

# CARL T. YAMASHIRO, PH.D.

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## PROFESSIONAL AND RESEARCH EXPERIENCE

### Arizona State University (ASU)

**Associate Research Professor, *College of Health Solutions*** 2014 – present

Developed and instructing courses in Immunology/Immunoassays, Molecular Diagnostics, Research, and Applied Projects for the online Master's Degree Program in Biomedical Diagnostics (BMD). Secured partnerships with multiple diagnostics companies and organizations to support the Applied Projects course and mentoring of students. Playing a major role curriculum development and strategic planning for the Biomedical Diagnostics program. Facilitates student recruitment by meeting with prospective students and assisting with development of promotional materials for the Biomedical Diagnostics program. Also participated in faculty searches and review of student applications for entry into the BMD program.

**Associate Research Professor, *College of Nursing and Health Innovation*** 2010 – 2013

**Director, *Center for Healthcare Innovation & Clinical Trials, and Center for Health Information and Research, College of Health Solutions***

Managed the development and implementation of a network of community-oriented clinical researchers throughout Arizona to increase the volume of clinical studies/trials in the state. Co-created and managed CONECTR (Community Oriented Network for Enhanced Clinical Trials and Research) based within the Center for Healthcare Innovation & Clinical Trials at ASU's Health Solutions. The network was collaborative effort with Quintiles, the world's largest contract research organization which brought in dozens of clinical trials and >\$2M of additional revenue to the member sites. Additional duties included providing assistance to researchers at ASU in the area of clinical research development, as well as to seek out external collaborations in the areas of drug and medical device development. Successfully set up a collaboration between Dr. Sandeep Gupta of ASU with Dr. Richard Heuser, an interventional cardiologist at St. Luke's Medical Center, Phoenix and was instrumental in securing funding from AzTE for a pilot study to be conducted at St. Luke's. Played critical roles assisting Dr. Michael White of ASU's Dept. of Criminology and Criminal Justice to obtain a National Institute of Justice grant to study the effects on cognitive functioning in individuals who had been exposed to Taser treatments. Subsequently directed the development of the study protocol which quickly obtained IRB approval. Co-recipient of the ASU President's Award for Innovation in 2010. Assisted students from ASU's Barrett Honors College to obtain internships at various research sites in Arizona.

Managed the Center of Health Information and Research (CHiR) with respect to refocusing the center towards conducting grant supported research involving "big data" and developed new associations with healthcare organizations to help support research and development efforts in response to the Affordable Care Act.

**Program Director. *Biodesign Institute*** 2009 – 2010

Principal Investigator for a \$40.8M contract with the Biomedical Advanced Research and Development Authority (BARDA – within the Department of Health and Human Services). Responsible for development of a high throughput system for radiation biodosimetry based on gene expression biomarkers. Managed seven subcontractors which included industrial automation, healthcare and academic organizations. P

Program manager for the Physical Sciences Oncology Center led by Dr. Paul Davies within the Physics Department at ASU. Managed activities of physicists and cancer biologists to develop new avenues of cancer research with a strong focus on utilizing physical scientific approaches towards a more quantitative understanding of cancer.

**Director, Research Management Office.** *Biodesign Institute*

2009

Directed a multi-team department responsible for managing the overall life cycle of projects, with an emphasis on large and complex programs/projects. Department facilitated research efforts by providing professional program management, research administration, competitive/strategic intelligence and written content/editorial expertise to all individuals engaged in research at the Biodesign Institute and other related departments within ASU. Ensured increased success rates for sponsored awards through a comprehensive and holistic approach to the project lifecycle.

Additional responsibilities included working with researchers on technology assessment and development, assistance in identifying and setting up collaborations with external entities, and participating in the evaluation and pursuit of commercialization opportunities. Worked in the areas of functional genomics, proteomics and metabolomics.

**Assoc. Director, Technology Development.** *Biodesign Institute*

2007 – 2008

Senior program manager within the Research Management Office of the Biodesign Institute. Managed several multi-million dollar programs that involved project planning, risk management, budget management, preparing reports and providing formal briefings on program status and future planning. Managed the preparation of successful grant applications to the NCI (cancer research using physical scientific approaches) and Singapore (development of protein biomarkers for myocardial infarction and cardiovascular disease). This included representing ASU and the Biodesign Institute as the Program Manager for the Partnership for Personalized Medicine with over \$62M in funding and involving the Translational Genomics Research Institute (TGen), Fred Hutchinson Cancer Research Center and the Luxembourg government as key partners with an initial focus on developing better applications for staging lung cancer.

**Sr. Research Professional.** *Biodesign Institute, Arizona State University*

2004 – 2006

Project managed assay development utilizing devices and systems implementing microfluidics and nanotechnologies for genomic analysis assay applications. Implementing product development and quality systems processes necessary for on-time delivery of high quality products that the department is contracted to provide to customers/collaborators. Principal Investigator for Product Development Core of NIAID/NIH grant (Columbia University-Lead institution and total \$25M award of which \$5.9M was awarded to Biodesign/ASU) for development of minimally-invasive, high-throughput radiation biodosimetric systems. Responsible for product development management for the three projects conducted by teams at Columbia University (cytogenetics platform), Harvard University (metabolomics platform) and ASU (genomics platform). Co-PI on project to use amplified fragment length polymorphism (AFLP) to identify adulterant species of plant material in a dietary supplement. Co-investigator of a \$7M contract with a UK forensics company. Lead inventor of a novel gene expression classifier approach with patent application submitted and licensed to a diagnostics company, Caris Life Sciences.

**Arizona Collaboratory**

**Co-Founder/Director**

2014 – present

The Arizona Collaboratory is a 501(c)6 non-profit with the mission to provide financial, human and social capital required to accelerate the growth of businesses in Arizona, thus creating jobs and wealth via applied learning, networking and access. The Collaboratory has leveraged some leading technologies to create a crowdsourcing platform for financial capital and a network to bring together disparate groups in Arizona for increased and accelerated social capital.

**Carl Yamashiro Consulting LLC**

**Principal**

2013 – present

Consultation services offered include: Healthcare technology assessments and development, molecular diagnostics (nucleic acids and proteins) development, clinical research network development and management, grant writing, multidisciplinary R&D team building and management, project/program

management, smart wearable device development and testing, and mentoring scientists wanting to go into management.

Current and past examples of consultation services provided include: Algorithm development for smart wearable devices, grant applications preparation, lead consultant for a startup company in the area of health and wellness management, and developing a new clinical research program for a network of neurologists in Arizona.

### **INanoBio, LLC**

**Consultant/Director of Product Development** 2012 – present  
Responsible for strategic mapping for product development in the areas of next generation DNA sequencing and nanosensors. Served as Project Manager for development and manufacturing of nanopores for next generation DNA sequencing project supported by NIH grant.

### **PrognosDx Health, Inc.**

**Clinical and Industrial Advisor** 2013 – 2015  
**Chief Scientific Officer** 2009 – 2013  
Member of the executive management team responsible for assessing and developing technologies consistent with the mission of the company. Current core technology involved epigenetic alterations of histones that serve as biomarkers for prognostic and diagnostic indications primarily for cancer and treatment response.

### **Molecular Profiling Institute (acquired Nanobiomics)(now Caris Life Sciences)**

**Vice President, Research and Development** 2006 – 2007  
Built a new group to identify and conduct feasibility/development of candidate diagnostic/prognostic tests in the areas of cancer, cardiovascular and neurological disease offered within a CLIA-certified esoteric reference laboratory. Responsible for screening new technologies/tests, organizing and leading the quarterly Scientific Advisory Board meetings and serving as primary liaison between MPI and the Translational Genomics Research Institute (TGen) for technology transfer.

**Director, Product Development. *NanoBiomics*** 2004–2005  
Helped set up a new company focused on development of molecular diagnostic devices and systems that was a spin-off between ASU and TGen. Acquired by the Molecular Profiling Institute in June 2005.

### **Independent Consulting**

*Catapult Bio.Accel (now Bio.Accel)* 2009 – 2010  
Assessed technologies under consideration for funding by this bio-accelerator organization, including diabetes care and autoimmune disease management.

*Molecular Profiling Institute (MPI)* 2005 – 2006  
Consulted on development of a lab-on-a-chip system for molecular diagnostic applications and on specific molecular diagnostic applications in the areas of oncology and infectious disease.

*Translational Genomics Research Institute (TGen)* 2005  
Assisted in the development of grant proposals in the areas of neurology and infectious disease.

*Thailand Ministry of Public Health (NIH)* 2004  
Trained personnel on use of DNA sequence analysis software. Consulted on developing capabilities for microarray design, testing and production for diagnostics and monitoring applications.

*Neugenesis (acquired by Intrexon, 2011)* 1994 – 1995  
Advised on genetic manipulation of *Neurospora crassa* to enhance mammalian protein production.

### **Amersham Biosciences (acquired Motorola Life Sciences)(now part of GE Healthcare)**

**Director, Genetic Variation**

2002–2004

Led assay development department responsible for developing SNP applications that include an updated version of CodeLink P450 Bioarray and the Genome Scanning Bioarray used as a SNP-based linkage mapping tool comparable to microsatellite-based methods. Member of Core Team comprised of topline executives developing a plan for entering the *in vitro* molecular diagnostics field. Also responsible for CodeLink platform development (includes assay automation, new surface chemistries, improvement of assay processes such as target amplification and hybridization time reduction). Assisted with ISO 13485 certification process in collaboration with Quality group.

**Senior Scientific Manager, SNP Assay Development** *Motorola Life Sciences*

1999–2002

Started a new group to develop standard platforms for sample preparation, target amplification and post-amplification processing. Subsequently managed CodeLink SNP assay development group comprised of 16 (5 Ph.D.) scientists, engineers and technicians. Group developed the first launched SNP microarray research product, CYP450 Genotyping Bioarray. Worked with The SNP Consortium (TSC) on developing a SNP-based human linkage map. Responsible for platform improvements for SNP and Expression assay platforms. Amersham Biosciences acquired Motorola CodeLink in July 2002.

**Roche Molecular Systems (Roche acquired Boehringer Mannheim)****Principal Scientist, Human Genetics**

1998–1999

Built and led a new group responsible for developing a microarray-based diagnostic system, in collaboration with Affymetrix, for resequencing the human p53 gene in tumor specimens for detection and identification of mutations. Developed a new technique for efficient nucleic acid extraction from formalin-fixed, paraffin-embedded tissue samples. Also led a group for systems development involved in integrating chemistries, disposables and new instrumentation design for microarray-based *in vitro* diagnostic applications.

**Project Manager, DNA Probes** *Boehringer Mannheim*

1996–1998

Built and led a new group responsible for the development of nucleic acid-based detection assays for infectious disease agents (cytomegalovirus (CMV) and human papillomavirus (HPV)). Charter member of the Global Program Management team for the LightCycler<sup>®</sup>, a real-time PCR system. Received Special Recognition award for efforts bringing together the new molecular diagnostics program. Roche acquired Boehringer Mannheim in June 1998.

**Perkin Elmer/Applied Biosystems Division****Scientist, Food/Environmental**

1994–1996

Development of rapid detection methods for microbial pathogens in food and environmental samples. Project leader for commercially released TaqMan<sup>™</sup> *Salmonella* PCR Amplification/Detection Kit. Initiated concept, research and development for the PrepMan<sup>™</sup> sample preparation kit and the *E. coli* O157:H7 TaqMan PCR Amplification/Detection kit for food samples. Received Special Recognition Award from the CEO for exemplary work performed during development of TaqMan assays and sample preparation kit. Initiated feasibility and development activities for detection assays for *Listeria monocytogenes*, *Giardia lamblia*, *Cryptosporidium parvum* and Shigatoxigenic *E. coli*. Dedicated 25% of time towards marketing tasks, including writing white papers and other technical publications.

**Stanford University****Postdoctoral Fellow** *Department of Biological Sciences*

1990–1994

Advisor: Charles Yanofsky

Research projects: Genetic and molecular studies on the regulation of asexual development in *Neurospora crassa*. Developed tools and methodologies for improved molecular genetic analyses of *N. crassa*. Molecular genetic studies on heterokaryon incompatibility in *N. crassa*. Research performed as an American Cancer Society Postdoctoral Fellow and a Stanford Program in Cancer Biology Fellow.

**University of Oregon**

**Graduate student** *Institute of Molecular Biology, University of Oregon*

1984–1990

Advisor: Tom Stevens

Thesis: A biochemical and genetic analysis of the yeast vacuolar proton-translocating adenosine triphosphatase.

**International Genetic Engineering, Inc. (now XOMA)**

**Research Associate**

1982–1984

Cloned several genes from *Salmonella typhimurium* and expressed them in the yeast *Saccharomyces cerevisiae*. Developed and “manufactured” dideoxy DNA sequencing kit used by the company. Constructed yeast expression vectors and plant genomic libraries.

**EDUCATION**

Ph.D.	1990	Molecular Biology	University of Oregon, Eugene
B.S.	1981	Biochemistry	University of California, Los Angeles

**AWARDS AND SERVICE**

Member, Biomedical Informatics Faculty Search Committee, College of Health Solutions, 2018-present  
Ad hoc member, Biomedical Diagnostics Admissions Committee, College of Health Solutions, 2015-present  
Vice President, Board of Directors, Recreation and Athletics for Individuals with Disabilities (RAD; non-profit organization), Chandler, AZ, 2012-present  
Co-organizer and panel discussion moderator, Embracing Change Conference, Arizona State University, 2012–2014  
Co-chair, Healthy Work Environment Task Force, College of Nursing and Healthcare Innovation, Arizona State University, 2010-2012  
Member, Scientific Track Organizing Committee, Southwest Bio Expo 2010, Arizona Biotechnology conference held in Tucson, AZ, May 2010  
Co-recipient, ASU President’s Award for Innovation for 2010  
Member, Scientific Advisory Board, PrognosDx Health, 2008-2015  
Managing Teams for Innovation and Success, Stanford Graduate School of Business Executive Education, 2008 (completed program)  
Volunteer/Coach/Unified Partner, Special Olympics Arizona and City of Chandler, 2006-present  
Representative, The SNP Consortium Board of Directors representing Motorola and Amersham, 2002  
Member, Organizing Committee for AACC’s San Diego Conference 2001-2003  
Member, American Association for Clinical Chemistry (AACC), 2001- present  
Special Recognition Award, Boehringer Mannheim, 1997  
Member, American Society for Microbiology, 1982-1985, 1994-1998  
Member, Expert Panel, Symposium on *Cryptosporidium*: Microbiology’s New Enemy, 110<sup>th</sup> AOAC International Meeting, Orlando, FL, 1996  
Special Recognition Award from the CEO, Applied Biosystems, 1996  
Member, Society for Industrial Microbiology, 1996  
Member, American Association for the Advancement of Science, 1994-1996  
Member, AOAC International, 1994-1996  
Member, International Association of Milk, Food and Environmental Sanitarians, 1994-1996  
American Cancer Society Postdoctoral Fellowship, Stanford University 1991-1994  
Program in Cancer Biology Postdoctoral Fellowship, Stanford University, 1990-1991  
Ad hoc reviewer, J. Biol. Chem., Appl. Environ. Microbiol., Fungal Genet. Newsl., 1990-2004.  
Student member, Faculty/Student Relations Committee, University of Oregon, 1988-1990  
Outstanding Teaching Assistant and trainer of new TAs, Biology Department, University of Oregon, 1985  
NIH Pre-doctoral Trainee in Molecular Biology, 1985-1989

## **TEACHING AND MENTORING**

### **Courses Developed and Taught**

- BMD 513 Principles of Diagnostic Technology: Immunoassays (formerly BMD 598 Principles of Diagnostic Technology 2: Immunology) – Fall 2014, Fall 2015, Fall 2016, Spring 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019
- BMD 590 Reading and Conference – Fall 2016
- BMD 592 Research – Spring 2015, Fall 2015, Spring 2016, Spring 2017, Spring 2018
- BMD 593 Applied Research – Summer 2015, Fall 2015, Spring 2016, Summer 2016, Spring 2017, Summer 2017, Summer 2018
- BMD 598 Current Perspectives in Biomedical Diagnostics – Fall 2016
- BMD 514 (formerly BMD 598 Molecular Diagnostics) – Summer 2015, Spring 2016, Summer 2016, Spring 2017, Spring 2018, Spring 2019

### **Applied Research Projects**

Below are the companies and organizations who I recruited to participate in the Applied Projects. The number in parentheses indicates the total number of projects they sponsored.

- Ventana Medical Systems, a division of Roche Diagnostics, AZ, 2015-2016 (4)
- Dublin City University, Ireland, 2015 (2)
- HealthTell, AZ, 2015-2016 (3)
- Paraslice, AZ, 2015 (1)
- Clin-Path, AZ, 2015 (1)
- Masimo, CA, 2015 (1)
- St. Joseph's Medical Center, AZ 2015 (1)
- INanoBio, AZ, 2015-2016 (3)
- Biodesign Institute, ASU, 2015-2016 (3)
- School of Social and Behavioral Sciences, ASU, 2015 (1)
- Asuragen, TX, 2016 (2)
- Biocept, CA, 2016 (2)
- School of Computing, Informatics, Decision Systems Engineering, ASU, 2016 (1)
- Intel, AZ/TX, 2016 (1)
- Patient Crossroads, OK, 2016 (1)
- Systems Imagination, AZ, 2016-2018 (6)
- Omicia, AZ, 2017 (2)
- LifeLength, Spain, 2017 (1)
- Inflammix, CA, 2017-2018 (3)
- Fry Laboratories, AZ, 2017-2018 (2)
- DigitX, CA, 2017 (1)
- Cancer Commons, CA, 2017-2018 (2)
- Nanoeye, CA, 2017 (1)
- Arigos Biomedical, CA, 2017-2018 (2)
- Cellworks, CA, 2018 (1)
- Universal Diagnostics Laboratory, CA (2)
- Oxford Biodynamics, UK (2)
- Critical Path, AZ, 2018 (1)
- Catalyst Group, MA, 2018 (1)
- BioDirection, NM, 2018 (1)

## Mentoring

Mentored three students (Ashley Adams, Natalie Duran and Jennifer Bridger) in the BMD 592/593 applied project, 2016  
Placed two Barrett Honors College (ASU) students at local clinical research companies for internships. 2013  
Mentored several undergraduate students from the Barrett Honors College, ASU, 2013-2014  
Mentored two undergraduate student for honors thesis projects at Stanford University, 1994

## PATENTS

Zenhausern, F., Orozco, C., Richards, M., **Yamashiro, C.**, Amundson, S.A., Lenigk, R., Bittner, M.L., and Balagurunathan, Y.. (2016). Systems and methods for biodosimetry with biochip using gene expression signatures. US Patent 9,255,348.

Zenhausern, F., Orozco, C., Richards, M., **Yamashiro, C.**, Amundson, S.A., Lenigk, R., Bittner, M.L., and Balagurunathan, Y.. (2010). Systems and methods for biodosimetry with biochip using gene expression signatures. WO 20100144558-A1 and PCT/2010/0144558.

**Yamashiro, C.T.**, Balagurunathan, Y., and Bittner, M. (2007). Ratio-based, gene-pair classifier approach for gene expression signature set identification. PCT/US08/587364. (Licensed from ASU by Caris Life Sciences in 2008)

Chui, B., Elghanian, R.,...**Yamashiro, C.T.**, et al. (2006). P450 single nucleotide polymorphism biochip analysis. US Patent 6,986,992.

Luehrsen, K.R., Gupta, V., Mazumder, A., Elghanian, R., **Yamashiro, C.**, and Yowanto, H. (2004). P450 single nucleotide polymorphism biochip analysis. AU2002314734, CA24401486AA, EP1373574A4, JP2004532026T2 and WO2002083839A3.

## RESEARCH SUPPORT

### Completed Support

2011-IJ-CX-0102	Yamashiro (Co-I), White (PI)	1/12-12/14
National Institute of Justice (\$408K)		
Examining the Effects of the TASER on Cognitive Functioning		
Overall goal: Determine if there is significant impairment of cognitive functioning after being tased.		
1 R21 HG006314-01	Yamashiro (Co-I), Takulapalli (PI)	8/15/11-7/31/14
NIH/NHGRI (\$916K)		
High Speed DNA Sequencing by Chemical Recognition Using Novel Nanopore Technology		
Overall goal: Develop a novel next generation DNA sequencing technology which can very rapidly and accurately sequence single strands of DNA. (Supporting my efforts for INanoBio)		
AzTE Fund	Yamashiro (Project Manager), Gupta (PI)	5/12-11/12
Arizona Technology Enterprise (\$10K)		
GeM-REM: Resource Efficient Long Term Monitoring Technique for Electrocardiogram Signals		
Overall goal: Demonstrate ECG equivalency between wireless monitor and standard monitors in hospital intensive care unit, in collaboration with St. Luke's Medical Center, Phoenix, AZ.		
018557-001	Yamashiro (Co-PI)	1/07-6/12
Kauffman Foundation		
The Kauffman Campuses Initiative: The University as an Entrepreneur		
Carl T. Yamashiro, Ph.D.		

Overall goal: Develop academic and research programs which promote entrepreneurship in a university setting.

5 U19 AI067773-049001 Yamashiro (Product Development Core PI and co-PI of ASU Project), Brenner (Lead PI) 8/31/05-7/31/10

NIH/NIAID (\$25M) (Yamashiro completed 11/06 due to position change)

Center for High-Throughput Minimally Invasive Dosimetry.

Overall goal: Develop system(s) to perform high throughput dosimetric measurements of radiation exposure in humans using minimally invasive sample collection.

Core goal: Manage the product development activities for the three major projects within the Center.

Project goal: Develop a prototype device to perform high volume measurements of gene expression biomarkers indicative of radiation exposure.

4 U54 CA143862-03 Yamashiro (Co-I), Davies (PI) 9/30/09-8/31/11

NIH/NCI (\$3.4M) (Yamashiro completed on 5/10 due to a position change)

A Center for the Convergence of Physical Science and Cancer Biology

Overall goal: To further the depth and breadth of cancer research through a unique “think tank” approach involving the analysis of the physical nature of cancer cells.

HHSO100201000008C Yamashiro (Lead PI) 12/16/09-12/15/14

BAA-BARDA-09-36 (\$40.8M) (Yamashiro completed on 6/10 due to a position change)

Biomarker-Based Radiation Dosimetry

Overall goal: Develop a system product to perform high throughput dosimetric measurements of radiation exposure in humans based on genomic biomarkers.

Contract Yamashiro (Co-I), Zenhausern (PI) 5/1/06-9/15/09

Forensic Science Services (UK) (\$7M) (Yamashiro completed in 11/06 due to position change)

Overall goal: Develop an integrated genomics testing system for use in a mobile forensics vehicle utilizing microfluidics, capillary electrophoresis and SNP genotyping technologies.

## PUBLICATIONS

1. Kuslich, C. D., Chui, B., and **Yamashiro, C. T.**, (2018). Overview of PCR. *Current Protocols Essential Laboratory Techniques*, e27. doi:10.1002/cpet.27
2. White, M.D., Ready, J.T., Kane, R.J., **Yamashiro, C.T.**, Goldsworthy, S., and McClain, D.B. (2015). Examining cognitive functioning following TASER exposure: A randomized controlled trial. *Appl. Cognit. Psychol.*, 29, 600-607.
3. Kuslich, C.D., Chui, B., and **Yamashiro, C.T.** (2012). Overview of PCR. In “Current Protocols in Essential Laboratory Techniques, 2<sup>nd</sup> Edition”, T. Downey (ed.), John Wiley & Sons, Unit 10.2.
4. Kuslich, C.D., Chui, B., and **Yamashiro, C.T.** (2008). Overview of PCR. In “Current Protocols in Essential Laboratory Techniques”, T. Downey (ed.), John Wiley & Sons, Unit 10.2. (Book was winner of the PROSE Award for Excellence in Biology & Life Sciences).
5. Roberts, C.J., Raymond, C.K., **Yamashiro, C.T.**, and Stevens, T.H. (2004). Methods for studying the yeast vacuole in “Guide to Yeast Genetics and Molecular and Cell Biology, Part A”, C. Guthrie and G.R. Fink (eds.), Elsevier Academic Press, 644-661.
6. Matisse, T.C., Sachidanandam, R., Kakol, J., Clark, A.G., Kruglyak, L., Wijnsman, E., Buyske, S., Chui, B., Cohen, P., de Toma, C., Ehm, M., Glanowski, S., He, C., Heil, J., McMullen, I., Pericak-Vance, M.A., Silbergleit, A., Stein, L., Wagner, M., Wilson, A.F., Winick, J.D., Winn-Deen, E.S., **Yamashiro, C.T.**,

- Cann, H.M., Lai, E., and Holden, A.L. (2003). A 3.9 cM resolution human SNP linkage map and screening set. *Am. J. Hum. Genet.*, *73*, 271-284.
7. Wu, L., Patten, N., **Yamashiro, C.T.** and Chui, B. (2002). Extraction and amplification of DNA from formalin-fixed, paraffin-embedded tissues. *Appl. Immunohistochem. Mol. Morph.*, *10*, 269-274.
  8. Paszko-Kolva, C. and **Yamashiro, C.** (2000). A fluorogenic PCR-based assay for the rapid detection of *Salmonella*. In "Nonradioactive Analysis of Biomolecules", C. Kessler (ed.), Springer-Verlag, pp. 622-630.
  9. Oberst, R.D., Hays, M.P., Bohra, L.K., Phebus, R.K., **Yamashiro, C.T.**, Paszko-Kolva, C., Flood, S.J.A., Sargeant, J.M., and Gillespie, J.R. (1998). PCR-based DNA amplification and presumptive detection of *Escherichia coli* O157:H7 with an internal fluorogenic probe and the 5' nuclease (TaqMan) assay. *Appl. Environ. Microbiol.*, *64*, 3389-3396.
  10. Cox, T., Frazier, C., Tuttle, J., Flood, S., Yagi, L., **Yamashiro, C.T.**, Behari, R., Paszko, C., and Cano, R.J. (1998). Rapid detection of *Listeria monocytogenes* in dairy samples utilizing a PCR-based fluorogenic 5'-nuclease assay. *J. Indus. Microbiol. Biotech.*, *21*, 167-174.
  11. Lauter, F.-R., Marchfelder U., Russo, V.E.A., **Yamashiro, C.T.**, Yatzkan, E., and Yarden, O. (1998). Photoregulation of *cot-1*, a kinase-encoding gene involved in hyphal growth in *Neurospora crassa*. *Fungal Genet. Biol.*, *23*, 300-310.
  12. Leslie, J.F. and **Yamashiro, C.T.** (1997). Effects of the *tol* mutation on allelic interactions at *het* loci in *Neurospora crassa*. *Genome*, *40*, 834-840.
  13. Matsuura, M., **Yamashiro, C.T.**, Flood, S., and Paszko-Kolva, C. (1997). Detection of *Salmonella* in food using a fluorogenic 5' nuclease assay. *Am. Environ. Lab.*, March 1997, 24-25.
  14. Kore-eda, S., **Yamashiro, C.T.**, and Murayama, T. (1997). A *ras* homologue of *Neurospora crassa* regulates morphology. *Mol. Gen. Genet.*, *254*, 427-432.
  15. Chen, S., Yee, A., Griffiths, M., Larkin, C., **Yamashiro, C.T.**, Behari, R., Paszko-Kolva, C., and De Grandis, S. (1997). The evaluation of a fluorogenic polymerase chain reaction assay for the detection of *Salmonella* species in food commodities. *Int. J. Food Microbiol.*, *35*, 239-250.
  16. **Yamashiro, C.T.**, Ebbole, D., Lee, B.-U., Brown, R.E., Bourland, C., Madi, L., and Yanofsky, C. (1996). Characterization of *rvo-1* of *Neurospora crassa*: a pleiotropic gene affecting growth and development that encodes a homolog of Tup1 of yeast. *Mol. Cell. Biol.* *16*, 6218-6228.
  17. Witham, P.K., **Yamashiro, C.T.**, Livak, K.J., and Batt, C.A. (1996). A PCR-based assay for the detection of *Escherichia coli* shiga-like toxin (SLT) genes in ground beef. *Appl. Env. Microbiol.*, *62*, 1347-1353.
  18. Lauter, F.-R., **Yamashiro, C.T.**, and Yanofsky, C. (1996). Light stimulation of conidiation in *Neurospora crassa*: Studies with the wild-type strain and mutants *vc-1*, *vc-2*, and *acon-2*. *Photochem. Photobiol. B: Biol.*, *37*, 203-211.
  19. Paszko-Kolva, C., **Yamashiro, C.T.**, and Jakubowski, W. (1996). Comparison of conventional protozoal detection methods with the polymerase chain reaction (PCR). *Proceedings 1995 Water Quality Technol. Conf.*, pp. 1663-1671.
  20. Paszko-Kolva, C., Thio, C., **Yamashiro, C.T.**, and Danielson, R. (1995). Advantages of the polymerase chain reaction for the rapid detection of *Legionella* species during outbreak investigations. *Microbiol. Eur.* *3*, 16-21.
  21. Centola, M., **Yamashiro, C.T.**, Martel, L.S., Royer, J.C., and Schmidhauser, T.J. (1994). A protocol guide for the *N. crassa* yeast artificial chromosome library. *Fungal Genet. Newsl.*, *41*, 23-33.
  22. Murayama, T., **Yamashiro, C.T.**, and Kore-eda, S. (1993). Genes related to regulation of conidial formation in *Neurospora crassa*. *Symp. Mycol. Soc. Japan*, 34-37.

23. **Yamashiro, C.T.**, Yarden, O., and Yanofsky, C. (1992). A dominant selectable marker that is meiotically stable in *Neurospora crassa*: the *amdS* gene of *Aspergillus nidulans*. *Mol. Gen. Genet.*, *236*, 121-124.
24. Royer, J.C. and **Yamashiro, C.T.** (1992). Generation of transformable spheroplasts from mycelia, macroconidia, microconidia, and ascospores of *Neurospora crassa*. *Fungal Genet. Newsl.* *39*, 76-79.
25. **Yamashiro, C.T.**, Kane, P.M., Wolczyk, D.F., Preston, R.A., and Stevens, T.H. (1990). Role of vacuolar acidification in protein sorting and zymogen activation: a genetic analysis of the yeast vacuolar H<sup>+</sup>-ATPase. *Mol. Cell. Biol.* *10*, 3737-3749.
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## POSTER ABSTRACTS

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### **INVITED SPEAKER (selected presentations)**

1. **Yamashiro, C.T.** "Molecular Diagnostics and Applied Projects", Precision Medicine World Conference, Mountain View, CA, January, 2017.
2. **Yamashiro, C.T.** "Diagnostics Authority and Biomedical Diagnostics", G2 Lab Institute, Washington DC, October, 2016.
3. **Yamashiro, C.T.** "Biomedical Diagnostics at ASU", G2 Lab Revolution, Chandler, AZ, April 2016.
4. **Yamashiro, C.T.** "You Don't Have to Be a Doctor or Scientist to Improve Medicine", BioBuzz (for children and families), Arizona Science Center, Phoenix, AZ, April 2013.
5. **Yamashiro, C.T.** "Enhancing Arizona's Clinical Research Enterprise", The International Entrepreneurs (TiE), Arizona Chapter meeting, Scottsdale, AZ, September, 2011.
6. **Yamashiro, C.T.** "The Center for Healthcare Innovation and Clinical Trials", Southwest Center for HIV/AIDS, Phoenix, AZ, June 2011.
7. **Yamashiro, C.T.** "Leveraging Academic Partnerships to Grow the Clinical Research Industry" (Roundtable Leader), Partnerships in Clinical Trials conference, Phoenix, AZ, April 2011.
8. **Yamashiro, C.T.** "CONNECTR and the Center of Healthcare Innovation and Clinical Trials", Arizona Association of Community Healthcare Centers Workshop, Phoenix, AZ, March 2011.
9. **Yamashiro, C.T.** "Peptide Microarrays", AZBio Inside Look: Applied Microarrays, Tempe, AZ, July 2008
10. **Yamashiro, C.T.** "Miniaturization and Integration for Molecular Diagnostics", 1) Molecular Biotechnology Institute – Ministry of Public Health, 2) NECTEC – Thailand Science Park, and 3) Mahidol University (three separate talks), Bangkok, Thailand, December 2004.

11. **Yamashiro, C.T.**, Chui, B., Bonner, M.R., Gaskin, M., Gwynne, P., Winick, J., Silbergleit, A., and Ledesma, A. "Population Studies Using an Enhanced Version of the CodeLink P450 SNP Bioarrays Yield New and Novel Genotype and Haplotype Frequency Data", ALA LabAutomation 2004 Conference, San Jose, CA, February 2004.
12. **Yamashiro, C.T.**, Bonner, M.R., Chui, B., Gaskin, M., Gwynne, P., Ledesma, A., Peck, T., Peters, T., Silbergleit, A., Amjadi, M., and Feldman, R. "Genotyping and Haplotype Analysis Using the CodeLink™ Human P450 Bioarrays", Mutation Analysis Workshop, Palm Cove, Australia, July 2003.
13. **Yamashiro, C.T.** "Multiplex Genotyping using the CodeLink™ SNP Bioarray System", University of Pittsburgh Medical Center, April 2003.
14. **Yamashiro, C.T.**, Chui, B.A., Bonner, M.R., Luehrsen, K.R., Silbergleit, A., and Winick, J.D. "Versatile High-Throughput SNP Genotyping Using Motorola CodeLink™ SNP Bioarrays", smallTalk 2002 Conference, San Diego, CA, July 2002.
15. **Yamashiro, C.T.** "Applications of the Motorola CodeLink™ Human P450 SNP Bioarray", Karolinska University, Stockholm, Sweden. October 2001.
16. Pestova, E., Fermin, D.R., Cheah, T.C., **Yamashiro, C.T.**, Bonner, M.R., Chui, B.A., McWeeny, K., Gandhi, A., Hernandez, M., Goldsmith, J, and Gu, Z.J. "Population Studies Using Motorola CodeLink™ Human P450 SNP Bioarrays", Northwest Microarray Conference, Seattle, WA, August 2001.
17. **Yamashiro, C.T.** "SNPs and Chips in Practice", AACC San Diego Conference on SNPs and Chips in Molecular Diagnostics, Anaheim, CA, November 2000.
18. **Yamashiro, C.T.** "Microarrays and molecular diagnostics", Veterinary Medical School, Kansas State University, Manhattan, KS, April 1999.
19. **Yamashiro, C.T.** "Development of a novel PCR-based assay for *Cryptosporidium parvum*", Symposium on *Cryptosporidium*: Microbiology's New Enemy, 110<sup>th</sup> AOAC International Meeting, Orlando, FL, September 1996.
20. **Yamashiro, C.T.** "TaqMan™ Detection System for *Salmonella*, a novel PCR-based system for rapid and sensitive detection", Food Authenticity, Norwich, UK. September 1996.
21. **Yamashiro, C.T.**, Matsuura, M., Batt, C.A., and Paszko-Kolva, C. "A fluorogenic PCR-based detection system for pathogenic *Escherichia coli*", Northern California Section of the Society for Industrial Microbiology Meeting, San Francisco. May 1996.
22. **Yamashiro, C.T.** "A PCR-based system for *Salmonella* testing in foods", Institute of Food Technologists Workshop and Meeting, Fresno, CA, March 1996.
23. **Yamashiro, C.T.** "TaqMan™, a novel PCR-based system for rapid and sensitive detection of foodborne pathogens", Special Tutorial Session, American Society for Microbiology Annual Meeting, Washington D.C., May 1995.
24. **Yamashiro, C.T.** "Implementation of TaqMan: a novel PCR-based system for rapid detection of foodborne pathogens", Rapid Methods for Microbial Analysis Workshop, Guelph, Canada, March 1995.
25. **Yamashiro, C.T.** "Cloning and characterization of *rco-1* in *Neurospora crassa*", Fungal Genetics Conference, Asilomar, CA, March 1995.
26. **Yamashiro, C.T.** "Working with the *Neurospora* YAC library", Fungal Genetics Conference, Asilomar, CA, March 1995.

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