Richard J. Obiso, PhD, PMP
Curriculum Vitae
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I am an accomplished biotechnology and infectious disease research executive with over 25 years of experience. Currently serving as the Chief Scientist at the Johns Hopkins University Applied Physics Laboratory (JHU APL) Physical and Life Systems Branch, I specialize in leading complex, groundbreaking projects, and cross-functional teams on a global scale. My career has been marked by innovation, business development, collaboration, and a passion for pushing the boundaries of biotechnology research. Recognized for developing strategy and developing programs and a wide-ranging subject matter expert with a passion for leading, mentoring, and developing teams to exceed all expectations and find their genius.

Areas of Expertise

Project Management (PMP)
Business Development
Entrepreneurship
Product Development (IVD)
Product Development (Dietary Supplements and Drugs)
Research & Development (R&D)
Clinical & Scientific Methods
Leadership
Strategic Planning
Innovation
Data Analysis
Cross-functional Collaboration
Quality Assurance
Change Management
Strategic Partnerships
Problem Solving

Professional Experience

Chief Scientist, Physical and Life Systems Branch
Global Health Security Envisioned Futures Lead – Global Health Mission Area

Johns Hopkins University, Applied Physics Laboratory, Laurel, MD — 09/2022 – Present

As the Chief Scientist - provide strategic oversight and leadership for large teams of scientists and engineers over three different groups, (Applied Biology, Human Factors, and Chemical Systems). Provide guidance and scientific direction, ensuring research integrity, and spearheading innovations within their specialized domain, while collaborating with multidisciplinary teams to drive advancements; total R&D budget.

- *Leading the Health Security Envisioned futures for the Global Health Mission Area.*
- *Currently leading a team working on diverse project portfolio, including precision biosurveillance, a vector-borne disease autonomous collection and microbiome sequencing system.*
- *Currently leading an international team exploring Acute Anomalous Health Incidents.*
- *Led a team of to develop a prototype surveillance capability using multimodal data to enable time-critical biothreat emergence.*
- *Project Lead for research investment strategies using Large Language models and AI.*
- *Current Active Security Clearance – TS (DoD)*

Chief Scientific Officer/Owner (CSO)

Avila Scientific, LLC, Christiansburg, VA — 04/2006 – 09/2022

Directed operations and led research programs specializing in research and project management, R&D, and experimental design and analysis in biotechnology, microbiology (clinical and infectious disease), in vitro diagnostics, public health, and pharmaceutical industries. Focused on emerging biological threats and especially dangerous pathogens (EDP's such as B. anthracis*,* Brucella *species, CCHFv, African Swine Fever Virus (ASFv), Yersinia pestis, Francisella tularensis, Rickettsia species, Coxiella burnetii).*

- Wrote >75 research proposals over 13 years and expertly managed research projects and international research funds of up to $70M+, as well as developing and writing proposals and sourcing funding.
- Worked directly with the Department of Defense to lead research programs under the Cooperative Biological Engagement Program, Biological Threat Reduction Program, Cooperative Biological Research, and Threat Agent Detection and Response programs.
- Directed and mentored a team of 100+ scientists across multiple scientifically developing countries.
- Oversaw numerous global research and development projects in Armenia, Azerbaijan, Georgia, Kazakhstan, Kenya, Tanzania, Ukraine, US, and Uzbekistan.
- Contracted by the Department of Defense, Defense Threat Reduction Agency's Cooperative Biological Engagement Program, Biological Threat Reduction Program, Cooperative Biological Engagement Program, Biological Threat Reduction Program, Cooperative Biological Research, and Threat Agent Detection and Response programs for research and development projects in Georgia, Armenia, Azerbaijan, Kazakhstan, Uzbekistan, Ukraine, Kenya, Tanzania, and the US. Funded Programmatic efforts included:

Chief Scientist/Chief Operations Officer/Owner (CSO/COO)

Avila Herbals, LLC., Christiansburg, VA 03/2018 – 06/2022

Developed ground-breaking botanical-based pharmaceutical, dietary supplements, and wellness products to serve the core mission of improving lives and wellness around the globe. Created quality management document control, and inventory management systems. Secured a Pharmaceutical processors license in the state of Virginia for the cGMP facility.

- Designed and built an organic farm, multiple greenhouses, and cGMP manufacturing facility, and a botanical extraction laboratory leveraging proprietary supercritical CO_2 and cryo-ethanol techniques.
- Expert in the cannabinoid and dietary supplement space, including isolation and manipulation of compounds.
- Developed and grew team from 3 to 45+ in <6 months and managed a $7M+ annual budget.
- Secured 20+ new B2B clients, generating $1.5M+ in revenue within the first year.
- Commercialized 12 products (dietary supplements) in 18 months and secured 3 patents (pending).

Senior Manager, R&D, Project Manager, Principal Investigator, Principal Scientist

Digene Corporation, Gaithersburg, MD 08/2001 – 04/2006

Created and launched the R&D logistics group as well as developing a centralized system for safety, equipment, training, ordering, and receiving lab supplies, and water and temperature monitoring. Contributed expertise to multiple project teams across R&D. Collaborated in the design and product development for new diagnostic assays, including development/pre-approval phase and commercial/approved product projects. Coordinated with senior executive R&D management on all R&D activities. Negotiated with 3rd parties, brokering product development and confidentiality agreements. Directed cross-functional distributed teams of engineering, software personnel, scientists, and analysts.

- Wrote two research and development proposals, which were funded for >$6M.
- Built a Program Management Office (PMO) from the ground up, including planning, direction, and activity coordination, ensuring on time and within budget delivery of all project goals.
- Oversaw a portfolio of 35+ projects with an annual R&D budget of $18M.
- Trained on ISO 17025, ISO 13485, ISO 9001
- Developed and played a vital role in the commercialization of the HPV genotyping test (HPV 16/18), the HPV Sample Processing Instrument, and the HPV HC Express Array Kit (microarray using RNA:DNA hybrids).
- Managed research forecasting, 10Q SEC reports, project status reports, and financial spend rates.
- Spearheaded development efforts for Clinical Specimen Preparation Processor coordinating with KMC Systems (equipment developer) to design and develop of an automated *in vitro* diagnostic clinical processing instrument.
- Led and completed 6 projects and multi-departmental project teams, delivering 17 Invited talks, posters, or presentations, 3 Peer reviewed publications, and 1 patent. Received $6,026,000 from 2 grants (proposal writer through program management), including $3,905,000 from KMC Systems and $2,121,000 from the Bill Gates Foundation (START) and PATH. Commercialized 3 Products.

Research Scientist, Project Manager

IGEN, Inc., Gaithersburg, MD 06/2000 – 08/2001

Led and developed "PATHIGEN" products to detect pathogenic bacteria that cause food-borne gastrointestinal disease through the entire product-development life cycle, from original concept and strategic marketing to research and development, to product development, and product launch. Delivered 6 Invited technical talks, posters, or presentations. Commercialized 5 products. Licensed 1 product: Antibodies licensed to Bio-Rad for western blot detection of PRPsc (Mad Cow). ISO 17025, ISO 9001.

Post-Doctoral Research Scientist, Project Manager

Los Alamos National Laboratory (LANL), Los Alamos, NM 06/1997 – 08/1998

Designed recombinant bacteriophage to contain the genes for green fluorescent proteins or luciferase to develop specific and novel 'living' biological detectors for *Bacillus anthracis*. Developed a Real-Time bacterial endospore germination assay to detect *Bacillus* sp. and *Clostridium* sp. Spore germination. Served as a research collaborator to four different research groups dealing with protein purification, enzyme kinetics, enzyme reaction mechanisms, and site-directed mutagenesis of halo-alkane dehalogenase of bacterial species for bioremediation development work. Achieved 1 peer-reviewed publication and 1 patent and delivered 3 invited talks, posters, or presentations. Wrote a research proposal on engineering bacteriophage to become novel detectors of pathogens; received $120,000 from the DOE/Laboratory Directed Research Development (LDRD)

Graduate Research Scientist

Fralin Biotechnology Center, Virginia Tech, Blacksburg, VA 07/1993 – 06/1997

Designed and conducted experiments for the purification and molecular analysis of the *B. fragilis* toxin, a metalloproteinase. Utilized most protocols and techniques in protein biochemistry, including: biochemical tests, enzyme assays, enzyme kinetics, protein purification (FPLC and chromatography), protein electrophoresis (polyacrylamide and capillary electrophoresis), antibody production, two-dimensional immuno-gel electrophoresis, and ELISA. Utilized protocols involving molecular biology, PCR, and recombinant DNA. Performed animal surgeries, animal assays, and developed animal models to determine the action of the *B. fragilis toxin*, *Clostridium difficile*, and other toxins. Worked with all levels of radioactivity. Managed and maintained a cell culture laboratory used by up to twelve researchers, as well as performed experiments for analysis of toxin – epithelial cell interactions. Taught Biotechnology Applications (BIOL 4784) for 2 semesters. Taught Microbiology laboratory for 4 semesters.

Research Scientist

TechLab, Inc., Blacksburg, VA 01/1993 – 12/1994

Produced, purified, and characterized Toxin A and Toxin B from Clostridium difficile, as well as other bacterial toxins for sale and research using cGMP and cGLP. Produced, purified, and characterized antibodies (polyclonal and monoclonal) to Toxin A and Toxin B from Clostridium difficile, as well as other bacterial toxins for sales and research.

Laboratory Coordinator and Tutor

Sussex County Community College, Sussex, NJ 06/1989 – 08/1990

Organized Microbiology and Chemistry laboratory for faculty reaching courses and laboratories. Tutored students in Algebra I and II, Writing Composition, English I and II, Trigonometry, Biology, Microbiology, and General Chemistry.

Teaching Experience

Assistant Professor of Biochemistry and Microbiology

East Tennessee State University, Department of Health Sciences, Johnson City, TN 08/1998 – 06/2000

- Taught ~4 undergraduate and graduate courses each semester in Bacterial Physiology. Biochemistry, Biotechnology, and General Microbiology.
- Conducted research with 2 Ph.D. faculty members plus 3 graduate and 5 undergraduate students, serving as principal investigator. This included writing several research proposals to fund this research
- Served as Research Collaborator, Quillen VA Medical Center, Microbiology and Biochemistry.
- Research bacterial toxin's mechanism of action, neonatal necrotizing enterocolitis and rapid bacterial detection assays. Delivered 15 Invited talks, posters, or presentations, received $111,000 across 4 grants, including the Instructional Development Grant at ETSU ($31,000 for 1 year), the Research Development Grant at ETSU ($60,000 for 1 year), the ETSU faculty student collaborative research ($10,000 for 1 year), and the ETSU small grant ($10,000 for 1 year).

Additional Teaching Experience

- Adjunct Faculty, Louisiana State University, Department of Pathobiological Sciences, Baton Rouge, LA, 2009 – 2015
- Adjunct Faculty, New River Community College, Dublin, VA, 2007 – 2010
- Visiting Scientist, Division of Bacteriology and Toxinology, USAMRIID, Frederick, MD, 1998, 2001
- Visiting Scientist, Department of Neurology, Imperial College, and London, UK, 2000 – 2001
- Adjunct Faculty, Department of Microbiology, East Tennessee State University, Johnson City, TN, 1998 – 2000
- Adjunct Faculty, Department of Clinical Nutrition, East Tennessee State University, Johnson City, TN, 1998 – 2000

Independent Consulting Experience

- **Qiagen (as a consultant):** Product Development for invitro diagnostics development and validation protocols for Instrument Systems and real-time PCR detection of pathogens.
- **IBA Molecular (as a consultant):** Quality management and validation activities for radio-labeled pharmaceuticals.
- **VT, Virginia Bioinformatics Institute:** synthetic biology DNA sequence database.
- **VT, Virginia Bioinformatics Institute:** collaborative internet portal for research group collaboration.
- **VT Physics Department (as a collaborator):** Development of a fiber-optic based bio-detector for the detection or prostate-specific antigen and especially dangerous pathogens (EDPS), this included writing and winning a grant proposal and SBIR development.
- **Prime Photonics (as a consultant):** development of product verification and validation and marketing plans for Phase I and II SBIR funded projects (this included proposal writing and implementation of research).
- **ProChem, Inc (as a Director of Analytical Sciences):** Developed and implemented ISO 9001 and ISO 17025 quality systems. Implemented and trained on Analytical Laboratory System, development, and set-up of BSL2 Microbiology laboratory.

- **Luna Innovations (as a Director of Life Sciences):** Managed and conducted contract research in the biological and microbiological fields. Developed new research technology in microbial decontamination, fluorescence, diagnostics, and detection systems for bacteria, specific proteins, and DNA. Wrote research proposals and received 4 grants worth $363,500 total, including $43,000 from the Institute for Defensive Homeland Security, CIT, Collaborative Research to develop detectors to Biothreat agents and $200,000 from the Institute for Defensive Homeland Security, CIT, Collaborative Research to develop detectors to Biothreat agents.

Other Experience

Obiso Company, LLC: Whitebarrel Winery, Christiansburg, Virginia — 10/2007 – 06/2022

Whitebarrel Winery was a farm winery in Christiansburg, Virginia producing 5,000 cases of wine annually. Whitebarrel Winery had a tasting room, distribution channels, 15 acres of vineyards, and a full manufacturing and production facility. Whitebarrel Winery also operates restaurant to support winery operations.

- Virginia Food Safety Manager Certified, Food Safety Management Professional 1/2011-01/2022 (license, FMP certification)
- TIPS (Training for Intervention Procedures) Alcohol training Manager Certified Trainer 03/2010 - -6/202
- Private Applicator Pesticide Certified Trainer (10/2007 – 06/2022)
- Winemaker > 500 medals
- Managing all restaurant operations, leading chef teams, and cooking at special events from 2006 to 2022.
- Served as head chef for major events, guest chef in various restaurants, specializing in Italian, Mediterranean, and eastern European cuisines.

Education and Credentials

Doctor of Philosophy in Biochemistry and Anaerobic Microbiology — 07/1993 – 06/1997

Virginia Tech, Department of Biochemistry and Anaerobic Microbiology, Blacksburg, VA
Dissertation title: Characterization and molecular analysis of the *Bacteroides fragilis* enterotoxin, fragilysin

Bachelor of Science in Biology (Microbiology, Chemistry, Biochemistry Minors) — 08/1990 – 06/1993

Virginia Tech, Department of Biological Sciences, Blacksburg, VA

Biological Sciences, — 08/1989 – 08/1990

Sussex County College, Newton, NJ

Publications, Book Chapters, Proceeding Papers & Abstracts

Note: this list does not include >200 invited talks, posters, and presentations related to wine making, building a winery, and visiting lectureships at Virginia Tech, UC Davis, and Appalachian State University related to the winery business.
Note: this list does not include > 500 abstracts, posters, and talks given under the BTRP/CBEP program in Georgia and Armenia as a ghost writer.

1. **Obiso, R**. Antadze, I., Gunia S, Balarjishvili N, and Kutateladze. The bacteriophage of Francisella tularensis. Bacteriophage. (In review) 2022.
2. Sukhiashvil, R.i, Ekaterine Zhgenti, Ekaterine Khmaladze, Irma Burjanadze, Paata Imnadze, Ju Jiang, Heidi St. John, Christina Farris, Theresa Gallagher, **Obiso, R**, Allen L. Richards. "Identification, Distribution, and Prevalence of Tick-borne Spotted Fever Group Rickettsiae in Georgia". Tick and Tick-borne Diseases 11 (5), 101470, 2020
3. Sidamonidze K, Su W, Zhgenti E, Buyuk F, Sahin M, Trapaidze N., P. Imnadze P, Nikolich MP, **Obiso** R and Kotorashvili A. 2017. Molecular Typing of Brucella Species Strains from Georgia and Turkey. J. Bacteriology and Mycology. 2017; 4(3): 1054.
4. Khmaladze, E., Su., W, Zghenti, E., Buyuk F., Sahin, M., Nicolich, MP, L. Baille, R. **Obiso**, and A. Kotorashvili. Molecular Genotyping of *Bacillus anthracis* strains from Georgia and Northeastern Turkey. 2017. Journal of Bacteriology and Mycology. 4(3): 1053.
5. **Obiso**, R. Antadze, I., Gunia S, Balarjishvili N, and Kutateladze. The bacteriophage of *Francisella tularensis*. Bacteriophage. In review. 2018.
6. M. Roena Sukhiashvili, Ekaterine Zhgenti, Ekaterine Khmaladze, Irma Burjanadze, Paata Imnadze, Ju Jiang, Heidi St. John, Christina Farris, Theresa Gallagher, **Obiso**, Allen L. Richards. 2017. Identification, Distribution, and Prevalence of Tick-borne Spotted Fever Group Rickettsiae in Georgia. Tick and Tick-borne Diseases. 2018 In press
7. K. Sidamonidze, W. Su, E. Zhgenti, F. Buyuk, M. Sahin, N. Trapaidze, P. Imnadze, M. P. Nikolich, R. **Obiso**, and A. Kotorashvili. 2017. Molecular typing of Brucella species strains from Georgia and Northeastern Turkey. Journal of Bacteriology and Mycology 4(3) 1-8.
8. **Khmaladze E, Su W, Zghenti E, Buyuk F, Sahin M, Nicolich MP, Baillie L, Obiso R and Kotorashvili A**. 2017. Molecular typing of *Bacillus anthracis* species strains from Georgia and Turkey. Journal of Bacteriology and Mycology 4(3) 1-8.
9. Antadze I, Dadunashvili M, Burbutashvili T, Gunia S, Balarjishvili N, Tevdoradze E, Pataridze T, **Obiso** R, Hagius S, Elzer P and Kutateladze M. **2017.** Diversity of Phage-Host Specificity in Brucella Phage. Journal of Bacteriology and Mycology. 4(2): 1-8.
10. Marco De Nardi , Anaïs Léger, Tatul Stepanyan, Bagrat Khachatryan, Talgat Karibayev, Igor Sytnik, Samat Tyulegenov, Assel Akhmetova, Serhiy Nychyk, Mykola Sytiuk, Oleg Nevolko, Roman Datsenko, Tengiz Chaligava, Lasha Avaliani, Otar Parkadze, Lena Ninidze, Natia Kartskhia, Tsira Napetvaridze, Zviad Asanishvili, Demna Khelaia, Ioseb Menteshashvili, Meruzhan Zadayan, Lyudmila Niazyan, Nataliya Mykhaylovska, Bradford Raymond Brooks, Gulnara Zhumabayeva, Saltanat Satabayeva, Magda Metreveli, Theresa Gallagher, and **Richard Obiso.** 2017. Implementation of a Regional Training Program on African Swine Fever as Part of the Cooperative Biological Engagement Program across the Caucasus Region. Frontiers in Veterinary Medicine, Curriculum, Instruction, and Pedagogy. Vol 4, article 164 (1-11).

11. Nozadze M, Zhgenti E, Meparishvili M, Tsverava L, Kiguradze T, Chanturia G, Babuadze G, Kekelidze M, Bakanidze L, Shutkova T, Imnadze P, Francesconi SC, **Obiso** R, Solomonia R. 2015. Comparative Proteomic Studies of *Yersinia pestis* Strains Isolated from Natural Foci in the Republic of Georgia. Front Public Health. 2015 Oct 16; 3:239.
12. **Obiso, R**., 2012. Georgian Inspiration at Attimo (Whitebarrel). Virginia Wine Guide Online.
13. Zhgenti, E., N. Trapaidze, K. Sidamonidze, M. Zakalashvili, M. Ramishvili, L. Malania, M. Grdzelidze, T. Akhvlediani, I. Kokaia, L. Sanodze, T. Onashvili, E. Mamisahsvili, M. Nikolich, R. **Obiso**, R. Rivard, P. Elzer. 2011. "Multiple-locus variable-number tandem repeats analysis (MLVA)-based genetic diversity of human and animal Brucella isolates from Georgia" American Society for Tropical Medicine and Hygiene Annual Meeting, Poster LB-2138. December 2011.
14. **Obiso**, R., "Strengthening Global Health through Capacity Building under the Cooperative Biological Engagement Program". 2011, Session Chair. Chemical and Biological Defense Science and Technology Conference, DTRA, Las Vegas, NV, November 2011.
15. **Obiso**, R., "Animal Health Research Projects in Georgia". 2011. Chemical and Biological Defense Science and Technology Conference, DTRA, Las Vegas, NV, November 2011.
16. **Obiso**, R., "Capacity Building and Establishing Sustainable Research Programs in Georgia". 2011.
17. Chemical and Biological Defense Science and Technology Conference, DTRA, Las Vegas, NV, November 2011.
18. Janelidze N, Jaiani E, Lashkhi N, Tskhvediani A, Kokashvili T, Gvarishvili T, Jgenti D, Mikashavidze E, Diasamidze R, Narodny S, **Obiso** R, Whitehouse CA, Huq A, Tediashvili M. **2011**. Microbial water quality of the Georgian coastal zone of the black sea. Mar Pollut Bull. Mar;62(3):573-80
19. Zhgenti, G. Chanturia, R. Jashi, M. Kekelidze, **R. Obiso,** S.C. Francesconi, L. Bakanidze, N. Tsertsvadze. **2010**. Rapid Identification of Atypical *Y. pestis* Strains Isolated in Natural Foci of Georgia. Yersinia 2010: 10th symposium on Yersinia, October 2010, Recife, Brazil.
20. Antadze, T. Burbutashvili, S. Gunia, M. Dadunashvili, N. Balarjishvili, T. Patarize, P. Elzer, **R. Obiso**, M. Kutateladze. **2010**. Antibiotic- and phage susceptibility of Brucella bacterial strains from the Eliava Institute collection. American Society for Microbiology, 2nd ASM Conference on Antimicrobial Resistance in Zoonotic Bacteria and Foodborne Pathogens in Animals, Humans and the Environment. June 2010, Toronto Canada.

21. Kutateladze, I. Antadze, T. Burbutashvili, S. Gunia, M. Dadunashvili, N. Balarjishvili, T. Pataridze, and **R. Obiso. 2010.** *Characterization of bacteriophages against Brucella species. Viruses of Microbes Conference. Institute Pasteur, Paris, France.*
22. Imnadze, P., N. Tsertsvadza, L. Bakanidze, S. Tsanava, Z. Safarova, N. Bamabishvili, T. Onashvili, **R. Obiso**, and M. Zakareshvili. **2010**. Ecology, Genetic Clustering, and Virulence of Major Bacterial and Viral Pathogens in the Republic of Georgia, ASM Biodefense Annual Meeting, Baltimore, MD
23. Imnadze, P., S. Tsanava, G. Katsitadze, L. Malania, N. Tsertsvadze, S. Francesconi, **R. Obiso**, and L. Bakanidze. **2009**. *B. anthracis* Ecology and Infection in Georgia. Bacillus ACT Meeting, Santa Fe, NM
24. MD Akhedova, OS Kasimov, UN Imomaliev, AV Khodiev, MJ Nikolich, DV Clarke, **R. Obiso**, and PH Elzer. **2009**. Brucellosis in Endemic Regions of Uzbekistan. 2009.
25. Onashvili, T., M. Nikolaishvili, M. Zakareshvili, I. Beradze, M. Donduashvili, M. Kokhredize, T. Tighilauri, K. Goginashvili, G. Osiashvili, **R. Obiso**, P. Elzer. **2009**. Clinical, Epidemiological, and Laboratory based assessment of Brucellosis in Georgia (poster presentation). CRAWD Brucellosis section meeting and conference. Chicago, Il.
26. Kutateladze, M., **R. Obiso**, I. Antadze, T. Burbutashvili, S. Gunia, M. Dadunashvili, N. Balarjishvili, and T. Pataridze. **2009**. Characterization and Hose Dependent modulation of bacteriophage in Brucella species. (poster presentation). CRAWD Conference of Research Workers of Animal Disease Annual Meeting, Chicago, Il.
27. Belcher, N.B. and **R.J. Obiso**, **2007**. Bacteriophage uses to decontaminate food (poster presentation). ISOPOL XVI: 16th International Symposium on Problems of Listeriosis, Savannah, Georgia.
28. **Obiso, R**., and A. Lorincz. **2005/2006**. Digene Corporation VIP lecture series, "Specimen Preparation System". 6 lectures on clinical specimen preparation, processing, and automation. Gaithersburg, MD
29. **Obiso, R**., and A. Lorincz. **2004**. Digene Corporation Company Profile. Pharmacogenomics. 5(1):129-32.
30. **Obiso, R.J., Jr., 2002**. Microbial Genomics and novel antibiotics. Drug Discovery and Development. 2(6):6.
31. **Obiso, R.J., Jr., 2002**. A novel approach to detecting gene expression. Genomics and Proteomics. 2(3):46-47.
32. **Obiso, R.J**., S. Bingham, C. Strange, J. Zakel, J. Hernandez, D. Seyfried, and J. Lazar. **2002**. The HC *Express*Array Kit can be used in conjunction with RNA amplification protocols to detect RNA from limiting sources (poster presentation). Biomolecular Technologies: Tools for Discovery in Proteomics and Genomics. Austin, TX.
33. **Obiso, R.J.,** S. Bingham, C. Strange, J. Zakel, J. Hernandez, D. Seyfried, and J. Lazar. **2002**. The HC *Express*Array Kit can provide sensitive and reproducible gene expression detection on DNA microarrays (poster presentation). Biomolecular Technologies: Tools for Discovery in Proteomics and Genomics. Austin, TX.
34. **Obiso, R.J**., S. Bingham, C. Strange, J. Zakel, and D.M. Seyfried. **2002**. Hybrid Capture technology applied to DNA microarrays. Genome Tri-Conference (poster presentation). San Jose, CA.
35. **R. Obiso**. George Washington University, Genomics and Proteomics Interest Group. September **2002**. Gene Expression and Hybrid Capture Technology. Washington, D.C.
36. **R. Obiso**. Virginia Tech, July **2002**. "A novel non-labeling protocol for the hybridization and direct detection of gene expression on microarrays", Blacksburg, VA. Oral presentation and Wet-laboratory demonstrations
37. **R. Obiso**. Bio-molecular Technologies: Tools for Discovery in Proteomics and Genomics. March **2002**, "A novel non-labeling protocol for the hybridization and direct detection of gene expression on microarrays", Austin, TX.
38. **R. Obiso**. Institute for Systems Biology, March **2002**. "A novel non-labeling protocol for the hybridization and direct detection of gene expression on microarrays", Seattle, WA. Oral presentation and Wet-laboratory demonstrations
39. **R. Obiso**. University of Washington, March **2002**, "A novel non-labeling protocol for the hybridization and direct detection of gene expression on microarrays", Seattle, WA Oral presentation and Wet-laboratory demonstrations
40. **R. Obiso**. University of California at San Francisco Gladstone Institute for Cardiovascular Disease, February **2002**, "A novel non-labeling protocol for the hybridization and direct detection of gene expression on microarrays", San Francisco, CA
41. **R. Obiso**. Stanford University, February **2002**, "A novel non-labeling protocol for the hybridization and direct detection of gene expression on microarrays", Stanford, CA
42. **R. Obiso**. Ernest Orlando Lawrence Berkley National Laboratory, February **2002**, "A novel non-labeling protocol for the hybridization and direct detection of gene expression on microarrays", Berkley, CA
43. **R. Obiso**. Cambridge Health-Tech Institute's Gene Quantification Conference, February **2002**, "Quantitative microarray analysis by hybrid capture", San Diego CA
44. **R. Obiso**. The Institute for Genomic Research, January **2002**, "Quantitative microarray analysis using hybrid capture", Rockville, MD
45. **R. Obiso**. George Mason University, November **2001**, "Bioterrorism and the future of biological threats", Alexandria, VA
46. **R. Obiso.** GlaxoSmithKline, October **2001**, "Quantitative microarray analysis using hybrid capture", Philadelphia, PA
47. **R. Obiso**. Digene Corporation, "Detection of bacteria and their toxins". July **2001**, Clinical Sciences, Gaithersburg, MDLazar, J., S. Landry, C. Strange, J. Zakel, **R. Obiso**, and D. Seyfried. **2001**. Quantitative microarray analysis by Hybrid Capture (poster presentation). Chips-to-Hits. San Diego, CA.**Obiso, R.J**. and J.

White. **2001**. Electrochemiluminescent detection of bacterial pathogens from environmental surfaces (poster presentation). International Association of Food Protection. Minneapolis, MN

50. **Obiso, R.J**., and J. White. **2001**. Novel biosensors for the rapid detection of Campylobacter in various food matrices (poster presentation). International Animal Agriculture and Food Science Conference. Indianapolis, IN
51. **Obiso, R.J**. and J. White. **2001**. Electrochemiluminescent detection of bacterial pathogens from human fecal samples (poster presentation). American Society for Microbiology 101st annual meeting. Orlando, FL.
52. Mann, R., M.V. Whitcher, D. Bharti, and **R.J. Obiso. 2000**. The role of nutrition and antibiotic administration in the development of intestinal bacterial flora in the premature infant (poster presentation). Biomedical Engineering Conference, Knoxville, TN.
53. Mann, R., M.V. Whitcher, D. Bharti, and **R.J. Obiso. 2000**. The role of nutrition and antibiotic administration in the development of intestinal bacterial flora in the premature infant (poster presentation). ETSU Student Research Forum. Johnson City, TN.
54. Whitcher, M.V., R. B. Mann, L. Powers, and **R. J. Obiso. 2000**. Isolation and characterization of enterotoxigenic *Bacteroides fragilis* from extraintestinal isolates (poster presentation 138/B). American Society for Microbiology Annual Meeting. Los Angeles, CA.
55. Mann, R., M.V. Whitcher, D. Bharti, and **R.J. Obiso.** 2000. The role of nutrition and antibiotic administration in the development of intestinal bacterial flora in the premature infant (poster presentation). Biomedical Engineering Conference, Knoxville, TN.
56. Mann, R., M.V. Whitcher, D. Bharti, and **R.J. Obiso.** 2000. The role of nutrition and antibiotic administration in the development of intestinal bacterial flora in the premature infant (poster presentation). ETSU Student Research Forum. Johnson City, TN.
57. Whitcher, M.V., R. Mann, and **R.J. Obiso**. 1999. Neonatal necrotizing enterocolitis in preterm infants: a nutritional and microbiological approach. Presentation of Independent Study results to the Departments of Health Sciences and Applied Human Sciences.

58. Whitcher, M.V., R. Mann, R. Joshi, and **R.J. Obiso**. 1999. Isolation and characterization of enterotoxigenic *Bacteroides fragilis* from human clinical samples. The Kentucky-Tennessee Regional American Society for Microbiology meeting. Abstract/Poster. Bowling Green, KY
59. Mann, R.B., D. Pierre, N. Lizotte, **R.J. Obiso, Jr**., and L. Powers. **2000**. Incidence of antibiotic resistance, gelatinase, and cytolysin among *Enterococcus faecalis* isolated from human clinical samples and municipal wastewater (poster presentation). American Society for Microbiology General Meeting, Los Angeles, CA.
60. **R. Obiso**. Imperial College, St. Mary's Campus. "Electrochemiluminescence to detect bacterial pathogens". September **2000**, MRC Prion Unit, London, UK.
61. **R. Obiso**. IGEN International, "Follow your 'Gut' reactions: Intestinal bacterial toxins: mechanism of action", Industrial Products Group, March **2000**, Gaithersburg, MD
62. **R. Obiso**. Bristol Myers Squibb, "Follow your 'Gut' reactions: Intestinal bacterial toxins: mechanism of action", Antimicrobial Resistance Research and Development Group. Department of Biological Sciences, March **2000**, Wallingford, CT
63. **R. Obiso**. East Tennessee State University, Microbiology Club, "Careers in Biotechnology", January **2000**, Johnson City, TN
64. R. **Obiso**, East Tennessee State University, "Bacterial toxins: mechanism of action", Department of Biological Sciences, January 1999, Johnson City, TN
65. Walker, E., and R.J. **Obiso**, Jr. 1999. Localization of the mature *Bacteroides fragilis* toxin in membranes (poster presentation). American Society for Microbiology Regional Meeting (Kentucky-Tennessee), Bowling Green, KY.
66. Whitcher, M.V., R. Joshi, R. Mann, and R.J. **Obiso**, Jr. 1999. Isolation and characterization of enterotoxigenic *Bacteroides fragilis* from human clinical samples (poster presentation). American Society for Microbiology Regional Meeting (Kentucky-Tennessee), Bowling Green, KY.
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68. R. **Obiso**, East Tennessee State University, "Bacterial toxins: mechanism of action", Department of Chemistry, November 1998, Johnson City, TN.
69. R. **Obiso**, East Tennessee State University, *Bacteroides fragilis* toxin: mechanism of action" , April 1998, Johnson City, TN.
70. R. **Obiso**, Los Alamos National Laboratory, "A Guide to protein purification", March 1998, Los Alamos, NM.
71. **Obiso**, R.J., Jr., T.J. Herdendorf, L.A. Vanderberg. 1998. Development of a real-time bacterial endospore viability detection system (poster presentation). 98th American Society for Microbiology General Meeting. Atlanta, GA.
72. **Obiso**, R.J., Jr. and T.D. Wilkins. The *Bacteroides fragilis* toxin, fragilysin. *In*, F. Woessner and A. Barrett (eds.), Handbook of Proteolytic Enzymes (ISBN: 0120793709), Chapter 308, Academic Press Publishing Co., London. – June 1998.
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74. **Obiso**, R.J., Jr., D. Bevan, and T.D. Wilkins. 1997. Molecular modeling and analysis of the *Bacteroides fragilis* toxin. Clinical Infectious Diseases. 9(S2): 153-155.
75. **Obiso**, R.J., Jr., A.O. Azghani, and T.D. Wilkins. 1997. *Bacteroides fragilis* enterotoxin disrupts the tight junctions of epithelial monolayers. Infection and Immunity. 65(4): 1431-1439.
76. Lawrence, J.P., L. Brevetti, R.J. **Obiso**, Jr., T.D. Wilkins, K. Kimura, R. Spoer. 1997. Effects of epidermal growth-factor and *Clostridium difficile* toxin-B in a model of mucosal injury. Journal of Pediatric Surgery. 32(3): 430-433.
77. R. **Obiso**, Los Alamos National Laboratory, "*Bacteroides fragilis* toxin: mechanism of action", April 1997, Los Alamos, NM.
78. R. **Obiso**, California Polytechnic State University, "Anaerobic Diarrheal Pathogens, March 1997, San Luis Obispo, CA.
79. R. **Obiso**, Kenyon State College, "*Bacteroides fragilis* toxin: mechanism of action", 1997. Kenyon, OH
80. R. **Obiso**, Kenyon State College, "Prokaryotic gene regulation, an overview", March 1997, Kenyon, OH.
81. R. **Obiso**, Emporia State University, Department of Biology, "Intestinal anaerobic bacteria and the toxins they produce", February 1997, Emporia, KS.
82. **Obiso**, R.J., Jr., D. Bevan, and T.D. Wilkins. 1996. Topological and sequential relations between the *Bacteroides fragilis* enterotoxin with *Crotalus adamanteus* adamalysin II: the metzincin family of zinc metalloproteinases (oral presentation 3/10). Congress on Anaerobic bacteria and Anaerobic Infections. Chicago, IL.
83. **Obiso**, R.J., Jr., A.O. Azghani, and T.D. Wilkins. 1996. *Bacteroides fragilis* enterotoxin perturbs the paracellular barrier function on cultured epithelial monolayers from various cell lines (poster presentation abstracts 205). 96th American Society for Microbiology General Meeting. New Orleans, LA.
84. Brevetti, L., R.J. **Obiso**, Jr., T.D. Wilkins, and J.P. Lawrence. *Clostridium difficile* toxin A: effects on mucosal permeability. (poster presentation abstract 28). 1996 American College of Surgeons Committee on Trauma Symposium. Iowa City, Iowa.
85. Brevetti, L., R.J. **Obiso**, Jr., T.D. Wilkins, and J.P. Lawrence. 1996. The effects of *Clostridium difficile* Toxin B on mucosal permeability (poster presentation). 1996 American Gastroenterological Association Annual Meeting. Westerville, Ohio.
86. Brevetti, L., R.J. **Obiso**, Jr., T.D. Wilkins, and J.P. Lawrence. 1996. The effect of *Clostridium difficile* Toxin-B on mucosal permeability. Gastroenterology 110(4): 873-874.
87. **Obiso**, R.J., Jr., R.L. Van Tassell, D.M. Lyerly, and T.D. Wilkins. 1995. Proteolytic activity of the *Bacteroides fragilis* enterotoxin causes fluid secretion and intestinal damage *in vivo*. Infection and Immunity. 63(10): 3820-3826.
88. Moncrief, J.S., R.J. **Obiso**, Jr., L.A. Barroso, J.J. Kling, R.L. Wright, D.M. Lyerly, R.L. Van Tassell, and T.D. Wilkins. 1995. The enterotoxin from *Bacteroides fragilis* is a metalloprotease. Infection and Immunity. 63(1): 175-181.

89. R. **Obiso**, Virginia Tech, Department of Biochemistry, "What Do I Do After My Undergraduate Degree in Biochemistry?" November 1996 and 1997, Blacksburg, VA.
90. R. **Obiso**, Virginia Tech Phi Sigma Honors Society, "Graduate school – to go or not to go – and, what to expect". October 1994, 1995, and 1996, Blacksburg, VA.
91. **Obiso**, R.J., Jr., R.L. Van Tassell, D.M. Lyerly, and T.D. Wilkins. 1995. The effects of the *Bacteroides fragilis* enterotoxin on lamb and rabbit small and large intestine (poster presentation abstracts 185). 95th American Society for Microbiology General Meeting. Washington, DC.
92. **Obiso**, R.J., Jr. 1995. Bacterial ADP-Ribosyltransferases: toxins and related proteins that effect GTP binding proteins (oral presentation). Department of Biochemistry and Anaerobic Microbiology, Virginia Tech.

Patents

- Method and compositions for coronavirus. 62/017263, 63/021512, 63/029530, 63/034800. Obiso, R.J., Jr. 2020.
- Method and compositions for treating viral infection.63/042656, 63/051576, PCT/US20/420099. Obiso, R.J., Jr. 2020.
- Extract containing Oleandrin and method of production thereof. 63/057727, 63/059776. Obiso, R.J., Jr. 2020.
- Sample Preparation System and Method for Processing Clinical Specimens: # 7,985,375, Obiso, R.J., Jr. 2011.
- Method for detecting bacterial pathogens using Electrochemiluminescence, #20030059839, Obiso, R.J., Jr. 2003.
- Method for rapid germination and real-time detection of bacterial spores, Patent: # 6,599,715, Obiso, R.J., Jr., et. al. 1998

Invention Disclosures

- 2024 – P07951, Novel Mosquito trapping system
- 2023 - P07416, GoFlsh, a Large Language Model (LLM) for Guided Health Research Investment
- 2023 - P07559, Graph Surfer: A Neo4J Chat Application using LLM's to fine tune Retrieval Augmented Generation (RAG) applications in Research Areas.
- 2022 - P07690, BIOME, Biological Threat Monitoring Environment
- 2022 - P07191, Precision Biosurveillance, creating a multi-modal mosquito surveillance system
- 2022 - P07192, Precision Biosurveillance, creation of a novel mosquito trapping system

Current & Recent Affiliations

- Editorial Board Member, InnoVationinfo, Future Research in Veterinary Science, 2018 – Present
- Member, Project Management Institute (PMI), 2003 – Present
- Member, American Society for Microbiology (ASM), 1990 – Present
- Member, American Society for Tropical Medicine and Hygiene (ASTMH) 2016 – Present
- Member, International Society for Infectious Disease, 2022-Present
- Board of Directors, Member, Virginia Wineries Association, 2014 – 2021
- Member, Montgomery County Planning and GIS, Agriculture District, 2007 – 2021

Honors & Awards

- Small Business of the Year, Attimo Winery, Montgomery County Chamber, VA, 2013
- Graduate Research Faculty Award, ETSU, 1998, 1999, 2000
- Instructional Development Award, ETSU, 1999
- Faculty Teaching Award. Department of Applied Human Sciences, ETSU, 1998
- LDRD Research Award, Los Alamos National Laboratory, 1997

Professional Development

- Strategic Thinking (2024)
- Storytelling (2024)
- Training TIPS (Training for Intervention Procedures), Trainer Certification: 2010-2022
- Project Management Professional, PMP, 2001-2003, 2015 - Present
- Food Safety Management Professional (FMP); 2010-2022
- Survival, Evasion, Resistance, and Escape (SERE 100): 2007-Present
- Dept of Defense / Dept of Army – antiterrorism training: 2007-Present
- Radiation Safety 3 day: 1997, 2006, 2008, 2014
- HazMat, 40h: 1997, 2008, 2016
- Risk Management, PATH-wise training of risk assessment and management. 2005, 2012, 2015
- Body Language and Psychological Profiling Training, 2005. 200 hour, 4-week course,
- Product Development and metrics in project lifecycle management. From Ideation to commercialization, 2- week course, 2004

- Fast and Flexible Product Development and Project Management, Product Development Instruction, streamlining development process, iterative processes, rolling wave, WBS, and co-localization, 2004. 2-week course
- Driving research and development to product development lifecycles, managing people, development variability, eliminating waste, risk assessment, 2003; 5-day course.
- AdvantEdge: Critical Thinking and Project Management in Research, Situational Review, Cause Analysis,
- Decision Making, Plan Analysis, Situation Review. 2003, 3-day course
- Grant Writing for NIH, R01, P19, U11 grants for NIH, 3-day course, 2003
- Planning Innovative Projects, How to build high performance teams, overall project planning, defining project goals and objectives, building accountability models, calculate project schedules, project management summary skills, DOE Sponsored, 2-week intensive training, 1998.
- Program Development and Proposal Writing, Preparing White Papers, proposals, budget planning, resource leveling, strategic planning, program development. DOE, 35 CEU's, 2-week course, 1998