



**USC** University of  
Southern California



# Research at USC

Presentation to Provost / Academic Senate Retreat

February, 2019

Randolph Hall

Vice President of Research



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Southern California

# Research, Scholarship & Innovation Occur Throughout USC

Faculty, Staff and Students

All Schools + Institutes

Most Locations

Integrated with Education and Clinical Care



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# USC Campuses for Research





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# USC Campuses for Clinical Research



# Who Does Research?

- 7000 faculty, staff, postdocs and students (GRAs, student workers) who receive a portion of their compensation from sponsored projects
- Others supported from gift agreements or internally sponsored projects
- Students conducting research as educational projects, directed research or unpaid internships
- Others who conduct research as part of normal job position, without funding
- Research administrators supporting research – not chargeable to sponsors

Rank	Institution	Science and engineering			Health	All graduate students
		Total	Science	Engineering		
	All institutions <sup>a</sup>	620,489	452,046	168,443	64,336	684,825
1	Georgia Institute of Technology	9,831	6,118	3,713	18	9,849
2	U. Southern California	8,671	5,377	3,294	700	9,371
3	Texas A&M U.	8,202	4,787	3,415	282	8,484
4	U. Michigan	7,749	4,145	3,604	629	8,378



- Educated graduates
- Scholarly publications, cited and recognized by others
- Innovations that benefit society
- Studies that guide and inform policies
- Help for communities, local and global
- Access to innovative therapies
- Discoveries that help us understand individuals, societies, earth and the universe

Research requires university investment & subsidy



- Ethics, Administration, Advancement + ICT
- About 300 employees (half at ICT)
- Human Subjects/OPRS
- Animal Resources
- Contracts and Grants
- Advancement (DC, CER, internal grants, ...)
- Stevens Center for Innovation
- Research IT, [research.usc.edu](http://research.usc.edu), [digital.usc.edu](http://digital.usc.edu)
- CHLA operates as separate administrative entity









- Excellence through rigor, transparency and reproducibility.
- Research that is impactful by benefiting and engaging all segments of society.
- Innovation in the research we conduct and in the methods by which we conduct research.
- Implementation of integrated digital tools to integrate all aspects of research administration via the TARA system and to enable collaborative research.
- Expansion of centers of excellence for fundamental scientific and technological research, providing state-of-the-art shared precision instruments.
- Integration of health research with clinical care, education and community outreach across the entire university.
- Infusion of a culture of mentorship to support the development of research abilities throughout the university.









## **USC Research Strategic Plans:**

-  [2018 USC Strategic Plan](#)
- [Creativity and Collaboration in the Academy](#)
-  [Fulfilling the Promise for Diversity and Inclusion in Research and Scholarship](#)
-  [Total Access for Research Administration \(TARA\) System Specification](#)
-  [USC Health Programs](#)
-  [USC Plan for Science and Technology Facilities](#)
-  [Long Range Animal Facility Plan](#)
- [USC Strategic Planning](#)

## **USC Research Committee Reports:**

-  [Rigor and Transparency in the Conduct of Research](#)
-  [Faculty Mentoring](#)
-  [Academic Computing](#)
-  [Collaboration and Scholarship](#)



**FY2018 NSF survey**

Question 1. Total R&D expenditures from the following sources

	FY2018			FY2017			Difference	Percent of change
	USC	CHLA	Total	USC	CHLA	Total		
<b>a. US Federal Government</b>	474,301	27,592	501,893	434,010	16,194	450,204	51,689	11.91%
<b>b. State and local government</b>	15,117	632	15,749	14,226	645	14,871	878	6.17%
<b>c. Business</b>	54,131	7,738	61,869	49,213	7,650	56,863	5,006	10.17%
<b>d. nonprofit</b>	44,924	6,720	51,644	40,558	5,095	45,653	5,991	14.77%
<b>Subtotal</b>	<b>588,473</b>	<b>42,682</b>	<b>631,155</b>	<b>538,007</b>	<b>29,583</b>	<b>567,590</b>	<b>63,565</b>	<b>11.81%</b>
<b>e. Institutional funds</b>								
1. Institutionally financed OR Note 1 (included Tuition remission)	54,568	26,508	81,076	52,262	-	52,262	28,814	55.13%
2. Cost share	5,425	0	5,425	5,087	-	5,087	338	6.65%
3. Unrecovered indirect costs	88,749	20,039	108,788	68,827	8,231	77,058	31,730	46.10%
<b>Subtotal - Inst. Funds</b>	<b>148,742</b>	<b>46,547</b>	<b>195,289</b>	<b>126,176</b>	<b>8,231</b>	<b>134,407</b>	<b>60,882</b>	<b>48.25%</b>
<b>f. All other sources</b>	<b>61,598</b>	<b>1,186</b>	<b>62,784</b>	<b>55,863</b>	<b>6,462</b>	<b>62,325</b>	<b>459</b>	<b>0.82%</b>
<b>Grand total</b>	<b>798,813</b>	<b>90,415</b>	<b>889,228</b>	<b>720,046</b>	<b>44,276</b>	<b>764,322</b>	<b>124,906</b>	<b>17.35%</b>



Sponsor Type	Number of Active Accounts			Active Account Expenditures (\$)			Active Account F&A Expenditures (\$)		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
All Other Federal	209	215	219	47,726,721	50,579,681	34,927,155	7,767,507	8,158,299	6,589,489
DOD	272	273	290	99,667,722	79,994,377	76,913,229	16,126,757	13,696,411	13,224,169
DOE	30	28	18	4,382,119	5,044,900	4,038,081	442,328	472,429	337,632
Foreign	159	166	161	7,465,292	5,834,226	7,688,454	1,874,648	1,302,424	1,510,098
Foundation	932	963	896	74,597,084	69,074,684	73,154,223	8,509,126	7,271,110	6,993,397
Higher Education/Hospital Combined	690	742	667	54,705,951	59,022,192	45,913,463	14,613,480	13,261,009	11,289,429
Industry/Private Combined	1,139	1,163	993	82,951,451	67,887,902	56,970,778	11,657,636	11,150,201	12,300,039
NASA	39	43	45	3,261,528	3,505,891	4,106,861	942,504	906,196	943,158
NIH	926	890	932	233,032,621	208,106,449	187,875,100	72,431,044	65,972,365	59,015,293
NSF	474	490	477	42,477,271	40,954,093	44,481,463	11,994,478	11,810,267	12,374,536
Other	48	36	24	11,329,364	8,570,730	8,208,866	2,026,775	1,512,064	1,211,534
State and Local Government	136	131	122	18,489,721	23,358,915	22,596,157	2,431,947	2,809,722	2,867,847
<b>Overall - Total</b>	<b>5,054</b>	<b>5,140</b>	<b>4,844</b>	<b>680,086,845</b>	<b>621,934,039</b>	<b>566,873,831</b>	<b>150,818,230</b>	<b>138,322,496</b>	<b>128,656,621</b>



School	Number of Active Accounts			Active Account Expenditures (\$)			Active Account F&A Expenditures (\$)		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Annenberg School	89	81	80	5,965,571	7,706,305	7,102,605	531,108	824,449	761,606
Architecture	8	11	10	146,743	90,722	189,860	46,642	10,870	13,795
Centers for Creative Technologies	65	78	77	31,329,273	30,615,675	29,054,450	4,580,883	4,513,158	4,348,421
Cinematic Arts	19	21	22	2,594,294	2,157,925	2,365,744	256,201	186,040	199,621
Dornsife College	746	775	776	91,689,978	87,730,774	95,830,684	23,702,012	22,654,513	23,927,871
Dramatic Arts	2	2	1	789,688	25,000	129	7,500	3,261	0
Gerontology School	148	122	98	15,125,173	10,784,026	8,393,840	4,244,382	2,878,161	2,169,803
Gould School of Law	14	13	8	1,108,141	664,452	336,830	209,007	125,551	44,826
Keck School of Medicine	1,536	1,618	1,561	290,516,700	263,116,401	227,264,168	69,078,598	63,938,068	57,538,591
Keck School of Medicine-Clinical Trials	826	820	655	16,702,250	15,237,194	12,515,610	4,084,772	3,987,101	3,340,297
Marshall School of Business	34	33	25	1,127,033	1,467,766	831,134	320,649	289,566	218,655
Ostrow School of Dentistry	139	130	124	15,548,373	16,467,312	16,045,489	4,081,542	3,374,264	2,845,800
Other	116	120	114	11,749,395	12,678,471	13,716,511	733,122	906,705	928,563
Pharmacy	74	77	93	5,226,594	5,501,818	7,658,500	1,515,389	1,576,718	2,410,244
Price School of Public Policy	135	128	122	13,459,277	11,243,519	9,688,410	2,494,619	2,262,015	2,227,953
Roski School of Fine Arts	0	0	0	0	0	0	0	0	0
Rossier School of Education	106	117	104	9,587,756	9,863,928	10,373,250	743,045	692,240	667,075
Social Work	101	119	112	13,742,054	18,362,605	18,302,222	2,606,414	3,084,873	3,364,009
Thorton School of Music	0	0	0	0	0	0	0	0	0
Viterbi School of Engineering	896	875	862	153,678,551	128,220,145	107,204,394	31,582,343	27,014,946	23,649,491
<b>Overall - Total</b>	<b>5,054</b>	<b>5,140</b>	<b>4,844</b>	<b>680,086,845</b>	<b>621,934,039</b>	<b>566,873,831</b>	<b>150,818,230</b>	<b>138,322,496</b>	<b>128,656,621</b>



# What are Indirect Costs?

- On-campus: full overhead rate is 65% of modified total direct cost (e.g., if MTDC is \$100, indirect is \$65, or 39% of total of \$165, assuming no other direct costs)
- Components: administration (capped at 26%) and facilities (39%) – facilities not charged off-campus (ATRI, ICT, ISI)
- Full overhead rate is insufficient to cover actual costs
- Overhead not applied to all costs (e.g., equipment), and is sometimes discounted
- At USC, IDC is 22% of total sponsored dollars (providing \$151M in 2018, calendar year)



## Managed by Office of Research: 2018 awards

- ZRIF Individual: (5) \$150k
- ZRIF D&I: (16) \$475k
- Rose Hills: (5) \$250k+\$125k
- ZRIF Large ID: (1) \$85k
- Core Instrumentation: (9) \$2.7M
- Collaboration: (7) \$210k
- Ming Hsieh: (8) \$1.12M

**Total: \$5.14M (51 awards)**

## USC Research Awards

- Advancing Scholarship in the Humanities and Social Sciences
- Associates Award for Artistic Expression
- Associates Award for Creativity in Research
- Collaboration Fund
- College Initiative on Seedling and Seal-the-Deal Research Support
- Core Instrumentation Fund
- Donald E. & Delia Baxter Foundation Faculty Fellows Program
- Early Modern Studies Institute
- Eli and Edythe Broad Innovation Award
- Keck School of Medicine of USC
- Lloyd Greif Center for Entrepreneurial Studies
- Mellon-USC Awards for Excellence in Mentoring
- METRANS Transportation Center
- Ming Hsieh Institute for Research for Engineering-Medicine for Cancer
- Mousetrap Fund
- National Center for Sustainable Transportation (NCST)
- Pacific Southwest Region University Transportation Center (PSR)
- Pfizer's Center for Therapeutic Innovation (CTI)
- Provost's Initiative on Arts and the Humanities
- Rose Hills Foundation Innovator Grant Program
- Rose Hills Foundation Science and Engineering Fellowships
- Saban Research Institute Cores
- Sol Price Social Innovation Faculty Research Grants
- Southern California Clinical and Translational Science Institute (SC CTSI)
- Southern California Environmental Health Sciences Center
- Southern California Research Center for ALPD & Cirrhosis
- Technology Advancement Grants (TAGs)
- USC Alzheimer Disease Research Center
- Undergraduate Research Associates Program
- Viterbi Research Innovation Fund
- Women in Science and Engineering
- Wright Foundation Research Awards
- Zumberge Faculty and Research Innovation Fund



FROM: Randolph W. Hall

DATE: March 19, 2018

SUBJECT: Multiple School Research Projects

I am writing to remind you of the importance of encouraging faculty to participate in interdisciplinary research, and to establish administrative structures that remove distinctions between research that is conducted in a single school from research that is conducted in multiple schools. Toward this end, I am writing to reiterate a set of principles that were established at USC in the past.

As stated in the memo from former Provost Armstrong on overhead allocation (December 19, 2003), indirect costs should follow direct costs. That is, the proportion of indirect costs accruing to any school on any project should match the proportion of activity taking place in the school, as measured by the direct costs associated with the activity.

**The simplest, and preferred, mechanism to allocate overhead is to establish a satellite account in each participating school. The satellite account should include a budget, in both direct and indirect costs, that is sufficient to fund the activity taking place in the school over the contract/grant award period. The satellite should be consistent with the sponsor approved budget and resulting award to USC.**

If satellite accounts are not established, then the PI's school should arrange to prorate indirect costs to participating schools based on the direct costs for each activity. Satellite accounts also provide the simplest mechanism for ensuring compliance with effort reporting requirements, and ensuring that total load commitments are feasible for each staff or faculty member.

Faculty time should be budgeted for inter-school projects in the same manner that faculty time is budgeted for single school projects. There should be no distinction between the way a faculty member is compensated for a project that involves a single school from a project that involves multiple schools.

**Investigators should contact their research dean promptly in the event that a satellite account has not been established in their school in the appropriate amount for conducting obligated work over the contract/grant award period.**



## UNIVERSITY OF SOUTHERN CALIFORNIA JOINT APPOINTMENT CHECKLIST

Name:  Title:

**Term of Secondary Appointment:** For Assistant or Associate Professors, a fixed term must be specified. For faculty without tenure, the term should not exceed the maximum probationary period, and is subject to non-reappointment. For full Professors only, the term may be "continuous"; no formal renewal is then required, and the school or the faculty member can initiate a termination of the secondary appointment with the Dean's office at will. Check if continuous and indicate the start date.

Start of secondary appointment:  month/day/year

End of secondary appointment:  month/day/year

Continuous

Normally, start dates should be either August 16 or January 1, termination dates should be either December 31 or May 15.

	PRIMARY SCHOOL/DEPARTMENT/PROGRAM	SECONDARY SCHOOL/DEPARTMENT/PROGRAM
1. School & Dept	Name of primary dept/program: <input type="text"/>	Name of secondary dept/program: <input type="text"/>
2. Teaching Load	Specify the teaching load percentage (at least 50%) or number of courses/units: <input type="text"/> % or courses/units per year.	Specify teaching load percentage (at most 50%) or number of courses/units: <input type="text"/> % or courses/units per year.
3. Faculty Meetings & Voting	The faculty member attends meetings and votes.	Generally, the faculty member will neither attend nor vote. Specify privileges allowed in secondary department: Attends: <input type="checkbox"/> No <input type="checkbox"/> Yes Votes on non-personnel issues: <input type="checkbox"/> No <input type="checkbox"/> Yes Votes on personnel issues: <input type="checkbox"/> No <input type="checkbox"/> Yes
4. Merit Evaluation & Salary Review	Merit evaluation is to be conducted by the primary department. Normally, salary increases will be proposed in the primary academic unit and by regular procedures followed within that unit. The secondary department may conduct its own review and will forward the results to be considered in the primary department. Any other arrangement must be specified in this agreement.	
5. Tenure & Promotion Reviews	Tenure is held in the primary department, if the individual is tenured. The primary department conducts promotion and tenure reviews.	The secondary appointment is at the rank set in the primary department. Tenure is not held in the secondary department. The secondary department should forward its recommendation for consideration by the primary department at the time of promotion/tenure review, and it will be included in the promotion/tenure dossier. If there is non-reappointment in the primary department, the secondary appointment terminates at the same time. Specify any other arrangements:
6. Office Space, Administrative Support	Any space and secretarial support should reflect the faculty member's participation in the secondary department. Specify arrangements.	

	PRIMARY SCHOOL/DEPARTMENT/PROGRAM	SECONDARY SCHOOL/DEPARTMENT/PROGRAM
7. Service Responsibilities	Major service responsibilities.	Minimal unless specified otherwise. The total service should not exceed that expected of faculty having single appointments.
8. Renegotiation	This joint appointment is subject to review and possible renewal at the end of the period covered by this agreement, or if continuous can be terminated by either department or the faculty member at will.	
9. Faculty Contract & Payment	The annual contract will be issued by the primary school as home department, and include the title and any contractual agreements on compensation or duties relating to the secondary appointment.	The secondary school will transfer funds to cover its share of compensation. The secondary school will issue a letter of secondary appointment, stating only the title and term, but will not prepare a separate contract. The secondary school will coordinate as needed with the primary department on the wording of the annual contract.

Signatures:  (Deans' approval required below)

Faculty Member:

Primary Department Chair:  Secondary Department Chair:

### FOR DEANS' USE ONLY COMPLETE ONLY IF APPOINTMENTS ARE IN DIFFERENT SCHOOLS

1. Budgetary Obligations	The primary unit is responsible for the faculty member's total compensation at the end of this agreement term, if either the secondary unit or individual decline to renew. If the term is continuous, then the specified allocation will remain in effect until either department or the individual terminates the arrangement.	Specify the amount or percentage of salary and fringes covered by the Secondary School:  % or \$  <input type="checkbox"/> Check here if secondary school's obligation is conditional (and specify conditions below).
2. Teaching Revenue	Revenue from courses taught in the secondary school are: <input type="checkbox"/> Credited to secondary school <input type="checkbox"/> Or other arrangement (specify): <input type="text"/>	
3. Indirect Cost Recovery on Grants	Indirect cost recovery will be: <input type="checkbox"/> Divided between the schools in proportion to the percentage of faculty member's salary paid by each school. <input type="checkbox"/> Credited to Primary School <input type="checkbox"/> Or other arrangement (specify): <input type="text"/>	

Unless specified otherwise, the primary department will provide all resources for the costs of research, including lab space, communications, grant management, and university indirect charges.

Remarks:

**Dean and Provost Approval:**

Dean Primary School/Department/Program:  Date:

Dean Secondary School/Department/Program:  Date:

\*\*Provost:  Date:

\*\*File copy with Provost's Office, Department Chair, and Primary School/Department/Program.



