (Bioterrorism) Team
- Arizona Health Alert Network
- Domestic Preparedness Terrorism Task Force
- Interviewer for new positions

**Postgraduate Researcher and Teaching Assistant**, The Queen's University of Belfast, U.K. 1994 – 1999

- Supervised and instructed in evolutionary genetics
- Demonstrated molecular biology techniques
- Assist in experiment design
- Establish protocols
- Polymerase chain reaction
- Sequenced nuclear and mitochondrial genes, animals and plants
- Molecular systematics of mammals

**Postgraduate Researcher**, The Queen's University of Belfast, U.K. 1993 – 1994

- Clarified bat interordinal relationships
- Single-copy nuclear locus
- Manual and automated DNA sequencing
- Performed DNA/protein database searches
- Analyzed DNA sequences using phylogenetic software

## **AWARDS**

**Thomas and William Gilbane Project Achievement Award**, 2004

**Proclamation from the Office of the Governor**. State of Arizona, 2001

**United States Postal Service**. Testing during Bioterrorism Threat, 2001

**Musgrave Research Studentship**. The Queen's University of Belfast, U.K.  
1994 – 1997

## **SOCIETY MEMBERSHIPS**

- Clinical Laboratory Standards Institute. President 2021 - 2024
- State Disaster Medical Advisory Committee Member 2020 - Present
- Arizona Bioscience Roadmap Steering Committee Member 2016 - Present
- Clinical Laboratory Standards Institute. Board of Directors 2014 – Present
- Clinical Laboratory Standards Institute. Board of Directors. Secretary 2015 - 2019

- Association of Public Health Laboratories. President 2011 - 2012
- Association of Public Health Laboratories. Board of Directors 2006 – 2009; 2010 – 2013
- Clinical and Laboratory Standards Institute. Member 2006 - Present
- Association of Public Health Laboratories. Member 2003 – Present
- Human Subjects Review Committee Arizona Department of Health Services. 2001
- Biology and Biochemistry Society Member, The Queen's University of Belfast, U.K. 1994 – 1999
- Joint Consultative Committee for Postgraduate Studies Representative, Queen's University of Belfast, U.K. 1996 – 1998

## **SKILLS**

- Reviewer for the National Research Council and Institute of Medicine.
- Co-Chair of the Laboratory Response Network Joint Leadership Council (APHL, CDC, FBI)
- APHL Assessment of the Maine Health and Environmental Testing Laboratory 2015
- Task Force Member on Alternative Futures for the New York State Department of Health Wadsworth Center 2011 -2012.
- Coordination/logistics for moving a laboratory to a new location while maintaining full operational capabilities
- Design Team for New State-of-the-art Public Health Laboratory
- National and International collaborations involving Public Health Issues
- Implementation of a new Laboratory Information Management System
- Budget and operations management for three Laboratories
- BioSafety Level 3 Laboratory design and operation
- Recombinant DNA techniques
- Expertise using DNA sequence alignment software
- Perform DNA/protein databank searches
- Phylogenetic analysis at the DNA and amino acid sequence levels e.g., PAUP, PHYLIP
- BioNumerics version 2.5 molecular analysis software
- Bioinformatics analysis
- Next Generation Sequencing
- Automated DNA sequencing using Applied Biosystems 373A and 377
- Rapid detection and diagnosis of Bioterrorism agents
- Pulsed-field gel electrophoresis
- Extensive polymerase chain reaction experience
- Immunocytochemistry
- Collaboration with government and private facilities
- Medical facility consulting/training
- Development and implementation of procedures
- Analyzing, interpreting, and presenting data

- Publications in scientific journals
- Conference presentations
- Pandemic Preparedness and Response
- Medical countermeasure distribution
- FDA Emergency Use Authorization test guidance and interpretation
- Vaccine storage and distribution
- Supply chain management at the state and federal level
- Health Emergency Operations Center Branch Director
- Search Committee Chair to hire CEO of a national / International non-profit organization

## **EDUCATION**

- Ph.D. Molecular Biology and Evolution / Molecular Genetics, The Queen's University of Belfast, U.K. 2000
- Master of Science, Environmental Science, The Queen's University of Belfast, U.K. 1994
- Bachelor of Science, Biological Sciences, The Queen's University of Belfast, U.K. 1993
- Higher National Diploma, Applied Biology, University of Ulster, Belfast, U.K. 1991

## **PUBLICATIONS**

- Waddell, V. G. and Stanhope, M. J. 1994. A molecular view of mammalian evolution from sequence analysis of the interphotoreceptor retinoid binding protein gene. Environmental Research Day - Poster Display. The Queens University of Belfast
- Stanhope, M.J. M.R. Smith, V.G. Waddell, C.A. Porter, M.S. Shivji, and M. Goodman. 1996. Mammalian evolution and the IRBP gene: convincing evidence for several superordinal clades. *J. Mol. Evol.* 43:83-92.
- Smith, M.R., M.S. Shivji, V.G. Waddell, and M.J. Stanhope. 1996. Phylogenetic evidence from the IRBP gene for the paraphyly of toothed whales, with mixed support for Cetacea as a suborder of Artiodactyla. *Mol. Biol. Evol.* 13:918-922.
- Springer, M.S., G.C. Cleven, O. Madsen, W.W. de Jong, V.G. Waddell, H.M. Amrine, and M.J. Stanhope. 1997. Endemic African mammals shake the phylogenetic tree. *Nature* 388:61-64.
- Springer, M.S., A. Burk, J. Kavanagh, V.G. Waddell, and M.J. Stanhope. 1997. The IRBP gene in therian mammals: Implications for higher level relationships and

- evidence for loss of function in the marsupial mole. *Proc. Natl. Acad. Sci.* 94:13754-13759.
- Stanhope, M.J., O. Madsen, V.G. Waddell, G.C. Cleven, W.W. de Jong, and M.S. Springer. 1998. Highly congruent molecular support for a diverse superordinal clade of endemic African mammals. *Mol. Phyl. Evol.* 9:501-508.
- Stanhope, M.J., V.G. Waddell, O. Madsen, W.W. de Jong, S.B. Hedges, G.C. Cleven, D. Kao, and M.S. Springer. 1998. Molecular evidence for multiple origins of Insectivora and for a new order of endemic African insectivore mammals. *Proc. Natl. Acad. Sci USA* 95:9967-9972.
- Gatesy, J., M.C. Milinkovitch, V.G. Waddell, and M.J. Stanhope. 1999. The stability of cladistic relationships between Cetacea and higher level artiodactyl taxa. *Syst. Biol.* 48:6-20.
- Waddell, V.G., M.C. Milinkovitch, M. Berube, and M.J. Stanhope. 2000. Molecular phylogenetic examination of the Delphinoidea trichotomy: Congruent evidence from three nuclear loci indicates that porpoises (Phocoenidae) share a more recent common ancestry with white whales (Monodontidae) than they do with true dolphins (Delphinidae). *Mol. Phyl. Evol.* 15:314-318.
- Cassens, I., S. Vicario, V.G. Waddell, H. Balchowsky, D. Van Belle, W. Ding, C. Fan, R.S. Lal Mohan, P.C. Simoes-Lopes, R. Bastida, A. Meyer, M.J. Stanhope, and M.C. Milinkovitch. 2000. Independent adaptation to riverine habitats allowed survival of ancient cetacean lineages. *Proc. Natl. Acad. Sci USA* 97:11343-11347.
- Waddell, V.G. 2002. Newborn Screening Update. Arizona Society for Clinical Laboratory Science. Spring Symposium, Phoenix College.
- Waddell, V.G., and Wright, D. 2002. Trouble-Shooting Newborn Screening Specimens with Low Biotinidase Activity. The 2002 Newborn Screening and Genetic Testing Symposium, Phoenix, Arizona.
- Smejkal, R., Jenkins, W., and Waddell, V.G. 2002. A Recipe for Successfully Adding a New Disorder to Arizona's Newborn Screening Panel. The 2002 Newborn Screening and Genetic Testing Symposium, Phoenix, Arizona.
- S Everett, MPH, M Jacobson, S Halldorson, MPH, D Savoini, B Supalla, MPH, Yavapai County Health Dept, Prescott; S Goodykoontz, C Snider, MHS, S Anderson, MPH, B Mathison, V Waddell, PhD, E Denious, MS, K Komatsu, MPH, V Vaz, PhD, C McRill, MD, B England, MD, Arizona Dept of Health Svcs. P Cassidy, MS, GN Sanden, PhD, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases; P Srivastava, MS, R Woodruff, MPH, KM Bisgard, DVM, Epidemiology and Surveillance Div, National Immunization Program, CDC. 2004. School-Associated Pertussis Outbreak --- Yavapai County, Arizona, September 2002--February 2003. *MMWR* 53(10): 216-219.
- Waddell, V.G., 2005. A Public Health Lab for the Future. The 5<sup>th</sup> Annual Joint Vector-Borne/Zoonotic Diseases & Bioterrorism/Public Health Threats Conference, Mesa, Arizona.
- Waddell, V.G., and Hendrickson, W., 2006. New Innovations for Environmental and Public Health Facilities. The Association of Public Health Laboratories In The Global Environment, Long Beach, CA.

- Waddell, V.G., 2009. "State Bioterrorism Laboratory". Regional WMD Conference: Joint Training for Law Enforcement and Public Safety Officials on Investigative Responses to WMD Incidents. Arizona State University.
- Waddell, V.G., 2009. "Key Note Address". Arizona Society for Clinical Laboratory Science – Arizona / Nevada Division. Phoenix, Arizona.
- Sheff, Kelly William; York, Emily; Driebe, Elizabeth; Barker, Bridget; Rounsley, Steven; Waddell, Victor; Beckstrom-Sternberg, Stephen M.; Beckstrom-Sternberg, James S.; Keim, Paul; Engelthaler, David M. 2009. "Development of a Rapid, Cost-Effective TaqMan Real-Time PCR Assay for Identification and Differentiation of *Coccidioides immitis* and *Coccidioides posadasii*". *Medical Mycology* 47: 1-4.
- Keim, Paul; Waddell, Victor and Engelthaler, David M. Chapter 33 "Detection of Agents Associated with Bioterrorism". *Molecular Microbiology: Diagnostic Principles and Practice*, 2<sup>nd</sup> Ed. Edited by David H. Persing et al. 2011 ASM Press, Washington DC.
- Engelthaler, David M., Bowers, Jolene., Schupp, James A., Pearson, Talima., Ginther, Jennifer., Hornstra, Heidie M., Dale, Julia., Stewart, Tasha., Sunenshine, Rebecca., Waddell, Victor., Levy, Craig., Gillece, John., Price, Lance B., Contente, Tania., Beckstrom-Sternberg, Stephen M., Blaney, David D., Wagner, David M., Mayo, Mark., Currie, Bart J., Keim, Paul., Tuanyok, Apichai. 2011. Molecular Investigations of a Locally Acquired Case of Melioidosis in Southern AZ, USA. *PLoS Negl Trop Dis* 5 (10): e1347. doi: 10.1371/journal.pntd.0001347
- Sahl JW, Gillece JD, Schupp JM, Waddell VG, Driebe EM, et al. 2013. Evolution of a Pathogen: A Comparative Genomics Analysis Identifies a Genetic Pathway to Pathogenesis in *Acinetobacter*. *PLoS ONE* 8(1): e54287. doi:10.1371/journal.pone.0054287
- JOHN C. RIDDERHOF, ANTHONY D. MOULTON, RENÉE M. NED, JANET K.A. NICHOLSON, MAY C. CHU, SCOTT J. BECKER, ERIC C. BLANK, KAREN BRECKENRIDGE, VICTOR WADDELL, CHARLES BROKOPP. 2013. The Laboratory Efficiencies Initiative: Partnership for Building a Sustainable National Public Health Laboratory System. *Public Health Reports*. PHR/Volume 128, Issue 5, PL2 Supplement.
- Derek S. Sarovich, Rebecca E. Colman, Erin P. Price, Christian Massire, Alex T. Von Schulze, Victor Waddell, Shoana M. Anderson, David J. Ecker, Andrew P. Liguori, David M. Engelthaler, Rangarajan Sampath, Paul Keim, Mark W. Eshoo, and David M. Wagner. 2013. Molecular genotyping of *Acinetobacter* spp. isolated in Arizona, USA, using multilocus PCR and mass spectrometry *J Med Microbiol* September 2013 62:1295-1300.
- Mark P. Martz, Will Humble, Celia Nabor, Victor Waddell. 2015. State of Public Health. Applying Transparency and Quality Measurement to Improve Newborn Screening: Lessons Learned From Arizona's Transit Time Project. *J Public Health Management Practice*, 2015, 21(2), 217-219
- Engelthaler DM, Valentine M, Bowers J, Pistole J, Driebe EM, Terriquez J, Linus Nienstadt, Mark Carroll, Mare Schumacher, Mary Ellen Ormsby, Shane Brady, Eugene Livar, Del Yazzie, Victor Waddell, Marie Peoples, Kenneth Komatsu, and Paul Keim. 2016. Hypervirulent emm59 clone in invasive group A *Streptococcus* outbreak, southwestern United States. *Emerg Infect Dis*. 2016 Apr [date cited]. <http://dx.doi.org/10.3201/eid2204.151582>

Waddell, V. G. 2016. Clinical and Public Health Laboratory Preparedness and Response. Presentation to the Clinical Laboratory Improvement Advisory Committee, CDC Atlanta November 2, 2016

Jason T. Ladner, Brendan B. Larsen, Jolene R. Bowers, Crystal M. Hepp, Evan Bolyen, Megan Folkerts, Krystal Sheridan, Ashlyn Pfeiffer, Hayley Yaglom, Darrin Lemmer, Jason W. Sahl, Emily A. Kaelin, Rabia Maqsood, Nicholas A. Bokulich, Grace Quirk, Thomas D. Watts, Kenneth Komatsu, Victor Waddell, Efrem S. Lim, J. Gregory Caporaso, David M. Engelthaler, Michael Worobey, Paul Keim. An Early Pandemic Analysis of SARS-CoV-2 Population Structure and Dynamics in Arizona. Arizona. mBio 11:e02107-20. <https://doi.org/10.1128/mBio.02107-20>.

Victor Waddell 2021. CE-Mindset of 21<sup>st</sup>-century Laboratory Professional. African Society For Laboratory Medicine Symposium 2021.

Victor Waddell 2022. Key Note: A Conversation with ADHS Leadership. 2022 State of Reform Health Policy Conference. Phoenix Arizona.