# CURRICULUM VITAE Kenneth Ward, MD

## I. <u>PERSONAL DATA</u>

|     | Name:            | Kenneth Ward   |
|-----|------------------|--|
|     | Birth Date:      | October 18, 1957   |
|     | Birthplace:      | Mount Vernon, New York   |
|     | Citizenship:     | United States  |
|     | Marital Status:  | Widower, three children  |
| II. | <b>EDUCATION</b> |  |
|     | B.S.             | University of Florida<br>Gainesville, Florida, 1979<br>Junior Honors Medical Program<br>Major-Basic Biological & Medical Sciences  |
|     | M.D.             | University of Florida College of Medicine<br>Gainesville, Florida, 1982<br>Class Rank: 8th/Class of 124  |
|     | Residency:       | Obstetrics and Gynecology<br>University of Utah Affiliated Hospitals<br>Salt Lake City, Utah<br>July 1982 - June 1984  |
|     |                  | Obstetrics and Gynecology<br>George Washington University<br>Washington, DC<br>July 1984 - June 1987   |
|     | Fellowship:      | Maternal-Fetal Medicine and Medical Genetics<br>University of Utah Affiliated Hospitals<br>Salt Lake City, Utah<br>Research in Molecular Biology and Genetics<br>Major Projects: Genetics of Severe Pre-eclampsia,<br>Neurofibromatosis Testing Using Linked DNA Markers, and<br>Chromosome 8 (Multiple Exostoses) Mapping Study<br>July 1987- June 1990 |

| Board Certification: | National Board Diplomate, 1983, #265843<br>Medical Genetics - 1990, #870751<br>Obstetrics and Gynecology - 1991, #28853<br>Recertified annually through present |
|----------------------|---|
|                      | Maternal Fetal Medicine - 1992 #873374M<br>Recertified annually through present<br>Molecular Genetics - 1993, #93312<br>Recertified annually through present    |
| Licenses:            | State of Utah<br>#170113-1205, Physician & Surgeon<br>#170113-8905, Physician & Surgeon Controlled Substance  |

### III. <u>PROFESSIONAL EXPERIENCE</u>

| Appointments: | Instructor, University of Utah<br>Department of Obstetrics and Gynecology<br>1988-1990   |
|---------------|--|
|               | Assistant Professor, University of Utah<br>Department of Obstetrics and Gynecology<br>1990 to 1994                               |
|               | Adjunct Assistant Professor, University of Utah<br>Department of Human Genetics<br>1993 to 1995                                  |
|               | Investigator, University of Utah<br>Eccles Program in Human Molecular Biology and Genetics<br>1993 to 1998                       |
|               | Associate Professor, University of Utah<br>Department of Obstetrics and Gynecology<br>1994 to 1998<br>(with tenure 1995 to 1998) |
|               | Adjunct Associate Professor, University of Utah<br>Department of Human Genetics<br>1995 to 1999                                  |
|               | Chief, Division of Reproductive Genetics<br>University of Utah<br>Department of Obstetrics and Gynecology<br>1996 to 2003        |
|               |  |

|              |                | Professor, University of Utah<br>Department of Obstetrics and Gynecology<br>(with tenure) July 1998 to 2003  |
|--------------|----------------|--|
|              |                | Adjunct Professor, University of Utah<br>Department of Human Genetics<br>1999 to 2003  |
|              |                | Professor and Chair<br>University of Hawaii<br>John A. Burns School of Medicine<br>Department of Obstetrics, Gynecology &<br>Women's Health (with tenure)<br>2003 to 2008  |
| Biotechnolog | gy Experience: | EmerGen, Inc.<br>Salt Lake City, Utah<br>Chief Scientist, 1998 to 2003<br>President/Acting Chief Executive Officer, March 2000 –<br>March 2002<br>Chair, Clinical/Scientific Advisory Board, 2001-2003<br>Director, 2000 to 2003 |
|              |                | Axial Biotech, Inc.<br>Salt Lake City, Utah<br>Founder and Chairman of the Board, CSO<br>2003 to 2012  |
|              |                | Taueret Laboratories, L.L.C.<br>Salt Lake City, Utah<br>Founder, President, Laboratory Director<br>2003 to 2019, acquired by Predictive Technology Group, Inc.   |
|              |                | Juneau Biosciences, L.L.C.<br>Salt Lake City, Utah<br>Founder and CEO<br>2006 to present   |
|              |                | Inception DX , L.L.C.<br>Salt Lake City, Utah<br>Founder and Laboratory Director<br>2017 to 2018, acquired by Predictive Technology Group, Inc.  |

**Consultant Services: Affiliated Genetics** Founder and Molecular Genetics Consultant Salt Lake City, Utah 1995 to 2017 **Tute Genomics** Salt Lake City, Utah 2013 to 2016 **Owlet Baby Care** Medical Advisor Lehi. Utah Jan 2017 to present Predictive Laboratories, Inc. Consultant, Laboratory Director Salt Lake City, Utah 2019 to present **Professional Committees:** Mountain States Regional Genetics Services Network Molecular Genetics Committee, 1988 to 2003, Chair, 1989 to 1991 Steering and Planning Committee, 1989 to 1991 Prenatal Diagnosis Committee, 1989 to 2003 Council of Regional Genetic Networks Ethics Committee, 1992 to 1995 Advisory Committee, Pregnancy Risk Line, Utah Department of Health, 1992 to 2003 Scientific Review Committee National Neurofibromatosis Foundation 1993 Genetics Advisory Committee, Utah Department of Health, 1994 to 1997 Member, Adverse Pregnancy Outcome Study Group Foundation for Developmental and Medical Genetics 1994 to 1996 American College of Medical Genetics, Working Group on Factor V Leiden, 1998 to 1999

|                       | North American Society for the Study of Hypertension in<br>Pregnancy, Board of Directors - 1999-2001                                      |
|-----------------------|---|
|                       | American College of Obstetricians and Gynecologists Committee<br>on Genetics, 2001 to 2003  |
|                       | Ad hoc Reviewer<br>NIH Clinical Cardiovascular Science (CCVS) Study Section<br>2002   |
|                       | Human Embryology and Development 1 (HED1) Study<br>Section 2002   |
|                       | Preterm Labor Genomic and Proteomics, Special Study<br>Section, 2004  |
|                       | Pregnancy and Neonatology (PN) Study Section, 2005, 2006, 2007<br>to 2015   |
|                       | March of Dimes Hawaii Chapter<br>Kapiolani Medical Center for Women & Children<br>Second Annual Prematurity Summit, 2005<br>Program Chair |
|                       | University of Hawaii, Clinical Research Center<br>Scientific Advisory Committee, 2005-2007  |
|                       | American Board of Obstetrics & Gynecology<br>Examiner in Obstetrics, 2005 - 2007  |
|                       | University of Hawaii, Clinical Research Center<br>RCMI Clinical Research Advisory Committee (RCAC)<br>2005 – 2007                         |
|                       | Preeclampsia Foundation- Patient Registry, Scientific Advisory<br>Board, 2013 to present  |
| Editorial Experience: | Associate Editor<br>Reproductive Genetics Section, American Journal of Medical<br>Genetics, 1994 to 1999                                  |
|                       | Editorial Advisory Board, Molecular Genetics for American<br>Journal of Obstetrics and Gynecology, 2000 to 2012                           |
|                       | Referee:<br>American Journal of Human Genetics<br>American Journal of Medical Genetics  |

|                        | <ul> <li>American Journal of Obstetrics and Gynecology</li> <li>Fertility and Sterility</li> <li>Genomics</li> <li>Human Molecular Genetics</li> <li>Hypertension</li> <li>Journal of Biological Chemistry</li> <li>Journal of Reproductive Immunology</li> <li>Journal of the Society of Gynecologic Investigation</li> <li>Lancet</li> <li>Molecular Diagnostics</li> <li>Nature Communications</li> <li>Nature Genetics</li> <li>Nature Medicine</li> <li>Nature Scientific Reports</li> <li>New England Journal of Medicine</li> <li>Obstetrics and Gynecology</li> <li>PLOS</li> </ul> |
|------------------------|---|
| Past Grants/Contracts: | Prenatal Diagnosis<br>Principal Investigator<br>"Pacific Research Center for Early Human Development"<br>NIH/NCRR<br>Sept 2004 – Sept 2009<br>\$10,918,600<br>Co-Investigator<br>"Genetic Determinants of Pelvic Floor Disorders"<br>(Principal Investigator-Peggy A. Norton)<br>National Institutes of Health<br>Aug 2001-July 2004<br>\$1,720,500   |
|                        | Contract<br>"Cytokine Polymorphisms in PROM"<br>National Institutes of Health Maternal-Fetal Medicine Network<br>2002-2003<br>\$50,000  |
|                        | "Angiotensinogen Variants and Adverse Pregnancy Outcomes"<br>National Institutes of Health<br>2-R01-HL-55812-05<br>August 1999 - July 2003<br>\$2,374,028   |
|                        | Principal Investigator<br>"The Genetics of Preterm Labor"<br>National Institutes of Health  |

> 1-K24-HD-01315-01 August 1999 - July 2003 \$546,745

Contract (DNA Diagnostic Laboratory) Paternity Testing State of Utah, Office of Recovery Services July 1997 - June 2000 \$1,200,000

Principal Investigator "Reproductive Genetics Center" Willard Eccles Foundation 1998 - 2002 \$800,000

Collaborator "Intrauterine Growth Restriction, Thrombophilia, and Placental Pathology" (Principal Investigator- Donna Dizon-Townson) Centers for Disease Control \$150,000

Principal Investigator "Angiotensinogen Variants and Adverse Pregnancy Outcomes" National Institutes of Health 1 R01 HL55812-01 August 1995 - July 1999 \$2,193,080

Principal Investigator "Pregnancy Outcome in Women with the Factor V (Leiden) Mutation: A Prospective Study" March of Dimes Research Foundation June 1997 - May 1999 \$91,459

Principal Investigator "Cloning the TAPVR-1 Gene" March of Dimes Research Foundation June 1997 - May 1999 \$111,801

Co-Investigator "Characterization of Fetal Stem Cells for Transplantation" National Institutes of Health Number: 1 R01 HD32170-01 August 1994 to July 1998 \$ 1,086,684

> Mentor AGOS Foundation Award Donna Dizon-Townson July 1996 - June 1999 \$90,000

Principal Investigator "Perinatal Genetics Center" Willard Eccles Foundation November 1994 - October 1997 \$750,000

Principal Investigator "Angiotensinogen in Human Placentation and the Pathologenesis of Preeclampsia" March of Dimes Research Foundation Number: 6-FY-95-0193 April 1995 to March 1997 \$79,000

Mentor Howard Hughes Medical Student Research Program Greg Eyre "Treft Syndrome - Linkage Analysis" July 1995 - June 1996 \$24,000

Mentor ACOG/Ortho Academic Training Research Fellowship Donna Dizon-Townson July 1995 - June 1996 \$30,000

Co-Principal Investigator "The Exostoses Genes: Their Role in Multiple Cartilaginous Exostoses and Chondrosarcoma" Shriners Hospitals Research Foundation January 1994 to January 1995 \$ 110,000

Principal Investigator "Endothelial Nitric Oxide Synthase and Adverse Pregnancy Outcomes" RGRJ Venture Fund March 1994 to March 1995 \$ 288,538

> Sub-contract (DNA Diagnostic Lab) "Genetic Testing for Atypical Colonic Polyposis" National Cancer Institute Number: 5 R01 CA40641-10 April 1994 to April 1996 \$60,000

Sub-contract (DNA Diagnostic Lab) "Predictive DNA Testing for Breast Cancer" National Institutes of Health Number: 5 R01 CA63681 June 1994 to July 1996 \$ 97,000

Principal Investigator "Prenatal Gene Therapy" Willard Eccles Charitable Foundation July 1993 to June 1995 \$ 259,000

Mentor Howard Hughes Medical Student Research Program Steve Bleyl "Familial Total Anomalous Pulmonary Venous Return: Linkage Study" July 1993 to June 1994 \$23,000

Principal Investigator "The Predictive Value of Angiotension Genotypes" Myriad Genetics November 1993 to November 1994 \$ 92,315

Co-Investigator "The Evaluation and Banking of Aborted Fetal Tissues" National Institute of Health #HD-92-10 September 28, 1992 to September 27, 1994 \$1,204,014

Berlex Scholar Award "The Genetics of Severe Pre-eclampsia" The Berlex Foundation, New York January 1, 1990 to December 31, 1999 \$60,000

|                   | Co-Principal Investigator<br>"Multiple Cartilaginous Exostoses: Linkage Analysis and Gene<br>Mapping"<br>Shriners Hospitals Research Foundation<br>January 1, 1990 to December 31, 1993<br>\$444,000       |
|-------------------|--|
|                   | Principal Investigator<br>"Development of a DNA Diagnostic Laboratory"<br>Willard Eccles Charitable Foundation<br>January 1, 1990 to December 31, 1992<br>\$314,000  |
|                   | Principal Investigator<br>Preimplantation Genetic Testing<br>Biomedical Research Support Grant<br>1990<br>\$28,000   |
|                   | Principal Investigator<br>"National Reference Laboratory for Neurofibromatosis DNA<br>Linkage Testing"<br>National Neurofibromatosis Foundation, New York<br>July 1, 1989 to December 31, 1991<br>\$35,000 |
|                   | Principal Investigator<br>DNA Diagnostic Laboratory<br>Intramural Funding, Equipment Grants<br>November, 1988 to December, 1990<br>\$64,000  |
| Equipment Grants: | Utah Power and Light, 1993<br>\$10,000   |
|                   | Katherine W. and Ezekiel R. Dumke, Jr. Foundation, 1993<br>\$2,500   |
|                   | Dumke Family Foundation, 1993<br>\$11,300  |
|                   | Silver Foundation, 1993<br>\$20,000  |
|                   | Bonneville Land and Title Company 1994 - 1998<br>\$12,000  |

> Lawrence T. and Janet T. Dee Foundation, 1994 - 1997 \$9,500

Fidelity Foundation, 1994 \$10,000

Janet Q. Lawson Foundation 1994, 1995, 1996, 1997, 1998, 1999, 2000 \$115,000

Ralph Nye Charitable Foundation, 1994 \$1,500

Joseph Butterworth Gift, 1994 - 1996 \$4,500

McGillis Endowment, 1996-1999 \$200,531

Katherine W. Dumke and Ezekiel R. Dumke, Jr. Foundation Grant, 1997 \$8,000

Annie Taylor Dee Foundation, 1997 \$4,000

Madsen Award, 1997 \$24,830

#### IV. <u>SCHOLASTIC HONORS</u>

Phi Eta Sigma

Phi Beta Kappa

Alpha Omega Alpha

Donnegan Scholarship, 1981 University of Florida

Florida Ob-Gyn Society Award, 1982

Intern Teaching Award, 1983 University of Utah School of Medicine

Footer Award, 1986. George Washington University

Senior Resident of the Year Award, 1986-87 George Washington University

Berlex Scholar, 1990

Ethicon, Junior Fellow Award, 1992

Prize Research Paper, American College of Obstetrics and Gynecology District Meeting, 1992

Searle-Richardson Award, American College of Obstetrics and Gynecology Annual Meeting, 1993

Golden Anniversary Prize for Distinguished Clinical Investigation, University of Utah School of Medicine Alumni Association, 1995

Two poster awards for research excellence, Annual meeting, Society of Perinatal Obstetricians, 1996

Poster award for research excellence, Annual meeting, Society of Perinatal Obstetricians, 1998

Selected as one of "The Best Doctors in America", Peer Survey conducted by Woodward/White, 1998, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009

Award for Research Excellence, Annual meeting, Society for Maternal-Fetal Medicine, 2000

Second Place Scientific Paper, American College of Obstetrics And Gynecology Annual Meeting, 2005

Paper nominated for Hibbs Award – Scoliosis Research Society Annual Meeting, Sept. 2006

2009 Utah Innovation Award in Biotechnology/Pharmaceuticals for ScoliScore<sup>™</sup> by Axial Biotech, Inc.

Orthopedics This Week Annual Spine Technology Awards "The Best Diagnostics and Imaging Technology of 2010". Inventor(s): Kenneth Ward, M.D. and Axial Biotech (ScoliScore<sup>™</sup> received the most votes of ANY submission to the Spine Technology Awards)

Paper nominated for Hibbs Award – Best Science Paper – Scoliosis Research Society Annual Meeting, Sept. 2010

#### V. <u>ADMINISTRATIVE EXPERIENCE</u>

Supervisor, Perinatal Genetic Counselors, University of Utah 1988 to 2000

Founder and Director, University of Utah DNA Diagnostic Laboratory 1988 to 2003 CAP Certification - #22089-08 CLIA Certification - #46D0679584 AABB Certification - #130166

Director, Clinical Molecular Genetics Fellowship University of Utah School of Medicine 1995 - 2003

Chief, Division of Reproductive Genetics Department of Obstetrics and Gynecology University of Utah School of Medicine 1996 - 1998

Director, Reproductive Genetics Program University of Utah School of Medicine 1998 - 2003

Professor and Chair University of Hawaii John A. Burns School of Medicine Department of Obstetrics, Gynecology & Women's Health 2003 – 2007

Executive Medical Director Obstetrics and Gynecology Kapiolani Medical Specialists 2003 – 2005

Medical Executive Committee Kapiolani Medical Center for Women & Children 2004 – 2007

Program for Chiefs of Clinical Services Harvard School of Public Health January, 2005

Director Axial Biotech Clinical Laboratory 2008 – 2012

Clinical Laboratory Director, Affiliated Genetics 2012-2017

Clinical Laboratory Director Taueret Laboratories, LLC 2017-2019 CLIA certification - #46D1077919 CAP LAP - #7207154 California Certification - #CDS00800282 New York Certification - #WARDK1 Pennsylvania Certification - #34242 Rhode Island Certification - #LCO00786

Clinical Laboratory Director Predictive Laboratories, Inc. 2019-present CLIA certification - #46D1077919 CAP LAB - #7207154 California Certification - #CDS00800282 New York Certification - #WARDK1 Pennsylvania Certification - #34242 Rhode Island Certification - #LCO00786

#### VI. <u>PROFESSIONAL COMMUNITY ACTIVITIES</u>

Delegate to American Medical Student Association (AMSA) National Convention, 1979

AMSA Chapter President, University of Florida, 1979-80

Student Representative to Curriculum Committee, 1978-79

Coordinator of Freshman Orientation for Class of 1983

Co-Chairman of College Council, 1978-79

Co-President of Medical School Class, 1981-82

Administrative Chief Resident, George Washington University, 1986-87

Utah Perinatal Association, Board of Directors, 1989-91

Hawaii Community Genetics, Advisory Board, 2003-present Chair 2003-2005

Hawaii State Birth Defects Program, Advisory Committee Hawaii Department of Health Honolulu, HI 2003 – 2007

Hawaii State Infant Mortality Committee; 2004 - 2007

Founder and President – Lucina Foundation A non-profit 501c(3) medical research institute 2005 – 2013

#### VII. <u>UNIVERSITY COMMUNITY ACTIVITIES</u>

Admission Committee, M.D./Ph.D. Program University of Utah School of Medicine 1996 – 1999

University of Hawaii John A. Burns School of Medicine Executive Committee 2003 – 2008 Interim Deans Management Team 2006 - 2007

University, Clinical, Education & Research Association (UCERA), Faculty Practice Plan Director 2003-2007 Planning Committee 2003 – 2007 Executive Committee 2004 – 2007 Vice President, 2005 – 2007

John A. Burns School of Medicine Ad hoc LCME Committee Co-Chair 2003 – 2004

#### VIII. PROFESSIONAL SOCIETIES

American Association for the Advancement of Science

American College of Obstetrics and Gynecology, Fellow

American College of Medical Genetics, Founding Fellow

American College of Physician Executives

American Heart Association - Hypertension Interest Group

American Institute of Ultrasound in Medicine

American Medical Association

American Society of Human Genetics

American Society for Reproductive Medicine

Association of Professors of Gynecology and Obstetrics APGO Medical Education Foundation

Association for Molecular Pathology

The Council of University Chairs of Obstetric & Gynecology

Hawaii Medical Association

Honolulu County Medical Society

International Society for the Study of Hypertension in Pregnancy

Kennedy Institute of Bioethics

National Child Support Enforcement Association

North American Society for the Study of Hypertension in Pregnancy

Society for Gynecologic Investigation

Society for the Investigation of Early Pregnancy Loss

Society of Perinatal Obstetricians

Society of Maternal-Fetal Medicine

Utah Medical Association

#### IX. <u>TEACHING RESPONSIBILITIES</u>

| Courses Taught: | Biology 480 - Independent Research elective (3 students, 2 quarters, 1993-1994) |
|-----------------|---|
|                 | University of Utah, Medical School Lectures (Annual)<br>1998-2003               |
|                 | Biochemistry - "Molecular Medicine"   |
|                 | Embryology - "Preimplantation Development and Twinning"                         |
|                 | Organ Systems - "Reproductive Immunology"                                       |
|                 | Clinical OB/GYN Rotation - "Preeclampsia and Pregnancy                          |
|                 | Induced Hypertension"   |
|                 | MSI, MSII, and MSIV Research Electives (3-6 students per year)                  |
|                 | HGEN 503 - Seminar in Human Genetics  |

|                          | OB 709 - Honors research project, four students per year NURS 503 - Medical Genetics   |
|--------------------------|--|
|                          | University of Hawaii, Medical School Lectures 2004<br>Cell & Molecular Biology –<br>"Genetics of Cancer II: Colon<br>Cancer"; "Polycystic Ovary"   |
|                          | Master's Program in Clinical Research – 2004 - 2007<br>"Selecting a Research Topic"<br>"Ethics in Biomedical Research"   |
|                          | University of Hawaii, Medical School Lectures 2004 - 2007<br>"Polycystic Ovary Syndrome"<br>"Colon Cancer"   |
|                          | University of Hawaii, Medical School Lectures 2005<br>"Triplet Repeat Disorders"<br>"DNA Diagnosis"<br>"Cancer Genetics"   |
|                          | University of Hawaii, Medical School Lectures 2006<br>"Cystic Fibrosis"<br>"Human Trisomies"<br>"Genetics of Common Disease"   |
| Mentor Responsibilities: | Undergraduate<br>Mentor - Bioscience Undergraduate Research Program<br>Matthew Leavitt, 1995-1996  |
|                          | Graduate Students Supervised<br>Terry Morgan, M.D./Ph.D., 1993-1998<br>Steve Bleyl, M.D./Ph.D., 1993-1999  |
|                          | Graduate<br>Mentor - Howard Hughes Medical Student Fellowship<br>Steve Bleyl, 1993-1994<br>Mentor - Howard Hughes Medical Student Fellowship<br>Greg Eyre, 1995-1996<br>Thesis Committee<br>Ginny Gobel, Ph.D. Nursing, 1992-1993<br>Karthik Nadesan, Ph.D. Human Genetics Philosophy,<br>1999-2000<br>Graduate Student Committee<br>Andreas Rohrwasser, Human Genetics, 1995-1998 |
|                          | Post Doctoral  |

Post-Doctoral

|                    | Research mentor for Maternal Fetal Medicine Fellows<br>Janice Byrne, M.D., 1991-1994<br>Charlie Chambers, M.D., 1993-1994<br>Donna Dizon, M.D., 1994-1997<br>Bardett Fausett, M.D., 1998 - 2000<br>Tracy Herrmann, Ph.D., 2000 - 2002<br>XiuQuan Zhang, 2000 - 2003 |
|--------------------|---|
| Courses Developed: | Created and supervised new Fellowship in Clinical Molecular<br>Genetics<br>Elaine Lyon, Ph.D., 1993-1996<br>Pinar Towdek, 2001 - 2003<br>Weekly Perinatal Genetics Clinic and Biweekly Prenatal Diagnosis<br>Conference   |
|                    | Genetics Brown Bag – 2005<br>"Common Trisomies"<br>Genetics Brown Bag – 2006  |
|                    | "Triplet Repeat Disorders"<br>Genetics Brown Bag – 2007   |

"Molecular Genetics"

#### X. BIBLIOGRAPHY

#### Scientific Publications

- 1. Scott JR, Branch DW, Kochenour NK, Ward K: Intravenous immunoglobulin treatment of pregnant patients with recurrent pregnancy loss caused by antiphospholipid antibodies and Rh immunization. <u>Am J Obstet Gynecol</u>, 1988; 159:1055-6.
- 2. Silva AJ, Ward K, White R: The genetics of mosaic methylation patterns in humans in nucleic acid methylation. <u>UCLA Symposia</u>, Wiley 1990.
- Ward K, O'Connell P, Carey J, Leppert M, Jolley S, Plaetke R, Ogden B, White R: Diagnosis of neurofibromatosis 1 using tightly linked, flanking DNA markers. <u>Am J Hum Genet</u> 1990; 46(5):943-49.
- 4. Dean M, Amos JA, Lynch J, Romeo G, Devoto M, Ward K, Halley D, Oostra B, Finn PB, Ferrari M, Collins F, Iannuzzi M: Prenatal diagnosis and linkage disequilibrium with cystic fibrosis for markers surrounding D7S8. <u>Hum Genet</u>, May 1990.

- 5. Faye-Petersen O, Ward K, Carey JC, Knisely AS: Osteochondrodysplasia with rhizomelia, platyspondyly, callosal agenesis, thrombocytopenia, hydrocephalus, and hypertension. <u>Am Amer J Med Genet</u> 1991; 40(2):183-187.
- 6. Li Y, Bollag G, Clark R, Stevens J, Conroy L, Fults D, Ward K, Friedman E, Samowitz W, Robertson M, Bradley P, McCormick F, White R, Cawthon R: Somatic mutations in the neurofibromatosis 1 gene in human tumors. <u>Cell</u> 1992; 69:275-281.
- 7. Spirio L, Nelson L, Ward K, Burt R, White R, Leppert M: A CA-repeat polymorphism close to the adenomatous polyposis coli (APC) gene offers improved diagnostic testing for familial APC. <u>Am J Hum Genet</u> 1993; 52(2):286-296.
- 8. Ward K, Riley R, Lu J, Robertson M, Nelson LM: A tetranucleotide repeat on polymorphism at the D8S307 Locus. <u>Hum Molecul Genet</u>, 1993; 2(5):615.
- 9. Ward K, Hata A, Jeunemaitre X, Helin C, Nelson L, Namikawa C, Farrington P, Ogasawara M, Suzumori K, Tomoda S, Berrebi S, Sasaki M, Corvol P, Lifton RP, Lalouel JM: A molecular variant of angiotensinogen associated with preeclampsia. <u>Nature Genetics</u>, 1993; 4:59-61.
- 10. Charrow J, Listernick R, Ward K: Autosomal dominant multiple care au lait spots and neurofibromatosis-1: evidence of non-linkage. <u>Am J Med Genet</u>, 1993; 45(5):606-8.
- 11. Silva AJ, Ward K, White R: Mosaic methylation in clonal tissue. <u>Development Biol</u>, 1993; 156(2):391-398.
- 12. Ward K, Riley R, Lu J, Robertson M, Nelson L: Tetranucleotide repeat polymorphism at the D8S344 locus. <u>Hum Molecul Genet</u>, 1993; 2(7):1087.
- 13. Lu J, Riley R, Robertson M, Nelson L, Ward K: Tetranucleotide repeat polymorphism at the D8S342, D8S323, D8S345, D8S315, and D8S347 loci on 8q. <u>Hum Molecul Genet</u>, 1993; 2(10):1743.
- 14. Lewis TB, Leach RJ, Ward K, O'Connell P, Ryan SG: Genetic heterogeneity in benign neonatal epilepsy: identification of a new locus on chromosome 8q. <u>Am J Hum Genet</u>, 1993; 53:670-675.
- 15. Nelson L, Riley R, Lu J, Robertson M, Ward K: Tetranucleotide repeat polymorphism at the D8S306 locus. <u>Hum Molecul Genet</u>, 1993; 2(11):1984.
- 16. Riley R, Nelson L, Ward K, Robertson M, Ballard L, Connoly J, Lu J: Tetranucleotide repeat polymorphism at the D8S320 locus. <u>Hum Molecul Genet</u>, 1993; 2(9):1512.
- Jorde LB, Watkins WS, Viskochil D, O'Connell P, Ward K: Linkage disequilibrium in the neurofibromatosis 1 region: implications for gene mapping: <u>Am J Hum Genet</u>, 1993; 53(5):1038-1050.
- 18. Riley R, Nelson L, Lu J, Robertson M, Ward K: Tetranucleotide repeat polymorphism at the D8S346 locus. <u>Hum Molecul Genet</u>, 1993; 3(1):214.

- 19. Fillmore K, Lu J, Riley R, Petersen M, Ward K: Tetranucleotide repeat polymorphism at the D8S322 locus. <u>Hum Molecul Genet</u>, 1993; 3(4).
- 20. Ward K, Riley R, Lu J, Fillmore K, Robertson M, Nelson K: Tetranucleotide repeat polymorphism at the D8S474 locus. <u>Hum Molecul Genet</u>, 1994; 3(2):383.
- 21. Lu J, Riley R, Fillmore K, Ward K: Tetranucleotide repeat polymorphism at the D8S640 locus. <u>Hum Molecul Genet</u>, 1994; 3(5):839.
- 22. Bleyl S, Ainsworth P, Nelson L, Viskochil D, Ward K: An ancient Ta subclass L1 insertion results in an intragenic polymorphism in an intron of the NF1 gene. <u>Hum Molecul Genet</u>, 1994; 3(3):517-518.
- 23. Nelson L, Lu J, Peterson M, Fillmore K, Riley R, Ward K: Tetranucleotide repeat polymorphism at the D8S639 locus. <u>Hum Molecul Genet</u>, 1994;3(7):1209.
- 24. Bleyl S, Ruttenberg HD, Carey JC, Ward, K: Familial total anomalous pulmonary venous return: A large Utah-Idaho family. <u>Am J Med Genet</u>, 1994; 52:462-466.
- 25. The genome project consortium including Ward K: Genome maps V. Science, 1994; 2055-2070.
- 26. Ward K, Nelson L, Lu J, Peterson M, Fillmore K, Riley R: Tetranucleotide repeat polymorphism at the D8S492 locus. <u>Hum Molecul Genet</u>, 1994; 3(10):1913.
- 27. Inoue I, Rohrwasser A, Helin C, Jeunemaitre X, Crain P, Bohlender J, Lifton RP, Corvol P, Ward K, Lalouel J-M: A mutation of angiotensinogen in a patient with preeclampsia leads to altered kinetics of the renin-angiotensin system. J Biol Chem, 1995; 270 (19):11430-11436.
- 28. Bleyl S, Nelson L, Leppert M, Ward K: A gene for familial total anomalous venous return maps to chromosome 4p/3-q11. <u>Am J Human Genet</u>, 1995; 56:408-415.
- 29. The Utah Marker Development Group including Ward K: A collection of ordered tetranucleotide-repeat markers from the human genome. <u>Am J Human Genet</u>, 1995; 57:619-628.
- Dizon-Townson D, Nelson L, Scott JR, Branch DW, Ward K: Human leukocyte antigen DQα sharing is not increased in couples with recurrent miscarriage. <u>Am J Reprod Immunol</u>, 1995; 34:209-212.
- 31. Dizon-Townson D, Hutchison C, Silver R, Branch DW, Ward K: The factor V Leiden mutation which predisposes to thrombosis is not common in patients with antiphospholipid syndrome. <u>Thrombosis and Hemostasis</u>, 1995; 74(4):1029-1031.
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- 298. Gammill HS, Chettier R, Brewer A, Shree R, Tsigas E, Ward K. Truncating mutations in the ECT2L and OBSCN genes are associated with preeclampsia. Society for Reproductive Investigation, 2019.
- 299. Ward K, Chettier R, Albertsen H. Excess germline mutations in four genes in unrelated women with surgical endometriosis. European Society of Human Reproduction and Embryology, 2019.
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- 301. Ward K, Chettier R, Albertsen HM, Morgan T, Williams T. Somatic cancer driver mutations in endometriosis lesions contribute to secondary cancer risk. American Society for Reproductive Medicine, 2019.
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## Patents

|                    | Inventor on Juneau Biosciences Patents<br>U.S. Patent Applications pending<br>International Patent Applications pending | 8<br>2                                      |
|--------------------|---|---|
|                    | Inventor on Axial Biotech Patents<br>U.S. Patent Applications pending<br>International Patent Applications pending      | 11<br>4                                     |
|                    | Issued Patents:   |   |
|                    | United States Patent 8,123,787 Ogilvie, et al. scoliosis using a biological implant                                     | February 28, 2012 Method of treating        |
|                    | United States Patent 8,641,738 Ogilvie, et al. scoliosis using a biological implant                                     | February 4, 2014 Method of treating         |
|                    | United States Patent 8,932,993 Ward, et al. endometriosis and treatment therefor  | January 13, 2015 Method of testing for      |
|                    | United States Patent 9,370,431 Ogilvie, et al. using a biological implant   | June 21, 2016 Method of treating scoliosis  |
|                    | United States Patent 9,434,991 Ward, et al. endometriosis and treatment therefor  | September 6, 2016 Method of testing for     |
|                    | United States Patent 9,623,152 Ogilvie, et al. using a biological implant to scoliosis                                  | April 18, 2017 Method of treating scoliosis |
|                    | United States Patent 9,757,152 Ogilvie, et al. scoliosis using a biological implant                                     | September 12, 2017 Method of treating       |
|                    | United States Patent 9,840,738 Ward, et al. endometriosis and treatment therefor  | December 12, 2017 Method of testing for     |
| Oral Presentations |   |   |
|                    | NAACOG Regional Conference, 1983<br>Salt Lake City, Utah<br>"Episiotomy"  |   |

Maternal Transport Workshop, 1984 Salt Lake City, Utah "Maternal Transport"

Fairfax Ethics Symposium, 1986 Fairfax, Virginia

"Maternal Versus Fetal Rights"

University of Utah Obstetrics and Gynecology Post-graduate Course, 1988 Park City, Utah "DNA Technology for the Obstetrician"

University of Utah Obstetrics and Gynecology Post-graduate Course, 1989 Park City, Utah "The Genetics of Pregnancy Induced Hypertension" "Court Ordered Obstetrics"

University of Utah Ethics Symposium, 1989 Salt Lake City, Utah "Anatomy and the Child: Genetic Testing and Genetic Illness"

Utah Perinatal Association, 1989 Salt Lake City, Utah "DNA Testing in Prenatal Diagnosis" University of Utah Obstetrics and Gynecology

Department of Obstetrics and Gynecology Post-Graduate Course, 1990 University of Utah Health Sciences Center Elective "Amniotomy - Pros and Cons" "What is your Genetics IQ?"

Third International Conference of Teratology Information Services, 1990 Park City, Utah "Educating Health Care Providers" Maternal Transport Workshop, 1990 Salt Lake City, Utah "Post-dates and Meconium"

Utah Perinatal Association, 1990 Ogden, Utah "Court Ordered Obstetrics"

National Neurofibromatosis Foundation Clinical Care Symposium, 1990 Cincinnati, Ohio "The NF-1 Prenatal and Pre-symptomatic Testing Project"

American Fertility Society Meeting, 1990 Washington, DC "The New Genetics: Clinical Applications"

> University of Utah Obstetrics and Gynecology Post-graduate Course, 1991 Park City, Utah "DNA Testing Advances for Obstetrics"

James W. Wiggins, M.D. Lectureship, 1991 Albuquerque, New Mexico "DNA Testing: How It Will Change Your Practice" "New Options in Cystic Fibrosis Testing"

Ogden Surgical-Medical Society, 1991 Ogden, Utah "Screening for Genetic Diseases in OB Patients" "DNA Technology: Changing the Practice of Medicine"

St. Mary's Hospital Grand Rounds, 1991 Grand Junction, Colorado "How DNA Testing is Changing Medical Practice"

March of Dimes Western Regional Meeting, 1992 Park City, Utah "The New Genetics" University of Utah Pediatric Grand Rounds, 1992 Salt Lake City, Utah "Molecular Medicine"

University of Utah Obstetrics and Gynecology Post-graduate Course, 1992 Park City, Utah "In the Beginning - The First Week After Conception"

March of Dimes Regional Directors Workshop, 1993 Salt Lake City, Utah "Advances in Genetics"

University of Utah Obstetrics and Gynecology Post-graduate Course, 1993 Park City, Utah "Preimplantation Diagnosis"

Society for Gynecologic Investigation, 1993 Post-graduate Course Toronto, Canada "Gene Mapping"

> Genesis Seminar, 1993 Salt Lake City, Utah "From Prenatal to Pre-pregnancy Diagnosis"

George Washington University A.B. Weingold and J. G. Sites Post-graduate Course, 1993 Washington, DC "Pre-implantation Diagnosis"

Shrine Scientists' Meeting, 1993 Tampa, Florida "Hereditary Multiple Exostoses: Genetic Studies"

Pregnancy Loss Study Group Meeting, 1993 Salt Lake City, Utah "Genetic Causes of Pregnancy Loss: Insights from Molecular Genetics"

Advanced Life Support in Obstetrics Course, 1993 Salt Lake City, Utah "Forcep Delivery"

Neurofibromatosis Symposium and Pediatric Grand Rounds University of Colorado Health Sciences Center, 1993 Denver, Colorado "Molecular Genetic Testing for Neurofibromatosis"

4th Annual Neonatal-Perinatal Retreat, 1993 Snowbird, Utah "Genetic Engineering - where are we going?" "Nitric Oxide - current status"

Intermountain Junior Science and Humanities Symposium, 1994 Salt Lake City, Utah "Molecular Medicine"

Pine Ridge Conference on Genetic Approaches to Thrombosis, 1994 Snowbird, Utah "Genetic Linkage and Association: Lessons from Preeclampsia"

Educational Development Council Meeting, 1994 University of Utah Health Sciences Center Salt Lake City, Utah "How Personal Knowledge of Your Genes is Changing Medicine"

Utah Mothers of Twins, 1994

> Salt Lake City, Utah "MZ or DZ: That is the Question!"

University of Utah Orthopedics Grand Rounds, 1994 Salt Lake City, Utah "Hereditary Multiple Exostoses"

Association of Cytogenetic Technologists, 1994 San Diego, California "New Advances in Diagnostic Molecular Genetics"

The Center for Pediatric Continuing Education, 1994 Primary Children's Medical Center Salt Lake City, Utah "Developmental Disorders and the New Genetics"

Family Issues Outreach Committee, 1994 Utah State University Logan, Utah "PIH and Genetic Research"

Visiting Professor, Department of Obstetrics and Gynecology, 1994 North Shore University Hospital Manhasset, New York "The Genetics of Preeclampsia"

Wisconsin Society of Obstetrics and Gynecology Meeting, 1994 Medical College of Wisconsin LaCrosse, Wisconsin "Beyond Chromosomes: Screening for Nonchromosomal Genetic Problems in Obstetric Practice" "Gene Therapy"

6th Annual NICHD Aspen Conference, 1994 The Given Institute Aspen, Colorado "Genetic Markers for Adverse Pregnancy Outcomes"

Advanced Life Support in Obstetrics Course, 1994 Midway, Utah "Emergency Bedside Ultrasound"

Mothers and Multiples Group, 1994 North Davis Medical Center Layton, Utah "Are Your Twins Identical?"

14th Annual President's Seminar, 1994 University of Utah

> Salt Lake City, Utah "DNA in the Courtroom, in Your Home, and in Your Doctor's Office"

Mother's of Twins Annual Convention, 1994 Marriott Hotel Salt Lake City, Utah "Twins in Genetics Research" American Fertility Society Annual Meeting, 1994 Molecular Aspects of Human Reproduction San Antonio, Texas "Basic Concepts of DNA and Its Analysis"

American Fertility Society Annual Meeting, 1994 Molecular Aspects of Human Reproduction San Antonio, Texas "Mapping Disease Genes"

American Fertility Society Annual Meeting, 1994 Molecular Aspects of Human Reproduction San Antonio, Texas "Uniparental Disomy"

American Fertility Society Annual Meeting, 1994 Molecular Aspects of Human Reproduction San Antonio, Texas "Genes Involved in Disorders of Reproduction: Recurrent Abortion, Preeclampsia, etc."

Prenatal Diagnosis Conference, 1995 Salt Lake City, Utah "Ken's Top Ten List"

Society of Perinatal Obstetricians Annual Meeting, 1995 Molecular Genetics for the Perinatologist Atlanta, Georgia "The Basics: For Beginners Only"

Society of Perinatal Obstetricians Annual Meeting, 1995 Molecular Genetics for the Perinatologist Atlanta, Georgia "Prenatal DNA Testing"

Society of Perinatal Obstetricians Annual Meeting, 1995 Molecular Genetics for the Perinatologist Atlanta, Georgia "Gene Mapping"

Society of Perinatal Obstetricians Annual Meeting, 1995 Hypertension Special Interest Group

> Atlanta, Georgia "Angiotensinogen: A Candidate Gene for Preeclampsia"

Department of Obstetrics and Gynecology Grand Rounds, 1995 University of Utah Health Sciences Center Salt Lake City, Utah "Sex and Molecular Genetics"

Department of Obstetrics and Gynecology Post-Graduate Course, 1995 University of Utah Health Sciences Center Salt Lake City, Utah "An Update in DNA Testing"

Society for Gynecologic Investigation Annual Meeting, 1995 New Molecular Developments in Reproduction Post-Graduate Course Chicago, Illinois "Molecular Bases for Spontaneous Abortion"

Utah Women's Health Conference, 1995 Salt Lake City, Utah "Have you Hugged Your Genes Today?"

Invited speaker, Salt Lake Rotary Club, 1995 Salt Lake City, Utah "The DNA Revolution"

Invited speaker, Towne Club, 1995 Salt Lake City, Utah "What the New Genetics Means to You"

Tox Talks, 1995 Mill Valley, California "Angiotensinogen Variants and Placental Variation: A Hypothesis"

Intermountain Pediatric Society Annual Conference, 1995 Salt Lake City, Utah "What's New in Genetic Testing" "Into the Future: Gene Therapy"

FHP Grand Rounds, 1995 Salt Lake City, Utah "Prenatal Diagnosis"

Mountain States Regional Genetic Services Network, 1995 Bob McCurdy Lectureship Steamboat Springs, Colorado "Fetal Tissue Transplantation" "Cancer Genetics Counseling: Preliminary Experience"

> Mother's of Twins Conference, 1995 Utah Valley State College Provo, Utah

Department of Pediatrics Grand Rounds, 1995 University of Utah Health Sciences Center Salt Lake City, Utah "Advances in the Genetics of Congenital Heart Malformations"

American Society of Reproductive Medicine Annual Meeting, 1995 Human Reproductive Genetics Postgraduate Course Seattle, Washington "Basic Concepts of DNA and Its Analysis"

American Society of Reproductive Medicine Annual Meeting, 1995 Human Reproductive Genetics Postgraduate Course Seattle, Washington "Mapping Disease Genes"

American Society of Reproductive Medicine Annual Meeting, 1995 Human Reproductive Genetics Postgraduate Course Seattle, Washington "Uniparental Disomy"

American Society of Reproductive Medicine Annual Meeting, 1995 Human Reproductive Genetics Postgraduate Course Seattle, Washington "Genes Involved in Disorders of Human Gestation"

Department of Obstetrics and Gynecology Grand Rounds, 1995 University of Utah Health Sciences Center Salt Lake City, Utah "The Genetics of Preeclampsia"

American College of Obstetricians and Gynecologists District V Annual Meeting, 1995 Kona Coast, Hawaii "Molecular Screening: DNA for the Obstetrician" "Preeclampsia/Genetics"

Pediatric Continuing Education Current Concepts in Transport Conference, 1996 Hilton Hotel Convention Center Salt Lake City, Utah "Pregnancy-Induced Hypertension"

Department of Obstetrics and Gynecology Post-Graduate Course, 1996

> University of Utah Health Sciences Center Salt Lake City, Utah "Placental Examination: Your Best Defense"

Interdepartmental Research Seminar, March 1996 University of Utah Health Sciences Center "Disorder of Placental Invasion" Invited Expert Foundation for Developmental and Medical Genetics, 1996 Tampa, Florida "Molecular Genetics of Human Placentation"

American Society of Reproductive Medicine, 1996 What's New in Reproductive Medicine Postgraduate Course Rancho Mirage, California "Genetic and Environmental Causes of Embryonic Death"

American Society of Reproductive Medicine, 1996 What's New in Reproductive Medicine Postgraduate Course Rancho Mirage, California "DNA Diagnosis"

American Society of Reproductive Medicine, 1996 What's New in Reproductive Medicine Postgraduate Course Rancho Mirage, California "What's New in Molecular Genetics"

American Society of Reproductive Medicine, 1996 What's New in Reproductive Medicine Postgraduate Course Rancho Mirage, California "Ultrasound in the First Trimester: What to Look For"

International Fetal Medicine and Surgery Society, 1996 Capri, Italy "Genetics of Decidual Vasculopathy"

Utah Department of Health, 1996 Pregnancy Riskline Seminar Salt Lake City, Utah "Mapping Birth Defects"

Utah Department of Health, 1996 3rd Annual Conference of the Disabilities Prevention Program and the Pregnancy Riskline Snowbird Resort, Utah "Lightning Does Strike Twice: Discovering Genetic Predispositions for Common Birth Defects"

Salt Lake Valley Women's Services, 1997 Bereavement Support Group for Fetal Death

> Salt Lake City, UT "Genetic Insights Into Fetal Death and Miscarriage"

University of California, Irvine, 1997 12th Annual Perinatal Conference at Beaver Creek Beaver Creek, CO "Genes from Sick Placentas"

Department of Obstetrics and Gynecology Post-Graduate Course, 1997 University of Utah Health Sciences Center Salt Lake City, Utah "New Developments in Genetics"

Pediatric Continuing Education Current Concepts in Transport Conference, 1997 Hilton Hotel Convention Center Salt Lake City, Utah "PIH, PTL, and IUGR: Different Flavors of the Sick Placenta"

Department of Obstetrics and Gynecology Grand Rounds, 1997 University of Utah Health Sciences Center Salt Lake City, Utah "PIH: Modern Myths and Medical Misadventures"

Advances in the Study of Congenital Heart Malformation and Syndromes, 1997 Primary Children's Medical Center Salt Lake City, Utah "Mapping and Cloning Genes for Congenital Heart Malformations"

Department of Family Practice Grand Rounds, 1997 University of Utah Salt Lake City, Utah "Practical Approach to Prenatal Testing"

Invited Expert Preterm Birth: Etiology, Mechanisms, and Prevention, 1997 Charleston, South Carolina "Genetic Factors in Preterm Labor"

President's Seminar, 1997 University of Utah Salt Lake City, Utah "Advances in Reproductive Genetics"

Invited Speaker Washington State Obstetrical Association, 1997 Seattle, Washington "New Genetic Tools for Obstetrics" "Why Me? Genes for Common Diseases"

> Society of Perinatal Obstetricians, 1998 Molecular Genetics Post-Graduate Course Miami Beach, Florida "New Molecular Insights into Teratogenesis" "Single Cell Genetic Testing"

Department of Obstetrics and Gynecology Post-Graduate Course, 1998 University of Utah Health Sciences Center Salt Lake City, Utah "The Placenta Quiz"

Society for Gynecologic Investigation, 1998 Gene Mapping Post-Graduate Course Atlanta, Georgia "The Basics of Gene Mapping"

Department of Obstetrics and Gynecology, Grand Rounds, 1998 University of Utah Health Sciences Center Salt Lake City, Utah "Giving Bad News to Patients"

United Jewish Appeal Western Regional Conference, 1998 San Diego, California "Breast Cancer Gene Testing at the University of Utah"

Salt Lake Valley Women's Services, 1998 Bereavement Support Group for Fetal Death Salt Lake City, Utah "Genetic Insights Into Fetal Death and Miscarriage"

Department of Obstetrics and Gynecology Grand Rounds, 1998 St. Mark's Hospital Salt Lake City, Utah "Incompetent Cervix"

Pediatric Continuing Education Current Concepts in Transport Conference, 1998 Sun Valley Resort Sun Valley, Idaho "Emerging Issues in Genetics for Physicians and Nurses in Pediatrics and Obstetrics"

Pediatric Continuing Education Current Concepts in Transport Conference, 1998 Sun Valley Resort Sun Valley, Idaho "Prenatal Diagnosis 1998"

Department of Obstetrics, Gynecology & Reproductive Sciences, Grand Rounds, 1998

The Maryland Women's Center Baltimore, Maryland "Genetic Insights Into Pre-eclampsia"

Courts and the Challenge of Genetics Western States Conference, 1998 Salt Lake City, Utah "Prenatal Genetic Testing"

University of California, Irvine, 1999 14th Annual Perinatal Conference at Beaver Creek Beaver Creek, CO "Why me? The Genetics of Common Diseases"

Department of Obstetrics and Gynecology Post-Graduate Course, 1999 University of Utah Health Sciences Center Salt Lake City, Utah "The Placenta Quiz" "What's New in Genetics?"

29th Annual Family Practice Refresher Course, 1999 Salt Lake City, Utah "Advances in Medical Genetics"

6th International Workshop on Fetal Genetic Pathology, 1999 Dead Sea, Isreal "First Trimester Placental Lesions and Perinatal Morbidity"

Grand Rounds, 1999 University of North Carolina - Chapel Hill "Genetic Insights Into Preeclampsia"

The North American Society for the Study of Hypertension in Pregnancy, 1999 Winston-Salem, NC "Debate: HELLP Syndrome is Not a Variant of Severe Preeclampsia" "Mapping Genes for Preeclampsia"

Tufts University Genetics Grand Rounds, 1999 Boston, MA "Mapping Birth Defect Genes"

Annual Judicial Conference, 1999 Park City, UT "Predispositions and DNA Testing"

Invited speaker University of California at San Francisco Research Conference, 1999 San Francisco, CA "Genes and Placental Disorders"

> Invited speaker Proceedings, The Placenta: Basic Sciences and Clinical Practice, 38th RCOG Scientific Study Group, Royal College of Obstetrics and Gynecology, 1999 London, England "Inherited Thrombophilias and Placental Thrombosis"

Perinatal Research Society, 1999 Ross Products Division, Abbott Laboratories, Inc. Lecturer Charleston, SC "Genetic Insights into Common Pregnancy Complications"

Invited speaker Wake Forest University School of Medicine, 1999 Advances in Physiology and Pharmacology in Anesthesia and Critical Care White Sulphur Springs, WV "Human Genetic Engineering"

Society for Gynecologic Investigation Fetal Therapy Workshop, 2000 Salt Lake City, UT "Gene Therapy and Stem Cell Transplantation"

Invited speaker American Gynecologic Club, 2000 Deer Valley, UT "Mapping Genes for Common Ob/Gyn Disorders"

Invited speaker FIGO World Congress, 2000 Washington, DC "Genetic Screening"

Invited speaker Utah Society of Diagnostic Medical Sonographers, 2000 Salt Lake City, UT "Don't Skip Over the Placenta"

Invited speaker Aron E. Szulman Lecturer, 2000 Magee-Women's Hospital Pittsburgh, PA "Genetics of common Ob/Gyn Disorders"

Society for Gynecologic Investigation Gene Therapy Workshop, 2000 Salt Lake City, UT "DNA Testing, 2000"

> National Society of Genetic Counselors Education Conference, 2000 Savannah, GA "Linkage analysis for X-linked severe combined immunodeficiency disease" "Investigation of a more comprehensive diagnostic test for congenital adrenal hyperplasia (21hydroxolase deficiency)"

Society for Maternal-Fetal Medicine, 2001 Epidemiology Interest Group Reno, NV "Genetic Epidemiology"

Society for Maternal-Fetal Medicine, 2001 Post Graduate Course Reno, NV "Fetal Maternal Trafficking"

Society for Maternal-Fetal Medicine, 2001 NASSHP Reno, NV "Genetic Approaches to Preeclampsia"

NICHD Very Low Birthweight Workshop, 2001 National Institutes of Health Bethesda, MD

24th Annual Utah Perinatal Association Conference, 2001 Salt Lake City, UT "The High's and Low's of PIH"

Invited Speaker NASSHP Annual Meeting, 2002 Winston-Salem, NC "The Genetics of Preeclampsia"

Department of Obstetrics and Gynecology Post-Graduate Course, 2002 University of Utah Health Sciences Center Salt Lake City, UT "What's New in Genetics" "Fetal Maternal Trafficking"

Invited Speaker 1st International Preterm Labour Congress, 2002 Montreux, Switzerland "Genetics of Preterm Labor"

Invited Speaker University of North Carolina - Chapel Hill, 2002

> Chapel-Hill, NC "The Human Genome Project and How It Impacts Perinatal Medicine" "Cystic Fibrosis Screening in Pregnancy"

Invited Speaker University of Vermont, 2002 Burlington, VT "Genetic Screening 101: Beyond Maternal Serum Screening" "OB Ultrasound: Don't Forget the Placenta!"

Invited Speaker Grand Rounds, 2003 JABSOM, University of Hawaii Honolulu, HI "New Findings in Preeclampsia"

Invited Speaker The 16<sup>th</sup> Annual ACOG Hawaii Section Meeting, 2003 Kauai, HI "New Insights Into Preeclampsia" "Genetics in Ob/Gyn"

Grand Rounds, 2003 University of Hawaii John A. Burns School of Medicine Honolulu, HI "Placenta's I Have Known"

University of Hawaii Faculty Development Lectures, 2003 Kapiolani Medical Center Honolulu, HI "Writing a Scientific Paper" "Writing a Scientific Abstract" "Picking a Research Project" "Writing a Grant"

Queen's Medical Center Ob/Gyn Clinical Care Conference, 2003 "Magnesium Sulphate for Preeclampsia and Preterm Labor"

March of Dimes Hawaii Chapter Kapiolani Medical Center for Women & Children First Annual Prematurity Summit, 2004 "Research Perspective" Perinatal Providers and Advocates Network Meeting Department of Health, Clinical Providers Meeting Special Focus Session, 2004 "An Update on Perinatal Genetics Research"

The Hawaii Perinatal Health Summit, 2004 Honolulu, HI "Prematurity and Low Birth Weight"

Grand Rounds, 2004 University of Hawaii John A. Burns School of Medicine Honolulu, HI "Double Trouble"

Presidential Guest Speaker Scoliosis Research Society Annual Meeting, 2004 Buenos Aires, Argentina "Genetic Aspects of Spine Deformity"

University of Hawaii Ethics in Biomedical Research, 2004 Honolulu, HI

Grand Rounds, 2004 Queen's Medical Center Honolulu, HI "Endometriosis Update"

First Annual March of Dimes Town Hall Meeting, 2004 Honolulu, HI "The Problem of Preterm Birth in Hawaii"

Invited Speaker District V Annual Meeting, 2004 Kohala Coast, Hawaii American College of Obstetrics and Gynecology "Preterm Labor Gestations, Germs, and Genes"

Medical School Advisory Board, 2004 Honolulu, HI "Perinatal Perspectives on Human Health"

Grand Rounds, 2005 University of Hawaii John A. Burns School of Medicine Honolulu, HI "Town Hall Meeting"

> Grand Rounds, 2005 Kaiser Permanente Hospital Honolulu, Hawaii "First Trimester Screening for Aneuploidy"

2005 Bioscience Symposium John A. Burns School of Medicine Honolulu, Hawaii "Perinatal Research and Common Adult Diseases"

March of Dimes Hawaii Chapter Kapiolani Medical Center for Women & Children Second Annual Prematurity Summit, 2005 "Preterm Labor: Germs, Genes and Gestations"

Office of Medical Education University of Hawaii, John A. Burns School of Medicine Unit 3 Conference, 2005 "Genetics: Polycystic Ovaries"

Grand Rounds, 2005 University of Hawaii John A. Burns School of Medicine Honolulu, HI "Finding Disease Genes for Common Ob/Gyn Disorders"

Grand Rounds, 2005 The Queen's Medical Center Honolulu, HI "Obstetric Hemorrhage"

Invited Keynote Speaker Pacific Coast Obstetrical-Gynecological Society 72<sup>nd</sup> Annual Meeting, 2005 Kauai, Hawaii "Finding Disease Genes for Common Ob/Gyn Disorders"

Grand Rounds, 2005 The Queen's Medical Center Honolulu, HI

Grand Rounds, 2005 The Queen's Medical Center Department of Internal Medicine Honolulu, HI "Perinatal Insights into Adult Onset Diseases"

Invited Speaker

> Queen's Ob/Gyn Hui and The Queen's Medical Center High Risk Obstetrics Conference 2005 Honolulu HI "Update in Pre-eclampsia"

Invited Speaker Society for Gynecologic Investigation, 2005 1<sup>st</sup> International SGI Summit, Preterm Birth Siena, Italy "Preterm Labor: Genetic Screening"

Invited Speaker Donald School of Ultrasound Conference, 2005 Honolulu, HI "Fetal Skeletal Dysplasias" "Fetal Hydrocephalus"

University of Hawaii, 2005 Genetics Lecture Kapiolani Medical Center Honolulu, HI "Common Chromosomal Abnormalities"

Invited Speaker Pan-Pacific Surgical Association 27<sup>th</sup> Congress, 2006 Honolulu, HI "Horizons in Perinatal Care"

University of Hawaii, 2006 Cell and Molecular Biology Seminar, 2006 JABSOM, MEB Honolulu, HI "Mapping Genes for Adolescent Idiopathic Scoliosis"

Invited Speaker 2<sup>nd</sup> Annual Hawaii Bioscience Conference, 2006 JABSOM, MEB & Hawaii Convention Center Honolulu, HI "Genomics Primer" "Population Based Mapping of Human Disease Genes"

Invited Speaker Scoliosis Research Society, 2006 Monterey, CA "Genetic Markers of Idiopathic Scoliosis"

> Invited Speaker Vanderbilt University, School of Medicine Why Our Babies Die Symposium, 2006 Nashville, TN "Prevention of Pre-Term Births: The Challenge"

NICHD Preeclampsia-A Pressing Problem Workshop, 2006 Potomac, MD Mediator of Preeclampsia – "Genetics"

Invited Speaker The Queen's Medical Center Honolulu, HI Clinical Research Conference, 2006 "Mapping Human Disease Genes"

Invited Speaker HiBeam, JABSOM, and Vantage Counsel The Hawaii Entrepreneurs Summit, 2006 Honolulu, HI

Invited Speaker University of Hawaii Masters in Clinical Research (MSCR), 2006 Honolulu, HI "Legal & Regulatory Issues & Bioethics"

Invited Speaker Reed Medical Education, 2006 Perspective in Women's Health San Francisco, CA "Putting Women's Healthcare Into Action: From Bench to Bedside"

Invited Speaker American College of Obstetrics & Gynecology, 2006 Hapuna Beach, HI "Molecular Genetics for the Practicing Ob/Gyn: What do you need to know?" "The Future of Molecular Genetics, A Look Beyond the Horizon"

Invited Speaker Evidence-based OB/GYN: Practical Application of New Advances, 2007 Honolulu, HI "Preterm Labor Genetics"

> Invited Speaker Contemporary OB/GYN Ultrasound: Recent Advances and Clinical Practices, 2007 Honolulu, HI "Double Trouble" "Molecular Ultrasound"

Invited Speaker Society for Gynecologic Investigation, 2007 Reno, NV "Genetic Approaches: Defining a Primary Mymometrial Pre-Term Birth Syndrome"

Invited Speaker Grand Rounds, 2007 Kapiolani Medical Center Honolulu, HI "Genetic Markers for Pre-Term Birth"

CUMULINA Discussion Series, 2007 John A. Burns School of Medicine Honolulu, HI "Career in Medical Research"

Invited Speaker World Symposium on Perinatal Medicine, 2007 San Francisco, CA "Genomics: The Future of Diagnostics in Perinatal Medicine"

Invited Speaker Grand Rounds, 2007 University of California, Irvine Medical Center Irvine, CA "Genetic Markers for Pre-Term Birth"

Invited Speaker DePuySpine Round Tables in Spine Surgery, 2008 San Francisco, CA "Prognostic Genetic Counseling for Adolescent Scoliosis"

Invited Speaker DePuy Spine Dinner Symposium-Pioneering New Treatment Options for Adolescent Scoliosis, 2008 San Francisco, CA "Genetics of Adolescent Idiopathic Scoliosis"

Invited Speaker University of Kansas School of Medicine, 2008

> Sterling Williams Resident Research Forum Kansas City, Kansas "Genetic Markers for Preterm Birth"

Invited Speaker Annual International PREterm Birth Collaborative (PREBIC) Meeting 2009 Geneva, Switzerland "Preterm Birth: Ancestry Informed GWAS"

Invited Speaker 2009 Summit on Personalized Health Care Park City, Utah "Perspective of Physician, Scientist & Entrepreneur

Invited Speaker DePuy Symposium – Scoliosis Research Society 2009 San Antonio, Texas "Scoliosis Research Society ScoliScore™ Symposium"

Invited Speaker SGI 3<sup>rd</sup> International Summit – "Preeclampsia" 2009 Sendai, Japan "Preeclampsia – Genetic Progress and Expectations"

Invited Speaker 57<sup>th</sup> Annual SGI Meeting, 2010 Orlando, FL "Endometriosis Genome-Wide Association Study (GWAS)"

Invited Speaker Global Issues for Preterm Birth: Epidemiology, Genetics and Pathophysiology Updates by Preterm Birth International Collaborative (PREBIC) and World Health Organization Satellite Symposium 2010 Orlando, FL "Preterm Birth-Ancestry Informed GWAS"

Invited Speaker 15<sup>th</sup> International Conference on Prenatal Diagnosis And Therapy, 2010 Amsterdam, Netherlands "Genome Wide Analysis in Prenatal Diagnosis of Preeclampsia"

Invited Speaker Grand Rounds, 2011 Shriners Hospitals for Children – Philadelphia Philadelphia, PA "DNA-Based Prognostic Testing for Adolescent Idiopathic Scoliosis"

Invited Speaker Fourth Symposium Advances in Obstetrics and Gynaecology, 2011 Lodz, Poland "Genetic Determinants of Preterm Birth"

Invited Speaker 2011 Salt Lake City Illumina User Group Meeting Salt Lake City, UT "Ancestry-Informed Genome Wide Association Studies"

Invited Speaker Grand Rounds, 2012 University of Vermont Burlington, VT "Next-Gen Diagnostics in Obstetrics and Gynecology"

Invited Speaker The No Name Society, 2014 Shelburne, VT "Genetics of Common Perinatal Complications"

World Congress on Endometriosis, 2014 Sao Paulo, Brazil "Genomic rearrangements (copy number variants) may play a role in the pathogenesis of endometriosis"

Invited Speaker World Endometriosis Research Foundation, 2014 Workshop on the Clinical Utility of Biomarkers Florence, Italy

American Society of Reproductive Medicine, 2014 Honolulu, HI "Evolutionarily recent, exonic mutations are strong genetic risk factors for endometriosis"

American Society of Reproductive Medicine, 2014 Honolulu, HI "Mutations in the GnRH signaling pathway are risk factors for endometriosis"

American Society of Reproductive Medicine, 2014 Honolulu, HI "Next generation sequencing of families with endometriosis identifies new genomic regions likely to contribute to heritability"

American Society of Reproductive Medicine, 2014

Honolulu, HI "Rare mutations in Wnt signaling pathways are risk factors for endometriosis"

American Society of Human Genetics, 2015 Baltimore, MD "NLRP2: A paternally imprinted gene implicated in innate immunity and blastocyst development has a major effect on endometriosis"

American Society of Reproductive Medicine, 2016 Endometriosis Association Panel Discussion Salt Lake City, UT "Genetic blueprints for development of endometriosis"

13<sup>th</sup> World Congress on Endometriosis, 2017Vancouver, BC Canada"Progress toward development of a non-invasive predictor for endometriosis"

Northside Hospital Heart of the Matter Conference, 2017 Atlanta, GA "Cardiovascular Genetics: Aortic Diseases, Congenital Heart Defects, and the Role of Cardiologist, Obstetrician, and Geneticist" "Genetics of Preeclampsia"

2017 International Stillbirth Alliance Conference Cork, Ireland "Prototype "Belly Band" Wearable Monitor for Continuous Monitoring of Fetal ECG and Fetal Movement During the Third Trimester"

ASRM 2018 Scientific Congress Denver, CO "Can Genetic Markers of Endometriosis Predict a Patient's Responsiveness to Leuprolide Acetate?"

2019 Society for Reproductive Investigation 66<sup>th</sup> Annual Scientific Meeting Paris, France "Mutations in METTL11B: A Primer for N-Terminal RCC1 Methyltransferase Play a Role in Endometriosis"