

CURRICULUM VITAE

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H-index: 109 (Google Scholar; as of 12/16/2025)

EDUCATION

1999, BS University of Pittsburgh at Johnstown (Biology)
2002, MS Vanderbilt University (Applied Statistics)
2004, PhD Vanderbilt University (Statistical Genetics)
Genetic Programming Optimized Neural Networks for Detecting Gene-Gene Interactions

PROFESSIONAL EMPLOYMENT

Academic Appointments

2004-2009 Assistant Professor
Department of Molecular Physiology & Biophysics
Vanderbilt University
2004-2011 Investigator
Center for Human Genetics Research
Vanderbilt University
2009-2011 Associate Professor with tenure
Department of Molecular Physiology & Biophysics
Vanderbilt University
2009-2011 Associate Professor, Secondary Appointment
Department of Biomedical Informatics
Vanderbilt University
2011- 2014 Associate Professor with tenure
Department of Biochemistry and Molecular Biology
Pennsylvania State University

Curriculum Vitae: Marylyn DeRiggi Ritchie

- 2011-2016 Director, Center for Systems Genomics
The Huck Institutes of the Life Sciences
Pennsylvania State University
- 2014-2016 Professor with tenure
Department of Biochemistry and Molecular Biology
Pennsylvania State University
- 2015-2016 Paul Berg Professor
Department of Biochemistry and Molecular Biology
Pennsylvania State University
- 2015-2017 Director, Biomedical and Translational Informatics Institute
Professor of Biomedical and Translational Informatics
Geisinger Health System
- 2016-2017 Chief Research Informatics Officer
Geisinger Health System
- 2016-2018 Fixed-term, Part-time Professor
Department of Biochemistry and Molecular Biology
Pennsylvania State University
- 2017-2018 Faculty Pending, Department of Genetics
University of Pennsylvania, Perelman School of Medicine
- 2017-2022 Associate Director for Bioinformatics
Institute for Biomedical Informatics
University of Pennsylvania, Perelman School of Medicine
- 2017-2023 Associate Director, Center for Precision Medicine
University of Pennsylvania, Perelman School of Medicine
- 2017-2024 Director, Center for Translational Bioinformatics
Institute for Biomedical Informatics
University of Pennsylvania, Perelman School of Medicine
- 2018-2025 Professor with tenure, Department of Genetics
University of Pennsylvania, Perelman School of Medicine
- 2022-2025 Director, Institute for Biomedical Informatics
University of Pennsylvania, Perelman School of Medicine
- 2022-2025 Vice President for Research Informatics
University of Pennsylvania Health System
- 2022-2025 Edward Rose, M.D. and Elizabeth Kirk Rose, M.D. Professor
University of Pennsylvania, Perelman School of Medicine

Curriculum Vitae: Marylyn DeRiggi Ritchie

2023- 2025	Director, Division of Informatics, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania, Perelman School of Medicine
2024-2025	Vice Dean of Artificial Intelligence and Computing, University of Pennsylvania, Perelman School of Medicine
2025-present	Chief Artificial Intelligence Officer, Medical University of South Carolina (MUSC)
2025-present	Director, Enterprise-wide Center for AI, Medical University of South Carolina (MUSC)
2025-present	Associate Dean for Artificial Intelligence, College of Medicine, Medical University of South Carolina (MUSC)
2025-present	Director, Division of Biomedical Informatics and AI, Department of Public Health Sciences, Medical University of South Carolina (MUSC)
2025-present	SmartState Endowed Chair in Translational Bioinformatics, Medical University of South Carolina (MUSC)

Other Professional Positions

2005-2010	Consultant, Boehringer-Ingelheim
2018-2022	Scientific Advisory Board, CIPHEROME
2019-2020	Scientific Advisory Board, Goldfinch Bio
2025-present	Bioinformatics Consultant, AbbVie

Honors and Awards

1999	Graduated Summa Cum Laude, University of Pittsburgh, Johnstown
2000- 2002	NIH Breast Cancer Research Training Grant
2001	Vanderbilt University, Charles R. Park Student Travel Award
2002- 2003	NLM Bioinformatics Training Grant
2002	Vanderbilt University Graduate School Travel Grant
2003	Vanderbilt University Dissertation Enhancement Grant
2003	Vanderbilt University Graduate School Travel Grant
2003	Vanderbilt University, Charles R. Park Student Travel Award
2004	Best Paper Award, Genetic and Evolutionary Computation Conference
2006	<i>Genome Technology</i> , Rising Young Investigator Award
2010	Sloan Research Fellow
2011-2014	KAVLI Frontiers in Science fellow, National Academy of Science Jointly sponsored by the US National Academy of Sciences and The Kavli Foundation, the Kavli Frontiers of Science bring together some of the very best young scientists to discuss exciting advances and opportunities in their fields in a format that encourages informal collective, as well as one-on-one discussions

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- among participants. It is an honor to be selected as a Kavli fellow, and Dr. Ritchie was selected four years in a row.
- 2014 Member, Thomas Reuters, Most Highly Cited Researchers
 - 2015 Paul Berg Professor of Biochemistry and Molecular Biology, Penn State University
 - 2016 E. Allen Deaver, High Potential Leadership Fellow, Geisinger Health System
 - 2017 First Place, AMIA “Why Informatics” Video Contest
 - 2020 Group on Information Resources (GIR) Excellence Award, American Association of Medical Colleges (AAMC) – for our team’s PennChart Genomics Project
 - 2020 Elected as a fellow in the American College of Medical Informatics (ACMI)
 - 2021 Executive Leadership in Academic Medicine (ELAM) fellow
 - 2021 Elected to the National Academy of Medicine (NAM)
 - 2022 Edward Rose, M.D. and Elizabeth Kirk Rose, M.D. Professor, University of Pennsylvania, Perelman School of Medicine
 - 2024 Technologist Rad Award Finalist, Philadelphia Citizen Rad Award

Membership in Professional Societies

- American Association for the Advancement of Science (AAAS)
- American Society of Human Genetics (ASHG)
- International Society for Computational Biology (ISCB)
- American Medical Informatics Association (AMIA)
- American College of Medical Informatics (ACMI)
- National Academy of Medicine (NAM)

Administrative and Service Contributions

Institutional Service

- 2003-2004 Center for Human Genetics Research Core Oversight Board
Vanderbilt University Medical Center, Nashville, TN
- 2005 Organizing Committee—CHGR Annual Genetics Symposium
Vanderbilt University Medical Center, Nashville, TN
- 2006 ACCRE Study Group, co-chair
Vanderbilt University, Nashville, TN
- 2006 Panel Member—Women in Academe Series
Vanderbilt University Medical Center, Nashville, TN
- 2008 Faculty Recruitment Committee
Center for Human Genetics Research
- 2009 Faculty Recruitment Committee, chair
Center for Human Genetics Research
- 2009 Personalized Medicine Task Force – Vision 2020
Vanderbilt University

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- 2009 IGP Internal Review Administrative Subcommittee
Vanderbilt University
- 2004-2001 Faculty Director, CHGR Computational Genomics Core
Vanderbilt University Medical Center, Nashville, TN
- 2007-2011 ACCRE Faculty Advisory Board
Vanderbilt University, Nashville, TN
- 2008-2011 Director, Program in Computational Genomics
Vanderbilt University, Center for Human Genetics Research
- 2011 Biobehavioral Health Genetics Faculty Search Committee
The Pennsylvania State University, University Park, PA
- 2011-2012 PSU Presidential Task Force
The Pennsylvania State University, University Park, PA
- 2011-2013 BMB Graduate Student Recruitment Committee
The Pennsylvania State University, University Park, PA
- 2012-2013 Institute of Cyberscience, Search Committee
The Pennsylvania State University, University Park, PA
- 2012-2013 iBIOS Bioinformatics & Genomics Graduate Program Admissions Committee
The Pennsylvania State University, University Park, PA
- 2012-2013 Research Data and Computing Committee
The Pennsylvania State University, University Park, PA
- 2012-2014 IT Strategic Planning Committee
The Pennsylvania State University, University Park, PA
- 2014-2015 Chair, BMB Promotion & Tenure Committee
The Pennsylvania State University, University Park, PA
- 2011-2014 BMB Junior Faculty Mentoring Committee
The Pennsylvania State University, University Park, PA
- 2011-2016 Director, Center for System Genomics
The Pennsylvania State University, University Park, PA
- 2012-2014 BMB Promotion & Tenure Committee (2014 – Chair)
The Pennsylvania State University, University Park, PA
- 2014 Research CI Governance Task Force
The Pennsylvania State University, University Park, PA
- 2014 ICS Coordinating Committee for Advanced CI

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The Pennsylvania State University, University Park, PA

- 2014 Academic Integrity Committee – RA10
The Pennsylvania State University, University Park, PA
- 2015-2017 Enterprise Data Strategy Steering Committee
Geisinger Health System, Danville, PA
- 2016-2017 Research Space Committee, Chair
Geisinger Health System Danville, PA
- 2016-2017 Chief Research Informatics Officer
Geisinger Health System, Danville, PA
- 2018-2019 Faculty recruitment selection committee, Department of Genetics
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2018-2022 Senior IT Council (member)
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2018-2019 Clinical and Medical Bioinformatics Working Group
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2019-2021 Clinical Research Informatics Oversight Committee
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2019-2022 Research Data Domain Committee, co-chair
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2019-2025 Clinical IS Genomics Oversight Committee
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2019-2021 Biomedical Informatics Graduate Group Planning Committee
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2019-2021 Epic Cosmos User Group member
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2020 DBEI Department Chair search Committee
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2020-2024 Committee on Appointments and Promotions
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2020-2024 Genomics and Computational Biology Graduate Group Committee on Equality,
Diversity and Inclusion, co-chair
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA

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- 2020-2025 Genomics and Computational Biology Graduate Group Executive Committee member
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022-2025 Senior IT Council (co-chair)
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022-2023 Pathology and Laboratory Medicine Department Chair search committee
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022-2025 Genetics/IBI Faculty search committee
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022-2025 Cardiology/Cardiovascular Institute Faculty search committee
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022-2024 Computational and Data-Dependent Research committee
University of Pennsylvania, Philadelphia, PA
- 2023-2025 Committee on AI Curriculum for Medical Education (chair)
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2024-2025 AI Council
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA

National / International Service

- 2002 Grant Reviewer, “Small Grants Program for Cancer Epidemiology.” PA-01-021, National Cancer Institute, National Institutes of Health
- 2004 Workshop Organizer, Biological Applications of Genetic and Evolutionary Computation
- 2005 Session Organizer, Computational Approaches for Pharmacogenomics, Pacific Symposium on Biocomputing
- 2005 Program Committee, Biological Applications of Genetic and Evolutionary Computation
- 2005 Workshop Organizer, Biological Applications of Genetic and Evolutionary Computation
- 2006 Grant Reviewer, “Toward Maximizing the Scientific Value of the Biologic Specimens from the Women’s Health Initiative.” RFP-NHLBI-WH-06-09, National Heart, Lung, and Blood Institute, National Institutes of Health
- 2006 Session Organizer, Computational Approaches for Pharmacogenomics, Pacific Symposium on Biocomputing
- 2006 Program Committee, Biological Applications of Genetic and Evolutionary Computation
- 2006 Workshop Organizer, Biological Applications of Genetic and Evolutionary Computation

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- 2006 Program Committee, European Conference on Evolutionary Computation, Machine Learning and Data Mining in Bioinformatics
- 2006 Workshop Organizer, PGRN Data Analysis Workshop
- 2007 Program Committee, Genetic and Evolutionary Computation Conference
- 2007 Program Committee, European Conference on Evolutionary Computation, Machine Learning and Data Mining in Bioinformatics
- 2007 Grant Reviewer, “Facilitating Interdisciplinary Research via Methodological and Technological Innovation in the Behavioral and Social Sciences (R21).” RFA-RM-07-004, National Institutes of Health
- 2007 Grant Reviewer, “Small Grants Program in Cancer Epidemiology.” PAR-06-294, National Cancer Institute (June and November), National Institutes of Health
- 2008 Program Committee, Genetic and Evolutionary Computation Conference
- 2008 Program Committee, International Conference on Intelligent Systems in Molecular Biology
- 2008 Grant Reviewer, “PA Department of Health Final Performance Reviews.” Oak Ridge Associated Universities
- 2008 Grant Reviewer, “GWA Studies for the Genes, Environment, and Health Initiatives.” RFA-HG-07-012, National Human Genome Research Institute, National Institutes of Health
- 2008 Grant Reviewer, “Toward Maximizing the Scientific Value of the Biologic Specimens from the Women’s Health Initiative II.” BAA HLBI-WH-09-01, National Heart, Lung, and Blood Institute, National Institutes of Health
- 2008 Grant Reviewer, “Genomic Parsing of Bipolar Disorder and Schizophrenia: Collaborative R01’s (Teleconference)”. Special Emphasis Panel/Scientific Review Group 2008/08 ZMH1 ERB-S (08). National Institute of Mental Health, National Institutes of Health
- 2008 Grant Reviewer, Israel Science Foundation's FIRST (Focal Initiatives in Research in Science and Technology)
- 2008 Grant Reviewer, “Small Grants Program in Cancer Epidemiology.” PAR-06-294, National Cancer Institute (June), National Institutes of Health
- 2009 Grant Reviewer, “GWAS of Treatment Response in Randomized Clinical Trials – Study Investigators.” RFA-HG-08-004, National Human Genome Research Institute, National Institutes of Health
- 2009 Meeting Participant, “The Challenge of Mapping GWAS Signals.” Hosted by the Genes, Environment and Health Initiative (GEI), and National Cancer Institute. National Institutes of Health.
- 2009 Conference Chair, European Conference on Evolutionary Computation, Machine Learning and Data Mining in Bioinformatics
- 2010 Conference Chair, European Conference on Evolutionary Computation, Machine Learning and Data Mining in Bioinformatics
- 2010 Program Committee, Genetic and Evolutionary Computation Conference

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- 2010 Program Committee, The 2010 International Conference on Intelligent Computing (ICIC 2010)
- 2010 Session Chair, Genetic and Evolutionary Computation Conference
- 2010 Program Committee, European Conference on Computational Biology
- 2010 Program Committee, Pattern Recognition in Bioinformatics
- 2010 Host, P-STAR Analysis Workshop, October 2010, Nashville, TN
- 2005-2010 Grant Reviewer, Alzheimer's Association
- 2006-2010 Pharmacogenetics Research Network (PGRN) Analysis Working Group Co-Chair
- 2011 Workshop Chair, "Systems Pharmacogenomics: Birds of a Feather", Pacific Symposium on Biocomputing 2011
- 2011 Conference Chair, European Conference on Evolutionary Computation, Machine Learning and Data Mining in Bioinformatics
- 2011 Program Committee, Asia-Pacific Translational Bioinformatics Conference
- 2011 External Examiner for Viva, University of Nottingham, Nottingham UK
- 2011 Program Committee, The 2011 International Conference on Intelligent Computing (ICIC 2011)
- 2011 Grant Reviewer, "Computational Tool Development and Integrative Data Analysis for LINCS (U01)", RFA- RM-10-005, Special Emphasis Panel, National Institutes of Health
- 2011 Grant Reviewer, Ad Hoc, Genomics, Computational Biology and Technology (GCAT), National Institutes of Health
- 2011 Bioinformatics Track Chair, Genetic and Evolutionary Computation Conference
- 2011 Program Committee, European Conference on Artificial Life 2011
- 2011 Program Committee, Pattern Recognition in Bioinformatics 2011
- 2011 Host, P-STAR Analysis Workshop, December 2011, Chicago, IL
- 2011 Session Chair, "Beyond GWAS: Integrating Transcriptome, Proteome, and Pathway Data in the Genetic Dissection of Complex Traits", International Congress on Human Genetics, October 2011, Montreal, Canada
- 2012 Workshop Chair, "Systems Pharmacogenomics", Pacific Symposium on Biocomputing
- 2012 Local Host, Genetic and Evolutionary Computation Conference, Philadelphia, PA
- 2012 Grant Reviewer, Genome Canada
- 2012 Program Committee, Asia-Pacific Translational Bioinformatics Conference
- 2012 External Examiner for PhD, University of Liege
- 2012 Host, P-STAR Analysis Workshop, December 2012, Austin TX
- 2012 Grant Reviewer, Special Emphasis Panel 2012/10 ZEY1 VSN, National Eye Institute
- 2012 Grant Reviewer, Special Emphasis Panel 2012/05 ZAI1 QV-I, National Institute of Allergy and Infectious Disease
- 2012 Grant Reviewer, Science Foundation Ireland

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- 2012 Organizing Committee, KAVLI Frontiers in Science, American-Indonesian conference
- 2013 Organizing Committee, KAVLI Frontiers in Science, American-Indonesian conference
- 2013 Program Committee, Asia-Pacific Translational Bioinformatics Conference
- 2013 Guest Editor, PLOS Genetics
- 2013 Guest Editor, Frontiers in Genetics
- 2013 Program Committee, Translational Bioinformatics Conference
- 2013 Program Committee, The 2013 International Conference on Intelligent Computing
- 2013 Program Committee, Pattern Recognition in Bioinformatics 2013
- 2013 Host, P-STAR Analysis Workshop, December 2013, Nashville TN
- 2014 Organizing Committee, Pacific Symposium of Biocomputing
- 2014 Track Chair, Bioinformatics, ACM-BCB
- 2014 Program Committee, Translational Bioinformatics Conference
- 2014 Program Committee, ICCABS
- 2014 Program Committee, World Congress Psychiatric Genetics
- 2014 Program Committee, Asia-Pacific Translational Bioinformatics Conference
- 2014 Grant Reviewer, Medical Research Council (MRC), United Kingdom
- 2014 Organizing Committee, KAVLI Frontiers in Science, American-Indonesian conference
- 2015 Organizing Committee, Pacific Symposium on Biocomputing
- 2015 Program Committee, AMIA
- 2015 Program Committee, Translational Bioinformatics Conference
- 2016 Organizing Committee, Pacific Symposium on Biocomputing
- 2016 Program Committee, Translational Bioinformatics Conference
- 2017 Organizing Committee, Pacific Symposium on Biocomputing
- 2017 Vice Chair, AMIA Translational Bioinformatics Conference
- 2017 Co-Host, Translational Bioinformatics Conference
- 2017 Grant Reviewer, Canada Excellence Research Chair
- 2017 Grant Reviewer, Wellcome Trust, Sir Henry Dale Fellowship
- 2018 Organizing Committee, Pacific Symposium on Biocomputing
- 2007-2012 Grant Reviewer, Pennsylvania Performance Review, PA Department of Health
- 2007-2017 Member, Faculty of 1000 Biology
- 2008-2015 Member, Genetic Epidemiology Scientific Review Committee for the Department of Veterans Affairs
- 2009-2010 Executive Editor, Pharmacogenomics
- 2012-2018 Member, Genomics, Computational Biology and Technology (GCAT), National Institutes of Health
- 2015-2018 GWAS Catalog Scientific Advisory Board
- 2016-2018 Member, Parasite Award Committee

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- 2007-2015 Managing Editor, BioData Mining
- 2008-present Member Editorial Board, Pharmacogenomics
- 2011-present Member Editorial Board, Pharmacogenetics & Genomics
- 2015-2022 Member, Standing Committee on Biological and Physical Sciences in Space (CBPSS), National Academy of Sciences
- 2015-2024 Editor-in-chief, BioData Mining
- 2017-2021 Grant Reviewer, Genome Canada
- 2017-present Institute for Computational Biology External Advisory Board, Case Western Reserve University
- 2017-2021 UCSF PREMIER (Precision Medicine in Rheumatology) External Advisory Committee
- 2017-present NIH Advisory panel, All of Us Research Program
- 2018-2025 NHGRI PhenX Steering Committee (Member)
- 2019-2020 Vice Chair, Translational Bioinformatics Track, AMIA Joint Summits
- 2019-present NHGRI ANVIL External Consultant Committee
- 2019-2022 NIA Dog Aging Project, Scientific Advisory Board
- 2019 Fusion Personalized Medicine Conference co-chair
- 2019-2023 Genome Canada Research Oversight Committee, Turvey LSARP Project
- 2019-2023 Genome Canada Research Oversight Committee, Go PGx project
- 2019-2023 Vanderbilt DBMI T32, Scientific Advisory Board
- 2019-2022 NHGRI LIGHT Workshop Planning Committee
- 2019-2022 ANVIL Data Ingestion Working Group
- 2019-present iCOPE Advisory Board (Childhood Cancer project in Copenhagen, Denmark)
- 2020-present UK Biobank International Advisory Board (chair starting in 2022)
- 2020-present Annual Review of Biomedical Data Science Editorial Committee (Associate Editor starting in 2024)
- 2020-2022 H3ABioNet Scientific Advisory Board
- 2020 Grant Reviewer, COVID Special Emphasis Panel
- 2020 Grant Reviewer, Advancing Genomic Medicine, Special Emphasis Panel
- 2021 Grant Reviewer, NIH Director's Transformative Research Award (TRA)
- 2021-present Member, NHGRI Genomic Data Science Working Group (GDSWG) - working group of the National Advisory Council for Human Genome Research (NACHGR) (Co-chair starting in 2025)
- 2021-2025 CalPenn Joint Steering Committee (chair starting in 2023)
- 2022-present ClinGen PGx Workgroup
- 2023-2024 ACMI 2024 symposium, program chair
- 2023-present NHLBI TopMed External Scientific Panel
- 2023-2025 Vice Chair, Section 1, Membership Committee, National Academy of Medicine
- 2025-present Chair, Section 1, Membership Committee, National Academy of Medicine
- 2024 Grant Reviewer, European Research Council
- 2024-2025 SFARI Genomics Working Group

REVIEWER FOR JOURNALS

2005-Present	Ad Hoc Reviewer, Pacific Symposium on Biocomputing
2005-Present	Ad Hoc Reviewer, Annals of Human Genetics
2005-Present	Ad Hoc Reviewer, Current Bioinformatics
2005-Present	Ad Hoc Reviewer, British Journal of Cancer
2006-Present	Ad Hoc Reviewer, BMC Cancer
2006-Present	Ad Hoc Reviewer, Epidemiology
2006-Present	Ad Hoc Reviewer, Human Genomics
2006-Present	Ad Hoc Reviewer, Clinical Pharmacology & Therapeutics
2006-Present	Ad Hoc Reviewer, International Journal Artificial Intelligence in Medicine
2006-Present	Ad Hoc Reviewer, Genetic Epidemiology
2006-Present	Ad Hoc Reviewer, Psychiatry Research
2007-Present	Ad Hoc Reviewer, BMC Medical Genomics
2007-Present	Ad Hoc Reviewer, IBM Systems Journal
2007-Present	Ad Hoc Reviewer, Clinical Cancer
2007-Present	Ad Hoc Reviewer, Clinical Genetics
2007-Present	Ad Hoc Reviewer, Cancer Epidemiology Biomarkers & Prevention
2007-Present	Ad Hoc Reviewer, Cancer Informatics
2007-Present	Ad Hoc Reviewer, American Journal of Human Genetics
2008-Present	Ad Hoc Reviewer, Molecular Psychiatry
2008-Present	Ad Hoc Reviewer, Neuropsychiatric Genetics
2008-Present	Ad Hoc Reviewer, Neoplasia
2008-Present	Ad Hoc Reviewer, Statistics in Medicine
2008-Present	Ad Hoc Reviewer, Human Heredity
2009-Present	Ad Hoc Reviewer, Biometrical Journal
2009-Present	Ad Hoc Reviewer, PLOS Genetics
2009-Present	Ad Hoc Reviewer, Nature Reviews Drug Discovery
2009-Present	Ad Hoc Reviewer, BMC Systems Biology
2009-Present	Ad Hoc Reviewer, Human Immunology
2009-Present	Ad Hoc Reviewer, Bioinformatics
2009-Present	Executive Editor, Pharmacogenomics
2010-Present	Ad Hoc Reviewer, European Journal of Operational Research
2011-Present	Ad Hoc Reviewer, Frontiers in Genetics
2011-Present	Ad Hoc Reviewer, Intelligent Systems in Molecular Biology
2011-Present	Ad Hoc Reviewer, In Silico Biology
2011-Present	Ad Hoc Reviewer, Source Code for Biology and Medicine
2011-Present	Ad Hoc Reviewer, OMICS Integrative Biology
2011-Present	Ad Hoc Reviewer, Pharmacogenomics
2011-Present	Ad Hoc Reviewer, PLOS One
2011-Present	Ad Hoc Reviewer, BioData Mining
2012-Present	Ad Hoc Reviewer, Journal of the American Medical Association (JAMA)
2012-Present	Ad Hoc Reviewer, Cellular and Molecular Life Sciences
2012-Present	Ad Hoc Reviewer, Annals of Neurology
2012-Present	Ad Hoc Reviewer, Pharmacogenetics and Genomics
2012-Present	Ad Hoc Reviewer, Human Molecular Genetics
2013-Present	Ad Hoc Reviewer, BMC Bioinformatics

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2013-Present	Ad Hoc Reviewer, Nucleic Acids Research
2013	Guest Editor, PLOS Genetics
2013	Guest Editor, Frontiers in Genetics
2013-Present	Ad Hoc Reviewer, Biostatistics
2013-Present	Ad Hoc Reviewer, European Journal of Human Genetics
2013-Present	Ad Hoc Reviewer, IEEE Transactions in Evolutionary Computation
2013-Present	Ad Hoc Reviewer, Nature Reviews Genetics
2013-Present	Ad Hoc Reviewer, BMC Genetics
2013-Present	Ad Hoc Reviewer, Expert Reviews of Molecular Diagnostics
2013-Present	Ad Hoc Reviewer, Science Translational Medicine
2014-Present	Ad Hoc Reviewer, PLOS Biology
2014-Present	Ad Hoc Reviewer, PLOS Computational Biology
2014-Present	Ad Hoc Reviewer, Nature
2014-Present	Ad Hoc Reviewer, The Pharmacogenomics Journal
2014-Present	Ad Hoc Reviewer, Briefings in Bioinformatics
2014-Present	Ad Hoc Reviewer, Circulation Cardiovascular Genetics
2014-Present	Ad Hoc Reviewer, Proceedings of the National Academy of Science
2014-Present	Ad Hoc Reviewer, Human Genetics
2015-Present	Ad Hoc Reviewer, Science
2015-Present	Ad Hoc Reviewer, EvoBio
2016-Present	Ad Hoc Reviewer, Human Mutation
2017-Present	Ad Hoc Reviewer, Expert Reviews of Precision Medicine
2018-Present	Ad Hoc Reviewer, Nature Communications
2020-present	Ad Hoc Reviewer, Nature Medicine
2021-present	Ad Hoc Reviewer, iScience
2022-present	Ad Hoc Reviewer, Science Translational Medicine
2022-present	Ad Hoc Reviewer, Cell Genomics
2023-present	Ad Hoc Reviewer, Nature Protocols
2023-present	Ad Hoc Reviewer, Med by Cell Press
2024-present	Ad Hoc Reviewer, Cell
2025-present	Ad Hoc Reviewer, Cell Reports, Methods and Patterns
2025-present	Ad Hoc Reviewer, Health Informatics Journal

Teaching activities

Vanderbilt Contributions

2002	IGP Biostatistics Module, Lecturer Vanderbilt University
2004	Human Genetics—MPB 340, Lecturer Vanderbilt University
2004	IGP Biostatistics Module, Lecturer Vanderbilt University
2004	Health Systems Management Organization Course, Lecturer Vanderbilt University
2005	Human Genetics, HGEN 341, Lecturer Vanderbilt University
2005	Tutorials in Statistical and Population Genetics, HGEN 371, Co-Organizer Vanderbilt University
2006	Human Genetics, HGEN 341, Lecturer Vanderbilt University

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2006	Tutorials in Statistical and Population Genetics, HGEN 371, Co-Organizer Vanderbilt University
2006	Cancer Biology Methodology Course, Lecturer Vanderbilt University
2007	Human Genetics, HGEN 341, Lecturer Vanderbilt University
2007	Tutorials in Statistical and Population Genetics, HGEN 371, Co-Organizer Vanderbilt University
2007	Cancer Biology Methodology Course, Lecturer Vanderbilt University
2008	Human Genetics, HGEN 341, Lecturer Vanderbilt University
2008	Organizer, Program in Computational Genomics Journal Club Vanderbilt University
2009	Human Genetics, HGEN 341, Lecturer Vanderbilt University
2009	Organizer, Program in Computational Genomics Journal Club Vanderbilt University
2009	Biomedical Informatics 310, Lecturer Vanderbilt University
2009	IGP, Human Genetics, Lecturer Vanderbilt University
2010	Human Genetics, HGEN 341, Lecturer Vanderbilt University
2010	Biomedical Informatics 310, Lecturer Vanderbilt University
2011	Human Genetics, HGEN 341, Course Director Vanderbilt University

The Pennsylvania State University Contributions

2012	Tutorials in Bioinformatics & Genomics, IBIOS 598B FA, Co-director The Pennsylvania State University, University Park, PA
2012	Genomics, IBIOS/BMMB 551 FA, Lecturer The Pennsylvania State University, University Park, PA
2013	Tutorials in Bioinformatics & Genomics, IBIOS 598B SP, Co-director The Pennsylvania State University, University Park, PA
2013	Human Genomics and Biomedical Informatics, BMB498D, Director The Pennsylvania State University, University Park, PA
2013	Tutorials in Bioinformatics & Genomics, IBIOS 598B FA, Co-director The Pennsylvania State University, University Park, PA
2013	Genomics, IBIOS/BMMB 551 FA, Lecturer The Pennsylvania State University, University Park, PA

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- 2014 Critical Analysis in Bioinformatics and Genomics, IBIOS 541 SP, Co-director
The Pennsylvania State University, University Park, PA
- 2014 Human Genomics and Biomedical Informatics, BMB498D SP, Director
The Pennsylvania State University, University Park, PA
- 2014 Critical Analysis in Bioinformatics and Genomics, IBIOS 541 FA, Co-director
The Pennsylvania State University, University Park, PA
- 2014 Genomics, IBIOS/BMMB 551 FA, Lecturer
The Pennsylvania State University, University Park, PA
- 2015 Genomics, IBIOS/BMMB 551 FA, Lecturer
The Pennsylvania State University, University Park, PA
- 2016 Genomics, IBIOS/BMMB 551 FA, Lecturer
The Pennsylvania State University, University Park, PA

University of Pennsylvania Contributions

- 2018 MS1 Genetics Course, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2019 BMIN504: Special Topics in Biomedical and Health Informatics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2019 MS1 Genetics Course, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2019 GCB533: Statistics for Genomics and Biomedical Informatics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2019 BMIN 505: Precision Medicine and Health Policy
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2020 BMIN504: Special Topics in Biomedical and Health Informatics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2020 BMIN 505: Precision Medicine and Health Policy, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2020 GCB533: Statistics for Genomics and Biomedical Informatics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2020 MS1 Genetics Course, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2021 BMIN504: Special Topics in Biomedical and Health Informatics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA

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- 2021 BMIN505: Precision Medicine and Health Policy, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2021 BMIN502: Database and Data Integration in Biomedical Research, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2021 GCB/CAMB 752: Seminar in Genomics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2021 MS1 Genetics Course, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2021 GCB533: Statistics for Genomics and Biomedical Informatics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022 BMIN504: Special Topics in Biomedical and Health Informatics, Director
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022 BMIN505: Precision Medicine and Health Policy, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022 BMIN502: Database and Data Integration in Biomedical Research, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022 GCB/CAMB 752: Seminar in Genomics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022 MS4, Frontiers 519 Medical Informatics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022 MS1 Genetics Course, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2022 GCB533: Statistics for Genomics and Biomedical Informatics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2023 BMIN504: Special Topics in Biomedical and Health Informatics, Director
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2023 BMIN502: Database and Data Integration in Biomedical Research, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2023 GCB/CAMB 752: Seminar in Genomics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2023 MS1 Genetics Course, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA

Curriculum Vitae: Marylyn DeRiggi Ritchie

- 2023 GCB533: Statistics for Genomics and Biomedical Informatics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2024 BMIN504: Special Topics in Biomedical and Health Informatics, Director
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2024 BMIN502: Database and Data Integration in Biomedical Research, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2024 GCB/CAMB 752: Seminar in Genomics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2024 MS1 Genetics Course, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2025 BMIN504: Special Topics in Biomedical and Health Informatics, Director
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2025 BMIN502: Database and Data Integration in Biomedical Research, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA
- 2025 GCB/CAMB 752: Seminar in Genomics, Lecturer
University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA

External Contributions

- 2009 Course Co-Director, Genetic Analysis of Complex Disease
Miami Institute of Human Genetics, University of Miami
- 2010 Course Co-Director, Genetic Analysis of Complex Disease
Miami Institute of Human Genetics, University of Miami
- 2010 Lecturer, Vanderbilt-NARI-NIE Informatics Training Program (VNNIT)
Workshop, Pune, India
- 2010 “A comparison of analytical methods for genetic association studies,” CDC
Workshop, Atlanta, GA
- 2011 Course Co-Director, Genetic Analysis of Complex Disease
Miami Institute of Human Genetics, University of Miami
- 2011 “A comparison of analytical methods for genetic association studies II”, CDC
Workshop, Atlanta, GA
- 2011 “Next-generation Sequencing”, CDC Workshop, Atlanta, GA
- 2012 Course Co-Director, Genetic Analysis of Complex Disease
Miami Institute of Human Genetics, University of Miami
- 2012 “Next-generation Sequencing”, CDC Workshop, Atlanta, GA
- 2013 “Next-generation Sequencing”, CDC Workshop, Atlanta, GA
- 2013 Course Co-Director, Genetic Analysis of Complex Disease
Miami Institute of Human Genetics, University of Miami
- 2013 “Analysis Tools For Genetic Testing”, CDC Workshop, Atlanta, GA
- 2014 “Public Health Genomics”, CDC Workshop, Atlanta, GA
- 2014 “Gene-gene and Gene-environment interactions”, UAB's 4th Annual NIGMS-
funded Short Course on Statistical Genetics & Genomics, Birmingham, AL

Curriculum Vitae: Marylyn DeRiggi Ritchie

- 2014 “Intro to Bioinformatics”, CDC Workshop, Atlanta, GA
- 2014 “Precision Medicine: When Genomics Gets Personal”, CDC Workshop, Atlanta, GA
- 2015 “Next Generation Sequencing: What is it How is it Used and What Can We Learn”, CDC Workshop, Atlanta, GA
- 2021 “A tale of the 2020s, or a tale of the future?”, Precision Medicine Roundtable, Genetics in Medicine class, University of Deusto in Bilbao, Spain. Host: Urko Marigorta

Advisory and Supervisory Responsibilities

High School Students

- 2007 Xun Miao
Martin Luther King High School, Nashville TN

Undergraduate Students

- 2005 Gordon Lemmon
Vanderbilt Summer Science Academy
- 2006 Theresa Fanelli
Vanderbilt Summer Science Academy
- 2012-2013 Christian Suri
The Pennsylvania State University
- 2013-2014 Tomek Dobranski
The Pennsylvania State University
- 2013-2015 Anastasia Lucas
The Pennsylvania State University
- 2020 David Cornejo
APSA Virtual Summer Research Program
- 2020 Mitsy Dominguez
APSA Virtual Summer Research Program
- 2020-2021 Ly Nguyen
APSA Virtual Summer Research Program
- 2020-2021 Abigail Bossa
APSA Virtual Summer Research Program
- 2020-2021 Chelsea Okeh
APSA Virtual Summer Research Program
- 2021-2022 Alexis Garofalo

Curriculum Vitae: Marylyn DeRiggi Ritchie

Penn SUIP Summer Research Program

2022 Mariah Antopia
 Penn SUIP Summer Research Program

Post-doctoral Fellows – Members of Lab

2009-2011 Sarah A. Pendergrass, PhD (now Rion K. Pendergrass)
 Vanderbilt University School of Medicine
 Currently, Scientific Manager in Human Genetics, Genentech

2009-2011 Rebecca Zuvich Essner, PhD
 Vanderbilt University School of Medicine
 Currently, Data Scientist, Advent Health

2013-2016 DoKyoon Kim, PhD
 The Pennsylvania State University
 Currently, Associate Professor, University of Pennsylvania

2015-2017 Marta Byrska-Bishop, PhD
 Geisinger Health System
 Currently, Senior Bioinformatics Scientist, NY Genome Center

2016-2021 Jason Miller, PhD
 University of Pennsylvania
 Currently, Senior Scientist Statistical Genetics, Merck

2017-2022 Yogasudha Veturi, PhD
 University of Pennsylvania
 Currently, Tenure Track Assistant Professor, Penn State University

2018-2022 Theodore Drivas, MD, PhD
 University of Pennsylvania
 Currently, Tenure Track Assistant Professor, University of Pennsylvania

2020-2023 Milton Pividori, PhD
 University of Pennsylvania, co-mentor with Dr. Casey Greene
 Currently, Tenure Track Assistant Professor, University of Colorado

2023-2025 Zinhle Cindi, PhD
 University of Pennsylvania

2024-present Maxwell Salvatore, PhD
 University of Pennsylvania, co-mentor with Dr. Yong Chen

2025-present Diane Xue, PhD
 University of Pennsylvania

Curriculum Vitae: Marylyn DeRiggi Ritchie

Clinical Fellows – Members of Lab

2020-2022 Nosheen Reza, MD
University of Pennsylvania, MTR program, co-mentor with Dr. Tom Cappola

Graduate Students – Members of Lab

2004-2007 Alison A. Motsinger
Vanderbilt University, Ph.D. Program in Human Genetics
Currently Chief, Biostatistics & Computational Biology Branch and Principal Investigator, NIEHS

2005-2008 Todd L. Edwards
Vanderbilt University, Ph.D. Program in Human Genetics
Currently Associate Professor with tenure at Vanderbilt University (Department of Medicine, Center for Epidemiology)

2004-2009 William S. Bush
Vanderbilt University, Ph.D. Program in Human Genetics
Currently Tenure Track Associate Professor at Case-Western Reserve University (Department of Population and Quantitative Health Sciences)

2006-2010 Stephen D. Turner
Vanderbilt University, Ph.D. Program in Human Genetics
Currently senior informatics science & technology adviser at Signature Science, LLC.

2008-2012 Benjamin Grady
Vanderbilt University, Ph.D. Program in Human Genetics

2009-2013 Emily R. Holzinger
Vanderbilt University, Ph.D. Program in Human Genetics
Currently Senior Scientist, Bristol Myers Squibb

2009-2013 Carrie C Buchanan Moore
Vanderbilt University, Ph.D. Program in Human Genetics
Currently Surgical Resident, Duke University School of Medicine

2011-2013 Neerja Katiyar
Pennsylvania State University, Ph.D. Program in Bioinformatics & Genomics

2011-2015 Molly A Hall
Pennsylvania State University, Ph.D. Program in BMMB
Currently Tenure-track Asst. Prof at Penn State University

2012-2016 Ruowang Li
Pennsylvania State University, Ph.D. Program in Bioinformatics & Genomics
Currently Assistant Professor, Cedars-Sinai

Curriculum Vitae: Marylyn DeRiggi Ritchie

- 2013-2018 Anna Okula Basile
Pennsylvania State University, Ph.D. Program in BMMB
Currently Bioinformatics Scientist, NY Genome Center
- 2014-2018 Anurag Verma
Pennsylvania State University, Ph.D. Program in Bioinformatics & Genomics
Currently Instructor, University of Pennsylvania, Perelman School of Medicine
- 2014-2018 Shefali Setia Verma
Pennsylvania State University, Ph.D. Program in Bioinformatics & Genomics
Currently Instructor, University of Pennsylvania, Perelman School of Medicine
- 2016-2020 Binglan Li
University of Pennsylvania, Genomics and Computational Biology Grad Group
Currently Postdoc, Stanford University
- 2016-2020 Xinyuan (Blair) Zhang
University of Pennsylvania, Genomics and Computational Biology Grad Group
Currently: Senior Statistical Geneticist at Regeneron Genetics Center
- 2018-2021 Joseph Park, MD-PhD student, Genomics and Computational Biology Grad Group, University of Pennsylvania, co-mentor with Dr. Dan Rader
Currently: Resident, Weill Cornell School of Medicine
- 2018-2023 William Bone, Genomics and Computational Biology Grad Group, University of Pennsylvania, co-mentor with Dr. Ben Voight
Currently: Scientist, Recursion
- 2018-2023 Pankhuri Singhal, Genetics Student in the Cellular and Molecular Biology program, University of Pennsylvania
- 2020-2024 Daniel Hui, Genomics and Computational Biology Grad Group, University of Pennsylvania, co-mentor with Dr. Sarah Tishkoff
- 2020-2024 Brenda Xiao, Genomics and Computational Biology Grad Group, University of Pennsylvania, co-mentor with Dr. Dokyoon Kim
- 2020-2023 John Crawford, Genomics and Computational Biology Grad Group, University of Pennsylvania, co-mentor with Dr. Casey Greene
- 2021-2025 Karl Keat, Genomics and Computational Biology Grad Group, University of Pennsylvania, co-mentor with Dr. Dokyoon Kim
- 2021-2026 Van Truong, Genomics and Computational Biology Grad Group, University of Pennsylvania, co-mentor with Dr. John Wherry
- 2022-present Anni Moore, Genomics and Computational Biology Grad Group, University of Pennsylvania

Curriculum Vitae: Marylyn DeRiggi Ritchie

- 2022-present Chris Jones, Genomics and Computational Biology Grad Group, University of Pennsylvania, co-mentor with Dr. Sarah Tishkoff
- 2022-2025 David Zhang, MD-PhD student, Genomics and Computational Biology Grad Group, University of Pennsylvania, co-mentor with Dr. Dan Rader
- 2022-2025 Rachit Kumar, MD-PhD student, Genomics and Computational Biology Grad Group, University of Pennsylvania
- 2023-present Rasika Venkatesh, PhD student, Genomics and Computational Biology Grad Group, University of Pennsylvania

Thesis Committees

- 2005-2006 Zheng (Roger) Liu
Microbiology & Immunology
Vanderbilt University School of Medicine
- 2005-2006 Tricia Thornton-Wells
Neuroscience Program
Vanderbilt University School of Medicine
- 2005-2007 Xueying (Sharon) Liang
Human Genetics Ph.D. Program
Vanderbilt University School of Medicine
- 2006-2008 Digna Velez
Human Genetics Ph.D. Program
Vanderbilt University School of Medicine
- 2007-2009 Daniel Kinnamon
Statistical Genetics
University of Miami Miller School of Medicine
- 2008-2009 Rebecca Zuvich
Human Genetics PhD Program
Vanderbilt University School of Medicine
- 2007-2010 Britney Grayson
Microbiology & Immunology
Vanderbilt University School of Medicine
- 2008-2010 Logan Dumitriscu
Human Genetics PhD Program
Vanderbilt University School of Medicine
- 2010-2012 Janina Jeff
Human Genetics PhD Program
Vanderbilt University School of Medicine

Curriculum Vitae: Marylyn DeRiggi Ritchie

- 2013-2014 Matt Oetgens
Human Genetics PhD Program
Vanderbilt University School of Medicine
- 2013-2016 Jacob Hall
Human Genetics PhD Program
Vanderbilt University School of Medicine
- 2013-2017 Claire Reynolds
Biochemistry, Microbiology and Molecular Biology PhD Program
The Pennsylvania State University
- 2013-2015 Marta Byrska-Bishop
Bioinformatics and Genomics PhD Program
The Pennsylvania State University
- 2013-2016 Rohit Reja
Bioinformatics and Genomics PhD Program
The Pennsylvania State University
- 2018-2022 Laura Ritenour
Cell and Molecular Biology (CAMB) PhD Program
University of Pennsylvania, Perelman School of Medicine
- 2018-2021 David Lee
Genomics and Computational Biology (GCB) PhD Program
University of Pennsylvania, Perelman School of Medicine
- 2019-2021 Jennifer Shah
Cell and Molecular Biology (CAMB) PhD Program
University of Pennsylvania, Perelman School of Medicine
- 2019-2021 Victoria Arthur
Epidemiology PhD Program
University of Pennsylvania, Perelman School of Medicine
- 2020-2022 Benjamin Heil
Genomics and Computational Biology (GCB) PhD Program
University of Pennsylvania, Perelman School of Medicine
- 2020-2022 Alexa Woodward
Epidemiology PhD program
University of Pennsylvania, Perelman School of Medicine
- 2020-2023 John Gregg
Genomics and Computational Biology (GCB) PhD Program
University of Pennsylvania, Perelman School of Medicine
- 2021-2024 Jenea Adams

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Genomics and Computational Biology (GCB) PhD Program
University of Pennsylvania, Perelman School of Medicine

- 2021-2024 Kaylyn Clark
Genomics and Computational Biology (GCB) PhD Program
University of Pennsylvania, Perelman School of Medicine
- 2021-2024 Jacob Leiby
Genomics and Computational Biology (GCB) PhD Program
University of Pennsylvania, Perelman School of Medicine
- 2021-2023 Vivek Sriram
Genomics and Computational Biology (GCB) PhD Program
University of Pennsylvania, Perelman School of Medicine
- 2022-present Erica Suh
Genomics and Computational Biology (GCB) PhD Program
University of Pennsylvania, Perelman School of Medicine
- 2022-2025 Stacy Guzman
Biochemistry and Molecular Biology (BMB) PhD program
University of Pennsylvania, Perelman School of Medicine
- 2024-present Manu Shivakumar
Genomics and Computational Biology (GCB) PhD Program
University of Pennsylvania, Perelman School of Medicine

MAJOR RESEARCH INTERESTS

Computational Genomics	Genetic Epidemiology
Translational Bioinformatics	Statistical Genetics
Epistasis	Systems Genomics
Pharmacogenomics	Computational Biology
Big Data	Biomedical Informatics
Evolutionary Computation	Cardiovascular Disease

SOFTWARE AND PATENTS

- 2001 [Multifactor Dimensionality Reduction \(MDR\)](#)
- 2003 [MDR-PDT](#)
- 2002 U.S. Provisional Patent: “Method and Apparatus for Multifactor Dimensionality Reduction”
- 2006 [genomeSIMLA](#)
- 2009 [LD-Plus](#)
- 2009 [LD-Spline](#)
- 2010 [Synthesis-View](#)
- 2012 [ATHENA](#)

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2012	Biofilter 2.0
2012	BioBin
2012	PheWAS-view
2013	Phenogram
2016	iPhenogram

PODCASTS

The Biomedical Informatics Roundtable podcast, cohost

<http://bmipodcast.org/>

The CALM (Combining Academic and Life with Marylyn) podcast, host

<https://marylynritchie.com/podcast>

RESEARCH FUNDING

Active Funding

R01 HL169458 (MPI: **Ritchie, Kim**) 07/2023 - 04/2027
NIH/NHLBI Total Award Amount (including Indirect Costs): \$3,100,017
Methods for Enhancing Polygenic Risk Prediction Models for Complex Disease
This project is designed to develop novel methods for polygenic scores with applications in cardiovascular disease.

Pending Funding

UM1TR005294 (MPI: **Flume, Brady**) 04/2025 to 3/2032
NCATS Total Award Amount (including Indirect Costs): \$26,514,648
South Carolina Clinical and Translational Research Institute (SCTR)
SCTR is the catalyst for changing the culture of biomedical research, facilitating sharing of resources and expertise, and streamlining research-related processes to bring about large-scale change in the clinical and translational research efforts in South Carolina. Dr. Ritchie is the lead of the Informatics and Data Science program of SCTR.

Completed Funding

2004-2005	Development award supported by CFAR - P30 AI54999 (PI) Genetic Basis of NNRTI Toxicity in HIV Patients
2004-2005	Development award supported by CFAR - P30 AI54999 (Co-PI) A Pilot Study of Mitochondrial Genetics and Peripheral Neuropathy during Antiretroviral Therapy
2004-2008	NIH R01 AG020135 (PI of subcontract) Revealing Epistasis in Alzheimer Disease
2005-2007	Development award supported by SPORE - P50 CA098131 (PI) Approaches to Genome-Wide Association in Sporadic Breast Cancer

Curriculum Vitae: Marylyn DeRiggi Ritchie

- 2006-2009 AVCF- Vanderbilt (Co-investigator)
DNA Capture Project – Dan Roden
9/28/2007-7/31/2011
- 2006-2009 NIH R21 HL0877226 (Co-investigator)
Iron as a Nutritional Modifier of Toxic Neuropathy in HIV/AIDS – Asha Kallianpur
9/27/06-7/31/09
- 2007-2009 NIH R01 CA122756 (Co-investigator)
Cell Cycle/Apoptosis Gene Variants and Breast Cancer – Jiyang Cai
12/1/2007-11/30/2011
- 2007-2009 NIH/NIA R01 AG027944 (Co-investigator)
Genomic Convergence in Alzheimer Disease – Pericak-Vance, Univ. of Miami
12/01/2007-11/30/2012
- 2008-2009 NCCAM R01 AT004660 (Co-investigator)
Dietary Calcium and Magnesium, Genetics and Colorectal Adenoma – Qi Dai
06/01/2008-05/31/2012
- 2006-2009 NIH R21 NS059330 (Co-investigator)
Mitochondrial Genomics and Peripheral Neuropathy during HIV Therapy – Todd Hulgan
3/15/2007-6/30/2010
- 2004-2010 NIH U01 HL065962 (PI of core)
Pharmacogenomics of Arrhythmia Therapy – Dan Roden
9/01/2005-8/31/2010
- 2007-2011 NIH U01 HG004603-01 (Co-investigator)
Vanderbilt Genome-Electronic Records Project – Dan Roden
9/28/2007-7/31/2011
- 2007-2011 NIH U01 HG004608 (PI of subcontract)
Genome-Wide Study of Cataract and Low HDL in the Personalized Medicine Research Project – Catherine McCarty
9/30/2007-9/29/2011
- 2009-2013 NIH/NLM 1R01LM009989-01A1 (Malin)
Technologies to Enable Privacy in Biomedical Databanks
07/01/2009-06/30/2013
- 2009-2011 NIH/NIGMS 1RC2GM092618-01 (Masys)
VESPA: Vanderbilt Electronic Systems for Pharmacogenomic Assessment
09/30/2009-09/29/2011
- 2010-2015 NIH U01 HL065962 (PI of core)
Pharmacogenomics of Arrhythmia Therapy – Dan Roden
9/01/2010-8/31/2015

Curriculum Vitae: Marylyn DeRiggi Ritchie

2009-2013 NIH/NLM 1R01 LM010040-01(PI)
Analysis Tool for Heritable and Environmental Network Associations
07/01/2009-06/30/2013

2008-2013 NIH/NIAID 5R01 AI077505-03 (Haas)
Pharmacogenomics of HIV Therapy
07/08/2008-06/30/2013

2009-2013 NIH/NHGRI 5U01 HG004798-03
Epidemiologic Architecture for Genes Linked to Environment (Crawford)
07/17/2008-12/31/2013

2011-2015 NIH/NHGRI 5U01 HG006385 (Haines, Ritchie PI subcontract)
eMERGE II Coordinating Center
08/15/2011-07/31/2015

2013-2014 Geisinger contract (Ritchie PI)
Geisinger Clinic Genetic Studies: Mining Electronic Health Records for Genetic Associations
8/01/2013-7/31/2014

2010-2016 5U01 HL065962 (Roden, Ritchie PI U19-subcontract)
Pharmacogenomics of Arrhythmia Therapy: P-STAR Network Resource
09/01/2010-08/31/2016

2011-2016 5U01 HG006389 (McCarty, Ritchie PI subcontract)
IRIS: Incorporating Research into Sight: eMERGE II
08/15/2011-07/31/2016

2011-2016 3 UL1 RR033184-01 (Sinoway)
CTSA (Clinical and Translational Science Award)
3/1/2011-2/29/2016

2015-2016 R01GM111913 (Mirshahi and Robishaw)
An integrated approach to study GPCR variants associated with complex diseases.
06/01/2015-8/30/2016

2016-2017 1OT2OD024609-01 (Ledbetter and Ritchie)
Precision Medicine at Geisinger
09/27/2016 – 05/31/2017

2015-2017 1 U01 HG008679-01 (Williams and Ritchie)
EMR-Linked Biobank for Translational Genomics (part of eMERGE-III network)
09/01/2015-12/18/2017

2015-2017 SAP 4100070267 (Ritchie) (Pennsylvania Department of Health)
Integrating Big Data for Biomedical Discovery: Methods, Tools, and Applications
6/1/2015-12/18/2017

2013-2017 2 P01 ES011269-11 (Van de Water, Ritchie sub)
EPA: 83543201 (Van de Water, Ritchie sub)
UC. Davis Center for Children's Environmental Health and Disease Prevention (CCEH)
06/01/2013 – 12/18/2017

2018-2019 P50GM115318-04S1 (Krauss, Ritchie PI Informatics Core)
Pharmacogenomics of Statin Therapy (Informatics Core) – administrative supplement
\$245,954
09/01/2018-08/31/2019

Curriculum Vitae: Marylyn DeRiggi Ritchie

2015-2021 P50GM115318-01 (Krauss, Ritchie PI Informatics Core)
Pharmacogenomics of Statin Therapy (Informatics Core)
\$150,000
07/01/2015-08/30/2021

2015-2021 5R01 AI077505 (MPI, Haas and Ritchie)
Pharmacogenomics of HIV Therapy
\$243,000
07/01/2015-12/31/2021

2016-2021 R01AI116794-01A1 (Moore)
Biomedical Computing and Informatics Strategies for Infectious Disease
Research
\$343,833
04/01/16 – 03/31/21

2019-2023 State of PA DOH Nonformula Tobacco Settlement Act Grant (Berrettini)
Pharmacogenetics of Opioid Use Disorder
\$3,952,162
6/1/2019 – 5/30/2023

2020-2023 Gray Foundation
Determinants of immune activity and molecular features in BRCA 1 / 2 mutation
carriers (Nathanson)
\$3,000,000
07/01/2019-6/30/2023

2020-2023 NIH, NHLBI
Elucidating hereditary transthyretin-mediated heart failure risk using machine
learning, polygenic risk and recall by genotype approaches in African ancestry
individuals (Rader)
\$292,380
09/01/20-08/31/23

2019-2023 R01HL141232
MTSS1 in Myocardial Disease (Cappola)
\$3,164,978
07/01/2019-06/30/2023

2022-2023 R01HG010067
Network-based algorithms for target identification and drug repositioning from
genetic associations (Greene)
\$1,396,502
06/12/22 – 04/30/23

2020-2024 R01GM138597
Unravelling genetic basis of comorbidity using EHR-linked biobank data (Kim)
\$1,915,421
08/01/2020-07/31/2024

2020-2024 U24HG010862
Pharmacogenomics Clinical Annotation Tool (PharmCAT)
\$560,000
08/07/2020-05/31/2024

2021-2025 R01 AI077505
Pharmacogenomics of HIV Therapy
\$1,804,980
04/2021 - 03/2026

Curriculum Vitae: Marylyn DeRiggi Ritchie

2020-2025	R01 RY023557 Primary Open Angle African-American Glaucoma Genetics Study Renewal \$6,645,134 09/01/2020-08/31/2025
2021-2025	R01 AG066833 Artificial Intelligence Strategies for Alzheimer's Disease Research \$8,046,920 9/30/2021-08/31/2026
2021-2025	P30 AG073105 Networking and Mentoring Core of the Penn Artificial Intelligence and Technology (PennAITech) Collaboratory \$817,513 9/30/2021-08/31/2026
2021-2025	UL1 TR001878 Institutional Clinical and Translational Sciences Award \$12,720,728 06/30/2021-05/31/2026
2022-2025	R01 HG012670 Using Behavioral Economics and Implementation Science to Advance the Use of Genomic Medicine Utilizing an EHR Infrastructure across a Diverse Health System \$4,379,282 07/01/2022- 06/30/2027
2023-2025	R01 DK134575 A genomics-based strategy to precision phenotyping and drug repositioning in cardiometabolic diseases \$1,769,706 03/2023 - 12/2027
2023-2025	U24 HG013077 Clinical Implementation Resources for Pharmacogenomics \$280,732 09/2023 - 06/2026
2023-2025	R01 HL168841 Risk Alleles in Protein Quality Control Genes as Modifiers of Hypertrophic Cardiomyopathy \$2,794,192 12/2023 - 11/2027

BIBLIOGRAPHY

Peer-Reviewed Research Papers

1. **Ritchie MD**, Hahn LW, Roodi N, Bailey LR, Dupont WD, Plummer WD, Parl FF, Moore JH. Multifactor dimensionality reduction reveals high-order interactions among estrogen metabolism genes in sporadic Breast Cancer. *American Journal of Human Genetics*, 69:138-147 (2001). [PMID: 11404819](#), [PMCID: PMC1226028](#)
2. Moore JH, Hahn LW, **Ritchie MD**, Thornton TA, White BC. Application of genetic algorithms to the discovery of complex genetic models for simulation studies in human genetics. In: Langdon WB, Cantu-Paz E, Mathias K, Roy R, Davis D, Poli R, Balakrishnan K, Honavar V, Rudolph G, Wegener J, Bull L, Potter MA, Schultz AC, Miller JF, Burke E, and Jonoska N, eds. *Proceedings of the Genetic and Evolutionary Computation Conference, Morgan Kaufmann Publishers*, San Francisco, 1150-55 (2002). [PMID: 23413413](#), [PMCID: PMC3569849](#)
3. Donaldson JC, Dise RS, **Ritchie MD**, Hanks SK. Nephrocystin conserved domains involved in targeting to epithelial cell-cell junctions, interaction with filamins, and establishing cell polarity. *Journal of Biological Chemistry*, 277, 29028-29035 (2002). [PMID: 12006559](#)
4. Hahn LW, **Ritchie MD**, Moore JH. Multifactor dimensionality reduction software for detecting gene-gene and gene-environment interactions. *Bioinformatics*, 19, 376-382 (2003). [PMID: 12584123](#)
5. **Ritchie MD**, Hahn LW, Moore JH. Power of Multifactor Dimensionality Reduction for detecting gene-gene and gene-environment interactions in the presence of genotyping error, missing data, phenocopy, and genetic heterogeneity. *Genetic Epidemiology*, 24, 150-157 (2003). [PMID: 12548676](#)
6. **Ritchie MD**, White B, Parker JS, Hahn LW, and Moore JH. Optimization of neural network architecture improves the power to identify gene-gene interaction in common diseases. *BMC Bioinformatics*, 4:28 (2003). [PMID: 12846935](#), [PMCID: PMC183838](#)
7. Moore JH, Thornton TA, **Ritchie MD**. Basic statistics. *Curr Protoc Hum Genet*. 2003 Aug; Appendix 3: Appendix 3M. doi: 10.1002/0471142905.hga03ms37. [PMID: 18428338](#)
8. Moore JH, Hahn LW, Ritchie MD, Thornton TA, White BC. Routine Discovery of Complex Genetic Models using Genetic Algorithms. *Appl Soft Comput*. 2004 Feb 1;4(1):79-86. [PMID: 20948983](#), [PMCID: PMC2952957](#)
9. Cho YM, **Ritchie MD**, Moore JH, Moon MK, Lee YY, Yoon KH, Sung YA, Lang HC, Park JY, Lee KU, Shin HD, Kim SY, Lee HK, Park KS. Multifactor Dimensionality Reduction reveals a two-locus interaction associated with Type 2 Diabetes Mellitus. *Diabetologia*, 47:549-554 (2004). [PMID: 14730379](#)
10. Tsai CT, Lai LP, Chiang FT, Fallin D, Hwang JJ, **Ritchie MD**, Moore JH, Hsu KL, Tseng CD, Liao CS, Lin JL, Tseng YZ. Renin-angiotensin system gene polymorphisms and Atrial Fibrillation. *Circulation*, 109:1640-1646 (2004). [PMID: 15023884](#)
11. Williams SM, **Ritchie MD**, Phillips JA, Wong LJ, Felder RA, Jose PA, Moore JH. Multilocus analysis of hypertension: a hierarchical approach. *Human Heredity*, 57:28-38 (2004). [PMID: 15133310](#)
12. Coffey CS, Hebert PR, **Ritchie MD**, Krumholz HM, Morgan TM, Gaziano JM, Ridker PM, Moore JH. An application of conditional logistic regression and Multifactor Dimensionality Reduction for detecting gene-gene interactions on risk of Myocardial Infarction: the importance of model validation. *BMC Bioinformatics*, 5:49 (2004). [PMID: 15119966](#), [PMCID: PMC419697](#)
13. **Ritchie MD**, Coffey CS, Moore JH. Genetic programming neural networks: a bioinformatics tool for human genetics. *Lecture Notes in Computer Science*, 3102: 438-448 (2004). [PMID: 20948988](#), [PMCID: PMC2952963](#)

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19. Klein TE, Ritchie MD. PharmCAT: A Pharmacogenomics Clinical Annotation Tool. *Clin Pharmacol Ther*. 2017 Dec 1. [PMID: 29194583](#)
20. Verma A, Ritchie MD. Current Scope and Challenges in Phenome-Wide Association Studies. *Current Epidemiology Reports*. December 2017, Volume 4, Issue 4, pp 321-329. [PMID:29545989](#); [PMCID:PMC5846687](#)
21. Verma SS, Ritchie MD. Another Round of "Clue" to Uncover the Mystery of Complex Traits. *Genes* (Basel). 2018 Jan 25;9(2). pii: E61. [PMID: 29370075](#)
22. Basile AO, Ritchie MD. Informatics and machine learning to define the phenotype. *Expert Rev Mol Diagn*. 2018 Mar;18(3):219-226. doi: 10.1080/14737159.2018.1439380. Epub 2018 Feb 16. [PMID:29431517](#)
23. Ritchie MD, Van Steen K. The search for gene-gene interactions in genome-wide association studies: challenges in abundance of methods, practical considerations, and biological interpretation. *Ann Transl Med*. 2018 Apr;6(8):157. doi: 10.21037/atm.2018.04.05. [PMID:29862246](#). [PMCID: PMC5952010](#)
24. Ritchie MD, Large-Scale Analysis of Genetic and Clinical Patient Data. *Annual Rev Biomedical Data Science*. 2018. Vol. 1:263-274.
25. Li R, Chen Y, Ritchie MD, Moore JH. Electronic health records and polygenic risk scores for predicting disease risk. *Nat Rev Genet*. 2020 Mar 31. doi: 10.1038/s41576-020-0224-1. [PMID: 32235907](#).
26. Bao J, Lee BN, Wen J, Kim M, Mu S, Yang S, Davatzikos C, Long Q, Ritchie MD, Shen L. Employing Informatics Strategies in Alzheimer's Disease Research: A Review from Genetics, Multiomics, and Biomarkers to Clinical Outcomes. *Annu Rev Biomed Data Sci*. 2024 Jun 7. doi: 10.1146/annurev-biodatasci-102423-121021. Online ahead of print. [PMID: 38848574](#)
27. Moore A, Ritchie MD. Is the Relationship Between Cardiovascular Disease and Alzheimer's Disease Genetic? A Scoping Review. *Genes* (Basel). 2024 Nov 25;15(12):1509. doi: 10.3390/genes15121509. [PMID: 39766777](#), [PMCID: PMC11675426](#)

Non-Peer Reviewed Papers/Chapters/Books

1. Moore JH, Thornton TA, Ritchie MD. Basic statistics. In: Dracopoli NC, Haines JL, Korf BR, Moir DT, Morton CC, Seidman CE, Seidman JG, Smith DR. (eds). *Current Protocols in Human Genetics*. Wiley-Liss, Inc., New York, A.3M.1-A.3M.10 (2003).

Curriculum Vitae: Marylyn DeRiggi Ritchie

2. Ritchie MD, White BC, Parker JS, Hahn LW, Moore JH. Optimization of neural networks using genetic programming improves detection and modeling of gene-gene interactions in studies of human diseases. *Genetic and Evolutionary Computation Conference Proceedings* (2003). PMID: [12846935](#), PMCID: [PMC183838](#)
3. Ritchie MD, Moore JH. Biological applications of genetic and evolutionary computation. *Genetic and Evolutionary Computation Conference Workshop Proceedings* (2004).
4. Ritchie MD. Model Validation in Biological Applications of Genetic and Evolutionary Computation. *Genetic and Evolutionary Computation Conference Workshop Proceedings* (2004).
5. Ritchie MD. A review of computational approaches for detecting interactions. Educational Program. *American Association of Cancer Research* (2005).
6. Wilke RA, Carrillo MW, Ritchie MD. Pacific symposium on biocomputing - computational approaches for pharmacogenomics. *Pharmacogenomics*, 6(2):111-3 (2005). PMID: [15882130](#)
7. Ritchie MD, Carillo MW, Wilke RA. Computational approaches for pharmacogenomics. *Pacific Symposium on Biocomputing Proceedings*. 2005:245-7. PMID: [15759630](#)
8. Carillo MW, Wilke RA, Ritchie MD. Computational approaches for pharmacogenomics. *Pacific Symposium on Biocomputing Proceedings*, 11:544-546 (2006). PMID: [15759630](#)
9. Williams SM, Canter JA, Crawford DC, Moore JH, Ritchie MD, Haines JL. Problems with genome-wide association studies. *Science*. 2007 Jun 29;316(5833):1840-2. PMID: [17605173](#)
10. Aguilar-Ruiz J, Moore JH, Ritchie MD. Filling the gap between Biology and Computer Science. *BioData Mining*, 1:1 (2008). doi: 10.1186/1756-0381-1-1. PMID: [18822148](#), PMCID: [PMC2547862](#)
11. Haines JL, Crawford DC, Ritchie MD. A Primer in Statistical Methods in Genetics. In: Roden DM (ed), *Cardiovascular Genetics and Genomics*, Blackwell publishing (2009).
12. Pizzuti C, Ritchie MD, Giacobini M (eds). *Evolutionary Computation, Machine Learning and Data Mining in Bioinformatics: 7th European Conference, Proceedings EvoBIO 2009*. Springer publishing (2009).
13. Moore JH, Clegg J, Marchiori E, Ritchie MD, and Smith S. Artificial Evolution Methods in the Biological and Biomedical Sciences. *JAEA*. 2009.
14. Pizzuti C, Ritchie MD, Giacobini M (eds). *Evolutionary Computation, Machine Learning and Data Mining in Bioinformatics: 8th European Conference, Proceedings EvoBIO 2010*. Springer publishing (2010).
15. Ritchie MD, Bush WS. Genome Simulation: Approaches for Synthesizing *In Silico* Datasets for Human Genomics. In: *Advances in Genetics, Vol. 72*, Elsevier Inc (2010). doi: 10.1016/B978-0-12-380862-2.00001-1. PMID: [21029846](#)
16. Moore JH, Ritchie MD. The central role of biological data mining in connecting diverse disciplines. *BioData Mining* 2013, 6:14. doi: 10.1186/1756-0381-6-14. PMID: [23937773](#), PMCID: [PMC3765075](#)
17. Ritchie MD, Reducing Dimensionality in the Search for Gene-Gene Interactions. In: *Between the Lines of Genetic Code*. Elsevier Inc (2014).
18. Ritchie MD. Finding the Epistasis Needles in the Genome-Wide Haystack. In: *Epistasis: Methods and Protocols, Methods Mol Biol*. 2015;1253:19-33. doi: 10.1007/978-1-4939-2155-3_2. PMID: [25403525](#)
19. Ritchie MD, Study design and analysis approaches in pharmacogenomics research. In: *Pharmacogenomics: Applications to Patient Care*, Third Edition. ACCP (2015).
20. Ritchie MD, Moore JH, Kim JH. Translational Bioinformatics: Biobanks in the Precision Medicine Era. *Pac Symp Biocomput*. 2020;25:743-747. PMID: [31797645](#)

Curriculum Vitae: Marylyn DeRiggi Ritchie

21. Moore JH, Barnett I, Boland MR, Chen Y, Demiris G, Gonzalez-Hernandez G, Herman DS, Himes BE, Hubbard RA, Kim D, Morris JS, Mowery DL, Ritchie MD, Shen L, Urbanowicz R, Holmes JH. Ideas for how informaticians can get involved with COVID-19 research. Version 2. *BioData Min.* 2020 May 12;13:3. doi: 10.1186/s13040-020-00213-y. eCollection 2020. PMID: 32419848; PMCID: PMC7216865
22. Scott WS, Ritchie MD (eds.) Genetic Analysis of Complex Disease, 3rd edition. Wiley, in press 2021. <https://www.wiley.com/en-us/Genetic+Analysis+of+Complex+Disease%2C+3rd+Edition-p-9781118123911> ISBN: 978-1-118-12391-1

ABSTRACT CONTRIBUTED PRESENTATIONS

2003 “Optimization of Neural Networks using Genetic Programming to Improve Detection and Modeling of Gene-Gene Interactions in Studies of Human Diseases,” Biological Applications in Genetic and Evolutionary Computation, Chicago, IL (Host: Wolfgang Banzhaf, peer-reviewed)

2003 “Optimization of Neural Networks using Genetic Programming to Improve Detection and Modeling of Gene-Gene Interactions in Studies of Human Diseases,” Genetic and Evolutionary Computation Conference, Chicago, IL (Host: James Foster)

2004 “How Can We Detect Gene-Gene Interactions in Pharmacogenomic Studies?” Pharmacogenetics Research Network - Statistics Workshop, Los Angeles, CA (Host: Mike Province)

2004 “Model Validation Strategies in Biological Applications of Genetic and Evolutionary Computation,” Biological Applications of Genetic and Evolutionary Computation Workshop, Seattle, WA (Host: Jason Moore, peer-reviewed)

2004 “GPNN as a Bioinformatics Tool for Human Genetics,” Genetic and Evolutionary Computation Conference, Seattle, WA (Host: James Foster, peer reviewed)

2004 “MDR Reveals Gene-Gene Interactions Associated with Multiple Sclerosis,” American Society of Human Genetics, Toronto, Canada, peer-reviewed

2004 “Gene-Gene Interaction Associated with Response to Treatment of Unipolar Major Depression Disorder,” Cold Spring Harbor Laboratory: Pharmacogenomics, Cold Spring Harbor, NY, Peer-reviewed

2005 “Computational Approaches for Pharmacogenomics,” Session Introduction at the Pacific Symposium on Biocomputing, The Big Island, HI (Host: Russ Altman, peer-reviewed)

2005 “Computational Approaches for Pharmacogenomics,” Leader of Discussion Session at the Pacific Symposium on Biocomputing, The Big Island, HI (Host: Russ Altman)

2005 “Can Neural Network Constraints in GP Provide Power to Detect Genes Associated with Human Disease?” European Workshop on Evolutionary Computation and Bioinformatics, Lausanne, Switzerland (Host: Elena Marchiori, peer-reviewed)

2005 “Multifactor Dimensionality Reduction and the Power to Detect Pharmacogenomic Effects in Treatment of Tenureitis,” Pharmacogenetics Research Network Statistics Workshop, Chicago, IL (Host: Nancy Cox and Mike Province, peer-reviewed)

Curriculum Vitae: Marylyn DeRiggi Ritchie

2005 “Challenges and Strategies for Whole Genome Association Studies,” American Society of Human Genetics, Salt Lake City, UT (Host: David Cox, peer-reviewed) *Given by Dr. Jonathan Haines due to maternity leave*

2006 “Tutorial on Computational Approaches for Pharmacogenomics,” Pacific Symposium on Biocomputing, Maui, Hawaii (Host: Larry Hunter, peer-reviewed) *Given by Alison A. Motsinger due to maternity leave*

2006 “GenomeSim: Data Simulation Software for Whole-Genome Association Studies,” Pacific Symposium on Biocomputing, Maui, HI (Host: Russ Altman, peer-reviewed) *Given by Alison A. Motsinger due to maternity leave*

2006 “Grammatical Evolution Neural Networks: A Powerful Gene-Gene Interaction Detection Method,” Genetic Analysis Workshop Special Session, St. Petersburg, FL (Host: Jean MacCleur, peer-reviewed)

2006 “The Potential of a Sequential Replication Approach for Whole Genome Association Studies,” International Genetic Epidemiology Society, Tampa, FL (Host: Jeanne Cashman, peer-reviewed)

2006 “PLATO: A Platform for the Analysis, Translation, and Organization of Large Scale Data,” Pharmacogenetics Research Network Analysis Workshop, Nashville, TN (Host: Mike Province, peer-reviewed)

2008 “Thinking about Epistasis in Whole Genome Association Studies,” Pharmacogenetics Research Network Analysis Workshop, Memphis, TN (Host: Mary Relling, peer-reviewed)

2009 “Genome-wide association study identifies novel genomic regions associated with drug-induced Long QT Syndrome,” CSHL-Wellcome Trust Pharmacogenomics Meeting, Hinxton, UK. (Host: Steve Leeder, peer-reviewed)

2009 “Genome-wide association study identifies novel genomic regions associated with drug-induced Long QT Syndrome,” American Society for Human Genetics, Honolulu, HI. (peer-reviewed)

2010 “Using Biological Knowledge to Guide the Search for Epistasis in Genome-Wide Association Studies”, American Society of Human Genetics, Washington DC. peer-reviewed

2010 “Chromosome 4q25 variants are genetic modifiers of rare ion channel mutations associated with familial atrial fibrillation”, American Society of Human Genetics, Washington DC. peer-reviewed

2010 “Rare and Common Variants for Atrial Fibrillation”, PGRN Statistical Analysis Workshop, Nashville, TN. peer-reviewed

2011 “Meta-dimensional analysis of phenotypes”, International Congress on Human Genetics, Montreal, Canada, peer-reviewed

2012 “Meta-dimensional Analysis Of Complex Biological Traits Using ATHENA”, Genetic Programming Theory in Practice, Ann Arbor, MI. peer-reviewed

2013 “Using Biological Knowledge in Modern Genomic Analysis of Complex Traits”, Epistasis Discovery in Genetic Epidemiology (EDGE) 2013 Workshop, Key West, FL

Curriculum Vitae: Marylyn DeRiggi Ritchie

2013 “Next generation analysis of human genome sequence”, Pharmacogenomics Research Network Scientific Meeting, Chicago IL. peer-reviewed

2014 “Rare Variants in the Pharmacogenomics Studies “, American Society of Clinical Pharmacology and Therapeutics (ASCPT), Atlanta, GA

2015 “Binning Somatic Mutations based on Biological Knowledge for Predicting Survival: an Application in Renal Cell Carcinoma”, Pacific Symposium on Biocomputing (PSB), Big Island, Hawaii

2016 “The Public Sharing of Genomic Data from the DiscovEHR Collaboration”, American Society of Human Genetics, Vancouver, Canada

INVITED PRESENTATIONS

2001 “Approaches to Detecting Epistasis in Sporadic Breast Cancer,” The Second Annual Genetics Symposium, Meharry Medical College, Nashville, TN (Host: Ellen Wright Clayton)

2001 “An Introduction to Neural Network Models for Statistical Data Analysis,” Quantitative Brown Bag Seminar Series, Vanderbilt University, Nashville, TN (Host: Niels Waller)

2001 “Quantitative Resources on the WWW,” Quantitative Brown Bag Seminar Series, Vanderbilt University, Nashville, TN (Host: Niels Waller)

2001 “Gene-Gene Interactions in Common, Complex Diseases,” Molecular Physiology and Biophysics Seminar Series, Vanderbilt University, Nashville, TN (Host: Alan Cherrington)

2002 “Genetic Programming Optimization of Neural Network Architecture for the Detection of Gene-Gene Interactions,” Biomathematics Seminar Series, Vanderbilt University, Nashville, TN (Host: Peter Hinow)

2002 “Neural Networks for Detecting Gene-Gene Interactions,” Molecular Physiology and Biophysics Seminar Series, Vanderbilt University, Nashville, TN (Host: Alan Cherrington)

2003 “Data Reduction and Pattern Recognition Approaches for Complex Genetic Analysis,” Statistical Genetics Seminar Series, Rockefeller University, New York, NY (Host: Jurg Ott, invited)

2003 “Data Reduction and Pattern Recognition Approaches for Complex Genetic Analysis,” Clinical Epidemiology and Biostatistics Faculty Candidate Seminar, University of Pennsylvania, Philadelphia, PA (Host: Tim Rebbeck, invited)

2003 “Data Reduction and Pattern Recognition Approaches for Complex Genetic Analysis,” Bioinformatics Faculty Candidate Seminar, Medical University of South Carolina, Charleston, SC (Host: Eberhard Voit, invited)

2003 “Data Reduction and Pattern Recognition Approaches for Complex Genetic Analysis,” Human Genetics Faculty Candidate Seminar Series, Wake Forest University, Winston-Salem, NC (Host: Stephen Rich, invited)

2003 “Computational Approaches for Detecting Gene-Gene Interactions,” Intelligent Systems for Molecular Biology Conference, Brisbane, Australia (Host: Mark Ragan, invited)

Curriculum Vitae: Marylyn DeRiggi Ritchie

2003 “Optimization of Neural Networks using Genetic Programming to Improve Detection and Modeling of Gene-Gene Interactions in Studies of Human Diseases,” National Library of Medicine Training Directors’ Conference, Bethesda, MD (Host: Carol Bean, invited)

2003 “Neural Networks for Detecting Gene-Gene Interactions,” Epidemiology Faculty Candidate Seminar Series, Wake Forest University, Winston-Salem, NC (Host: Lynne Wagenknecht, invited)

2003 “Data Mining and Pattern Recognition Approaches for Detecting Gene-Gene Interactions,” Statistical Genetics Interview Seminar, Bristol-Myers Squibb, Hopewell, NJ (Host: Kim Zerba, invited)

2003 “Computational Approaches for Detecting Gene-Gene Interactions,” Molecular Physiology & Biophysics Faculty Candidate Seminar Series, Vanderbilt University, Nashville, TN (Host: Alan Cherrington, Jonathan Haines)

2003 “Neural Networks for Detecting Gene-Gene Interactions,” Department of Human Genetics, University of Pittsburgh, Pittsburgh, PA (Host: Bob Ferrell, invited)

2004 “Analysis of Genome-Wide Epistasis via Dimensionality Reduction Procedures,” International Biometric Society, Eastern North American Region 2004, Pittsburgh, PA (Host: David Allison, invited)

2004 “How to Look for Gene-Gene Interactions using Multifactor Dimensionality Reduction,” Vanderbilt University GCRC Skills Workshop, Nashville, TN (Host: Dan Byrne)

2004 “Genome-Wide Association Studies: Challenges, Strategies, and MDR,” Vanderbilt University Genetic Interest Group Seminar Series, Nashville, TN (Host: Kelly McDermott)

2004 “Neural Networks Approaches for Genetic Studies,” Marshfield Clinic Research Foundation Scientific Seminar Series, Marshfield, WI (Host: Russell Wilke, invited)

2004 “Dissecting the Genetics of Complex Disease,” National Society of Genetic Counselors, Washington, DC, invited

2005 “Parallel Multifactor Dimensionality Reduction: Applications in Rheumatoid Arthritis,” Invited Presentation, Universitat Politecnica, Barcelona, Spain (Host: Sara Marsal, invited)

2005 “Computational Approaches to Detecting Interactions,” Educational Session on Gene-Gene Interactions in Cancer Etiology at the AACR, Anaheim, CA (Host: Jason Moore, invited)

2005 “Multifactor Dimensionality Reduction for Detecting Epistasis,” Joint Conference of the Classification Society of North America and the Interface Foundation of North America, St. Louis, MO (Host: Rob Culverhouse, invited)

2005 “Multifactor Dimensionality Reduction for the Analysis of Pharmacogenomics Data,” Beyond Genome 2005: Genomic Variation, San Francisco, CA (Host: Catherine Liscandra, peer-reviewed)

2005 “Detecting Gene-Gene Interactions Using Multifactor Dimensionality Reduction,” Joint Statistical Meetings, Minneapolis, MN (Host: Cheng Cheng, invited)

Curriculum Vitae: Marylyn DeRiggi Ritchie

2005 “Multifactor Dimensionality Reduction for the Analysis of Epistasis in Studies of Human Disease and Pharmacogenomics,” Boehringer-Ingelheim Invited Special Seminar, Danbury, CT (Host: Supriya Jayadev, invited)

2005 “Data Mining Approaches in Biological Sciences,” Fields Institute on Data Mining, Toronto, Canada (Host: Helmut Kroger, invited)

Given by Will Bush due to maternity leave

2006 “The Complexities of Data Analysis in Human Genetics,” Complex Data Conference, Vanderbilt University Kennedy Center, Nashville, TN (Host: Jennifer Blackford, invited)

2006 “Multifactor Dimensionality Reduction for Detecting Gene-Gene and Gene-Environment Interactions,” Vanderbilt University Center for AIDS Research, Nashville, TN (Host: Todd Hulgan, invited)

2006 “Challenges and Strategies for Whole-Genome Association Studies,” Boehringer Ingelheim Invited Speaker, Danbury, CT (Host: Jing Yuan, invited)

2007 “Computational Genetics Approaches in Cancer Epidemiology,” University of Miami Bio-behavioral Oncology and Cancer Control Program Meeting, Miami, FL (Host: Jennifer Hu, invited)

2007 “The MDR Approach,” ECNIS WP 7-8 Workshop, “AFTER GWAS: an Exercise in Problem Solving,” Venice, Italy (Host: Paolo Vineis, invited)

2007 “Computational Genomics in the Whole Genome Era,” University of Virginia, Charlottesville, NC (Host: Stephen Rich, invited)

2008 “Computational Genomics in the Whole Genome Era,” Washington University in St. Louis, St. Louis, MO (Host: Mike Province, invited)

2008 “A Bio-filter for Systems Biology,” NEWGENERIS Workshop, Athens, Greece (Host: S.A. Kyrtopoulos, invited)

2008 “Epistasis Modeling,” Keystone Symposium on Towards Identifying the Pathophysiology of Autistic Syndromes, Santa Fe, NM (Host: Joseph Piven and Pat Levitt, invited)

2008 “Epistasis, Stratification, and Confounding: Lessons from Genomic Analyses,” ASCPT, Orlando, FL (Host: Issam Zineh, invited)

2008 “Computational Genomics in the GWAS Era,” NIEHS, Raleigh-Durham, NC (Host: Gregg Dinse, invited)

2009 Invited Seminar, University of Alabama Department of Genetics, Birmingham, AL (Host: Hemant Tiwari, invited)

2009 “Computational Strategies for Genome-Wide Association Studies,” Korea Pharmacogenetics Research Network Annual Symposium, Seoul, Korea (Host: Ju Han Kim, invited)

2009 “Individual Opt-Out: Efficacy, Challenges, and Concerns,” American Society for Human Genetics, Honolulu, HI. (Host: Laura Rodriguez, invited)

Curriculum Vitae: Marylyn DeRiggi Ritchie

2009 “Genome Wide Association Studies,” Annual Education Conference of the National Society of Genetic Counselors, Atlanta, GA.

2010 “Summary of the state-of-the-art for gene-gene interaction analysis,” CDGCA, Belgium, Host: Kristel Van Steen, invited

2010 “Beyond GWAS: Integrating Transcriptome, Proteome, and Pathway Data in the Genetic Dissection of Complex Traits”, Huck Institutes of Life Sciences, Pennsylvania State University, State College, PA

2011 “Pharmacogenetics using the electronic medical record and a large institutional biobank”, Dartmouth Medical School, Lebanon, NH

2011 “Bringing Biology Back to Human Genomics”, University of Nottingham, Nottingham, UK

2011 “Surfing the Tsunami of Human Genetic Data”, University of Idaho, Moscow, ID

2011 “Phenotype-Genotype Associations in DNA Biobanks Linked to Electronic Medical Records”, Asia-Pacific Translational Bioinformatics Conference, Seoul, Korea

2011 “Using Biological Knowledge in Modern Genomic Analysis of Complex Traits”, University of California at Davis (Host: Isaac Pessah)

2011 “Using biological knowledge to inform complex genetics analysis”, NIEHS meeting Bioinformatics and Computational Approaches to Integrate Genes and Environment in Autism Research, Durham, NC

2011 “Beyond GWAS: Integrating Transcriptome, Proteome, and Pathway Data in the Genetic Dissection of Complex Traits”, Flash Poster Talk, Kavli Frontiers in Science, National Academy of Science, Irvine, CA

2011 “Genomics and Pharmacogenomics using the electronic medical record and a large institutional biobank”, Geisinger Clinic, Weis Center for Research, Danville, PA (Host: David Carey)

2012 “Meta-Dimensional Analysis of Phenotypes to Dissect the Architecture of Complex Traits”, Keystone Symposium, Complex Traits: Genomics and Computational Approaches, Breckenridge, CO

2012 “Mining electronic health records for genomic research – experiences of the eMERGE network”. Inaugural Symposium of Penn State Hershey Institute for Personalized Medicine, Hershey, PA

2012 “Searching for the missing heritability in gene-gene and gene-environment interactions”, University of Georgia Symposium, Methodological and Statistical Issues in Gene-Environment and Gene-Gene Interaction Research, Atlanta, GA

2012 “The phenome and pleiotropy: Dissecting the architecture of complex traits”, AACR-MEG Special Conference on Post-GWAS Horizons in Molecular Epidemiology: Digging Deeper into the Environment, Hollywood, FL

2012 “Meta-Dimensional Analysis for Dissecting the Architecture of Complex Traits”, University of Liege, Liege, Belgium

Curriculum Vitae: Marylyn DeRiggi Ritchie

2013 “Overview of pharmacogenomics, gene-gene interactions, system genomics”, Eastern North America Region International Biometric Society 2013, Orlando, FL

2013 “Analytic approaches for complex trait analysis”, American Association of Cancer Research Educational Session, Washington DC

2013 “The Next Frontier in Genomics: Data Analysis Strategies”, Ohio State University Comprehensive Cancer Center Annual Scientific Meeting, Columbus OH

2013 “Complex genetic analysis: Searching for the missing heritability”, Ohio State University, Columbus OH

2013 “Analysis technologies to go beyond a single gene: the quest for understanding genetic architecture”, University of Maryland, Baltimore MD

2013 “Bioinformatics tools for incorporating biological knowledge into genetic analysis”, Advances in Statistical Methods for Cancer Genetic Epidemiology. Memorial Sloan-Kettering, New York, NY. Host: Sanjay Shete.

2013 “Bringing Biology back to Genomics”. University of Pittsburgh, Pittsburgh, PA. Host: Robert Ferrell.

2013 “The quest for understanding genetic architecture”, University of Chicago, Chicago IL. Host: Barbara Stranger.

2014 “Challenges in Modeling Interactions”, EDGE: Epistasis Discovery in Genetic Epidemiology, Key West, Florida, Host: Jason Moore.

2014 “Top Ten Challenges in Data Simulations”, Genetic Simulation Tools Post-GWAS, National Cancer Institute Workshop, Host: Elizabeth Gillanders and Leah Mechanic

2014 “Making sense of genome-phenome relationships“, The Biology of Genomes, Cold Spring Harbor, NY, Host: Carlos Bustamante

2014 “Mining the EMR for genome-phenome associations“, Big Data in Biomedicine, Stanford University, Host: Russ Altman

2014 “Data fusion in the omic universe”, Mid-Atlantic Genetic Epidemiology & Statistics (MAGES), Children’s Hospital of Philadelphia-U Penn, Host: Marcella Devoto

2014 “Big Data”, KAVLI Frontiers in Science, Medan Indonesia, Host: Edward Patte

2014 “Exploring the Genetic Architecture of Complex Traits“, UC Davis, Host: Irva Hertz-Piccoto

2014 “Exploring Genome-Phenome Relationships in an Electronic Health Record“, CTSI Lecture, Penn State Medical Center, Hershey, PA, Host: Larry Sinoway

2014 “Mining electronic health records and genomics”, KOSMI, Pusan S. Korea, Host: Ju Han Kim

Curriculum Vitae: Marylyn DeRiggi Ritchie

2015 “Significance of Gene-Gene Interactions/Epistasis”, Pacific Symposium on Biocomputing (PSB), Big Island, Hawaii, Host: Sarah Pendergrass

2015 “Exploration of the EHR Universe: Big Data for Predictive Genomics”, Indo-US Bilateral Conferences-cum-Workshop: Big Data Analysis and Translation in Disease Biology (Big Data and Disease)-2015, New Delhi, India, Host: Indira Ghosh

2015 “Genomics and the Electronic Health Record - a dynamic duo made for Precision Medicine”, Biomedical Informatics Annual Retreat keynote, Ohio State University, Columbus, Ohio, Host: Phillip Payne

2015 “Genomics and the Electronic Health Record - a dynamic duo made for Precision Medicine”, Institute for Computational Biology Symposium, Case-Western Reserve University, Host: Dana Crawford

2015 “A game of Clue – which ‘omics are guilty?” IGES-ASHG Joint Symposium, Baltimore, Maryland

2015 “Electronic health records and genomics: A dynamic duo for precision medicine”, Presidential Symposium, American Society of Human Genetics, Baltimore, Maryland, Host: Neil Risch

2015 “Using genomics and electronic health records for precision medicine - thinking about the future”, Pharmacogenomics Research Network: Research in Progress seminar series, Webinar, Host: Kathy Giacomini

2015 “Exploring the Use of Electronic Health Records and Genomics for Precision Medicine”, Biotech Symposia, Simons Foundation and the New York Bioinformatics Group, New York, New York, Host: Doron Betel

2015 “Electronic health records and genomics – a dynamic duo for precision medicine”, Integrative Biostatistics Research for Imaging, Genomics, & High-throughput Technologies in Precision Medicine (iBRIGHT), Houston, Texas, Host: Pei Weng

2015 “Electronic health records and genomics – a dynamic duo for precision medicine”, Translational Bioinformatics Conference (TBC), Tokyo, Japan, Host: Tomohiro Sawa

2016 “Integrating Genomics into the Electronic Health Record for Precision Medicine”, HCSRN Precision Oncology Symposium, Atlanta, Georgia, Host: Larry Kushi

2016 “Precision Medicine – The Beginning of a Long Voyage”, Keynote at Annual Retreat, Institute for Biomedical Informatics (IBI) and the Graduate Group in Genomics and Computational Biology (GCB), University of Pennsylvania, Philadelphia, Pennsylvania, Hosts: Li-San Wang and Ben Voight

2016 “Methods for Integrating Data to Uncover Genotype-phenotype Interactions”, American Society for Bone and Mineral Research (ASBMR), Atlanta, Georgia, Host: Fernando Rivadeneira

2016 “DNAnexus: The Geisinger Experience”, DNAnexus Connect, San Francisco, California, Host: Angela Anderson

2016 “Genomics and Precision Medicine: approaches and challenges”, University of Pennsylvania, Philadelphia, Pennsylvania, Host: Dan Rader

Curriculum Vitae: Marylyn DeRiggi Ritchie

2017 “Applications in Multi-omics data integration”, No Boundary Thinking Workshop, Pacific Symposium on Biocomputing, Big Island, Hawaii, Host: Jason Moore

2017 “Phenotypes: The next frontier for precision medicine” Precision Medicine Fusion Conference, Cancun, Mexico (my talk by video broadcast), Host: Michael Snyder

2017 “PharmCAT: Pharmacogenomics Clinical Annotation Tool”, Precision Medicine Fusion Conference, Cancun, Mexico (my talk by video broadcast), Host: Michael Snyder

2017 “PharmCAT: A Tool for Pharmacogenomics Implementation”, Clinical Pharmacogenetics Implementation Consortium Meeting, Washington DC, Host: Mary Relling

2017 “PharmCAT: A Tool for Pharmacogenomics Implementation”, NHGRI Genomic Medicine X: Pharmacogenomics, Silver Spring, Maryland, Host: Teri Manolio

2017 “Machine Learning Strategies in the Genome and the Phenome – Toward a Better Understanding of Complex Traits”, Department of Biomedical Informatics, Harvard Medical School, Boston, Massachusetts, Host: Isaac Kohane

2017 “Multi-omics data integration”, European Society of Human Genetics annual meeting, Copenhagen, Denmark

2017 “Meta-dimensional methods for ‘omics data integration”, Retreat talk, Department of Genetics, University of Pennsylvania

2017 “Precision Medicine: Study Designs, Tools, and Applications”, Tutorial, Translational Bioinformatics Conference, Long Beach, CA, Host: Dokyoon Kim

2017 “What does the future hold in precision medicine?”, Illumina workshop, American Society of Human Genetics annual meeting, Orlando, FL. Host: Jay Kaufman

2017 “Machine learning strategies in the Genome and the Phenome”, University of Virginia seminar, Host: Charles Farber

2017 “It’s All in the Genes: The Science Behind Customizing Patient Care”, ASHP midyear clinical meeting and exposition, Orlando, FL. Host: Cynthia Von Heerigan

2018 “Machine Learning in the Genome and Phenome to Understand Complex Traits: Discovery Science for Precision Medicine”, University of California, San Francisco, PREMIER Symposium. Host: Lindsey Criswell

2018 “PheWAS in Populations: Exploring the relationship between the genome and the phenome”, Lorne Genome Conference 2018, Lorne Australia. Host: Traude Beilharz

2018 “Exploring the relationship between the genome and the phenome”, Melbourne Integrative Genomics (MIG) at The University of Melbourne. Host: Andrew Siebel

2018 “PheWAS in Populations: Exploring the relationship between the genome and the phenome”, Institute for Computational Biomedicine (ICB) seminar, Weill Cornell. Hosts: Drs. Doron Betel and Olivier Elemento

Curriculum Vitae: Marylyn DeRiggi Ritchie

2018 “Experiences from Electronic Health Records (EHRs) and what we can expect in the future”, Informing Environmental Health Decisions Through Data Integration Workshop, National Academy of Science, Washington DC, Host: Ben Wender

2018 “Exploring the Genome and the Phenome – Toward a Better Understanding of Complex Traits”, Academic Health Center, University of Minnesota, Duluth campus. Host: Catherine McCarty

2018 “Exploring the Genome and the Phenome – Toward a Better Understanding of Complex Traits”, 3rd Midwest Bioinformatics Conference, University of Missouri, Columbia, MO. Host: Mark Hoffman.

2018 “Exploring the Genome and the Phenome with Machine Learning”, Copenhagen Novo Nordisk Foundation (NNF) symposium. Copenhagen, Denmark. Host: Ramneek Gupta

2018 “Using your spidey sense to guide research using machine learning in electronic health records”, Denmark Technical University, Big Data Workshop, Copenhagen, Denmark, Host: Ramneek Gupta

2018 “Pharmacogenomics: Personalizing Medicine since 2005” Keynote at Penn 2nd annual precision medicine symposium, Philadelphia PA, Host: David Roth

2018 “Gene-Environment interaction = the missing piece of precision medicine?”, Total Exposure Health 2018 Conference, Bethesda, MD, Host Justin Teegarden

2018 “Machine Learning Strategies in the Genome and the Phenome – Toward a Better Understanding of Complex Traits”, NY Genome Center, New York, NY, Host: Nicolas Robine

2018 “Exploring the World of Phenomics”, IGES Educational Symposium, San Diego, CA, Host: Stephanie A. Santorico

2018 “Meta-dimensional analysis of multi-omics data”, CHOP/UPENN Mid Atlantic Bioinformatics conference, Philadelphia, PA, Host: Kai Wang

2018 “Exploring the world of phenomics in electronic health records”, CIFAR Genetic Networks symposium, Toronto, Canada, Host: Charlie Boone

2019 “Training the next generation of biomedical scientists for success in today’s world” Pacific Symposium on Biocomputing, Big Island, HI, Host: Teri Klein

2019 “Machine Learning Strategies in the Genome and the Phenome – Toward a Better Understanding of Complex Traits”, Vanderbilt University, Nashville, TN, Host: Nancy Cox

2019 “Exploring meta-dimensional models of multi-omics data using machine learning” NMBIST, Sante Fe, NM, Host: Lisana Chavez

2019 “Phenomics in Electronic Health Records”, CHOP Scientific Symposium, Philadelphia, PA, Host: Yi Xing.

2019 “When Precision Medicine Get Personal”, Fusion Personalized Medicine Conference, Puerto Vallarta, Mexico, Host: David Roth

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- 2019 “Machine Learning to Identify Phenotypes from Electronic Health Records”, Fusion Personalized Medicine Conference, Puerto Vallarta, Mexico, Host: David Roth
- 2019 “Embracing the Complexity of Complex Traits”, Workshop on Statistical Challenges in Medical Data Science, Ascona, Switzerland, Host: Niko Beerenwinkel
- 2019 “Phenotype opportunities from electronic health records”, International Society of Pharmacoepidemiology (ISPE), Philadelphia, PA, Host: Leah Sansbury
- 2019 “EHR phenomics for precision medicine”, University of Pennsylvania Department of Genetics retreat, Bear Creek, PA, Host: Dan Rader
- 2019 “Leveraging Translational Research for the Advancement of Drug Discovery and Understanding of Complex Disease”, DNAnexus Connect, Boston, MA, Host: Brady Davis
- 2019 “The power of the EHR for genome-phenome exploration”, VA Million Veterans Program Research meeting, Philadelphia, PA, Host: Kyong-Mi Kim
- 2019 “The power of the EHR for genome-phenome exploration”, First Penn Conference on Big Data in Population Health Sciences, Philadelphia, PA, Host: Jason Moore
- 2019 “Exploring genomics and phenomics with machine learning toward an improved understanding of complex traits”, EMBO|EMBL Symposium “Systems Genetics: From genotypes to complex traits”, Heidelberg, Germany, Host: Tuuli Lappalainen, PhD
- 2019 “Translational bioinformatics using the electronic health record: harnessing the power of clinical data”, Institute for Translational Medicine and Therapeutics Symposium, Philadelphia, PA, Host: Garret Fitzgerald
- 2019 “Exploring the phenome and the relationship with the genome using EHR-linked biobanks”, American Society of Human Genetics, Houston, TX, Host: ASHG Program Committee
- 2019 “Implementing genomics into clinical care – a vision for the future of medicine”, Thomas Jefferson Departmental seminar, Clinical Pharmacology, Philadelphia, PA, Host: Scott Waldman
- 2019 “Pharmacogenomics for precision medicine”, American Society of Health System Pharmacists (ASHP), Las Vegas, NV, Host: ASHP program committee
- 2020 “Why use biobanks for precision medicine”, Pacific Symposium on Biocomputing, Big Island, Hawaii, Host: Ju Han Kim
- 2020 “Making Precision Medicine Mainstream with Health Data: Challenges to Acceleration: Informatics and Analytics”, Precision Medicine World Conference, San Jose, CA, Host: Tal Behar
- 2020 “The power of electronic health records for precision medicine research”, Calico Life Sciences invited seminar, San Francisco, CA, Host: David Botstein
- 2020 “Machine learning for identifying phenotypes in electronic health records”, International Molecular Medicine Tri-Conference, San Francisco, CA, Host: Emily Le.

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2020 “Translational bioinformatics using the electronic health record: harnessing the power of clinical data”, Northwestern University, Feinberg School of Medicine, Distinguished Lectures in Life Sciences, Chicago, IL, Host: Justin Starren

2020 “The power of medical biobanks for precision medicine”, Columbia University Precision Medicine Initiative Conference, Virtual Conference, Host: Tom Maniatis

2020 “COMPACTS: COVID Observational and Multiomic Penn and Community Together Study”, Cancer Center COVID-19 Retreat, University of Pennsylvania, Abramson Cancer Center, Virtual Conference, Host: Angela DiMichele

2020 “The Future is Now: how technology and AI have advanced genomics and medicine”, UCSF AI4All Camp ,Closing Keynote, Virtual Program, Host: Mirina Sirota and Tomiko Oskotsky

2020 “Electronic Health Records – Fueling Precision Medicine”, 9th Annual Big Data in Biomedicine Symposium, Georgetown University, Virtual Conference, Host: Subha Madhavan

2020 “Electronic Health Records – Fueling Precision Medicine”, Margaret Prine Joy Lecture in Reproductive Sciences, Magee Women’s Research Institute Retreat, Virtual Conference, Host: Judith Yanowitz

2020 “Medical Biobanks for Precision Medicine Research”, Cancer Outcomes Seminar at the University of Alabama at Birmingham, Virtual seminar, Host: Smita Bhatia

2020 “Predictive Analytics: An Introduction to Machine Learning”, Precision Medicine Leaders’ Summit, Virtual Conference, Host: The Journal of Precision Medicine

2021 “Electronic Health Records – Fueling Precision Medicine Research and Learning Healthcare Systems”, The Adler Lecture at Scheie Eye Institute’s Grand Rounds, Department of Ophthalmology, University of Pennsylvania, Virtual lecture, Host: Dr. Joan O’Brien.

2021 “Making use of our genome for life: strategic opportunities and challenges”, NHGRI Genomic Medicine XIII: Developing a Clinical Genomic Informatics Research Agenda, Virtual meeting, Host: Ken Wiley and Marc Williams

2021 “Polygenic Risk Scores: For some or for all?”, Importance and Challenges of Increasing Ethnic Diversity in Human Genomics Research Symposium, Virtual symposium by the Center for Global Genomics and Health Equity and the Department of Genetics at the University of Pennsylvania, Host: Sarah Tishkoff and Dan Rader

2021 “Deep representation learning of electronic health records to unlock patient stratification at scale”, DBMI Journal Club at Harvard University, Virtual journal club, Host: Isaac Kohane

2021 “Leveraging Electronic Health Records for Precision Health”, Department of Medicine Grand Rounds, University of Pennsylvania Perelman School of Medicine, Host: Michael Parmacek

2021 “Leveraging Electronic Health Records for Precision Health”, IEEE EMBS conference on Biomedical and Health Informatics (BHI2021) keynote speaker, Virtual conference, Host: May Wang

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2021 “PharmCAT: Current Status and Strategies for the Future”, Pharmacogenomics Research Network, Research in Progress Series, co-presenter with Dr. Michelle Whirl-Carrillo, Host: Jun Yang

2021 “Use of EHR for Understanding disease”, BEYOND THE SYMPTOM: THE BIOLOGY OF FATIGUE A Joint NIH Blueprint/Sleep Research Society Workshop, Virtual Workshop, Host: Vicky H Whittemore

2021 “The power of medical biobanks for precision medicine”, Genetics and Pharmacogenomics (GpGx) seminar series at Merck & Co., Inc., Virtual seminar, Host: Myung K. Shin

2021 “The power of medical biobanks for precision medicine”, Precision Medicine Resource at the Irving Institute for Clinical and Translational Research, Columbia University, virtual seminar, Host: Dr. Krzysztof Kiryluk, Dr. Ronald Wapner, and Dr. Wendy Chung

2021 “AI for Precision Medicine”, Workshop on Trustworthy AI in Medicine, University of Pennsylvania, Perelman School of Medicine and School of Engineering, Host: Qi Long

2022 “Leveraging Electronic Health Records for Precision Health”, Grand Rounds, Division of Cardiology, University of Pennsylvania, Perelman School of Medicine, Host: Thomas Cappola

2022 “Surviving Season 8 of the Pandemic”, Wellness Seminar Series, Department of Radiology, University of Pennsylvania, Perelman School of Medicine, Host: Despina Kontos

2022 “Future Directions of the NHGRI Analysis, Visualization, and Informatics Lab-space (AnVIL)”, NHGRI Council Meeting, Virtual, Host: Eric Green

2022 “PharmCAT: Pharmacogenomics Clinical Annotation Tool”, CDC NGS Workgroup, Virtual

2022 “Next generation work life balance amid the COVID-19 pandemic”, American Society of Human Genetics (ASHG) webinar, Virtual, Host: Career Development Committee of ASHG – Lucia Hindorff

2022 “Precision Medicine Research in Electronic Health Records”, Clinical and Translational Research Certificate of Added Qualification (CTR-CAQ) graduate program seminar, Baylor College of Medicine, Virtual, Host: Sundararajah ‘Thev’ Thevananther and Carolyn Smith

2022 “The Power of the Electronic Health Record for Precision Medicine”, Penn Cardiovascular Institute (CVI) seminar series, University of Pennsylvania, Philadelphia, PA, Host: Rajan Jain

2022 “Taking a Big Data View of Aging”, NIA Workshop on Genetic Variation and Aging, Seattle, WA, Host: Daniel Promislow and Pankaj Kapahi

2022 “From Genomics to Genomic Medicine: Embracing the complexity”, NHGRI Center for Precision Health Research seminar, virtual, Host: Josh Denny

2022 “Exploring genetics and electronic health record data to identify sex differences in disease”, Penn FOCUS Fall Leadership Mentoring Conference, Successful Strategies for Women in Academic Medicine, virtual, Host: Mira Mamtani

2022 “Medical Biobanks: A Powerful Resource for Precision Medicine”, Penn-Stanford CVI Symposium, Philadelphia, PA, Host: Dr. Daniel Kelly

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2022 “Using the electronic health record to advance translational research”, P30 symposium on High Dimensional Analytics in Digestive and Liver Disease: From Single Cell to the Whole Human, Philadelphia, PA, Host: Dr. Gary Wu

2022 “Beyond GWAS: innovative ways to use genomics for complex disease research”, MPaCT T2D Symposium: Genome Sequencing and Precision Medicine for Type 2 Diabetes, Centre of Genomic Regulation, Barcelona, Spain, Host: Carme Sanahuja

2022 “Precision medicine research dimensions made accessible by electronic health records”, IEEE BIBM, Las Vegas, NV, Host: Qi Long

2023 “Mind the Gaps: How to Fill the Holes in EHR Data”. American College of Medical Informatics (ACMI) Annual Symposium, San Juan, Puerto Rico, Host: Kevin Johnson

2023 “Statistical Approaches for Integrating Environmental Data and Omics Data in Cancer Epidemiology Studies”, panelist, virtual workshop sponsored by NIEHS, Host: Kimberly McCallister

2023 “From Genomics to Genomic Medicine: Embracing the complexity.” Seminar, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania, Perelman School of Medicine. Host: Jeff Morris.

2023 “Using Large Biobanks, Medical Records, and Genetic Data for Disease Understanding”. Keynote at the 14th Biennial International Podocyte Conference, Philadelphia, PA. Host: Katalin Suzstak

2023 “Pharmacogenomics: Improving Quality and Safety of Healthcare”. ASHP Summer Meeting, Baltimore, MD. Host: Cynthia Von Heeringen

2023 “Integrated risk scores for precision medicine”, Pharmacogenomics Research Network (PGRN) Annual Meeting, Memphis, TN. Host: Marisa Medina

2023 “From Genomics to Genomic Medicine: Embracing the complexity,” Multi-omics in Precision Medicine Conference, Philadelphia, PA. Host: GenomeWeb

2023 “The Collection, Management and Integration of Big Genomic Data Using the Penn Medicine Biobank,” Festival of Genomics, Boston, MA. Host: Diana Georgi

2023 “AI and Direct to Consumer Genetic Testing: the Good, the Bad, and the Ugly,” ASHP Midyear Meeting, Anaheim, CA. Host: Cynthia Von Heeringen

2023 “Pharmacogenetics and the UK Biobank,” American Society for Human Genetics, Washintgon DC. Host: Jenny Mills

2024 “Leveraging PheWAS in EHR-linked biobanks: humans as a model system, Keynote at QBIO, Ko Olina, HI. Host: Olga Troyanska

2024 “Leveraging EHR-linked Biobanks for Precision Health in Autoimmune Disease, Penn Colton Center for Autoimmunity Retreat, Villanova University, Host: John Wherry

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2024 “AI Governance in High- and Low-Resource Areas” moderator, Symposium on Artificial Intelligence in Learning Health Systems (SAIL), Rio Grande, Puerto Rico, Host: Zak Kohane

2024 “Precision Health using EHR-Linked Biobanks”, The Future of Biotechnology in Individualized Medicine, La Jolla, CA, Host: Ali Torkamani

2024 “Precision Medicine in the era of AI”, QDS Symposium ‘AI and Cancer Research: Predicting the Future’, University of Michigan, Ann Arbor, MI, Host: Bhramar Mukherjee

2024 “Precision Medicine in the Era of AI”, CiPD Aymposium Keynote, University of Pennsylvania School of Dentistry, Philadelphia PA, Host: Hyun (Michel) Koo

2024 “AI in Innovative Educational Delivery” panelist, 2024 Faculty Professional Development Day, Drexel University College of Medicine, Philadelphia PA, Host: Michele Kutzler

2024 “Using the EHR and LLMs for PGx”, ClinPGx Conference, Philadelphia PA, Host: Teri Klein

2024 “Precision Medicine in the era of AI”, Mt Sinai Medical School, Department of Genetics and Genomic Sciences Retreat keynote, New York, NY, Host: Allison Goete

2024 “Precision Medicine in the era of AI”, Broad Institute’s Medical and Population Genetics Seminar, Boston, MA, Host: Matt Sampson

2025 “Leading through the AI revolution”, ELAM/ELH Educational Session, Philadelphia, PA, Host: Nancy Spector

2025 “Year in Review: AI and Data Science”, AMIA Informatics Summit, Pittsburgh, PA, Host: Tom Campion

2025 “Medicine in the AI Revolution,” UCSF AI Research Day Keynote, San Francisco, CA, Host: Marina Sirota

2025 “ACMI Intro”, ACMI Annual Retreat, San Juan, Puerto Rico, Host: Peter Embi

2025 “Precision Medicine in the Era of AI,” Precicion Genomics Midwest keynote, Cincinnatti Children’s Hospital, Cincinnatti, OH, Host: Matt Weirauch

2025 “Leaning in on Life Lessons in 2025”, ELAM/ELH Leaders Forum, Philadelphia, PA, Host: Nancy Spector

2025 “Responsibly incorporating AI-based tools in research programs”, SBDRC PennDerm, University of Pennsylvania, Philadelphia, PA, :Host: John Seykora

2025 “Is AI Going to Change Precision Medicine?”, CIBM and the Biomedical Data Science (BDS) program retreat, University of Wisconsin, Madison, WI, Host: Mark Craven

2025 “Academic AI Landscape”, AbbVie QM&G Research Day, Chicago, IL, Host: Howard Jacobs

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2025 “Lights, Camera, Algorithms: AI Takes the Lead in Precision Health”, UCLA Institute for Precision Health CTSI distinguished seminar series, Los Angeles, CA, Host: Daniel Geschwind

2025 “AI in Health: Future Paradigms in Research, Education, and Clinical Care,” Medical University of South Carolina, Charleston, SC, Host: Jesse Goodwin

2025 “Responsibly incorporating AI-based tools into research”, Penn Department of Neurology, Grand Rounds, University of Pennsylvania, Philadelphia PA, Host: Frances Jensen

2025 “The Algorithm Will See You Now: From Data to Decisions”, AI for Clinical Decision Support in Heart, Lung, Blood, and Sleep Disorders Workshop, NHLBI, Bethesda, MD, Host: Ronit Yarden

2025 “AI in Health: Research Directions in the Era of AI”, Leonard Davis Institute (LDI) Board meeting, University of Pennsylvania, Philadelphia, PA, Host: Rachel Werner

2025 “AI-Powered Genomics: Transforming Data into Insights”, Session introduction at the American Society of Human Genetics, Boston, MA, Host: Coleen Campbell

2025 “AI in Academic Medicine: Clinical and Research Applications”, Association of American Medical Colleges (AAMC), San Antonio, TX, Host: AAMC Council of Deans

2025 “AI governance and monitoring at Penn Medicine”, American Medical Informatics Association (AMIA), Atlanta, GA, Host: Sara Murray