Ray Blind 20-Minute Presentation

Ray Blind, Vanderbilt University

20-minute presentation that highlights

- 1. Best approaches to acquire preliminary data for a competitive R01 submission and establish your lab
- 2. Manage the budget as a new PI
- 3. Grant submission and funding strategies for lab longevity

Ray Blind's Path

- 2005: NYU PhD, Had to change labs (lost 3 years)
- 2006: UCSF Postdoc advisor moved after only 2 months
- 2007: UCSF/Muhimbili Teaching postdoc in Tanzania (Gates Foundation)
- 2008: UCSF Postdoc (Holly Ingraham / Robert Fletterick)
- 2009: UCSF IRACDA Fellowship for teaching
- 2012: NCI K01 Spouse at UCSC, both got positions at Vanderbilt
- 2015: Vanderbilt Faculty position, 9 10-year tenure clock (COVID)



During postdoc/first year of independence

- 1. 3-4 projects
- 2. Few administrative burdens (budgets, projections, effort allocations, etc).
- 3. Teaching one class (night school at Berkeley)

Now:

- 1. ~20 projects
- 2. Many administrative burdens
- 3. Director of PhD program (Quantitative & Chemical Biology)

What have I learned that would make those first couple years easier?

Highlight 1: Best approaches to acquire preliminary data for a competitive R01 submission and establish your lab

- 1. Best approaches to acquire preliminary data for a competitive R01 submi1. Best approaches to acquire preliminary data for a competitive R01 submission and establish your lab
- 2. Manage the budget as a new PI
- 3. Grant submission and funding strategies for lab longevity.
 - 1. 3-4 projects
 - 2. Few administrative burdens (budgets, projections, effort allocations, etc.)
 - 3. Teaching one class (night school at Berkeley)

Now:

- 1. ~20 projects
- 2. Many administrative burdens
- 3. Director of PhD program (Quantitative & Chemical Biology)

Project management or: how I learned to stop worrying and love the chaos

bit.ly/3K4e0FL



Temper your expectations on productivity!

					hat Data Tools Extensions Help									
a	50	2 8 9	100%	*	\$ % .0, .00 123 Defaul • - 10	+ B	I ÷	<u>A</u> } = 53 - E - + -	• ■ 7 III II G9 • A • I9I	Σ				
3		fx												
	A	B C			E	F	G	н	1					
	Paper	Person	Progress :)		Task / Figure / Question	New?	High Priority	Waitin' on what?	Updates or notes					
	1 hormone	Abby	Done! *		Express, purify, cut LRH-1 LBD for crystallography		High Priority							
	1 hormone	Abby			Co-crystals, LRH-1 LBD + DAX		High Priority							
•	1 Risperido ne	Abby	Done! +		Get trained on high throughout screening center fluorescence polarization instrument with Harry, Ethan and James too!	New								
	1 Risperido ne	Abby			Co-crystals, LRH-1 LBD + DAX + Bilirbuin									
	2 IPMK	Beth	Done! *		Give pratima plates for RNA seq of WT+WT and WT+KD			Done but						
	2 IPMK	Beth	Workn ' on it!'		Solve all of my [molecular genetics] problems with yeast! See about localizing and expressing WT and KD IPMK in yeast and doing chIP etc etc to undertand what IPMK is doing in chromatin									
	3 HDAC?	Beth	Workn		See if I can create two readouts in yeast to measure IP vs PIP functions of IPMK. If works can use to identify IPMK mutants with selective defects									
	3 HDAC3	Beth	I hate my life * :)		H4ac ChIP seq from HA-IPMK (WT and KD) complemented cells			Still going! testing out chIP qPCR and then will redo chIP for seq						
	3 HDAC3	Beth	Workn ' on it!'		Do classic HDAC3 regulated genes chage acetylation in IKO? via ChIP qPCR			looking for good genes to use						
	3 HDAC3	Beth	On _		HDAC1,2,3,8 expression in U251 cells, WT vs. IKO				Ethan did one trial of this					
	6 IPMK-AS	Beth	Workn 'on it!'		What genes are changed upon acute inhibition of AS IPMK?			will check sequence and try to get other AS lines from my clones that still have WT IPMK. If that doesn't improve then proliferation is not our key assay (can try Lucia's labeling)	,					
	3 HDAC3	Beth - Kelly	Waitin* 👻		does Sirt1 activity change in IKO?				Work on this with Rotation student					
	2 nuclear PIP2	Ethan	Workn +		IF of FLAG-SF-1 (WT, Pocket and 2HD mutants) in Tet-inducible HEK cells			optimizing IF conditions						
	2 nuclear PIP2	Ethan	-		Order SF-1 LBD for mammalian expression from Vectorbuilder, determine if just the LBD induces nPIP2 in HEK andor other cell lines									
	2 nuclear PIP2	Ethan			Does LRH-1 transfection induce nuclear PIP2 in HEK293? We have all relevant mutants for LRH-1.									
	2 nuclear PIP2	Ethan			Can siRNAs against candidate kinases and/or PPases prevent SF-1 from inducing nuclear PIP2 signal?									
	2 nuclear PIP2	Ethan			Does SF-1 or LRH-1 transfection into HepG2, PC12, U251MG, any other cell line we have, induce nuclear PIP2?									

Highlight 2: Manage the budget as a new PI

- 1. Best approaches to acquire preliminary data for a competitive R01 submission and establish your lab
- 2. Manage the budget as a new PI
- 3. Grant submission and funding strategies for lab longevity.

Learn to speak accounting

bit.ly/3K3PULw



-	File Ec	ar vie/	w inser	Format	Data	10013	LAtena	JIOND	noip																	
۹	5 0	2 ⊕	F 100)% ▼	\$ %	.0 _↓ .00	123	Aria	i v	- 6	+	BI	÷	A	è. B	8 83	~	E • +	• }	• <u>A</u>	•	⊕ [±)	7 6	- Σ	•
F33	•	źx																								
A	В	С	D	E	F	G	ні	JK	L	М	N	0	Ρ	Q	R	S	T	U	۷	W	х	Y	Z	AA	AB 40	AD
- 1	1st of month				Enter	1st of						ROLE >	Cells	MS	Compute	Cells	Cells	Structure	Cells	Structure	Cells	Admin		Prot	Enter	Enter
	Enter	Budget	Enter	Enter	% leftover	Month	C.	urrent				START >	May 11	Apr 22	Jul 20	Mar 21	Oct 21	Aug 22		Apr 23					From Cover Sheet:	Month
	Budget	End			after	Enter		ctive				VPT ends >	Mar 15		Aug 23	Mar 21								-	"Total \$\$	Averag
5	Start	date	Description	Total Budget	baseline	1st of month:	G	rants	Predicted		Grants add			Jun 23	done	none		Aug 24?		Jun 25				RA slot	Remaining":	Expens
3	ON 1St			Directs	encmbmces	Mar 1, 2023			Remaining	Date	as they hit:	PI	PD	PD	PD	PD	RAP	PD		PhD	RA1	RA1	Unders	RA1	\$280,114	\$15,00
	7/1/2022	6/30/2023	Director PhD		100%	\$39,000	\$3	9,000 0		Mar 2023		\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		\$0	\$0		
	7/1/2023	6/29/2024	Director PhD	\$57,000 \$56,000	100%	\$57,000 \$56,000		\$0 1 \$0 2	\$484,314 \$468,514	Apr 2023 May 2023		\$0 \$0		\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$800 \$800	\$0 \$0					
0	7/1/2024	6/30/2025 6/30/2026	Director PhD Director PhD	\$56,000	100%	\$56,000		\$0 2	\$406,514 \$478,714	May 2023 Jun 2023		\$0 \$0		\$0	\$0	\$0 \$0	\$0 \$0	\$0	\$0 \$0	\$800	\$0 \$0					
1	7/1/2026	6/30/2025	Director PhD		100%	\$56,000		50 4	\$558.914	Jul 2023		\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$800	\$0					
2	11112020	WWWEVE/	01000110	400,000	0%	\$0		\$0 5		Aug 2023		\$6.000		\$200			\$5,100	\$200	\$0			\$3,600		\$3,600		
3	4/1/2025	3/31/2026	MIRA	\$420,000	70%	\$294,000		\$0 6	\$661,714	Sep 2023		\$6,000		\$200			\$5,100	\$200	\$0			\$3,600		\$3,600		
1	4/1/2026	3/31/2027	R35	\$420,000	70%	\$294,000		\$0 7	\$611,114	Oct 2023	\$0	\$8,000	\$6,300	\$200	\$0	\$6,100	\$5,100	\$200	\$0	\$800	\$1,700	\$3,600	\$0	\$3,600		
5	4/1/2027	3/30/2028	NIGMS	\$420,000	70%	\$294,000		50 8	\$557,514	Nov 2023	\$0	\$8,000	\$6,300	\$200	\$0	\$6,100	\$5,100	\$200	\$0	\$800	\$1,700	\$3,600	\$3,000	\$3,600		
5	4/1/2028	3/31/2029		\$420,000	70%	\$294,000		\$0 9	\$503,914	Dec 2023	\$0	\$8,000	\$6,300	\$200	\$0	\$6,100	\$5,100	\$200	\$0	\$800	\$1,700	\$3,600		\$3,600		
7	4/1/2029	3/31/2030		\$420,000	70%	\$294,000		50 10		Jan 2024		\$8,000		\$200			\$5,100	\$200	\$0			\$3,600		\$3,600		
8					0%	\$0	11.00	\$0 11	\$402,004	Feb 2024		\$12,310		\$200			\$3,200	\$200	\$0	\$800		\$3,600		\$3,600		
9	6/1/2022	5/31/2023	NCI	\$26,000	100%	\$26,000	\$2	6,000 12		Mar 2024			\$6,300	\$200			\$3,200	\$200	\$0	\$800		\$3,600		\$3,600		
0	6/1/2023	5/30/2024	R21	\$26,000	100%	\$26,000		\$0 13		Apr 2024			\$6,300	\$200		\$6,100		\$200	\$0	\$800		\$3,600		\$3,600		
1	4/1/2020	3/31/2021	NCI	\$220.000	0%	\$220,000		\$0 14 \$0 15	\$254,374 \$209.364	May 2024 Jun 2024		\$12,310		\$200 \$200		\$6,100 \$6,100	\$3,200 \$3,200	\$200 \$200	\$0 \$0	\$800 \$800		\$3,600 \$3,600		\$3,600 \$3,600		
3	4/1/2020	3/31/2021	R01	\$220,000	100%	\$220,000		\$0 15		Jul 2024		\$12,310		\$200			\$3,200	\$200	\$0	\$800		\$3,600		\$3,600		
4	4/1/2022	3/31/2023	NVI	\$220,000	100%	\$220,000	\$22		\$211,844	Aug 2024		\$12,310					\$3,200		\$0	\$800	\$0			\$3,600		
5	4/1/2023	3/30/2024		\$220,000	100%	\$220,000	YEE	50 10		Sep 2024		\$12,310		\$6,100					\$0	\$800	\$0			\$3,600		
3					0%			\$0 19		Oct 2024		\$12,310		\$6,100			\$3,200	\$6,300	\$0	\$800	\$0			\$3,600		
1	9/1/2020	8/31/2021	NIGMS	\$200,000	100%	\$200,000		\$0 20	\$48,614	Nov 2024	\$0	\$12,310	\$0	\$6,100	\$0	\$6,100	\$3,200	\$6,300	\$0	\$800	\$0	\$0	\$3,000	\$3,600		
3	9/1/2021	8/31/2022	R01	\$200,000	100%	\$200,000		\$0 21	-\$7,796	Dec 2024	\$0	\$12,310	\$0	\$6,100	\$0	\$6,100	\$3,200	\$6,300	\$0	\$800	\$0	\$0	\$3,000	\$3,600		
)	9/1/2022	8/31/2023		\$200,000	100%	\$200,000	\$20	0,000 22		Jan 2025		\$12,310		\$6,100		\$6,100			\$0	\$800	\$0					
)	9/1/2023	8/30/2024		\$200,000	100%	\$200,000		\$0 23		Feb 2025		\$14,000		\$6,100		\$6,100		\$6,300	\$0	\$800	\$0					
					0%	\$0			-\$154,206	Mar 2025		\$14,000		\$6,100		\$6,100		\$6,300	\$0	\$800	\$0					
	7/1/2022	6/30/2023	NIGMS	\$39,000	100%	\$39,000	\$3	9,000 25		Apr 2025		\$14,000		\$6,100		\$6,100		\$6,300	\$0		\$0					
3	7/1/2023	6/29/2024	R01	\$39,000	100%	\$39,000		\$0 26 \$0 27		May 2025		\$14,000		\$6,100		\$6,100		\$6,300		\$4,000 \$4,000	\$0					
5	7/1/2024	6/30/2025 6/30/2026		\$39,000 \$39,000	100%	\$39,000 \$39,000		SU 27 SU 28		Jun 2025 Jul 2025		\$14,000		\$6,100 \$6,100		\$6,100 \$6,100		\$6,300 \$6,300		\$4,000	\$0 \$0					
3	rnizaz6	6730/2026		\$29,000	0%	\$39,000		50 28		Jul 2025		\$14,000		\$6,100		\$6,100		\$6,300		\$4,000	\$0 \$0					
	2/1/2025	1/31/2026	NDDK	\$200.000	0%			\$0 30		Sep 2025		\$14,000		\$6,100		\$6,100		\$6,300		\$4.000	\$0					
3	2/1/2026	1/31/2027	R01	\$200,000	0%			50 31		Oct 2025		\$14,000		\$6,100		\$6,100		\$6,300		\$4,000	\$0					
	2/1/2027	1/31/2028		\$200,000	0%			\$0 32		Nov 2025		\$14,000		\$6,100		\$6,100		\$6,300		\$4,000	\$0					
)	2/2/2028	1/31/2029		\$200,000	0%			\$0 33	-\$225,506	Dec 2025	\$0	\$14,000		\$6,100		\$6,100		\$6,300	\$0	\$4,000	\$0	\$0	\$0	\$0		
					0%			\$0 34	-\$277,006	Jan 2026	\$0	\$14,000	\$0	\$6,100	\$0	\$6,100	\$0	\$6,300	\$0	\$4,000	\$0	\$0	\$0	\$0		
2					0%			\$0 35		Feb 2026		\$14,000		\$0	\$0	\$0	\$0	\$0		\$4,000	\$0					
3					0%			50 36	-\$343.006	Mar 2026	60	\$14,000	\$0	\$0	\$0	\$0	\$0	\$0		\$4,000	\$0	\$0	\$0	\$0		

Highlight 3: Grant submission and funding strategies for lab longevity

- 1. Best approaches to acquire preliminary data for a competitive R01 submission and establish your lab
- 2. Manage the budget as a new PI
- 3. Grant submission and funding strategies for lab longevity.

My grant strategy

Vanderbilt Startup never expires, no yearly tax

2012 - NCI K01 (440K/4 years)

Bold = new only (no R01)

- 2015 Started position, immediately started writing grants.
- 2016 Vanderbilt Diabetes award (200K/2 years)
- 2016 Vanderbilt ACS IRG Pilot (35K/1 year)
- 2016 Vanderbilt Diabetes Drug Screen (50K/1 year)
- 2017 Vanderbilt Cancer Drug Screen (Pitch) (120K/2 years)
- 2017 V-Foundation for Cancer Research V-Scholar (200K/2 years)
- 2017 ACS Research Scholar Award (660K/4 years)
- 2018 Interval Vanderbilt equipment TIPS awards (X-ray home source)
- 2019 NCI R21 (235K/2 years) (total prior to first R01 = over 1.3 million)
- 2020 NIGMS R01 (880K/4 years)
- 2020 NIGMS R01 (800K/4 years)
- 2020 CSRS Study Section

- 2022 ACS TLC (30K/1 year)
- 2022 NIA R21 MPI (50K/2 years)
- 2022 NIGMS R01 Co-I (165K/5 years)

Highlights recap

- 1. Best approaches to acquire preliminary data
- Project Management Software, or make your own!
- Temper your expectations on productivity.
- 2. Manage the budget as a new PI
- Learn to speak accounting ask questions to get to know their language. Be very nice to your admins.
- 3. Grant submission and funding strategies for lab longevity.
 - Consider protecting your ESI/New Investigator status, or not!
 - Good practice **not** in standing study sections.