

Andrea Ferreira-Gonzalez, PhD



Professor, Pathology
Director, Molecular Diagnostics Lab
Chair, Molecular Diagnostics Division
Department of Pathology
Virginia Commonwealth University
1994 - Present
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Andrea.Ferreira-Gonzalez@vcuhealth.org

Education

Graduate Education

PhD, Microbiology/Immunology
Graduate School of Arts and Science
George Washington University
Washington, DC
1994

MS, Clinical Biochemistry
School of General Chemistry
National University of Cordoba
Cordoba, Argentina
1985

Virginia Commonwealth University and Medical Center Appointments

Chair, Division Molecular Diagnostics
Professor of Pathology
Director Molecular Diagnostics Lab

Virginia Commonwealth University Service

2018-2019 VCU Genomics and Bioinformatics Task Force
2014-2015 VCU Faculty Senate Committee
2011-2015 VCU Promotion and Tenure Policy Review Committee
2010-2014 VCU School of Medicine, Faculty Grievance Committee, alternate
2009-present Department of Pathology, Executive Committee
2004-present Department of Pathology, Pathology Improvement Committee
2000-2015 VCU Internal Review Board

Professional Service

2015-present Professional Relations Committee, Chair. Association for Molecular Pathology (AMP)

2015-2020 Economic Affairs Committee Member. Association for Molecular Pathology (AMP)

2019-2024 Virginia Genomics Advisory Committee. Virginia Department of Health (VDH)

2004-present Molecular and Clinical Genetics Devices Panel of the Medical Devices Advisory Committee, Center for Devices and Radiological Health, FDA

2014- present Genomic Medicine Program Advisory Committee. US Department of Veterans Administration (VA).

2009-2018 Molecular Biology Education Committee. International Federation of Clinical Chemistry

2015-2017 Board of Directors. Association for Molecular Pathology (AMP)

2015-2017 Executive Committee. Association for Molecular Pathology (AMP)

2015-2017 Secretary Treasurer. Association for Molecular Pathology (AMP)

2001-2015 Professional Relations Committee, Chair. Association for Molecular

Pathology (AMP)

2007-2010 Secretary's Advisory Committee on Genetics, Health and Society Genetic Testing Oversight Task Force. Chair, Advisory Committee to Secretary of HHS

2006-2009 Secretary's Advisory Committee on Genetics, Health and Society. Member, advisory committee to Secretary of HHS

2006-2009 Personalized Healthcare Workgroup. Member, advisory committee to Secretary of HHS

2007 President. Association for Molecular Pathology (AMP)

2005-2008 Clinical Laboratory Improvement Advisory Committee (CLIAC). Member advisory committee to Secretary of HHS

2005-2006 Annual Meeting Organizing Committee 2006, American Association for Clinical Chemistry

2004-2005 Molecular Pathology Division, Treasurer. American Association for Clinical Chemistry (AACC)

2002- 2005 Molecular and Clinical Genetics Devices Panel of the Medical Devices Advisory Committee, Center for Devices and Radiological Health, FDA. Consultant

2002-2005 Subcommittee in Sequencing Methods (MM-9). National Committee for Clinical Laboratory Standards (NCCLS)

Editorial Advisory Boards

Journal Molecular Diagnostics. Timothy O'Leary Ed in Chief, 2007-2016

Journal Clinical Laboratory Analysis. R. McPherson, Ed in Chief, 1998-present

Recent Invited Presentations

Utility of Implementing Clinical NGS Assays as Standard of Care in Oncology.
Molecular Medicine Tri-Conference February 11-16, 2017, San Francisco, CA

Next Generation Sequencing: Clinical Laboratory Applications. AACC Middle East, Abu Dhabi, UE March 22-24, 2017

Practical Considerations for Realizing Precision Oncology in Clinical Laboratories. AACC Middle East, Abu Dhabi, UE March 22-24, 2017

Next Generation Sequencing in Clinical Practice. AACC Webinar May 17, 2017
Washington, DC

Practical Considerations for Realizing Precision Oncology in Clinical Laboratories.
AACC annual meeting, August 2, 2017 San Diego, CA

The State of Genomics Guided Clinical Decision Support, PMWC 2018, January
22-25, 2018, San Francisco CA

Molecular Diagnostics- Workshop on Principles and Practices MDx. International
Federation of Clinical Chemistry (IFCC), Martin, Slovakia, February 18-25, 2018

Next Generation Sequencing in Clinical Practice. The Best of AACC in the Middle
East. Abu Dhabi, United Emirates. March 22-24, 2018

Next Generation Sequencing in Clinical Oncology. The Best of AACC in the
Middle East. Abu Dhabi, United Emirates. March 22-24, 2018

Precision Medicine and Molecular Tumor Boards. Annual meeting German
Society Clinical Pathology. Mannheim, Germany. May 14-16, 2018

Quality Control in the era of Next Generation Sequencing. Annual meeting American Association of Clinical Chemistry. Chicago, US. August 2018.

Quality Control in the era of Next Generation Sequencing. Annual meeting American Association of Clinical Chemistry. Anaheim, CA, US. August 2019.

Precision Medicine: yesterday, today, and tomorrow. Annual meeting Brazilian Association of Laboratory Medicine. September 2019, Rio de Janeiro, Brazil.

Non-Invasive Prenatal Testing and its clinical implications. The Best of American Association of Clinical Chemistry in the Middle East. Dubai, United Emirates. October 2019.

Precision Medicine in clinical practice. The Best of American Association of Clinical Chemistry in the Middle East. Dubai, United Emirates. October 2019.

Molecular Diagnostics- Advanced Workshop on Principles and Practices MDx. International Federation of Clinical Chemistry (IFCC), Kuala Lumpur, Malaysia, January 31-February 10, 2020.

Molecular Point of Care Testing in Developing Countries. 110th Annual meeting USCAP. Los Angeles, CA. February 28-March 4, 2020.

Molecular Diagnostics- Workshop on Principles and Practices MDx. International Federation of Clinical Chemistry (IFCC). La Paz, Bolivia, March 1-9, 2020.

The Roadmap to Recognition of Molecular Professionals as Qualified Healthcare Professionals. Annual meeting Association for Molecular Pathology. Online meeting. November 2020.

Quality Control in the era of Next Generation Sequencing. Annual meeting American Association of Clinical Chemistry. Online meeting, US. December 2020.

Selected Publications

Ferreira-Gonzalez, A. Plasma PIK3CA mutation testing in advanced breast cancer patients for personalized medicine: A value proposition. *J Appl Lab Med.* 2020 Sep 1;5(5):1076-1089.

Gupta G, Yakubu I, Bhati C, Zhang Y, Kang L, Patterson AJ, **Ferreira-Gonzalez A**, Kumar D, Moinuddin I, Kamal L, King A, Levy M, Sharma A, Cotterell A, Reichman T, Khan A, Kimball P, Stiltner DR, Baldecchi N, Brigle N, Gehr T, Sterling RK. Ultra-short Duration Direct Acting Anti-Viral Prophylaxis to Prevent Virus Transmission from Hepatitis C Viremic Donors to Hepatitis C Negative Kidney Transplant Recipients. *Am J Transplant.* 2020 Mar;20(3):739-751

Finlay-Schultz J, Jacobsen BM, Riley D, Paul KV, Turner S, **Ferreira-Gonzalez A**, Harrell JC, Kabos P, Sartorius CA. New generation breast cancer cell lines developed from patient-derived xenografts. *Breast Cancer Res.* 2020 Jun 23;22(1):68.

Lynch syndrome-associated ultra-hypermuted pediatric glioblastoma mimicking a constitutional mismatch repair deficiency syndrome. Yang C, Austin F, Richard H, Idowu M, Williamson V, Sabato F, **Ferreira-Gonzalez A**, Turner SA. *Cold Spring Harb Mol Case Stud.* 2019 Oct 23;5(5). pii: a003863. doi: 10.1101/mcs.a003863. Print 2019 Oct.

Ferreira-Gonzalez A, Mardis ER. Precision oncogenomics. *Cold Spring Harb Mol Case Stud.* 2019 Apr 1;5(2).

Yan C, Turner SA, **Ferreira-Gonzalez A**. Lynch syndrome-associated ultra-hypermuted pediatric glioblastoma mimicking a constitutional mismatch repair deficiency syndrome. *Cold Spring Harb Mol Case Stud.* 2019 Oct 23;5(5).

Co-targeting BCL-2 and PI3K Induces BAX-Dependent Mitochondrial Apoptosis in AML Cells. Rahmani M, Nkwocha J, Hawkins E, Pei X, Parker RE, Kmiecik M, Levenson JD, Sampath D, **Ferreira-Gonzalez A**, Grant S. *Cancer Res.* 2018 Jun 1;78(11):3075-3086.

Co-targeting BCL-2 and PI3K Induces BAX-Dependent Mitochondrial Apoptosis in AML Cells. Rahmani M, Nkwocha J, Hawkins E, Pei X, Parker RE, Kmiecik M, Levenson JD, Sampath D, **Ferreira-Gonzalez A**, Grant S. *Cancer*

Res. 2018 Jun 1;78(11):3075-3086

Development and Validation of Targeted Next-Generation Sequencing Panels for Detection of Germline Variants in Inherited Diseases.

Santani A, Murrell J, Funke B, Yu Z, Hegde M, Mao R, **Ferreira-Gonzalez A**, Voelkerding KV, Weck KE. Arch Pathol Lab Med. 2017 Jun;141(6):787-797

Development and Validation of Clinical Whole-Exome and Whole-Genome Sequencing for Detection of Germline Variants in Inherited Disease.

Hegde M, Santani A, Mao R, **Ferreira-Gonzalez A**, Weck KE, Voelkerding KV. Arch Pathol Lab Med. 2017 Jun;141(6):798-805

Santani A, Murrell J, Funke B, Yu Z, Hegde M, Mao R, **Ferreira-Gonzalez A**, Voelkerding KV, Weck KE. Development and Validation of Targeted Next-Generation Sequencing Panels for Detection of Germline Variants in Inherited Diseases. Arch Pathol Lab Med. 2017 Jun;141(6):787-797.

Development and Validation of Targeted Next-Generation Sequencing Panels for Detection of Germline Variants in Inherited Diseases. Santani A, Murrell J, Funke B, Yu Z, Hegde M, Mao R, **Ferreira-Gonzalez A**, Voelkerding KV, Weck KE. Arch Pathol Lab Med. 2017 Jun;141(6):787-797.

Zhou L, Chen S, Zhang Y, Kmiecik M, Leng Y, Li L, Lin H, Rizzo KA, Dumur CI, **Ferreira-Gonzalez A**, Rahmani M, Povirk L, Chalasani S, Berger AJ, Dai Y, Grant S. The NAE inhibitor pevonedistat interacts with the HDAC inhibitor belinostat to target AML cells by disrupting the DDR. Blood. 2016 May 5;127(18):2219-30

Zhou L, Zhang Y, Chen S, Kmiecik M, Leng Y, Lin H, Rizzo KA, Dumur CI, **Ferreira-Gonzalez A**, Dai Y, Grant S. A regimen combining the Wee1 inhibitor AZD1775 with HDAC inhibitors targets human acute myeloid leukemia cells harboring various genetic mutations. Leukemia. 2015 Apr;29(4):807-18

Lyon E, Schrijver I, Weck KE, **Ferreira-Gonzalez A**, Richards CS, Palomaki GE. Molecular genetic testing for cystic fibrosis: laboratory performance on the College of American Pathologists external proficiency surveys; CAP/ACMG Biochemical and Molecular Genetics Committee. Genet Med. 2015 Mar;17(3):219-25

Abdul Razzaq B, Scalora A, Koparde VN, Meier J, Mahmood M, Salman S,

Jameson-Lee M, Serrano MG, Sheth N, Voelkner M, Kobulnicky DJ, Roberts CH, **Ferreira-Gonzalez A**, Manjili MH, Buck G, Neale MC, Toor AA. Dynamical System Modeling to Simulate Donor T Cell Response to Whole Exome Sequencing-Derived Recipient Peptides Demonstrates Different Alloreactivity Potential in HLA-Matched and-Mismatched Donor-Recipient Pairs. *Biol Blood Marrow Transplant*. 2015 Dec 11

Ferreira-Gonzalez A, Emmadi R, Day SP, Klees RF, Leib JR, Lyon E, Nowak JA, Pratt VM, Williams MS, Klein RD. Revisiting oversight and regulation of molecular-based laboratory-developed tests: a position statement of the association for molecular pathology. *J Mol Diagn*. 2014 Jan;16(1):3-6

Lianidou E, Ahmad-Nejad P, **Ferreira-Gonzalez A**, Izuhara K, Cremonesi L, Schroeder ME, Richter K, Ferrari M, Neumaier M Advancing the education in molecular diagnostics: the IFCC-Initiative "Clinical Molecular Biology Curriculum" (C-CMBC); a ten-year experience. *Clin Chim Acta*. 2014 Sep 25;436:5-8.

Sampson JK, Sheth NU, Koparde VN, Scalora AF, Serrano MG, Lee V, Roberts CH, Jameson-Lee M, **Ferreira-Gonzalez A**, Manjili MH, Buck GA, Neale MC, Toor AA. Whole exome sequencing to estimate alloreactivity potential between donors and recipients in stem cell transplantation. *Br J Haematol*. 2014 Aug;166(4):566-70

Rahmani M, Aust MM, Hawkins E, Parker RE, Ross M, Kmiecik M, Reshko LB, Rizzo KA, Dumur CI, **Ferreira-Gonzalez A**, Grant S. Co-administration of the mTORC1/TORC2 inhibitor INK128 and the Bcl-2/Bcl-xL antagonist ABT-737 kills human myeloid leukemia cells through Mcl-1 down-regulation and AKT inactivation. *Haematologica*. 2015 Dec; 100(12):1553-63

Dumur CI, Almenara JA, Powers CN, **Ferreira-Gonzalez A**. Quality control material for the detection of somatic mutations in fixed clinical specimens by next-generation sequencing. *Diagn Pathol*. 2015 Sep 17; 10:169.