New York University Courant Institute of Mathematical Sciences

Budget Justification

PI: Dennis Shasha

Project Title: RESEARCH-PGR: Comparative developmental dynamics: single-cell analysis of maize meristem trajectories

Budget Impact:

We anticipate no significant impact from the budget cut, within the PI, Dennis Shasha's salary. This is an important project and will seek to achieve the goals as noted initially.

Salaries, Wages and Fringe Benefits

Senior Personnel

Shasha, Dennis (Principal Investigator – Department of Computer Science): Salaries are calculated on a 9 month base.

• Summer: .288 person months per year

We anticipate no significant impact from the budget cut of the Co-PI's salary.

Other Personnel

Graduate Students: Academic year salaries are calculated on a 9 month base. One summer month of salary is equivalent to 1/6th of the academic year.

	# of Students	Academic Year	Summer
Year 1-4	1	9.0 months	2.0 months

Fringe Benefits

All personnel except Graduate Students: 30.5% of salary

Other Direct Costs

Other: Tuition Remission: 37% of Graduate student salary

Indirect Costs

Per the negotiated indirect cost rate agreement with DHHS dated September 17, 2018, New York University has a predetermined facilities and administrative (F&A) rate of 58.5% modified total direct costs (MTDC). Exclusions are as follows:

Tuition Remission

Inflators

All expenses are inflated at 2.5% beginning each fiscal year (September 1st)

	ORGANIZATION: PROJECT TITLE: PI(S): PROJECT PERIOD: Rates undated 8.25.17 -JBC	Dennis 09/01/2	Shasha 2019-08/	31/2023	ative developmen			-		Su	neristem tra ibmitted on: ibmitted on: 9/1/2020	ajectories 9/1/2021	9/1/2022	
Fame		Base			CAL YR		D YR		MMER	YEAR	YEAR	YEAR	YEAR	TOTAL
Codes 51102	A. SENIOR PERSONNEL Dennis Shasha Subtotal Senior Personnel:	Salary 225,548	9	Inflator	MOS PCT	MOS	PCT	MOS 0.288	PCT 100.0%	1 7,218 7,218	2 7,398 7,398	3 7,583 7,583	4 7,773 7,773	29,972 29,972
51141 51141	B3-a GRADUATE STUDENTS (Academic Year Appt) CS To Be Known Subtotal Graduate Students (AY):	32,127	9	inflator rates added to salary table auto		9	100.0%			32,127 0 32,127	32,930 0 32,930	33,753 0 33,753	34,597 0 34,597	133,407 0 133,407
51141	B3-b GRADUATE STUDENTS (Summer Appt) To Be Known Subtotal Graduate Students (Summer):	32,127	6	calculatin g to the right				2	100.0%	10,709 10,709	10,977 10,977	11,251 11,251	11,532 11,532	44,469 44,469
51141	Subtotal Graduate Students (All Appts): TOTAL SALARIES AND WAGES:									42,836 50,054	43,907 51,305	45,004 52,587	46,129 53,902	177,876 207,848
51170	C. FRINGE BENEFITS 1. Fringe Benefits - Regular RATES			0.000						30.5% \$2,201	30.5% \$2,256	30.5% \$2,313	30.5% \$2,371	9,141
	TOTAL SALARIES, WAGES & FRINGE BENEFI	rs:								52,255	53,561	54,900	56,273	216,989
51173	G. OTHER DIRECT COSTS 6-a. Other - Tuition Remission (37%) Total Other Direct Costs			0.000						15,849 15,849	16,246 16,246	16,651 16,651	17,068 17,068	65,814 65,814
	TOTAL OTPS									15,849	16,246	16,651	17,068	65,814
	H. TOTAL DIRECT COSTS				I					68,104	69,807	71,551	73,341	282,803
	BASE AMOUNT FOR INDIRECT COSTS (MTDC) PERCENTAGE RATE FOR INDIRECT COSTS									52,255 58.5%	53,561 58.5%	54,900 58.5%	56,273 58.5%	216,989
	I. INDIRECT COSTS									30,569	31,333	32,117	32,920	126,939
	J. TOTAL DIRECT AND INDIRECT COSTS (H+I)									98,673	101,140	103,668	106,261	409,742
	L. AMOUNT OF REQUEST (J) OR (J-K)									98,673	101,140	103,668	106,261	409,742

9/1/2019	DASE 3 9/1/2020	5ALARY T 9/1/2021	9/1/2022 9/1/2023		
YEAR	YEAR	YEAR	YEAR	YEAR	
1.025	2	3	4	5	
225,548	231,187	236,967	242,891	248,963	
1.025	1.025	1.025	1.025	1.025	
32,127 0	32,930 0	33,753 0	34,597 0	35,462 0	
32,127	32,930	33,753	34,597	35,462	

Scope of Work:

Use machine learning techniques to infer causality between transcription factors and genes by using the one set of cell types as steady state data sources for training and another set for test.