

Curriculum Vitae
Jane Frances Cavender
Professor of Biology
Director of Biotechnology
Elizabethtown College, Biology Department
Elizabethtown, PA 17022

Professional Experience:

1993-2000	Assistant Professor	Elizabethtown College, Biology Department
2000-2006	Associate Professor	Elizabethtown College, Biology Department
2006-present	Professor	Elizabethtown College, Biology Department

Education:

1989-1993

Ph.D. in Genetics, research advisor: Dr. Mary Judith Tevethia
The Pennsylvania State University
The Hershey Medical Center
Department of Microbiology and Immunology

1985-1989

Master of Science in Genetics, research advisor: Dr. Samson T. Jacob
The Pennsylvania State University
The Hershey Medical Center
Department of Pharmacology

1981-1985

Bachelor of Arts in Biology, Degree with Distinction
The University of Delaware
Newark, Delaware 19716

Teaching:

Biology 111	General Biology lecture.
Biology 111L	General Biology laboratory
Biology 311	Biological Instrumentation and Molecular Methodology: Cellular Emphasis
Biology 474	Biology Internship

- In addition to the full load of classes above I am responsible for managing and grading all of the students who conduct research or obtain internships outside of the Elizabethtown College Biology Department. This involves designing the research project, deciding on the project and the materials that will be submitted for the grading/assessment of the work. I must submit, collect and assess the employer evaluation forms. This academic year 2010-2011 I supervised X Interns

Biology 475	Intensive Biological Internship
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- **This internship was developed** by me in 2009 to facilitate a specific Biological research experience. Elizabeth (Liz) Sodomini conducted the first 12-credit Bio475 class with her trip to Ghana and Melanie Hartman is currently in Germany. This experience exemplifies the global nature that the Biology Department/College expounds as important in developing as a well-rounded student.

Biology 491/492	Research in Biology
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- This past year 4 students worked in my lab in the fall and 6 in the Spring semester. Two of the students presented their work at the Pennsylvania Academy of Science and 4 will be presenting for SCAD 2011.

Administrator for Drexel College of Medicine MS Program:

Bio512 Molecular Pathogenesis I

Bio527 Fundamentals of Molecular Medicine- Immunology and Immunopathology

Bio530 Fundamentals in Molecular Medicine

BIO 531 Fundamentals in Molecular Medicine

BIO 533 Fundamentals of Molecular Medicine

BIO 541 Bacteria and Bacterial Infections

BIO 542 Mycology, Fungal Infections and

BIO 543 Parasites and Parasitic Infections

Honors and Awards:

2012 Faculty Grant Award \$3000

2010 2-Tri-Beta National Biological Honor Society undergraduate research grants

2009 Tri-Beta National Biological Honor Society undergraduate research grant

2008 Tri-Beta National Biological Honor Society undergraduate research grant

2007 Tri-Beta National Biological Honor Society undergraduate research grant

2005 NIH:NCI R15 AREA Grant \$150,000

2005 Tri-Beta National Biological Honor Society \$460 undergraduate research grant

2005 Whittaker grant award \$10,000

Presentations:

2012 Discover Day, Drexel College of Medicine, October.

2009 Invited Speaker National Institutes of Environmental Health Science, Raleigh NC

2007 Invited Speaker Symposium on the Role of Viruses in Cancer and Immunity, PSU
International Conference

2006 DNA Tumor Virus Meeting, July, Salk Institute, La Jolla California
International Conference

Publications:

- Lord, Kyle and Jane F Cavender. Simian Virus 40 T antigen transactivation of Cyclins A and E and the regulation of the ribosomal promoter. Manuscript in preparation. Anticipated submission May 2013
- Reiner, Elizabeth and Jane F Cavender. Effect of exogenous DNA on the promoter function in reporter assays. Manuscript in preparation. Anticipated submission April 2013
- Mariana, Andrew and Jane Cavender 2013 A Retrospective Study on the Effects of Physical Therapy Treatments on Patients' Persistence. Anticipated submission April 2013
- Cavender, Jane F. Transactivation of the rat ribosomal promoter in homologous and heterologous cell systems by Simian Virus 40 T antigen. Manuscript in preparation. Anticipated submission May 2013
- Gowens-Theophiles, Meghan, Michael R Nelson and Jane F. Cavender. 2011. (accepted) Correlation of nucleolar morphology to transformed properties of Simian Virus 40 T antigen expressing cells. Bios
- Davis, Jill and Jane F. Cavender. 2005. Effects of human interleukin 12 on equine melanoma. Pennsylvania Academy of Science Journal 79(1).

- Wood Michele A and Jane F. Cavender. 2004. Staining for Beta-galactosidase as a marker for cell enduring stress. *Bios* 75(4) 139-146.
- Beachy, Tina, Cole, S.L., Cavender, J. F., and M. J. Tevethia. 2002. Regions and Activities of Simian Virus 40 T Antigen that Cooperate with an Activated ras Oncogene in Transforming Primary Rat Embryo Fibroblasts. *Journal of Virology*. Vol. 76: 3145-3157.
- Cavender, J. F., Christine Mummert, and M. J. Tevethia. 1999. Transactivation of a Ribosomal Gene by Simian Virus 40 Large-T Antigen Requires at Least Three Activities of the Protein. *Journal of Virology*. Vol. 73: 214-224.
- Haley, T. Sheean, Jane F. Cavender and Thomas E. Murray. 1999. Detection of *Alexandrium tamarensis* by Rapid RCR analysis. *BioTechniques* 26:88-91
- Cavender, J. F., A. Conn, M. Eppler, H. Lacko, and M.J. Tevethia. 1995. Simian Virus 40 Large T Antigen Contains Two Independent Activities that Cooperate with a *ras* Oncogene to Transform Rat Embryo Fibroblasts. *Journal of Virology*. Vol. 69: 923-934.
- Webb, M.L., J. Mealey-Cavender, and S.T. Jacob. 1989. Glucocorticoid-induced stimulation of ribosomal gene transcription in rat hepatoma cells is mediated by modification of RNA polymerase I or an associated factor. *Molecular Endocrinology*. Vol. 3:-1861-1868.
- Jacob,S.T., Mealey, J.F., and Kurl, R.N. 1989. Role of poly(ADP-ribose) polymerase in ribosomal RNA gene transcription. *ADP-ribose Transfer Reactions: Mechanisms and Biological Significance* (ed. M.K. Jacobson and E.L. Jacobson) Springer-Verlag, 194-199.
- Martin-DeLeon, P.A.,C. Muneses, S. Picciano. J. Mealey, R. Dickerson. 1988. Differential silver staining in lymphocytes and lymphoblastoid cell cultures. *Cytobios* 55:113-123.

Student Published Abstracts and Presentations:

- *Lord, Kyle, Vila Devine and Jane Cavender 2013 BBB and SCAD*
- *Bloh, Kevin and Jane Cavender 2013 SCAD*
- *Sulon, Sarah and Jane Cavender, 2013 Nuclear Re-direction of the Cullin7 E3 Ubiquitin Ligase Function by SV40 T Antigen. SCAD*
- *Mariana, Andrew and Jane Cavender 2013 A Retrospective Study on the Effects of Physical Therapy Treatments on Patients' Persistence. SCAD*
- *Lord, Kyle, Viola Devine and Jane Cavender 2012 Creation of a GFP-T Antigen Fusion Protein Bearing the Rb- and p53-Binding Mutations to Address Fat Accumulation in Murine Stem Cells. BBB and SCAD*
- *Godfrey, Jordon, Kevin Bloh and Jane Cavender 2012 The Effects of SV 40 Large Tumor Antigen Expression on 3T3-L1 Pre-Adipocyte Cell Differentiation BBB and SCAD*
- *Frantz, Brian, Matthew Rimbey and Jane Cavender 2012 Mapping of the SV40 T antigen binding epitope to TBP in vivo. BBB and SCAD*

- Fuesler, John and Jane F Cavender. 2011. SV40 large T antigen interaction with TATA-binding protein is abrogated by W94A or F98A amino acid substitutions within the pAb 416 epitope. Oral Presentation at the Pennsylvania Academy of Science 87rd Annual Meeting.
- Pankowicz, Frank and Jane F Cavender. 2011. Correlation between p53 and Rb-binding activities of SV40 T-antigen and the ability to block differentiation of pre-adipocytes Oral Presentation at the Pennsylvania Academy of Science 87rd Annual Meeting
- Nelson, Michael and Jane F Cavender. 2010 Effect of SV40T-Antigen Transformation on B23 Expression and Nucleolar Accumulation Oral Presentation at the Beta Beta Beta Honor Society Meeting.
- Kench, Margaret and Jane F Cavender. 2010 Simian Virus 40 T Antigen is Capable of Transactivating the Nucleophosmin Promoter Oral Presentation at the Beta Beta Beta Honor Society Meeting.
- Lehman, Stacey and Jane F Cavender. 2009 Oral Presentation at the Beta Beta Beta Honor Society Meeting.
- Mitchell, Angela and Jane F Cavender. 2008 Oral Presentation at the Pennsylvania Academy of Science 84rd Annual Meeting.
- Garr, Rosemarie C., Alexander G. Theofilis, and Jane F. Cavender. "Establishing and Characterizing a Rat Fibrocartilaginous Intervertebral Disc Line for the Purpose of Studying Degenerative Disc Disease". Poster Presentation at the Pennsylvania Academy of Science 83rd Annual Meeting. Poster Presentation at for the BBB National Honor Society North East-2 Convention, March 2007.
- Heberlein, Katherine R., Thomas Hagan, and Jane F. Cavender. "The Role of Eukaryotic Enzyme DNA Topoisomerase II in Epigallocatechin-3-Gallate (EGCG) Induced Apoptosis in Human Skin Carcinoma Cells". Oral Presentation at for the BBB National Honor Society North East-2 Convention, March 2007. Awarded Second Place Poster Presentation at the Pennsylvania Academy of Science 83rd Annual Meeting
- Mitchell, Angela and Jane F. Cavender. 2007. "The maintenance of transformation by simian virus 40 T antigen". Oral Presentation at for the BBB National Honor Society North East-2 Convention, March 2007. Poster Presentation at the Pennsylvania Academy of Science 83rd Annual Meeting.
- Lindsey Gruenewald*, Tracee Popielarczyk*, Amy Valkovec, Bryon Martinez, Richard Knowlton, Debra Wohl and Jane F. Cavender. 2006 Correlation of antibiotic resistance found in oral bacteria with overall dental health Poster Presentation at the Pennsylvania Academy of Science 82nd Annual Meeting
- Rachael S. Levine* and Jane F. Cavender 2006 Determining the Ability of SV40 T-Antigen to Reactivate Silent Ribosomal Promoters by Using Real Time PCR Oral Presentation at the Pennsylvania Academy of Science 82nd Annual Meeting
- Meghan E. Gowens*, Katherine Heberlein and Jane F. Cavender. 2006. Localization of B23 in the Presence of Simian Virus T antigen Oral Presentation at the Pennsylvania Academy of Science 82nd Annual Meeting
- Bryon Martinez, Amy Valkovec, Lindsey Gruenewald, and Tracee Popielarczyk, Richard Knowlton, Debra Wohl and Jane F. Cavender. 2006. Effectiveness of

commercially available mouth washes on the growth of orally-derived bacteria Poster Presentation at the Pennsylvania Academy of Science 82nd Annual Meeting

- Linda M. Nilsson*; Leah J Robinson*; and Jane F Cavender. 2006. Methylation status of the ribosomal promoter in the presence of the Ku autoantigen binding sequence Poster Presentation at the Pennsylvania Academy of Science 82nd Annual Meeting.
- Gutekunst, Jill, Thomas O'Brien and J. F. Cavender. 2005 "Maintenance of Transformation by SV40 T antigen" Poster Presentation at the Pennsylvania Academy of Science 81st Annual Meeting.

Professional Associations:

- *Member of the Pennsylvania Academy of Science, Director At Large 2012-*
- *Counsel on Undergraduate Research CUR*

Service

- *Personnel Council Chair Fall 2012 (sabbatical Spring 2013)*
- *Designed, negotiated and currently administer a new 4+1 BS in Biotechnology and MS in Molecular Medicine with Drexel University of Medicine. 2008-*
- *Hela Day presentations to entire campus 2011*
- *Strategic Plan Infrastructure Working Group 2011-*
- *Presidential Search Committee 2010-2011*
- *Resources and Planning Committee 2007-; Chair 2008-2012*
- *Scholarship and Creative Arts Day Committee 2008-present*
- *Chair of the Scholarship and Creative Arts Day Committee 2008, 2009*
- *Peer Review Committee Member 2008*
- *Barry M Goldwater Representative 1997-*

Service activities to your department:

- *Designed and facilitated a new tutoring session for the Departmental Introductory Biology Class Bio111*
- *Director the Biotechnology Major, 1999-present*
- *Director of Internships for the Biology Department, 1999-present*
- *Advisor for the Biological Honor Society Beta Beta Beta*
- *Actively involved in open houses and the recruitment of students*