

CURRICULUM VITAE

PERSONAL STATEMENT

Dr. Richard H. Finnell is a Professor in the Center for Precision Environmental Health in the Department of Molecular and Cell Biology and in the Department of Medicine at Baylor College of Medicine. He is also a Changjiang Scholar Professor at Fudan University, an Adjunct Professor in the Shanghai Institute of Medical Genetics of Jiaotong University, and in the Institute for Reproductive and Child Health at Peking University. A pediatric geneticist, I have been involved in investigating genetic susceptibility to environmentally induced birth defects, applying stem cell technology to the detection of potential teratogenic compounds in efforts to prevent these birth defects, developing mouse models to understand the pathogenesis of the defects, and using highly innovative approaches to treating these disabilities. During my 35⁺-year career, I have authored over 300 publications in journals such as *Science*, *Nature Genetics*, *Nature Cell Biology*, *PNAS* and *Developmental Cell*. My early work with murine embryonic stem cells established the dire embryonic consequences of folate deficiency during embryonic development. Our laboratory's ongoing research efforts are funded by multiple grants from the US National Institutes of Health. I have also focused on how folic acid transport impacts or modifies the impact of teratogenic agents on embryonic development. My work takes advantage of my training as a pediatric geneticist, as well as a background grounded in developmental and molecular biology and teratology. My laboratory uses the latest genome editing approaches to create novel transgenic mouse models and to dissect out critical events during embryonic development that result in structural birth defects. I have significant experience working with neural crest cell models and have developed novel 3D neurocyst culture techniques as well as creating induced pluripotent stem cell from NTD patients that can be utilized to both screen candidate compounds for their teratogenicity and to better understand their underlying mechanism of action. The proposed research program will fully utilize my talents developing model systems with which to study NTDs, using the imaging technologies proposed we can longitudinally study the processes of neural tube closure in our genome edited and teratogenic model systems. Finally, I have extensive research and mentoring experience and have been the recipient of NIH funding for decades.

I. GENERAL BIOGRAPHIC INFORMATION

A. Personal

1. Richard H. Finnell
2. U.S and Swiss Citizenships

B. Education

1. University of Oregon/Eugene, Oregon B.S. (anthropology), 1971-1975
2. University of British Columbia/ Vancouver, British Columbia, M.Sc.(medical genetics),1975-1978. Thesis: A Mouse Model of the Fetal Hydantoin Syndrome. Dr. Clayton Person, advisor.
University of Oregon Medical School/ Portland, Oregon, Ph.D. (medical genetics), 1978- 1980.
Dissertation: A Mouse Model of the Fetal Hydantoin Syndrome. Dr. David Linder, advisor.
3. Neurosciences Institute of Good Samaritan Hospital, Portland, Oregon. 1980
Anatomisches Institut, Universität Zürich, Switzerland. Roche Foundation Fellowship.
Prof. Karl Theiler, advisor

C. Academic Appointments

1. **Current Faculty Position(s)**

Departments of Molecular and Cellular Biology and Medicine, Baylor College of Medicine. Professor. 2017-present.

Department of Pediatrics. The University of Texas Dell Medical School. Clinical Professor. 2017-present.

2. Previous Faculty Position(s) at Other Institutions

Department of Pediatrics, The University of Texas at Austin Dell Medical School, Austin, Texas. Professor. 2016-2017.

Department of Nutritional Sciences, The University of Texas at Austin. Margaret McKean-Love Chair in Nutritional, Molecular and Cellular Sciences. 2014-2016.

Department of Nutritional Sciences, The University of Texas at Austin. Professor. 2010-2014.

Center for Computational Biology and Bioinformatics, The University of Texas at Austin. Member. 2014-2017.

Center for Cell and Molecular Biology Graduate Program, The University of Texas at Austin. Member. 2011-2017.

Center Molecular and Cellular Toxicology, The College of Pharmacy, The University of Texas at Austin. Member. 2011-2017.

Dell Children's Medical Center, Austin, Texas. Director, Genomic Research. 2010-2016

Institute of Biosciences and Technology, Texas A&M University Health Science Center. Margaret M. Alkek Professor of Medical Genetics. 2005-2010.

Texas A&M Health Science Center. Department of Molecular and Cellular Medicine, College of Medicine. College Station, Texas. Professor. 2009-2010.

The Texas A&M Institute of Genomic Medicine. Houston, Texas. Executive Director and CEO. 2005-2010

Texas A&M University System Health Science Center. Regents Professor. 2005-2010

Institute of Biosciences and Technology, The Texas A&M University System Health Science Center, The Texas Medical Center, Houston, Texas. Professor and Director. 2001-2006

University of Nebraska Medical Center, Department of Pediatrics. Omaha, Nebraska. Professor and Section Head for Molecular Diagnostics. 1999-2001

University of Nebraska Medical Center, Department of Cell Biology and Anatomy, Omaha, Nebraska. Professor. 1999-2001.

University of Nebraska Medical Center, Omaha, Nebraska. Center for Human Molecular Genetics. Director. 1999-2001.

Baylor College of Dentistry-Texas A&M University Health Science Center, Department of Biomedical Sciences. Dallas, Texas. Professor. 1998-2010

School of Rural Public Health, Texas A&M University Health Science Center, Department of Environmental and Occupational Health, College Station, Texas. Professor. 1998-2010.

Texas A&M University College of Veterinary Medicine, College Station, Texas. Acting Associate Dean for Research. 1997-1999.

Texas A&M University College of Veterinary Medicine, College Station, Texas. Professor and Asst. Department Head. 1995-1999.

Texas A&M University College of Veterinary Medicine, College Station, Texas. Associate Professor. 1991-1995.

Washington State University, Department of Veterinary and Comparative Anatomy, Pharmacology and Physiology. Pullman, Washington. Associate Professor. 1988-1991.

Washington State University, Department of Veterinary and Comparative Anatomy, Pharmacology and Physiology. Pullman, Washington. Assistant Professor. 1982-1988

3. Current Courtesy Faculty Appointments at Other Institutions

Fudan University Affiliated Obstetrics and Gynecology Hospital, Shanghai, People's Republic of China. Adjunct Professor. January 1, 2018-

Dell Medical School at the University of Texas at Austin, Austin, Texas. Professor, Department of Pediatrics. September 1, 2017-present.

Shanghai Institute of Medical Genetics, Children's Hospital Shanghai, Shanghai, People's Republic of China. Adjunct Professor. 2011-present.

East China Normal University School of Life Sciences. Shanghai, People's Republic of China. Adjunct Professor. 2013-present.

Peking University, Institute for Reproductive and Child Health, Beijing, People's Republic of China. Adjunct Professor. 2014-present.

Peking University, School of Public Health, Beijing, People's Republic of China. Adjunct Professor. 2014-present.

Fudan University, Center for Collaborative Innovation in Genetics and Development. Shanghai, People's Republic of China. Changjiang Scholar Professor. 2015-present.

D. Other advanced training/experience

1. Formal Sabbatical Leave

University of Pennsylvania School of Medicine. Department of Pharmacology. Philadelphia, Pennsylvania. Visiting Professor. 1990-1991.

CIC bioGUNE Research Institute. Bilbao, Spain. Sabbatical Professor. 2007. BBVA Professorship.

E. Other information

1. Honors or Awards

Outstanding Student Abstract Award - Int'l Congress Human Genetics, Montreal 1977

Roche Foundation for Scientific Exchange Fellowship - Zürich, Switzerland, 1981

Basil O'Connor Fellow - March of Dimes - 1982-1984

Cold Spring Harbor Summer Course Fellowship - 1990

Pfizer Animal Health Award for Research Excellence - 1995

Texas A&M University Distinguished Achievement Award in Research - 1997

Teratology Society Wilson Publication Award-2000, 2004, 2009.

Warkany Lecturer, Teratology Society, 2008

FASEB One Carbon Metabolism Conference Co-Chair, 2010; Chair, 2012

2. Board Eligibility/Certification

American Board of Medical Genetics and Genomics, diplomat, 1982

3. Other Non-academic Positions

Advisory Commission - Texas Birth Defects Monitoring Division; Vice-Chairperson

1995-1997; Chairperson, 1997-2005

World Health Organization Technical Consultation on Craniofacial Malformations, Member, November 2000.

American Academy of Neurology Practice Parameter for the Management of Women with Epilepsy. Committee member. 2005-present.

World Health Organization Technical Consultation on Folate and Vitamin B12 Deficiencies. Committee Member. November 2005.

Children's Environmental Health Centers Review Board on behalf of the NIEHS National Advisory Environmental Health Sciences Council, 2006-2007.

Global Environmental Health Strategic Planning Workshop Participant on behalf of the NIEHS National Advisory Environmental Health Sciences Council, January 2007.

International Mouse Knockout Consortium Steering Committee, 2007-2011.

NIEHS National Advisory Environmental Health Sciences Council, National Institutes of Health, Council Member, 2007-2011.

CICbioGUNE Scientific Advisory Board, Bilbao, Spain, 2009-2015. Chairperson.

Global Experts Panel-International Federation for Spina Bifida & Hydrocephalus, 2014-present.

Nestle Health Science/Pamlabs Scientific Advisory Board for Medical Foods, 2015-2016.

Cloud Health Genomics, Ltd. Scientific Advisory Board; Director of Pediatric Genomics, 2016-present

HESI DART Committee's *Skeletal Variants Consultation*. 1998-2001.

Johnson and Johnson Pharmaceutical-PRI Division. Global team for Topiramate. 1999-2006.

GlaxoSmithKline Pharmaceutical Division. Global team for Lamictal. 2003-2006.

Eli Lilly and Company, Oncology Research Platform, ALIMTA Advisory Board. 20005-2006.

HESI DART Committee's *In Vitro Assays*. 2005-2009.

Shire Pharmaceuticals, Valroceamide Advisory Board. 2006-2007.

Nestle Health Science-Pamlab Inc. B Vitamin Advisory Board, 2015-2016

II. Research Information**A. Research Support**

1. Risk Genes and Environment Interactions in NTDs.

National Institutes of Health

Grant.
 2P01HD067244-06
 PI. of Project 3.
 09/01/2016-06/30/2021
 \$250,000; \$1,250,000
 \$1,000,000.

2. Genomic and Epigenomic Factors Associated Non-Syndromic Congenital Heart Defect Risk
 National Institutes of Health

Grant.
 2R01HD039054
 Co-Investigator
 06/01/2012-05/31/2017
 \$50,000; \$250,000
 N/A

3. Folic Acid, Parental Mutation Rates and the Risk for Neural Tube Defects.
 National Institutes of Health

Grant.
 R01 HD081216-02A1.
 MPI, Contact PI.
 08/01/2015-07/31/2020
 \$308,957; \$1,544,785
 \$927,000

4. Intervention Strategies for Non-Folate Responsive Neural Tube Defects.
 National Institutes of Health

Grant.
 R01 HD083809-02A1
 MPI, Contact PI.
 02/01/2016-01//01/2021
 \$209,190; \$1,045,950
 \$627,570

5. Folate Pathway Neural Tube Defects.
 March of Dimes Birth Defects Foundation

Grant.
 #16-FY16-169
 Co-Investigator
 06/01/2016-05/31/2019
 \$30,000; \$90,000
 N/A

5. 2017 International Conference on Neural Tube Defects
 National Institutes of Health

Grant.
 R13HD093414-01
 PI
 08/01/2017-07/31/2018

\$18,000; \$26,000
N/A

6. Biomechanics of Neural Tube Development Using Brillouin-OCT Multimodality
National Institutes of Health
Grant.
R01HD094362-01
MPI
02/01/2018-05/31/2023
\$80,000; \$500,000
PENDING—Received a 1st percentile score. Council meets in May to approve.

B. National Scientific Participation

1. Journal Editorial Boards

J. Reproductive and Developmental Medicine. Associate Editor (2018-present)
Teratology: Section Editor for Genetics and Cytogenetics (1992-1997); Molecular Genetics (1997-2000)
Guest Referee Editor: American Journal of Medical Genetics. 2003.
Associate Editor: Environmental Health Perspectives: Toxicogenomics (2002-2004)
Associate Editor: Birth Defects Research: Clinical and Molecular Teratology (2001-2018)
Associate Editor: Reproductive and Developmental Medicine (2018-present)

2. Review Panels (Partial Listing)

NIH Standing Member, Oral Biology and Medicine Study Section, (OBM I) 1991-1995
NIH Reviewer's Reserve, 1995-present
NIDCR Review, December 1999
NIH Health Disparities Review, April, 2001
NIH Fellowship Review, March, 2002
NIH Hydrocephalus Special Emphasis Panel, September, 2002
NIH Fellowship Review, November, 2002
NIDCR Special Emphasis Panel, February 2003
NIH Neuroscience Fellowships, March 2003
NIDCR Review, October, 2003
NIH Neuroscience Fellowships, November 2003
NIH GHD Study Section, June, 2005
Israeli Science Foundation Review Panel, March, 2005
NIEHS R13 Review Committee April, 2006
NIH Special Emphasis Panel/Scientific Review Group, August 2006/10 ZAA1 DD (72)
NIH Alcohol Metabolism and Epigenetic Effects on Tissue Injury (RFA: AA-06-004 and AA-06-005) July, 2006
March of Dimes Basic Grants Review Panel September 2006
NIDCR Loan Repayment Grants Review Panel January 2007
NIEHS Discovery Grant Review Panel March 2007
NICHD Study Section June 2007
Welcome Trust Grant Review July 2007
German Science Foundation Long-term Studies in Health Research in Germany, September 2007
NIDCR Special Emphasis Panel/Scientific Review Group 2008/01 DSR meeting October 2007
NIDCR Loan Repayment Review Panel January 2008

Telethon Foundation Grant Reviews April 2008
 Czech Science Foundation Review Panel July 2008
 Welcome Trust Grant Review September 2008
 Alberta Heritage Foundation for Medical Research Grant Review Panel February 2009
 NIH Challenge Grant Review Panel, June 2009
 NIEHS SBIR Grant Review Panel July 2009
 Qatar National Research Fund, April, 2010
 Ireland Health Research Board December 2010
 Ireland Health Research Board January 2011
 Qatar National Research Fund, March 2011
 NIH (RFA) DD11-005 National Spina Bifida Registry Review Panel, May 2011
 Foundation Cariplo, January 2013
 March of Dimes Program Project Pre-term birth reviews. January 2013
 NIH Integrative Nutrition and Metabolic Processes (INMP) study section February 2013
 CDC Grant Reviews May 2013
 NICHD Heart Placental Axis Development and Prevention of Cardiovascular Birth Defects March 2013
 NIEHS Special Emphasis Panel Loan Repayment April 2013
 Qatar National Research Fund March 2013
 Texas A&M Internal research grant program. Review committee. February 2012
 Qatar National Priorities Research April 2014
 NIH Fellowship Applications assigned to the Endocrinology, Metabolism, Nutrition and Reproductive Sciences (EMNR) Integrated Review Group March 2014
 US Israel Binational Science Foundation grant review panel April 2014
 NIH Loan Repayment Review Panel
 NIH Special Emphasis Panel/Scientific Review Group 2015/01 NMB October 2014
 CDC Special Emphasis Panel Scientific Review Group FOA RFA DD15-001:Public Health Research on Modifiable Risk Factors for Spina Bifida. March 2015
 NIH Special Emphasis Panel/Scientific Review Group 2015/05 ZRG1 F06-S (20)
 UK Medical Research Council Review Panel January 2015
 NIH Pregnancy and Nutrition Study Section, February, 2015
 UK Medical Research Council Review August 2015
 UK Medical Research Council Review Panel November 2015
 Karlstad University Sweden Grant Review Panel December 2015
 NIEHS Ones Review ZES1 JAB-J (R0)1 Review Panel May 2015
 NIDCR Soar Special Emphasis Review Panel January 2016
 Research Councils UK March 2016
 NIH ZRG1-EMNR-B(02)M Review Panel June 2016
 Research Councils UK November 2016
 NIH ZRG1-EMNR-B(02) Special Emphasis Panel March 2017
 NIH 2017/05 ZHD1 DRG-D (50) 1 Special Emphasis May 2017
 Additional prior reviews for the following organizations:
 Medical Research Council of Canada
 Medical Research Council- United Kingdom
 USDA National Research Initiative Competitive Grants Program
 Veterans Administration Medical Research Service
 Air Force Office of Scientific Research
 National Science Foundation
 WellBeing Foundation
 The Wellcome Trust

The Netherlands Organization for Health Research and Development
Qatar National Research Foundation

3. Professional Societies
 - American Society of Human Genetics
 - Teratology Society-National Council, 1997-2001, 2014
 - AAAS member, 1980-
 - Folate Receptor Society, member 2005-

4. Elected Positions
 - Teratology Society-Elected to Council 1997-2001, 2014
 - Teratology Society-Elected Vice President-elect 2014 (resigned)
 - FASEB One Carbon Metabolism Conference Co-Chair, 2010; Chair, 2012

5. Invited Lectures, Presentations, Research Seminars (national-Partial List Only)
 1. International Symposium of Phenytoin-Induced Teratology and Gingival Pathology, Chapel Hill, North Carolina, May 1979.
 2. International Workshop on the Genetics of Epilepsy, Minneapolis, Minnesota, July 1980.
 3. International Symposium on Pregnancy, Teratogenesis and Genetics in Epilepsy, Los Angeles, California, July 1990.
 4. Third International Cleveland Clinic Symposium on Epilepsy, Cleveland, Ohio, June 1992.
 5. First International Conference on Neural Tube Defects, Harlingen, Texas, October 1993.
 6. Session Chairperson, Gordon Research Conference on Mechanisms of Toxicity, Meriden, New Hampshire, August 1995.
 7. Fourth International Society for the Study of Xenobiotics Meeting, Seattle, Washington, August 1995.
 8. Binational Conference on Neural Tube Defects, El Paso, Texas, January 1996.
 9. Instructor, Advanced Course, Society of Toxicology Meeting, Seattle, Washington, March 1998.
 10. FASEB Summer Conference on Folate, B12, and One Carbon Metabolism, Snowmass Village, Colorado, August 1998.
 11. Symposium on Molecular Mechanisms of Chemical Teratogenesis, Washington, D.C. April 1999.
 12. IBC's 4th Annual Conference on Molecular Toxicology, Washington, D.C. April 1999.
 13. New York Academy of Sciences Conference "Toxicology For The Next Millennium," Airlie Conference Center, September, 1999.
 14. FASEB Summer Conference on Folate, B12, and One-Carbon Metabolism, Snowmass Colorado, August 2000.
 15. 2nd International Conference on Neural Tube Defects, Organizer and Co-chair, Seabrook, So. Carolina, September 2001.
 16. Session Chairperson, Gordon Research Conference on Mechanisms of Toxicity, Maine, July 2002.
 17. FASEB Summer Conference on Folate, B12, and One-Carbon Metabolism, Snowmass, Colorado, August 2002.
 18. Malformations: What's a Doctor to Do? Neural Tube Defects from Bench to Bedside, American Epilepsy Society Meeting Symposium. Seattle, Washington, December 2002.
 19. Teratology Society Continuing Education Course. "Integration of Human and Animal Data in Understanding Mechanisms and Risk for Human Birth Defects" Philadelphia, PA. June 21, 2003
 20. 3rd International Conference on Neural Tube Defects, Organizer and Co-chair, Seabrook, So. Carolina, September 2003.
 21. FASEB Summer Conference on Folate, B12, and One-Carbon Metabolism, Snowmass Colorado, August 2004. Session Chairperson and speaker.

22. Children's Environmental Health Institute Symposium. Austin, Texas. September 2004.
23. FASEB Summer Conference on Folate, B12, and One-Carbon Metabolism,) *"Genetic and epigenetic consequences of abnormal folate transport during embryonic development"* Snowmass, Colorado, August 2002.
24. Current Topics in Neonatal/Infant Nutrition and Metabolism V. Methionine, Methylation and Epigenetics. Houston, Texas. January, 2005.
25. Experimental Biology Meeting. "Genetic basis of susceptibility to environmentally induced birth defects". San Diego, CA. April, 2005.
26. 4th International Conference on Neural Tube Defects, speaker and organizer, Desert Hills, California, September, 2005.
27. Center for Environmental Health & Susceptibility School of Public Health, The University of North Carolina at Chapel Hill. October, 2005.
28. Department of Chemistry and Biochemistry. University of Texas at Austin. "Embryonic Consequences of Abnormal Folate Transport". Austin, Texas. November, 2005.
29. Am. Society for Human Genetics. "You are what you eat: The importance of gene-nutrient interactions in the etiology of birth defects" New Orleans. April, 2006.
30. Teratology Course. "Brain-neural tube development". Annual Meeting. Tucson, Arizona. June, 2006.
31. Department of Chemistry. Purdue University. W. Lafayette, IN. November, 2006.
32. Department of Cell Biology. UT Southwestern Medical Ctr. at Dallas. October, 2006. Dallas, TX.
33. University of Cincinnati Environmental Health Center. January 2007. Cincinnati, Ohio.
34. Experimental Biology-Nutrition. Washington, D.C. May 2007.
35. 5th International Conference on Neural Tube Defects, speaker and organizer, Asilomar, California, September 2007.
36. College of Pharmacy. Texas A&M Health Science Center. "Embryonic Consequences of Abnormal Folate Transport". Kingsville, TX. October 2007.
37. University of Texas Health Science Center San Antonio. Human Genetics Seminar. San Antonio, TX. October 2007.
38. USDA Workshop on Fumonisin and Birth Defects. Atlanta, GA. February 2008.
39. Warkany Lecturer, Teratology Society National Meeting, Monterey, California, June 2008.
40. Sanford Health Science Center. "Embryonic Consequences of Abnormal Folate Transport". Sioux Falls, SD. September 2008.
- 41., Symposium: "Do Anticonvulsants Injure the Immature Brain?". American Epilepsy Society Annual Meeting, Seattle, December 2008.
42. Folate Metabolism and Autism Spectrum Disorders Conference. Washington, DC. March, 2009.
43. Children's Hospital of Michigan Grand Rounds. Detroit, Michigan. March, 2009.
44. Kellogg Company. Battle Creek, Michigan. March, 2009.
45. G. Malcolm Trout Visiting Scholar at Michigan State University. East Lansing, Michigan. March, 2009.
46. University of Texas at Austin. Molecular Biology Program. Austin, Texas. May, 2009.
47. 6th International Conference on Neural Tube Defects, speaker and organizer, Burlington, Vermont, September, 2009.
48. Biological Basis of Pediatric Practice Symposium. Deer Valley, Utah, September, 2009.
49. The University of Colorado Anschutz Medical Campus Program in Molecular Biology. Denver, Colorado. January, 2010.
50. National Jewish Health. "Embryonic Consequences of Abnormal Folate Transport". Denver, Colorado. January, 2010.

51. SUNY-Downstate Medical Center. “Embryonic Consequences of Abnormal Folate Transport”. New York, NY. February, 2010.
52. American College of Medical Genetics Annual Meeting. Gene-Environment Interaction in Teratogenesis Symposium. Albuquerque, New Mexico. March, 2010.
53. Experimental Biology 2010. Symposium on Epigenetics. Anaheim, California. April, 2010.
54. Department of Pharmacology. University of Washington. Understanding Environmental Risk Factors for Neural Tube Defects. Seattle, Washington. April, 2010.
55. Department of Pharmacology. Cleveland Clinic. Cleveland, Ohio. June, 2010.
56. Session chair and meeting vice-chairman: FASEB Folic Acid, Vitamin B12 and One Carbon Metabolism Meeting. Carefree, Arizona, August, 2010.
57. Center for Research on Reproduction and Women’s Health. University of Pennsylvania School of Medicine. Philadelphia, PA. January, 2011.
58. 7th World Congress on Developmental Origins of Health and Disease. Portland, Oregon, September, 2011.
59. Department of Biology, University of Kentucky. Lexington, KY. October, 2011.
60. Children’s Health: Environmental Contributors to Developmental and Intellectual Disabilities. Dell Children’s Medical Center. Austin, Texas. November, 2011.
61. Grand Pediatric Rounds. Loma Linda Children’s University Medical Center. Loma Linda, California. December, 2011.
62. University of Georgia Foods and Nutrition Department. April, 2012.
63. March of Dimes Symposium. Annual Meeting of the Teratology Society Baltimore, MD, June, 2012.
64. Academic Day for Neonatologists of Southern California. “Embryonic Consequences of Abnormal Folate Transport”. Orange, California. October, 2012.
65. Rutgers University-EOSHI. “Gene-Environmental Interactions in Etiology of Neural Tube Defects”, New Brunswick, NJ. October, 2012.
66. Developing High-Throughput Assays for Predictive Modeling of Reproductive and Developmental Toxicity Modulated Through the Endocrine System or Pertinent Pathways in Humans and Species Relevant to Ecological Risk Assessment. Arlington, VA. January, 2013
67. Texas A&M University. Genomic Analysis of Susceptibility to Neural Tube Defects. College Station, Texas. April, 2013.
68. University of Houston College of Pharmacy. Teratogenicity of Antiepileptic Drugs: Efforts to Prevent Preventable Birth Defects. Houston, Texas. March, 2013.
69. Concordia University. Embryonic Consequences of Abnormal Folate Transport. Austin, Texas. April, 2013
70. Harvard Teratogen Course. Boston, MA. April, 2013.
71. March of Dimes Symposium. Annual Meeting of the Teratology Society Tucson, Arizona, June, 2013.
72. Department of Pediatrics, University of Colorado. “Gene Environment Interactions in Complex Congenital Disorders”. Denver, Colorado, August, 2013.
73. Epilepsy Association Annual Meeting. Washington, DC. December, 2013.
74. Grand Rounds Neurology, Department of Neurology at North Shore University and Long Island Jewish Hospitals. “Genetic Susceptibility to Anticonvulsant Drug Teratogenicity: Progress in Preconception Diagnosis of High Risk Pregnancies”. April 11, 2014.
75. Department of Pediatrics, University of Iowa School of Medicine. September, 2014.
76. Texas Department of State Health Services Grand Rounds. Austin, Texas. October, 2014.
77. Genomics Rounds: Mt. Sinai Medical Center. Embryonic Consequences of Abnormal Folate Transport. New York. December 5, 2014.

78. Children's Environmental Health Network Conference on Children, Nutrition and Environmental Health. Austin, Texas. February 4, 2015.
79. Keynote Speaker: Texas Genetic Society Annual Conference. Embryonic Consequences of Abnormal Folate Transport. Dallas, Texas. March 26, 2015.
80. College of Pharmacy, University of Arizona. Tucson, Arizona. May, 2016.
81. Clemson University and Greenwood Genetics Center. Greenwood, South Carolina. July, 2016.
82. Children's Hospital of Philadelphia-Genes, Genomes and Pediatric Disease Affinity Group. Embryonic Consequences of Abnormal Folate Transport. Philadelphia, PA. January 23, 2018.
83. Lennox Hill Hospital (NYU). OB Grand Rounds. Embryonic Consequences of Abnormal Folate Transport. New York, NY. January 31, 2018.
84. University of Alabama Birmingham Dept of Genetics. Embryonic Consequences of Abnormal Folate Transport. Birmingham, AL. March 16, 2018.
85. University of Maryland Baltimore Campus. Genomic Architecture of Neural Tube Defects. Baltimore MD, September 6, 2018.
6. Invited Lectures, Presentations, Research Seminars (international)
1. Fifth International Congress of Birth Defects, Montreal, Quebec, Canada, August 1977.
 2. International Epilepsy Symposium, Vancouver, British Columbia, Canada, September 1978.
 3. Visiting Lecturer in Teratology, Institut für Medizinische Genetik, Universität Zürich, fall 1981.
 4. Fall Congress on Epileptic Disorders, Freie Universität Berlin, Berlin, Germany, October 1981.
 5. Ninth European Teratology Society Meeting, Basel, Switzerland, September 1981.
 6. Eleventh European Teratology Society Meeting, Paris, France, September 1983.
 7. Fall Congress on Epileptic Disorders, Freie Universität Berlin, Berlin, Germany, September 1983.
 8. International Workshop on Epilepsy, Pregnancy and the Child, St. Adele, Quebec, Canada, October 1983.
 9. International Symposium - Pharmacokinetics in Teratogenesis, Freie Universität Berlin, Berlin, Germany, September 1985.
 10. International Workshop on the Genetics of Epilepsy, Berlin, Germany, September 1986.
 11. Eighteenth International Epilepsy Congress and International Workshop on Epilepsy, Genetics, Pregnancy and the Child, New Delhi, India, October 1989.
 12. Gesellschaft für Humangenetik, Würzburg, Germany, March 1993.
 13. Third Eilat Conference on New Antiepileptic Drugs, Eilat, Israel, May 1996.
 14. Twenty-second Congress on Epilepsy, Dublin, Ireland, June 1997.
 15. Fourth Eilat Conference on New Antiepileptic Drugs, Eilat, Israel, September 1998.
 16. Second International Conference on Homocysteine Metabolism, Nijmegen, The Netherlands, April 1998.
 17. Neural Tube Defects 2000 Workshop. Organizer and Co-chairman. Schlangenbad, Germany, August 1999.
 18. Fifth EILAT Conference on New Antiepileptic Drugs, Eilat, Israel, June 2000.
 19. Doctoral Opponent and Symposium Speaker. College of Pharmacy, Uppsala, Sweden, May, 2001.
 20. Japanese Society of Toxicology Annual Meeting, Tokyo, Japan, June, 2001.
 21. 3rd Workshop on Advances in Molecular Medicine, Pamplona, Spain, November 2002.
 22. Twenty-fifth Congress on Epilepsy, Lisbon, Portugal. October, 2003.
 23. 25th Annual Meeting of the Netherlands Society of Toxicology. Bilthoven, The Netherlands, June, 2004.
 24. International Workshop on Neural Tube Defects, Genoa, Italy, November, 2004.
 25. Institut Européen des Genomutations Spring Scientific Forum, Lyon, France, March, 2004.

26. Korean Society of Toxicology, Keynote speaker. Seoul, Korea, November, 2004.
27. University of Milano. "Embryonic Consequences of Abnormal Folate Transport. Milan, Italy. November 10, 2004.
28. Institute of Biochemical Genetics. "Altered Patterns of Gene Expression in Folate Deficient Mice". Nijmegen, NL. December, 2004
29. Meeting of the Outcome Classification Group of EURAP. Milan, Italy. February 2005.
30. Shanghai JiaoTong University. "Folate genes, maternal folate intake, and risks of human birth defects". Shanghai, People's Republic of China. March, 2005.
31. . "Development of New Mood Stabilizers with Low Teratogenic Potential" for the 8th World Congress of Biological Psychiatry, 28 June – 3 July 2005, Vienna, Austria.
32. Danish Epilepsy Society Annual Meeting. Copenhagen, Denmark, October 2005.
33. International Clearing House for Birth Defects Surveillance and Research annual meeting. "Evaluation of Medications as Teratogens" September 19, 2005. Malta
34. 13th International Symposium on Chemistry and Biology of Pteridines and Folates, Egmond aan Zee, The Netherlands, June, 2005.
35. Reproductive Aspects of Epilepsy Conference, Copenhagen, Denmark. October, 2005. Keynote Speaker.
36. WHO Technical Consultation on Folate and Vitamin B12 Deficiencies, Geneva, October, 2005.
37. 2nd Yangtze River Delta Regional Conference on Pediatrics , Shanghai, China, November, 2005. Keynote Speaker.
38. 2nd China-U.S. Relations: Trade, Diplomacy, and Research, Beijing, China, November, 2005. Co-Chair of Research Roundtable.
39. 1st International Workshop on the Folate Receptor. Aberfoyle, Scotland. June, 2006.
40. Eilat Conference on New Antiepileptic Drugs. Sitges, Spain. September, 2006.
41. 2nd Central and Eastern European Conference on Health and the Environment. October, 2006. Bratislava, Slovak Republic.
42. Annual Meeting of the French Society for Homocysteine Research, Nice, France, October, 2006. Keynote Speaker.
43. 2nd Annual Central European Conference on Hazardous Substances. Bratislava, Slovak Republic, October, 2006.
44. Grand Rounds. Université Rene Descartes. Hospital Necker. Paris, France. December, 2006.
45. International Mouse Knockout Consortium Workshop on the Future of Functional Genomics, Brussels, Belgium, March, 2007.
46. Svenberg Lecture, University of Uppsala, Sweden, March, 2007.
47. Fudan University. "Genetic Susceptibility to Environmentally Induced Neural Tube Defects". Shanghai, People's Republic of China. July, 2007.
48. International Congress of Toxicology, Montreal, PQ, Canada, July, 2007.
49. EUCOMM Mid-term Review. Rottach/Egern, Germany. January, 2008.
50. Killam Lecturer, Montreal Neurological Institute, Montreal, PQ, Canada, March, 2008.
51. Speaker and Session Chair. Central Asia Conference on Environmental Health. Istanbul, Turkey, March, 2008.
52. Área de Fisiología, Universidad de Cádiz. "Embryonic Consequences of Abnormal Folate Transport". Cadiz, Spain. April, 2008.
53. 2nd International Mouse Knockout Consortium Workshop on the Future of Functional Genomics, Toronto, Canada, May, 2008.
54. International Knockout Mouse Consortium Annual Meeting, Toronto, Canada, May, 2008.
55. 9th Eilat Workshop on New Antiepileptic Drugs. Sitges, Spain. June, 2008.

56. 2nd Congreso de La Ciencias Medicas de la Universidad Nacional Autonoma de Nicaragua-UNAN-Leon, Leon, Nicaragua, August, 2008.
57. FASEB Summer Conference on Folate, B12, and One-Carbon Metabolism, Lucca, Italy, August 2008. Session Chairperson and speaker. Elected Co-Chair of Meeting.
58. 8th European Epilepsy Meeting, “Mechanisms of AED developmental toxicity: State of the art and could pregnancy registries be used to advance our understanding?” Berlin, Germany, September, 2008.
59. Second Congress on the Advanced Perspective in Neural Tube Defects. Genoa, Italy, September, 2008.
60. Institute of Nutrition. University of Oslo. Oslo, Norway. September, 2008.
61. EUCOMM Review Meeting. Munich, Germany. January, 2009.
62. BBVA Lecture Series. Bilbao, Spain. February, 2009.
63. Second International Meeting on the Functional Annotation of the Mouse Genome. Banff, Alberta, Canada. April, 2009.
64. Korean Research Institute of Bioscience and Biotechnology. Daejeon, Korea. April, 2009.
65. 14th International Symposium on Chemistry and Biology of Pteridines and Folates, Jeju Island, South Korea, June, 2009. Session Chairperson and speaker.
66. Kings College London. Fuz knockout mice: ciliogenesis and neural tube defects. London, UK. July, 2009.
67. International Fulda-Symposium: Homocysteine, folate and cobalamin disorders Fulda, Germany, November, 2009
68. International Seminar on Folate Metabolism, Infertility and Foetal Health. Karolinska Institute, Stockholm, Sweden, February, 2010.
- 69.. International Congress on Epilepsy, Brain and the Mind. Prague, Czech Republic, March, 2010.
70. Conference on Epigenetics of Brain Development. CHU Sainte-Justine Research Centre, Montreal, P.Q, Canada, March, 2010.
71. University of Zurich Children’s Hospital. “Embryonic Consequences of Abnormal Folate Transport. Zurich, Switzerland. June, 2010.
72. Korean National Cancer Center. Genetically Modified Mouse Models in Cancer Studies of Gene-Nutrient Interactions. Seoul, Korea. November 17, 2010.
73. KAIST-Korean Institute for Science and Technology-Embryonic Consequences of Abnormal Folate Transport. Daejeon, South Korea. November 18, 2010.
74. Fudan University. Embryonic Consequences of Abnormal Folate Transport. Shanghai, China. November 2010.
75. Lee Gil Ya Cancer and Diabetes Institute Gachon University of Medicine and Science. Seoul, Korea. November, 2010.
76. Keynote Speaker: International Conference on Genetics, Development and Health, Shanghai, China. May, 2011.
77. Annual meeting of the International Federation of Spina Bifida and Hydrocephalus, Guatemala City, Guatemala. June, 2011.
78. 8th International Conference on Homocysteine Metabolism. Lisbon, Portugal. June, 2011.
79. Peking University Institute for Reproductive and Child Health. “Fundamentals of Gene-Environment Interaction Studies Using Model Organisms”. Beijing, People’s Republic of China. June, 2011.
80. ChemScreen Meeting. “Novel Tools and Technologies for Stem Cells and Regenerative Medicine”. Amsterdam, NL. January, 2012.
81. Novel Tools and Technologies for Stem Cells and Regenerative Medicine, Edinburgh, Scotland, January, 2012.

82. Er Yi Innovation Forum, Jiao Tong University. "Stem Cell Approaches to Understanding and Preventing Neural Tube Defects". Shanghai, PRC, March, 2012.
83. 15th Pteridines and Folates Conference. Anticonvulsant Drug Teratogenesis. Antalya, Turkey. May, 2012.
84. College of Pharmacy. Ydittepe University, Istanbul, Turkey, May, 2012
85. University of Calgary. "Folic Acid Modifies Abnormal Phenotypes in Animal Models". Calgary, Alberta, Canada. May, 2012
86. Meeting Chairman: FASEB Folic Acid, Vitamin B12 and One Carbon Metabolism Meeting. Kalymera, Crete, July, 2012.
87. Peking University Institute for Reproductive and Child Health. "Embryonic Consequences of Abnormal Cilia Development and Function: Environmental and Genetic Factors Contributing to Birth Defects". Beijing, People's Republic of China. December, 2012.
88. BioForum-2013. From Reproductive Safety to Drug Development: Use of Embryonic Stem Cell Screening Paradigms. Shanghai, China, May, 2013
89. Invited Speaker: Mini-Symposium on Neurodegenerative Diseases. East China Normal University. May, 2013.
90. Causes, Treatment and Prevention of Neural Tube Defects Regional Symposium. Immune Factors in Susceptibility to Neural Tube Defects. Doha, Qatar, September, 2013.
91. Genomic Analysis of Human Susceptibility to Neural Tube Defects. Shanghai Jiao University Medical School. Shanghai, China, December, 2013.
92. Embryonic Consequences of Abnormal Nutrient Transport During Development. Shanghai Jiao Tong University-Minhang Campus. Shanghai, China, December, 2013.
93. From Man to Mouse and Back Again: Efforts to Develop Novel Interventions for Pediatric Neurological Disorders. College of Pharmaceutical Sciences, Soochow University, Suzhou, China, December, 2013.
94. The Continuing Challenge of Prevention, Understanding and Treating Neural Tube Defects. International Symposium of Genetics 2014, Fudan University, Shanghai, China. April 19-22, 2014.
95. Department of Nutrition, Taichung University. Taichung, Taiwan. November, 2014.
96. Capital Institute of Pediatrics. Beijing, People's Republic of China. November, 2014.
97. Shanghai Institute of Medical Genetics, JiaoTong University. Shanghai, People's Republic of China. November, 2014.
98. National Center for Maternal and Child Health Monitoring. "Gene-Environment Interactions in the High Neural Tube Defect Prevalence Region of Shanxi Province, China". Chengdu, China. April 27, 2015.
99. Sunrise Continuing Education Course: Teratology Society Annual Meeting. Genetically Modified Models to Understand Congenital Diseases: To Boldly Go Faster and Further than Anyone Has Gone Before. Montreal, PQ Canada. June 30, 2015.
100. Genomic Analysis of Human Susceptibility to Neural Tube Defects: Gene - Environment Interactions. Ecole Normale Supérieure de Lyon, France. July 6, 2015.
101. 10th International Conference on One Carbon Metabolism and Homocysteine. Mutations in human Capicua gene underlies folate transport defects in children with the Cerebral Folate Deficiency syndrome. Nancy, France. July 10, 2015.
102. University of Gottingen, Department of Pediatrics. From (Hu)Man to Mouse and Back Again: Efforts to Develop Novel Interventions for Pediatric Neurological Disorders. Gottingen, Germany. October 12, 2015.
103. Università Degli Studi di Milano, Dipartimento di Scienze della Salute. Embryonic Consequence of Abnormal Folate Transport. Milan, Italy, October 15, 2015.

104. Invited Speaker: 26th International Conference of the International Federation for Spina Bifida and Hydrocephalus. Environmental Risk Factors for Neural Tube Defects. Milan, Italy, October 16, 2015.
105. Peking University, Institute of Reproductive and Child Health. Beijing, People's Republic of China. November, 2015.
106. University of Toronto School of Pharmacy. Embryonic Consequences of Abnormal Folate Transport. Toronto, Canada, March 11, 2016.
107. Shanghai Jiao Tong University Er Yi Innovation Forum Keynote Speaker. Shanghai, China, March 22, 2016.
108. College of Pharmacy, Osaka University. Embryonic Consequences of Abnormal Folate Transport'. Osaka, Japan. April 2016.
109. Shanghai Institute for Medical Genetics. Using Next Generation DNA Sequencing to Resolve Clinical Unknowns. Shanghai, China. May 20, 2016.
110. Children's Hospital of Fudan University. Using Next Generation DNA Sequencing to Resolve Clinical Unknowns. Shanghai, China. May 23, 2016.
111. Invited Speaker: Embryonic Consequences of Abnormal Folate Transport. Chinese Academy of Sciences-Institute of Biochemistry and Stem Cell Biology. Shanghai, China. May 24, 2016.
112. Lindhout Festschrift. University Medical Center Utrecht. Genetic Susceptibility to Anticonvulsant Drug Induced Birth Defects: Yesterday, Today and Tomorrow.
113. "Basic Translational Study of Reproductive Medicine", Department of Obstetrics and Gynecology of Fudan University School of Medicine. Shanghai, China. August 28, 2016.
114. 12th European Congress on Epileptology. Is valproic acid such a terrible teratogen? From the basic science point of view. Prague, Czech Republic. September 12, 2016.
115. 27th International Federation for Spina Bifida and Hydrocephalus Congress. Autoimmunity and Spina Bifida—Identification of Maternal Serum Biomarkers Associated with Neural Tube Defects. Ghent, Belgium. October 29, 2016.
116. The Maternal and Child Health Hospital of Guangxi, China. Genetic Susceptibility to Neural Tube Defects. Nanning, China, April 17, 2017.
117. Keynote Speaker: Create Miracles Conference. Probiotics in Pregnancy. Hangzhou, China, April 22, 2017.
118. 11th International Conference on One Carbon Metabolism and Homocysteine. From (Hu)Man to Mouse and Back Again: Efforts to Develop Novel Interventions for Pediatric Neurological Disorders. Aarhus, Denmark. May 16, 2017.
119. BioForum Shanghai 2017. From Reproductive Safety to Drug Development: Use of Novel Approaches to Maximize Efficiencies to Promote Drug Development. Shanghai, China, June 8, 2017.
120. Structuring the Genetic Counseling Session. CloudHealth Genomics. Shanghai, China, June 12, 2017.
121. From (Hu)man to Mouse and Back Again: Efforts to Develop Novel Interventions for Pediatric Neurological Disorders. Department of Genetics, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil. June 19, 2017.
122. Pre-Conference Course on Reproductive Toxicology. 29th Congress of Genetica Medica, Brazil. Bento Goncalves, Brazil. June 20, 2017.
123. Keynote Speaker: "Folic Acid and Health/Disease Processes". 29th Congress of Genetica Medica, Brazil. Bento Goncalves, Brazil. June 23, 2017.
124. Life Sciences Institute, Zhejiang University. Embryonic Consequences of Abnormal Folate Transport. Hangzhou, China. August 15, 2017.
125. 16th National Medical Genetics Conference-Chinese Society of Medicine. "From (Hu)Man to Mouse and Back Again: Efforts to Develop Novel Interventions for Pediatric Neurological Disorders". Chengdu, China. October 26, 2017.

126. The Great Wall Molecular Diagnostics Conference-Fuwai Hospital. Principles and Practice of Medical Genetics: Structural Organization of Genetic Services in the United States. Beijing, China. October 28, 2017.
127. Chinese Agriculture University, School of Food Sciences and Nutritional Engineering. Embryonic Consequences of Abnormal Folate Transport. Beijing, China. October 30, 2017.
128. BIT's 3rd Annual World Congress of Pediatrics. "From (Hu)Man to Mouse and Back Again: Efforts to Develop Novel Interventions for Pediatric Neurological Disorders". Taiyuan, China. November 1, 2017.
129. Shanxi Medical University invited lecture. Neural Tube Defects: A Chinese Dilemma. Taiyuan, China. January 9, 2018.
130. International Congress on Spinal Genomics, Hong Kong University-Shenzhen Hospital, Shenzhen, China. Genetic Susceptibility to Neural Tube Defects. April 6, 2018.
131. Jiahui Medical Genetics Hospital 8th Clinical Genetics and Genetic Counseling Workshop for Physicians. Changsha, China. April 20, 2018.
132. Universitat Zurich Institut fur Neuropediatrics. Embryonic Consequences of Abnormal Folate Transport. Zurich, Switzerland. May 7, 2018.

C. Publications

1. Full Papers in Peer Review Journals

a. Published

1. Finnell, R.H. 1981. Phenytoin-induced teratogenesis: a mouse model. *Science* 211: 483-484. PMID: 7455686
2. Finnell, R.H. and G.F. Chernoff. 1982. Mouse fetal hydantoin syndrome: Effects of maternal seizures. *Epilepsia* 23:423-430.
3. Finnell, R.H. and A. Schinzel. 1982. Teratogenitat von antikonvulsiva? *Medizinische Genetik Informationblatt* 8: 14-15.
4. Finnell, R.H. and J.H. DiLiberti. 1983. Hydantoin-induced teratogenesis: are arene oxide intermediates really responsible? *Helvetica Paediatrica Acta* 38:171-177.
5. Finnell, R.H. and G.F. Chernoff. 1984. Editorial comment: Genetic background: The elusive component in the fetal hydantoin syndrome. *American Journal of Medical Genetics* 19: 459-462.
6. Finnell, R.H. and G.F. Chernoff. 1984. Variable patterns of malformation in the mouse fetal hydantoin syndrome. *American Journal of Medical Genetics* 19:463-471.
7. Taylor, S.M., G.D. Bennett, L.C. Abbott and R.H. Finnell. 1985. Seizure control following administration of anticonvulsant drugs in the Quaking mouse. *European Journal of Pharmacology* 118:163-170.
8. Abbott, L.C. R.H. Finnell, G.F. Chernoff, S.M. Parrish and C.C. Gay. 1986. Crooked calf disease: A histological and histochemical examination of eight affected calves. *Veterinary Pathology* 23:734-740.

9. Finnell, R.H. and J.F. Baer. 1986. Congenital defects among the offspring of epileptic fathers: Role of the genotype and phenytoin therapy in a mouse model. *Epilepsia* 27: 697-705.
10. Finnell, R.H. V.K. Mohl, G.D. Bennett and S.M. Taylor. 1986. Failure of epoxide formation to influence carbamazepine-induced teratogenesis in a mouse model. *Teratogenesis, Carcinogenesis, and Mutagenesis* 6:393-401.
11. Finnell, R.H., S.P. Moon, L.C. Abbott, J.A. Golden and G.F. Chernoff. 1986. Strain differences in heat-induced neural tube defects in mice. *Teratology* 33: 247-252.
12. Liles, W.C., S. Taylor, R. Finnell, H. Lai and N. Nathanson. 1986. Decreased muscarinic acetylcholine receptor number in the CNS of the tottering (*tg/tg*) mouse. *Journal of Neurochemistry* 46(3):977-982.
13. Willow, M., S.M. Taylor, W.A. Catterall and R.H. Finnell. 1986. Down regulation of sodium channels in nerve terminals of spontaneously epileptic mice. *Cellular and Molecular Neurobiology* 6(2):213-220.
14. Boehnke, W.H., G.F. Chernoff and R.H. Finnell. 1987. Investigation of the teratogenic effects of exercise on pregnancy outcome in mice. *Teratogenesis, Carcinogenesis and Mutagenesis* 7:391-397.
15. Finnell, R.H., H.E. Shields and G.F. Chernoff. 1987. Variable patterns in anticonvulsant drug-induced malformations in mice: comparisons of phenytoin and phenobarbital. *Teratogenesis, Carcinogenesis and Mutagenesis* 7: 541-549.
16. Finnell, R.H., H.E. Shields, S.M. Taylor and G.F. Chernoff. 1987. Strain differences in phenobarbital-induced teratogenesis in mice. *Teratology* 35:177-185.
17. Taylor, S.M. and R.H. Finnell. 1987. Effect of quinidine and tetrodotoxin on the activation of non-adrenergic nerves in guinea-pig trachealis muscle. *Comparative Biochemistry and Physiology* 86C:11-15.
18. Finnell, R.H., G.D. Bennett, S.B. Karras and V.K. Mohl. 1988. Common hierarchies of susceptibility to the induction of neural tube defects in mouse embryos by valproic acid and its 4-propyl-4-pentenoic acid metabolite. *Teratology* 38:313-320.
19. Finnell, R.H. and G.F. Chernoff. 1988. Anagryne induced congenital defects. *Journal of Pediatrics* 112: 331.
20. Finnell, R.H., L.C. Abbott and S.M. Taylor. 1989. The fetal hydantoin syndrome: answers from a mouse model. *Reproductive Toxicology*. 3:127-133.
21. Bennett, G.D., V.K. Mohl and R.H. Finnell. 1990. Embryonic and maternal heat shock responses to a teratogenic hyperthermic insult. *Reproductive Toxicology* 4:113-119.
22. Finnell, R.H., S. Toloyan, M. van Waes and P.W. Kalivas. 1990. Preliminary evidence for a cocaine-induced embryopathy in mice. *Toxicology and Applied*

Pharmacology 103: 228-237.

23. Mohl, V.K., G.D. Bennett and R.H. Finnell. 1990. Genetic differences in the duration of the lymphocyte heat shock response in mice. *Genetics* 124: 949-955.
24. Buehler, B.A., D. Delimont, M. van Waes and R.H. Finnell. 1990. Prenatal prediction of risk of the fetal hydantoin syndrome. *New England Journal of Medicine* 322(22):1567-1572. PMID: 2336087
25. Finnell, R.H. and L.V. Dansky. 1991. Parental epilepsy, anticonvulsant drugs and reproductive outcome: epidemiologic and experimental findings spanning three decades. 1. Animal studies. *Reproductive Toxicology* 5(4):281-299.
26. Dansky, L.V. and R.H. Finnell. 1991. Parental epilepsy, anticonvulsant drugs and reproductive outcome: epidemiologic and experimental findings spanning three decades. 2. Human studies. *Reproductive Toxicology* 5(4):301-335.
27. Finnell, R.H. 1991. Genetic differences in susceptibility to anticonvulsant drug-induced developmental defects. *Pharmacology and Toxicology* 69:223-227.
28. Finnell, R.H., V.K. Mohl and M.D. Englen. 1991. *In vitro* analysis of the murine heat shock response: implications for reproductive toxicity. *Toxicology Letters* 58:297-308.
29. Finnell, R.H., B.A. Buehler, B.M. Kerr, P.L. Ager and R.H. Levy. 1992. Clinical and experimental studies linking oxidative metabolism to phenytoin-induced teratogenesis. *Neurology* 42 (Suppl 5): 25-31.
30. Finnell, R.H., L.E. Taylor and G.D. Bennett. 1993. The impact of maternal hyperthermia on morphogenesis: Clinical and experimental evidence for a fetal hyperthermia phenotype. *Dev Brain Dysfunct* 6:197-209.
31. Finnell, R.H., P.L. Ager, M.D. Englen and G.D. Bennett. 1992. The heat shock response: Potential to screen teratogens. *Toxicology Letters* 60:39-52.
32. Eberwine, J., H. Yeh, K. Miyashiro, Y. Cao, S. Nair, R. Finnell, M. Zettel and P. Coleman. 1992. Analysis of gene expression in single live neurons. *Proceedings of the National Academy of Sciences of the United States of America* 89:3010-3014. PMID: 1557406
33. Finnell, R.H., M. van Waes, G.D. Bennett and J.H. Eberwine. 1993. Lack of concordance between heat shock proteins and the development of tolerance to teratogen-induced neural tube defects. *Developmental Genetics* 14:137-147.
34. Finnell, R.H., M. van Waes, A. Musselman, B.M. Kerr and R.H. Levy. 1993. Differences in the patterns of phenytoin-induced malformations following stiripentol coadministration in three inbred mouse strains. *Reproductive Toxicology* 7:439-448.
35. Eberwine, J.H., R.H. Finnell, S. Nair and Y.X. Cao. 1993. cDNA synthesis *in situ*. *Biofacts* 1:1-3.

36. Finnell, R.H., B.M. Kerr, M. van Waes, R.L. Steward and R.H. Levy. 1994. Protection from phenytoin-induced congenital malformations by coadministration of antiepileptic drug stiripentol in a mouse model. *Epilepsia* 35(1):141-148.
37. Musselman, A.C., G.D. Bennett, K.A. Greer, J.H. Eberwine and R.H. Finnell. 1994. Preliminary evidence of phenytoin-induced alterations in embryonic gene expression in a mouse model. *Reproductive Toxicology* 8(5):383-395.
38. Taylor, L.E., G.D. Bennett and R.H. Finnell. 1995. Altered gene expression in murine branchial arches following *in utero* exposure to retinoic acid. *Journal of Craniofacial Genetics and Developmental Biology* 15:13-25.
39. Finnell, R.H., G.D. Bennett, J.T. Slattery, B.M. Amore, M. Bajpai and R.H. Levy. 1995. Effect of treatment with phenobarbital and stiripentol on carbamazepine-induced teratogenicity and reactive metabolite formation. *Teratology* 52:324-332.
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41. Lillibridge, J.A., B.M. Amore, J.T. Slattery, T.F. Kalhorn, S.D. Nelson, R.H. Finnell and G.D. Bennett. 1996. Protein-reactive metabolites of carbamazepine in mouse liver microsomes. *Drug Metabolism and Disposition* 24: 509-514.
42. Mackler, S.A., G.D. Bennett, V.P. Tsuei and R.H. Finnell. 1996. Cocaine selectively alters levels of neurotransmitter receptor mRNAs in mouse embryos. *Reproductive Toxicology* 10(1):37-42.
43. Shalat, S.L., D.R. Walker and R.H. Finnell. 1996. Role of arsenic as a reproductive toxin with particular attention to neural tube defects. *Journal of Toxicology and Environmental Health* 48:253-272.
44. Craig, J.C., M.E. Westerman, G.D. Bennett, L. DiMichele and R.H. Finnell. 1996. Screening for reproductive toxicity in *Fundulus heteroclitus* by genetic expression profiling. *Biomarkers* 1:123-135.
45. Wlordarczyk, B., G.D. Bennett, J.A. Calvin, J.C. Craig and R.H. Finnell. 1996. Arsenic-induced alterations in embryonic transcription factor gene expression: Implications for abnormal neural development. *Developmental Genetics* 18:306-315.
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48. Mackler, S.A., G.D. Bennett, V.P. Tseui, R.H. Finnell, Y. Rong, Z. Geng and B.H.S. Lau. 1996. Ginko biloba attenuates oxidative stress in macrophages and endothelial cells. *Free Radical Biology and Medicine* 20(1). DOI:10.1016/0891-5849(95)02016-0
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50. Bennett, G.D., F. Lau, J.A. Calvin and R.H. Finnell. 1997. Phenytoin-induced teratogenesis: A molecular basis for the observed developmental delay during neurulation. *Epilepsia* 38(4):415-423.
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52. Finnell, R.H., B.C. Wlordarczyk, J.C. Craig, J.A. Piedrahita and G.D. Bennett. 1997. Strain-dependent alterations in the expression of folate pathway genes following teratogenic exposure to valproic acid in a mouse model. *American Journal of Medical Genetics* 70:303-311.
53. Amore, B.M., T.F. Kalthorn, G.L. Skiles, A.P. Hunter, G.D. Bennett, R.H. Finnell, S.D. Nelson and J.T. Slattery. 1997. Characterization of carbamazepine metabolism in a mouse model of carbamazepine teratogenicity. *Drug Met. and Disp.* 25:953-962.
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64. Finnell, R.H. 1999. Teratology: General considerations and principles. *J Allergy Clin Immunol* 103(2)2:S337-S342.
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- expression in stromal cells of human giant cell tumor of bone. *J. Interferon Cytokine Res.* 13:1207-1217.
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22. Bruce, L.E., Palacios, A.M., Wlodarczyk, B.J. and Finnell, R.H. 2013. Mechanisms of Teratogenic Effects of AEDs. In: *Epilepsy in Women*. C.L. Harden, S.V. Thomas and T. Tomson, Eds. Wiley-Blackwell, pp. 136-147.
23. Lei Y, Tittle RK, Finnell RH. 2014. Interaction between SNPs in folate pathway genes and environment increase neural tube defects risk. *Future Neurology (Lond.)* 9(4), 397-400.

3. Abstracts 2014-2018

1. Youssef A. Kousa¹, Huiping Zhu², Walid D. Fakhouri³, Yunping Lei², Akira Kinoshita⁴, Raeuf R. Roushangar¹, Elizabeth J. Leslie⁵, Tamara D. Busch⁶, Trevor J. Williams⁷, Yang Chai⁸, Brad A. Amendt⁹, Jeffrey C. Murray⁶,

- Gary M. Shaw¹⁰, Alexander G. Bassuk⁶, Allison Ashley-Koch¹¹, Simon Gregory¹¹, Richard H. Finnell², Brian C. Schutte¹². A conserved role for IRF6 in neurulation. *Amer. Soc. Human. Genet.* 2014.
2. Yunping Lei, Huiping Zhu, Maggie Parker, Wei Yang, Gary Shaw, Richard H. Finnell. Mutations in Human Capicua Gene Found in Patients with CFD and NTDs. *Amer. Soc. Human. Genet.* 2014.
3. Maria Bondesson¹, Catherine W. McCollum¹, Charu Hans², Fatima Merchant^{2,3}, Javier Conde Vancells⁴, Mercedes Vazquez-Chantada⁴, Robert Cabrera⁴, Richard Finnell⁴, Jan-Åke Gustafsson¹ Screening for vascular disruptor compounds *in vivo* and *in vitro*. *Aquatic Toxicology Meeting.* 2014.
4. Carolyn L. Bayer^a, Bogdan J. Wlodarczyk^b, Geoffrey P. Luke^a, Richard H. Finnell^b, Stanislav Emelianov^a. *In vivo* ultrasound and functional photoacoustic imaging of the development of birth defects. *Biomedical Engineering Society Meeting* 2014.
5. Richard H. Finnell¹, Huiping Zhu¹ and Yunping Lei¹ Mutations in Human Capicua Gene Found in Patients with the Cerebral Folate Deficiency Syndrome. *David Smith Workshop on Malformations and Morphogenesis* 2014.
6. Richard H. Finnell¹ and Yunping Lei¹ How Folic Acid Prevents Neural Tube Defects. *David Smith Workshop on Malformations and Morphogenesis* 2014.
7. Richard H. Finnell¹, Robert M. Cabrera¹, Bogdan J. Wlodarczyk¹ and Yunping Lei¹ Folate Transport Knockout Mouse Models: New Lessons for Pediatric Developmental Defects. *Folate Receptor Society Meeting* 2014.
8. Richard H. Finnell¹, Kristin Fathe¹, Linda Lin¹, M. Elizabeth Ross², Steven S. Gross³ and Yunping Lei¹ One Carbon Metabolism and Wnt Signaling Impact Embryonic Susceptibility to Neural Tube Defects. *NICHD Structural Birth Defects Meeting* 2014.
9. Alex Hansler¹, Qiuying Chen¹, Elizabeth M. Ross², Richard H. Finnell³ and Steven S. Gross. Untargeted Whole Embryo Metabolomics to Elucidate Metabolic Perturbations Associated with Neural Tube Closure Defects in Mice. *NICHD Structural Birth Defects Meeting* 2014.
10. M. Elizabeth Ross¹ Ran Blekhman^{1¶}, Richard H. Finnell², Christopher E. Mason³ Cem Meydan³, Yunping Lei¹, Gary M. Shaw⁴, Haitham El-Bashir⁵, Jamel Al-Zamer⁵, Nader Chalhoub⁶, Alice Abdel Aleem⁶ Coding and noncoding genetic variants controlling human susceptibility to spina bifida. *NICHD Structural Birth Defects Meeting* 2014.
11. Richard H. Finnell^{1,3}, Kristin Fathe^{1,2}, Timothy M. George^{2,3}, Dean R. Appling² and Aiguo Ren⁴ One-Carbon Metabolism and the Prevention of Birth Defects in China. *Nitric Oxide Metabolomics Conference* 2014.
12. M. Vazquez-Chantada¹, J. Conde-Vancells¹, A. Cano², A. Gonzalez-Lahera^{3,4}, D. Moeen-Aneorena, F.J. Blancos, K. Clement^{8,7,8}, J. Tordjman^{7,8}, A. Trane, P. Gual⁹, C. Garcia-Monzon¹⁰, A. J. Caballella^{11,4}, A. Caatro², M.L. Martlnez-Chantar^{3,4}, J.M. Mato, H. Zhu¹, R. H. Finnell¹, A. M. Aransay. Solute carrier family 19 (folate transporter) member 1 defects leads to lipid accumulation in hepatocytes. *European Society for Human Genetics* 2015.

13. Y. Lei¹; H. Zhu¹; G. Shaw²; E. Ross³; R. Finnell Analysis of the planar cell polarity regulator gene *PTK7* in neural tube defects. Amer. Soc. Human Genet. Annual Meeting 2015.
14. Manami Toriyama, PhD¹, Michinori Toriyama PhD², Yunping Lei PhD¹, John B. Wallingford PhD² and Richard H. Finnell PhD^{1,3} Methylation defect in folate transporter knockout mice contributes to their neural tube defect phenotype. David Smith Workshop on Malformations and Morphogenesis 2015.
15. Richard H. Finnell¹, Douglas I. Walker^{2,3}, Kurt D. Pennell³, Eugene Moore⁴, Kimford J. Meador⁵, Dean P. Jones², Page B. Pennell⁶ High resolution metabolomics of anti-seizure therapy in pregnant women with epilepsy. NIH Forum on Metabolomics at University of Kentucky 2015.
16. Darya Akimova¹, Bogdan J. Wlodarczyk², Ying Lin² Richard H. Finnell² and Steven S. Gross¹ Metabolomics Analysis of NTD-Afflicted VPA Treated Whole Mouse Embryos. 9th International Conference on Neural Tube Defects 2015.
17. Yunping Lei¹, Huiping Zhu¹, Wei Yang², Youssef A. Kousa³, Tamara D. Busch⁶, A.J. Agopian⁸, Xiao Li⁷, Brad A. Amendt⁷, Laura E. Mitchell⁸, Alexander G. Bassuk⁶, Simon Gregory⁹, Allison Ashley-Koch⁹, Brian C. Schutte^{3,4,5}, Gary M. Shaw², and Richard H. Finnell¹ Mutations in *IRF6* contribute to human spina bifida. 9th International Conference on Neural Tube Defects 2015.
18. Qiuying Chen¹, Amanda K. Vaughn², John W. Steele², Robert M. Cabrera², Richard H. Finnell² and Steven S. Gross¹ Tracing of folate-mediated 1-C trafficking in an *in vitro* 3D model of neural tube closure. 9th International Conference on Neural Tube Defects 2015.
19. Jimi Kim¹, Bogdan Wlodarczyk¹, Ying Lin¹, and Richard H. Finnell¹ Disruption of Mitochondrial Folate Transporter Gene (*Slc25A32*) Induces Embryonic Lethality and Neural Tube Defects in Mice. 9th International Conference on Neural Tube Defects 2015.
20. John Steele, Robert M. Cabrera and Richard H. Finnell. Recapitulating the Anterior-Posterior Axis of Gene Expression in a 3D Model of Neuroepithelium. 9th International Conference on Neural Tube Defects 2015.
21. Yunping Lei¹, Manami Toriyama¹, Timothy M. George^{2,3}, Richard H. Finnell¹ Genetic Analysis of FKBP8 in Human Spina Bifida Cases. 9th International Conference on Neural Tube Defects 2015.
22. Ran Blekhman^{§1,2*}, Cem Meydan^{§3,4}, Alice Abdel Aleem^{§5}, Yunping Lei⁶, Nader Chalhoub⁵, Haitham El-Bashir⁷, Jamel Al-Zamer⁷, Huiping Zhu⁶, Dhruva Chandramohan^{3,4}, James M. Musser⁸, Andrew G. Clark², Abdulla Al-Kaabi^{7,9}, Gary M. Shaw¹⁰, Christopher E. Mason^{1,3,4}, Richard H. Finnell⁶, M. Elizabeth Ross¹ Identification of Variant Patterns Across the Whole Genome Landscape in Spina Bifida. 9th International Conference on Neural Tube Defects 2015.
23. Dhruva Chandramohan, Bozena S. Castaldo, Jorge Gandara, Alice Abdel Aleem, Richard H Finnell, Christopher Mason, and M. Elizabeth Ross. Epigenome Interactions in Neural Tube Defects. 9th International Conference on Neural Tube Defects 2015.
24. Manami Toriyama, Michinori Toriyama, Rachel Tittle, John B. Wallingford, and Richard H. Finnell. Folate-Dependent Methylation of Septins Governs Ciliogenesis During Neural Tube Closure. 9th International Conference on Neural Tube Defects 2015.
25. Steven S. Gross, Amanda K. Vaughn, John W. Steele, Robert M. Cabrera and Richard H. Finnell

Untargeted Stable Isotope Fate-Tracing of Ser-Derived 1-Carbon Units in a Cell Culture Model of Neural Tube Closure. 9th International Conference on Neural Tube Defects 2015.

26. Linlin Wang, Yunping Lei, Nan Li, Aiguo Ren Richard H Finnell Whole Exome Sequencing Identifies *De Novo* Mutations in Anencephalic Trios. 9th International Conference on Neural Tube Defects 2015.

27. RH Finnell, H Zhu, R Tittle and Y Lei. Mutations in human Capicua gene underlies folate transport defects in children with the Cerebral Folate Deficiency syndrome. FASEB One Carbon Metabolism Conference 2015.

28. Manami Toriyama, Michinori Toriyama, Yunping Lei, John B. Wallingford and Richard H. Finnell' Methylation Defect in Folate Transporter Knockout Mice: Impact on Ciliogenesis Causes Neural Tube Defects. Teratology Society Annual Meeting 2015.

29. Amanda K. Vaughn, Robert M. Cabrera, Timothy M. George and Richard H. Finnell Roadmap for Developing Novel Neural Tube Defect Therapeutic Intervention. Teratology Society Annual Meeting 2015.

30. Yunping Lei, M. Elizabeth Ross, Gary M. Shaw, Richard H. Finnell. GPR161 Variants Identified in Patients with Neural Tube Defects. Am Soc. Human Genet. Annual Meeting. 2016.

31. Richard H. Finnell and Yunping Lei, Mutations in Human Capicua Gene Found in Patients with CFD and NTDs. Inter Congress of Human Genetics 2016.

32. Robert M. Cabrera, Rachel Tittle, Richard H. Finnell. Health Risks of Antibodies to Folic Acid. FASEB Folic Acid, Vitamin B12 and One Carbon Metabolism Conference 2016.

33. Amanda Vaughn, Steve S. Gross and Richard H. Finnell. The Impact of NTD-Associated eNOS Gene Variant on Redox-Regulation by Single Carbon Metabolism. FASEB Folic Acid, Vitamin B12 and One Carbon Metabolism Conference 2016.

34. Camille Alam, Marc Li, Md. Tozammel Hoque, Richard H. Finnell, Robert Steinfeld, and Reina Bendayan. A Potential Role for Proton-Coupled Folate Transporter in Folate Uptake at the Blood-Brain Barrier. Folate Receptor Society Meeting 2016.

35. Robert M Cabrera, Priscilla Tanamal, Jane Durga, Lori Barrentine, Richard H Finnell. Folate Receptor Autoimmunity in Depressed Patients with Poor Response to SSRIs. Folate Receptor Society Meeting 2016.

36. Qiuying Chen; Amanda Vaughn; John Steel; Robert Cabrera; Richard Finnell; Steven Gross. Untargeted stable-isotope tracing of folate-mediated 1-C trafficking in cancer cells and an *in vitro* 3Dmodel of neural tube closure. Amer. Soc. Mass Spectrometry Annual Meeting 2016.

37. Richard H Finnell. Autoimmunity and Spina Bifida—Identification of Maternal Serum Biomarkers Associated with Neural Tube Defects. International Federation of Spina Bifida and Hydrocephalus Annual Meeting 2006.

38. John W. Steele, Amel G. Sengal, Robert M. Cabrera, Richard H. Finnell. An *in vitro* Teratogen Screen Using 3D Neuroepithelial Organoids. Teratology Society Annual Meeting 2016.
39. Carolyn L. Bayer, Bogdan Wlodarczyk, Richard H. Finnell, Stanislav Y. Emelianov. Ultrasound-guided spectral photoacoustic imaging of folate transport during prenatal development. World Molecular Imaging Congress 2016.
40. Angela K Birnbaum¹, Kimford J Meador², Sai Praneeth Bathena¹, Michaela Roslawski¹, Ryan C May³, Elizabeth Gerard⁴, Patricia Penovich⁵, Laura Kalayjian⁶, Naymee Velez-Ruiz⁷ Jennifer Cavitt⁸, MONEAD Investigator Group, Page B Pennell. Antiepileptic Drug Exposure in Infants of Breastfeeding Mothers with Epilepsy. Investigator Group. Adverse Fetal Outcomes in the MONEAD Study. Amer. Epilepsy Society Annual Meeting. December, 2016.
41. Yunping Lei, M. Elizabeth Ross, Gary M. Shaw, Richard H. Finnell. GPR161 Variants Identified in Patients with Neural Tube Defects. Amer. Society of Human Genet. Annual Meeting, 2016.
42. Meador KJ, Pennell PB, May RC, Gerard E, Kalayjian L, Velez-Ruiz N, Penovich P, Cavitt J, French J, Hwang S, Pack A, Sam M, Moore E, Ippolito DM, MONEAD Investigator Group. Antiepileptic Drug Prescribing Patterns in Pregnant Women with Epilepsy: Findings from the MONEAD study. Amer. Epilepsy Society Annual Meeting. December, 2016.
43. Finnell RH. From Reproductive Safety to Drug Development: Use of Embryonic Stem Cell Screening Paradigms. BioForum 2017. Shanghai, China, June, 2017.
44. Finnell RH. Autoimmunity and Spina Bifida—Identification of Maternal Serum Biomarkers Associated with Neural Tube Defects. Children’s Environmental Health Network biannual Research Conference. June, 2017.
45. Richard H. Finnell, Robert M. Cabrera, Bogdan J. Wlodarczyk¹, Ying Lin, Robert Steinfeld, and Yunping Lei. Folate Receptor Society Meeting, July, 2017.
46. Y Lei, BJ Wlodarczyk, RM Cabrera, EJ Lammer, and RH Finnell. Genetic sensitivity to depakote-induced birth defects: efforts to identify susceptibility genes. David W. Smith Workshop on Malformations and Morphogenesis. August, 2017.
47. Vanessa Aguiar-Pulido, Sung Eun Kim, Richard H Finnell and M Elizabeth Ross. Dominant Mutation in Primary Cilium Protein GPR161 is a Risk Factor for Human Spina Bifida. 11th Structural Birth Defects Meeting, Bethesda, April, 2017.

48. Richard H. Finnell, Robert M. Cabrera, Bogdan J. Wlodarczyk, Ying Lin, Robert Steinfeld and Yunping Lei. From the Clinic to the Mouse Room-Lessons Learned in the Regulation of Folate Transport. Homocysteine and Folate Conference. May, 2017.

49. Pennell PB, Meador KJ, May RC, McElrath T, VanMarter L, Ippolito DM, Weilnau T, Sheldon Y, Gerard E, Kalayjian A, Gedzelman E, Cavitt, J, Penovich P, Moore E, MONEAD Investigator Group. Obstetric and Neonatal Outcomes in the MONEAD Study. Amer. Epilepsy Society Annual Meeting, December, 2017.

5-. Meador KJ, Pennell PB² May RC, Finnell R, Van Marter L, McElrath T, Gerard E, Kalayjian L, Gedzelman E, Penovich P, Cavitt J, French J, Hwang S, Pack A, Sam M, and the MONEAD Investigator Group. Adverse Fetal Outcomes in the MONEAD Study. Amer. Epilepsy Society Annual Meeting. December, 2018.

4. Books

c. Book Chapters Written

1. Finnell, R.H., H. Nau and M.S. Yerby. 1995. General Principles: Teratogenicity of Antiepileptic Drugs. In: R.H. Levy, R.H. Mattson and B.S. Meldrum (eds.) Antiepileptic Drugs, Fourth Edition. New York: Raven Press, pp. 209-230.

2. Finnell, R.H., S.J. Vacha and S.A. Mackler. 1997. Nucleic acid amplification technologies. In: G. Daston (ed.) Molecular and Cellular Methods in Developmental Toxicology. Boca Raton: CRC Press, pp. 93-125.

3. Bennett, G.D. and R.H. Finnell. 1998. Periods of susceptibility to induced malformations of the developing mammalian brain. In: W. Slikker Jr. and L.W. Chang (eds.) Handbook of Developmental Neurotoxicology. San Diego: Academic Press. pp. 189-208.

4. Barber RC, van Waes J, Lammer EJ, Shaw GM, Rosenquist TH, Finnell RH. 2002. Folic Acid and Homocysteine as Risk Factors for Neural Tube Defects. In: "Folate in Human Development" EJ Massaro, Ed.; Humana Press, (Totwa, NY) chapter 8 pp 165-182.

5. Gelineau-van Waes, J., Finnell, R.H. 2002. Part VI. Genetics of Cleft Lip and Palate Chap. 18: The Human Genome Project. In: Cleft Lip and Palate: From Origin to Treatment. Oxford Univ. Press, D.F. Wyszynski, ed.pp. 205-213.

6. Spiegelstein, O., Cabrera, R.M, Finnell, R. H. 2005. Functional Genomics and Proteomics in Developmental and Reproductive Toxicology. Developmental and Reproductive Toxicology, A Practical Approach. Second Edition, pp. 621-646

7. Finnell, R.H. and Mitchell, L.E. 2006. Neural Tube Defects. In: Emery and Rimoin's Principles and Practice of Medical Genetics. Fifth Edition. Rimoin, D.L., Connor, J.M., Pyeritz, R.E., and Korf, B.R. eds. Vol 3. pp.2648-2660.

8. Wallis, D., Ballard, J.L., Shaw, G.M., Lammer, E.J., and Finnell, R.H. 2009. Folate-Related Birth Defects: Embryonic Consequences of Abnormal Folate Transport and Metabolism. In: *Folate in Health and Disease*, 2nd Ed. L. Bailey, Ed. Taylor and Francis.
 9. Gorman, E.B. and Finnell, R.H. 2011. In: Folate fortification for prevention of neural tube defects. *Vitamins in the Prevention of Human Diseases*. W. Herrmann and R. Obeid, Eds. De Gruyter, pp. 114-124.
 10. Finnell, R.H., George TM and Mitchell, L.E. 2013. Neural Tube Defects. In: Emery and Rimoin's Principles and Practice of Medical Genetics. Sixth Edition. Rimoin, D.L., Connor, J.M., Pyeritz, R.E., and Korf, B.R. eds. Vol 3. pp.3225-3238.
5. Other Works Communicating Research Results to Scientific Colleagues
1. Finnell, R.H. and G.F. Chernoff. 1988. Anagryne-induced congenital defects. *Journal of Pediatrics* 112(2):331.
 2. Finnell, R.H. 1994. Issues and Reviews in Teratology. Volume 6. Book Review. *American Journal of Human Genetics* 55: 1286-1287.
 3. Raymond, G.V., B.A. Buehler, R.H. Finnell and L.B. Holmes. 1995. Letter to the editor: Anticonvulsant drug usage, epoxide hydrolase activity and risk for adverse outcome. *Teratology* 51:55-56.
 4. Shaw, G.M., C.R. Wasserman, C.D. O'Malley, E.J. Lammer and R.H. Finnell. 1995. Orofacial clefts and maternal anticonvulsant use. *Reproductive Toxicology* 9:97-98.
 5. Finnell, R.H. 1995. Issues and Reviews in Teratology. Volume 7. Book Review. *American Journal of Human Genetics* 57: 514-515.
 6. Shaw, G.M., K. Todoroff, R.H. Finnell, E.J. Lammer, D. Leclerc, R.A. Gravel and R. Rozen. 1999. Infant methionine synthase variants and risk for spina bifida. *Journal of Med. Genet.* 36:86-87.
 7. Shaw, G.M., R. Rozen, R.H. Finnell, C.R. Wasserman, and E.J. Lammer. Letter to the Editor. Maternal vitamin use, genetic variation of infant methylenetetrahydrofolate reductase, and risk for spina bifida. *Am. J. Epidemiology.* 1999:150:323-4
 8. Shaw, G.M. K. Todoroff, R.H. Finnell, R. Rozen and E.J. Lammer. 1999. Maternal vitamin use, infant C677T mutation in MTHFR, and isolated cleft palate risk. *Am J Med Genet.* 85:84-85.
 9. Croen, L.A., Shaw, G.M., Barber, R.C., Baker, M.M., Lammer, E.J., and Finnell, R.H. 2002. Apolipoprotein B and Apolipoprotein E genotypes and sporadic holoprosencephaly. *Am. J. Med. Genet.* 108:75-77.
 10. Zhu, H., Barber, R., Shaw, G.M., Lammer, E.J., and Finnell, R.H. 2003. Is Sonic Hedgehog (SHH) a Candidate Gene for Spina Bifida?- A Pilot Study. *Am. J. Med. Genet.* 117A:87-88. PMID: 12548748
 11. Zhu, H., Junker, W.M., Brown, S., Shaw, G.M., Lammer, E.J., Canfield, M., Hendricks, K and Finnell, R.H. 2003. Lack of Association Between ZIC2 and ZIC3 Genes and the Risk for Neural Tube Defects (NTD) in Hispanic Populations. *Am. J. Med. Genet.* 116A:414-415. PMID: 12522805
 12. Collins, FS, Finnell, RH, Rossant, J, Wurst, W. 2007. A new partner for the international knockout mouse consortium. *Cell* 129:235. PMID: 17448981

13. Finnell, R.H., Blom, H.J. and Shaw, G.S. 2010. Does global hypomethylation contribute to susceptibility to neural tube defects? *Am. J. Clin. Nutr.* 91(5):1153-1154. PMID: 20375188, PMC2854894.
14. Lei, Y., Zhu, H. and Finnell, R.H. 2013. Prevention of neural tube defects by nucleotide precursors in the curly tail mouse. *Future Neurol.* 8:621-623.
15. Mitchell, L.E. and Finnell, R.H. 2014. Papers from the Eighth International Neural Tube Defect Conference. *Birth Defects Res A Clin Mol Teratol.* 100(8):561-2. doi: 10.1002/bdra.23289. PMID: 25155952
16. Finnell RH, Shaw GM. 2016. Remembering Edward J. Lammer, MD. *Am J Med Genet A.* 2016 Aug 2. doi: 10.1002/ajmg.a.37865. [Epub ahead of print]. PMID: 27481654.
17. Finnell RH, Shaw GM. 2016. *Birth Defects Res A Clin Mol Teratol.* Jul;106(7):515-6. doi: 10.1002/bdra.23524. Epub 2016 Jun 1. PMID: 27249583

III. TEACHING INFORMATION

A. Didactic Coursework

1. Courses Taught at Current Institution

- PHR 390 Cellular and Molecular Toxicology (12 hours)
- BIO 395 Advanced Molecular Genetics (3 hours)

2. Courses Taught at Other Institutions

- University of Nebraska Medical Center
- M1 Cellular Processes Core Course (6 hours)

Baylor College of Dentistry

- BMS 5V72 Craniofacial Anomalies (4 hours)
- BMS 5V73 Adv. Human Craniofacial Development and Growth (4 hours)
- BMS 5V69 Growth and Mechanisms of Development (3 hours)

Texas A&M University

- VAPH 913 Mammalian Embryology (30 hours)
- GENE 482 Senior Seminar in Human Genetics (15 hours)
- GENE 320 Human Genetics (30 hours)
- VAPH 612 Advanced Mammalian Embryology (15 hours)
- GENE 421 Advanced Human Genetics (30 hours)
- VAPH 640 Neurobiology (6 hours)

Washington State University

- VAn 308 Anatomy, Histology and Physiology of Domestic Animals (18 hours)
- VAn 405 Embryology, Developmental Anatomy (16 hours)
- Gen 430 Medical Genetics (15 hours)
- P/T 505 Environmental toxicology (5 hours)
- VPh 516 Embryology, Veterinary Medical Genetics (30 hours)
- VAn 515 Advanced Experimental Embryology (15 hours)
- P/T 565 Teratology and Reproductive Toxicology (12 hours)
- VM 406 Embryology, Histology (15 lectures, 30 laboratories)
- VPh 525 Pathological Embryology (15 hours)
- P/T 565 Advanced Toxicology (reproductive toxicology) Course director

P/T 597 Graduate Seminar in Teratogenesis

C. Non-Didactic Teaching

1. Resident Training

Obstetrical Residents (8 hours) Fudan University Affiliated Hospital, Shanghai, PRC

2. Clinical Fellow Training

Craniofacial Surgical Fellow (12 hours) Dell Children's Medical Center, Austin, Texas

3. Research Fellow Training

Washington State University

Dr. Soraya Toloyan, 1983-1985. Current Position: Private Practice, Savannah, GA.

Dr. Stephen M. Taylor, 1995-1997. Current Position: Professor Emeritus, University of Queensland, Australia

Dr. Louise C. Abbott, 1981-1984. Current Position: Professor, College of Veterinary Medicine, Texas A&M University, College Station, TX.

Dr. John K. Silver, 1988. Current Position: Private Practice, Crescent City, CA

Texas A&M University/Texas A&M Health Science Center

Dr. Bogdan Wlodarczyk 1992-1995. Current Position: Research Asst. Prof. University of Texas at Austin Dell Medical School

Dr. Jie An 1995-1997. Current Position: Research Scientist

Department of Internal Medicine University of Texas Southwestern School of Medicine Dallas, Texas.

Dr. Diane Mitchell 1998. Current Position: Unknown.

Dr. Janee Gelineau-van Waes 1996-1998. Current Position: Associate Professor, Department of Pharmacology, Creighton University School of Medicine.

Dr. Ofer Spiegelstein. 2002-2005. Current: Senior Director and Head, Phase-1 and Clinical Pharmacology, Unit head Innovative R&D Teva Pharmaceuticals Israel

Dr. Louisa Shuk Chun Tang 2003-2006. Current Position: College of Pharmacy, Hong Kong.

Dr. Amy Gould. 2004-2006. Current Position: Retired. Homemaker.

Dr. Kelly Volcik. 2003-2007. Current Position: Senior Research Scientist. UTHSC-Houston

Dr. Wei Lu. 2007-2010. Current Position: Research Scientist. MD Anderson Cancer Ctr.

Dr. Leeyean Wong. 2007-2010. Current Position: Research Associate. Baylor College of Medicine.

Dr. Shveta Taparia. 2006-2009. Current Position: Unknown.

Dr. Elisabeth Gorman. 2007-2010. Current Position: Research Scientist. Baylor College of Medicine.

Dr. Jonathan Ballard. 2007-2010. Current Position: Research Scientist. Texas A&M Institute for Genomic Medicine.

Dr. Ana Maria Palacios 2008-2010 Current Position: Program Director, Research Mathile Institute for the Advancement of Human Nutrition. Dayton, Ohio

University of Nebraska Medical Center

Dr. Wanfen Xiong 1999-2001. Current: Research Associate, Dept. of Surgery, UNMC, Omaha, NE.

Dr. Huiping Zhu 2000-2014. Current: Senior Scientist III, Asuragen, Inc. Austin, TX.

The University of Texas at Austin-Dell Medical School

Dr. Javier Conde 2011-2013. Current Position: Product Marketing Specialist, Abcam, Cambridge, UK

Dr. Mercedes Chantada Vasquez 2011-2013. Current Position: Senior Research Scientist, AstraZeneca, Cambridge, UK

Dr. Maria Esther Zurita 2016-2017 Current Position: Private Practice, Mexico City

Dr. Cristiane Fonteles 2015-2017 Current Position: Associate Professor, Department of Clinical Orthodontics, Universidade Federal do Ceará Brazil

Dr. An Dong 2016-2017 Current Position: First Affiliated Hospital of China Medical University, Shenyang, China

Dr. Xueqian Wang 2012-2014. Current Position: Research Associate, Ohio State University Medical School.

Dr. Yunping Lei 2011-2017. Current Position: Research Scientist, The University of Texas at Austin Dell Medical School.

Dr. Manami Toriyama 2013-2015. Current Position: Research Scientist, College of Pharmacy, Osaka University, Osaka, Japan.

Dr. Yael Pomerantz 2013-2015. Current Position: Healthcare Portfolio Manager, Signals Analytics, Tel Aviv, Israel.

Dr. Ying Lin. 2013-2017. Current Position: Research Associate. The University of Texas at Austin Dell Medical School.

Dr. Rachel Tittle. 2015-2016. Current Position: Consultant, self-employed.

Dr. Sung Eun Kim. 2015-2017. Current Position: Research Scientist. The University of Texas at Austin Dell Medical School.

4. Graduate Student Training

Washington State University

Baer, J.F. (MS, 1985; DVM, 1990) Major Advisor. Current: Research Veterinarian California Institute of Technology, Pasadena, California.

Moon, S.P. (MS, 1986; MD, 1990) Major Advisor. Current: Private Practice

Bennett, G.D. (PhD, 1988) Major Advisor. Current: Consultant-Toxicology

Mohl, V.K. (PhD, 1988; MD, 1992) Major Advisor. Current: Medical Director, Billings, Montana Clinic.

van Waes, M. (MS, 1990) Major Advisor. Current: Director of Molecular Products at Streck Laboratories

Texas A&M University

Glasser, J. (DVM, MS, 1996) Major Advisor. Current: Private Practice, Mesa, Arizona

Greer, K.A. (MS, 1996) Major Advisor. Current: Asst. Professor, Texas A&M University-Prairie View, Prairie View, TX

Bielec, B.Y. (MS, 1997) Major Advisor. Current: Education Specialist. BioPharmaceutical Technology Center, Madison, Wisconsin

Barber, R.C. (PhD, 1997; Post doc) Major Advisor. Current: Associate Professor Department of Pharmacology and Neuroscience, University of North Texas Health Science Center, Fort Worth, Texas

Vacha, S.J. (PhD, 1997) Major Advisor. Current: Global Director-Genomics Technical Support at Agilent Technologies.

Gefrides, L.A. (MS, 1998). Major Advisor. Current: Forensics Consultant

Craig, J.C. (Ph.D., 1998). Major Advisor. Current: Principal, GATACA LLC

Zhang, J. (MS., 2004). Major Advisor. Current: Research Scientist. Peking University.

Cabrera, RM (PhD 2006). Major Advisor. Current: Research Scientist. The University of Texas at Austin Dell Medical School.

Hill, DS (PhD 2007). Major Advisor. Current: Supervising Health Scientist. Cardio Chem. Risk, Houston, Texas.

Wen, Shu (Ph.D. 2008). Major Advisor. Current: Asst. Professor and Assoc. Director of Clinical Genetics Diagnostic Laboratory, Baylor College of Medicine.

Kartiko, Susan (Ph.D. 2009). Major Advisor. Current: Trauma Surgeon, Baystate Medical Center.

The University of Texas at Austin

Fathe, Kristin R (Ph.D. 2014). Current Position: Research Trainer, Luminex Corp. Austin, TX

D. Lectures and Presentations

i. National Presentations (partial list)

1. 39th Annual Meeting, Society of Toxicology. "Altered Gene Expression Patterns to Predict and Understand Chemical Teratogenesis." Philadelphia, Pennsylvania, March, 2000.
2. 14th World Congress of Pharmacology, San Francisco, CA, July, 2002.
3. David Smith Meeting on Malformations and Morphogenesis. "Epigenetic Regulation of Gene Expression in Folate-Responsive Birth Defects" Snowbird, Utah. August, 2004.
4. Interdisciplinary Neuroscience Faculty, Texas A&M University. "Genetic and Nutrition Factors in Early Neural Development". College Station, TX. April, 2005.
5. 31st David Smith Workshop on Malformations and Morphogenesis. Seattle, Washington. August, 2010.
6. 3rd International Symposium on Folate Receptors and Transporters. Zion National Park, Utah. October, 2010.
7. NICHD 8th Structural Birth Defects Meeting. Rockville, MD. August, 2011.
8. 32nd Annual David W. Smith Workshop on Malformations and Morphogenesis. Arrowhead, California. September, 2011.
9. MONEAD meeting. Atlanta, GA. January, 2013.
10. NICHD 9th Structural Birth Defect Meeting. Genomic and Exosomic Causes of Neural Tube Defects. Rockville, MD. April, 2013.
11. Teratology Society 54th Annual Meeting. Seattle, Washington. June, 2014.
12. NICHD 10th Structural Birth Defects Meeting. Rockville, Maryland. December, 2014.
13. 6th International Symposium on Folate Receptors and Transporters. Breckenridge, Colorado. September, 2016.

ii. International Lectures

1. Thirteenth European Teratology Society Meeting, Rostock, Germany, September 1985.
2. Seventh International Congress of Human Genetics, Berlin, Germany, September 1986.
3. Twenty-fifth Conference of the European Teratology Society, Cannes, France, September 1997.
4. 24th International Epilepsy Congress-"Symposium on Pharmacogenomics", Buenos Aires, Argentina, May, 2001.
5. 3rd International Conference on Homocysteine Metabolism, Sorrento, Italy, July, 2001.
6. 4th International Conference on Homocysteine Metabolism, Basel, Switzerland, July 2003
7. 5th International Conference on Homocysteine Metabolism, Milan, Italy June, 2005
8. 11th International Congress of Human Genetics. "Characterization of a hypomorphic allele of the FKBP8 gene". August, 2006. Brisbane, Australia.

9. 6th International Conference on Homocysteine Metabolism, Saarbrucken, Germany, June, 2007.
10. 2nd International Meeting on Folate Receptors and Carriers. "Maternal Production of Autoantibodies to the Folate Receptor: Origins and Implications for Neural Tube Defects." Lake Como, Italy, October, 2008.
11. World Neurology Congress. Bangkok, Thailand, October, 2009.
12. Knockout Mouse Models of Folate Transport Genes. 5th International Conference on Folate Receptors. Amsterdam, NL. September 30-October 4, 2014.
13. International Congress on Human Genetics. Kyoto, Japan. April, 2016

E. Visiting Professorships

1. Visiting Professor, Institut für Toxikologie und Embryonalpharmakologie, Freie Universität Berlin, Berlin, Germany. 1985.
2. Visiting Professor. Department of Pharmacology, University of Pennsylvania School of Medicine, Philadelphia, PA. 1990-1991.
3. BBVA Foundation Visiting Professor. CICbioGUNE Research Institute, Bilbao, Spain. 2007-2009.
4. Changjiang Scholar Professor, Center for Collaborative Innovation in Genetics and Development, Fudan University, People's Republic of China. 2015-present
5. Visiting Professor, Children's Hospital of Shanxi and Women Health Center of Shanxi, China. 2017.
6. Adjunct Professor. Fudan University Affiliated Obstetrics and Gynecology Hospital. 2018-present.

IV. Medical & Service Information

A. Patient Care Responsibilities

2. Medical Genetics Service
3. Clinical Service

Craniofacial Team. Dell Children's Medical Center, Austin, TX (one-half day per week)
 Spina Bifida Clinic Team. Dell Children's Medical Center, Austin, TX (one day per week)