Senthil K Muthuswamy, PhD
Margaret Lau Chair, Senior Scientist, Princess Margaret Cancer Centre, Toronto, Canada
Professor, Departments of Molecular Biophysics and Cell and Systems Biology, University of Toronto

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Degrees and Academic Qualifications

1987	B.Sc., Agric. Sciences, Tamil Nadu Agric. Univ., India
1989	M.Sc., Genetics, Indian Agric. Res. Institute, India
1991	M.Sc., Biology, McMaster University, Canada
1995	Ph.D., Dept of Biology, McMaster University, Canada

Academic and Professional Positions

1995 - 1997	Postdoctoral Fellow, ARIAD Pharmaceuticals, Cambridge, MA
1997 - 2001	Postdoctoral Fellow, Dept. of Cell Biology, Harvard Medical School, Boston, MA Mentor: Joan S. Brugge, Ph.D.
2001 - 2006	Assistant Professor, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
2001 - 2014	Adjunct Faculty, Dept. Molecular Genetics & Microbiology, Stony Brook University, NY
2004	Director, Undergraduate Research Program, Watson School of Biological Sciences, Cold Spring Harbor Laboratory, NY
2005 - 2013	Adjunct Faculty, Dept. Molecular & Cellular Biology, Stony Brook University, NY
2007 - 2014	Associate Professor, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
2008 -	Senior Scientist, Lee K. and Margaret Lau Chair, Princess Margaret Cancer Center and Campbell Family Cancer Institute, University of Toronto, Toronto, Canada
2010 -	Professor, Medical Biophysics, University of Toronto, Toronto, Canada
2011 -	Professor, Cell & Systems Biology, University of Toronto, Toronto, Canada

Honours and Awards

1983 - 1987	Tamil Nadu Agricultural University - Governors Gold Medal for academic excellence - Chancellors Prize for academic excellence - Gupta Memorial Endowment Prize for academic excellence
1987 - 1989	Merit Scholarship, Indian Council of Agricultural Research, New Delhi, India
1989 - 1995	Canadian International Developmental Agency (CIDA) Fellowship, McMaster University
2002 - 2004	The V Foundation Scholar Award
2004 - 2007	Rita Allen Foundation Scholar Award
2008 - 2013	Era of Hope Scholar award, Department of Defense, US Army
2009	Leaders Opportunity Fund Award, Canada Foundations for Innovation
2010	CSBMCB Young Investigator Award for outstanding research accomplishments (Formerly Merck-Frost Prize)

Teaching Awards

2005 - 2006 Leslie Quick Scholar in Scientific reasoning and logic, Watson School of Biological Sciences (WSBS), CSHL, NY

2006 - 2007 Leslie Quick Scholar in Scientific reasoning and logic, Watson School of Biological Sciences, CSHL, NY

Student/Trainee Awards

2003 - 2006	Bin Xiang	Postdoctoral Award	US Army, DOD
2003 - 2006	Marissa Nolan	Predoctoral Award	US Army, DOD
2003 - 2006	Alexandra Lucs	Predoctoral Award	US Army, DOD
2005 - 2008	Avi Rosenberg	Predoctoral Award	US Army, Dod
2007 - 2008	Samit Chatterjee	Postdoctoral Award	Terri Broudeur
2010 - 2013	Mike Feigin	Postdoctoral Award	American Cancer Society
2010 - 2012	Elaine McSherry	Postdoctoral Award	HRB/Marie Curie Fellowship
2012 - 2015	Laurie Siefried	Predoctoral Awared	BCRF
2013 - 2014	Weiyue Zhang	Postdoctoral Award	George Knudson Fellowship

Professional Affiliations and Activities

1999 - American Society for Cell Biology

2005 - American Association for Cancer Research

2010 - Canadian Society for Biochemistry and Molecular and Cellular Biology (CSBMCB)

Administrative Activities

2002 - 2005 Instructor, Scientific Reasoning and Logic, Watson School of Biological Sciences (WSBS), Cold Spring Harbor Laboratory

2004 Postdoctoral Development Committee, Watson School of Biological Sciences, Cold Spring Harbor Laboratory

2004 Director, Undergraduate Research Program, Watson School of Biological Sciences, Cold Spring Harbor Laboratory

2005 - 2006 Lead Instructor, Scientific Reasoning and Logic, Watson School of Biological Sciences, Cold Spring Harbor Laboratory.

2007 - 2010 Member, Admissions committee, MCB/BGE graduate programs, Stony Brook University, NY.

2009 - 2011 Organizer, Epithelial Biology Working group, Princess Margaret Cancer Centre

2009 - 2014 Chair, OCI seminar series committee, Princess Margaret Cancer Centre, Toronto

2011 - 2013 Chair, Pancreatic Cancer Faculty Search Committee, Ontario Cancer Institute, Toronto

2010 - present Research Executive Committee, Princess Margaret Cancer Centre

2010 - present Research Council on Oncology, Princess Margaret Cancer Centre

2010 - present Chair, Space Committee, Princess Margaret Cancer Centre

2011 - present Member, Executive Committee, Department of Molecular Biophysics, University of Toronto.

2012 - present Chair, Admissions committee, Molecular Biophysics Graduate program, Biology Stream, University of Toronto

2012 - 2014 Chair, Move committee. Coordinated setting-up new space and moving about 30 laboratories to new laboratory space (Total staff moving: approximately 300).

Peer Review Activities

2002 - Adhoc reviewer for several journals including:

	Cell family of journals, Nature family of journals, PLoS, Science Signaling, Science, EMBO J, Cancer Research, Mol. Cell. Biol, J.Cell. Biol, Genes and Dev and PNAS
2005 - 2009	Adhoc Member, Intercellular interactions (ICI) Study Section, NCI Scientific Review Group
2006	Member, Tumor Microenvironmental Network, NCI Scientific Review Group
2009	Cancer Progression and Therapeutics, Review panel member, CIHR
2010	Cancer Progression and Therapeutics, Review panel member, CIHR
2012	Cancer Progression and Therapeutics, Review panel member, CIHR
2013	Innovation grant review panel, Canadian Cancer Society
2006 - present	Member, External advisory committee, Program Project Grant on Functional Development of the Mammary Gland. PI: Margaret Neville, University of Colorado
2012 - 2014	Editorial Board, Molecular and Cellular Biology
2013 - present	Editorial Board, Molecular Cancer Research
2014 - present	Member, Cell Structure and Metastasis review panel. American Cancer Society
2014 - present	Member, NCI Program project (PO1), Special emphasis panel, NIH
2010 - 2015	Full Member, Intercellular interactions (ICI) Study Section, NCI Scientific Review Group

Publications

1. Krishnan N, Koveal D, Miller DH, Xue B, Akshinthala SD, Kragelj J, Jensen MR, Gauss CM, Page R, Blackledge M, **Muthuswamy SK**, Peti W, Tonks NK. Targeting the disordered C terminus of PTP1B with an allosteric inhibitor. Nat Chem Biol. 2014 Jul;10(7):558-66.2014 May 20. doi: 10.1038/nchembio.1528. Epub 2014 May 20.
2. Feigin ME, Xue B, Hammell MC, **Muthuswamy SK**. G-protein-coupled receptor GPR161 is overexpressed in breast cancer and is a promoter of cell proliferation and invasion. Proc Natl Acad Sci U S A. 2014 Mar 18;111(11):4191-6. doi: 10.1073/pnas.1320239111. Epub 2014 Mar 5.
3. Feigin ME, Akshinthala D, Araki K, Rosenberg AZ, Muthuswamy LB, Martin B, Lehmann BD, Berman HK, Pietenpol JA, Cardiff RD and **Muthuswamy SK**. Mislocalization of the cell polarity protein Scribble promotes mammary tumorigenesis and is associated with basal breast cancer. Cancer Res. 2014 Jun 1;74(11):3180-94. doi: 10.1158/0008-5472.CAN-13-3415. Epub 2014 Mar 24.
4. Xue B, Krishnamurthy K, Allred CA, **Muthuswamy SK**. Loss of Par3 promotes breast cancer metastasis by compromising cell-cell cohesion. Nat Cell Biol. 2013 Feb;15(2):189-200. doi: 10.1038/ncb2663. Epub 2012 Dec 23.
5. Wang H, Lacoche S, Huang L, Xue B**, Muthuswamy SK**. Rotational motion during three-dimensional morphogenesis of mammary epithelial acini relates to laminin matrix assemble, Proc Natl Acad Sci U S A. 2013 Jan 2;110(1):163-8. doi: 10.1073/pnas.1201141110. Epub 2012 Dec 17.
6. Yang Z, Xue B, Umitsu M, Ikura M, **Muthuswamy SK**, Neel BG. The signaling adaptor GAB1 regulates cell polarity by acting as a PAR protein scaffold. Mol Cell. 2012 Aug 10;47(3):469-83. doi: 10.1016/j.molcel.2012.06.037.
7. **Muthuswamy SK.** Autocrine prolactin: an emerging market for homegrown (prolactin) despite the imports. Genes Dev. 2012 Oct 15;26(20):2253-8. doi: 10.1101/gad.204636.112
8. **Muthuswamy SK**, Xue B. Cell polarity as a regulator of cancer cell behavior plasticity. Annu Rev Cell Dev Biol. 2012;28:599-625. doi: 10.1146/annurev-cellbio-092910-154244. Epub 2012 Aug 6.
9. Yu M, Lin G, Arshadi N, Kalatskaya I, Xue B, Haider S, Nguyen F, Boutros PC, Elson A, Muthuswamy LB,

Tonks NK, **Muthuswamy SK**. Expression profiling during mammary epithelial cell three-dimensional morphogenesis identifies PTPRO as a novel regulator of morphogenesis and ErbB2-mediated transformation. Mol Cell Biol. 2012 Oct;32(19):3913-24. doi: 10.1128/MCB.00068-12. Epub 2012 Jul 30.

10. Chatterjee S, Seifried L, Feigin ME, Gibbons DL, Scuoppo C, Lin W, Rizvi ZH, Lind E, Dissanayake D, Kurie J, Ohashi P, **Muthuswamy SK**. Dysregulation of cell polarity proteins synergize with oncogenes or the microenvironment to induce invasive behavior in epithelial cells. PL0S One. 2012;7(4):e34343. Epub 2012 Apr 18.
11. Anczuków O, Rosenberg AZ, Akerman M, Das S, Zhan L, Karni R, **Muthuswamy SK**, Krainer AR., The splicing factor SRSF1 regulates apoptosis and proliferation to promote mammary epithelial cell transformation. Nat Struct Mol Biol. 2012 Jan 15;19(2):220-8. doi: 10.1038/nsmb.2207.
12. Lin G, Aranda V, **Muthuswamy SK**, Tonks NK., Identification of PTPN23 as a novel regulator of cell invasion in mammary epithelial cells from a loss-of-function screen of the 'PTP-ome'. Genes Dev. 2011 Jul 1;25(13):1412-25. doi: 10.1101/gad.2018911.
13. Simpson DR, Yu M, Zheng S, Zhao Z, **Muthuswamy SK**, Tansey WP. Epithelial cell organization suppresses Myc function by attenuating Myc expression. Cancer Res. 2011 Jun 1;71(11):3822-30. doi: 10.1158/0008-5472.CAN-10-3782. Epub 2011 May 24
14. **Muthuswamy SK**. Trastuzumab resistance: all roads lead to SRC. Nat Med. 2011 Apr;17(4):416-8. doi: 10.1038/nm0411-416.
15. Keys WM, Pecoraro M, Aranda V, Vernersson-Lindahl E, Li W, Vogel H, Guo X, Garcia EL, Michurina TV, Enikolopov G, **Muthuswamy SK**, Mills AA. ΔNp63α Is an Oncogene that Targets Chromatin Remodeler Lsh to Drive Skin Stem Cell Proliferation and Tumorigenesis. Cell Stem Cell. 2011 Feb 4;8(2):164-76.
16. **Muthuswamy SK**. 3D culture reveals a signaling network. Breast Cancer Res. 2011 Jan 27;13(1):103. Epub adhead of print.
17. Arias-Romero LE, Villamar-Cruz O, Pacheco A, Kosoff R, Huang M, **Muthuswamy SK**, Chernoff J. A Rac-Pak signaling pathway is essential for ErbB2-mediated transformation of human breast epithelial cancer cells. Oncogene. 2010 Oct 28;29(43):5839-49 Epub Aug 16.
18. Cabodi S, Tinnirello A, Bisaro B, Tornillo G, Camacho-Leal MD, Forni G, Cojoca R, Iezzi M, Amici A, Montani M, Eva A, Di Stefano P, **Muthuswamy SK**, Tarone G, Turco E, Defilippi P. p130Cas is an essential transducer element in ErbB2 transformation. FASEB J. 2010 Oct;24(10):3796-808. Epub May 26. (Collaborator)
19. Ling C, Zuo D, Xue B, **Muthuswamy S**, Muller WJ., A novel role for 14-3-3σ in regulating epithelial cell polarity. Genes Dev. 2010 May;24(9);947-956.
20. Huang L, **Muthuswamy S.K**. Polarity protein alterations in carcinoma: a focus on emerging roles for polarity regulators. Curr Opin Genet Dev. 2010 Feb;20(1):41-50. Epub 2010 Jan 21.
21. **Muthuswamy S**. A new road map for cancer. Interview by Caitlin Sedwick. J Cell Biol. 2009 Oct 19;187(2):152-3.
22. Lucs AV, Muller WJ, **Muthuswamy SK**. Shc is required for ErbB2-induced inhibition of apoptosis but is dispensable for cell proliferation and distruption of cell polarity. Oncogene. 2010 Jan 14;29(2):174-87. Epub 2009 Oct 12.
23. Feigin ME, **Muthuswamy SK**. Polarity proteins regulate mammalian cell-cell junctions and cancer pathogenesis. Curr Opin Cell Biol, 2009 Oct;21(5):694-700. Epub 2009 Sep 2. Review.
24. **Muthuswamy SK**. A new tumor suppressor that regulates tissue architecture. PLoS Med. 2009 May 26;6(5):e1000073. Epub 2009 May 5.

25. Silva JM, Ezhkova E, Silva J, Heart S, Castillo M, Campos Y, Castro V, Bonilla F, Cordon-Cardo C, **Muthuswamy SK**, Powers S, Fuchs E, Hannon GJ. Cyfip1 is a putative invasion suppressor in epithelial cancers. Cell. 2009 Jun 12;137(6):1047-61.

26. Zavadil J, Haley J, Kalluri R, **Muthuswamy SK**, Thompson E. Epithelial-mesenchymal transition. Cancer Res, 2008 Dec 1;68(23):9574-7.

27. Zhan L, Rosenberg A, Bergami KC, Yu M, Zuan Z, Jaffe AB, Allred C, **Muthuswamy S.K**. Deregulation of Scribble promotes mammary tumorigenesis and reveals a role for cell polarity in carcinoma. Cell 2008 Nov 28; 135(5):865-78.

28. Aranda V, Nolan ME, **Muthuswamy SK**. Par complex in cancer: a regulator of normal cell polarity joins the dark side. Oncogene, 2008 Nov 24;27(55):6878-87.

29. Feigin ME, **Muthuswamy SK**. ErbB receptors and cell polarity: new pathways and paradigms for understanding cell migration and invasion. Exp Cell Res. 2009 Feb 15;315(4):707-16. Epub 2008 Nov 5.

30. Nolan ME, Aranda V, Lee S, Lakshmi B, Basu S, Allred DC, **Muthuswamy SK**. The polarity protein Par6 induces cell proliferation and is overexpressed in breast cancer. Cancer Res. 2008 Oct 15;68(20):8201-9.

31. Xiang B, Chatti K, Qiu H, Lakshmi B, Krasnitz A, Hicks J, Yu M, Miller WT, **Muthuswamy SK**. Brk is coamplified with ErbB2 to promote proliferation in breast cancer. Proc Natl Acad Sci U S A. 2008 Aug 26;105(34):12463-8. Epub 2008 Aug 21.

32. Guix M, Granja Nde M, Meszoely I, Adkins TB, Wieman BM, Frierson KE, Sanchez V, Sanders ME, Grau AM, Mayer IA, Pestano G, Shyr Y, **Muthuswamy S**, Calvo B, Krontiras H, Krop IE, Kelley MC, Arteaga CL., Short preoperative treatment with erlotinib inhibits tumor cell proliferation in hormone receptor-positive breast cancers. J Clin Oncol. 2008 Feb 20;26(6):897-906. Epub 2008 Jan 7.

33. Ibarra I, Erlich Y, **Muthuswamy SK**, Sachidanandam R, Hannon GJ. A role for microRNAs in maintenance of mouse mammary epithelial progenitor cells. Genes Dev. 2007 Dec 15;21(24):3238-43.

34. Tonks NK, **Muthuswamy SK**. A brake becomes an accelerator: PTP1B—a new therapeutic target for breast cancer. Cancer Cell. 2007 Mar;11(3):214-6.

35. **Muthuswamy SK**. ErbB2 makes beta 4 integrin an accomplice in tumorigenesis. Cell, 126(3): p. 443-5, 2006.

36. Reginato MJ, **Muthuswamy SK**. Illuminating the center: mechanisms regulating lumen formation and maintenance in mammary morphogenesis. J Mammary Gland Biol Neoplasia, 11(3-4): p. 205-11, 2006.

37. Aranda V, Haire T, Nolan ME, Calarco JP, Rosenberg AZ, Fawcett JP, Pawson T, **Muthuswamy SK**. Par6-aPKC uncouples ErbB2 induced disruption of polarized epithelial organization from proliferation control. Nat Cell Biol, 8(11): p. 1235-45, 2006.

38. Wang SE, Narasanna A, Perez-Torres M, Xiang B, Wu FY, Yang S, Carpenter G, Gazdar AF, **Muthuswamy SK**, Arteaga CL. HER2 kinase domain mutation results in constitutive phosphorylation and activation of HER2 and EGFR and resistance to EGFR tyrosine kinase inhibitors. Cancer Cell, 10(1): p. 25-38, 2006.

39. Zhan L, Xiang B, **Muthuswamy SK**. Controlled activation of ErbB1/ErbB2 heterodimers promote invasion of three-dimensional organized epithelia in an ErbB1-dependent manner: implications for progression of ErbB2-overexpressing tumors. Cancer Res, 66(10): p. 5201-8, 2006.

40. Xiang B, **Muthuswamy SK**. Using three-dimensional acinar structures for molecular and cell biological assays. Methods Enzymol, 406: p. 692-701, 2006.

41. Reginato MJ, Mills KR, Becker EB, Lynch DK, Bonni A, **Muthuswamy SK**, Brugge JS. Bim regulation of lumen formation in cultured mammary epithelial acini is targeted by oncogenes. Mol Cell Biol, 25(11): p. 4591-601, 2005.

42. Seton-Rogers SE, Lu Y, Hines LM, Koundinya M, LaBaer J, **Muthuswamy SK**, Brugge JS. Cooperation of the

ErbB2 receptor and transforming growth factor beta in induction of migration and invasion in mammary epithelial cells. Proc. Natl. Acad. Sci. USA 101:1257-1262, 2004.

43. Bill HM, Knudsen B, Moores SL, **Muthuswamy SK**, Rao VR, Brugge JS, Miranti CK. Epidermal growth factor receptor-dependent regulation of integrin-mediated signaling and cell cycle entry in epithelial cells. Mol Cell Biol, 24(19): p. 8586-99, 2004.
44. Debnath J, **Muthuswamy SK**, Brugge JS. Morphogenesis and oncogenesis of MCF-10A mammary epithelial acini grown in three-dimensional basement membrane cultures. Methods 30:256-268, 2003.
45. Reginato MJ, Mills KR, Paulus JK, Lynch DK, Lynch DK, Sgroi DC, Debnath J, **Muthuswamy SK**, Brugge JS. Integrins and EGFR coordinately regulate the pro-apoptotic protein Bim to prevent anoikis. Nat Cell Biol. 5:733-740, 2003.
46. Debnath J, Mills KR, Collines NL, Reginato MJ, **Muthuswamy SK**, Brugge JS. The role of apoptosis in creating and maintaining luminal space within normal and oncogene-expressing mammary acini. Cell 111:29-40, 2002.
47. **Muthuswamy SK**, Li D, Lelivere S, Bissell M, Brugge JS. ErbB2, but not ErbB1, reinitiates proliferation and induces luminal repopulation in epithelial acini. Nat. Cell Biol 3: 785-792, 2001.
48. Moulder SL, Yakes FM, **Muthuswamy SK**, Bianco R, Simpson JF, Arteaga CL. Epidermal growth factor receptor (HER1) tyrosine kinase inhibitor ZD1839 (Iressa) inhibits HER2/neu(erbB2)-overexpressing breast cancer cells in vitro and in vivo. Cancer Res. 61:8887-8895, 2001.
49. **Muthuswamy SK**, Gilman M, Brugge JS. Controlled dimerization of ErbB receptor provides evidence for differential signaling by homo- and heterodimers. Mol. Cell. Biol. 19: 6845-6857, 1999.
50. Webster MA, Hutchinson JH, Raugh MJ, **Muthuswamy SK**, Martina Anton M, Tortorice CG, Cardiff RD, Graham FL, Hassell JA, Muller WJ. Requirement for both Shc and phosphatidylinositol 3' kinase signaling pathways in polyomavirus middle T-mediated mammary tumorigenesis. Mol. Cell. Biol. 18: 2344-2359, 1998.
51. Muller WJ, Arteaga CL, **Muthuswamy SK**, Siegel PM, Webster MA, Cardiff RA, Meise KS, Li F, Halter SA, Coffey RJ. Synergistic interaction of the Neu protooncogene product and transforming growth factor alpha in the marry epithelium of transgenic mice. Mol. Cell. Biol. 16: 5726-5736, 1996.
52. **Muthuswamy SK**, Muller WJ. Activation of Src family kinase in Neu-induced mammary tumors correlates with their association with distinct sets of tyrosine phosphorylated proteins in vivo. Oncogene 11: 1801-1810, 1995.
53. **Muthuswamy SK**, Muller WJ. Direct and specific interaction of c-Src with Neu is involved in signaling by the epidermal growth factor receptor. Oncogene 11: 271-279, 1995.
54. **Muthuswamy SK**, Siegel PS, Dankort DL, Webster MA, Muller WJ. Mammary tumors expressing the neu proto-oncogene possess elevated c-Src tyrosine kinase activity. Mol. Cell. Biol. 14: 735-743, 1994.
55. Guy CT, **Muthuswamy SK**, Cardiff RD, Soriano P, Muller WJ. Activation of the c-Src tyrosine kinase is required for the induction of mammary tumors in transgenic mice. Gene Dev. 8: 23-32. 1994.* Co-first author.
56. **Muthuswamy SK**, Muller WJ. Activation of the Src family of tyrosine kinases in mammary tumorigenesis. Adv. Cancer Res. 64:11-23, 1994.
57. Mymryk JS, Oakes JD, **Muthuswamy SK**, D'Amico P, Bayley ST, Lee RWH. Disruption of coordinate expression of muscle gene in a transfected BC3H1 myoblast cell line producing a low level of the adenovirus E1A transforming protein. Biochem. Cell. Biol. 70: 1268-1276, 1992.

Invited Presentations

1. Cell polarity pathways during cancer initiation and progression, Geisel School of Medicine at Dartmouth, Oct 15, 2014.
2. Cell pathways in cancer initiation and progression, University of Colorado Cancer Center, Oct 7, 2014.
3. Cell polarity proteins during normal mammary gland development and tumorigenesis, International Association for Breast Cancer Research (IABCR) conference, Sydney, Australia, Sept 14-17, 2014.
4. Cell pathways in cancer initiation and progression, Rutgers New Jersey Medical School, Newark, NJ, Sept 9, 2014.
5. Cell polarity proteins scribble during mammary gland development and cancer, Post-Translational Regulation of Cell Signaling, Salk Institute for Biological Studies, San Diego, CA, Aug 5-8, 2014.
6. Cell polarity protein Par3, cell-cell cohesion and metastais, Signaling by Adhesion receptors, Gordon Research Conference, Bates College, Lewiston, ME. June 22 – 27, 2014.
7. Cell pathways in cancer initiation and progression, Cell Polarity Signaling, Gordon Research Conference, Bentley University, Waltham, MA, June 1-6, 2014.
8. Metastatic behavior as a function of cell polarity, cell-cell cohesion and cell differentiation status, EMBO|EMBL Symposium: Tumour microenvironment and signalling, Heidelberg, Germany, May 2014.
9. 3D methods for epithelial morphogenesis, Inserm workshop 226:The third dimension bridges the gap between cell culture and live tissue, Bordeaux, France, March 2014
10. Cell polarity and initiation and progression of cancer, Dr. Maud L. Menten Memorial Lecture Series, Western University, February 2014.
11. Pancreatic Cancer Meeting, Salk Institute for Biological Studies, Sheraton Gateway hotel, Los Angeles, CA, January 2014.
12. Cell polarity and cancer progression, Mayo Clinic, Jacksonville, FL, November 2013.
13. Cell polarity and cancer, Membrane and Trafficking Polarity Interest Symposium (Metrapolis), New York City, NY, November 2013.
14. Modelling human pancreas organogensis in 3D culture, Science of Pancreatic Cancer, The Banbury Center, CSHL, NY, September 2013.
15. Cell polarity proteins and tumor initiation and progression, Wendy and Emery Reves International Breast Cancer Symposium, Dallas, Texas, September 2013.
16. Cell polarity proteins and cancer progression, TATA memorial Hospital, Mumbai, India, August 2013.
17. Cell polarity proteins and cancer progression, Peter MacCallum Cancer Centre, Melbourne, Australia, August 2013.
18. Cell polarity proteins and cancer progression, Brisbane, Australia, August 2013.
19. Cell polarity proteins and cancer progression, Cleveland Clinic Lerner Research Institute, Cleveland, OH, July 2013.
20. Cell polarity proteins as regulators cancer initiation and progression, American Association for Cancer Research (AACR) meeting, Washington, DC, April 2013.
21. Cell polarity protein scribble and mammary development, Daniel Medina Symposium, Houston, TX, March 2013.
22. Polarity protein scribble and regulation of cellular redox, Oxidants and Anti-oxidants in Cancer Genesis and

Treatment, The Banbury Center, CSHL, Cold Spring Harbor, NY, February 2013.

23. Interaction between tumor microenvironment and cell polarity during tumor progression. Shanghai, China, November 2012
24. Cell polarity proteins and tumor progression, Seoul, South Korea, November 2012
25. Cell polarity proteins and tumor initiation and progression. Mayo Clinic, Jacksonville, FL, October 2012
26. Cell polarity proteins during tumor progression, Cancer Microenvironment Symposium, Cambridge, MA, September 2012
27. Cell polarity protein Par3 as a regulator of cell-cell junction dynamics during morphogenesis, migration and metastasis of mammary epithelial cells, FASEB, Snowmass, CO, July 2012
28. Cell polarity and carcinoma initiation and progression, Tata Memorial Cancer Hospital, Mumbai, India, May 2012
29. Cell polarity and carcinoma initiation and progression, Syngene Pharmaceuticals, Bangalore, India, May 2012
30. Cell polarity and carcinoma initiation and progression, Indian Institute of Technology, Chennai, India, May 2012
31. Cell polarity and carcinoma initiation and progression, AACR Annual Meeting, Chicago, IL, March 2012
32. Cell polarity and carcinoma initiation and progression, 5th International Epithelial-Mesenchymal Transition Meeting, Singapore, October 2011
33. Cell polarity and carcinoma initiation and progression, IRCM, Montreal, QC, September 2011
34. Cell polarity and carcinoma initiation and progression, Dalhousie University, Halifax, NS, June 2011
35. Cell polarity morphogenesis and cancer, University of Western Ontario, London, ON, April 2011
36. Cell polarity and carcinoma initiation and progression, Shanghai Institutes for Biological Sciences, Shanghai, China, April 2011
37. Cell polarity and carcinoma initiation and progression, AACR Annual Meeting, Orlando, FL, April 2011
38. Cell polarity and carcinoma initiation and progression, University of Calgary, Calgary, AB, March 2011
39. Cell polarity protein Par3 as a regulator of cell-cell junction dynamics during morphogenesis, migration and metastasis of mammary epithelial cells, Mammary Gland PPG Retreat, University of Colorado, Denver, CO. January 2011
40. Cell polarity and carcinoma initiation and progression, West Virginia University, Morgantown, WV, December 2010
41. Cell polarity and tumorigenesis, FASEB summer research conferences, Carefree AZ, June 2010
42. Cell Polarity and cancer progression, Tumor Microenvironment and Metastasis, Cold Spring Harbor, NY, May 2010
43. Cell Polarity Proteins as Regulators of Differentiation, Morphogenesis and Tumorigenesis, Stony Brook University, Cold Spring Harbor, April 2010
44. Cell polarity, morphogenesis and carcinoma, Cambridge Research Institute, Cambridge, UK, March 2010
45. Cell polarity, morphogenesis and carcinoma, The Institute of Molecular Biology, University of Oregon, Eugene, March 2010
46. Cell polarity, morphogenesis and differentiation, University of Colorado, Denver, CO, January 2010
47. Cell polarity pathways and transformation of epithelial cells, Beth Israel Symposium, Boston, MD, November

2009

48. Cell polarity pathways and transformation of epithelial cells, University of Maryland, College Park, MD, November 2009
49. Cell polarity pathways and transformation of epithelial cells, UVA Microbiology Seminar Series, Charlottesville, VA, November 2009
50. Cell polarity pathways and transformation of epithelial cells, Fred Hutchinson Cancer Center, Seattle, WA, September 2009
51. Cell polarity pathways and transformation of epithelial cells, Journal of Cell Biology (JCB) conference, New York, NY, September 2009
52. Cell polarity pathways and transformation of epithelial cells, 2009 Engineering Cell Biology (ECB) meeting, Santa Cruz, CA, August 2009
53. Cell polarity pathways and transformation of epithelial cells, Cell contact and adhesion, Gordon Research Conference, Waterville valley, NH., July 2009
54. Cell polarity pathways and transformation of epithelial cells, New York Academy of Sciences, NY, June 2009
55. Cell polarity and carcinoma, CSHL cancer center symposia, CSHL, NY, June 2009
56. Session co-chair, Cell polarity pathways and transformation of epithelial cells, AACR Annual Meeting, Denver, CO, April 2009
57. Cell Polarity Pathways and Transformation of Epithelial Cells. Department of Cell and Developmental Biology, University of Michigan, Ann Arbor, MI, February 2009
58. Cell Polarity and Tumor Suppression, Emerging Tumor Suppressors, Keystone Symposia, Taos, NM, January 2009
59. Cell polarity and disease, University of Colorado Health Science Center, Boulder, CO, January 2009
60. Cell polarity pathways and transformation of epithelial cells, MD Anderson Cancer Center, University of Texas, Houston, TX, December 2008
61. Cell polarity pathways and transformation of epithelial cells, University Hospital Cancer Center, University of Medicine & Dentistry of New Jersey, NJ, November 2008
62. Cell polarity pathways and transformation of epithelial cells, Dept. of Visceral Surgery and Comprehensive Cancer Center, University of Freiburg, Germany, September 2008
63. Epithelial Morphogenesis & Diseases, University of Greenwich, London, UK, September 2008
64. Protein Phosphorylation and G-Protein Regulated Signaling Network, GRC, University of New England, Biddeford, ME, June 2008
65. Cell polarity pathways and transformation of mammary epithelial cells, Dept. of Veterinary & Animal Sciences, University of Massachusetts, Amherst, MA, April 2008
66. Cell polarity pathways and transformation of mammary epithelial cells, 2008 Epithelial Biology Course, Vanderbilt, Nashville, TN, April 2008
67. Cell polarity pathways and transformation of mammary epithelial cells, Breast Program, Baylor College of Medicine, Houston, TX, February 2008
68. Cell polarity a novel regulatory step during transformation of mammary epithelial cells, Department of Pharmacology, Stony Brook University, NY, January 2008
69. Cell polarity a novel regulatory step during transformation of mammary epithelial cells, University of Colorado

Health Science Center, Boulder, CO, January 2008

70. Polarity pathways: New strategies to target precancer. Sixth annual international AACR conference Frontiers in cancer prevention research, Philadelphia, NY, December 2007
71. Changes in cell polarity regulate cell invasion, Podosomes and Invadopodia, Banbury Center, Cold Spring Harbor Laboratory, NY, November 2007
72. Cell Polarity: A novel regulatory step for cancer initiation and progression, Department of Laboratory Medicine and Pathology Grand Rounds Seminar Series, University of Minnesota, Minneapolis, MN, November 2007
73. Cell Polarity: A novel regulatory step for cancer initiation and progression, Lankenau Institute for Medical Research, Philadelphia, PA, November 2007
74. Cell Polarity: A novel regulatory step for cancer initiation and progression, Div.of Life Sciences, Lawrence Berkley Ntnl Laboratories, Berkeley, CA, October 2007
75. Cell Polarity: A novel regulatory step for cancer initiation and progression, Beatson Institute for Cancer Research, Glasgow, Scotland, September 2007
76. Cell polarity regulates initiation and progression of carcinoma. Protein kinases and protein phosphorylation, FASEB, Indian Wells, CA, July 2007
77. Epithelial Cell Polarity Proteins Regulate Initiation and Progression of Carcinoma, Ottawa Cancer Institute, Ottawa, ON, Canada, June 2007
78. Brk cooperates with ErbB2 to promote proliferation during mammary tumorigenesis. Protein phosphorylation signaling in Disease, Cold Spring Harbor Laboratory, NY, May 2007
79. Polarity proteins regulate cell fate decisions in mammary epithelial cells. Workshop on Cancer Stem Cells as Targets for Cancer Prevention and Early Detection, National Cancer Institute, MD, May 2007
80. Epithelial Cell Polarity Proteins Regulate Initiation and Progression of Carcinoma, Dept. of Molecular Medicine, Cornell University, Ithaca, NY, April 2007
81. Polarity proteins regulate initiation and progression of carcinoma, Epithelial Mesenchymal transition, The Banbury Center, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, February 2007
82. Polarity proteins regulate initiation and progression of carcinoma, OSI Pharmaceuticals, NY, January 2007
83. Interplay between division and death in polarized 3D epithelial structures, University of Colorado Health Science Center, Boulder, CO, January 2007
84. Polarity pathways: New strategies to target precancer. Sixth annual international AACR conference Frontiers in cancer prevention research, Philadelphia, NY, December 2007
85. Cell Polarity: A novel regulatory step for cancer initiation and progression, Lankenau Institute for Medical Research, Philadelphia, PA, November 2007
86. Cell Polarity: A novel regulatory step for cancer initiation and progression, Department of Laboratory Medicine and Pathology Grand Rounds Seminar Series, University of Minnesota, Minneapolis, MN, November 2007
87. Changes in cell polarity regulate cell invasion, Podosomes and Invadopodia, Banbury Center, Cold Spring Harbor Laboratory, NY, November 2007
88. Cell Polarity: A novel regulatory step for cancer initiation and progression, Div.of Life Sciences, Lawrence Berkley Ntnl Laboratories, Berkeley, CA, October 2007
89. Cell Polarity: A novel regulatory step for cancer initiation and progression, Beatson Institute for Cancer Research, Glasgow, Scotland, September 2007
90. Cell polarity regulates initiation and progression of carcinoma. Protein kinases and protein phosphorylation,

FASEB, Indian Wells, CA, July 2007

91. Polarity proteins regulate cell fate decisions in mammary epithelial cells. Workshop on Cancer Stem Cells as Targets for Cancer Prevention and Early Detection, National Cancer Institute, MD, May 2007
92. Brk cooperates with ErbB2 to promote proliferation during mammary tumorigenesis. Protein phosphorylation signaling in Disease, Cold Spring Harbor Laboratory, NY, May 2007
93. Epithelial Cell Polarity Proteins Regulate Initiation and Progression of Carcinoma, Dept. of Molecular Medicine, Cornell University, Ithaca, NY, April 2007
94. Polarity proteins regulate initiation and progression of carcinoma, Epithelial Mesenchymal transition, The Banbury Center, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, February 2007
95. Interplay between division and death in polarized 3D epithelial structures, University of Colorado Health Science Center, Boulder, CO, January 2007
96. Polarity proteins regulate initiation and progression of carcinoma, OSI Pharmaceuticals, NY, January 2007
97. Interplay between division and death in 3D epithelial structures, Faculty of Life Sciences, and Patterson Cancer Institute, University of Manchester, Manchester, UK, November. 2006
98. Common Molecular Mechanisms of Mammary Gland Development and Breast Cancer Progression, University College, Dublin, Ireland, June 2006
99. Why 3D?, Institute for Biomedicine/Biochemistry and Molecular Cancer Biology Program, University of Helsinki, Finland, June 2006
100. 3D tissue architecture and oncogene-dependent malignant transformation, 97th AACR Annual Meeting, Washington DC, April 2006
101. Co-Chair, Minisymposia on "Signaling in 3D Environments", ASCB, San Francisco, CA, December 2005
102. Oncogenic ErbB2 Signaling in Organized Epithelia: Identification of Mechanisms for Disorganized Tissue Architecture, Department of Biochemistry, Drexel Univ.,Philadelphia, November 2005
103. Oncogenic ErbB2 Signaling in Organized Epithelia: Identification of Mechanisms for Disorganized Tissue Architecture, Univ. of Pennsylvania, Dept. of Pharmacology, Philadelphia, PA, October 2005
104. ErbB signaling and oncogenesis in 3D epithelial structures, GlaxoSmithKline, Collegeville, PA, August 2005
105. ErbB2-induced transformation of polarized epithelial cells, International symposium on Molecular Biology of Breast Cancer, Molde, Norway, June 2005
106. ErbB2-mediated transformation of polarized epithelial cells, Univ. of Miami, Dept. of Cell Biology and Anatomy, Miami, FL, November 2004
107. ErbB2-mediated transformation of polarized epithelial cells, Gordon Research Conference on Cancer Models and Mechanisms, Newport, RI, August 2004
108. ErbB2-induced transformation of polarized epithelial cells, Gordon Research Conference on Mammary Gland Biology, Il Ciocco, Italy, May 2004
109. ErbB receptor induced transformation of polarized epithelial cells, Univ. of California, Davis, Cancer Center, CA, May 2004
110. Oncogene-induced transformation of polarized epithelial cells, Univ. of Virginia, Dept. of Biochemistry and Mol. Genetics, February 2004
111. Oncogene-induced transformation of three-dimensional epithelial structures, Purdue University, Biochem & Molecular Biology Program, IN, September 2003

112. Transformation of polarized epithelial cells by ErbB Receptors, Vanderbilt University, TN, August 2003
113. Three-dimensional epithelial culture model for tumor progression, Growth Factors and Metastasis Workshop, NCI, , NCI, Bethesda, MD, October 2002
114. Transformation of three-dimensionally organized epithelial cells, Aventis Pharmaceuticals, Cambridge, MA, October 2002