Biographical Profile

Daniel Flynn, PhD

Position/Title

Associate Dean for Research, College of Health Sciences, University of Delaware

Education

BS, University of Maryland, College Park, MD; Microbiology
PhD, North Carolina State University, Raleigh, NC; Virology
Post Doc, University of Virginia, Charlottesville, VA; Oncogenes

In His Own Words

My research interests have focused on the mechanism by which breast cancer cells become invasive. The molecular nature of our work addresses how the oncoprotein Src is able to transform cells and cause them to become invasive. We discovered a protein called AFAP1 (formerly AFAP-110) and demonstrated that it was a binding partner for Src, an activator of Src and a regulator of actin filament cross linking dynamics. We recently demonstrated that AFAP1 is overexpressed with Src in invasive ductal carcinoma of the breast, and it thus positioned to activate Src. We also created an AFAP1 knockout mouse, which shows deficits in the movement of lipid vesicles to the apical surface for secretion into the lumen. AFAP1 is the prototype member of a family of 3 genes and our lab discovered the related AFAP1L1 and helped in the discovery of AFAP1L2.
My current interests focus on developing larger, programmatic grants related to health care reform. I have served as the Chairperson of the EAC of the COBRE CCRD since 2002 and have enjoyed watching the Center mature. I will continue to serve in this capacity and look forward to continuing to work closely with Dr. Ramratnam as he and his team advance the Proteomics and Molecular Pathology Cores to self-sustainability.

Work History

2012-present	Associate Dean for Research, University of Delaware, College of Health Sciences
2008-2012	Associate Dean for Research and Economic Development, Commonwealth Medical College, Scranton, PA
2006-2008	Deputy Director, Mary Babb Randolph Cancer Center, West Virginia University Health Sciences Center
2003-2008	Director, Cancer Cell Biology Research and Graduate Training Program, West Virginia University Health Sciences Center.
2003-2008	Professor, Mary Babb Randolph Cancer Center and the Dept. of Microbiology & Immunology, West Virginia University, Morgantown, WV 26506-9300.
2001-present	Director, Center of Biomedical Research Excellence (CoBRE) for Signal Transduction and Cancer. West Virginia University Mary Babb Randolph Cancer Center
2001-present	Founding scientist and Scientific Advisor, Protea Biosciences, Inc., Morgantown, WV
2000-2006	Associate Director for Basic Research, Mary Babb Randolph Cancer Center
1998-2003	Associate Professor, Department of Microbiology & Immunology and the Mary Babb Randolph Cancer Center, West Virginia University, Morgantown, WV 26506
1992-1998	Assistant Professor, Department of Microbiology & Immunology and the Mary Babb Randolph Cancer Center, West Virginia University, Morgantown, WV 26506

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Other Background and Professional Associations

American Association of Cancer Research (AACR): Full Member.
American Society for Cell Biology (ASCB): Full Member, Serve on Membership Committee.
American University Technology Managers (AUTM): Active member.
American Association of Medical Colleges GRAND: Active Member

Honors

1977-1981	Undergraduate Senatorial Scholarship. University of Maryland, College Park.
1989-1992.	NIH post-doctoral training fellowship.
1993	Faculty Development Award, West Virginia University - Microinjection.
1995	Awarded "Blue Ribbon" for Outstanding Presentation in Signal Transduction; Poster/Discussion session; 86th annual meeting of the American Association for Cancer Research; Toronto, Ontario, Canada.
1999	Faculty Development Award, West Virginia University - Microscopy & Image analysis.
2001	Dean's Award for Excellence in Research - West Virginia University,
2005	Percival Maclachlan Award, Medical Educator Award, WVU School of Medicine.
2005	Nominee, WVU School of Medicine Teacher of the Year
2006	Nominee, WVU School of Medicine Teacher of the Year
2007	Nominee, WVU School of Medicine Teacher of the Year
2008	Percival Maclachlan Award, Medical Educator Award, WVU School of Medicine.
2009	CSR Award for Outstanding Service on NIH Study Sections.

Selected Peer-reviewed Publications

1. V.G. Walker, A. Ammer, Z. Cao, L. Kelley, B.-H. Jiang, S. Weed H. Zot and D.C. **Flynn**. 2007. PI-3-kinase activation is required for PMA directed activation of cSrc by AFAP-110. *AJP-Cell Physiology*, 293:C119-132.
2. Dorfleutner, A., C. Stehlik, J. Zhang, G.E. Gallick and D. C. **Flynn**. AFAP-110 is required for actin stress fiber formation and cell adhesion in MDA-MB-231 breast cancer cells. *J. Cell Phys*. 213:740-749.
3. Dorfleutner, A., S. J. Talbott, N. B. Bryan, K. N. Funya, S., L. Rellick, J., C. Reed, X. Shi, Y. Rojanasakul, D. C. **Flynn**, and C. Stehlik. 2007. A Shope Fibroma virus PYRIN-only protein modulates the host immune response. *Virus Genes*., 35:685-694
4. Zhang, J., S.I. Park, M.C. Artime, J.A. Bomser, A. Dorfleutner, D.C. **Flynn** and G.E. Gallick. 2007. Increased expression of AFAP-110 in Prostatic Adenocarcinoma and effects on tumorigenic growth. *J. Clinical Investigations*, 117:2962-2973.
5. Qian Y, J. Luo, S.S.Leonard, G.K. Harris, L. Millecchia, D.C. **Flynn**, X. Shi. 2007. Hydrogen peroxide formation and actin filament reorganization by Cdc42 are essential for ethanol-induced in vitro angiogenesis. *Nihon Arukoru Yakubutsu Igakkai Zasshi*. 42:605-609.
6. L. Guo, Abraham, J., **Flynn**, D.C., Castronova, V., Shi, X., and Qian, Y. 2008. Individualized survival and treatment response predictions in breast cancer patients: Involvement of Phospho-EGFR and Phospho-Her2/Neu proteins. *Open Clinical Cancer Journal* 2:18-31.
7. **Flynn** D.C., Y. Cho and J.M. Cunnick 2008. Podosomes and Invadopodia; Related structures that may promote breast cancer cellular invasion. *Breast Cancer: Clinical and Basic Research*, 2:17-29.
8. Dorfleutner A, D. Vincent, H. Lin, C. Stehlik and D.C. **Flynn**. 2008. Phosphorylation of AFAP-110 in podosomes. *J. Cell Science* Jul 15;121(Pt 14):2394-405. PMID: 18577577
9. Guo NL, Wan YW, Tosun K, Lin H, Msiska Z, **Flynn** DC, Remick SC, Vallyathan V, Dowlati A, Shi X, Castranova V, Beer DG, Qian Y. 2008. Confirmation of gene expression-based prediction of survival in non-small cell lung cancer. *Clin Cancer Res*. Dec 15;14(24):8213-20. PMID: 19088038

10. Qian Y, Luo J, Leonard SS, Harris GK, Millecchia L, **Flynn** DC, Shi X. 2007 Hydrogen peroxide formation and actin filament reorganization by Cdc42 are essential for ethanol-induced in vitro angiogenesis. *Nihon Arukoru Yakubutsu Igakkai Zasshi*. Dec;42(6):605-9. PMID: 18240647
11. Xu, X., J. Harder, M, D.C. **Flynn** and L.M. Lanier. 2009. AFAP-120 regulates actin organization during neuronal differentiation. *Differentiation* 77:38-47. Epub 2008 Oct 16. PMID: 19281763
12. Jan 9;6:1. PMID: 19134195
13. DA Clump, JJ Yu, Y Cho, R Gao, J Jett, H Zot, A Clump, M Shockey, P Gannett, J Coad, R Shurina, WD Figg, E Reed and DC **Flynn**. 2010. A polymorphic variant of AFAP-110 enhances cSrc activity. *Translational Oncology*, 3:276-285.
14. B.Snyder, Y. Cho, Y. Qian, D.C. **Flynn*** and J. Cunnick*. 2011. AFAP1L1 is a Novel Adaptor Protein of the AFAP Family that Interacts with Cortactin and Localizes to Invadosomes. *European Journal of Cell Biology* 90:376-389. * Denotes equal communicating (senior) authors
15. Khan SH, Ahmad F, Ahmad N, **Flynn** DC, and Kumar R. Protein-protein interactions: 2011. Principles, techniques, and their potential role in new drug development. *J. Biomol. Struct. Dynamics* 28:1-10.

Ongoing Support

State of Delaware Daniel C. Flynn (PI) 9/30/13 – 9/29/14
Analysis of Medicaid Data for State of DE $831,900
Goal: To help the state of DE determine how Medicaid dollars are spent, in support of compliance with the Affordable Care Act.

Past Support

3R01-CA60731-15A1 Daniel C. Flynn (PI) 4/1/94 - 6/30/13
NIH/NCI $225,000/yr
AFAP-110 effects actin filament integrity
Goal: To determine the mechanism by which AFAP-110 alters actin filament integrity.
Grant is in a no-cost extension, funds are subawarded from Flynn's former institution to UD.

DCED/PA Daniel C. Flynn (PI) 1/1/11 - 7/31/12
DCED $100,000
Development of a Technology Transfer Office at TCMC
Goal: To develop an infrastructure that supports technology transfer at TCMC.

Appalachian Research Council Daniel C. Flynn (PI) 9/30/11 – 9/29/12
ARC $150,000
Technology for Training Students in Biotechnology
Goal: To purchase advanced technology for use in training masters level students in biomedical research

HRSA Daniel C. Flynn (PI) 7/1/10 – 6/30/11
HRSA/DHHS $247,000
Goal: To purchase technology for molecular analysis of diseased and normal tissue

KISK Daniel C. Flynn (PI) 5/1/09 – 4/30/10
DECD/PA $137,000
High Throughput Microscopy
Goal: To obtain funds to purchase a high throughput microscope

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P20 RR16440-06 Daniel C. Flynn (PI) 9/30/01 - 6/30/16
NIH/NCRR $1,500,000/yr
Cobre in Signal Transduction
Goal: To establish a Center of Biomedical Research Excellence (COBRE) in Signal Transduction and Cancer. Supports five junior faculty members and their research programs, 5 new faculty recruits and creation of 2 core facilities. The PI acts as a director and receives salary support, only.
*Note, Dr. Flynn was the original PI and author of this proposal, upon leaving WVU in 2008, the grant was re-assigned to Dr. Laura Gibson, current PI.