CURRICULUM VITAE
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ACADEMIC APPOINTMENTS

2001-2003	Instructor, Pathology, Harvard Medical School
2003-2008	Assistant Professor, Pathology, Harvard Medical School
2008-2013	Associate Professor, Pathology, Harvard Medical School
2013-2015	Visiting Professor, Seoul National University, Seoul, South Korea
2013-Present	Professor, The Jackson Laboratory for Genomic Medicine
2015-Present	Distinguished Professor, EWHA Womans University, Seoul, South Korea
2018-Present	Adjunct Professor, Xi'An Jiaotong University, Xi'An, China

OTHER APPOINTMENTS/EMPLOYMENT/EXPERIENCE

1993	Invited Research Trainee, Johns Hopkins School of Medicine
2000-2006	Assistant Director, DF/HCC Cytogenetics Core, Dana Farber/Harvard Cancer Center
2001-2008	Associate Clinical Cytogeneticist, Pathology, Brigham and Women's Hospital
2006-2013	Director, DF/HCC Cytogenetics Core, Dana Farber/Harvard Cancer Center
2006-2013	Associate Member, Broad Institute of Harvard and MIT
2007-2011	Honorary Associate Professor, Chinese University of Hong Kong
2008-2013	Clinical Cytogeneticist, Pathology, Brigham and Women's Hospital
2008-Present	Co-Chair, SV analysis group, 1000 Genomes Project
2009-2013	Director, Molecular Genetic Research Unit, Brigham and Women's Hospital
2009	Chair, Cytogenetics Core Advisory Board, NHGRI
2010	Chair, Program Committee, American Society of Human Genetics
2011-Present	Steering Committee, 1000 Genomes Project
2011-Present	Honorary Professor, Chinese University of Hong Kong
2013-Present	Scientific Director, The Jackson Laboratory for Genomic Medicine
2015-Present	Section Director, Clinical Cytogenetics Laboratory, The Jackson Laboratory for Genomic Medicine
2013-Present	ASHG Awards Committee
2014-Present	Council Member, Human Genome Organization (HUGO)
2016-2017	President Elect, Human Genome Organization (HUGO)
2017-Present	President, Human Genome Organization (HUGO)

EDUCATION

1990	B.S., Genetics, University of Alberta, Canada
1993	M.S., Experimental Pathology, University of Alberta, Canada
1996	Ph.D., Medical Sciences, University of Alberta, Canada

Postdoctoral Training

1996-1998	Research Fellow, Molecular Cytogenetics (Prof. Malcolm Ferguson-Smith), Cambridge University
1998-2001	Research Fellow, Obstetrics, Gynecology and Reproductive Biology (Dr. Cynthia C. Morton), Harvard Medical School

HONORS AND PRIZES

1993	American Cytogenetics Conference Student Award, Genetics and IVF Institute
1994	75th Anniversary Faculty of Medicine Scholarship, University of Alberta
1994-1996	AHFMR PhD Studentship, Alberta Heritage Foundation for Medical Research
1996	MRC Postdoctoral Fellowship, Medical Research Council of Canada
1996-1998	NSERC Postdoctoral Fellowship, Natural Sciences and Engineering Research Council of Canada
2002	Stanley L. Robbins Research Award, Department of Pathology, Brigham and Women's Hospital
2007	American Association for Cancer Research Inaugural Team Award, American Association for Cancer Research
2008	Ho-Am Prize in Medicine, Ho Am Foundation, Seoul, South Korea
2008	C. Thomas Caskey Lectureship, University of South Carolina, Columbia, South Carolina, USA
2010	George W. Brumley, Jr., MD Memorial Award, Duke University, Durham, North Carolina, USA
2012	Fellow, AAAS, American Association for the Advancement of Science
2012	Chen Global Investigator Award, Human Genome Organization (HUGO)
2012	Vandenberghe Chair Award, Katholic University of Leuven, Belgium
2014	Citation Laureate, Thompson Reuters
2018	Lifetime Achievement Distinguished Alumni Award, University of Alberta, Canada

PRINT SCHOLARSHIP – (* - Corresponding author)

1. Fan YS, Sasi R, **Lee C,** Court D, Lin CC. Mapping of 50 cosmid clones isolated from a flow-sorted human X chromosome library by fluorescence in situ hybridization. Genomics. 1992 Oct;14(2):542-5.

2. Fan YS, Sasi R, **Lee C,** Winter JS, Waterman MR, Lin CC. Localization of the human CYP17 gene (cytochrome P450(17 aplha) to 10q24.3 by fluorescence in situ hybridization and simultaneous chromosome banding. Genomics. 1992 Dec;14(4):1110-1.

3. Vamvakopoulos NC, Griffin CA, Hawkins AL, **Lee C,** Chrousos GP, Jabs EW. Mapping the intron-containing human hsp90 alpha (HSPCAL4) gene to chromosome band 14q32. Cytogenet Cell Genet. 1993;64(3-4):224-6.

4. **Lee C,** Sasi R, Lin CC. Interstitial localization of telomeric DNA sequences in the Indian muntjac chromosomes: further evidence for tandem chromosome fusions in the karyotypic evolution of the Asian muntjacs. Cytogenet Cell Genet. 1993;63(3):156-9.

5. Lin CC, Sasi R, **Lee C,** Fan YS, Court D. Isolation and identification of a novel tandemly repeated DNA sequence in the centromeric region of human chromosome 8. Chromosoma. 1993 May;102(5):333-9.

6. **Lee C,** Ritchie DB, Lin CC. A tandemly repetitive, centromeric DNA sequence from the Canadian woodland caribou (*Rangifer tarandus caribou*): its conservation and evolution in several deer species. Chromosome Res. 1994 Jul;2(4):293-306.

7. **Lee C,** Li X, Jabs EW, Court D, Lin CC. Human gamma X satellite DNA: an X chromosome specific centromeric DNA sequence. Chromosoma. 1995 Nov;104(2):103-12.

8. **Lee C,** Lin CC. Conservation of a 31-bp bovine subrepeat in centromeric satellite DNA monomers of Cervus elaphus and other cervid species. Chromosome Res. 1996 Sep;4(6):427-35.

9. **Lee C,** Court DR, Cho C, Haslett JL, Lin CC. Higher-order organization of subrepeats and the evolution of cervid satellite I DNA. J Mol Evol. 1997 Mar;44(3):327-35.

10. **Lee C,** Wevrick R, Fisher RB, Ferguson-Smith MA, Lin CC. Human centromeric DNAs. Hum Genet. 1997 Sep;100(3-4):291-304.

11. ***Lee C,** Griffin DK, O'Brien PC, Yang F, Lin CC, Ferguson-Smith MA. Defining the anatomy of the Rangifer tarandus sex chromosomes. Chromosoma. 1998 Mar;107(1):61-9.

12. Mills W, Critcher R, **Lee C,** Farr CJ. Generation of an approximately 2.4 Mb human X centromere-based minichromosome by targeted telomere-associated chromosome fragmentation in DT40. Hum Mol Genet. 1999 May;8(5):751-61.

13. **Lee C,** Stanyon R, Lin CC, Ferguson-Smith MA. Conservation of human gamma-X centromeric satellite DNA among primates with an autosomal localization in certain Old World monkeys. Chromosome Res. 1999;7(1):43-7.

14. Li YC, **Lee C,** Sanoudou D, Hseu TH, Li SY, Lin CC. Interstitial colocalization of two cervid satellite DNAs involved in the genesis of the Indian muntjac karyotype. Chromosome Res. 2000;8(5):363-73.

15. Li YC, **Lee C,** Hseu TH, Li SY, Lin CC. Direct visualization of the genomic distribution and organization of two cervid centromeric satellite DNA families. Cytogenet Cell Genet. 2000;89(3-4):192-8.

16. Guo L, Schreiber TH, Weremowicz S, Morton CC, **Lee C,** Zhou J. Identification and characterization of a novel polycystin family member, polycystin-L2, in mouse and human: sequence, expression, alternative splicing, and chromosomal localization. Genomics. 2000 Mar 15;64(3):241-51.

17. **Lee C,** Critcher R, Zhang JG, Mills W, Farr CJ. Distribution of gamma satellite DNA on the human X and Y chromosomes suggests that it is not required for mitotic centromere function. Chromosoma. 2000 Sep;109(6):381-9.

18. ***Lee C,** Murray MF, Miron PM, Marsden D, Irons M, Wilkins-Haug LE, Morton CC. Clinical picture: Multicolour karyotyping. Lancet. 2001 Apr 21;357(9264):1240.

19. **Lee C,** Gisselsson D, Jin C, Nordgren A, Ferguson DO, Blennow E, Fletcher JA, Morton CC. Limitations of chromosome classification by multicolor karyotyping. Am J Hum Genet. 2001 Apr;68(4):1043-7. PMCID: PMC1275623

20. Hong YK, Kim DH, Beletskii A, **Lee C,** Memili E, Strauss WM. Development of two bacterial artificial chromosome shuttle vectors for a recombination-based cloning and regulated expression of large genes in mammalian cells. Anal Biochem. 2001 Apr 1;291(1):142-8.

21. **Lee C,** Rens W, Yang F. Multicolor Fluorescence *In Situ* Hybridization (FISH) approaches for simultaneous analysis of the entire human genome. Curr Protoc Hum Genet. 2001 May; Chapter 4:Unit 4.9.

22. **Lee C,** Fowler DJ, Lemyre E, Sandstrom MM, Holmes LB, Morton CC. Prenatal diagnosis and molecular cytogenetics in a case of partial trisomy 14 and monosomy 21. Am J Med Genet. 2001 May 1;100(3):246-50.

23. Qin X, Miwa T, Aktas H, Gao M, **Lee C,** Qian YM, Morton CC, Shahsafaei A, Song WC, Halperin JA. Genomic structure, functional comparison, and tissue distribution of mouse Cd59a and Cd59b. Mamm Genome. 2001 Aug;12(8):582-9.

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25. Robertson NG, Resendes BL, Lin JS, **Lee C,** Aster JC, Adams JC, Morton CC. Inner ear localization of mRNA and protein products of COCH, mutated in the sensorineural deafness and vestibular disorder, DFNA9. Hum Mol Genet. 2001 Oct 15;10(22):2493-500.

26. Sharpless NE, Ferguson DO, O'Hagan RC, Castrillon DH, **Lee C,** Farazi PA, Alson S, Fleming J, Morton CC, Frank K, Chin L, Alt FW, DePinho RA. Impaired nonhomologous end-joining provokes soft tissue sarcomas harboring chromosomal translocations, amplifications, and deletions. Mol Cell. 2001 Dec;8(6):1187-96.

27. ***Lee C,** Lemyre E, Miron PM, Morton CC. Multicolor fluorescence in situ hybridization in clinical cytogenetic diagnostics. Curr Opin Pediatr. 2001 Dec;13(6):550-5.

28. Zhu C, Mills KD, Ferguson DO, **Lee C,** Manis J, Fleming J, Gao Y, Morton CC, Alt FW. Unrepaired DNA breaks in p53-deficient cells lead to oncogenic gene amplification subsequent to translocations. Cell. 2002 Jun 28;109(7):811-21.

29. Picker JD, Cox GF, Fan YS, Fowler DJ, Weremowicz S, Morton CC, ***Lee C**. Multicolor karyotypic interpretation of a heterochromatin-associated marker chromosome in a dysmorphic girl with developmental delay. Am J Med Genet. 2002 Jul 15;110(4):393-6.

30. Vaziri C, Saxena S, Jeon Y, **Lee C,** Murata K, Machida Y, Wagle N, Hwang DS, Dutta A. A p53-dependent checkpoint pathway prevents rereplication. Mol Cell. 2003 Apr;11(4):997-1008. Erratum in: Mol Cell. 2003 May;11(5):1415.

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32. Bassing CH, Suh H, Ferguson DO, Chua KF, Manis J, Eckersdorff M, Gleason M, Bronson R, **Lee C,** Alt FW. Histone H2AX: a dosage-dependent suppressor of oncogenic translocations and tumors. Cell. 2003 Aug 8;114(3):359-70.

33. Wilkinson K, Velloso ER, Lopes LF, **Lee C,** Aster JC, Shipp MA, Aguiar RC. Cloning of the t(1;5)(q23;q33) in a myeloproliferative disorder associated with eosinophilia: involvement of PDGFRB and response to imatinib. Blood. 2003 Dec 1;102(12):4187-90.

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35. Rooney S, Sekiguchi J, Whitlow S, Eckersdorff M, Manis JP, **Lee C,** Ferguson DO, Alt FW. Artemis and p53 cooperate to suppress oncogenic N-myc amplification in progenitor B cells. Proc Natl Acad Sci USA. 2004 Feb 24;101(8):2410-5. PMCID: PMC356964

36. ***Lee C,** Smith A. Molecular cytogenetic methodologies and a bacterial artificial chromosome (BAC) probe panel resource for genomic analyses in zebrafish. Methods Cell Biol. 2004;77:241-54.

37. Poss KD, Nechiporuk A, Stringer KF, **Lee C,** Keating MT. Germ cell aneuploidy in zebrafish with mutations in the mitotic checkpoint gene mps1. Genes Dev. 2004 Jul 1;18(13):1527-32. PMCID: PMC443515

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42. Jeon Y, Bekiranov S, Karnani N, Kapranov P, Ghosh S, MacAlpine D, **Lee C,** Hwang DS, Gingeras TR, Dutta A. Temporal profile of replication of human chromosomes. Proc Natl Acad Sci U S A. 2005 May 3;102(18):6419-24. PMCID: PMC1088349

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54. Perry GH, Tchinda J, McGrath SD, Zhang J, Picker SR, Cáceres AM, Iafrate AJ, Tyler-Smith C, Scherer SW, Eichler EE, Stone AC, ***Lee C.** Hotspots for copy number variation in chimpanzees and humans. Proc Natl Acad Sci U S A. 2006 May 23;103(21):8006-11. PMCID: PMC1472420

55. van Vlierberghe P, Meijerink JP, **Lee C,** Ferrando AA, Look AT, van Wering ER, Beverloo HB, Aster JC, Pieters R. A new recurrent 9q34 duplication in pediatric T-cell acute lymphoblastic leukemia. Leukemia. 2006 Jul;20(7):1245-53.

56. Freeman JL, Perry GH, Feuk L, Redon R, McCarroll SA, Altshuler DM, Aburatani H, Jones KW, Tyler-Smith C, Hurles ME, Carter NP, Scherer SW, ***Lee C.** Copy number variation: new insights in genome diversity. Genome Res. 2006 Aug;16(8):949-61.

57. Perner S, Demichelis F, Beroukhim R, Schmidt FH, Mosquera JM, Setlur S, Tchinda J, Tomlins SA, Hofer MD, Pienta KG, Kuefer R, Vessella R, Sun XW, Meyerson M, Lee C, Sellers WR, Chinnaiyan AM, Rubin MA. TMPRSS2:ERG fusion-associated deletions provide insight into the heterogeneity of prostate cancer. Cancer Res. 2006 Sep 1;66(17):8337-41.

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deletion del(11)(p12p13) as a new activation mechanism of LMO2 in pediatric T-cell acute lymphoblastic leukemia. Blood. 2006 Nov 15;108(10):3520-9.

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149. Cho SY, Han JY, Na D, Kang W, Lee A, Kim J, Lee J, Min S, Kang J, Chae J, Kim JI, Park H, Lee WS, ***Lee C**. A novel combination treatment targeting BCL-X_L and MCL1 for KRAS/BRAF-mutated and BCL2L1-amplifies colorectal cancers. Mol Cancer Ther. 2017 Oct 16(10):2178-2190. doi: 10.1158/1535-7163.MCT-16-0735. Epub 2017 Jun 13. PMID: 28611106

150. Bunnell M, Zhang C, **Lee C**, Bianchi DW, Wilkins-Haug L. Confined placental mosaicism for 22q11.2 deletion as the etiology for discordant positive NIPT results. Prenatal Diag 2017; 37: 416-9, 2017

151. Becker T, Lee WP, Leone J, Zhu Q, Zhang C, Liu S, Sargent J, Shanker K, Mil-Homens A, Cerveira E, Ryan M, Cha J, Navarro FCP, Galeev T, Gerstein M, Mills RE, Shin DG, **Lee C**, Malhotra A. FusorSV: an algorithm for optimally combining data from multiple structural variation detection methods. Genome Biol 2018 Mar 20;19(1):38. doi: 10.1186/s13059-018-1404-6. PMID: 29559002

152. Zhu Q, High FA, Zhang C, Cereira E, Russell M, Longoni M, Ryan M, Mil-homens A, Bellfy L, Coletti C, Bhayani P, Hila R, Donahoe PK, ***Lee C**. Systematic analysis of copy number variation associated with congenital diaphragmatic hernia. Proc Natl Acad Sci USA 2018 May 15;115(20):5247-5252. doi: 10.1073/pnas.1714885115. PMID: 29712845

153. Wilkins-Haug L, Zhang C, Cerveira E, Ryan M, Milhomens A, Zhu Q, Reddi H, **Lee C**, Bianchi DW. Biological explanations for discordant noninvasive prenatal test results: Preliminary data and lessons learned. Prenat Diag 2018 May;38(6):445-458. doi 10.1002/pd.5260. PMID: 29633279

154. Cho S, Sung C O, Chae J, Lee J, Na D, Kang W, Kang J, Min S, Lee A, Kwak E, Kim J, Choi B, Kim H, Chuang JH, Pak H, Park C, Park S, Ko YH, Lee D, Roh J, Cho M, Park S, Ju YS, Suh Y, Kong S, Lee H, Keck J, Banchereau J, Liu ET, Kim W, Park H, Yang H, Kim J, **Lee C**. (2018). Alterations in the Rho pathway contribute to Epstein-Barr virus-induced lymphomagenesis in immunosuppressed environments. Blood 2018 Apr 26;131(17):1931-1941. doi 10.1182/blood-2017-07-797209. PMID: 29475961

155. Choi Y, Lee S, Kim K, Kim SH, Chung YJ, Lee C. Studying cancer immunotherapy using patient-derived xenografts (PDXs) in humanized mice. Exp Mol Med. 2018 Aug 7;50(8):99. doi: 10.1038/s12276-018-0115-0. PMID: 30089794

Manuscripts Submitted / Under Revision

1. Chaisson MJ, Sanders A, Zhao X, Malhotra A, Porubsky D, Rausch T, Gardner EJ, Rodriquez O, Guo L, Collins RL, Fan X, Wen J, Handsaker RE, Fairley S, Kronenberg ZN, Kong X, Hormozdiari F, Lee D, Wenger AM, Hastie A, Antaki D, Audano P, Brand H, Cantsilieris S, Cao H, Cerveira E, Chen C, Chen X, Chin C-S, Chong Z, Chuang NT, Church DM, Clarke L, Farrell A, Flores J, Galeev T, Gorkin D, Gujral M, Guryev V, Heaton WH, Korlach J, Kumar S, Kwon JY, Lee JE, Lee J, Lee W-P, Lee SP, Marks P, Viaud-Martinez K, Meiers S, Munson KM, Navarro F, Nelson BJ, Nodzak C, Noor A, Kyriazopoulou-Panagiotopoulou S, Pang A, Qiu Y, Rosanio G, Ryan M, Stutz A, Spierings DC, Ward A, Welch AE, Xiao M, Xu W, Zhang C, Zhu Q, Zheng-Bradley X, Jun G, Ding L, Koh CL, Ren B, Flicek P, Chen K, Gerstein MB, Kwok P-Y, Lansdorp PM, Marth G, Sebat J, Shi X, Bashir A, Ye K, Devine SE, Talkowski M, Mills RE, Marschall T, Korbel J, Eichler EE, **Lee C**. Multi-platform discovery of haplotype-resolved structural variation in humn genomes. BioRxiv

2. Cho SY, Chae J, Na D, Kang W, Lee Am Min S, Kang J, Kwak E, Choi B Lee J, Kim J, Sung CO, **Lee C**, Lee W-S, Park H, Kim J-I. Acquired genomic and transcriptomic alterations during tumor evolution confer drug resistance in colorectal cancers. J Clin Oncol (Submitted)

3. Moon H-G, Yun J, Lee E, Hong BS, Lee M, Yoo T-K, Ryu HS, Park I-A, Lee H-B, Han W, Chae J, Kang W, Lee A, Kwag E, Min S, Kang J, Kim J, Na D, Cho S-Y **Lee C**, Kim J-I, Noh D-Y. Molecular characterization of human malignant phyllodes tumors reveals potential targeted approaches. J Clin Oncol (Submitted)

Books/Book Chapters

1. ***Lee C,** Rens W, Yang F. Multicolor fluorescence in situ hybridization (FISH) approaches for simultaneous analysis of the entire human genome. In: Dracopoli NC, Haines JL, Korf BR, Morton CC, Seidman CE, Seidman JG, Smith DR, editors. *Current Protocols in Human Genetics*. New York: John Wiley and Sons. p. 4.9.1-11, 2000.

2. ***Lee C,** Palmer D, Freeman JL, Brown KH. Molecular cytogenetic methodologies and a second generation BAC probe panel resource for zebrafish genomic analysis. In: The Zebrafish: 3rd Edition Genetics, Genomics and Informatics. Detrich HW, Zon LI & Westerfield

M (eds) Elsevier Academic Press, London.

3. ***Lee C,** Smith A. Molecular cytogenetic methodologies and a BAC probe panel resource for genomic analyses in the zebrafish. In: Detrich HW, Westerfield M, Zon LI, editors. *Zebrafish*, Second Edition. Cellular & Developmental Biology and Genetics, Genomics & Informatics; 2004.

4. Ligon AH, Morton CC, Bieber FR, Fletcher JA, Giersch AB, **Lee C,** Sandstrom M, Weremowicz S, Xiao S, Dal Cin P. Reporting of Diagnostic Cytogenetic Results. In: Dracopoli NC, Haines JL, Korf BR, Morton CC, Seidman CE, Seidman JG, Smith DR, editors. *Current Protocols in Human Genetics*. New York: John Wiley and Sons. p. A.1D.1-28, 2004.

5. Smith RS, Gutierrez-Arcelus M, Tran CW, Park S, Couter CJ, ***Lee C.** Structural diversity in the human genome and its impact on disease susceptibility. In: *Encyclopedia of Life Sciences* (ELS). Chichester: John Wiley & Sons, Ltd. p. 1-12, 2008.

6. Morton CC, ***Lee C.** Cytogenetics in Reproduction. In: Strauss JF, Barbieri R, editors. *Yen and Jaffe's Reproductive Endocrinology, Sixth Edition*. New York: Elsevier. p. 31.1-11, 2009.

7. Ligon AH, Morton CC, Bieber FR, Fletcher JA, Giersch AB, Kantarci S, Leach N, **Lee C,** Sandstrom M, Weremowicz S, Xiao S, Dal Cin P. Reporting of Diagnostic Cytogenetic Results. In: Dracopoli NC, Haines JL, Korf BR, Morton CC, Seidman CE, Seidman JG, Smith DR, editors. *Current Protocols in Human Genetics*. New York: John Wiley and Sons. p. A.1D.1-23, 2010.

8. Dobrinski KP, Brown KH, Freeman JL, ***Lee C.** Molecular cytogenetic methodologies and a BAC probe panel resource for genomic analyses in the zebrafish. In: Detrich HW, Westerfield M, Zon LI, editors. *Zebrafish*, Fourth Edition. Cellular & Developmental Biology and Genetics, Genomics & Informatics; *Methods Cell Biol*. 104: 237-57, 2011.

9. Choi Y, Lee S, Kim K, Kim SH, Chung YJ, **Lee C.** Studying cancer immunotherapy using patient-derived xenografts (PDXs) in humanized mice. Exp Mol Med 2018 Aug 7;50(8):99. doi 10.1038/s12276-018-0115-0. PMID: 30089794

Non Print Materials

1. **Lee C.** Widespread structural variations in the human genome. 2007, In He, M. (ed.), Using bioinformatics in the exploration of genetic diversity: Fundamentals and recent advances, The Biomedical & Life Sciences Collection, Henry Stewart Talks Ltd, London.

Theses

1. Lee C. Tandemly repetitive DNA in the karyotypic and phylogenetic evolution of *Cervidae* species [M.Sc. dissertation]. Edmonton (Alberta): University of Alberta; 1993.

2. Lee C. Two mammalian centromeric satellite DNA families [Ph.D. dissertation]. Edmonton (Alberta): University of Alberta; 1996.

Invited Presentations

1993 Plenary Presentation (Selected abstract), American Cytogenetics Conference, Genetics and IVF Institute, Virginia
1995 Platform Presentation, Workshop in Mammalian Chromosome Structure and Function, The Jackson Laboratory, Bar Harbor, ME
1996 Seminar, Baylor College of Medicine, Department of Molecular and Human Genetics, Houston, TX
1998 Plenary Presentation, First International Conference on Mammalian Centromere, Chung Shan Medical & Dental College, Taichung, Taiwan
1998 Seminar, Seoul National University, Department of Obstetrics and Gynecology, Seoul, South Korea
1998 Seminar, Chung Shan Medical and Dental College, Department of Life Sciences, Taichung, Taiwan
2000 Platform Presentation, New England Biological Sciences Association, Boston, MA
2000 Plenary Presentation, Boston Clinical Genetics Group Meeting, Genetics and IVF Institute, Boston, MA
2000 Seminar, Pathology Research Seminar Series, Brigham and Women's Hospital, Division of Molecular Oncology
2001 Plenary Presentation, 2001 Annual Clinical Genetics Meeting, Miami, FL
2001 Plenary Presentation, New England Regional Genetics Group Annual Meeting, University of New Hampshire, Durham, NH
2003 Seminar, Vanderbilt University, Department of Medicine, Nashville, TN
2003 Platform Presentation (Selected abstract), Annual Meeting of the American Society of Human Genetics, American Society of Human Genetics, Los Angeles, CA
2003 Seminar, Northeastern University, Department of Pharmaceutical Sciences, Boston, MA
2004 Platform Presentation, Innovative application of CGH microarrays, Annual American Society of Human Genetics Meeting, Los Angeles, CA
2004 Seminar, Genetic Grand Rounds, Erasmus University Medical Center, Department of Surgery and Genetics, Rotterdam, Netherlands
2004 Seminar, University of Toronto Sick Children's Hospital, Department of Genetics, Toronto, Canada
2004 Seminar, Pediatric Grand Rounds, University of Alberta, Faculty of Medicine, Department of Pediatrics, Edmonton, Canada
2004 Amgen Invited Lecturer, Texas Children's Hospital, Baylor College of Medicine, Department of Pediatrics, Houston, TX
2004 Guest Lecturer, MS Degree Program in Genetic Counseling, Brandeis University, Boston, MA
2004 Seminar, Genzyme Genetics, Westborough, MA
2005 Platform Presentation, International Human Genome Meeting, Kyoto, Japan
2005 Platform Presentation, European Congress of Human Genetics, Prague, Czech Republic
2005 Plenary Presentation, Decipher Symposium, Sanger Institute, Hinxton, UK
2005 Keynote Address, Standardization of array-CGH results, Sanger Institute, Hinxton, UK
2005 Plenary Presentation, Genome Structural Variation Symposium, Faculty Club, University of Toronto, Canada
2005 Keynote Address, 7th International Conference on Genetic Variation, Leicester, UK
2005 Seminar, Seoul National University School of Medicine, Stem Cell Research Center, Seoul,

South Korea
2005 Seminar, Yonsei University College of Medicine, Cancer Research Center, Seoul, South Korea
2005 Seminar, Yale University, Department of Genetics, New Haven, CT
2005 Seminar, Children's Hospital of Oakland Research Institute, Oakland, CA
2005 Keynote Address, Genomic Variation-Beyond the Genome, San Francisco, CA
2005 Platform Presentation, 4th Structural Birth Defects Meeting, National Institutes of Health, William Bolgers Center, Bethesda, MD
2005 Seminar, University of Utah, Department of Human Genetics, Salt Lake City, UT
2005 Seminar, Genetic Grand Rounds, Tufts University and New England Medical Center, Boston, MA
2005 Plenary Presentation, Microarrays in Medicine, Boston, MA
2005 Platform Presentation, Strategic Conference of Zebrafish Investigators, Mount Desert Island Biological Laboratory, Bar Harbor, ME
2005 Platform Presentation, Gordon Research Conference, Human Genetics and Genomics, Salve Regina University, Newport, RI
2005 Guest Lecturer, Marine Biological Laboratory Course on new genetics technologies, Woods Hole, MA
2005 Seminar, Dana Farber Cancer Institute, Dept Oncology, Boston, MA
2005 Pediatric Grand Rounds, Massachusetts General Hospital, Dept Pediatrics, Boston, MA
2005 Medical and Population Genetics Seminar Series, Broad Institute, Boston, MA
2006 Seminar, Centre de Regulacio Genomica, Pompeu Fabra University, Barcelona, Spain
2006 Keynote Address, Wellcome Trust Advanced Course on High Resolution Molecular Cytogenetics, Sanger Center, Hinxton, UK
2006 Seminar, Centro de Ciencias Genomicas – UNAM, Cuernavaca, Mexico
2006 Plenary Presentation, International Conference of Prental Diagnosis, Kyoto, Japan
2006 Plenary Presentation, International Conference of Human Genetics, Brisbane, Australia
2006 Plenary Presentation, Human Genetic Variation Meeting, Hong Kong
2006 Seminar, Prince of Wales Hospital, Department of Obstetrics and Gynecology, Hong Kong
2006 Seminar, Genome Institute of Singapore, Singapore
2006 Plenary Presentation, Congreso Nacional de Medicina Genomica, Mexico City, Mexico
2006 Plenary Presentation, International Symposium on Applied Genomics, Tokyo, Japan
2006 Plenary Presentation, Genome Sequence Variation and Inherited Basis of Common Disease and Complex Traits, Keystone Symposia, Big Sky, MO
2006 Seminar, Arizona State University, Department of Anthropology, Tempe, AZ
2006 Keynote Address, American Cytogenetic Conference, Emerald Point, GA
2006 Platform Presentation (Selected abstract), Annual Meeting of the American Society of Human Genetics, American Society of Human Genetics, New Orleans, LA
2006 Seminar, Leukemia and Lymphoma Society Meeting, Leukemia and Lymphoma Society, San Diego, CA
2006 Plenary Presentation, Genome Sequence Variation and Inherited Basis of Common Disease and Complex Traits
2006 Seminar, New England Primate Resource Center, Marlborough, MA
2006 Plenary Presentation, Banbury Center, Cold Spring Harbor Laboratory, NY
2006 Plenary Presentation, Chips to Hits, Boston, MA
2006 Seminar, University of Massachusetts, Department of Laboratory Medicine, Worcester, MA
2006 Plenary Presentation, New England Regional Genetics Group (NERGG) Annual Meeting, New England Regional Genetics Group (NERGG), Durham, NH

2006 Brigham Research Institute Seminar, Brigham and Women's Hospital
2006 Platform Presentation, Broad Retreat 2006, Broad Institute, Boston, MA
2007 Seminar, University of Alberta, Department of Medical Genetics, Edmonton, Canada
2007 Keynote Address, Wellcome Trust Advanced Course on High Resolution Molecular Cytogenetics, Sanger Center, Hinxton, UK
2007 Keynote Address, INSERM Meeting on Polymorphism and genome rearrangements, Toulon, France
2007 Seminar, University of Michigan, Department of Human Genetics, Ann Arbor, MI
2007 Seminar, Jackson Laboratory, Bar Harbor, ME
2007 Plenary Presentation, World Congress of Psychiatric Genetics, World Congress of Psychiatric Genetics, New York, NY
2007 Platform Presentation, Applied Biosystems Workshop, American Society of Human Genetics Annual Meeting, San Diego, CA
2007 Plenary Presentation, International Society for Genetic Epidemiology Meeting, Harvard School of Public Health, Boston, MA
2007 Plenary Presentation, Microarray CGH Symposium, Agilent Technologies, Boston, MA
2007 Seminar, Framingham Heart Study, Boston University Medical Center, Boston, MA
2007 Seminar, Genetic Grand Rounds, Tufts University, Boston, MA
2007 Department of Experimental Pathology, Beth Israel Deaconess Hospital
2008 Keynote Address, First Symposium of the Integrated Research Center for Genome Polymorphism, Seoul, South Korea
2008 Keynote Address, 8th Annual Meeting of the Belgium Human Genetics Society, Belgium Human Genetics Society, Leuven, Belgium
2008 Platform Presentation, 3rd Annual DECIPHER meeting, Sanger Center, UK
2008 Plenary Presentation, New Genetics Workshop, Clinical Nutrition Research Center, University of Alabama at Birmingham, Birmingham, AL
2008 Plenary Presentation, Short Course on the Genetics and Epigenetics of Addiction, National Institute on Drug Abuse, National Institutes of Health, Bethesda, MD
2008 Platform Presentation, 1000 Genome Project Meeting, Cold Spring Harbor Laboratories, NY
2008 Platform Presentation, Molecular Cytogenetics Consortium Workshop, Emory University, Atlanta, GA
2008 Plenary Presentation, Genome-wide Association: Genes Environment, and Health Initiative, National Institute of Heart, Lung and Blood, National Institutes of Health, Bethesda, MD
2008 Platform Presentation, Affymetrix Cytogenetics Community Workshop, Affymetrix, Baltimore, MD
2008 Seminar, Department of Human Genetics, Emory University, Atlanta, GA
2008 Seminar, Boston University School of Medicine, Department of Pathology, Boston, MA
2008 Seminar, Distinguished Lecturer Series in Genome-Wide Association Studies, Harvard School of Public Health
2008 Seminar, Center for Integration of Medicine and Innovative Technology (CIMIT), Harvard Medical School
2009 Plenary Presentation (Selected abstract), European Society of Human Genetics Annual Meeting, European Society of Human Genetics, Vienna, Austria
2009 Seminar, Kyung Hee University, Seoul, South Korea
2009 Keynote Address, Annual Meeting for the Korean Society of Medical Biochemistry and Molecular Biology, Korean Society of Medical Biochemistry and Molecular Biology, Seoul, South Korea

2009 Plenary Presentation, Frontiers in Cancer Sciences, Singapore
2009 Seminar, Department of Pathology, Johns Hopkins Hospital, Baltimore, MD
2009 Plenary Presentation, Gordon Conference on Quantitative Genetics and Genomics, Galveston Island, TX
2009 Plenary Presentation, Cambridge Healthtech Institute on Understanding Copy Number Variation, Cambridge Healthtech Institute, San Diego, CA
2009 Platform Presentation (Selected abstract), Annual Meeting of the American College of Medical Genetics, American College of Medical Genetics, Tampa, FL
2009 Plenary Presentation, Genetics and Environmental Mutagenesis Society, Environmental Protection Agency, Research Triangle Park, NC
2009 Seminar, Department of Genetics and Genomics, Mount Sinai Hospital, New York, NY
2009 Plenary Presentation, Molecular Biology of Hearing and Deafness, Harvard Medical School, Boston, MA
2009 Seminar, MGH Reproductive Endocrine Conference Series, Harvard Medical School
2009 Seminar, HMS Pathology Graduate Program Retreat, Harvard Medical School
2009 Seminar, Program in Quantitative Genetics, Harvard School of Public Health
2009 Plenary Presentation, Molecular Biology of Hearing and Deafness, Harvard Medical School
2009 Plenary Presentation, Pathology Retreat, Harvard Medical School
2010 Seminar, University of Melbourne, Murdoch Childrens Research Institute, Melbourne, VIC, Australia
2010 Plenary Presentation, 4th Asia Pacific Nutrigenomics Conference, Auckland, New Zealand
2010 Plenary Presentation, 15th International Conference on Prenatal Diagnosis, Amsterdam, Netherlands
2010 Plenary Presentation, Annual Meeting of the Korean Biological Sciences Society, Seoul, South Korea
2010 Plenary Presentation, AnEUploidy Workshop, Split, Croatia
2010 Keynote Address, George Brumley Jr. Lecture, Duke University Medical School, Department of Pediatrics, Durham, NC
2010 Plenary Presentation, 51st Annual Short course on Medical and Experimental Mammalian Genetics, The Jackson Laboratory, Bar Harbor, ME
2010 Plenary Presentation, Institute of Genomic Medicine at UCSD, University of California at San Diego
2010 Seminar, Biological and Biomedical Sciences Program, Harvard Medical School
2011 Plenary Presentation, Human Genome Organization (HUGO) Annual Meeting, Dubai, United Arab Emirates
2011 Plenary Presentation, Korean Academy of Science and Technology Meeting, Seoul, South Korea
2011 Plenary Presentation, 18th International Chromosome Conference, University of Manchester, Manchester, UK
2011 Plenary Presentation, Recent Advances in Clinical Genetics using High Throughput Technologies, Chinese University of Hong Kong, Hong Kong
2011 Plenary Presentation, Keystone Symposia – Functional Consequences of Structural Variation in the Genome, Sheraton Steamboat Resort, Steamboat Springs, CO
2011 Plenary Presentation, International Standardization Cytogenomic Array Meeting, Emory University, Atlanta, GA
2012 Plenary Presentation, Personalized Genomic Medicine Meeting, Seoul, South Korea
2012 Plenary Presentation, Human Genome Organization (HUGO) Annual Meeting, Sydney, Australia

2012 Seminar, Karolinska Institute, Stockholm, Sweden
2012 Plenary Presentation, Chromosome-Centric Human Proteome Project (C-HPP) Workshop, Beijing, China
2012 Seminar, Peking Medical College, Beijing, China
2012 Seminar, Frontiers in Genomics – National University of Mexico – Cuernevaca, Cuernevaca, Mexico
2012 Plenary Presentation, Annual Meeting of the Asian Clinical Oncology Society, Seoul, South Korea
2012 Plenary Presentation, Human Genome Variation Annual Meeting, Shanghai, China
2012 Seminar, Albert Einstein College of Medicine, Montefiore University Hospital, Department of Pathology
2012 Plenary Presentation, 53rd Annual Short Course on Medical and Experimental Mammalian Genetics, The Jackson Laboratory, Bar Harbor, ME
2012 Plenary Lecture, Meeting of the North Carolina Cytogenetics Group, Renaissance Asheville Hotel, Asheville, NC
2012 Keynote Address, Pathology Research Day, Medical University of South Carolina, Charleston, SC
2012 Seminar, Pathology Grand Rounds, University of Rochester, Rochester, NY
2012 Seminar, Center for Human Genetics, Katholic University of Leuven, Leuven, Belgium
2012 Plenary Presentation, Annual Genetics Retreat, Harvard Medical School
2012 Plenary Presentation, Harvard Catalyst Course – Genetic Literacy, Harvard Medical School
2013 Plenary Presentation, 9th European Cytogenetics Conference, Dublin, Ireland
2013 Plenary Presentation, 19th International Chromosome Conference, University of Bologna, Italy
2013 Laboratory Medicine and Pathology Grand Rounds, University of Minnesota, Minneapolis, MN
2013 Annual Meeting for the Society for Molecular Biology and Evolution / Platform Presentation Chicago, IL
2013 Seminar, University of Bialystok, Bialystok, Poland
2013 Plenary Lecture, Annual Meeting for the Association for Molecular Pathology, Phoenix, AZ
2013 Plenary Presentation, New England Regional Genetics Group Annual Meeting
2013 Lecture, NERGG (New England Regional Genetics Group) Annual Meeting, Portsmouth, NH
2014 Seminar, Department of Computational Biology and Bioinformatics, Yale University
2014 Seminar, University of Connecticut Health Center Institute for Systems Genomics Annual Networking Workshop, Storrs, CT
2014 Lecture, Medical University of Białystok, Poland, Bialystock, Poland
2014 Lecture, Korean Endocrine Society Meeting, Moojoo, South Korea
2015 Seminar, Hudson Alpha Institute for Biotechnology, Huntsville, AL
2015 Lecture, Seoul National Cancer Hospital Symposium, Seoul, South Korea
2015 Lecture**,** Seoul International Symposium of Surgical Oncology, Seoul, South Korea
2015 Lecture, Brigham and Women's Hospital Pathology Grand Rounds
2015 Seminar, Connecticut Children's Medical Center Pediatric Translational Seminar Series, Farmington, CT
2015 Seminar, Children's Hospital of Philadelphia, Philadelphia, PA
2015 Seminar, Hudson Alpha, Huntsville, AL
2016 Seminar, Boston University, Boston, MA
2016 Keynote Speaker, Center for Genomic Medicine Retreat, Medical University South Carolina, Charleston, SC

2016 Keynote Speaker, NYU Annual Genomics Symposium, New York University, New York, NY
2016 Seminar, RIKEN, Yokohama, Japan
2016 Lecture, World Korea Conference, Seoul, South Korea
2016 Plenary Lecture, 25th KOGO Annual Conference, Seoul, South Korea
2016 Lecture, Gwangju Institute of Science and Technology (GIST), Gwangju, South Korea
2016 Grand Rounds, Dartmouth College, Hanover, NH
2016 Seminar, Horizons in Genomic Research Seminar Series, National University of Mexico, Queratarо, Mexcio
2016 Seminar, Shenzhen University Luohu Hospital, Shenzhen, China
2017 Plenary Lecture, Patient Derived Xenograft Workshop, Academica Sinica, Taipei, Taiwan
2017 Seminar, Chinese University of Hong Kong, Hong Kong
2017 Keynote Speaker, Asian Pan Cancer Conference, Seoul, South Korea
2017 Plenary Speaker, RIKEN-MARC-KMPC Mouse Workshop, Incheon, South Korea
2017 Plenary Speaker, PacBio Workshop, American Society for Human Genetics Annual Meeting, Orlando, FL, USA
2017 Seminar, School of Electronic and Information Enginnering, Xi'an Jiaotong University, Xi'an, China
2018 Seminar, Harvard Medical School BBS Bootcamp, Boston, MA
2018 Lecture, Tri-Institutional System Cell Retreay, New Haven, CT
2018 Lecture, SMRT Leiden, Leiden, Netherlands
2018 Seminar, Maine Cancer Center Genomics Initiative (MCGI), Augusta, ME
2018 Seminar, AmorePacific Corporation, South Korea
2018 Seminar, University North Carolina, Charlotte, Charlotte, NC
2018 Lecture, Korea Advanced Institute of Science and Technology, South Korea
2018 Lecture, International Colloquim – Horizons in Genomic Sciences 2018, Cancun, Mexico

MAJOR ADMINISTRATIVE LEADERSHIP POSITIONS

Committee Service

2005 Steering Committee, Standardization of aCGH, Wellcome Trust/Sanger Cente
2005-2006 Steering Committee, Structural Variation & Diseases, Wellcome Trust/Sanger Center
2006-2008 Steering Committee, Structural Variation Consortium, NHGRI/NIH
2006-2013 Working Group, Center for Human Genetics, BWH Research Institution
2006-2010 Member, Clinical Advisory Committee, NICMS Prenatal Microarray Study
2007-2010 Member, Program Committee, American Society of Human Genetics
2007-2013 Working Group, Center for Advanced Molecular Diagnostics, Brigham and Women's Hospital
2008-2010 Scientific Advisory Board, Center of Excellence for Genome Sciences, Yale University
2009-2013 Director, Board of Directors, Cancer Cytogenomics Microarray Consortium
2009-2013 GeT-RM CMA Reference Member, Laboratory Science and Standards, Centers for Disease Control and Prevention
2009-2010 Member, Advisory Committee, International Standardization Cytogenetic Array
2010 Consultant, Molecular and Clinical Genetics Panel, Food and Drug Administration (FDA)
2011 Task Force for use of Microarray, International Society for Prenatal Diagnosis
2011 Member, Task Force for use of Microarray Technology in Prenatal Diagnosis,

	International Society for Prenatal Diagnosis
2013-present	Advisory Board Member, Connecticut Biosciences Innovation Fund
2017-present	External Advisory Board, Gabriella Miller Kids First Pediatric Research Program, NIH/NICHD
2018	Advisor, Epigenetics and genetics within the Environmental Influences on Child Health Outcomes (ECHO), NIH/NICHD

Professional Societies

1992-present	Member, American Society of Human Genetics
1993-present	Member, American College of Medical Genetics
1994-present	Member, Canadian Society of Biochemistry and Molecular Biology
2002-present	Member, American Board of Medical Genetics

Grant Review Activities

2004	Genome Canada Grant Competition, NIH/NCRR, *Ad hoc* Reviewer
2005	National Science Foundation, *Ad hoc* Reviewer
2006	Child Health Research Foundation, Cure Kids New Zealand, *Ad hoc* Reviewer
2007	Program Project Grants in Molecular Oncology, NIH/NCI, *Ad hoc* Reviewer
2008	Wellcome Trust Individual Grants, Wellcome Trust, *Ad hoc* Reviewer
2008	Clinical / Biomedical R&D, US Dept. of Veterans Affairs, *Ad hoc* Reviewer
2008	Genes Health & Development Study Section, NIH, *Ad hoc* Reviewer
2009-2010	Pilot Grants, Autism Speaks
2009	ARRA RC1 Grants, NIH, *Ad hoc* Reviewer
2009	Harvard Catalyst Pilot Grants, Harvard Catalyst Program, *Ad hoc* Reviewer
2009-2016	Genetics of Health and Disease Study Section, Standing Study Section Member, *Ad hoc* Reviewer
2010	GWAS Sequencing Grants, NIH, *Ad hoc* Reviewer
2017	Integration and Validation of Emerging Technologies to Accelerate Cancer Research, NIH/NCI, *Ad hoc* Reviewer
2017	New and Early Stage Investigator Research Program, Suh Kyung Bae Foundation, *Ad hoc* Reviewer
2017-2018	NIH Transformative RO1 Grants, NIH, *Ad hoc* Reviewer

Editorial Activities

***Ad hoc* Reviewer:**

American Journal of Human Genetics	Nature Methods
Genetics in Medicine	Nature Reviews Genetics
Genome Research	Nucleic Acids Research
Human Genetics	npj Genomic Medicine
Human Molecular Genetics	Proceedings of the National Academy of Sciences USA
Nature	Science
Nature Genetics	Trends in Genetics

Other Editorial Roles:

2009-2011 Associate Editor, American Journal of Human Genomics
2012-present Editorial Board, Experimental and Molecular Medicine
2015-present Associate Editor, Human Genomics
2015-present Associate Editor, Genomic Medicine

CLINICAL ACTIVITIES AND INNOVATIONS

Current Certification
2002-present American Board of Medical Genetics (Clinical Cytogenetics)

Practice Activities
2002-2013 Clinical Cytogenetic signout, Brigham and Women's Hospital, 20%

Technological and Other Scientific Innovations

US patent assigned: #7,718,369 – Recurrent gene fusions in prostate cancer. Chinnaiyan A, Tomlins S, Rhodes D, Mehra R, Rubin MA, Sun X-W, Demichelis F, Perner S, Lee C, inventors; Regents of the University of Michigan and The Brigham and Women's Hospital, Inc. assignees.

Korea patent assigned: # 10-2018-0020009 – A predictive marker for treating adenocarcinoma of gastroesophageal junction.Yun-Suhk Suh, Deukchae Na, Charles Lee, Han-Kwang Yang, inventors; Seoul National University Hospital and Ewha Womans University. assignees.

US patent assigned 62/731,738 - Methods and Apparatus for Detecting Copy Number Variations in a Genome, Provision Application, September, 2018 W.P. Lee, CZ Zhang, Q. Zhu, C. Lee