DANIEL M. ROTROFF

Department of Quantitative Health Sciences
Lerner Research Institute
Cleveland Clinic

CURRICULUM VITAE

SEPTEMBER 21, 2020

PERSONAL INFORMATION

Name: Rotroff, Daniel M.

Education

School:	North Carolina State University
Degree:	B.S., Biological Sciences
Dates:	2003 – 2007
School:	University of North Carolina at Chapel Hill
Degree:	M.S.P.H., Environmental Sciences and Engineering
Dates:	2008-2010
School:	University of North Carolina at Chapel Hill
Degree:	Ph.D., Environmental Sciences and Engineering
Dates:	2010-2013

Post-Graduate Training

Institution:	Bioinformatics Research Center Department of Statistics North Carolina State University Raleigh, NC 27607
Position:	Postdoctoral Research Scholar
Dates:	2013-2016

Ph.D. Thesis

Title: Endocrine Disrupting Potential of Environmental Chemicals Characterized by High- Throughput Screening

Ph.D. Thesis Committee:
Ivan Rusyn, M.D. Ph.D.
David J. Dix, Ph.D
Thomas Knudsen, Ph.D.
Fred Wright, Ph.D.
Rebecca Fry, Ph.D.

Contact Information

Institution/Institute/Department:	Department of Quantitative Health Sciences Lerner Research Institute Cleveland Clinic
Office Address:	9500 Euclid Avenue, JJN3-346 Cleveland, OH 44195
Office Phone:	(216) 444-3399
Office E-mail:	RotrofD@ccf.org

PROFESSIONAL APPOINTMENTS

Position/Rank:	Assistant Professor of Medicine
Institution:	Cleveland Clinic Lerner College of Medicine
Institute:	Case Western Reserve University
Department:	Department of Medicine
Dates:	2019-present
Position/Rank:	Assistant Staff

Institution:	Cleveland Clinic
Institute:	Lerner Research Institute
Department:	Department of Quantitative Health Sciences
Dates:	2018-present
Position/Rank:	Research Scholar
Institution:	North Carolina State University
Institute:	Bioinformatics Research Center
Dates:	2016-2018
Position/Rank:	Student Contractor
Institution:	U.S. Environmental Protection Agency
Institute:	National Center for Computational Toxicology
Dates:	2009-2010
Position/Rank:	Biological Science Technologist
Institution:	U.S. Environmental Protection Agency
Institute:	National Center for Computational Toxicology
Dates:	2008-2009
Position/Rank:	Biological Science Technician
Institution:	U.S. Environmental Protection Agency
Institute:	National Center for Computational Toxicology
Dates:	2007-2008

HONORS AND AWARDS

Scientific and Technological Achievement Award, U.S. Environmental Protection Agency, 2009

Certificate of Appreciation "In recognition of dedication and service in support of the Nation's response to the Deepwater Horizon Oil Spill", U.S. Environmental Protection Agency, 2011

Scientific and Technological Achievement Award, U.S. Environmental Protection Agency, 2011

Academic IVIVE Award for "Most Informative Scientific Report", Symcyp Limited, 2012

Editors' Choice Award, American Chemical Society, 2014

Best Poster Presentation Runner-up, American Society for Clinical Pharmacology and Therapeutics Annual Meeting-Quantitative Systems Pharmacology Pre-Conference Session, 2015

Abstract Award Winner, Tumor Biology/Diagnostics Category. Consortium for Canine Comparative Oncology Symposium, 2016

Presidential Trainee Award, American Society for Clinical Pharmacology and Therapeutics, 2016

Presidential Trainee Award, American Society for Clinical Pharmacology and Therapeutics, 2017

NIH, NCATS KL2 Scholarship Award, 2019

Scientific and Technological Achievement Award, U.S. Environmental Protection Agency, 2019

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Metabolomics Society, Member, 2015
American Association for Cancer Research (AACR), Member, 2015-2016
Pharmacogenomics for Every Nation Initiative (PGENI), Member, 2015-Present
Alzheimer's Disease Metabolomics Consortium, Member, 2016-2017
American Society for Clinical Pharmacology and Therapeutics (ASCPT), Member, 2016-2017

Pharmacogenomics Research Network (PGRN), Member, 2016-Present
The Metformin Genetics Consortium (MetGen), Member, 2016-Present
Case Comprehensive Cancer Center, Associate Member, 2020-Present

PROFESSIONAL SERVICES

Invited Presentations

"*Real-Time Growth Kinetics Measuring Hormone Mimicry for ToxCast Chemicals in T-47D Human Ductal Carcinoma Cells*".ACEA Expo Talk, Society of Toxicology 53rd Annual Meeting. Phoenix, AZ (Host: Yama Abassi, PhD), 2014

"*Using DNA copy number aberrations in naturally occurring canine cancers to identify candidate drivers of carcinogenesis*", 2nd International Conference on Genomics and Pharmacogenomics, Module 19: Network and Pathway Analyses of Omics Data, Raleigh, NC (Host: Joseph Victor), 2014

"*Bioinformatics, From Environmental Chemicals to Personalized Medicine: Interdisciplinary Fields Solving Real-World Problems*", Minorities in Agriculture, Natural Resources, and other Related Science Fields NC State Chapter, Raleigh, NC (Host: Veronica Mbaneme), 2014

"*Genetic Variants Provide New Insight into Fibrate Drug Response in People with Type 2 Diabetes*", 2015 Program in Genetics Retreat, Research Triangle Park, NC (Host: Trudy Mackay, PhD), 2015

"*Genome Wide Association of Baseline Lipids and Fibrate Drug Response in Type 2 Diabetics in the ACCORD Clinical Trial*", South East Lipid Research Conference, Atlanta, GA (Host: Gregory Graf, PhD), 2015

"*Common and Rare Variant Analysis of Fibrate Drug Response in Type 2 Diabetics in the ACCORD Clinical Trial*", 3rd International Conference on Genomics and Pharmacogenomics, Module 5: Pharmacogenomics and Personalized Medicine, San Antonio, TX (Host: Sharon Williams), 2015

"*Integrative Bioinformatics Approaches for Tox21 Data*", International Society of Exposure Science Annual Meeting, The Tox21 Triangle: Toxicity Testing, Translation, and the Environment, Research Triangle Park, NC, (Host: John Wambaugh, PhD), 2017

"*The Search for Signal: Data Driven Approaches to Precision Medicine*", Seminar at the Hormel Institute, University of Minnesota, Austin, MN (Host: Zigang Dong, PhD), 2017

"*Breath metabolite signatures in liver cancers*", Northern Ohio Alcohol Center Seminar Series, Cleveland, OH, (Host: Laura Nagy, PhD), 2019

"*Surgical Management and Non-invasive Biomarkers for Primary Liver Cancers*", Cleveland Clinic Cholangiocarcinoma Conference, Cleveland, OH (Host: Stacie Lindley), 2019.

"*Identification of a type 2 diabetes subtype responsive to ACCORD-like intervention*," Cleveland Clinic Department of Quantitative Health Sciences Seminar. Cleveland, OH, 2019.

"*Identification of a type 2 diabetes subtype responsive to ACCORD-like intervention*," Clinical and Translational Science Collaborative (CTSC) KL2 Seminar. Cleveland, OH, 2019.

"*Breath metabolite signatures in primary and secondary liver cancers*". FightCRC Research Advocacy Webinar. March 2020.

"*Breath metabolite signatures in primary and secondary liver cancers*". Case Comprehensive Cancer Center, Cancer Prevention, Control and Population (CPC) Meeting. Cleveland, OH, 2020.

Ad hoc Reviewer

Journal of Agricultural, Biological, and Environmental Statistics, 2013-present
Reproductive Toxicology, 2013-present
International Journal of Toxicology, 2014-present
Chemosphere, 2014-present

Frontiers in Pharmacology, 2015-present
Genomics, 2015-present
BioData Mining, 2015-present
BMC Genomics, 2016-present
Sensors, 2016-present
Journal of Biomedical Informatics, 2016-present
Toxicological Sciences, 2017-present
PLOS Computational Biology, 2017-present
PLOS ONE, 2017-present
Diabetes Research and Clinical Practice, 2018-present
Environmental Health Perspectives, 2018-present
Nature Communications, 2018-present
Frontiers in Genetics, 2019-present
Science and Translational Medicine, 2019-present
Hepatology, 2019-present
Diabetes, 2020-present

Editorial Boards
Journal: Frontiers in Pharmacology
Role: Invited Guest Associate Editor
Dates of Service: 2015-2017

Journal: Frontiers in Toxicology
Role: Review Editor
Dates of Service: 2019-present

Study Sections/Grant Review Committees
Section/Committee: Merit Review Panel for Special Emphasis in Genomics, U.S. Department of Veterans Affairs
Dates of Service: 2016

Cleveland Clinic Center for Population Health Research, Collaboration Awards
Dates of Service: 2020

COMMITTEE SERVICE

Student Thesis Committees
M.S. Committee Member
Hillary Graham, Department of Statistics,
North Carolina State University
Dates of Service: 2015-2016

Ph.D. Committee Member
Tao Jiang, Bioinformatics Graduate Program,
North Carolina State University
Dates of Service: 2016-2020

Ph.D. Committee Member
Jonathan Leirer, Department of Statistics,
North Carolina State University
Dates of Service: 2017-present

Ph.D. Committee Member
Marc Ferrell, Systems Biology and Bioinformatics Program,
Case Western Reserve University
Dates of Service: 2018-present

Research Thesis Advisor, MD program
Shreya Louis, Systems Biology and Bioinformatics Program,
Cleveland Clinic Lerner College of Medicine

Case Western Reserve University
Dates of Service: 2019-present

Ph.D. Thesis Advisor
Hannah Hill, Department of Pharmacology,
Case Western Reserve University
Dates of Service: 2020-present

Ph.D. Thesis Advisor
Hamed Javidi, Electrical Engineering and Computer Science,
Cleveland State University
Dates of Service: 2020-present

Ph.D. Thesis Advisor
Arshiya Mariam, Biomedical and Health Informatics Program,
Case Western Reserve University
Dates of Service: 2020-present

National
Organization: The 3rd International Conference on Genomics and Pharmacogenomics
Committee Name/Role: Organizing Committee Service
Dates of Service: 2015

Organization: American Society for Clinical Pharmacology and Therapeutics
Committee Name/Role: Pharmacometabolomics Interest Group, Steering Committee Member
Dates of Service: 2016

Organization: American Society for Clinical Pharmacology and Therapeutics
Committee Name/Role: Integrating Big Omics Data: Applications and Challenges Workshop, Session Chair
Dates of Service: 2017

International
Organization: European Commission
Committee Name/Role: New testing and screening methods to identify endocrine disrupting chemicals, External Expert
Dates of Service: 2018

Organization: European Commission
Committee Name/Role: The Human Exposome Project: a toolbox for assessing and addressing the impact of environment on health, External Expert
Dates of Service: 2019

Organization: European Commission
Committee Name/Role: Micro- and nano-plastics in our environment: Understanding exposures and impacts on human health, External Expert
Dates of Service: 2020

TEACHING ACTIVITIES

Curriculum/Course Development
1. Co-Instructor, Molecular Technologies for Epidemiologic Investigation (VPH760), Spring Semester, 2015, North Carolina State University. Discussed Epidemiological approaches to problem solving, outbreak investigation, study design, data storage, data analysis, and data communication.

Trainees / Mentees
1. Kyle Roell, PhD Candidate, 2013-2015, Bioinformatics Graduate Program, North Carolina State University
2. Michele Balik-Meisner, PhD, 2014, Bioinformatics Analyst, Sciome LLC
3. Hillary Graham, MS, 2014-2015, Biostatistician, Eli Lilly
4. Alice Toms, PhD Candidate, 2015-2016, Bioinformatics Graduate Program, North Carolina State University
5. Tao Jiang, PhD Candidate, 2016-2020, Bioinformatics Graduate Program, North Carolina State University
6. John Leirer, PhD Candidate, 2017-2020, Department of Statistics, North Carolina State University

7. Shreya Louis, MD Candidate, 2019-Present, Cleveland Clinic Lerner College of Medicine, Case Western Reserve University.
8. Hannah Hill, PhD Candidate, 2020-Present, Department of Pharmacology, Case Western Reserve University.
9. Hamed Javidi, PhD Candidate, 2020-Present, Department of Electrical Engineering and Computer Science, Cleveland State University
10. Arshiya Mariam, PhD Candidate, 2020-Present, Biomedical and Health Informatics Program, Department of Population and Quantitative Health Sciences, Case Western Reserve University

Teaching Activities

1. Pharmacogenomics, Guest Lecture, James B. Hunt High School, Wilson, NC, April 15, 2011
2. Manipulating Objects Mathematically in the R Programming Language, Introductory Bioinformatics (GN427), North Carolina State University, Sept. 10, 2014
3. Using Gene Annotation Resources, Introductory Bioinformatics (GN427), North Carolina State University, Sept. 23, 2014
4. Introduction to Genome-Wide Association Studies, Pharmacogenomics (DPET832), Eshelman School of Pharmacy, University of North Carolina at Chapel Hill, Oct. 12, 2015
5. Using R to Mine NCBI Databases, Introductory Bioinformatics (GN427), North Carolina State University, Nov. 17, 2015
6. Introduction to Genome-Wide Association Studies, Pharmacogenomics (DPET832), Eshelman School of Pharmacy, University of North Carolina at Chapel Hill, Oct. 4, 2016
7. Current Topics in Bioinformatics, Genomic Sciences Journal Club (PP810), North Carolina State University, April 6, 2017
8. Writing Code to Generate Scientific Graphics. Introductory Bioinformatics (GN427), North Carolina State University, Oct. 17, 2017
9. Control Structures in Programming. Introductory Bioinformatics (GN427), North Carolina State University, Oct. 19, 2017
10. Clustering Approaches for High Dimensional Data. Mammalian Genetics, Genomics and Bioinformatics (MMed 414), Cleveland Clinic Cellular and Molecular Medicine Program, Cleveland Clinic, Apr. 18, 2019
11. Clustering Approaches for High Dimensional Data. Mammalian Genetics, Genomics and Bioinformatics (MMed 414), Cleveland Clinic Cellular and Molecular Medicine Program, Cleveland Clinic, Apr. 16, 2020

INTELLECTUAL PROPERTY

1. Rotroff, D.M., Aucejo, F., & Allende, D. (2020). *Non-Invasive Method for Diagnosing Chronic Liver Disease, and Primary and Secondary Liver Cancers.* (US Patent Application No. 62/801,765). U.S. Patent and Trademark Office. (Patent cooperation Treaty No. PCT/US20/6921).

2. Rotroff, D.M., Pantalone, K.M., Mariam, A., & Miller-Atkins, G. (2020). *Identifying Patients for Intensive Hyperglycemia Management.* (US Provisional Patent Application No. 62/982,195). U.S. Patent and Trademark Office.

3. Gupta, N., Hill, B., & Rotroff, D.M. (2020). *Metabolic and Inflammatory Markers for CAR-T Cell Therapy*. (US Provisional Patent Application No. 63/027,279). U.S. Patent and Trademark Office.

ONGOING RESEARCH SUPPORT

1. 1R61 NS113258-01 (PI: **Rotroff**, Foss, Johnson)
   NIH National Institute for Neurological Disorders and Stroke
   $5.08M (direct costs): NOA In Process
   Funding Period: 10/01/2020-09/30/2025
   Title: Multi-Omic Biomarkers for Neuropathic Pain Secondary to Chemotherapy
   Role: Contact PI

2. Novo Nordisk (PI: **Rotroff**)
   $516,825 (total costs) NOA In Process
   Funding Period: 10/01/2020-10/31/2021
   Title: Elucidating the Role of Weight Loss and Glycemia with Observed Benefits of GLP-1 Receptor Agonist Treatment in Patients with Type 2 Diabetes,
   Role: PI

3. 3R01AA027456-02S1 (PI: Nagy)
   NIH National Institute for Alcohol Abuse and Alcoholism
   $160,944 (direct costs)
   Funding Period: 09/10/2020 – 06/30/2021
   Title: Transcriptional and Non-Transcriptional Functions of IRF3 in Alcoholic Liver Disease
   Role: Co-I

4. CCF Research Program Committee Award (PI: Brown)
   Cleveland Clinic Foundation
   $25,000 (total costs)
   Funding Period: 03/10/2020-03/09/2021
   Title: AMBER: Analysis of MicroBial metabolites after Eating Refined food: A Pilot Study.
   Role: Co-I

5. 2KL2TR002547 (PI: Dweik)
   NIH National Center for Advancing Translational Sciences
   $420,000 (direct costs)
   Funding Period: 05/15/2019 – 04/30/2023
   Title: KL2 Mentored Career Development Award: Adverse Outcomes in Subtypes of Type 2 Diabetes
   Role: Scholar

6. Novo Nordisk (PI: **Rotroff**)
   $200,000 (total costs)
   Funding Period: 8/01/2019-8/31/2022
   Title: Personalized Obesity and Metabolic Score (POMS) to Promote Risk Reduction for Obesity-Related Adverse Outcomes
   Role: PI

7. Co-Laboratory Award (PI: **Rotroff**, Sakaguchi)
   Cleveland Clinic Foundation
   $200,000 (total costs)
   Funding Period: 07/01/2019-06/30/2021
   Title: Zebrafish as a Translational Model for Human Cholangiocarcinoma
   Role: Co-PI

8. Research Pilot Award (PI: **Rotroff**)
   VeloSano Cancer Foundation
   $100,000 (total costs)
   Funding Period: 04/01/2019-03/31/2020 (NCE)
   Title: Breath, Blood, and Saliva: Non-invasive metabolite-based detection of hepatocellular carcinoma
   Role: PI

9. Co-Laboratory Award (PI: O'Connor, Hamilton)
   Cleveland Clinic Foundation
   $200,000 (total costs)
   Funding Period: 07/01/2019-06/30/2021
   Title: Host-pathogen interactome in hematopoietic cell transplant
   Role: Co-I

10. Center of Excellence Award (PI: Eng, Jehi)
    Cleveland Clinic Foundation
    $900,000 (total costs)
    Funding Period: 07/01/2019-06/30/2021
    Title: Center of Research Excellence in Epilepsy and its Comorbidities (COEEC)
    Role: Co-I

11. 5U01AA026264 (PI: Nagy)
    NIH National Institute for Alcohol Abuse and Alcoholism
    $311,357 (annual direct costs)
    Funding Period: 12/01/2019–08/31/2021
    Title: Alcoholic Hepatitis Consortia: An Intramural/Extramural Collaboration to Unravel Genetic Determinants
    Role: Co-I

12. U01AA026938 (PI: Nagy)
    NIH National Institute for Alcohol Abuse and Alcoholism
    $155,279 (annual direct costs)
    Funding Period: 09/22/2018 – 06/30/2023
    Title: Microbial Metabolites and Innate Immunity in Alcoholic Hepatitis: Biomarkers of Injury and Repair
    Role: Co-I

13. P50AA024333 (PI: Nagy)
    NIH National Institute for Alcohol Abuse and Alcoholism
    $1.59M (annual direct costs)
    Funding Period: 4/15/2018 – 03/31/2021
    Title: Alcohol and Tissue Injury from Mechanisms to Treatments
    Role: Co-I

14. R01CA219389 (PI: Jim)
    NIH National Cancer Institute
    $111,080 (subcontract direct costs)
    Funding Period: 06/01/2018-05/31/2023
    Title: Improving Prediction of Chemotherapy-Induced Nausea: Integrating Genes, Behavior, and the Microbiome
    Role: Subcontract PI

COMPLETED RESEARCH SUPPORT

15. Core Utilization Pilot Award (PI: **Rotroff**)
    Clinical and Translational Science Collaborative of Cleveland (CTSC)
    $9,080 (total costs)
    Funding Period: 10/01/2019-04/01/2020
    Title: Saliva miRNA as Biomarkers of Hepatocellular Carcinoma
    Role: PI

16. Core Utilization Pilot Award (PI: Motsinger-Reif)
    NIH National Cancer Institute
    $360,478 (Annual Direct costs)
    Funding Period: 3/01/17-03/31/2018
    Title: Genetic Etiology of Cancer Drug Response
    Role: Co-I

17. Core Utilization Pilot Award (PI: Kaddurah-Daouk)
    NIH National Institute on Aging
    $127,850 (Annual Direct costs)
    Funding Period: 6/27/15- 5/31/2017
    Title: Metabolic Networks and Pathways in Alzheimer's Disease
    Role: Key Personnel

BIBLIOGRAPHY

Peer Reviewed Articles (citations= 3,352; h-index=25) (senior/corresponding author where underlined)

1. Martin, M. T., Mendez, E., Corum, D. G., Judson, R. S., Kavlock, R. J., **Rotroff, D. M.**, Dix, D. J. Profiling the Reproductive Toxicity of Chemicals from Multigeneration Studies in the Toxicity Reference Database. *Toxicol. Sci. Off. J. Soc. Toxicol.* 2009, *110*, 181–190.

2. Martin, M. T., Dix, D. J., Judson, R. S., Kavlock, R. J., Reif, D. M., Richard, A. M., **Rotroff, D. M.**, Romanov, S., Medvedev, A., Poltoratskaya, N. Impact of Environmental Chemicals on Key Transcription Regulators and Correlation to Toxicity End Points within EPA's ToxCast Program. *Chem. Res. Toxicol.* 2010, *23*, 578–590.

3. Judson, R. S., Houck, K. A., Kavlock, R. J., Knudsen, T. B., Martin, M. T., Mortensen, H. M., Reif, D. M., **Rotroff, D. M.**, Shah, I., Richard, A. M., Dix, D. J. In Vitro Screening of Environmental Chemicals for Targeted Testing Prioritization: The ToxCast Project. *Environ. Health Perspect.* 2010, *118*, 485–492.

4. **Rotroff, D. M.**, Beam, A. L., Dix, D. J., Farmer, A., Freeman, K. M., Houck, K. A., Judson, R. S., LeCluyse, E. L., Martin, M. T., Reif, D. M., Ferguson, S. S. Xenobiotic-Metabolizing Enzyme and Transporter Gene Expression in Primary Cultures of Human Hepatocytes Modulated by Toxcast Chemicals. *J. Toxicol. Environ. Health Part B* 2010, *13*, 329–346.

5. Judson, R. S., Martin, M. T., Reif, D. M., Houck, K. A., Knudsen, T. B., **Rotroff, D. M.**, Xia, M., Sakamuru, S., Huang, R., Shinn, P. Analysis of Eight Oil Spill Dispersants Using Rapid, in Vitro Tests for Endocrine and Other Biological Activity. *Environ. Sci. Technol.* 2010, *44*, 5979–5985.

6. **Rotroff, D. M.**, Wetmore, B. A., Dix, D. J., Ferguson, S. S., Clewell, H. J., Houck, K. A., LeCluyse, E. L., Andersen, M. E., Judson, R. S., Smith, C. M. Incorporating Human Dosimetry and Exposure into High-Throughput in Vitro Toxicity Screening. *Toxicol. Sci.* 2010, *117*, 348–358.

7. Wetmore, B. A., Wambaugh, J. F., Ferguson, S. S., Sochaski, M. A., **Rotroff, D.** M., Freeman, K., Clewell, H. J., Dix, D. J., Andersen, M. E., Houck, K. A., others. Response to "Accurate Risk-Based Chemical Screening Relies on Robust Exposure Estimates." *Toxicol. Sci.* 2012, *128*, 297–299.

8. Kavlock, R., Chandler, K., Houck, K., Hunter, S., Judson, R., Kleinstreuer, N., Knudsen, T., Martin, M., Padilla, S., Reif, D., Richard, A., **Rotroff, D.**, Sipes, N., Dix, D. Update on EPA's ToxCast Program: Providing High Throughput Decision Support Tools for Chemical Risk Management. *Chem. Res. Toxicol.* **2012**, *25*, 1287–1302.

9. **Rotroff, D. M.**, Dix, D. J., Houck, K. A., Knudsen, T. B., Martin, M. T., McLaurin, K. W., Reif, D. M., Crofton, K. M., Singh, A. V., Xia, M. Using in Vitro High Throughput Screening Assays to Identify Potential Endocrine-Disrupting Chemicals. *Environ. Health Perspect.* 2013, *121*, 7.

10. **Rotroff, D. M.**, Dix, D. J., Houck, K. A., Kavlock, R. J., Knudsen, T. B., Sipes, N. S., Richard, A. M., Martin, M. T., Reif, D. M., Abassi, Y., Stampfl, M., Xia, 11.M., Judson, R. S. Real-Time Growth Kinetics Measuring Hormone Mimicry for 1816 Unique ToxCast Chemicals in T-47D Human Ductal Carcinoma Cells. *Chem Res Toxicol.* 2013.

11. **Rotroff, D. M.**, Thomas, R., Breen, M., Motsinger-Reif, A. A. Naturally Occuring Canine Cancers: Powerful Models for Stimulating Pharmacogenomic Advancement in Human Medicine. *Pharmacogenomics* 2013, *14*, 1929–1931.

12. Zang, Q., **Rotroff, D. M.**, Judson, R. S. Binary Classification of a Large Collection of Environmental Chemicals from Estrogen Receptor Assays by Quantitative Structure–Activity Relationship and Machine Learning Methods. *J. Chem. Inf. Model.* 2013, *53*, 3244–3261.

13. Paul, K. B., Hedge, J. M., **Rotroff, D. M.**, Hornung, M. W., Crofton, K. M., Simmons, S. O. Development of a Thyroperoxidase Inhibition Assay for High-Throughput Screening. *Chem. Res. Toxicol.* 2014, *27*, 387–399.

14. Thomas, R., Borst, L., **Rotroff, D.**, Motsinger-Reif, A., Lindblad-Toh, K., Modiano, J. F., Breen, M. Genomic Profiling Reveals Extensive Heterogeneity in Somatic DNA Copy Number Aberrations of Canine Hemangiosarcoma. *Chromosome Res.* 2014, 1–15.

15. **Rotroff, D. M.**, Martin, M. T., Dix, D. J., Filer, D. L., Houck, K. A., Knudsen, T. B., Sipes, N. S., Reif, D. M., Xia, M., Huang, R., Judson, R. S. Predictive Endocrine Testing in the 21st Century Using in Vitro Assays of Estrogen Receptor Signaling Responses. *Environ. Sci. Technol.* 2014, *48*, 8706–8716.

16. Huang, R., Sakamuru, S., Martin, M. T., Reif, D. M., Judson, R. S., Houck, K. A., Casey, W., Hsieh, J.-H., Shockley, K. R., Ceger, P., Fostel, J., Witt, K. L., Tong, W., **Rotroff, D. M**., Zhao, T., Shinn, P., Simeonov, A., Dix, D. J., Austin, C. P., Kavlock, R. J., Tice, R. R., Xia, M. Profiling of the Tox21 10K Compound Library for Agonists and Antagonists of the Estrogen Receptor Alpha Signaling Pathway. *Sci. Rep.* 2014, *4*.

17. **Rotroff, D.***, Jack, J.*, Motsinger-Reif, A. Lymphoblastoid Cell Lines Models of Drug Response: Successes and Lessons from This Pharmacogenomic Model. *Curr. Mol. Med.* 2014, *14*, 833–840.*equal contribution.

18. **Rotroff, D.**, Jack, J., Campbell, N., Clark, S., Motsinger-Reif, A. A. PGxClean: A Quality Control GUI for the Affymetrix DMET Chip and Other Candidate Gene Studies with Non-Biallelic Alleles. *BioData Mining.* 2014, *7*, 24.

19. Roode, S., **Rotroff, D.**, Avery, A., Suter, S., Bienzle, D., Schiffman, J., Motsinger-Reif, A., Breen, M. Genome-wide assessment of recurrent genomic imbalances in canine leukemia identifies evolutionarily conserved regions for subtype differentiation. *Chromosome Res.* 2015:9475.

20. Judson, R., Magpantay, F., Chickarmane, V., Haskell, C., Tania, N., Taylor, J., Xia, M., Huang, R., **Rotroff, D.**, Filer, D., Houck, K., Martin, M., Sipes, N., Richard, A., Mansouri, K., Setzer, W., Knudsen, T., Crofton, K., Thomas, R. Integrated Model of Chemical Perturbations of a Biological Pathway Using 18 In Vitro High Throughput Screening Assays for the Estrogen Receptor. 2015. *Toxicol. Sci.* Nov;148(1):137-54. doi: 10.1093/toxsci/kfv168

21. **Rotroff, D.**, Shahin, M., Gurley, S., Zhu, H., Motsinger-Reif, A., Meisner, M., Beitelshees, A., Fiehn, O., Johnson, J., El-Badawi, M., Frye, R., Gong, Y., Weng, L., Cooper-Dehoff, R., Kaddurah-Daouk, R. Pharmacometabolomic Assessments of Atenolol and Hydrochlorothiazide Treatment Reveal Novel Drug Response Phenotypes. *CPT: Pharmacometrics & Systems Pharmacology*. 2015. 4: 669–679. doi: 10.1002/psp4.12017

22. Motsinger-Reif, A., **Rotroff, D.** Leveraging Lymphoblastoid Cell Lines for Drug Response Modeling. *Journal of Data Mining in Genomics & Proteomics*. 2015. 6:179. doi:10.4172/2153-0602.1000179.

23. Irvin M.R.*, **Rotroff D.***, Aslibekyan S., Zhi D., Ordovas J., Borekci I., Motsinger A., Rotter J., Wagner M., Arnett DA. Genome Wide Association Study of Fenofibrate Response: A Meta Analysis. 2016. *Pharmacogenetics and Genomics.* PMID: 27002377.26(7), pp.324-333.*equal contribution.

24. Judson, R., Houck, K., Martin, M., Richard, A., Kudsen, T., Shah, I., Little, S., Wambaugh, J., Setzer, W., Kothiya, P., Phuong, J., Filer, D., Smith, D., Reif, D., **Rotroff, D.**, Kleinstreuer, N., Sipes, N., Xia, M., Huang, R., Crofton, K., Thomas, R. Analysis of the Effects of Cell Stress and Cytotoxicity on In Vitro Assay Activity Across a Diverse Chemical and Assay Space. 2016. *Toxicological Sciences*.p.kfw092.

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