

# **CURRICULUM VITAE**

## **DANIEL C. FLYNN, Ph.D.**

### **Personal and Professional**

#### **Personal**

Born: Rochester NY, U.S. Citizen  
Married: Widowed  
Residence: Boca Raton, FL 33486  
Work: Florida Atlantic University, Vice President of Research, ADM10, RM392, Boca Raton, FL 33431 Ph: 561-297-0268; email: flynnd@fau.edu

#### **Education**

1977-1981 University of Maryland, College Park; B.S., Microbiology/Biochemistry  
1982-1988 North Carolina State University; Ph.D., Microbiology/Virology  
*Thesis*: Conformational changes in the surface glycoproteins E1/E2 of Sindbis virus upon attachment and penetration. Thesis advisor, Dr. Robert E. Johnston (Dept. of Microbiology, University of North Carolina, Chapel Hill, NC).  
1988-1992 University of Virginia, Post-doctoral fellow, Dr. J. Thomas Parsons, Cancer Center.  
*Project*: Cancer and Oncogenes: Identification of substrates of the Src tyrosine kinase.

#### **Professional Experience**

1992-1998 Assistant Professor, Department of Microbiology & Immunology and the Mary Babb Randolph Cancer Center, West Virginia University, Morgantown, WV  
1998-2003 Associate Professor, Department of Microbiology & Immunology and the Mary Babb Randolph Cancer Center, West Virginia University, Morgantown, WV  
2000-2006 Associate Director for Basic Research, Mary Babb Randolph Cancer Center  
2001-2008 Director, Center of Biomedical Research Excellence (CoBRE) for Signal Transduction and Cancer. West Virginia University Mary Babb Randolph Cancer Center  
2001-2013 Founding Scientist and Scientific Advisor, Protea Biosciences, Inc., Morgantown, WV  
2003-2008 Professor, Mary Babb Randolph Cancer Center and the Dept. of Microbiology & Immunology, West Virginia University, Morgantown, WV  
2003-2008 Director, Cancer Cell Biology Research and Graduate Training Program, West Virginia University Health Sciences Center  
2006-2008 Deputy Director, Mary Babb Randolph Cancer Center, West Virginia University Health Sciences Center  
2008-2012 Associate Dean for Research and Economic Development, Commonwealth Medical College, Scranton, PA  
2008-2012 Institutional Officer (IO), The Commonwealth Medical College, Scranton, PA  
2009-2011 Interim Chair, Department of Biomedical Sciences, The Commonwealth Medical College, Scranton, PA  
2012-2015 Associate Dean for Research, University of Delaware, College of Health Sciences  
2012-2015 Professor and Unidel Chair, University of Delaware, College of Health Sciences  
2015-present Vice President of Research, Florida Atlantic University, Boca Raton, FL

### **Administrative Accomplishments**

#### ***Florida Atlantic University - Vice President of Research (2015-present).***

Research Environment: As VP of Research, I inherited a University wide program that did not have core facilities, had \$29M in annual expenditures with about 300 grant applications per year, lacked strategic partnerships, lacked a major, guiding vision for research and needed infrastructure improvements. To this end I have implemented programs and processes that have more than doubled research expenditures and created strategic partnerships that will double research activity again:

- Research Productivity - I implemented a programmatic change, resulting in an increase to 650 grant

applications/yr and \$70M/yr of research expenditures (over a 5-year period).

- Research Institutes and Organization - I organized and established 4 research institutes focused on regional issues (aging patient population, sensitive environment) and regional assets, organized it with a matrix organizational structures that had a Director, staff and faculty membership from all University colleges. I hired Directors and empowered them to work with Deans to co-hire 36 additional faculty and develop a seminar series and pilot project program. I established core facilities to support the research infrastructure and increased hiring of research support personnel in sponsored programs and research compliance, adapting a 'customer service' approach for faculty support.
- Classified Research - I modified the mission of the Harbor Branch Oceanographic Institute of FAU to be more engaged with the Navy and focusing on coastal security, underwater communications. We secured classified research contracts, implemented a facility security clearance and developed a research partnership with the Navy, Naval Underwater Weapons Center, Raytheon and L3Harris, including plans to construct a new secure facility on that campus. I have had the President and Board chair obtain secret level security clearances. I have filled out my SF86 with clearance decision pending (no issues anticipated).
- Hospital/Medical School Partnerships - I developed and implemented a Research Affiliation Partnership with a large, regional hospital system (Memorial Health System of Broward County), enabling hospital research to be conducted as part of the University and created appointments for clinicians in our research institutions, and with this developed a Data Science Program that works jointly with the hospital to analyze de-identified patient data from their EPIC database.
- Clinical Trials & clinical research – I staffed and developed a Clinical Research Unit focused on collaborative clinical trials with Memorial Health System and corporate partners.
- International collaborations - I re-started the Florida-Israel Institute that forges collaborative research with Universities in Israel resulting in MOUs with 5 Israeli Universities (Hebrew U., Tel Aviv U., Ariel U., Technion U., and U. of Haifa), which in turn led to co-funding of pilot projects, 5 BSF binational grant awards and a \$7M philanthropic gift to support collaborative research with U. Haifa.
- Entrepreneurship - I established an entrepreneurship center (Tech Runway), hired a Director, developed a student entrepreneurship program (FAU WAVE), promoted faculty entrepreneurship and developed a mechanism for the University to obtain an equity stake in Tech Runway derived companies. Tech Runway has hosted 92 companies in 5 years, generating \$115M in sales and service, \$90M in investment capital, 350 jobs with an average salary of \$86k/yr. I established a Tech Runway investors network drawing on community members who were qualified investors.
- Lobbying and Federal Engagement - I worked closely with Florida's Federal Delegation (Senators and Congressmen), and the Navy to bring in classified research activity to this campus of FAU. I am in charge of federal engagement and visit with our federal delegation 4-5 times per year and, working with lobbyists, and was successful in inserting language into federal legislation that favored FAU, of which we were able to obtain a \$11M contract with the Office of Naval Research, \$13M with USDA, \$5M with DOE and \$5M with NOAA. In 5 years, research expenditures have increased from \$29M/yr to \$66M/yr with an expectation that the hospital affiliation and clinical trials, as well as classified research activity, will increase the trajectory to \$100M/yr and beyond.

Administration: I serve on the President's leadership team, report to the President of FAU, and work collaboratively with the Provost, General Counsel, CFO, and the VP's for administrative affairs, communications, student affairs, fund raising and athletic director. I serve on fiscal responsibility task force for the university. I serve as the Vice Chair of the Florida System of University's Vice Presidents for Research and on various commissions and work-groups in the state of Florida. I serve on the board of a San Diego based startup company called 'BioArkive'.

### ***University of Delaware – Associate Dean for Research (2012-2015)***

Research environment - Working with faculty and administration, I hosted a 'research visioning' exercise and helped the College of Health Science faculty identify their research focus areas and align into research teams focused on human disease and the human condition. Once all researchers were aligned with teams, I convinced the administration to identify \$35,000 to purchase technology that would foster collaborative research teams. Working with chairs and faculty, we developed a common, college-wide seminar series and we were able to broadcast the seminar to students and alumni using web-based technology, increasing the

number of participants in seminars and interactions with alumni. I also worked with chairs to initiate a Faculty Development series which meets monthly and provides help and advice to faculty for the research programs and career development. Faculty also expressed a desire to gain greater access to patient populations for their clinical studies. In response to this, I was able to develop a formal relationship with a health care organization in southern Delaware that has 6000 geriatric patients, many of whom would like access to our College's clinical trials. I also worked with the VA to gain access to patient populations for our researchers. I worked with the University's international relations team to facilitate a research partnership with Plymouth University in England, and wrote an MOU that helped the College of Health Sciences develop a formal relationship with Plymouth University in Plymouth, to foster international collaborations in health care research. As an associate dean for research, I routinely reviewed grants and was active in evaluated research compliance issues for College faculty. I organized a leadership team that applied for a \$10M CoBRE grant in cardiovascular health, and I represent the University of Delaware as the PI on our jointly sponsored CTSA proposal with Thomas Jefferson University, Nemours children's hospital and Christiana Care. I interfaced with alumni and was directly involved in obtaining a significant \$3M philanthropic gift, and worked closely with Institutional Advancement to help the donor identify the program they were most passionate to support. All of these efforts led to a 30% increase in college research expenditures.

Academic Programs - I worked with a team of scientists to develop a novel graduate training program that focuses on a tiered training structure allowing graduate students to exit at different stages of training with credentials and degrees, which is a concept I have long been interested in. I have taught at the College and developed a careers course in health sciences for undergraduate who are not sure what direction they would like to pursue. I developed a novel independent entrepreneurship study program for undergraduates called 'First Step', which challenged students to come up with novel solutions to challenging health care problems. The program has been very successful, with student teams developing invention disclosures, a company, novel tools that help patient populations and novel education programs. In response to this success, I was able to co-author an NSF I-CORPS grant application on entrepreneurship to support this program, which was funded by the NSF, and petition for additional support from the U. DE INBRE grant. I am very interested in diversity in education and I developed a grant application to support a program that utilizes a community-based participatory approach to foster research experiences and retention for freshman and sophomore students of color. This program would develop pipeline programs and work closely with university programs that foster graduation of diverse students, creating an environment that will promote the college's efforts to successfully diversify its student population.

### ***The Commonwealth Medical College (TCMC) – Associate Dean for Research & Economic Development (2008-2012)***

Research Environment - TCMC was a new medical school and I was part of the initial team that built this medical school from the ground, up. Starting out in rented space, I was able to help recruit faculty to the medical school and develop a biomedical research team, as well as a public health research team. I was the institutional officer (IO) and developed all of the policies and procedures that govern biomedical research including the use of human subjects (IRB), animals (IACUC), biohazardous agents (IBC), chemical safety and radionuclides, as well as conflicts of interest. I developed a tech transfer capability, identified outside counsel, solicited invention disclosures and processed one provisional patent application that was converted to a patent application and approved by the USPTO. I was part of the team that worked with architects to build our new medical school building (185,000 ft<sup>2</sup>) including research labs, animal quarters, offices and classroom space. I wrote an NIH C06 grant for the animal quarters (scored, not funded) and obtained federal equipment grants to help pay for equipment for the research labs. Working with our talented, young faculty I helped them obtain 6 NIH grants, 3 foundation grants and 1 DoD grant. One of my duties was to help the medical school interface with the cities of Scranton and Wilkes-Barre, PA and foster regional economic development. I worked with the Scranton city Chamber of Commerce to help them recruit health care-related companies to the region and prior to my departure, was elected to a seat on the Scranton Chamber of Commerce.

Academic Programs – I was part of the team that interacted with the Liaison Committee on Medical Education (LCME) that achieved provisional accreditation for the new medical school. I also worked with our accrediting team to achieve middle states accreditation. In order to foster the development of a biomedical research/academic enterprise, I developed a strategy to recruit undergraduate students from the 7 regional Northeastern Pennsylvania college and universities to work for college credit at TCMC. I was able to convince a foundation to provide undergraduate research grants to each of these regional universities and the medical

school. I also led a team of faculty at TCMC to develop a Professional Science Masters program in biomedical research and had this program approved by the Pennsylvania Department of Education. As a member of the TCMC President's cabinet, I was directly involved in writing policies and procedures for the medical school and fostering development of the academic environment. Working with our development officer, I was able to interface with the public, inform them of our research and educational training programs and was directly involved in successfully raising money from private donors for the college.

### ***West Virginia University – Professor, Deputy Director, Mary Babb Randolph Cancer Center (1992-2008)***

Research Environment - I recruited a team of junior faculty and senior faculty to obtain a P20 CoBRE grant for the Mary Babb Randolph Cancer Center. This \$22M grant enabled us to provide research funding for 5 junior faculty members and mentor them to obtain independent funding and graduate from the CoBRE. Using this approach, we mentored 16 junior faculty members to research independence. I was also able to obtain \$1M of S10 equipment grants to support our CoBRE core facility in Proteomics, equipping it with the latest in mass spectrometry equipment. From this, I led a group of scientist to develop West Virginia's first biotech company, Protea Biosciences ([proteabio.com](http://proteabio.com)) which employs 53 people. I served on the board of directors and learned much about founding, developing and growing a biotech company from the CEO. This company went public in 2014 ([OTCQB:PRGB](http://OTCQB:PRGB)). As Deputy Director of the Mary Babb Randolph Cancer Center, I was charged with developing translational research teams. This position enabled me to obtain \$5M of funding that helped our cancer center recruit clinical scientists and develop a clinical research mission. To foster this effort, I was able to appoint faculty to help develop our tissue bank and a novel molecular medicine core facility that sequenced exons of specific genes, where mutations would direct clinicians decisions for treatment.

Academic Programs - I recruited a team of faculty to develop a PhD program in Cancer Cell Biology, which was approved by the WV Higher Ed commission. I also recruited a team of faculty to assist in the recruitment and admission of graduate students to our PhD program. After being appointed Chair of the MD/PhD training program, I was able to help faculty develop research projects that fostered research training for medical students. In order to foster interdisciplinary research, I invited the nanotechnology research program to collaborate with the cancer center, where the scientists developed novel detection devices potentially useful for diagnostics. Because of this success, I was able to obtain a \$2.8M Epscor training grant for cancer nanotechnology, which supported 15 graduate students per year, and I was able to transfer leadership of this program from myself to one of our nanotechnology faculty members. All of these activities fostered the development of training programs that promoted clinical, translational and interdisciplinary research teams, promoting growth at the Mary Babb Randolph Cancer Center.

### **Administrative Responsibilities**

1993-present	Numerous graduate student committees
1995-present	Faculty search committees - served on numerous committees, chaired several.
1995-2004	Health Sciences Center Graduate School Recruitment Committee, member
1995-2001	Chair, Graduate Student Admissions, Microbiology/Immunology/Cell Biology
1996	Member, Faculty Arbitration Committee
1997-2000	Strategic Research Planning Group (SPABR) - WVU Health Sciences Center.
1999-2003	Member, Radiation and Biohazard Safety committee.
2000-2004	Associate Director, MD/PhD Training Program
2001-2103	Founding Scientist and consultant, Protea Biosciences, Inc. ( <a href="http://www.proteabio.com">www.proteabio.com</a> ).
2001-2008	MBRCC Operations Committee - Mary Babb Randolph Cancer Center.
2001-2008	Director, Center of Biomedical Research Excellence (CoBRE) for Cancer and Signal Transduction (CoBRE PI)
2002-2008	Graduate Training committee – WVU Health Sciences Center.
2003-2008	Director, Cancer Cell Biology Program, WVU Health Sciences Center
2004	Director, Cancer nanotechnology training grant
2006-2008	Membership committee, American Society for Cell Biology
2007	Director, WVU HSC Core Facilities
2007-2008	Member, State of WV Cobre/inbre advisory council to the Associate Chancellor, WV University system.

2007-2010	Member, Southeast Regional Cobre/Inbre advisory council
2008	Chair, Search committee for Chairman of Biochemistry
2008	Search committee, WVU HSC Vice President Search committee.
2008	National Cobre/Inbre advisory council
2008-2012	Institutional Officer (IO), The Commonwealth Medical College
2008-2012	Member, Presidents cabinet, The Commonwealth Medical College
2009-2012	Member, Institutional Review Board (IRB), Mercy Hospital, Scranton, PA
2010-2012	Chair, Professional Science of Masters (Biotechnology) program – development and accreditation.
2013-2015	Research Ethics committee, University of Delaware
2015-present	President FAU Research Corporation
2015-present	Ex officio, Tech Runway Advisory Board
2017-present	Ex officio, Florida-Israel Institute
2019-present	Member, Florida Consortium for Medical Marijuana Clinical Outcomes Research
2019-Present	Member, Florida Agriculture Research Committee
2019-present	Vice Chair, Florida SUS Vice Presidents of Research steering committee
2020-present	FAU Fiscal Responsibility Task Force

## **Societies, Honors, Service to the Field**

### **Active Society Membership**

1. American Association of Cancer Research (AACR): *Full Member*.
2. American Society for Cell Biology (ASCB): *Full Member*.
3. American University Technology Managers (AUTM): *Active member*.
4. American Association of Medical Colleges GRAND: *Active Member*
5. American Public Land Grant University's (APLU): *Active Member*
6. APLU Counsel of Research (APLU COR): *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.
1995	Awarded Outstanding Presentation in Signal Transduction; 86th annual meeting of the American Association for Cancer Research; Toronto, Ontario, Canada.
1999	Faculty Development Award, West Virginia University - <i>Microscopy &amp; Image analysis</i> .
2001	Dean's Award for Excellence in Research - West Virginia University,
2005	Percival MacLachlan Award, Medical Educator of the year, 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 of the year, WVU School of Medicine.
2009	CSR Award for Outstanding Service on NIH Study Sections.

### **National and Regional Committees**

2005-2008	American Society for Cell Biology, Membership Committee
2005-2008	Translational Research Cancer Centers Consortium (TRC3), organizing member
2007-2008	National NCRR Cobre Advisory Board
2007-2008	Regional NCRR Cobre Advisory Board
2007-2008	WV Cobre/Inbre IDEA award advisory board
2011-2014	American Association of Medical Colleges, Advisory Panel on Medical Education

### **Editorial or Manuscript Review Experience (past and current):**

1. 2001: Guest Editor, *ONCOGENE*, special edition on Adaptor Proteins
2. Member, Editorial board: *Breast Cancer: Basic and Clinical Research*
3. Ad hoc reviewer for many journals, including:

*American Journal of Physiology: Cell Physiology*  
*Molecular and Cellular Biology*  
*Molecular and Cellular Biochemistry*  
*Journal of Biological Chemistry*  
*Oncogene*  
*Hybridoma*  
*European Journal of Biochemistry*  
*Molecular Carcinogenesis Experimental*  
*Hematology Biochemistry*  
*Molecular Pharmacology*  
*Cancer Research Molecular*  
*Biology Reports*  
*Cell Motility and the Cytoskeleton*  
*Nanotechnology*

### **Grant Review / Study Section Membership**

1994	Veterans Administration, Oncology Study Section, Ad Hoc member.
1995-1998	USDA Cell Biology Study Section, mail in reviewer
1995-1998	Arkansas Science and Technology Grants, mail in reviewer
2001	NCI ONC-IRG, Several Special Emphasis Panels
2001-2003	NCI CAMP (cancer and metabolic pathobiology) Study Section, regular member
2003-2004	NCI TME (tumor microenvironment) Study section, regular member.
2004	Austrian Science Foundation, mail in reviewer
2004-2005	NCI TCB (tumor cell biology) Study Section, ad hoc.
2006	EMBO grant reviewer, mail in reviewer.
2006-2009	NCI MONC (Molecular Oncology) Study section, regular member.
2009-present	NCI Cancer Health Disparities study section, ad hoc member.
2012-2013	NCI Cancer Health Disparities study section, Chair.

### **Consulting**

2001-2013:	Scientific Founder, Protea Biosciences, Morgantown, WV
2002-2019:	External Advisory Committee, Chair, Rhode Island Hospital/Brown Univ. CoBRE for Cancer Cell Research and Development (Bharat Rhamadon, MD; PI).
2005-2010:	External Advisory Committee, Univ. of Arkansas CoBRE for Cancer Research.
2012-2013:	Advisor, PA Department of Education, Graduate Programs review committee 2013-
2014-2016	Co-founder, Inivent, LLC, Newark, DE.
2020-present:	BioArkive, San Diego, CA

### **Service on Boards**

2001-2013:	Member, Board of Directors, Protea Biosciences, Morgantown, WV
2009-2012:	Member, Board of Directors, Northeastern Pennsylvania Cancer Institute, Scranton, PA
2010-2012:	Member, Center for research and economic development, East Stroudsburg University Research Park, East Stroudsburg, PA.
2012:	Board of Directors, Scranton Area Chamber of Commerce
2014:	Member, Board of Directors, Clinical, Translational Cancer Research (CTCR) Center, Helen F. Graham Cancer Center, Christiana Care Hospital, Newark, DE
2015-present:	President, FAU Research Corporation, Boca Raton, FL
2020-present:	Board member, BioArkive, San Diego, CA

## **Teaching and Education**

### **Past and Present Areas of Teaching Interests**

#### ***West Virginia University***

1993-2008:	<u>Medical Virology</u> (MBIM 701 - Medical Students) – 14 lectures/yr
1993-2001:	<u>Medical Virology</u> (MBIM 711 - Dental Students) - 6 lectures/yr
1993-2002:	<u>Molecular Virology</u> (MBIM 784C - Graduate Students) – 6 lectures/yr

- 1994-2008: Signal Transduction (MBIM 793 - Graduate Students) – 2 lectures/yr  
 2005-2008: Introduction to neoplasia (CCMD – Graduate Students) – 2 lectures/yr  
 2005-2009: Cancer Pathology (PATH – medical students) – 1 lecture/yr  
 Independent Research Experiences (BIOL 105 - Undergraduate Students) – 1 student/yr  
 Summer Research Experiences (High School Students) – 3 students in 10 years  
 2008-2012: Problem based learning and clinical case studies (Medical students) – 8 students/semester.

### ***The Commonwealth Medical College***

- 2008-2012: Problem Based Learning – (2<sup>nd</sup> year medical students) 15 two-hour sessions/week with 8 medical students reviewing case studies and connecting clinical presentation to physiology and mechanisms of disease  
 2009-2012 Colloquium – Careers in biomedical research (masters students)

### ***University of Delaware***

- 2013: Honors colloquium – The future of Health Care (honors freshmen)  
 2014: Careers in Health Sciences (freshmen/sophomores) (1-credit)  
 2014: Seminars in Health Sciences (planned, 1 credit)

### **Graduate Student Trainees; Current position:**

- 1995-2000: Yong Qian, PhD, Associate Research Scientist, National Institutes of Occupational Safety and Health, Morgantown, WV  
 1996-2001: Justin Summy, PhD, Assistant Professor, Univ of Central Florida.  
 1996-2003: Joseph M. Baisden, PhD, Radiation Oncologist, Private Practice, Princeton, WV.  
 1999-2002: Lidia Cherezova, MS, PhD, Bioinformatics, U. Washington, Seattle, WA.  
 2000-2004: Amanda Ammer (nee Gatesman), Staff scientist, West Virginia University.  
 2002-2007: Valerie Walker, PhD, Staff scientist, National Institutes of Occupational Safety and Health, Morgantown, WV  
 2003-2007: David Clump, MD/PhD, Resident, Radiology, UPCI, Pittsburgh, PA  
 2006-2011: Brandi Snyder, PhD, Staff Scientist, National Institutes of Occupational Safety and Health, Morgantown, WV

### **Post doctoral Trainees, Current positions:**

- 1995-1996: Tracy Weimer, MD/PhD; Physician, Ob/Gyn, West Virginia University  
 1995-1996: Malak Bokhari, MD; Physician, Connellsville Group Practice, Connellsville, PA  
 2003-2007: Andrea Dorfleitner, PhD. Res. Asst. Professor, Northwestern University, Chicago, IL  
 2007-2009: Jess Cunnick, PhD. Assistant Professor, The Commonwealth Medical College.  
 2007-2010: Youngjin Cho, PhD. Research Assistant Professor, The Commonwealth Medical College  
 2012-present Kim Arnold, PhD., Postdoctoral Fellow, University of Delaware

### **Trainee Support**

- |  |                            |
|--|----------------------------|
| Swiger Graduate Student Fellowship:                          | Justin Summy, 1997-2000    |
| West Virginia University Medical Scientist Training Program: | Joseph Baisden, 1997-2001  |
| West Virginia University Medical Scientist Training Program: | Ihtishaam Qazi, 2001-2004  |
| West Virginia University Medical Scientist Training Program: | David Clump, 2001-2004     |
| DuBois Fellowship:   | Valerie Walker, 2001-2004  |
| NIH Minority Supplement:                                     | Valerie Walker, 2004-2007  |
| AACR Minority Travel Award:                                  | Valerie Walker, 2004, 2006 |

## **Research**

### **Research Interests**

1. Breast cancer and cellular invasion.

2. Heavy metals, signal transduction and cancer progression
3. Diversity in academia
4. Entrepreneurship in science

### Invited Presentations

- 1994 "AFAP-110 is a Src SH2/SH3 binding partner" 12<sup>th</sup> annual meeting on Oncogenes, Frederick, MD.
- 1995 "Role of the cytoskeleton in transformation and cancer". Charleston Area Medical Center, Charleston, WV.
- 1997 "AFAP-110 directs changes in actin filament integrity" University of Texas, Southwest, Dallas, TX. Dept. of Physiology seminar series. Dallas, TX.
- 2000 "AFAP-110 is a binding partner and substrate for PKC isoforms". Keystone symposia on PKC. Taos, NM.
- 2000 "AFAP-110 modulates signals that affect actin filament integrity". MD Anderson Cancer Center, Dept. of Tumor Biology seminar series. Houston, TX.
- 2001 "AFAP-110 is an effector of actin filament integrity". University of North Carolina, Chapel Hill, Dept. of Anatomy and Cell Biology seminar series. Chapel Hill, NC.
- 2002 "Tech transfer within a Cancer Center" 9<sup>th</sup> Annual WV Epscor Meeting, Charleston, WV. Invited speaker. January 28-29, 2002, Charleston, WV.
- 2003 "Proteomics and Cancer". Charleston Area Medical Center. Charleston, WV. March 21, 2003.
- 2003 "AFAP-110 relays signals from PKC that affect changes in actin filament integrity". University of Virginia, Charlottesville, VA. March 26, 2003
- 2003 "AFAP-110 relays signals from PKC that affect changes in actin filament integrity". NCI vascular biology program, Bethesda, MD. April 18, 2003.
- 2003 "AFAP-110 in the tumor microenvironment" Texas A&M School of Medicine, Temple, TX. May 31, 2003.
- 2004 "Cellular signals that regulate podosome formation are associated with breast cancer progression" Moffet Cancer Center, U. South Florida, Tampa, FL May 19, 2004
- 2004 "Kinase signaling mechanism that stimulate breast cancer progression" LifeSpan Rhode Island Hospital, Providence, RI. July 25, 2004
- 2005 "Podosome formation and mechanisms of invasion in cancer". Marshall University, Huntington, WV, 1/28/05
- 2005 "Podosome formation and mechanisms of invasion in cancer". University of Alabama@Birmingham, Birmingham, AL 2/8/05
- 2005 "AFAP-110 relays cellular signals that direct activation of cSrc and podosome formation" 45<sup>th</sup> Annual meeting of the American Society for Cell Biology. San Francisco, CA. 12/10/05.
- 2006 "Cellular signals that regulate podosome formation". Brown University, Providence, RI 5/26/06
- 2006 "Tech transfer development derived from Cobre support". 5<sup>th</sup> Annual Cobre meeting, Washington, D.C. 7/23/06
- 2007 "CoBRE funding in support of a Cancer Center initiative for WV". Congressional staff presentation, Senate Hart Building, Washington, D.C., 1/18/07
- 2007 "Determining if cSrc activation directs cisplatin resistance in ovarian cancer cells". 10th annual meeting of the Translational Research Cancer Center's Consortium. Cleveland Clinic, Cleveland, OH 2/9/07
- 2007 "A mechanism for PKC directed cSrc activation". Medical College of Georgia, Cancer Center. 4/23/07
- 2007 "Personalized Medicine and Cancer" 17<sup>th</sup> Annual Fall Cancer Conference, Morgantown, WV 9/29/07
- 2008 "Breast cancer in West Virginia" Annual meeting of WV Institute on Aging, Morgantown, WV 6/4/08
- 2008 "New trends in cancer research" National CoBRE Research Meeting, Washington, D.C., 8/6/08
- 2009 "Identification of a Drug Target for Breast Cancer" Scranton Temple Residency Program, Scranton, PA 2/3/09
- 2009 "Biomedical Research and Economic Development" Marywood University Economic Development Council, Scranton, PA 4/3/09



- 2010 "Developing Biotech in Northeastern Pennsylvania" Ben Franklin Development Corporation, Bethlehem, PA 1/6/10
- 2010 "Developing Biotech in Northeastern Pennsylvania" Northeastern Pennsylvania Faculty Symposium, King's University, Wilkes-Barre, PA 4/9/10
- 2010 "Phosphatidic acid binding to a Pleckstrin Homology Domain" University of Kentucky, Lexington, KY, 9/20/10
- 2010 "Phosphatidic acid binding to a Pleckstrin Homology Domain" Brown University, Providence, RI, 9/24/10
- 2011 "AFAP1 function in breast physiology" University of South Alabama, Mobile, AL 5/24/11
- 2012 "Future directions in biomedical research: University of Delaware, Newark, DE 4/1/12
- 2012 "Future directions in biomedical research: Clemson University, Clemson, SC 4/21/12
- 2013 "AFAP1 – 20 year study of a src substrate and its role in cellular physiology" Unidel Seminar, University of Delaware, Newark, DE 2/27/13
- 2014 "AFAP1: Cellular and Physiological roles in breast development and breast cancer" Dept of Biology, University of Delaware, Newark, DE. 3/7/14
- 2014 "Biomedical Research in the United States". Plymouth University, Plymouth, England, May 23, 2014

**Meeting Chair**

- 2000 1<sup>st</sup> Conference on Molecular Mechanisms of Metal Toxicity and Carcinogenesis. Morgantown, WV
- 2001 2<sup>nd</sup> Conference on Molecular Mechanisms of Metal Toxicity and Carcinogenesis. Morgantown, WV.
- 2008: Organizing committee Chair: 11<sup>th</sup> annual meeting of the Translational Research Cancer Center Consortium (TRC3). Feb 20-22, 2008.
- 2011 Regional Meeting on Economic Development: Chair, Undergraduate Research, Scranton, PA 4/12/11.

**Research Funding and Grant Support (annual direct costs shown)**

**Active Funding**

SBDC/FAU Daniel Flynn (PI) 01/01/18-12/31/22  
 Dept of Commerce 5% effort \$1,200,000/yr  
 Title: South Florida Small Business Development Center at FAU  
 Goal: To provide assistance to small businesses in Palm Beach and Broward Counties  
 Role: PI

NSF Rhys Williams (PI) 06/1/18 - 5/31/23  
 NSF I-Corp program 1% \$100,000/yr  
 Title: I-Corps sites an an ecosystem catalyst  
 Goal: To develop undergraduate research programs that promote entrepreneurship in the First Step Program.  
 Role: My role is to serve as Co-PI of the program.

**Grants in review**

NIH Construction Grant  
 NIH/C06 Construction Grant Daniel C. Flynn (PI) 10/1/20-09/29/25  
 Title: Neurobiology Building \$8,000,000  
 Goal: To construct animal quarters in a new 60,000 ft neuroscience research building.

**Other Funded Grants – Expired**

R01-CA60731-19A1 Daniel C. Flynn (PI) 4/1/94 - 8/31/13  
 NIH/NCI 25% Effort \$225,000/yr  
 Title: AFAP-110 effects actin filament integrity

Goal: To determine the mechanism by which AFAP-110 alters actin filament integrity

DCE/PA Daniel C. Flynn (PI) 1/1/11 - 7/31/12  
DCED 5% Effort \$100,000

Title: 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 1% Effort \$150,000

Title: 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 1% \$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 1% \$137,000

Title: High Throughput Microscopy

Goal: To obtain funds to purchase a high throughput microscope

American Cancer Society Daniel C. Flynn (PI) 1/1/09 – 12/31/11  
ACS Institutional Research Grant 5%

Goal: To establish pilot funding for new investigators.

Re-assigned to new PI upon leaving WVU

NIH – P20-RR016477-04 Jim Sheil (PI) 6/1/04 – 5/31/09  
NCRR 5% \$489,908/yr

Title: West Virginia Idea Networks of Biomedical Research Excellence (WV-INBRE)

Goal: To create a network for training undergraduate scientists and faculty at small colleges to do medical research by mentoring undergraduate students and faculty from small colleges to do summer research projects. DCF mentors a faculty member from Wheeling Jesuit University.

ESRE Daniel C. Flynn (PI) 10/01/07 - 9/30/10  
State of WV (WVEpscor) 1% \$2,500,000/ 3 yrs

Title: Eminent Scholars Program

Goal: To recruit clinical trialists to work at the WVU Mary Babb Randolph Cancer Center

Supports 3 clinical trialists salary for 1 year and startup funds. PI draws no salary support

Corporate Grant Daniel C. Flynn (PI) 11/1/07 - 10/31/10  
Protea Biosciences, Inc 1% \$400,000/3 yrs

Title: Drug design against the pleckstrin homology domain of AFAP-110

Goal: to generate a lead compound that binds to the PH domain of AFAP-110

P20 RR16440-06 Daniel C. Flynn (PI) 9/30/01 - 6/30/11

NIH/NCRR	25%	\$1,500,000/yr
Title: 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. Reassigned to Laura Gibson, upon leaving WVU (still active grant, through 2016)		
NSF – no assignment #	P. Gannett (PI)	1/1/05 – 12/31/12
NSF/WVEPSCoR	5%	\$350,000/yr
Title: Cancer Nanotechnology Training Program		
Goal: to foster collaborative graduate student training in West Virginia State Universities in the area of Cancer biology and nanotechnology. DCF resigned from grant and transferred to P. Gannett. Grant is still active		
NIH – CA109748-01A1	C. Gladson (PI)	7/1/04 – 6/30/09
NIH/NCI	5%	\$25,000/yr
Title: The Role of Lyn in Glioma Progression and Migration		
Goal: This is a subcontract with the U. Alabama @ Birmingham to generate Lyn/Fyn chimeras and analyze their affects on cellular signals that alter actin filament integrity and promote motility in glioblastoma		
Elsa U. Pardee Foundation	Daniel C. Flynn (PI)	7/1/07 – 6/30/08
Pardee Foundation	5%	\$100,000/yr
Title: Src activation of ERCC1 in Ovarian cancer		
Goal: To determine whether activation of cSrc induces cisplatin resistance in ovarian cancer cell lines via an ability to upregulate ERCC1.		
CDC	Daniel C. Flynn (PI)	8/1/07 – 7/31/08
CDC/BCCSP	25%	\$63,000/yr
Title: Detecting signatures for cSrc activation in ovarian cancer		
Goal: To detect signatures for cSrc activation in ovarian cancer that may dictate treatment		
Review date: Spring, 2007		
R01-CA60731-MS1	Daniel C. Flynn (PI)	5/1/04 to 4/30/08
NIH/NCI	1%	\$25,000/yr
Title: Supplement to “AFAP-110 effects actin filament integrity”		
Goal: A minority supplement to support Valerie Walker as a grad student.		
1T32ES10953-02	John B. Barnett (PI)	7/01/01 to 6/30/06
NIH/NIEHS	5%	\$759,228/yr
Title: Training Program in Immunotoxicology		
Goal: To provide support for 4 graduate students and 2 post-doctoral fellows. DCF mentors 1 graduate student.		
R01-ES11311-01A1	John B. Barnett (PI)	9/1/2002 to 6/30/06
NIH/NIEHS	5%	\$225,000/yr
Title: Effects of the Herbicide, Propanil, on T cell signaling		
Goal: To identify the mechanism by which propanil alters signaling in T cells.		

P20-16440-02A1S3  
NIH/NCRR

Daniel C. Flynn (PI)  
1%\*

9/30/03-6/30/04  
\$353,919

Title: Supplement for Cobre in Signal Transduction and Cancer

Goal: To purchase equipment to automate the WVU Proteomics facility.

S10 RR16792-01  
NIH/NIEHS

John B. Barnett (PI)  
(co-PI) 1%

7/1/2002 to 6/30/03  
\$498,740

Title: Mass spectrometry for proteomics

Goal: To purchase two mass spectrometers for the proteomics facility. Revised proposal written by Dan Flynn while Dr. Barnett was on sabbatical, prior to funding.

Unassigned # WV State Challenge Grant	Aaron Timperman (PI) (co-PI) 5%*	9/30/02 to 9/29/06 \$1,733,000
Title: Proteomic databases for ovarian cancer Goal: To establish a functional proteomics facility and to generate proteomic databases related to ovarian cancer, in collaboration with Protea Biosciences, Inc.		
RPG-99-088-01-MBC American Cancer Society	Daniel C. Flynn (PI) 10%	1/01/99 to 12/31/01 \$240,000
Title: NC protein/actin filament interactions in retroviral assembly Goal: To identify the mechanism by which retroviral nucleocapsid proteins bind to actin filaments and how this interaction affects retroviral assembly.		
R29-CA60731 NIH/NCI	Daniel C. Flynn (PI) 35%	5/1/94 to 4/30/99 \$350,000
Title: Characterization of the pp60 <sup>src</sup> binding protein AFAP-110 Goal: To determine the mechanism by which AFAP-110 and pp60 <sup>src527F</sup> form a stable complex.		
MBC West Virginia University Research Corporation	Peter Gannett (PI) (Co-PI) 2%	1/01/00 to 12/31/01 \$160,000
Title: Advancing the Research mission at WVU via High Field NMR Goal: To obtain an NMR for the purposes of research at WVU.		
R01-ES07521 NIH/NIEHS	John Barnett (PI) (co-PI) 5%	4/1/97 - 3/31/00 \$401,050
Title: In vitro Immunotoxicity Studies on a Herbicide, Propanil Goal: To determine the role of propanil in regulating signal transduction pathways in macrophage cells.		
No assignment # Emmet G. and Brownie E. McDowell Fund	Daniel C. Flynn (PI) 5%	3/01/98 to 2/28/99 \$20,000
Title Activation of telomerase by Src, Yes and Myb proto-oncogenes Goal: To determine whether cYes or cSrc activate telomerase.		
No assignment # Fraternal Order of Eagles	Daniel C. Flynn (PI) 5%	10/1/98 - 9/30/99 \$10,000
Title: Analysis of AFAP-110 in human tumors and normal tissues Goal: To analyze human tumors for the expression of AFAP-110.		
No assignment # L. Newton and Katherine Thomas Memorial Fund	Daniel C. Flynn (PI) 5%	4/1/93 to 3/31/97 \$80,000
Title: Characterization and Disruption of the pp60 <sup>src</sup> -pp110 stable Complex: Determining the role of SH2 mediated protein interactions in <i>src</i> -transformed cells and Breast adenocarcinoma Goal: To analyze breast cancer cell lines for AFAP-110/Src interactions.		

No assignment #	Daniel C. Flynn (PI)	1/1/97-12/31/97
WVU Medical Center, Team	5%	\$60,000
Development Grants		
Title: Tumor Biology and Experimental Therapeutics Research Program		
Goal: To develop a team of research scientists focused on signal transduction in breast cancer.		
No assignment #	Daniel C. Flynn (PI)	11/1/95 to 10/31/96
Elizabeth Brown Charitable Trust	5%	\$5,000
Title: Mitogens and Signal Transduction in Breast Cancer		
Goal: To analyze breast cancer cells for changes in activity of AFAP-110 in response to Src.		
No assignment #	Daniel C. Flynn (PI)	3/1/93 to 2/28/94
Basic Science Research Grant	5%	\$8,000
Title: Identification of tyrosine phosphorylation sites in pp110: A novel substrate for the tyrosine kinase pp60 <sup>src</sup>		
Goal: To analyze AFAP-110 for tyrosine phosphorylation sites in response to Src.		
No assignment #	Daniel C. Flynn (PI)	7/1/93 to 6/30/94
WVU Senate Grant for Research or	5%	\$5,392
Scholarship		
Title: Characterization of two novel actin filament associated proteins, pp110 and alt110		
Goal: To characterize a splice variant of AFAP-110.		
#IRG-181B	Daniel C. Flynn (PI)	7/1/92 to 6/30/93
American Cancer Society	5%	\$9500
Institutional Research Grant		
Title: Identification of the pp60 <sup>src</sup> binding domain contained within AFAP-110: A novel pp60 <sup>src</sup> binding protein		
Goal: To characterize AFAP-110 binding to Src <sup>527F</sup>		

## PUBLICATIONS

1. **Flynn, D.C.**, R.A. Olmsted, J.M. Mackenzie and R.E. Johnston. 1988. Antibody mediated activation of Sindbis virus. *Virology* **166**:82-90.
2. Johnston, R.E., N.L. Davis, J.M. Polo, D.L. Russell, D.F. Pence, W.J. Meyer, **D.C. Flynn**, L. Willis, S.-C. Lin, and J.F. Smith. 1989. Studies of alphavirus virulence using full-length clones of Sindbis and Venezuelan equine encephalitis viruses. *In Positive Strand RNA Viruses*, p. 373-389 (ed. M. Brinton and R.R. Reuckert), Alan R. Liss, inc. NY, NY.
3. **Flynn, D.C.**, W.J. Meyer, J.M. Mackenzie, and R.E. Johnston. 1990. A conformational change in Sindbis glycoproteins E1 and E2 is detected at the plasma membrane as a consequence of early virus-cell interaction. *J. Virol.* **64**:3643-3653.
4. **Flynn, D.C.**, M.D. Schaller, and J.T. Parsons. 1992. Tyrosine phosphorylation of a 120,000 Da membrane-associated protein by the neural form of pp60<sup>src</sup>, pp60<sup>src+</sup> *Oncogene* **7**:579-583.
5. Schaller, M.D., Bouton, A.B., **Flynn, D.C.**, and J.T. Parsons. 1993. Identification and characterization of novel substrates for protein tyrosine kinases. *Prog. in Nucleic Acid Res. and Mol. Biol.* **44**:205-227.
6. **Flynn, D.C.**, T.-L. Horne, A.B. Reynolds, and J.T. Parsons. 1993. Identification and sequence analysis of cDNAs encoding a 110 kilodalton actin filament associated pp60<sup>src</sup> substrate. *Molecular and Cellular Biology* **13**:7892-7900.
7. **Flynn, D.C.**, T.C. Koay, C.G. Humphries, and A.C. Guappone. 1995. AFAP-120: A variant form of the Src SH2/SH3 binding partner AFAP-110 is detected in brain and contains a novel internal sequence which binds to a 67 kDa protein. *J. Biol. Chem.* **270**:3894-3899

8. Strobl, J.S., W. F. Wonderlin, and **D. C. Flynn**. 1995. Mitogenic Signal Transduction in Human Breast Cancer Cells. *General Pharmacology*, 26:1643-1649.
9. Guappone, A.C., Y. Qian, T. Weimer, and **D.C. Flynn**. 1996. An in vivo system for analysis of stable complex formation between Src and AFAP-110. *Methods in Cell Science*, 18:55-65.
10. Shi, X., **D.C. Flynn**, D.W. Porter, S.S. Leonard, V. Vallyathan, and V. Castranova. 1997. Hypotaurine but not taurine functions as an efficient hydroxyl radical scavenger and inhibits silica-induced lipid peroxidation. *Annals of Clinical and Laboratory Science*, 27:365-374.
11. Guappone, A.C. and **D.C. Flynn**. 1997. The Integrity of the SH3 Binding Motif of AFAP-110 is Required to Facilitate Tyrosine Phosphorylation by, and Stable Complex Formation with, Src., *Molecular and Cellular Biochemistry* 175:243-252
12. Shi, X., **D.C. Flynn**, K. Liu, and N. Dalal. 1997. Vanadium (IV) formation in the reduction of vanadate by glutathione reductase/NADPH and the role of molecular oxygen. *Annals of Clinical and Laboratory Science*. 27:422-427.
13. Guappone, A.C., T. Weimer, and **D.C. Flynn**. 1998. Formation of a stable Src-AFAP-110 complex through either an amino terminal or a carboxy terminal SH2-binding motif. *Molecular Carcinogenesis* 22:110-119.
14. Qian, Y., J. M. Baisden, E. H. Westin, A. C. Guappone, T. Koay, and **D.C. Flynn**. 1998. Src can regulate carboxy terminal interactions with AFAP-110 which modulate self-association and cell localization. *Oncogene* 16:2185-2195.
15. Qian, Y., A.C. Guappone, J.M. Baisden, M.W. Hill, J.Summy, and **D.C. Flynn**. 1999. Monoclonal Antibodies Directed Against AFAP-110 Recognize Species-specific and Conserved Epitopes. *Hybridoma* 18:167-175.
16. Summy, J., A.C. Guappone, M.Sudol, and **D.C. Flynn**. 2000. SH2 and SH3 interactions can dictate specificity in substrate selection between cSrc and cYes. *Oncogene* 19:155-160.
17. Qian, Y., J.M. Baisden, H.G. Zot, W.B. Van Winkle and **D.C. Flynn**. 2000. The carboxy terminus of AFAP-110 modulates direct interactions with F-actin and regulates its ability to alter actin filament integrity and induce lamellipodia formation. *Exp. Cell Res.* 255:102-113.
18. Gao, H., A. Henderson, **D.C. Flynn**, K.S. Landreth, and S.G. Ericson. 2000. Effects of the protein tyrosine phosphatase CD45 in FcγR1a signaling and neutrophil function. *Exp. Hematology* 28:1062- 1070.
19. Hoey, J., J. Summy and **D.C. Flynn**. 2000. Chimeric constructs containing the SH4/Unique domains of cYes can restrict the ability of Src<sup>527F</sup> to efficiently upregulate Heme Oxygenase-1 expression. *Cell. Signaling* 12:887-897.
20. Baker, S.J., R. Sumerson, C.D. Reddy, AS Berrebi, **D.C. Flynn** and E.P. Reddy. 2001. Characterization of an Alternatively spliced AATYK mRNA: Expression pattern of AATYK in the brain and neuronal cells. *Oncogene* 20:1015-1021.
21. Qian, Y, S. Wang, S.S. Leonard, J. Ye, F. Chen X. Shi and **D.C. Flynn**. 2001. Cr(VI) causes the increase of tyrosine phosphorylation through reactive oxygen species-mediated reactions. *Mol. Cell. Biochem.* 222:199-204.
22. **Flynn D.C.** 2001. Adaptor Proteins. *Oncogene* 20:6270-6272.
23. Baisden, J.M., Y. Qian, H.G. Zot and **D.C. Flynn**. 2001. The actin filament associated protein AFAP- 110 is an adaptor protein that modulates changes in actin filament integrity. *Oncogene* 20: 6435-6447.
24. Baisden, J.M., A.S. Gatesman, L. Cherezova, B.-H. Jiang, and **D.C. Flynn**. 2001. The intrinsic ability of AFAP-110 to alter actin filament integrity is linked with its ability to also activate cellular tyrosine kinases. *Oncogene* 20:6607-6616.
25. Cherezova, L., A. Gatesman and **D.C. Flynn**. 2001. Regulation of Adaptor protein function through phosphorylation. 2002. *Frontiers in Bioscience* 7: 164-203.
26. Qian Y., J.M. Baisden, L. Cherezova, X. Shi, T. Mast, J. Pustula, H.G. Zot N. Mazloum, M.Y. Lee, and **D.C. Flynn**. 2001. PKC phosphorylation increases the ability of AFAP-110 to cross-link F-actin. *Mol. Biol. Cell.* 13(7):2311-2322.
27. Gao N., B.H. Jiang, S.S. Leonard, L. Corum, Z. Zhang, J.R. Roberts, J. Antonini, J.Z. Zheng, **D.C. Flynn**, V. Castranova, X. Shi. 2002. p38 signaling-mediated hypoxia-inducible factor 1alpha and vascular endothelial growth factor induction by Cr(VI) in DU145 human prostate carcinoma cells. *J Biol Chem* 277:45041-45048.
28. Berwanger B., O. Hartmann, E. Bergmann, S. Bernard, D. Nielsen, M. Krause, A. Kartal, **D. Flynn**, R. Wiedemeyer, M. Schwab, H. Schäfer, H. Christiansen and M. Eilers. 2002. Loss of a Fyn-regulated differentiation and growth arrest pathway in advanced stage neuroblastoma. *Cancer Cell*, 2(5):377-386.
29. Summy J.M., M. Sudol, M. Eck, A.S. Gatesman, A.N. Monteiro, M.J. Eck and **D.C. Flynn**. 2003. Specificity in signaling by cYes. *Frontiers in Bioscience*, 8:S185-205.
30. Clump, D.A., R. Clem, A.S. Berrebi and **D.C. Flynn**. 2003. Expression levels of the Src activating protein

- AFAP-110 are developmentally regulated in brain. *J. Neurobiology*, 54:473-485.
31. Qian Y., J. Luo, S.S. Leonard, G.K. Harris, **D.C. Flynn** and X. Shi. 2003. Hydrogen peroxide formation and actin filament reorganization by CDC42 is essential for ethanol-induced *in vitro* angiogenesis. *J. Biol. Chem.*, 278:16189-16197.
  32. Summy J.M., Y. Qian, B.-H. Jiang, A. Gatesman, A. Guappone-Koay, X. Shi and **D.C. Flynn**. 2003. The c-Yes Amino Terminal SH4 and Unique Domains Prevent Actin Filament Rearrangement and Phosphatidylinositol-3-Kinase Activation by Src<sup>527F</sup>/c-Yes Chimeric Proteins. *J. Cell Science*, 116:2585-2598.
  33. Qian, Y., J.M. Baisden, H. Zot, L. Cherezova, N. Mazloun, M.Y. Lee, I. Qazi, A. Guappone-Koay, and **D.C. Flynn**. 2004. Analysis of the role of the leucine zipper motif in regulating the ability of AFAP-110 to alter actin filament cross linking. *Journal of Cellular Biochemistry* 91:602-620.
  34. Qian, Y., L. Corum, Q. Meng, J. Blenis, J.Z. Zheng, X. Shi, **D.C. Flynn**, and B.-H. Jiang. 2004. PI3K induced actin filament remodeling through Akt and p70S6K1: implication of essential role in cell migration. *Am. J. Pathol. Cell Physio* 286:C153-163.
  35. Belcastro M, M.R. Miller, **D.C.Flynn**, A.P. Soisson. 2004. C/EBP $\beta$  Activity and HPV-16 E6/E7 mRNA Expression Are Not Altered by Imiquimod (ALDARA) in Human Cervical Cancer Cells In Vitro. *Gynecologic Oncology*, 92:660-668.
  36. Gatesman, A; JM Baisden, VG Walker, SA Weed and **D.C. Flynn**. 2004. Protein Kinase C $\gamma$  activates cSrc and alters actin filament integrity via AFAP-110. *Mol. Cell. Biol.* 24:7578-7597.
  37. Gao, N., **D.C. Flynn**, V. Walker, X. Shi, B.-H. Jiang. 2004. The G1 cell cycle progression and the expression of G1 cyclins are regulated by PI3K/AKT/mTOR/p70S6K1 signaling in human ovarian cancer cells. *AJP-Cell Biology* 287(2):C281-291.
  38. Qian, Y., K.J. Liu, **D.C. Flynn**, V. Castranova and X. Shi. 2005. Cdc42-mediated actin filament reorganization regulates arsenic-induced NADPH oxidase activation and cell migration. *J. Biol. Chem.*, 280: 3875-3884. [Cover Photo].
  39. Qian, Y., X. Zhong, **D.C. Flynn**, J. Zheng, M. Qiao, C. Wu, S. Dehar, X. Shi and B.-H. Jiang. 2005. ILK mediates actin filament rearrangements and cell migration and invasion through PI3K/AKT/Rac1 signaling. *Oncogene* 24):3154-3165.
  40. Wang G, Li X, Huang F, Zhao J, Ding H, Cunningham C, Coad JE, **Flynn DC**, Reed E, Li QQ. 2005. Antitumor effect of beta-elemene in non-small-cell lung cancer cells is mediated via induction of cell cycle arrest and apoptotic cell death. *Cell Mol Life Sci.* 62:881-893.
  41. Li X, Wang G, Zhao J, Ding H, Cunningham C, Chen F, **Flynn DC**, Reed E, Li QQ. 2005. Antiproliferative effect of beta-elemene in chemoresistant ovarian carcinoma cells is mediated through arrest of the cell cycle at the G2-M phase. *Cell Mol Life Sci.* 62:894-904.
  42. Stettner, MR, W. Wang, L.B. Nabors, S. Bharara, **D.C. Flynn**, J.R. Grammer, G.Y. Gillespie and C.L. Gladson. 2005. Lyn kinase activity is the predominant cellular Src kinase activity in glioblastoma tumor cells. *Cancer Research*, 65:5535-5543.
  43. Clump, DA, I. Qazi, M. Sudol and **D.C. Flynn**. 2005. c-Yes response to growth factor activation. *Traffic*, 23:263-272.
  44. Helfer, B., Boswell, B., Finlay, D., Cipres, A., Vouri, K., Bong Kang, T., Wallach D., Dorfleutner, A., **Flynn, D.C.**, and Frisch, S. 2006. Caspase-8 promotes cell motility and calpain activity under nonapoptotic conditions. *Cancer Research* 66:4273-4278.
  45. Jiang, B.-H., L.-Z. Liu, R. Schafer, **D.C. Flynn** and J.B. Barnett. 2006. A novel role for 3, 4-dichloropropionanilide (DCPA) in the inhibition of prostate cancer cell migration, proliferation, and hypoxia-inducible factor 1 $\alpha$  expression. *BMC Cancer* 6:204.
  46. J.J. Yu and **D.C. Flynn**. 2007. Artfactual mutations in the EGFR. *Biotechniques*, 42:41.
  47. Dorfleutner, A., Bryan, N.B., Talbott, S.J., Funya, K.N., Rellick, S.L., Reed, J.C., Shi, X., Rojanasakul, Y., **Flynn, D.C.**, and Stehlik, C. Cellular PYRIN domain-only protein (cPOP) 2 is a candidate regulator of inflammasome activation. 2007. *Infect. Immun.* 75:1484-1492.
  48. Ma Yan, Y. Qian, L. Wei, J. Abraham, X. Shi, V. Castranova, E. J. Harner, **D. C. Flynn**, and L. Guo. 2007. Population-based Molecular Prognosis of Breast Cancer by Transcriptional Profiling. *Clinical Cancer Research*, 13:2014-2022
  49. Guo, L., J. Abraham, **D.C. Flynn**, V. Castranova, X. Shi and Y. Qian. 2007. Individualized survival and treatment response predictions for breast cancer using phospho-EGFr, phospho-ER, phospho- Her2/neu, phospho-IGF-IR/In, phospho-Mapk and phospho-p70<sup>S6K</sup> proteins. *International Journal of Biological Markers*. 22;1-11.



50. 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.
51. 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.
52. Sun, X.-H., **D.C. Flynn**, V. Castronova, L.L. Millecchia, A.R. Beardsley and J. Liu. 2007. Identification of a novel domain at the N-Terminus of caveolin-1 that controls rear polarization of the protein and caveolae formation. *J. Biol. Chem.*, 282:7232-7241.
53. 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
54. 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.
55. 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.
56. 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.
57. **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.
58. 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
59. 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
60. Apopa PL, Qian Y, Shao R, Guo NL, Schwegler-Berry D, Pacurari M, Porter D, Shi X, Vallyathan V, Castranova V, **Flynn DC**. 2009 Iron oxide nanoparticles induce human microvascular endothelial cell permeability through reactive oxygen species production and microtubule remodeling. *Part Fibre Toxicol*. Jan 9;6:1. PMID: 19134195
61. 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
62. 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
63. Apopa PL, Qian Y, Shao R, Guo NL, Schwegler-Berry D, Pacurari M, Porter D, Shi X, Vallyathan V, Castranova V, **Flynn DC**. 2009. Iron oxide nanoparticles induce human microvascular endothelial cell permeability through reactive oxygen species production and microtubule remodeling. *Part Fibre Toxicol*. Jan 9;6:1. PMID: 19134195
64. 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.
65. 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
66. Khan SH, Ahmad F, Ahmad N, **Flynn DC**, and Kumar R. 2011. Protein-protein interactions Principles, techniques, and their potential role in new drug development. *J. Biomol. Struct. Dynamics* 28:1-10.
67. Reynolds, AB; SB Kanner, MD Schaller, AB Bouton, SW Weed, **DC Flynn\*** and JT Parsons: 2013. Src substrates – 20 years later. *Oncogene epub ahead of print 14 October 2013; doi:10.1038/onc.2013.416*. \*denotes communicating author.
68. Cunnick, JM, S. Kim, J. Hadsell, C. Cerra, P. Reiser, **DC Flynn**, Y Cho. Actin filament-associated protein 1 is required for cSrc activity in the lactating mammary gland. *Oncogene*. 2015. 34:2640-2649.
69. Opdenaker LM, Arnold KM, Pohlig RT, Padmanabhan JS, **Flynn DC**, Sims-Mourtada J. Immunohistochemical analysis of aldehyde dehydrogenase isoforms and their association with estrogen-receptor status and disease progression in breast cancer. *Breast Cancer*. 2014 Dec 12;6:205-209.