



CHAPMAN  
UNIVERSITY

OFFICE OF RESEARCH

ANNUAL REPORT  
2016-2017

"I have been surprised that there were people who other people were not aware of from the workers in the East, and I believed that if I could get enough to customers during that period I might develop a really profitable trade. So I took my savings in my hands and started my business putting out long after all of the other services had gone. There is always a few things on my first experience (without) me. The response was based on previous expectations. The trade expertly accepted the new service which was sold, very long-lasting, and effective."

From the autobiography of Charles C. Chapman



## Vice President for Research: Thomas Piechota, PhD, PE

Welcome to the first Annual Report from the Office of Research at Chapman University. This report represents the incredible amount of growth that Chapman University has seen in all areas of research and creative activity. It is prepared on a Fiscal Year (FY) basis for most metrics and presents the many measures of research and creative activity includes grants and contracts, publications, outside agreements, institutional review board protocols and student involvement.



FY2017 was an exciting year for Chapman University with President Daniele Struppa stepping into his new role as President after 10 years as Chancellor. We appreciate the 25 years that President Emeritus Jim Doti served and changed the trajectory of Chapman in terms of the student growth, infrastructure, programs, and fundraising. It is wonderful to see President Emeritus Doti teaching and active in research presenting the Economic Forecast twice a year!

I was thrilled to join Chapman University in September and asked to establish the Office of Research. I have a wonderful staff who understand the importance of service to our faculty and students in support of research, scholarship and creative activity. We also ensure that the institution conducts these activities with research integrity in mind and work closely with faculty and students to make them aware of the various compliance issues. Please feel free to contact any of us with questions.

FY2017 was another year of growth for Chapman University in all areas of research and creative activity. Highlights included:

- Research expenditures increased by 22% from FY2015 to FY2016 (\$5.35 million to \$6.55 million).
- Total number of proposals submitted to outside funding entities increased by 50% (97 to 145) from FY2016 to 2017.
- The largest growth in external grant awards occurred in the School of Pharmacy with \$1.3 million in awards in FY2017 with the largest award to Professor Rennolds Ostrom for \$442,279 from the National Institute for Health.
- 31 partnership agreements for research were established with outside organizations in FY2017.
- Annual publications doubled from 168 to 336 during the period of 2012-2016.

All of this is impressive, and I look forward to reporting on continued growth in FY2018 from new and existing faculty.

# 2016-2017 BY THE NUMBERS

**\$6.6 MILLION**

RESEARCH EXPENDITURES



**\$4.5 MILLION**

IN AWARDS

63 TOTAL AWARDS



**49%**

INCREASED # OF  
PROPOSALS  
(FY16 - FY17)



**31**

INDUSTRY  
ORGANIZATION  
PARTNERSHIPS



**336**

PUBLICATIONS  
(2016)



**10**

MILLION DOLLAR CLUB  
INDUCTEES (2017)





## **Office of Research**

Vice President for Research: Thomas Piechota, Ph.D., PE

Assistant Vice President for Research: Dawn Underwood, Ph.D.

Faculty Fellow: Laura Glynn, Ph.D.

Executive Assistant: Karen Pescetti

Student Assistant: Aleina Radovan

## **Sponsored Projects Services (Pre and Post Award)**

Director: Allison Ramos

Grants & Contracts Administrator: Alisz Demecs

Research Administrator: Molly McCarty

Contract and Grant Analyst: Heidi Wissa

## **Research Integrity – Support of ethical research including:**

IRB/FCOI Administrator: Natalie Del Rio

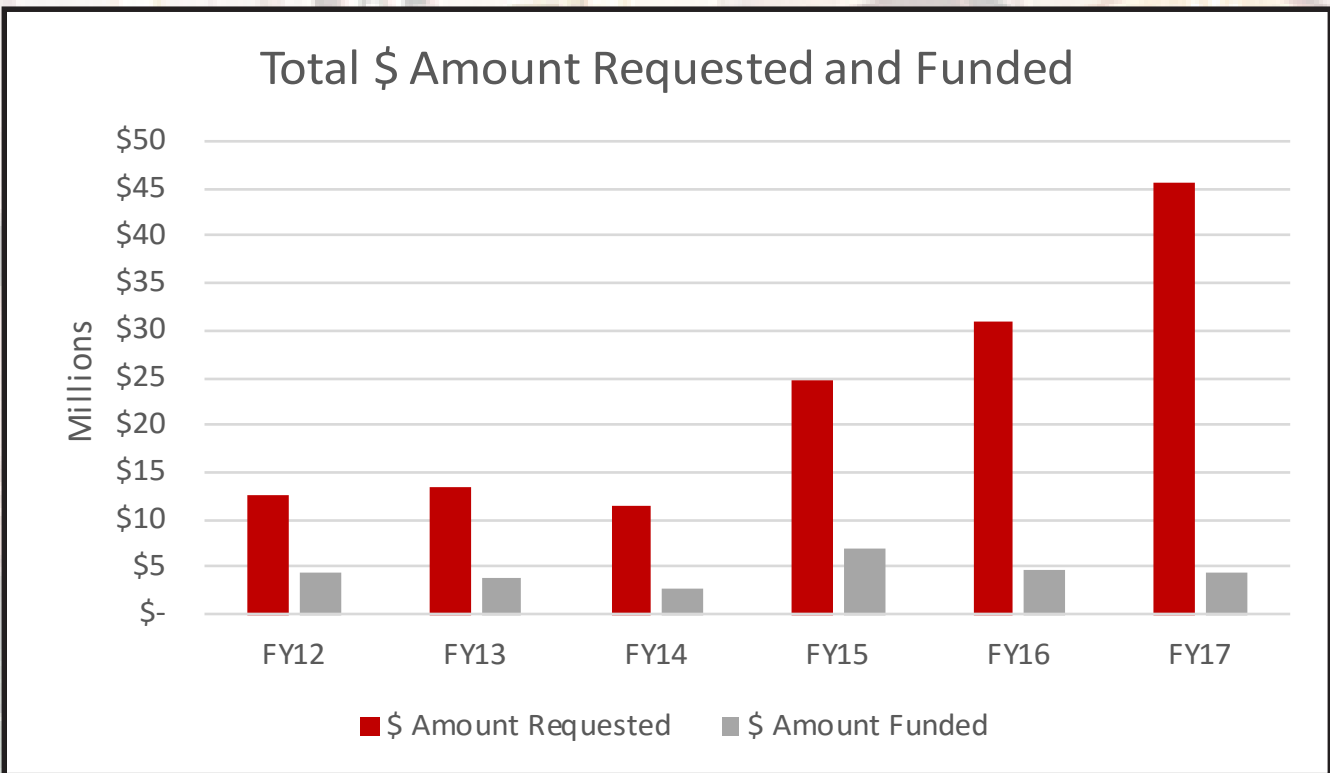
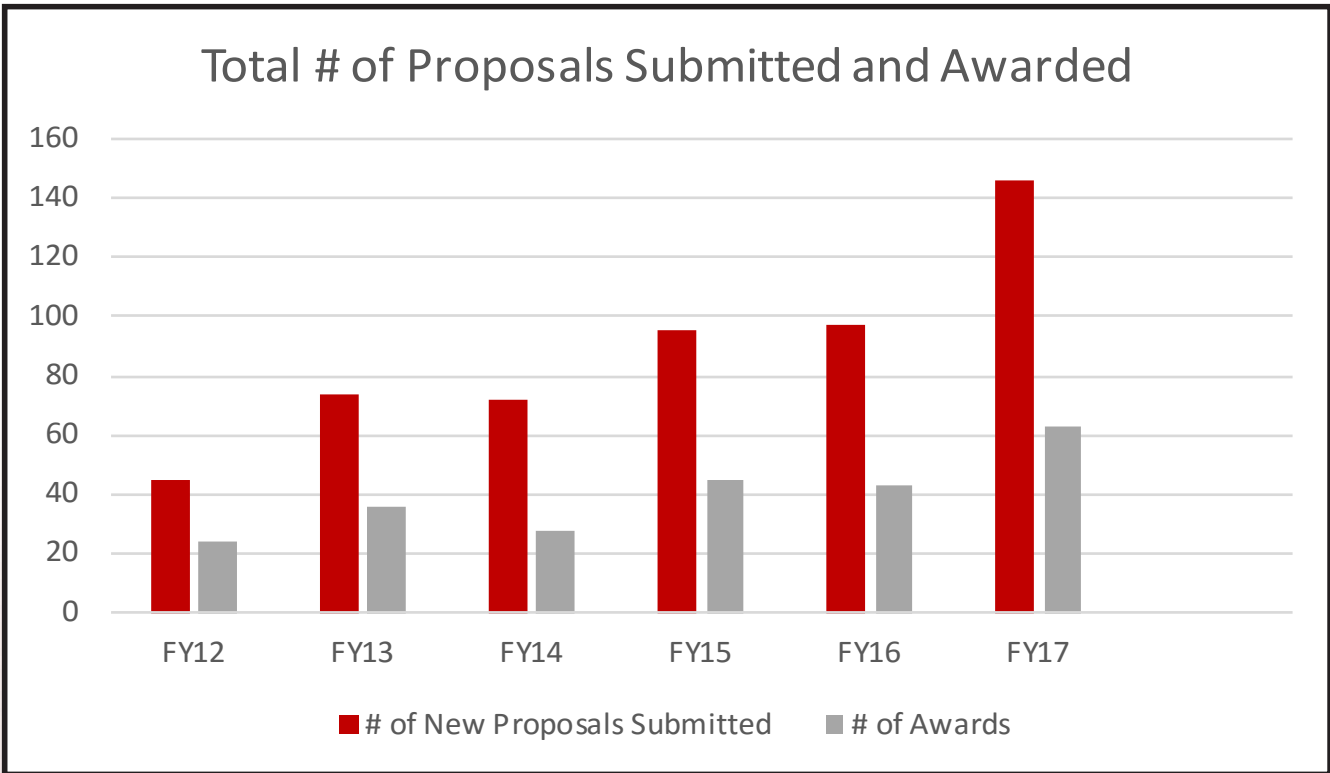
IACUC Administrator: Bruce W. Kennedy, Ed.D.

Graduate Assistant, IRB & IACUC: Maxine de Luna

## **Research Infrastructure – Vivarium**

Manager: David Lopez

# EXTERNAL PROPOSALS & AWARDS



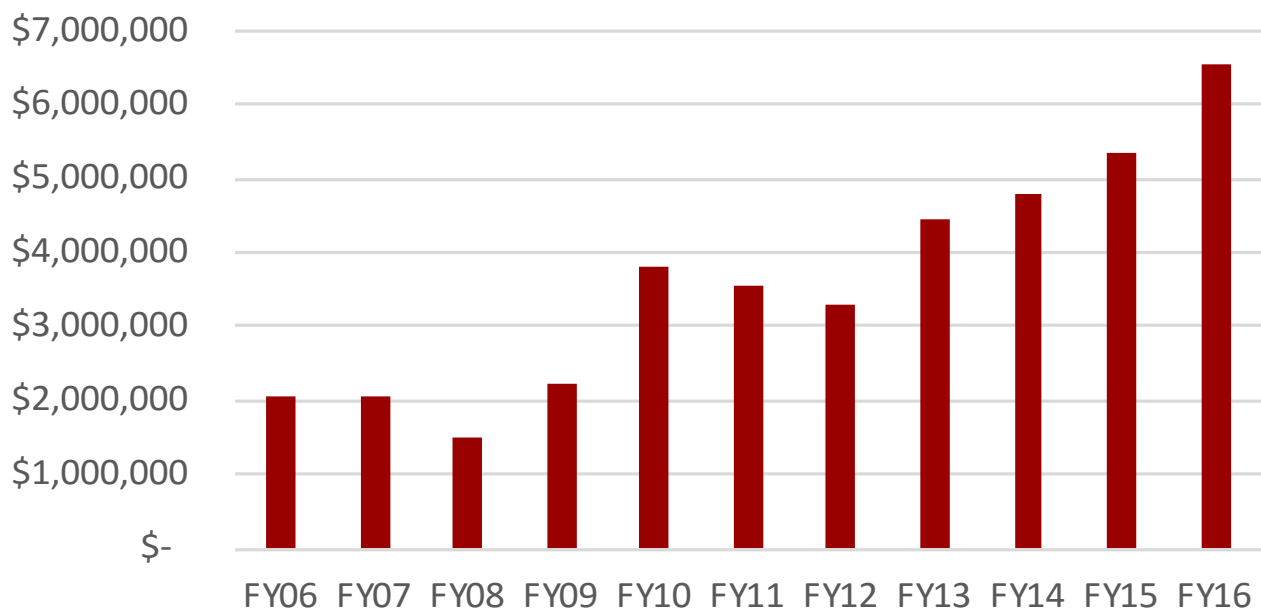
# \$ AWARDS & EXPENDITURES

## AWARDS

Unit	\$
<b>Argyros School of Business</b>	<b>\$ 248,444</b>
Economic Science Institute	\$ 67,901
<b>Attallah College of Educational Studies</b>	<b>\$ 112,682</b>
<b>Crean College of Health</b>	<b>\$ 632,460</b>
<b>Fowler School of Law</b>	<b>\$ 439,290</b>
<b>Schmid College of Science</b>	<b>\$ 1,165,761</b>
CEESMO	\$ 140,023
Institute for Quantum Studies	\$ 90,000
<b>School of Communication</b>	<b>\$ 125,202</b>
<b>School of Pharmacy</b>	<b>\$ 1,268,656</b>
<b>Wilkinson College</b>	<b>\$ 494,535</b>
<b>Total</b>	<b>\$ 4,487,030</b>

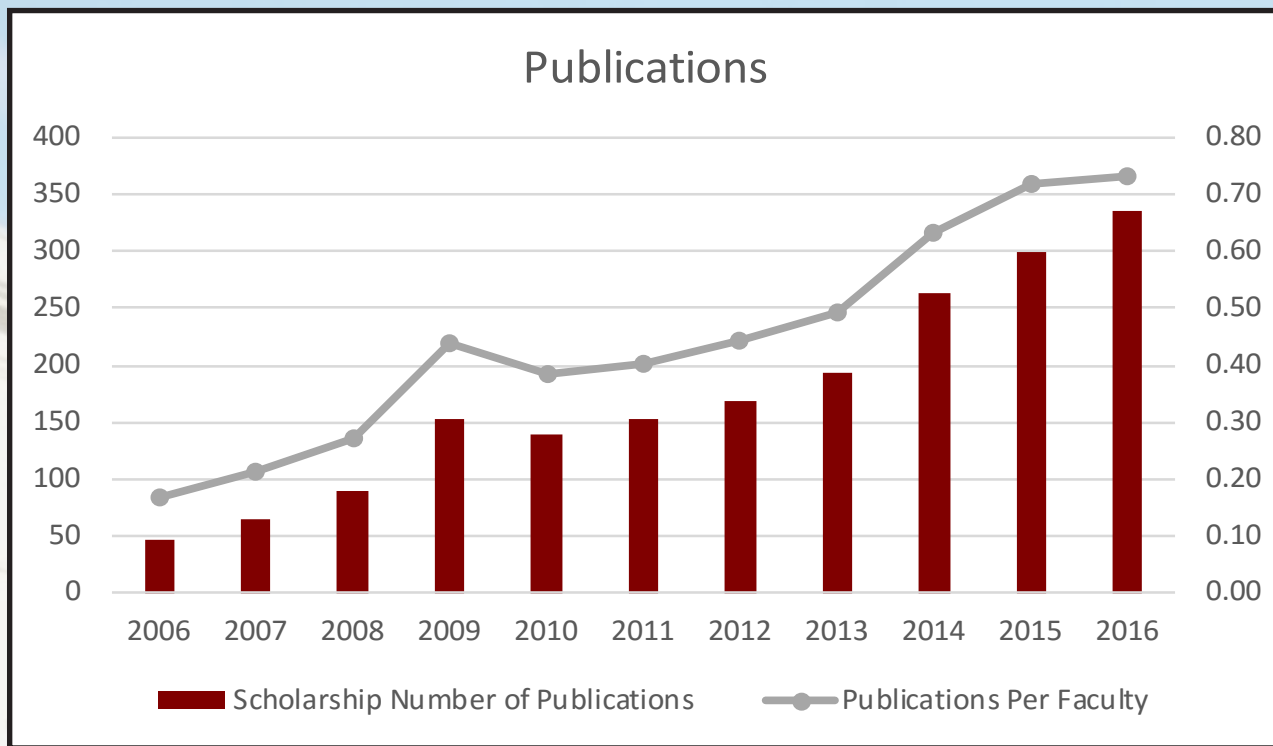
NOTE: Centers/Institutes reported within each college/school

## Research Expenditures

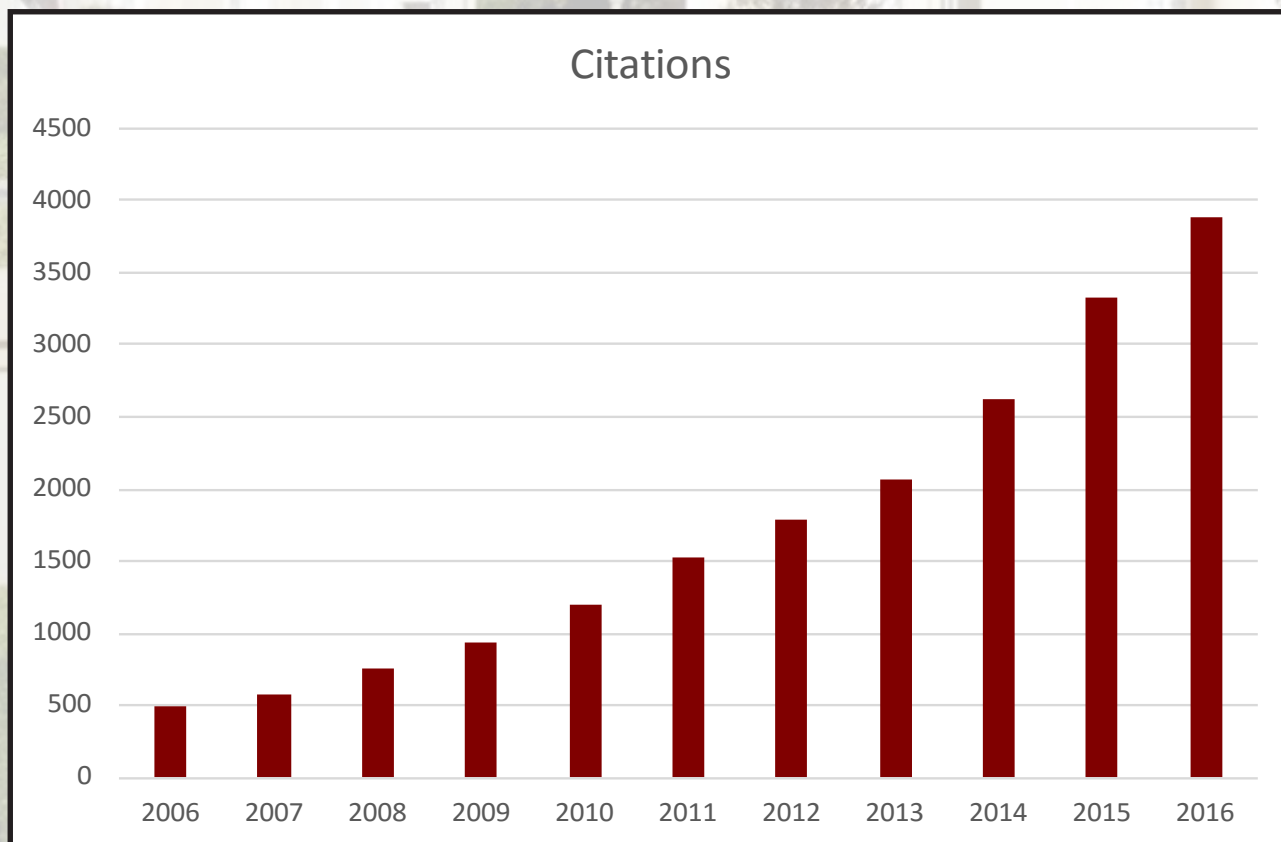


REPORTED TO NSF HEARD SURVEY

# PUBLICATIONS & CITATIONS



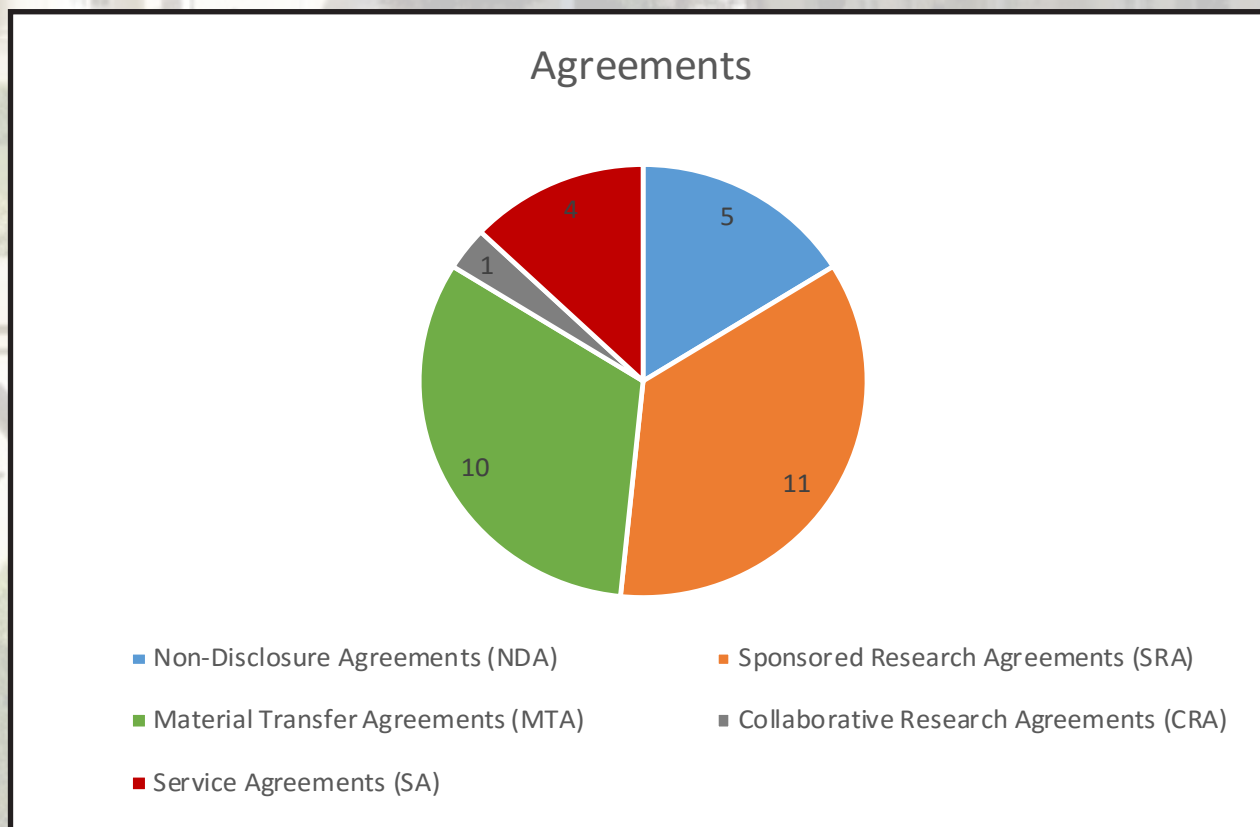
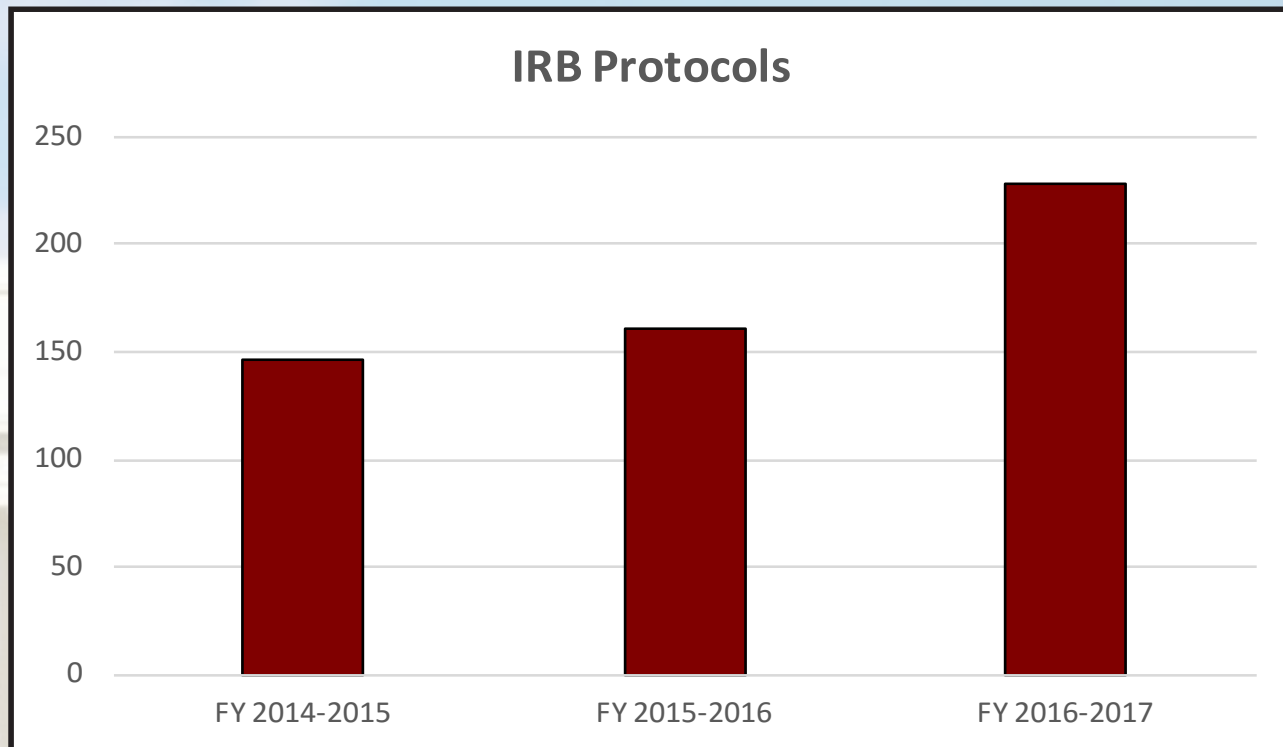
Source: Web of Science



Source: Web of Science



# IRB PROTOCOLS & AGREEMENTS



# AWARDS

School/ Department	Lead Principal Investigator	Sponsor	Project Title	Award
<b>Argyros School of Business and Economics</b>	Joel Kotkin; Co-Investigator: Marshall Toplansky	County of Orange	Developing a New Strategy for Orange County	\$ 50,000
	Joel Kotkin	Searle Freedom Trust	Transit Study	\$ 90,000
	Bart Wilson	Thomas W. Smith Foundation	2017 Summer High School Workshop and 2017 Summer Scholars Program	\$ 40,543
<b>Economic Science Institute</b>	Gabriele Camera	International Foundation for Research in Experimental Economics	Stability and Dissolution of Economic and Monetary Union: an Experimental Investigation	\$ 10,000
	David Porter	International Foundation for Research in Experimental Economics	IFREE Sponsored Lecture Series	\$ 25,000
	Bart Wilson	International Foundation for Research in Experimental Economics	IFREE Graduate Student Workshop in Experimental Economics	\$ 19,386
			2017 Summer High School Workshop and Scholars Program	\$ 13,515
<b>Attallah College of Educational Studies</b>	Amy Jane Griffiths	University of California, Irvine	Unihealth Community Tool Kit: Enhancing Parent-School Communication	\$ 75,757
	Don Cardinal	John Templeton Foundation	The Center for Autism & Neurodevelopmental Disorders, Year 4	\$ 30,000
	Michelle Samura	Association of College & University Housing Officers – International (ACUHO – I)	Architecture of Belonging: Examining the Role of Residence Halls Spaces in Undergraduate College Students' Experiences	\$ 6,925
<b>Crean College of Health and Behavioral Sciences</b>	Marcia Abbott	American Heart Association (AHA)	Regulation of Nuclear Receptors by IL-15 to Prevent Obesity	\$ 77,000
	Susan Duff	American Society of Neuro-rehabilitation	Assessment of Interlimb Coordination in Hemiplegia	\$ 4,974

# AWARDS

School/ Department	Lead Principal Investigator	Sponsor	Project Title	Award
Crean College of Health and Behavioral Sciences	Susan Duff	National Institute on Disability, Indep. Living, and Rehab. Research: DHHS; Admin for Community Living	Spinal Cord Injury Model Systems Program: Regional Spinal Cord Injury Center of the Delaware Valley	\$ 10,110
	Frank Frisch; Co-Investigator: Vonna Hammerschmitt	Orange County United Way (OCUW)	MESA Project for Sycamore Junior High School and South Junior High School	\$ 10,000
			MESA Program, Year 3	\$ 10,000
			MESA Program	\$ 90,000
	Laura Glynn	University of California, Irvine	Fragmented Early Life Environmental and Emotional/Cognitive Vulnerabilities; Conti Project #3	\$ 174,680
			Fragmented Early Life Environmental and Emotional/Cognitive Vulnerabilities	\$ 178,257
	Judy Montgomery	California Scottish Rite-Foundation (SRF)	Scottish Rite Childhood Language Center	\$ 65,939
	Sara Nottingham	NATA Research and Education Foundation (NATA)	An Investigation into Doctoral Preparation and Mentorship in the Socialization of Pre-tenured Athletic Training Faculty Members	\$ 11,500
Fowler School of Law	Tom Bell	NeWAY	Developing a Legal Framework for Special Jurisdictions	\$ 115,000
	Justin Cruz	Law School Admission Council	LSAC DiscoverLaw.org Prelaw Undergraduate Scholars Program	\$ 100,000
	Matthew Parlow	Orange County Bar Association Charitable Fund	Letter of Agreement	\$ 6,000
		Marisla Fund of the Orange County Community Foundation (OCCF)	Aitken Family Protection Clinic Grant	\$ 60,000
		The State Bar of California: Equal Access Fund	Equal Access Fund to Chapman University Family Protection Clinic	\$ 35,510
		The State Bar of California: IOLTA Fund	IOLTA Fund to Chapman University Family Protection Clinic	\$ 22,780
	George Willis	IRS	Low Income Taxpayer Clinic	\$ 100,000
	Schmid College of Science and Technology	Justin Dressel	U.S. Army Research Laboratory (ARL)	Theory for Continuous Quantum State Tracking and Error Correction (CQSTEC)

# AWARDS

School/ Department	Lead Principal Investigator	Sponsor	Project Title	Award
Schmid College of Science and Technology	Jennifer Funk	U.S. Department of Agriculture	Do Nitrogen Fixation Strategies Align with Plant Growth Strategies?	\$ 93,694
	Andrew Lyon	National Institutes of Health	Platelet-like Particles for Augmenting Hemostasis	\$ 120,388
	Melissa Rowland- Goldsmith	TriBeta Biological Society	Investigating the Molecular Mechanism by which Snail, Slug, E-cadherin, and Ajuba LIM Protein Levels are Regulated in Pancreatic Cancer Cells when Treated with a Combination of Pomegranate Juice and Caffeine	\$ 1,000
			Investigating the Molecular Mechanism of how the Combination of Caffeine and Pomegranate Juice Extract Inhibits Pancreatic Cancer Cell Invasion Using qRT-PCR	\$ 1,000
	Rosalee Hellberg	Southern California Institute of Food Technologists	Purchase of a Molecular Detection System Utilizing Isothermal DNA Amplification and Bioluminescence for use in Food	\$ 10,843
			Purchase of a Thermomixer for use in Food Safety and Food Fraud Testing	\$ 6,763
	Christopher Kim	National Science Foundation (NSF)	REU Site: Summer Undergraduate Research Fellowships in Environmental and Ecological Sciences (SURFEES)	\$ 15,000
				\$ 135,727
			RUI:SusChem:Mechanisms of Nanoparticle Aggregation and Corresponding Effects on Metal Sorption, Desorption, and Incorporation Processes	\$ 270,000
	Matthew Leifer	Foundational Questions Institute (FQXi)	Institute of Quantum Studies Visitor Program	\$ 9,775
Cassandra Medvedeff; Co- Investigators: Jason Keller, Warren de Bruyn	National Science Foundation (NSF)	EAGER: Are Methylotrophic Substrates Important in Northern Peatland Methane Cycling?	\$ 96,143	
Cedric Owens	U.S. Department of Agriculture	Deciphering Conformational Gating in Electron Transfer in Biological Nitrogen Fixation	\$ 48,165	

# AWARDS

School/ Department	Lead Principal Investigator	Sponsor	Project Title	Award
Schmid College of Science and Technology	Anuradha Prakash	Southern California Institute of Food Technologists (SCIFTS)	Purchase of a Harvest Right Freeze Dryer	\$ 6,500
	Lilian Were	Southern California Institute of Food Technologists	Enhancing Research and Teaching of Chapman University Food Science Program through Acquisition of a Kjeldahl Instrument	\$ 20,740
Center for Excellence in Earth Systems Modeling and Observation	Emmanuel Dinnat	Jet Propulsion Laboratory	Intercalibration of Low Frequency Brightness Temperature Measurements for Long-Term Soil Moisture Record	\$ 99,396
		National Aeronautics and Space Administration	Next Generation Spaceborne Instrument for Monitoring Ocean Salinity with Application to the Coastal Zone and Cryosphere	\$ 40,627
Institute for Quantum Studies	Armen Gulian	Office of Naval Research	Theoretical and Experimental Exploration of Quantum Effects in Superconducting Electronics	\$ 75,000
			Funding Request in Partial Support of Second International Workshop "Towards Room- Temperature Superconductivity: Superhydrides and More"	\$ 15,000
School of Communication	Sophie Janicke	John Templeton Foundation	Your Daily Dose of Inspiration: Exploring How People Use and are Impacted by Media Content that Elicits Self-Transcendent Emotions	\$ 50,202
	Joel Kotkin; Co- Investigator: Marshall Toplansky	Kay Family Foundation	OC Model Phase 2	\$ 50,000
		The Irvine Company		\$ 25,000
School of Pharmacy	Khaled Elsaid	National Institutes of Health (NIH- NIAMS)	Non-tribologic Bioactivity of Lubricin	\$ 210,470
	Innokentiy Maslennikov	Revolution Medicines, Inc. (RevMed)	2D NMR Spectra of Several Variants of a Target Phosphatase and to Determine Optimal Conditions for NMR Experiments	\$ 20,424
		Relay Therapeutics, Inc.	Characterization for Proteins and Ligands using Dynamic Light Scattering, Nuclear Magnetic Resonance, and Mass Spectrometry	\$ 25,000
	Rennolds Ostrom	National Institutes of Health (NIH)	Molecular Signal Transduction of CAMP Compartments	\$ 442,279
	Ajay Sharma	American Association of Colleges of Pharmacy	Ocular Mucins as Viable Pharmacological Target for Management of Dry Eye	\$ 10,000

# AWARDS

School/ Department	Lead Principal Investigator	Sponsor	Project Title	Award
School of Pharmacy	Ajay Sharma	American Association of Colleges of Pharmacy	Ocular Mucins as Viable Pharmacological Target for Management of Dry Eye	\$ 10,000
	Rakesh Tiwari	Brown University	Scaled-up Synthesis of CN2097	\$ 10,000
		Rhode Island Hospital	A Novel Cyclic Peptide-Based Treatment for TBI	\$ 12,000
	Jennifer Totonchy	Department of Health & Human Services, NIH	Factors Influencing KSHV Infection and Spread within the Oral Cavity	\$ 249,000
	Vuk Uskokovic	National Institutes of Health (NIH)	Osteogenic Calcium Phosphate Nanoparticles with Designable Drug Release Kinetics	\$ 289,483
Wilkinson College of Arts, Humanities, and Social Sciences	Chris Bader	John Templeton Foundation	New Frontiers: Promoting Interdisciplinary and International Research through the ARDA.com, Year 3	\$ 222,771
			Improving the Measurement of Religion across the Social Sciences	\$ 131,650
	Shira Klein	The USC Shoah Foundation	Jewish Life from Napoleon to Hitler: Undergraduate Course	\$ 2,500
	Joel Kotkin	California Association of Realtors	Millennial Housing in California Study	\$ 25,000
	Pete Simi	U.S. Department of Justice	Empirical Assessment of Domestic Disengagement of Deradicalization	\$ 17,614
	Justin Walsh	President and Fellows of Harvard College	Loeb Classic Library 2016	\$ 35,000
			Imports, Identity Construction, and Industry at an Ancient Iberian Town -- A Collaborative Archaeological Project at Castulo	\$ 35,000
		National Geographic Society (NGS)	Imports and the Construction of Identity at an Ancient Iberian Town -- A Collaborative Archaeological Project at Castulo	\$ 25,000

# Million Dollar Club



DON CARDINAL 2017  
EMMANUAL DINNAT 2017  
JENNIFER FUNK 2017  
LAURA GLYNN 2017  
ARMEN GULIAN 2017  
MARILYN HARRAN 2017  
ERIK LINSTED 2017  
JAN OSBORN 2017  
SALLY RUBIN 2017  
VERNON SMITH 2017

DAVID DOWLING 2016  
JASON KELLER 2016  
SURYA NAULI 2016

JANEEN HILL 2015

WALTER PIPER 2014  
GEORGE WILLIS 2014

FRED CAPORASO 2013  
ANURADHA PRAKASH 2013  
BART WILSON 2013

MENAS KAFATOS 2012  
KYNDRA ROTUNDA 2012  
JEFF TOLLAKSEN 2012

MARISA S. CIANCIARULO 2011

CATHERINE CLARK 2010  
CHRISTOPHER KIM 2010

ROXANNE GREITZ MILLER 2008

VIRGINIA CARSON 2007  
ANAIDA COLON-MUNIZ 2007  
FRANK FRISCH 2007  
MARIANNE SMITH 2007



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