

Michael Goggins MD**Curriculum Vitae****July 19, 2012**

Current Title: Professor,
 Departments of Pathology, Medicine and Oncology,
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 Hepatology, Johns Hopkins Hospital

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Educational and Academic Experience

1982-88: Medical School, Trinity College Dublin.

1988: Medical Degree (MB, BCh., BAO, BA)

1988-89: *Internship:* St. James' Hospital, James' Street, Dublin, Ireland

1989-91: *Resident in Internal Medicine,* St. James' Hospital, Dublin.

1991-95: *Fellow in Gastroenterology and Internal Medicine*
 St. James' Hospital, Dublin.

1992-95: *Fellow in Gastroenterology/ Lecturer in Internal Medicine*
 St. James Hospital Dublin and Trinity College Dublin

1997: *Doctor of Medicine.* M.D. Thesis: "Protein methylation in postmortem human brain" University of Dublin, Trinity College.

- 1995-98 *Post-doctoral Fellow*, Division of Gastrointestinal Pathology, (Mentor: Scott Kern)
Dept of Pathology, Johns Hopkins Medical Institutions, Baltimore, MD
- 7/98-1/99: Research Associate, Faculty of Oncology, JHMI, Baltimore, MD, 21205
- 7/99-6/2000: Clinical Fellow, Gastrointestinal Division, Department of Medicine, Johns Hopkins Medical Institutions, Baltimore, MD

Professional Experience:

- Feb.-Jun 99: Instructor in Pathology and Oncology, Johns Hopkins University
- 2/99-present Director of the Pancreatic Cancer Early Detection Laboratory
- 7/1/99-6/00 Assistant Professor of Pathology and Oncology, Johns Hopkins University.
- July 2000- Attending in Medicine, Division of Gastroenterology and Hepatology, Johns Hopkins Hospital
- 7/00-9/03 Assistant Professor of Pathology, Medicine and Oncology, Johns Hopkins University
- 10/3-6/08: Associate Professor of Pathology, Medicine and Oncology, Johns Hopkins University.
- 7/08-present: Professor of Pathology, Medicine and Oncology, Johns Hopkins University.

Research Activities

Original Research Articles

1. Trimble KC, **Goggins MG**, Molloy AM, Mulcahy F, Scott JM, Weir DG. Vitamin B12 deficiency is not a cause of HIV-associated neuropathy. *AIDS* 1993;7:1132-3.
2. Mahmud N, O'Connell M, Stinson J, **Goggins M**, Weir DG, Kelleher D. Tumor necrosis factor correlates with microalbuminuria in patients with inflammatory bowel disease. *Eur J Gastroenterol Hepatol* 1995;7:215-9.
3. Fan XJ, Long A, **Goggins MG**, Fan XE, Keeling PWN, Weir DG, Kelleher D. Helicobacter pylori gastritis is associated with increased expression of CD44 and CD44v9 on gastric epithelial cells. *Gut* 1996;38:507-12

4. **Goggins M**, Schutte M, Lu J, Moskaluk CA, Weinstein CL, Gloria M. Petersen, Yeo CJ, Jackson C, Lynch HT, Hruban RH, Kern SE Germline *BRCA2* gene mutations in patients with apparently sporadic pancreatic carcinomas. *Cancer Research* 1996;56:5360-5364.
5. Farrell R, Noonan N, Khan I, **Goggins M**, Weir DG, Kelleher D, Keeling PWN. Carcinoma of the ampulla of Vater: a tumor with a poor prognosis. *Eur J Gastroenterol Hepatol* 1996;8:139-44.
6. Kelly P, McPartlin J, **Goggins M**, Weir DG, Scott JM. Pharmacokinetics of unaltered folic acid in elderly subjects given low dose food-fortified folic acid supplementation. *Am J Clin Nutr* 1997; 65(6):1790-5.
7. Ghasias N, Shahi C, Foley B, **Goggins M**, Crean P, Kelleher D, Walsh M. Elevated soluble adhesion molecules in patients with unstable angina. *Am J Cardiol* 1997;80(5):617-9.
8. Rozenblum E, Schutte M, **Goggins M**, Hahn SA, Lu J, Panzer S, Zahurak M, Goodman SN, Hruban RH, Yeo CJ, Kern SE. Tumor-suppressive pathways in pancreatic carcinoma. *Cancer Res* 1997;57:1731-4.
9. Shahi C, Ghasias N, **Goggins M**, Foley B, Crean P, Kelleher D, Walsh M. Elevated soluble adhesion molecules in patients with non-rheumatic aortic valve disease. *American J Cardiology* 79(7):980-2, 1997.
10. **Goggins M**, Offerhaus JA, Hilgers W, Hruban RH, Kern SE. Pancreatic adenocarcinomas with DNA replication errors (RER+) are associated with wild-type K-ras and characteristic histopathology: poor differentiation, a syncytial growth pattern, and pushing borders suggest RER+. *Am J Pathology* 1998;152:1501-7.
11. **Goggins MG**, Scott JM, Weir DG. Regional differences in protein carboxymethylation in postmortem human brain. *Clinical Science* 1998;94:677-85.
12. Okami K, Wu L, Riggins G, Cairns P, **Goggins M**, Evron E, Halachmi N, Ahrendt SA, Reed AL, Hilgers W, Kern SE, Koch WM, Sidransky D, Jen J. Analysis of PTEN/MMAC1 alterations in aerodigestive tract tumors. *Cancer Research* 1998;58:509-11.
13. **Goggins M**, Lietman A, Miller RE, Yeo CJ, Jaffee E, Coleman J, O'Reilly S, Cullen B, Cameron JL, Kern SE, Hruban RH. The Johns Hopkins Pancreatic Cancer Web page: Patterns of use and benefits of an institutional disease-based Web site. *JAMA* 1998;280:1309-10.
14. Wilentz RE, Geradts J, Maynard R, Offerhaus JA, Kang M, **Goggins M**, Yeo CJ, Kern SE, Hruban RH. Inactivation of the p16 (INK4A tumor-suppressor gene in pancreatic duct lesions: loss of intranuclear expression. *Cancer Res* 1998;58:4740-4.

15. **Goggins M**, Shekher M, Turnacioglu K, Yeo CJ, Hruban RH, Kern SE. Genetic alterations of the TGF beta receptor genes in pancreatic and biliary adenocarcinomas *Cancer Res* 1998;58:5329-32.
16. Su GH, Hruban RH, Bansal RK , Bova GS, Tang DJ, Shekher MC, Westerman AM, Entius MM, **Goggins M**, Yeo CJ, Kern SE. Germline and somatic mutations of the STK11/LKB1 Peutz-Jeghers gene in pancreatic and biliary cancers. *Am J Pathol* 1999;154:1835-40.
17. **Goggins M**, Scott JM, Weir DG. Methylation of cortical brain proteins from patients with HIV infection. *Acta Neurol Scand* 1999; 100:326-31
18. **Goggins M**, Hruban H, Kern SE. The late temporal pattern of BRCA2 inactivation in pancreatic intraductal neoplasia: Evidence and implications. *Am J Pathol* 2000;156:1767-71.
19. Ueki T, Toyota I, Sohn T, Yeo CJ, Issa JP, Hruban RH, **Goggins M**. DNA hypermethylation in pancreatic carcinoma. *Cancer Research* 2000;60:1835-9.
20. Wilentz R, **Goggins M**, Redston M, Marcus VA, Adsay NV, Sohn TA, Kadkol SS, Yeo CJ, Choti M, Zahurak M, Johnson K, Tascilar M, Offerhaus GJ, Hruban RH, Kern SE. Genetic, immunohistochemical, and clinical features of medullary carcinoma of the pancreas: a newly described and characterized entity. *Am J Pathol* 2000;156: 1767-1771.
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22. **Goggins MG**, Goh J, O'Connell MA, Weir DG, Kelleher D, Mahmud N. Soluble adhesion molecules in inflammatory bowel disease. *Ir J Med Sci.* 2001;170:107-11.
23. **Goggins MG**, Shah SA, Goh J, Cherukuri A, Weir DG, Kelleher D, Mahmud N. Increased urinary nitrite, a marker of nitric oxide, in active inflammatory bowel disease. *Mediators Inflamm.* 2001 Apr;10:69-73.
24. Montgomery E, **Goggins M**, Argani P, Wilentz R, Kausal M, Booker S, Romans K, Bhargava P, Hruban RH, Kern SE. Nuclear localization of DPC4 does not require intact transforming growth factor beta (TGFB) receptors: an immunohistochemical analysis of colorectal carcinomas with mismatch repair defects. *Am J Pathol*; 2001; 158(2):537-542.
25. Argani P, Iacobuzio-Donahue C, Ryu B, **Goggins M**, Rosty R, Wilentz RE, Murugesan S, Kaushal M, Leach S, Jaffee E, Yeo CJ, Cameron J, Kern S, Hruban RH. Mesothelin is expressed in the vast majority of ductal adenocarcinomas of the

- pancreas: Identification of a new cancer marker by serial analysis of gene expression (SAGE). *Clin Cancer Res* 2001 ;61:4320-4
26. Sato N, Rosty C, Jensen M, Fukushima N, Ueki T, Cameron JL, Iacobuzio-Donahue C, Hruban RH, **Goggins M**. STK11/LKB1 Peutz-Jeghers Gene Inactivation in Intraductal Papillary-Mucinous Neoplasms of the Pancreas. *Am J Pathology* 2001;159:2017-22.
 27. Tascilar M, Skinner HG, Rosty C, Sohn T, Wilentz R, Offerhaus GJ, Adsay V, Abrams R, Cameron JL, Yeo CJ, Kern S, Hruban R, **Goggins M**. The SMAD4 protein and prognosis of pancreatic adenocarcinoma. *Clin Cancer Res* 2001;7:4115-21.
 28. Tascilar M, Offerhaus GJA, Altink R, Argani P, Sohn TA, Yeo CJ, Cameron JL, **Goggins M**, Hruban RH, Wilentz RE: Immunohistochemical labeling for the DPC4 gene product is a specific marker for infiltrating adenocarcinoma in biopsies of the pancreas and bile duct. *Am J Clin Pathol* 2001;116(6):831-7.
 29. Ueki T, Toyota I, Skinner H, Walter K, Issa JP, Yeo CJ, Hruban RH, **Goggins M**. Novel genes methylated in pancreatic cancer identified through methylated CpG island amplification. *Cancer Research*; 2001;61:8540-6.
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 33. Lynch HT, Brand RE, Hogg D, Deters CA, Fusaro RM, Lynch JF, Liu L, Knezetic J, Lassam NJ, **Goggins M**, Kern S. Phenotypic variation in eight extended CDKN2A germline mutation fammm-pancreatic cancer-prone families: the FAMM-PC syndrome. *Cancer* 2002; 94(1):84-96
 34. Rosty C, Ueki T, Argani P, Jansen M, Yeo CJ, Cameron JL, Hruban RH, **Goggins M**. Overexpression of *S100A4* in Pancreatic Ductal Adenocarcinomas is Associated

- with Poor Differentiation and DNA Hypomethylation. *Am J Pathology* 2002; 160(1):45-50
35. Van Heek T, Rader A, Offerhaus GJA, McCarthy DM, **Goggins M**, Hruban RH, Wilentz RE: K-ras, p53, and DPC4 alterations in fine-needle aspirations of the pancreas: a genetic panel correlates with and supplements cytologic diagnosis. *Am J Clin Pathol* 2002;117:755-65.
 36. Ueki T, Walter K, Toyota I, Jaffee E, Hruban RH, **Goggins M**. High concordance between DNA methylation of tumor suppressor loci in pancreatic cancer cell lines and their corresponding primary carcinoma. *Oncogene* 2002;21:2114-7.
 37. Jansen M, Fukushima N, Rosty C, Walter K, Altink R, van Heek T, Hruban R, Offerhaus JG, **Goggins M**. Aberrant methylation of the 5' CpG island of TSLC1 is common in pancreatic ductal adenocarcinoma and is first manifest in high-grade PanINs. *Cancer Biology and therapy* 2002;1:293-6.
 38. Iacobuzio-Donahue CA, Maitra A, Shen-Ong GL, van Heek T, Ashfaq R, Meyer R, Walter K, Berg K, Hollingsworth MA, Cameron JL, Yeo CJ, Kern SE, **Goggins M**, Hruban RH. Discovery of Novel Tumor Markers of Pancreatic Cancer using Global Gene Expression Technology. *Am J Pathol* 2002;160:1239-49.
 39. Fukushima N, Sato N, Ueki T, Rosty C, Walter KM, Wilentz RE, Yeo CJ, Hruban RH, **Goggins M**. Aberrant methylation of preproenkephalin and p16 genes in pancreatic intraepithelial neoplasia and pancreatic ductal adenocarcinoma. *Am J Pathol* 2002;160:1573-81.
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 41. Rosty C, Christa L, Kuzdzal S, Baldwin WM, Zahurak ML, Carnot F, Chan DW, Canto M, Lillemoe KD, Cameron JL, Yeo CJ, Hruban RH, **Goggins M**. Identification of hepatocarcinoma-intestine-pancreas/pancreatitis-associated protein I as a biomarker for pancreatic ductal adenocarcinoma by protein biochip technology. *Cancer Res* 2002; 62:1868-75.
 42. Sato N, Fukushima N, Iacobuzio-Donahue CA, Yeo CJ, Cameron JL, Hruban RH, **Goggins M**. Aberrant Methylation of CpG Islands in Intraductal Papillary Mucinous Neoplasms of the Pancreas Increases with Histological Grade. *Gastroenterology* 2002; 123:1365-72.
 43. Maitra A, Iacobuzio-Donahue C, Rahman A, Sohn TA, Argani P, Meyer R, Yeo CJ, Cameron JL, **Goggins M**, Kern SE, Ashfaq R, Hruban RH, Wilentz RE.

Immunohistochemical validation of a novel epithelial and a novel stromal marker of pancreatic ductal adenocarcinoma identified by global expression microarrays: sea urchin fascin homolog and heat shock protein 47. *Am J Clin Pathol.* 2002 Jul;118(1):52-9.

44. Van Heek NT, Meeker AK, Kern SE, Yeo CJ, Lillemoe KD, Cameron JL, Offerhaus GJ, Hicks JL, Wilentz RE, **Goggins MG**, De Marzo AM, Hruban RH, Maitra A. Telomere shortening is nearly universal in pancreatic intraepithelial neoplasia. *Am J Pathol.* 2002 Nov;161:1541-7.
45. Sato N, Maehara N, Su GH, **Goggins M**. Up-regulation of Matrix Metalloproteinases and Increased Invasiveness in Pancreatic Cancer Cells by the Demethylating Agent 5-Aza-2'-deoxycytidine. *J Natl Cancer Institute* 2003;95:327-330.
46. Matsubayashi H, Sato N, Fukushima N, Yeo CJ, Walter KM, Brune K, Sahin F, Hruban RH, **Goggins M**. Methylation of cyclin D2 is observed frequently in pancreatic cancer but is also an age-related phenomenon in gastrointestinal tissues. *Clin Cancer Res* 2003; 9:1446-52.
47. Iacobuzio-Donahue C, Maitra A, Olsen M, Lowe A, van Heek N, Rosty C, Walter K, Sato N, Parker A, Ashfaq R, Jaffee E, Ryu B, Jones J, Eshleman J, Yeo C, Cameron J, Kern S, Hruban R, Brown P, **Goggins M**. Exploration of global gene expression patterns in pancreatic adenocarcinoma using cDNA microarrays. *Am J Pathol* 2003;162:1151-62
48. Fukushima N, Walter K, Ueki T, Sato N, Matsubayashi H, Cameron, J. Hruban, R. H, Canto M, Yeo CJ, **Goggins M**. Diagnosing pancreatic cancer using methylation specific PCR analysis of pancreatic juice. *Cancer Biology and Therapy*; 2003;2;78-83.
49. Sato N, Fukushima N, Anirban Maitra, Matsubayashi M, Yeo CJ, Cameron JL, Hruban R, **Goggins M**. Discovery of novel targets for aberrant methylation in pancreatic carcinoma using high-throughput microarrays. *Cancer Res*: 2003;63:3735-42.
50. Fukushima N, Sato N, Sahin F, GH, Hruban R, **Goggins M**. Aberrant methylation of *suppressor of cytokine signaling (SOCS-1)* gene in pancreatic ductal neoplasms. *Br J Cancer* 2003;89:338-43.
51. Sato N, Maitra A, Fukushima N, Matsubayashi M, Van Heek NT, Iacobuzio-Donahue C, Rosty C, **Goggins M**. Frequent Hypomethylation of Multiple Genes Overexpressed in Pancreatic Ductal Adenocarcinoma. *Cancer Res.* 2003;63:4158-66.

52. Sahin F, Maitra A, Argani P, Sato N, Maehara N, Montgomery E, **Goggins M**, Hruban RH, Su GH. Loss of Stk11/Lkb1 expression in pancreatic and biliary neoplasms. *Mod Pathol*. 2003;16:686-91
53. Sato N, Fukushima N, Maehara N, Matsubayashi H, Koopman J, Su GH, Hruban RH, **Goggins M**. SPARC/osteonectin is a frequent target for aberrant methylation in pancreatic adenocarcinoma and a mediator of tumor-stromal interactions. *Oncogene*, 2003;22:5021-30.
54. Rosty C, Geradts J, Sato N, Wilentz RE, Roberts H, Sohn T, Cameron JL, Yeo CJ, Hruban RH, **Goggins M**. p16 Inactivation in Pancreatic Intraepithelial Neoplasias (PanINs) Arising in Patients with Chronic Pancreatitis. *Am J Surg Pathol* 2003;27:1495-1501.
55. Matsubayashi H, Fukushima N, Sato N, Brune K, Canto M, Yeo CJ, Hruban RH, Kern SE and **Goggins M**. Polymorphisms of *SPINK1* N34S and *CFTR* in Patients with Sporadic and Familial Pancreatic Cancer. *Cancer Biology and Therapy*. 2003;2:652-5.
56. Iacobuzio-Donahue CA, Ashfaq R, Maitra A, Adsay NV, Shen-Ong GL, Berg K, Hollingsworth MA, Cameron JL, Yeo CJ, Kern SE, **Goggins M**, Hruban RH. Highly expressed genes in pancreatic ductal adenocarcinomas: a comprehensive characterization and comparison of the transcription profiles obtained from three major technologies. *Cancer Res* 2003; 63:8614-22.
57. Koopmann J, Zhang Z, White N, Rosenzweig J, Fedarko N, Jagannath S, Canto MI, Yeo CJ, Chan DW, **Goggins M**. Serum diagnosis of pancreatic adenocarcinoma using surface-enhanced laser desorption and ionization mass spectrometry. *Clin Cancer Res* 2004;10:860-8
58. Rogers C, Michiel S. van der Heijden, M.D., Kieran Brune, Charles J. Yeo, M.D., Ralph H. Hruban, M.D., Scott E. Kern, M. D., Michael Goggins,. The Genetics of FANCC and FANCG in Familial Pancreatic Cancer. *Cancer Biol Ther* 2004;3:167-9
59. Iacobuzio-Donahue C, van der Heijden M, Baumgartner MR, Troup WJ, Romm JM, Doheny K, Pugh E, Yeo CJ, **Goggins MG**, Hruban RH, Kern SE. Large Scale Allelotype of Pancreaticobiliary Carcinoma Provides Quantitative Estimates of Genome-Wide Allelic Loss. *Cancer Research* 2004;64:871-5.
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62. Sato N, Fukushima N, Maitra A, Iacobuzio-Donahue CA, van Heek NT, Cameron JL, Yeo CJ, Hruban RH, **Goggins M**. Gene expression profiling identifies genes associated with invasive intraductal papillary mucinous neoplasms of the pancreas. *Am J Pathol* 2004;903-14.
 63. Koopmann J, Thuluvath PJ, Zahurak ML, Kristiansen TZ, Pandey A, Schulick R, Argani P, Hidalgo M, Iacobelli S, **Goggins M**, Maitra A. Mac-2-binding protein is a diagnostic marker for biliary tract carcinoma. *Cancer* 2004; 101:1609-15.
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 65. Kristiansen TZ, Bunkenborg J, Gronborg M, Molina H, Thuluvath PJ, Argani P, **Goggins M**, Maitra A, Pandey A. A proteomic analysis of human bile. *Mol Cell Proteomics* 2004; 3:715-28.
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 71. Thomas AM, Santarsiero LM, Lutz ER, Armstrong TD, Chen YC, Huang LQ, Laheru DA, **Goggins M**, Hruban RH, Jaffee EM. Mesothelin-specific CD8(+) T

- cell responses provide evidence of in vivo cross-priming by antigen-presenting cells in vaccinated pancreatic cancer patients. *J Exp Med* 2004;200:297-306
72. Sato N, Maehara N, **Goggins M**. Gene expression profiling of tumor-stromal interactions between pancreatic cancer cells and stromal fibroblasts. *Cancer Res.* 2004;64:6950-6
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75. Sato N, Parker AR, Fukushima N, Miyagi Y, Iacobuzio-Donahue C, Eshleman JR, **Goggins M**. Epigenetic inactivation of TFPI-2 as a common mechanism associated with growth and invasion of pancreatic ductal adenocarcinoma. *Oncogene* 2005;24:850-8.
76. Matsubayashi H, Sato N, Brune K, Blackford AL, Hruban RH, Canto M, Yeo CJ, and **Goggins M**. Age- and Disease-Related Methylation of Multiple Genes in Non-neoplastic Duodenum and in Duodenal Juice. *Clin Cancer Res* 2005;11:573-83.
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78. Cao D, Hustinx SR, Sui G, Bala P, Sato N, Martin S, Maitra A, Murphy KM, Cameron JL, Yeo CJ, Kern SE, **Goggins M**, Pandey A, Hruban RH. Identification of Novel Highly Expressed Genes in Pancreatic Ductal Adenocarcinomas through a Bioinformatics Analysis of Expressed Sequence Tags. *Cancer Biol Ther* 2004;3:1081-9.
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81. Hansel DE, Maitra A, Lin JW, **Goggins** M, Argani P, Yeo CJ, Piantadosi S, Leach SD, Biankin AV. Expression of the Caudal-Type Homeodomain Transcription Factors CDX 1/2 and Outcome in Carcinomas of the Ampulla of Vater. *J Clin Oncol*. 2005 ;23:1811-8
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84. Brosens LA, Iacobuzio-Donahue CA, Keller JJ, Hustinx SR, Carvalho R, Morsink FH, Hyland LH, Offerhaus GJ, Giardiello F, **Goggins** M. Increased cyclooxygenase-2 expression in duodenal compared to colonic tissues in Familial Adenomatous Polyposis and relationship to the -765G>C COX-2 polymorphism. *Clin Cancer Res*; 2005;11:4090-6.
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- BH, Cameron JL, Eshleman JR, Schulick RD, Maitra A, Hruban RH. Clinicopathological characteristics and molecular analyses of multifocal intraductal papillary mucinous neoplasms of the pancreas. *Ann Surg* 2012;255:326-33.
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181. 9. Jones S, Li M, Parsons DW, Zhang X, Wesseling J, Kristel P, Schmidt MK, Markowitz S, Yan H, Bigner D, Hruban RH, Eshleman JR, Iacobuzio-Donahue CA, Goggins M, Maitra A, Malek SN, Powell S, Vogelstein B, Kinzler KW, Velculescu VE, Papadopoulos N. Somatic mutations in the chromatin remodeling gene ARID1A occur in several tumor types. *Hum Mutat* 2012;33:100-3.
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- Severi G, Shu XO, Visvanathan K, et al. Detectable clonal mosaicism and its relationship to aging and cancer. *Nat Genet* 2012;44:651-8.
183. 11. Hong SM, Vincent A, Kanda M, Leclerc J, Omura N, Borges M, Klein AP, Canto M, Hruban RH, Goggins M. Genome-wide somatic copy number alterations in low-Grade PanINs and IPMNs from individuals with a family history of Pancreatic Cancer. *Clin Cancer Res* 2012.
184. 12. Hong SM, Goggins M, Wolfgang CL, Schulick RD, Edil BH, Cameron JL, Handra-Luca A, Herman JM, Hruban RH. Vascular invasion in infiltrating ductal adenocarcinoma of the pancreas can mimic pancreatic intraepithelial neoplasia: a histopathologic study of 209 cases. *Am J Surg Pathol* 2012;36:235-41.
185. 13. Gupta S, Pramanik D, Mukherjee R, Campbell NR, Elumalai S, de Wilde RF, Hong SM, Goggins MG, De Jesus-Acosta A, Laheru D, Maitra A. Molecular determinants of retinoic Acid sensitivity in pancreatic cancer. *Clin Cancer Res* 2012;18:280-9.
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188. 17. Canto MI, Hruban RH, Fishman EK, Kamel IR, Schulick R, Zhang Z, Topazian M, Takahashi N, Fletcher J, Petersen G, Klein AP, Axilbund J, Griffin C, Syngal S, Saltzman JR, Morteale KJ, Lee J, Tamm E, Vikram R, Bhosale P, Margolis D, Farrell J, Goggins M. Frequent detection of pancreatic lesions in asymptomatic high-risk individuals. *Gastroenterology* 2012;142:796-804.
189. 18. Wu J, Jiao Y, Dal Molin M, Maitra A, de Wilde RF, Wood LD, Eshleman JR, Goggins MG, Wolfgang CL, Canto MI, Schulick RD, Edil BH, Choti MA, Adsay V, Klimstra DS, Offerhaus GJ, Klein AP, Kopelovich L, Carter H, Karchin R, Allen PJ, Schmidt CM, Naito Y, Diaz LA, Jr., Kinzler KW, Papadopoulos N, Hruban RH, Vogelstein B. Whole-exome sequencing of neoplastic cysts of the pancreas reveals recurrent mutations in components of ubiquitin-dependent pathways. *Proc Natl Acad Sci U S A* 2011;108:21188-93.

On-Line Publications

1. **Goggins M**, Hilgers W, Hruban RH, Kern SE. Absence of Beta-catenin mutations in patients with pancreatic cancer. *NOGO* 1;4: 1997

2. **Goggins M**, Hilgers W, Hruban RH, Kern SE. Absence of Beta-catenin mutations in patients with breast cancer.
NOGO 1;5: 1997
3. GJ Riggins; S Thiagalingam; **Goggins M**; SE Kern; KW Kinzler; B Vogelstein. Normal SMAD2 gene in pancreatic cancer
NOGO 1;40, 1997.
4. **Goggins M**, Shekher M, Turnacioglu K, Yeo CJ, Hruban RH, Kern SE. Absence of ALK-5 mutations in breast cancer cell lines.
NOGO 2;31, 1998

Inventions, Patents, Copyrights

License Agreement: Johns Hopkins University and Epigenomics, AG

1) JHU ref #: DM-3825. Agreement signed by Epigenomics and inventors May 2001.

Title: Differentially methylated sequences in pancreatic cancer

Inventors: Michael **Goggins**, and Taka Ueki, MD. Patent. 7153653

2) Aberrantly methylated genes in pancreatic carcinoma using high-throughput microarrays. Patent 7485418 Inventors: **M Goggins**, and Nori Sato.

3) SPARC methylation in pancreatic cancer. Inventors: **M Goggins**, and Nori Sato. JHU ref #4245. Patent: 7879542

4) Licensing agreement: Serum diagnosis of pancreatic adenocarcinoma using SELDI mass spectrometry. CIPHERGEN Inc. Goggins M, Chan D, Koopmann J, Zhang Z, White N.

5) Notice of Invention: Invention entitled: "A Heteroplexing Strategy for Detecting Low Abundance Mutations in Clinical Samples for Cancer Diagnosis" **Goggins M** (JHU Ref.: 5003), provisional patent application submitted.

6) PALB2 licensed to Myriad Genetics, Oct 2009

FDA Investigational New Device (IND) Holder

Clinical trial investigating the Parp inhibitor, Olaparib in combination with cisplatin, irinotecan for patients with pancreatic cancer 2010-

EXTRAMURAL SUPPORT:

Current Support

7/07-6/12: *Markers of high risk in pancreatic cancer*.
P50CA62924
NCI Spore in Gastrointestinal Cancer, Project 3B
~\$119,000/year direct costs
SPORE PI, Kern

20% effort

“*Markers for risk in Familial Pancreatic Cancer*”

P50CA62924

NCI *Spore in Gastrointestinal Cancer*, Project 3A: Project PI: Hruban.

\$128,687/year direct costs

SPORE PI, Kern, Project PI: Hruban.

Co-investigator, 5% effort

9/30/09-8/31/12 (NCE)

NCI RC2CA148346 (PI) *Predicting pancreatic cancer responses for a Parp inhibitor-based clinical trial* \$1.1 million/2 years

6/08-4/13: *PACGENE (Pancreatic cancer genetic epidemiology consortium)*

R01CA97075-06-12 (Competitive Renewal)

NCI

\$699,900/year (direct costs) JHU \$1,288,768 (direct)/5 years

PI Dr. Gloria Petersen, Mayo Clinic) Subcontract PI Goggins

Role: Director of the Tissue Core/ Leader of Aim #3, 15% effort,

1R01CA154823-01 (Klein)

4/1/11-3/31/15

NIH/NCI

\$516,329

Validation and Fine-Scale Mapping of Pancreatic Cancer Susceptibility Loci

This is a multi-center study in which the major goal is to validate the initial pancreatic cancer GWAS findings and identify novel DNA changes that may be associated with pancreatic cancer

Lustgarten Foundation (Vogelstein)

1/01/2010 – 12/31/2012

90041051

Pancreatic Cancer Research Consortium – Early Detection \$781,422

Major Goals: The aim of this proposal is to development of molecular tests for the early diagnosis of pancreatic neoplasia.

Pancreatic cancer screening gift (Susan Wojcicki): 7/1/12-6/30/14

10% effort

Previous Support

1995-6: University of Dublin Postgraduate Travelling Scholarship in Medicine. (salary support for nine months~\$15,000).

1996-1/99: SPORE in Gastrointestinal cancer

NIH

CA62924

NA
 PI; Dr. Scott Kern
 100% support from 4/96-1/99

- Nov. '98: *"An evening with the stars."*
 NA
 PanCAN A gala fundraiser to support my laboratory
 Net proceeds from the event ~\$90,000.
- 1999-2000: *"Identifying screening tests to identify early symptomless pancreatic cancer"*
 NA
 Lustgarten Foundation for pancreatic cancer research
 (\$300,000/2 years; \$200,000 in direct costs)
 Role PI
 40% effort
- Feb 2000: *PANCAN (pancreatic cancer action network), \$60,000 gift.*
- May 2000: *Bringing chips from bench to bedside: using proteomics to identify novel
 pancreatic cancer proteins.*
 NA
 National Pancreas Foundation
 \$30,000/yr.
 Role PI.
 No effort
- Aug 2000: Hopkins DK center for the analysis of gene expression.
 NA
 NIH
 NA
 PI: Vince Yang MD, PhD.
 Co-investigator: No effort.
- 2000: *Gene expression in pancreatic cancer.*
 NA
 GeneLogic Corp.
 \$10,000 in direct costs.
 PI: Hruban.
 Co-investigator: No effort.
- 2001: *PANCAN (pancreatic cancer action network), \$40,000 gift.*
- 2002: Pancreatic cancer in Jewish individuals

- The Herbert Feidman Fund for Pancreatic Cancer and the United Jewish Endowment Fund of the Jewish Federation,
\$7500
PI Goggins
No effort.
- 2001-3: *"Proteomic profiles of pancreas cancer"*
NA
Lustgarten Foundation for pancreatic cancer research.
~ \$96,000/year, direct.
PI: Goggins
20% effort
- 2001-3 *"Folate pathway polymorphisms and pancreatic cancer risk"*
R03 CA92778
NCI
\$50,000 direct/year
PI Goggins
5% effort
- 2001-3 *"The PanINs of pancreatitis, pancreas cancer and controls"*
1R03 CA91968
NCI
\$50,000/year/direct costs
PI Goggins
5% effort
- 2000-3: *"The early detection of pancreatic cancer using molecular markers."*
GI SPORE Career Development Award.
NCI
50K/year \$175,000 direct total over 3.5 years
PI Goggins
effort (10-20%)
- 2001-4: *Cancer of the Pancreas Screening (CAPS2):*
NA
NCI SPORE Supplement Project
PI Canto
\$ 457,990.00 direct costs over 3 years
Role: Co-investigator: 0% effort
- 2003-7 *The Safety and Efficacy of Fish Oil to maintain weight in Pancreatic Cancer Patients"*
P50 AT000437
NCI
\$460,894

- PI: Adrian Dobs,
3% effort. Role: Co-investigator
- 2003-5: *Using GINI to identify familial pancreatic cancer susceptibility genes*
NA
Maryland Cigarette Restitution Fund
50K/year
PI: Eshleman.
Role: Co-investigator, 3% effort
- 2003-6: *Fellowship grant: Research Supplement for underrepresented minorities.*
CA62924
NCI Supplement to SPORE in GI Cancer
40k/year
PI Kern
Role: Sponsor for Carmelle Curtis Rogers, PhD (Fellow in my lab).
- 2005-6: *RELN and Pancreatic cancer*
NA
National Pancreas Foundation,
\$25,000/year
(PI Goggins)
(1% effort).
- 2002-7: *“Markers of high risk in pancreatic cancer”.*
P50CA62924
NCI Spore in Gastrointestinal Cancer, Project 2B
SPORE PI Dr. Scott Kern
~\$115,000/year direct costs
Project PI, 20% effort
- “Markers for risk in Familial Pancreatic Cancer”*
P50CA62924 (PI Dr. Scott Kern)
NCI Spore in Gastrointestinal Cancer, Project 3B,
SPORE PI Dr. Scott Kern, Project PI: Hruban,
\$118,242/year
Role: Co-investigator, 8% effort
- 2005-7: *Germline Deletions in familial pancreatic cancer*
NA
SPORE /Stuart Trust Pilot Project:
\$50,000/year.
PI Goggins
5% effort

- 2005-7: *Polymorphisms associated with pancreatic cancer risk.*
 NA
 SPOR Pilot project
 \$50,000/year
 PI (Klein)
 Role: Co-investigator (no effort)
- 2006-7 *Discovering Jewish founder mutations that cause pancreatic cancer*
 NA
 Goldman Pilot Projects in Pancreatic Cancer
 \$50,000/year
 PI (Goggins)
 (no effort)
- 4/03-4/30/08: *“Classifying pancreatic cancer by methylator phenotypes”*
 R01CA90709
 NCI
 \$166,500/year/4 years, direct. (PI Goggins)
- 2007-8: *Novel strategies for identifying familial pancreatic cancer susceptibility genes*
 NA
 Goldman Foundation for pancreatic cancer research
 \$50K
 PI Goggins
 1% effort
- 2006-10: *Screening for Early Pancreatic Neoplasia: A Multicenter Study*
 NA
 NCI and the Lustgarten Foundation for pancreatic cancer research (Joint funding)
 \$500k/year total costs
 P.I. Canto,
 My Role: (Co-investigator) Laboratory Director
- 2008-9:
 Pancreatic Cancer Pre-Validation Reference Set for Serum/Plasma Biomarkers
 NA (Early Detection Research Network)
 NIH
 Subcontract - University of Pittsburgh (JHU PI, Klein)
 \$17,434
 My role 3% effort
- 2008-2009: PANSCANII
 NA
 NIH
 (~30K)

Subcontract (Klein) – M.D. Andersen Cancer Center
 Role: Co-investigator: 1% effort

6/06-5/12 *Markers of Early Pancreatic Cancer (NCE)*
 R01CA120432
 NCI,
 \$177, 500/year, direct costs
 PI, Goggins,

11/07-10/11; *Expanding the target population for pancreatic cancer screening: The CAPS4 (Cancer of the Pancreas 4) study”*
 NA
 The V foundation for Cancer Research
 \$200k total costs/year/3 years/90% direct costs
 PI Goggins,
 10% effort

Research Program Building

Director of the Pancreatic Cancer Early Detection research laboratory, 2/1/99-current
 Maintain a sample repository for pancreatic cancer early detection studies.

JHU Laboratory for Pancreatic Cancer Early Detection Studies

Principal Investigator, Phase I/II clinical trial: Irinotecan, Cisplatin +/-Mitomycin and Olaparib/placebo for advanced pancreatic cancer: NCI/RC2 sponsored 2011-

Research Committees

1999-present: GI SPORE Working Group
 1999-2005: CAPS (Cancer of the Pancreas) Working Group
 1999-present: NFPTR (National Familial Pancreas Tumor Registry) Working group
 2002-present: PACGENE (Pancreatic cancer genetic epidemiology) Steering Committee
 2005-present: CAPS3 Clinical trial Steering Committee
 2009-present: CAPS5 working Group

EDUCATIONAL ACTIVITIES

Educational Publications

Expert Opinion/Position Statements:

1. Mulcahy GM*, **Goggins M***, Willis D, Decker RA, Luce MC, Parsons R, Markowitz S, Narod SA, Holt JF, Page DL, Mauer AM, and Thor A. Proceedings of the American Cancer Society workshop on hereditary cancer syndromes: Pathology and gene testing. *Cancer 1997 (Suppl II);80:636-47*. *equal contributors

2. Hruban RH, Takaori K, Klimstra DS, Adsay NV, Albores-Saavedra J, Biankin AV, Biankin SA, Compton C, Fukushima N, Furukawa T, **Goggins M**, Kato Y, Kloppel G, Longnecker DS, Luttges J, Maitra A, Offerhaus GJ, Shimizu M, Yonezawa S. An Illustrated Consensus on the Classification of Pancreatic Intraepithelial Neoplasia and Intraductal Papillary Mucinous Neoplasms. *Am J Surg Pathol* 2004; 28:977-987.
3. **Goggins M**, Koopmann J, Yang D, Canto MI, Hruban RH. National Academy of Clinical Biochemistry (NACB) Guidelines for the Use of Tumor Markers in Pancreatic Ductal Adenocarcinoma.
http://www.nacb.org/lmpg/tumor/chp3i_pancreatic.pdf

Invited Reviews and editorials

4. **Goggins M**. Recent developments in the medical management of peptic ulcer disease. *Irish Medical Journal* 1994;87:120-1.
5. **Goggins M**. The medical management of ulcerative colitis. *Irish Med Journal* 1993;86:112-113.
6. **Goggins MG**, Kelleher D. Celiac disease and other nutrient related injuries to the gastrointestinal tract. *Am J Gastroenterology* 1994;89:S2-S17.
7. O'Toole D, **Goggins M**, Weir DG. Idiopathic Constipation. *Irish Medical Journal* 1996; 89:88-91.
8. **Goggins M**. The pathogenesis of HIV encephalitis. *J Irish Coll Physicians and Surgeons* 1996 Jan issue.
9. **Goggins M**, Whelan A, Kelleher D. The immunology of coeliac disease. *Ann Interne Med Paris* 1996;147:40-48
10. **Goggins M**, Hruban R, Kern SE. Hereditary pancreatic cancer-Part I Genetic profile of the disease. *Oncology News International* 1997;6 (6):24.
11. **Goggins M**, Hruban R, Kern SE. Hereditary pancreatic cancer-Part II The candidate genes. *Oncology News International* 1997;6(7):28
12. **Goggins M**, Hruban R, Kern SE. Hereditary pancreatic cancer-Part III Clinical recognition of hereditary predisposition. *Oncology News International* 1997;6(8):15.
13. Hruban RH, Offerhaus JA, Kern SE, **Goggins M**, Wilentz RE, Yeo CJ. Tumor suppressor genes in pancreatic cancer. *J Hepatobiliary Pancreatic Surg*: 1998;5:383-91.
14. Hruban RH, Wilentz RE, **Goggins M**, Offerhaus JA, Yeo CJ, Kern SE. Pathology of incipient pancreatic cancer. *Annals of Oncology* 1999;10:S9-11.

15. Tascilar M, Caspers E, Sturm PDJ, **Goggins M**, Hruban RH, Offerhaus GJA. Role of tumor markers and mutations in cells and pancreatic juice in the diagnosis of pancreatic cancer. *Annals of Oncol* 1999;10:S107-110.
16. **Goggins M**, Kern SE, Offerhaus GJA, Hruban RH. Progress in cancer genetics: lessons from pancreatic cancer. *Annals of Oncol* 1999;10:S4-8.
17. Hruban RH, Petersen GM, **Goggins M**, Tersmette AC, Offerhaus JA, Falatko F, Yeo CJ, Kern SE. Familial pancreatic cancer. *Annals of Oncology* 1999;10:S69-73.
18. Hruban RH, **Goggins M**, Kern SE. Molecular genetics and related developments in pancreatic cancer. *Current Opinion in Gastroenterol* 1999;15:404
19. **Goggins M**, Canto M, Hruban RH. Can we screen high-risk individuals to detect early pancreatic carcinoma? *J Surgical Oncology* 2000;74:243-8.
20. Hruban RH, **Goggins M**, Parsons J, Kern SE. A progression model of pancreatic cancer. *Clin Canc Res* 2000;6:2969-72.
21. Arnold M, **Goggins M**. BRCA2 and predisposition to Pancreatic and other Cancers. *Expert reviews in molecular medicine* May 14, 2001:1-10
<http://www-ermm.cbcu.cam.ac.uk>
22. Klein AP, Hruban RH, Brune KS, Petersen, GM, **Goggins M**. Familial Pancreatic Cancer. *The Cancer Journal* 2001;7:266-73.
23. Hruban RH, Iacobuzio-Donahue C, Wilentz R, **Goggins M**, Kern SE. The molecular pathology of pancreatic cancer. *Cancer J* 2001 Jul;7(4):251-258
24. Rosty C, and **Goggins M**. The Early Detection of Pancreatic Carcinoma. *Hematology Oncology Clinics of North America*. 2002;16:37-52.
25. Yeo TP, Hruban RH, Leach SD, Wilentz RE, Sohn TA, Kern SE, Iacobuzio-Donahue CA, Maitra A, **Goggins M**, Canto MI, Abrams RA, Laheru D, Jaffee EM, Hidalgo M, Yeo CJ. Pancreatic cancer. *Curr Probl Cancer*. 2002 Jul-Aug;26(4):176-275.
26. Rosty C, **Goggins M**. Identification of differentially expressed proteins in pancreatic cancer using a global proteomic approach. *Methods Mol Med* 2004; 103:189-98.
27. Curtis CD, **Goggins M**. DNA methylation analysis in human cancer. *Methods Mol Med* 2004; 103:123-36.

28. Walter K, Eshleman J, **Goggins M**. Xenografting and harvesting human ductal pancreatic adenocarcinomas for DNA analysis. *Methods Mol Med* 2004; 103:103-12.
29. **Goggins M**. Molecular markers of early pancreatic cancer. *J Clin Oncol*. 2005 Jul 10;23(20):4524-31.
30. Brosens LA, Keller JJ, Offerhaus GJ, **Goggins M**, Giardiello FM. Prevention and management of duodenal polyps in familial adenomatous polyposis. *Gut*. 2005 Jul;54(7):1034-43.
31. Sato N, **Goggins M**. The Discovery of Markers of Pancreatic Cancer using Microarray Technologies. *Pharmaceutical Discovery* 2005: Sept issue (supplement), 32-36.
32. Sato N and **Goggins M**. The Role of Epigenetic Alterations in Pancreatic Cancer. *J Hepatobiliary Pancreat Surg*, 13: 286-295., 2006.
33. Sato N and **Goggins M**. Epigenetic alterations in intraductal papillary mucinous neoplasms of the pancreas. *J Hepatobiliary Pancreat Surg*, 13: 280-285, 2006.
34. **Goggins M**. Identifying molecular markers for the early detection of pancreatic neoplasia. *Seminars in Oncology* 2007;34:303-10.
35. Hruban R, Takori K, Canto M, Fishman EK, Campbell K, Brune K, Kern SE, **Goggins M**. Clinical Importance of precursor lesions of the pancreas. *J Hepatobiliary Pancreat Surg* 2007;14:255-63.
36. Hruban R, Maitra A, Kern SE, **Goggins M**. Precursors to pancreatic cancer. *Gastrointestinal Clinics of North America*, 2007;36:831-49
37. Hruban R, Klein A, Eshleman J, Axilbund JE, **Goggins M**. Familial Pancreatic Cancer. *Expert Review in Gastroenterology and Hepatology*, 2007;1:81-8.
38. Hruban R, Maitra A and Goggins M: Update on Pancreatic Intraepithelial Neoplasia. *Int J Clin Exp Pathol* 2008;1:306-316
39. Omura N, Goggins M. Epigenetics and Epigenetic alterations in pancreatic neoplasia. *Int J Clin Exp Pathol* 2009;2:310-26.
40. Hruban RH, Maitra A, Schulick R, Laheru D, Herman J, Kern SE, Goggins M. Emerging molecular biology of pancreatic cancer. *Gastrointest Cancer Res*. 2008 Jul;2(4 Suppl):S10-5.
41. Hruban RH, Canto MI, **Goggins M**, Schulick R, Klein AP.

- Update on familial pancreatic cancer. *Adv Surg.* 2010;44:293-311.
42. Hong SM, Park JY, Hruban RH, Goggins M. Molecular signatures of pancreatic cancer. *Arch Pathol Lab Med* 2011;135:716-27.
 43. Vincent A, Herman JM, Schulick R, Hruban R, Goggins M. Pancreatic Cancer. *Lancet* 2011;in press. PMC # [3062508](#)
 44. Goggins M. Markers of Pancreatic Cancer: Working Toward Early Detection. *Clin Cancer Res* 2011;17:635-7
 45. Goggins M. GLP-1 Receptor Agonist Effects on Normal and Neoplastic Pancreata. *Diabetes* 2012;61:989-90.

Case Reports:

1. O'Byrne K, **Goggins M**, Freyne P, Daly P, Kelleher D, Weir DG. Malignant small cell neuroendocrine tumour associated with MEN-1: somatostatin scanning and response to treatment. *Cancer* 1994; 74; 2374-8.
2. Farrell RJ, Collins R, **Goggins M**, Forkin C, Gaffney E, Keogh JA, Weir DG. Nephrotic syndrome, renal vein thrombosis, and folate deficiency in a young man: is there a relationship to homocysteine metabolism? *Nephrology, Dialysis, Transplantation.* 10:2130-2, 1995
3. Hiroyuki Matsubayashi, Shohei Ooka^a, Hirokazu Kimura^a, Hiroaki Sawai^a, Naomi Kakushima^a, Masaki Tanaka^a, Michael Goggins^b and Hiroyuki Ono. Proximally migrated pancreatic stent successfully removed using needle-knife and forceps: Complication after precut papillotomy assisted by pancreatic stenting . *Clin Res Hepatol Gastroenterol.* 2011 Apr;35(4):321-4. Epub 2011

Non-peer reviewed articles/correspondence

1. **Goggins M**. Cholesterol inhibition, cancer and chemotherapy (letter). *Lancet* 1992;340:128.
2. **Goggins M**. Tobin A. Interferon for Hepatitis C (letter). *Br Med J* 1993;306:1196-7.
3. **Goggins M**. "Effect of theophylline on sleep-disordered breathing in heart failure" (letter). *New England J Medicine* 1997;336;379

4. Koopmann J, **Goggins M**, Hruban R. Case 7-2004: hereditary melanoma and pancreatic cancer. *N Engl J Med*. 2004 Jun 17;350(25):2623-4
5. Harinck F, Canto MI, Schulick R, **Goggins M**, Poley JW, Fockens P, Kluijt I, Bruno M. Surveillance in individuals at high risk of pancreatic cancer: too early to tell? *Gut*;59:1005; author reply 1006-7.

Book Chapters

1. “*The molecular biology of cholangiocarcinoma and Gall Bladder carcinomas*”: **Goggins M**. For “The principles and Practice of Gastrointestinal Oncology” Ed: Abbruzzese J, Evans D, Willett, Hamilton SR. 1st Edition, 2004. Oxford University Press, New York, 10016.
2. *Systemic Oncology of the pancreas*. For: “The Cancer Handbook” MacMillan Press, London. Ed; Malcolm Alison. Au: **Goggins M**, Wilentz R, Hruban RH. 2002.
3. *Molecular genetics of Pancreatic Cancer*. For Principles and Practice of Gastrointestinal Oncology. Ed by Kelsen DP, Daly JM, Kern SE, Levin B, Tepper J, Lippincott, Williams and Wilkins, Co. 2001
4. *Pancreatic cancer epidemiology, detection and prevention*. Au; **Goggins M**, Kern SE, Hruban RH. Eds; Ed L Franco and Thomas E Rohan. For Cancer precursors; epidemiology, detection and prevention. Springer-Verlag, New York, Inc. 2002.
5. *Neoplastic Cysts and Other Precancerous Lesions of the Pancreas*. Hruban RH, **Goggins M**, Yeo CJ, For: Advanced Therapy of Gastroenterology and Liver Disease, 5th Edition, 2004. Theodore Bayless and Anna Mae Diehl, Editors.
6. “*Cancer of the Pancreas*.” Yeo TP, Hruban RH, Kern SE, Iacobuzio-Donahue CA, Maitra A, **Goggins M**, Canto MI, Abrams RA, Laheru D, Jaffee EM, Hidalgo M, Yeo CJ. In: Cancer: Principles and Practice of Oncology. Eds. DeVita VT, Hellman S, Rosenberg, S. 7th Edition, 2004. Lippincott Williams & Wilkins, Phil, PA 19106.
7. *Molecular Diagnosis of Pancreatic Cancer*. **Goggins M**. In: Pancreatic Cancer. Eds: von Hoff D, Evans D, Hruban R. 1st Edition, 2005. Jones and Bartlett Publishers, Sudbury, Mass. 01776
8. *Disorders of the Small and Large Intestine*, by **M. Goggins**. The Johns Hopkins Internal Medicine Board Review, Eds: Redonda Miller, Stephen Sisson, Bimal Asher, 2rd edition, Mosby Publishers.
9. *Genomics, Epigenomics and Proteomics of Pancreatic Cancer* by **M Goggins**. In: Pancreatic cancer, edited by Dr. Andrew Lowy, in press.

10. *Reelin and Pancreatic cancer*, by Kimberly Walter and **M Goggins**. In: *Reelin* by Dr. Fatemi, 2008.
11. Goggins M. *The Development of Novel Biomarkers of Pancreatic Neoplasia*. For: the Handbook of Pancreatic cancer, Eds: Neoptomolos, Urrutia, Abbruzzese, Buchler, Springer, 2009.
12. Lennon AM, Goggins M. *Diagnostic and Therapeutic Response Markers*. For: the Handbook of Pancreatic cancer, Eds: Neoptomolos, Urrutia, Abbruzzese, Buchler, Springer, 2009.
13. Lennon AM, Goggins M. *Disorders of the Small and Large Intestine*. Hopkins Internal Medicine Board Review, Volume 3. Eds: Bimal Asher, Redonda Miller, Stephen Sisson, 2011.
14. Eileen O'Sullivan, Michael Goggins. DNA methylation analysis in human cancer (invited and submitted). For *Pancreatic Cancer, Methods in Molecular Medicine*, 2nd Ed. Gloria Su.
15. Michael Ayars, Michael Goggins, Epigenetic alterations of Pancreatic Cancer. For *Molecular Genetics of Pancreatic Cancer*, Eds. Simeone, Maitra (invited and submitted). Springer US.

Teaching

Classroom instruction:

Lecturer/Tutor for JHU medical students

- Gastrointestinal Pathology Course, ~7 Seminars/year, 2001-present
- Gastrointestinal Pathophysiology Course, 2/2000, 2/04
- Lecture 2nd year Med students, "Pancreatitis" 2009, 2010
- Lecture 2nd year Med students, "Pancreatic Cancer" 2009, 2010

Lecturer for the Johns Hopkins graduate program in Pathobiology

- "Pancreatic Cancer" (4/2001), "Tumor Suppressor Genes" (4/2002)
- Molecular Detection of Solid Tumors, (3/2007)

Lecturer Graduate program in Epigenomics
Epigenetics of Cancer, May 2010

Unit Director of the GI section of the graduate program in Pathobiology and Disease Mechanisms, 2002-2006

Gastrointestinal Anatomy tutorial first year Medical Students: Clinical Correlations

- 2001-present

Didactics/Lectures in Gastroenterology for GI fellows (2002-present)

Clinical Instruction

Johns Hopkins Hospital, Division of Gastroenterology/Hepatology, Inpatient and consult service, 2000-present (1-2 months/year), supervise GI fellows, medical residents, interns, and students on the Nelson 5 service and on call.

Clinical Skills Course for second year medical students, Fall 2004.

Clinical Skills Course for second year medical students, Winter 2005/6, 2006/7

Bedside Teaching of 3rd year Medical Students (Janeway Firm), 2008-present

Attending on Wards (ACS coverage), Janeway Firm, weekend coverage, 2008-present

Educational/CME Lectures

1. *"The early detection of pancreatic cancer."* 27th Annual Topics in Gastroenterology and Hepatology, Inner Harbor, Division of Gastroenterology, Johns Hopkins Medicine. October 2001
2. *"Serological Markers of Pancreatic Cancer"*. 28th Annual Topics in Gastroenterology and Hepatology, Division of Gastroenterology and Hepatology, Johns Hopkins University. Marriot Hotel, Baltimore, MD October 2002.
3. *"Pancreatology: The Gastroenterologist's perspective"* for the 2nd Annual Update in Gastrointestinal Pathology. Renaissance Harbor View Hotel, Baltimore, MD. November 2002.
4. *"Physician Scientists in Gastroenterology"* The 1st Annual Johns Hopkins Career Development Conference hosted by the Division of Gastroenterology. Wyndham Hotel, Baltimore, MD November 23rd 2002.
5. *Molecular markers of pancreatic cancer*. For the 30th Annual Topics in Gastroenterology and Liver Disease. Wyndham Hotel, Baltimore, MD Oct 2004.
6. *"Selected Topics in Gastrointestinal Endoscopy with Pathological Correlation"* For the 4th Annual Topics in Gastrointestinal Pathology, November 7, 2004, JHU Baltimore
7. *Selected Topics in Gastroenterology*, JHU Internal Medicine Board Review Course, Sheraton Hotel, Towson, MD July 2005.
8. *Familial Pancreatic Cancer and Premalignant Lesions*, For the 31st Annual Topics in Gastroenterology and Liver Disease, Johns Hopkins University, Baltimore, MD September 2005.
9. *Update on Pancreaticobiliary Neoplasia*, for "DDW 2006" A JHU Division of Gastroenterology/Hepatology, CME course, July 15, 2006, Turner Auditorium, JHU.

10. *Early diagnosis of pancreatic cancer* For the 32nd Annual Topics in Gastroenterology and Liver Disease, Johns Hopkins University, Baltimore, MD October 2006
11. *Pancreas Update*, for “DDW 2007” A JHU Division of Gastroenterology/Hepatology, CME course, June 16, 2007, Turner Auditorium, JHU.
12. *Prevention & Evaluation of Pancreatic Masses* For the 33rd Annual Topics in Gastroenterology and Liver Disease, Johns Hopkins University, Baltimore, MD October 2007
13. “Molecular markers for the early diagnosis of pancreatic cancer”, For the 7th Annual Symposium on Gastrointestinal Cancers " St. Louis University, St. Louis, Mo, 9/20/08
14. The molecular biology and progression of pancreatic ductal adenocarcinoma, Pancreatic cancer CME conference, Memorial Sloan Kettering CC, NYC, October 2nd, 2010
15. Pancreatic cancer, the Next 10 years. Pancreatic cancer CME conference, Memorial Sloan Kettering CC, NYC, October 2nd, 2010
16. Pancreatic cancer screening: For the Annual Meeting of the National Society of Genetic Counselors, Boston, Oct 26th, 2012
17. “Pancreatic Neuroendocrine tumors What’s new in 2012”: For the 38rd Annual Topics in Gastroenterology and Liver Disease, Johns Hopkins University, Baltimore, MD October 2012

Mentoring of Research Trainees:

1999-2001:

- Halcyon Skinner, PhD School of Hygiene and Public Health, JHU, (Now an Assistant Professor of Population Health Sciences at the University of Wisconsin)

1999-2002:

- Taka Ueki, MD postdoctoral fellow, Department of Pathology (Now an Assistant Professor at Kyushu University, Japan)
- Kim Walter, research technician in my lab, Dept of Pathology, JHU
- Christophe Rosty, postdoctoral fellow in my lab, Dept of Pathology, JHU (Now an Academic Pathologist at Hôpital Laennec Paris, France)

2000-2001:

- Metin Tascilar, MD, postdoctoral fellow in my lab, Dept of Pathology,
- Renee Altink, medical student, University of Leiden
- Meghan Arnold, JHU medical student rotated in my lab for 3 months.

2001-2005:

- Norihiro Sato, MD, PhD, postdoctoral fellow in my lab, (2004-2005: Research Associate) now an Assistant Professor at Kyushu University, Japan
- 2001-2004:
- Noriyoshi Fukushima MD, PhD, postdoctoral fellow in my lab, (Now an Associate Professor at the University of Tokyo)
- 2001-2002:
- Marnix Jensen, medical student in my lab, (now completing his residency in The Netherlands)
- 2002-2003:
- Tjarda van Heek, MD, postdoctoral fellow in my lab, (Dr. van Heek received her PhD on “Genes and Pancreatic cancer” in 2005 and is completing her surgical training in Amsterdam)
 - Sanjay Jagannath, MD, clinical fellow rotated in my lab, (now an Assistant Professor of Medicine, JHU)
 - Matt Yeatman, MD clinical fellow rotated in my lab, JHU (now in private Gastroenterology practice in Maryland)
- 2002-2004:
- Jens Koopman MD, postdoctoral fellow, JHU (Currently completing his Gastroenterology training in Germany)
- 2002-2005:
- Hiroyuki Matsubayashi MD, postdoctoral fellow, JHU (Now working as an Assistant Chief, Division of endoscopy, Shizuoka Cancer Center, Shizuoka, Japan)
- 2002-2006:
- Carmelle Curtis Rogers PhD, postdoctoral fellow, JHU (Dr. Rogers is now an Assistant Professor at Coppin State University, Baltimore).
- 2003:
- Alex Yeh, MD, postdoctoral fellow, JHU
- 2003-2004:
- Sean Martin, MB (NUI), FRCSI, postdoctoral fellow, JHU (MD thesis awarded in 2005, now completing surgical training in Ireland)
 - Steven Hustinx, MD, Pathology Trainee, JHU (Currently completing his medicine residency in The Netherlands)
 - Ludwig Brosens, MD, Pathology Trainee, JHU (Currently completing his medicine residency in The Netherlands)
- 2003-2005:
- Tadayoshi Abe, MD, PhD, postdoctoral fellow, JHU (Now working as a surgeon in Sendai, Japan)
- 2004-2005:
- Ralph Carvalho, BSc. Graduate student, JHU (PhD awarded in 2006, now a postdoctoral fellow in Europe)
 - Yansong Bian, MD, Postdoctoral fellow, JHU (now a fellow at the NIH)

2004-2006:

- Dawei Yang, GI fellow, JHU (now in private practice)
- Jeffrey Infante, Oncology Fellow, JHU now in academic private practice)

2005-2006:

- Tong Jing, GI fellow, JHU (Now an advanced therapeutic endoscopy fellow)

2005:

- Arnout van Hattem, medical student, AMC, The Netherlands
- Chantae Sullivan (Amherst University), summer medical student (accepted into Medical school in 2007).

2005-present:

- Kim Walter, BS, * graduate student, Pathobiology PhD program at JHU

2006:

- David Kelly, summer medical student, UCD

2006-2007:

- Chung Pin Li, MD, PhD, postdoctoral fellow, JHMI, (Now an Associate Professor of Medicine, National Yang-Ming University, Taiwan)
- Safia Salaria, MD, research coordinator, now a Johns Hopkins Pathology Resident, 7/07.

2006-9: Kieran Brune, BS medical student, UCD (part time)

2006-present:

- Ang Li, MD postdoctoral fellow, JHMI*
- Noriyuki Omura, MD postdoctoral fellow, JHMI*

2006-11 Seung Mo Hong, MD, postdoctoral fellow, JHMI*

2007:

- Bhuvnesh Aggarwal, medical student, All India Institute of Medical Sciences, New Delhi, India
- Colin Kilmartin, medical student, University College Dublin
- Sinead Nyhan, undergraduate student from Colby College

2008:

- Audrey Vincent, PhD postdoctoral fellow, JHMI*
- Margaret Griffith, BA (researcher coordinator)-now a med student at Tufts

2009-2010: Adrianna Handra-Luca, postdoctoral fellow

2009-2011 Angela Young, JHU undergrad student, part-time

- 2010: Jun Yu, post doc fellow MD, PhD
Mitsuro Kanda, MD, PhD
- 2011-: Angela Young, research technician
Michael Ayars, grad student
Eileen O'Sullivan, medical student UCC, Ireland
- 2012-: Haeryoung Kim, MD post doc fellow
Yoshi Sadakari, MD post doc fellow
- * Current laboratory staff (also includes Michael Borges, BA senior research technician),
Spencer Knight research technician).

Thesis activities:

Thesis Advisor:

- Hal Skinner, PhD (Johns Hopkins School of Public Health),
- Tjarda van Heek, PhD (University of Amsterdam)
- Metin Tascilar PhD, (University of Amsterdam)
- Ralph Carvalho PhD (University of Amsterdam)
- Sean Martin, MD, (University College Dublin)
- Ludwig Brosens , PhD pending (University of Utrecht)
- Steven Hustinx PhD pending (University of Utrecht)
- Jeffrey Infante, MD, MHS, (JHU Bloomberg School of Public Health)
- Kim Walter, BS, PhD (Johns Hopkins University)
- Michael Ayars, BS

Training Programs and Training Grants:

Member of the Graduate Training Programs in Pathobiology and in Cancer Epidemiology, Prevention, and Control and the Fellowship Training Programs in Gastroenterology and Surgery

CLINICAL ACTIVITIES

Licensure

Certification: State of Maryland License # D0057607
ECFMG certified # 0-430-032-3

Service Responsibilities:

Johns Hopkins Hospital, Division of Gastroenterology/Hepatology
Weekly outpatient clinic, weekly block sessions of upper and lower gastrointestinal endoscopy, 3-4 half months of inpatient attending service per year, weekday and weekend on-call, fellowship coverage for endoscopy
Janeway Internal Medicine Firm Attending coverage

Clinical Program Building

Member of the collaborative multidisciplinary prospective pancreatic cyst study group

SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES

System Innovation and Quality Improvement efforts inside JHMI: none

System Innovation and Quality Improvement efforts outside of JHMI:

Production of guidelines and/or protocols:

Member of the “CAPS summit” (Baltimore, MD Feb 27-28, 2011) an international expert committee providing guidelines on pancreatic screening (manuscript in preparation)

System Innovation and Quality Improvement Program Building/Leadership: None

ORGANIZATIONAL ACTIVITIES

Committees:

Member of the Sidney Kimmel Cancer Center Clinical Research Review Committee
Weekly review of the Oncology center's clinical research protocols 1/2005-12/06.

Medical School Curriculum Reform Committee, Gastroenterology/Hepatology Section, Spring 2005, Genes to Society Committee, GI/Liver Section 2006-current

Goldman Center for Pancreatic Cancer Research Committee Sept 2005-current

Gastroenterology Fellowship Review Committee, 2006

Gastroenterology Clinical Service Review Committee, 2008

Professorial Professional Promotions Subcommittee, 2008-

Editorial Activities

1997- Concept Editor, NOGO (Journal of negative observations in genetic oncology).

2002- Editorial Board, Cancer Biology and Therapy

2005-10 Editorial Board, Clinical Gastroenterology and Hepatology

2006-current Editorial Board, Gut

2008- Editorial Board, American Journal of Translational Research

Journal Reviewer

1999- External reviewer for Clinical Cancer Research.

External reviewer for American Journal of Pathology

2000- External reviewer for American Journal of Pathology

External reviewer for the International Journal of Cancer

2001- Editorial Board Member of *Cancer Biology and Therapy*

External reviewer for Carcinogenesis

- 1999- External reviewer for Cancer Research (3), Journal of Clinical Oncology (1), Am J Pathology (1), Clinical Cancer Research (2) Oncogene, Gastroenterology, Leukemia,
- 2000- Cancer Research, Clinical Cancer Research, Journal of Pathology, Biotechniques, European Journal of Cancer
- 2001- Cancer Research, Clinical Cancer Research, Hepatology, Neoplasia, Gastroenterology, British Journal of Cancer, Nucleic Acids Research, Laboratory Investigation, Nature reviews Cancer, European Journal of Cancer, Expert review of Anticancer Therapy, Carcinogenesis, Trends in Molecular Medicine, International Journal of cancer
- 2002- Cancer Research, Clinical Cancer Research, Gastroenterology, Neoplasia, International Journal of Cancer, Gut, Expert Review of Proteomics, Pancreatology, Hepatology
- 2003- Cancer Research, Clinical Cancer Research, Gastroenterology, Neoplasia, International Journal of Cancer, Gut, Pancreatology, Hepatology, Proteomics, Laboratory Investigation, British Journal of Cancer
- 2004- Gastroenterology, Clinical Gastroenterology Hepatology, Cancer Research, Clinical Cancer Research, Oncogene, Neoplasia, International Journal of Cancer, Gut, JAMA, JNCI, Journal of the Pancreas, Pharmacogenetics, European Journal of Cancer, Lancet, American Journal of Pathology, Gastroenterology, Carcinogenesis
- 2005- Gastroenterology, Clinical Gastro Hepatol, Clinical Cancer Research Cancer Research, Cancer Epidemiology Biomarkers, Gut, J Clinical Oncology, Oncogene, JAMA, Int. J Cancer, Lancet Oncology, PLoS Medicine,
- 2006- Cancer Research, Cancer Epi Biomarkers Prev, Gut, Oncogene, Gastroenterology, Clinical Cancer Research, Int. J Cancer, J Clin Oncology, Proteomics, Am J of Gastroenterology, PLoS Medicine, JAMA
- 2007- Cancer Research, Cancer Epi Biomarkers Prev, Gut, Oncogene, Gastroenterology, Clinical Cancer Research, Int. J Cancer, Am J Pathology, Expert opinion in Medical Diagnostics, Cancer Informatics, Proteomics
- 2008- Genome Research, Clinical Cancer Research, Int. J Cancer, Gut, Gastroenterology, Cancer Research, Cancer Biol Ther, J Proteome Research, Lancet Oncology
- 2009- Gastroenterology, Clinical Cancer Research, Gut, Clinical Gastroenterology Hepatology, Cancer Research, Cancer Epi Biomarkers Prev, Molecular Cancer Therapeutics, Journal of Pathology, PNAS, JCO, CBT
- 2010- Cancer Prevention research, Cancer Research, Clinical cancer research, Cancer cell, Clinical Gastroenterology Hepatology, Gut, Cancer Epi Biomarkers Prev, Cancer Biol Ther, JNCI, Neoplasia, Cancer Prevention Research, Journal Molecular Diagnostics, Genes Chromosomes Cancer, Lancet Oncology

2011- Genome Research, Clinical cancer research, Cancer Research, Gastroenterology

2012- Gastroenterology, Gut, Cancer Research, Clinical Cancer Research,

Advisory Committees

1999- Invitee to the *NCI Pancreatic Cancer Think Tank*, Salt Lake City, Utah.

2000: Invitee to the *NCI Pancreatic Cancer Progress Review Group: Early Detection, Screening, and Prevention Section*, Chantilly, Virginia

2002: Invitee: NCI sponsored workshop: *Nutritional Links to Plausible Mechanisms Underlying Pancreatic Cancer*, Washington, DC.

2003: Invitee, *International PanIN classification Meeting*, August, JHU, Baltimore

2004: Invitee, *EDRN GI Collaborative Workshop on Pancreatic Cancer* Sept, Norfolk, Va

2005: Invitee, “*Pancreafest*”, NIH/NCI Sponsored conference on pancreatic disease, Organized by David Whitcomb, Pittsburgh, PA, July 2005.

Invitee, *Cancer Epigenetics and the Epigenome*, NCI sponsored workshop, November 28-29

NCI Epigenetics Translational research Workshop (co-chair), Nov 29-Dec 1

2007: Invitee, National Pancreas Foundation *Workshop on the Future of Research in Pancreatic Diseases*, Baltimore, MD

Invitee, NCI/NIH sponsored Workshop on Interfacing Animal Models with Human Cancer Biomarker Development. Bethesda, MD, July 2007

Invitee, Cancer Research UK Review of Pancreatic cancer research in the UK, London July 2007

Invitee, PanCAN summit on Pancreatic Cancer, La Jolla, 8/07

2008: Invitee, Lustgarten Foundation for pancreatic cancer research. Conference: “Sequencing of the Pancreatic cancer Genome, What’s next?” Baltimore, MD October 29-30.

2010: Moderator and Speaker, NCI Stakeholders Meeting on Research Priorities for the Future, MAY 20-21, 2010

2011: CANCER OF THE PANCREAS SCREENING SUMMIT, BALTIMORE, SPEAKER AND COMMITTEE MEMBER

2011: CAMBRIDGE UK, SITE VISIT, PROFESSOR TUVESON FOR CANCER RESEARCH UK

2012: AACR/PANCAN PANCREATIC CANCER THINK TANK, LAKE TAHOE, JUNE 18-21, 2012

EARLY DETECTION OF PANCREATIC CANCER WORKSHOP, BONN GERMANY, JULY 6-7, 2012

Grant Reviewer

- NIH Adhoc Study Section: Diet, methylation and Cancer. R01/R21. 6/2003
- NIH Adhoc Study Section: Novel cancer chemotherapeutics. R01s. 8/2003
- For the Irish Cancer Society, 2003-present
- Dutch Cancer Society , 2003-05
- NIH Program Project Review Study Section, Pancreatic cancer novel chemotherapeutics: January 2004
- NIH/NIDDK “Endoscopic Clinical Research in Pancreatic and biliary Diseases, April 2004.
- Cancer Genetics Study Section, NIH, June 9-11, 2004
- NCI Program Project Review Study Section, February 2005
- NCI Nanotechnology and Cancer study section, Program grants, July 2005
- Goldman Foundation Pancreatic Cancer Grants, JHU, Sept 2005-present
- American Diabetes Association, Ad Hoc reviewer, March 2007
- NIDDK Digestive Diseases Research Core Centers P30 Reviewer, June 2007
- Cancer Research UK, Grant Reviewer, 11/07
- Grant reviewer for Singapore Ministry of Health, Jan 08
- Grant reviewer for Research Grants Council Hong Kong, China, 1/08
- Association for International Cancer Research, UK Grant Reviewer, 2/08
- AACR-Pancreatic Fellowship and Fellows Grant Reviewer, Feb/March, 2008
- Ad-hoc reviewer for Maryland Industrial Partnerships, 2008
- NCI Ad-hoc Reviewer, Cancer Biology and Therapy Pilot Studies, June 2008
- Advisory Committee, GI SPORE, U Pittsburgh, July 2008
- Grant Reviewer, Medical Research Council, Summer 2008
- NCI SPORE, September 2008, 9/09, 2/10, 9/10, 2/2011
- AACR-Pancreatic Fellowship and Fellows Grant Reviewer, Feb/March, 2009
- NIH reviewer, Epigenomics study section, April 2-3, 2009
- NCI Reviewer Challenge Grants May/June 09
- PanCAN-AACR Innovative Grants Reviewer, 11/09-current
- NCI Reviewer, SBIR Study Section, March 2010
- NCI STTR/SBIR Cancer Treatment and Diagnosis Small Business, March 2010
- Grant Reviewer, Health research Board, Ireland, Spring 2010
- Grant Reviewer, Dutch Cancer Research society, March, 2010
- NCI Study Section, Tumor Progression and Metastases Study Section, May 2010

- NCI Reviewer, RC4 grants, May 2010
- NCI Proteomics Study Section 12/10
- NCI Pancreatic cancer Program project Study Section 1/11
- NCI Epigenomics study section, 3/11
- CONC study section, 10/11, 2/12
- CONC Study section, regular member 2012

Professional Societies:

- Royal College of Physicians of Ireland, 1993-current
- Irish Society of Gastroenterology 1995-
- American Gastroenterological Association: 1999-
- American Association for Cancer Research: 1999-
- Fellow of the American Gastroenterological Association, 2009-

Conference session chair:

Bilio-pancreatic malignancy: from gene to cure (Amsterdam, Feb 1999).

Proteomics Conference Chair, Discussion of *Current aspects of proteomics research*

AACR/Lustgarten Foundation Conference, Pancreatic Cancer, June 25, 2004

AACR/PanCAN Lake Tahoe, June 19, 2012

RECOGNITION

Invited Talks

1. “*Hereditary Cancer and Gene Testing*” Proceedings of the workshop on pathology and genetic testing, Co-chair of an American Cancer Society workshop on pathology and genetic testing. The American Cancer Society, Chicago, 10/96.
2. “*The molecular genetics of pancreas cancer and its clinical implications.*” American Association for Cancer Research, New Orleans, 3/98.
3. “*The molecular genetics of pancreas cancer and its clinical implications*” Vanderbilt University, Nashville, April 1998
4. “*The genetics of pancreatic cancer*”, Belfast City Hospital, Belfast, July 1998.
5. *Molecular genetics of pancreatic cancer and its clinical implications. Bilio-pancreatic cancer: from gene to cure. Amsterdam Medical Center, Amsterdam, Feb. 1999.*
6. Pathology Grand Rounds. “*Pancreatic cancer*” Johns Hopkins Medical Institutions, April 1999.

7. *The early detection of pancreatic cancer, progress report*. Cold Spring Harbor Laboratories, Cancer Development, Diagnosis & Therapies: Implications for Pancreatic Cancer May 1-2. 2000.
8. “*The molecular genetics of pancreatic adenocarcinoma and its clinical implications*”. As part of a symposium on the Molecular and genetic biology in HPB disease: implication of diagnosis and treatment in 21st century, 5th World Congress of IHPBA, Tokyo, Japan April 2002.
9. “*Molecular markers of pancreatic cancer*”, and Visiting Professor, Department of Surgery, Sendai University, Sendai, Japan. April 2002.
10. “*Genetic alterations in Familial Pancreatic Cancer*”. Presented as part of a symposium on familial pancreatic cancer to the American Gastroenterological Association Meeting in San Francisco during Digestive Diseases Week in May of 2002.
11. “*The molecular biology of pancreatic adenocarcinoma*” The 2nd Annual MD Anderson Cancer Center Conference, Orlando, Florida. November 22, 2002.
12. “*MTHFR, Methylation and pancreatic cancer risk.*” Nutritional Links to Plausible Mechanisms Underlying Pancreatic Cancer, a meeting sponsored by the NCI. December 3rd, 2002.
13. *Molecular profiles of pancreatic adenocarcinoma and their clinical implications.* MD Anderson Cancer Center Oncology Rounds. June 25th, 2003.
14. “*Proteomics profiles of pancreatic cancer*”, Mayo Clinic Proteomics Working Group, January 21, 2004
15. “*Improving the diagnosis of pancreatic cancer*” New York University, Surgery Grand Rounds, February 2004
16. *DNA methylation and pancreatic cancer: Cancer 2004 Conference*, St. James Hospital, Dublin, March 12, 2004.
17. *Molecular Markers for the early Detection of Pancreatic Cancer*, San Francisco, AACR/Lustgarten Foundation Conference, Pancreatic Cancer, June 26, 2004
18. *CAPS: Cancer of the Pancreas Screening: AACR/Lustgarten Foundation Conference*, Pancreatic Cancer, June 26, 2004
19. “*Newer markers of pancreatic cancer*” EDRN GI Collaborative Workshop on Pancreatic Cancer, Sept 9-11, 2004 Norfolk, Va.

20. *The early detection of pancreatic cancer using molecule markers*. Pancreatic cancer conference, University of Dartmouth, NH. 9/17/04
21. “*Proteomics and Pancreatic Cancer*” ASCO Gastrointestinal Oncology Conference, Miami, January 28th, 2005
22. *Alterations in DNA Methylation and pancreatic neoplasia*, JHU Pathology Grand Rounds, April 2005
23. *The Detection of DNA Methylation Alterations in the Pancreatic Juice of Patients with Suspected Pancreatic Disease*, 13th Annual SPORE meeting, Washington, DC, July 2005
24. *Translational Epigenetic Science in Cancer*, NCI sponsored Workshop, November 29, 2005, Marriott Hotel, Bethesda
25. *The potential of DNA Methylation markers for pancreatic cancer diagnosis* NCI sponsored Workshop on *Translational Epigenetics in Cancer*, Nov 30-Dec 2, 2005, Marriott Hotel, Bethesda
26. *Molecular Markers of pancreatic neoplasia*, Mayo Clinic, Rochester, Minn, Comfort Named Visiting Professor Division of Gastroenterology and Hepatology, March 13, 2006
27. *Molecular alterations in pancreatic neoplasia*, MD Anderson Cancer Center, Houston, Texas, May 25, 2006
28. *Update on the diagnosis of pancreatic cancer*. For the 1st Annual Gastroenterology and Gastrointestinal Endoscopy Course, Peking Union Medical College, Beijing, China, June 9, 2006
29. *Molecular markers of pancreatic neoplasia* 2nd Annual NCRI conference, Birmingham, UK, October 10th 2006
30. *Profiles of pancreatic neoplasia and their clinical utility*, Visiting Professor University of Utah, Salt Lake City, Utah, November 20, 2006
31. *Screening to prevent pancreatic cancer*, Pancreatic Cancer Action Network (PanCAN) symposium, Chicago, March 31, 2007
32. *Gene Expression and Gene Methylation Profiling as Tools for Biomarker Discovery*, Digestive Diseases Week, Washington DC, May 23, 2007
33. *The early detection of pancreatic neoplasia*. PanCAN Summit on Pancreatic cancer, August 3, 2007 La Jolla, CA.

34. *Role of pancreatic fluid and serum in diagnosis of pancreatic neoplasia.* Pancreas Cancer Workshop, Institute of Cancer, Barts and University College, London, 5/2/08
35. *DNA Methylation in pancreatic neoplasia.* Pancreas Cancer Workshop, Institute of Cancer, Barts and University College, London, 5/2/08
36. *The future of endoscopic molecular markers in the evaluation and diagnosis of pancreaticobiliary diseases.* ASGE Workshop, "Molecular Medicine and Endoscopy" for Digestive Diseases Week, San Diego, CA, 5/19/08
37. *"Biomarkers and Endoscopic Technologies for Early Detection of Pancreatic Cancer"* EDRN Strategic Session on Pancreatic Cancer. Fred Hutchinson Cancer Center, Seattle, Wash, 9/14/08
38. *"The Early Detection of Pancreatic Neoplasia"* for The Lustgarten Foundation for Pancreatic Cancer Research Summit Sequencing the Pancreatic Cancer Genome: What's Next? Mount Washington Conference Center, Baltimore, MD. October 30, 2008
39. *"Anatomic Detection and Early Surgery to Prevent Pancreatic Cancer in High Risk Kindreds."* AACR Frontiers in Cancer Prevention Research Conference, Gaylord National Resort and Convention Center. Washington DC, November 18, 2008
40. *"Management strategies for patients with familial pancreas cancer"* Hepato-pancreato-biliary Tumor conference, Dresden, Germany, Dec 5th 2008
41. *"Screening and Detection of (Pre)Malignant Lesions":* Symposium on familial pancreatic cancer, Society of Surgical Oncology, Phoenix, Ar, March 6, 2009
42. *"Molecular profiles of pancreatic neoplasia"* Columbia University, NY Pathology Rounds, April 19, 2009
43. *"Screening for early pancreatic cancer: when, in whom and how?"* Cork University, Ireland, October 2nd, 2009
44. *Molecular profiles of pancreatic neoplasia and their clinical utility,* Nagoya University, Japan, July 9, 2010
45. *Recent developments in our understanding of pancreatic cancer etiology and management,* Joint meeting of the International Association of Pancreatology and Japanese Pancreatic Society, Fukuoka, Japan, July 13, 2010
46. *The Early Detection of Pancreatic Cancer and its precursors,* 43rd Annual Southeastern Wisconsin Conference, March 2011

47. *Molecular genetics of pancreatic cancer* Cold Spring Harbor Laboratories, June 17, 2011.
48. TRANSLATIONAL SCIENCE : CURRENT AND FUTURE APPLICATIONS IN GASTROINTESTINAL CANCER, International Cancer Conference for Trinity Medical School's Tercentenary, TCD, Dublin September 8, 2011
49. Update on pancreatic cysts, EDRN (Early Detection Research Network) Annual Meeting, Dulles, VA Sept 15th, 2011
50. Genetic profiles of precancerous pancreatic lesions. AACR Conference Frontiers in Cancer Prevention, Boston, MA Oct 23, 2011
51. *Non-coding alterations and the development of pancreatic neoplasia. National Institute of Aging Conference on Non-coding RNAs, Bayview Medical Center, Baltimore, December 8, 2011*
52. Pancreatic cysts, Bonn Germany, July 7, 2012
53. Using molecular markers to improve pancreatic screening, July 8, 2012