CURRICULUM VITAE

SIMON D. SPIVACK, MD, MPH

Albert Einstein College of Medicine, Pulmonary Medicine Administrative office: Price Center for Genetic and Translational Medicine; Office (Rm 350) v718-678-1040/1039.

Albert Einstein College of Medicine, Scientific office: Price Center for Genetic and Translational Medicine; Lab desk (Rm 301) 718-678-1034; main lab (Rm 307) 718-678-1035/1503.

Montefiore Medical Center/AECOM Pulmonary Medicine Clinical office: 3332 Rochambeau Blvd, Bronx NY 10461, v 718-920-6054ext1.

EDUCATION

Undergraduate School: McGill University, Montreal, PQ, Canada. Sept. 1976-May 1980. Psychobiology. University Scholar, First Class Honours Degree, BSc., 5/80.

Medical School: SUNY-Syracuse, Syracuse, NY. Sept. 1981-June 1985. Honours include AOA (medical honour society). MD, 6/85.

Graduate School: Harvard University, School of Public Health. Sept. 1988- June, 1999. Public Health. Full scholarship, MPH 6/89.

POST-GRADUATE TRAINING:

Internship/Residency: University of Massachusetts Medical Center, Worcester, MA, Internal Medicine, 7/85-6/88. Board Certified 9/88.

Fellowship: University of Vermont, Pulmonary & Critical Care Medicine, Burlington, VT (7/89-6/92). Research mentor: Brooke Mossman, PhD.

PROFESSIONAL EMPLOYMENT AND HOSPITAL APPOINTMENTS:

1. Division Chief, Pulmonary Medicine, Albert Einstein College of Medicine and Montefiore Medical Center, Bronx, NYC, NY (Oct, 2007-present).

2. Associate Professor, Albert Einstein College of Medicine (AECOM), Bronx, NYC, NY (Oct, 2007-present);

- Medicine, primary.
- Epidemiology, secondary.
- Genetics, secondary.

3. Research Physician:
Wadsworth Center, NYS Dept. Of Health: Laboratory of Human Toxicology & Molecular Epidemiology (1995-Jan, 2008).

4. Associate Professor, Medicine:
Pulmonary & Critical Care Medicine, Albany Medical College (1999-2007).
Environmental Health Sciences, SUNY-Albany School of Public Health (2006-present);

5. Assistant Professor:
Pulmonary & Critical Care Medicine, Albany Medical College (1992-8);
Director, Adult Cystic Fibrosis Program, Albany Medical College (08/93-12/95).

Environmental Health Sciences, SUNY-Albany School of Public Health (1999-2005);
Chair, Environmental Health Sciences-MPH committee.

BOARD CERTIFICATION:
ABIM Board Certified in Internal Medicine, 1988-present;
ABIM Board Certified in Pulmonary Medicine, ABIM, 1992; Recertified 2002-2012;
ABIM Board Certified in Critical Care Medicine, ABIM 1993, Recertified 2004-2014.

NYS License #189782-1.

PROFESSIONAL AFFILIATIONS:

American Association for Cancer Research (AACR).
American Thoracic Society (ATS; NYS Board of Governors).
American Lung Association (ALA; NYS Research Governing Council).
Physicians for Social Responsibility (PSR).

AWARDS, HONORS, and PATENTS:

1980 - B.Sc. First Class Honors, University Scholar, McGill University.
1985 - AOA (Medical Honor Society), SUNY-Syracuse.
1989 - Full scholarship - Harvard School of Public Health.
1991 - American College of Chest Physicians Research Training Fellowship (accepted).
1991 - American Lung Association (National) Research Training Fellowship (declined).
1992 - NIEHS - Individual National Research Service Award (declined).
1996 - Wiggers Award-Albany Medical College- for Harvard Summer Institute, Quantitative Studies.
1997 - NIH/NIEHS Clinical Scientist Development Award (K08).
1999 - National Board of Medical Examiners, ad hoc Judgement Task Development Group.
2001 - American Lung Association - Research Grant.
2002 - Universal RT-coupled PCR Method for the Specific Amplification of mRNA. USPTO Patent #7,141,372.
2003 – American Lung Association, Northeastern New York, Excellence in Research Award.
2004 - Tag-modified bisulfite genomic DNA sequencing for continuous methylation spectra; co-inventors W. Han, J.G. Herman, USPTO *Pat. Pending #11/492,288.*
2005 - NIH Epidemiology of Cancer (EPIC) study section, *ad hoc* reviewer 2004-05; regular member, term began July 2006.

2006 - Finalist, NIH Director's Pioneer Award.
2008 - Member, Executive Committee, New York State Thoracic Society.
2009- MVP, Physician-Scientist, Men's Division, Albert Einstein College of Medicine.
2009- MicroRNA pull-down binding assay. Provisional patent application #61/279,803. Licensing imminent.
2010- A method for functional evaluation of high resolution DNA methylation patterns. Invention disclosure in preparation.

OTHER PROFESSIONAL ACTIVITIES:

Study sections:

1. NIH-NCI- Regular Member, Epidemiology in Cancer (EPIC) Study Section, term July 2006-2010; [previous *ad hoc* EPIC reviewer, 2005-2006];
2. NIH-NCI/NHLBI/NIA-RC1-Challenge Grant Reviewer-May-June 2009.
3. NIH-NHLBI-Program Project Review, *ad hoc*, 04/16/10.
4. NIH-NCI *ad hoc* Site Review, Univ Colorado EDRN U01 in Lung Cancer, Denver, 04/22/09, and, in conference, Weizzman Institute (Israel); 05/14/09.
5. American Lung Association (ALA)- NY State, 2001- present; member, Research Governing Council;
6. National Lung Cancer Alliance/Women Against Lung Cancer, summer 2005 to present.
7. NIH-*Ad hoc* Reviewer Study Section, K award- NIEHS, 2000; *Ad hoc* Reviewer, NIH Study Section, Women's Health SCORE grants, 2000

Invited Workshop Participation:
AACR- Molecular Advances in Lung Cancer Research – January, 2010.

NCI- Early Detection Research Network, Bethesda, March 17-18, 2008.

NCI- Innovative Exposure Analyses in Cancer Epidemiology, Phil. Speaker, Oct, 2004;

NCI- Early Detection Research Network, Scientific Workshop, Bethesda, MD, Invited participant. June 2004.

NCI - Small Workshop. Exfoliated cell analyses for cancer prevention. Invited participant. Bethesda, MD, May, 2003.

NCI -Small Workshop on Tobacco, Women and Cancer. Invited participant. Houston, TX, February 3-5, 2003.

Editorial:
1. Consulting Editor, Arch. Environ Health, fall 2005-present;
2. *Ad hoc* Reviewer (ongoing):

Am J Resp Cell Mol Biol;
Am J Pathology
BMC Cell Biology;
Cancer Research;
Carcinogenesis;
Clin. Chemistry;
Environ Tox Pharm;
Heredity
Lung;
Nature-Protocols;
Am J. Resp Crit Care Med;
Biotechniques;
Cancer;
Cancer Epid Biom Prev;
Clin. Cancer Res ;
Environmental Research;
Genetics in Medicine;
J Clin Path;
Lung Cancer;

Einstein Institutional Service:

1. Chief, Pulmonary Medicine, fall 2007-present.
2. Founder-provocateur, Lung Cancer Research Interest Group, Einstein-Montefiore Cancer Center. W. Roman Perez-Soler. Fall 2008-present.
3. Scientific Advisory Research Council: Einstein Clinical Translational Research Award/Institute for Clinical & Translational Research, fall 2009-present.
4. Search committee, Anesthesiology Chair fall 2009-winter 2010.
5. Director, Environmental Epigenomics, Epigenomics Center, fall 2008-present.
6. NCI Calabrese K12 Oversight committee, member (sporadic).
7. CTSA Scientific Advisory Committee (2009- present, sporadic).
8. CTSA/ICTR-CRTP program reviewer, Dec 2009, Feb 2010.
9. Interviewer, MSTP prospective students (2009-present).
10. Subcommittee member, (Einstein-Montefiore interface), Research Strategic Plan, winter/spring, 2010.

RESEARCH:

Research Support

Summary of Current Funding:

NIH-NCI (RC1) 09/09-09/11;
NIH-NCI (R01) 7/03-4/10 (no cost ext);
NIH-NCI (K24 Mid-Career Award), 05/01/10-04/30/15.
NIH-NCI (R21) 7/08-06/10;
NIH-NCI (R03) (to WHan in lab) 08/08-07/10.
Gates Foundation (Grand Challenges) 05/10-04/11);
Stony-Wold-Herbert Fdtn (to N Mullapudi) Post-doctoral Fellowship (07/10-06/11)

Detailed Spivack Funding, *[[updates in italicized brackets]]*:

ACTIVE

1RC1-CA145422-01 (Spivack) $300k direct/year 09/01/09-08/31/11
NIH-NCI (RC1-Challenge Grant, ARRA)
Early Functional Genetic and Epigenetic Changes in Human Lung Carcinogenesis.

The goal is to develop functional genomics profiles, and genome-wide DNA methylation and microRNA – level profiles, distinguishing normal from dysplastic from overtly malignant bronchial epithelium.
Role PI, Effort 3.0 months.

1 R01CA106186 (Spivack) $276k direct/year 7/1/03-4/30/10
NIH/NCI
Quantitative Gene Expression in Human Lung Epithelium
The goal is to evaluate the existence of carcinogen metabolism expression phenotypes in the lungs of individuals, by precisely quantitating gene expression in laser capture microdissected human lung epithelium. Role PI, Effort 3.6 mo. *[[No cost extension into 2010]]*

1K24-CA139054-01 (Spivack) $150k direct/year 5/01/2010-04/30/15
NCI-Mid Career Investigator Award
Risk for Asthma, COPD & Lung Cancer: Integrating Clinical & Airway Biomarker Approaches.
The goal is to allot time to further develop Dr. Spivack as a translational research mentor, for translational training of junior faculty and fellows, in the context of prospective, biomarker-linked studies in airways disease. NOGA assured.
Role: PI. , Effort 4.8 months.

1 R21 CA 121068 (Spivack) $125k direct/year 08/01/08-06/30/10
NIH-NCI
Exhaled Breath DNA Methylation in Lung Carcinogenesis
The goal is to characterize a novel, exhaled and therefore non-invasively-obtained matrix for comprehensive DNA methylation mapping of promoters, in turn as potential biomarkers of lung carcinogenesis. Role PI, Effort 1.8 mo.

Gates Foundation (Spivack) $100k direct/yr 05/01/10-04/30/11
Grand Challenges Explorations
Exhaled breath diagnosis of MTb.
The goal is to try to detect MTb genomic sequences in exhaled breath condensate, analogous to our other strategies in lung cancer.
Role: PI.

1 R03CA132145 (Han) $50k direct/year 07/01/08-06/30/10
NIH-NCI
Multiplex approach to DNA methylation assays in exhaled breath condensate.
The goal is to expand the number of genes that can be analysed in the methylation analyses of exhaled breath condensate developed in the Spivack laboratory.
Role: Co-investigator/Lab supervisor.

Post-doctoral Fellowship (Mullapudi) $25k direct/year 07/01/10-06/30/11.
Stony-Wold-Herbert Foundation
High resolution DNA methylation patterns correlated to mRNA expression in lung cells and

lung tissues.
The goal is to functionally evaluate recently acquired high resolution DNA methylation patterns in cultured lung cells and microdissected lung tissues, correlate them to mRNA expression, and thereby sift the complex methylation map patterns for functionality, using logistic regression and support vector machine learning.
Role: Mentor.

PENDING:

1U01CA152749-01 (Spivack) $~500k direct/yr 07/01/10 – 06/30/15
NIH-NCI-Early Detection Research Network
Biomarker Development Laboratory
Exhaled Epigenomic and Metabolomic Biomarkers in Lung Cancer.
The goal is to develop exhaled biomarkers from cell and tissue based epigenome and metabolomewide studies, through phase 2 case-control validation for early lung cancer risk and disease detection.
Role: PI (3.0 months effort).

1R01DA030334-01 (Spivack) $~499k direct/yr 07/01/10 – 06/30/15
NIH-Roadmap
Exhaled epigenomic marker assays optimized for detecting lung pathologic states
This is a technology development and biomarker discovery proposal to develop exhaled breath epigenetics for non-invasively determining the gene regulatory state in the human lung.
Role: PI (2.4 months effort)

COMPLETED:
Research Fellowship (Tan) 07/15/07-07/14/09
Cancer Research & Prevention Foundation
"Screening for lung cancer chemopreventive agents by GSTP1 expression system"
The goal of this research fellowship application is to screen a small molecule library of plant-derived compounds, for induction of the mutagen-quenching phase II enzymes GSTP1, and NQO1, and modulation of promoter DNA methylation, as determined in lung epithelial cells.
Role Mentor, Effort 0.6 mos.

1 R21 CA104812-01. (Spivack) 04/01/05-03/31/08
NIH/NCI
Individual Promoter SNP and CpG Methylation Signatures@.
The goal is to determine the functional consequences of detailed reconstruction analyses of promoter SNPs and CpG methylation *in vitro*, and verify functionality *in vivo*. Role PI, Effort 1.08 months.

1 R21 ES014438-01 (Turesky) 04/01/06-3/31/08.

NIH-NIEHS
Novel approach to measure DNA adducts in humans.
Role: Co-Investigator. Human studies aspects, including buccal cell procurement.

1 R01 CA081243-05A2 (Spink) 12/01/05-11/30/07
NIH-NCI
Carcinogenecity of estrogens.
Role: Co-investigator (unpaid) in years 1,2 for promoter methylation mapping assays in MCF7 breast cancer cells for Ahr and CYP1B1, years 1,2 only. Support for WHan, post-doc.

ALA-NENYS Research Fellowship (Weiguo Han, MD, PhD; Spivack, mentor). ATobacco Carcinogen and Hormonal Regulation of Carcinogen Metabolizing Enzyme Expression@, 32.5k direct/year; 7/1/03-6/30/05. Mechanistic aspects of promoter regulation by tobacco smoker, estrogen receptor, SNPs and others.

NIH-R21 "Carcinogen Enzyme Metabolism Expression in Buccal Cells", $150k direct/year, awarded term 10/01/01-8/31/04; no cost extension for one year through 8/31/05. Funded the development of non-invasive expression signature profiling in brush-exfoliated buccal cells.

NIH K08 ES-00298. 7/1/97-6/30-02. (PI-Spivack-80%) ALung Cancer Susceptibility Markers in Surrogate Tissues@.

ALA Research Grant. 7/1/01-6/30/03. (PI-Spivack, 5%) ACarcinogen-Metabolizing Gene Expression in Microdissected Lung@. Ended 6/30/03.

Potts Foundation-Albany Medical College Pulmonary Division. 4/1/01-6/30/03. (PI-Malanga, Spivack, 5%). Research Pulmonary Post-doctoral Fellowship for Weiguo Han, MD, PhD.

Invited Presentations:

"Leveraging Airway Biomarkers for Lung Cancer Screening". National Lung Cancer Partnership, coupled to American Society for Clinical Oncology annual meeting, Chicago, IL, invited for June 04, 2010.

"MicroRNA pull-down binding assay for determining mRNA:miRNA binding" American Thoracic Society annual meeting, invited for May 17, 2010.

"Exploring inter-individual differences in gene regulation, and their potential translational significance in the lung." Einstein Intramural Seminar Series, planned April 29, 2010.

"Exhaled Breath Approaches to Lung Diagnostics", University of California-Davis, Center for Comparative and Respiratory Biology and Medicine, Jan 15, 2010.

"MicroRNA pull-down binding assay for determining mRNA:miRNA binding" American Assoc. Cancer Res.-International Association for Study of Lung Cancer, San Diego, CA, Jan 13th, 2010

"Non-invasive human airway studies of tobacco carcinogenesis using exhaled breath fractions " NIDA/NCI/NIH/EU-IARC international consortium. Webinar for the Consortium on the Genetic Analysis of Smoking Phenotypes. 10/26/09.

"Lung Carcinogenesis Detected by Exhaled Breath". 13th World Conference on Lung Cancer, International Association for the Study of Lung Cancer, UCSF host, San Francisco, CA, 08/02/09.

"Studies in Endogenous and Augmented Lung Antioxidant Defense". University of Pennsylvania, Institute of Environmental Medicine. 06/12/09.

"Early Detection of Lung Cancer": Valley Hospital, Medical Grand Rounds, Ridgewood NJ, 06/09/09

"Epigenetic Studies of the Lung and its Surrogates" Einstein Epigenetics Ctr, March 11, 2009.

"Exhaled and exfoliated based modalities for early detection of lung carcinogenesis". International Society of Respiratory Disease annual meeting, Shanghai, PRC, Nov 7, 2008.

"Early Detection of Lung Carcinogenesis: Images Meet Molecules". Nanjing School of Public Health, Nanjing, PRC, Nov 5, 2008.

"Non-invasive epigenetic and functional approaches to early lung cancer detection". Einstein/MMC Center for AIDS Research. Oct 10, 2008.

"Exhaled Breath Approaches to Detecting Lung Carcinogenesis" American Thoracic Society Annual Mtg (Toronto, May 17, 2008), Postgraduate course; Albert Einstein Cancer Center advances mtg, May 29, 2008.

"Trace DNA Methylation in Exhaled Breath" NCI-Early Detection Research Network, Bethesda, March 18, 2008.

"Lung carcinogenesis tracked by DNA methylation mapping in exhaled breath." University of Vermont, Pulmonary Division, February, 2007, Albert Einstein College of Medicine, Grand Rounds, 01/07; Dartmouth-Hitchcock Medical Center, December, 2006; AACR-Frontiers in Cancer Prevention. Boston, MA, Nov. 15, 2006. PR-14.

"Identifying the smoker at high risk for lung cancer: Non-invasive molecular approaches." American College of Chest Physicians, Salt Lake City, October 24, 2006; Dartmouth Medical College, August 2006, ATS annual meeting, symposium on Molecular Advances in Lung

Cancer Diagnosis and Treatment, May 2005, San Diego; Univ Pittsburgh 2/05; Univ Rochester, 2/05; Lovelace Respiratory Disease Research Center, Albuquerque, NM, Sept. 2004; ATS 2004, symposium on early diagnosis and chemoprevention of lung cancer. Orlando, May, 2004.

"Lung Cancer Risk Approached by Carcinogen Metabolizing Enzyme Expression Phenotyping": Memorial Sloan Kettering Cancer Center, NYC, 2/18/04; Roswell Park Cancer Center, Buffalo, 1/9/04; NYU Institute of Environmental Medicine, 5/12/03; Rockefeller University, 5/7/03; Weill-Cornell School of Medicine, 4/4/03; Society of Toxicology 3/03, Columbia University School of Public Health 1/24/03; Mt. Sinai School of Medicine 1/16/03; Institute for Cancer Prevention/American Health Foundation 12/02; SUNY-Syracuse 9/19/02, Annual Winkleman Physician-Scientist Medicine Grand Rounds; Boston University Medical Center 1/25/02; Memorial Sloan-Kettering Cancer Center, 11/27/01; NIEHS Science Forum for trainees, fellows and career development awardees, 4/24/01, RTP, NC.

"Diagnostics of Lung Cancer: From Noise to Nodules to Malignancies": Albany Medical Center, Medicine Grand Rounds, 6/03/05, 9/6/02.

"The Molecular Epidemiology of Lung Cancer": NYU Medical Center, September 20, 2000, Johns Hopkins Medical Center, September, 1999. Chair, ATS symposium, San Diego, CA, April, 1999; Grand Rounds, Albany Medical Center, July 9,1999; Memorial Sloan-Kettering-Pulmonary Division, 2/99; University of Vermont, 3/19/98.

"The Gene-Environment Interface in Public Health": Centers for Disease Control and Prevention. Atlanta, GA 5/14/98. Representing the NYS Department of Health.

"KEDLEM-C, Key Elements in the Decision to Limit Extraordinary Medical Care": Albany Medical Center 4/21/98.

"Death as a predictable event" Albany Medical Center, 3/26/97.

"Environmental Lung Disease". University of Massachusetts Medicine Grand Rounds 12/93; Albany Medical Center Medicine Grand Rounds, 1/94; Ellis Hospital Grand Rounds, Schenectady NY, 5/96.

"Preoperative Pulmonary Function Testing; A Reanalysis". Anaesthesia Grand Rounds, University of Vermont, 2/91; Lahey Clinic, 12/91; Baystate Medical Ctr. 1/92, Albany Medical Ctr., 2/92; Stanford University, 2/92.

"Cystic Fibrosis": Genetics, Pathophysiology, Clinical Aspects, New Therapies. University of Puerto Rico, Grand Rounds, 10/2/98. Caribbean Conference on Clinical Genetics, San Juan, PR, 10/3/98; Albany Medical Center 5/94.

"Ozone Toxicology: Molecular Biology of Antioxidant Defense". ACCP International

Conference on Environmental Lung Disease 9/91; University of Maryland, 1/92; VT/NH ATS Meeting, 4/91.

Previous (Clinical Outcomes) Research

- Signal Detection of Lung and Upper Airway Sounds. Fourrier/Markov analysis of lower and upper airway sounds in fixed and dynamic obstructive states. Completed collaboration with Dr. Michael Savic, RPI. *Prior support: RPI institutional*.

- Study to Evaluate Key Elements in the Decision to Limit Extraordinary Medical Care (KEDLEM-C). PI. Analysis of the factors physicians, patients and laypersons use to decide to pursue or forego advanced medical care. Questionaire on hypothetical clinical scenarios. Multiple local collaborators. *Prior support: AMC Ethics Center institutional.*

- Premorbid Factors Predicting In-Hospital Mortality. Case-Control Review with Multivariate Analysis; multidisciplinary inquiry. Collaborrators Drs. Tom Stewart (Center for Policy Research, SUNY-A); John Balint (AMC Center for Medical Ethics). *Prior support: AMC Ethics Center; SUNY Center for Policy Research; American College of Physicians.*

- Preoperative prediction of postoperative outcome, CABG. Definition of those factors that hold information for predicting prolonged mechanical ventilation. CART subgroup logistic regression. *Prior support: Albany Medical College, University of Vermont institutional.*

TEACHING ACTIVITY:

Medical/ Undergraduate students mentoring:

Albert Einstein College of Medicine:

Pre-doctoral mentoring:

Summer Research Program (SURP) 2009, Dalal Eldick.

Albany Medical College

1. Meredith Englander, medical student, AMC, summer 1994-95. Premorbid conditions predicting in-hospital mortality.
2. Anita Uppin, medical student, AMC, summer 1995. Molecular epidemiology of lung carcinogenesis.
3. Aleca Clark, medical student, AMC, spring/summer 1997. Key Elements in the Decision to Limit Extraordinary Medical Care (KEDLEM-C).
4. M. Emily Merrill, undergraduate student, Wadsworth Center, NYSDOH/SUNYA. Western blotting, lung carcinogenesis; summer, 1998.

Graduate/Post-doctoral Courses Taught:

Albert Einstein College of Medicine:

a. Cancer : A basic science approach (Rogler/Segall). “Lung cancer biology” 1.5 hours. 04/02/09.
b. Pulmonary Physiology (Prezant): 2.5 hours. Fall 2008.
c. MD-PhD/MSTP program: 1.5 hours. Translational approaches to human studies in lung carcinogenesis, July 22, 2009.
d. Molecular Cellular Foundations of Medicine course, case conference, group leader, 2.0 hours. Fall 2008, 2009.

University at Albany:

EHT 530-Principles of Toxicology. Toxicology of the Lung, 1 hr each fall,1992- present.
EHT 515-Environmental Physiology, Respiration, 3 hours, fall 2000.
BMS 601B-Introduction to Biomedical Sciences, Biotransformation enzymes & human health, 1 hour each, Asthma detection and treatment, fall, 1999, Carcinogen metabolism and lung cancer, spring 2002.

Albany Medical College:

1. Introduction to Medicine, medical students, MS2: Lung Cancer; and Environmental/Occupational Lung Disease; 2 hours/year, winter, 1992-present;

2. Post-doctoral lectures (housestaff): Lung Cancer; and Environmental/Occupational Lung Disease; 2 hours/year, winter, 1992- present;

3. Post-doctoral lectures (fellows): Lung Cancer; and Environmental/Occupational Lung Disease; 2 hours/year, summer, 1992- present;

4. Physician Assistants lectures; Lung Cancer; and Environmental/Occupational Lung Disease; 2 hours/year, spring, 1992- present;

5. Bedside teaching, all pre- and post-doctoral levels, Pulmonary Disease, and Critical Care Medicine, >100 hours per year, 1992- present.

Graduate Student Mentoring:

Albert Einstein College of Medicine:

- Daniella Pasquale: PhD student, on 8-week rotation, fall 2009. Studies in epigenetic regulation.

University at Albany

1. Erin Volk, PhD (candidate). Member of thesis committee, SUNY-Albany, 2000-2003.
2. Regis Hoppenot (MPH candidate), SUNY-SPH, fall 2003-present. MPH program advisor, Environmental & Occupational Medicine (joint program with Albany Medical College).

3. Andrew Rogers (MS candidate), SUNY-SPH, June 2004-December 2004. Novel methods of DNA methylation, and selected issues in quantitative RT-PCR.
4. Kate Olschewske (MPH candidate) SUNY-SPH, summer 2005. RNA expression and DNA methylation in airway specimens from smokers.
5. Shengli Xiong (MS candidate) SUNY-SPH, summer 2006-summer 2008. Studies in regulation of phase II RNA expression and repression.

Post-doctoral Mentoring, Research fellows:

Albert Einstein COM:

1. Nandita Mullapudi, PhD. (02/09 to present). PhD from University of Georgia. DNA methylation pattern analysis and gene regulatory correlates.
2. Miao Shi, PhD. (08/08-present) PhD from Beijing University. Post-doctoral functioning, technician salary line. Functional microRNA expression and binding studies in lung carcinogenesis. Intellectual property development (microRNA pull-down).
3. Xiang-Lin Tan, MD, PhD. (01/08 to 10/15/09, previously 06/06-12/07 at Wadsworth). PhD from German Cancer Research Centre (DKFZ), University of Heidelberg. Translational studies in gene regulatory region features as risk factors for lung cancer, and chemopreventive agent discovery. Finishing AECOM-Spivack lab post-doc. Next stop is Mayo Clinic, fall 2009, for further post-doctoral training in genetic epidemiology and pharmacogenetics.
4. Gaby Marquardt, PhD. (01/10-present). PhD from University of Erlangen, Germany. Studies in chemopreventive effects on gene regulation, with attention to microRNAs and DNA methylation.

Wadsworth Center

1. Weiguo Han, MD, PhD. 4/01-12/07. PhD from Shanghai University. Regulatory region SNPs, transcription factors and CpG methylation in phase I carcinogen metabolism, and cell cycle gene expression. Moved with Spivack lab, currently on faculty at Albert Einstein College of Medicine, as an Associate, Pulm Medicine, Spivack lab.
2. Stephane Cauchi, PhD. 6/03-12/05. PhD from University of Paris. Regulatory factors in phase II carcinogen metabolism gene expression. Currently at INSERM, Lyons, France, junior faculty.
3. Xiang-Lin Tan, MD, PhD. 06/06 to 01/08. PhD from German Cancer Research Centre (DKFZ), University of Heidelberg. Translational studies in gene regulatory region features as risk factors for lung cancer. Then moved with Spivack lab toEinstein as post-doc.

<u>Junior faculty mentoring:</u>

Einstein:

Neomi Shah, MD, MPH. Medicine-Pulmonary. Early clinical research career guidance toward AHA, CTSA, and K award applications in population research in sleep medicine.

Maria Cirino, MD. Medicine-Pulmonary. Early establishment of clinical trials and outcomes studies in interventional pulmonary medicine.

Gabrielle deVos, MD, MS. (Medicine-Allergy). Clinical and translational studies in asthma.

Other Service

Other Albert Einstein College of Medicine Service:

Committee on Promotions & Tenure, *ad hoc,* spring, 2009.

Other University at Albany Service:

Chairman, MPH program committee, Environmental Health Sciences concentration, SUNY-SPH, summer 2005- present.

Member, Graduate student recruitment committee, 1999-2001.

Clinical Fellow Mentoring:

Albert Einstein/Montefiore:

Post-doctoral Clinical Pulmonary & Critical Care Medicine fellows, AECOM/MMC: *Greater than 15 fellows.*

Multiple Divisional conferences on Lung Cancer, and Interstitial Lung Disease (>4 hours/year).

Clinical Resident Teaching,

Albert Einstein/Montefiore:

Post-doctoral Clinical Internal Medicine Residents, Greater than eight didactic hours/year, various problems in Pulmonary Disease (lung cancer, interstitial lung disease, etc.).

Interviewer-Research/Scientist track, Internal Medicine Residency, Montefiore.

Clinical PA Teaching,

Albert Einstein/Montefiore:

Pre-doctoral Clinical Physician Assistants, Greater than three didactic hours/year.

Albany Medical College

Post-doctoral Clinical Pulmonary & Critical Care Medicine fellows, AMC: *Greater than 25.*

BIBLIOGRAPHY

A. ORIGINAL COMMUNICATIONS in PEER REVIEWED JOURNALS:

1. Fasco MJ, CM Treanor, **SD Spivack**, HL Figge, L Kaminsky. Quantitative RT-PCR - DNA Analysis by Laser-Induced Fluorescence and Capillary Electropheresis. *Anal Biochem* 224:140-7. 1995.

2. **Spivack SD**, R Deane, T Shinozaki. Preoperative Prediction of Post-Operative Respiratory Complications in CABG; A Reanalysis. *CHEST* 109(5): 1223, 1996.

3. Huang Z, Fasco M, **Spivack S**, Kaminsky L. Comparison of CYP2D mRNA splice variant profiles in human lung tumor and normal tissue. *Cancer Research* 57(13):2589-92, July 1, 1997.

4. Buddharaju VL, Saraceno JL, Rosen JM, **Spivack SD**, Smith TC, Ilves R, Killam DA, McKenna BJ. Acute eosinophilic pneumonia and shock, case report. *Crit Care Med* 27(9): 2014-6, 1999.

5. **Spivack SD**, EJ Mark. Clinical-pathologic correlation (CPC), talcosilicosis and lung carcinoma. *New England J of Medicine*. 341(3):182. July 15, 1999.

6. **Spivack SD**, Hurteau GJ, Reilly AA, Aldous KM, Ding X, Kaminsky LS. CYP1B1 Expression in human lung. *Drug Metabolism & Disposition* 29:916-922, 2001.

7. Hurteau GJ, **Spivack SD**. mRNA-specific RT-PCR from human tissue extracts. *Analytic Biochemistry* 307:304-15. 2002.

8. Fasco MJ, Hurteau, GJ, **Spivack SD**. Gender-dependent expression of alpha and beta estrogen receptors in human nontumor and tumor lung tissue. *Molecular Cellular Endocrin*, 188(1-2):125-40. 2002

9. **Spivack SD**, Hurteau GJ, Fasco MJ, Kaminsky LS. Phase I and II carcinogen metabolism gene expression in human lung tissue and tumors. *Clinical Cancer Research*, 9:6002-6011, 2003.

10. Han W, Pentecost BT, **Spivack SD**. Functional evaluation of novel SNPs and haplotypes in the promoter regions of CYP1B1 and CYP1A1 genes. *Molec. Carcinogenesis* 37:158-69, 2003.

11. **Spivack SD**, Hurteau GJ, Jain R, Kumar SV, Aldous KM, Gierthy JF, Kaminsky LS. Gene-environment interaction signatures by quantitative mRNA profiling in exfoliated buccal mucosal cells. *Cancer Res,* 64:6805-6813, 2004.

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